LAPORAN PROGRAM PENGABDIAN PADA MASYARAKAT

LPPM ITENAS

SOSIALISASI/PENYULUHAN PENGENALAN PROGRAM STUDI DI LINGKUNGAN FTSP UNTUK SISWA SMA DAN UMUM

Oleh:

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FAKULTAS TEKNIK SIPIL DAN PERENCANAAN

INSTITUT TEKNOLOGI NASIONAL

BANDUNG

2020

HALAMAN PENGESAHAN

	Judul	:	Sosialisasi/Penyuluhan Pengenalan Program Studi Di Lingkungan FTSP Untuk Siswa SMA dan Umum
1.	Nama Mitra Program (1)	:	Fakultas Teknik Sipil dan Perencanaan (FTSP) Itenas
2.	Ketua Tim Pengusul		
	• Nama	:	Rika Hernawati, S.T., M.T.
	• NIDN	:	0402038204
	• Jabatan/Golongan	:	Asisten Ahli
	• Jurusan/Prodi	:	Teknik Geodesi
	• Bidang Keahlian	:	Pengindraan Jauh
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3.	Anggota Tim Pengusul		
	Jumlah Anggota	:	Dosen 11 orang,
	• Nama Anggota I/bidang keahlian	:	Dr. Soni Darmawan, S.T.,M.T./Teknik Geodesi
	• Nama Anggota II/bidang keahlian	:	Bernadinus Herbudiman, S.T., M.T./ Teknik Sipil
	• Nama Anggota III/bidang keahlian	:	Byna Kameswara, S.T., M.T./ Perencanaan Wilayah dan Kota
	• Nama Anggota IV/bidang keahlian	:	Nico Halomoan, S.T., M.T./ Teknik Lingkungan
	• Nama Anggota V/bidang keahlian	:	Andrean Maulana, S.T., M.T./ Teknik Sipil
	• Nama Anggota VI/bidang keahlian	:	Dr. Widya Suryadini, S.T., M.T./ Perencanaan Wilayah dan Kota
	• Nama Anggota VII/bidang keahlian	:	Yessi Nirwana, Ph.D./Teknik Sipil
	• Nama Anggota VIII/bidang keahlian		Dr. Didin Agustian, S.T., M.T./Teknik Lingkungan
	• Nama Anggota IX/bidang keahlian	:	Dr. M. Rangga Sururi, S.T., M.T./Teknik Lingkungan
	• Nama Anggota X/bidang keahlian	:	Dr. techn. Indra N Hamdan/ Teknik Sipil
	• Nama Anggota XI/bidang keahlian	:	Dr. Henri Kuncoro, S.T., M.T./Teknik Geodesi
	• Mahasiswa yang terlibat	:	5 orang
4.	Lokasi Kegiatan/Mitra (1)		
	• Wilayah Mitra (Desa/Kecamatan)	:	Jl. P.K.H Mustofa No.23 Bandung
	• Kabupaten/Kota	:	Kota Bandung
	• Provinsi	:	Jawa Barat
	• Jarak PT ke lokasi mitra (km)	:	
5.	Luaran yang dihasilkan	:	Buku Laporan Sosialisasi Pengenalan Program Studi Di Lingkungan FTSP Untuk Siswa SMA dan Umum
6.	Jangka waktu Pelaksanaan	:	2 bulan
7.	Biaya Total	:	Rp. 10.000.000,-

Mengetahui,
Dekan Fakultas Teknik Sipil dan Perencanaan

Dr. Soni Darmawan, S.T., M.T.
NIDN: 0412017610

Bandung, 5 Agustus 2019
Ketua Tim Pengusul

Rika Hernawati, S.T., M.T.
NIDN: 0402038204

Menyetujui
Kepala LPPM

Iwan Juawan, Ph.D.
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BAB 1
PENDAHULUAN

1.1. Latar Belakang

Fakultas Teknik Sipil dan Perencanaan (FTSP) Itenas merupakan institusi yang melaksanakan pendidikan untuk mengembangkan sumber daya manusia khususnya di bidang rancang bangun. Fakultas Teknik Sipil dan Perencanaan merupakan tatanan yang penting dalam kehidupan bermasyarakan dan pembangunan bangsa. Keilmuan yang terpusat pada hidup manusia dan sistem pembangunan dan efektif, efisien serta bernilai estetis menjadi hal yang penting karena merupakan indikator kemajuan bangsa. Program studi (Prodi) yang ada di bawah naungan Fakultas Teknik Sipil dan Perencanaan ini adalah program studi yang terdepan dalam hubungan antara manusia, bumi yang dipijaknya, serta masyarakat dan Negara. Program studi yang berada di naungan FTSP Itenas adalah sebagai berikut:

1. Prodi Teknik Sipil (S1/S2)
2. Prodi Teknik Geodesi (S1)
3. Prodi Perencanaan dan Wilayah Kota (S1)
4. Prodi Teknik Lingkungan (S1)

Untuk mengenal lebih jauh mengenai prodi-prodi yang berada dalam naungan Fakultas Teknik Sipil Dan Perencanaan Itenas, kami bermaksud untuk mempromosikan prodi-prodi tersebut kepada masyarakat. Sehubungan dengan kondisi pandemic pada saat ini, bentuk promosi FTSP ini kami selenggarakan dalam bentuk online, yakni dengan menyelenggarakan kegiatan pengabdian kepada masyrakat (PKM) menggunakan aplikasi yang mudah di jangkau oleh masyarakat. Dalam kesempatan ini FTSP Itenas akan menyelenggarakan kegiatan pengabdian kepada masyarakat selama Bulan Juni dan Juli 2020 dalam rangka mensosialisasikan atau memberikan penyuluhan mengenai keilmuan atau prodi-prodi yang berada di lingkungan FTSP kepada masyarakat, serta memberikan pandangan keilmuan yang beragam, serta prospek kerjanya.

Selain itu dalam acara PKM ini, kami mengundang para peneliti dari universitas di luar negeri, seperti Jepang, Thailand, Filipina, dan Australia untuk bisa saling sharing/ berbagi dengan para peneliti dosen yang berada di lingkungan FTSP Itenas. Serta tidak menutup kemungkinan untuk memberikan kesempatan kepada para dosen dan mahasiswa dan perusahaan sponsor untuk berkolaborasi penelitian dengan peneliti dari universitas luar negeri.

1.2. Tujuan

Mengenalkan keilmuan di lingkungan FTSP dan mengenalkan lintas disiplin keilmuan yang serumpun seperti memberikan pandangan keilmuan yang beragam pada pembahasan isu-isu lintas keilmuan terkait Geodesi, Lingkungan, Konstruksi & Transportasi, dan Perencanaan Kota dan wilayah serta prospek kerjanya.

BAB 2
DESKRIPSI TUGAS TIM PELAKSANA PKM

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Pada bagian ini akan dijelaskan secara rinci tugas dari masing-masing anggota tim pelaksana.

No	Waktu	Uraian Kegiatan	Keterangan
1	Kamis, 11 Juni 2020	Sosialisasi FTSP Seri-1: Pengenalan Prodi meliputi: keilmuan, dosen, kurikulum, fasilitas, kemahasiswaan dan prospek kerja	
		Pengenalan Prodi Teknik Sipil	Penyaji: Yessy Nirwana, Ph.D. Pemateri: Bernadinus Herbudiman, S.T., M.T.
		Pengenalan Prodi Teknik Geodesi	Penyaji: Dr. Soni Darmawan, S.T., M.T. Pemateri: Rika Hernawati, S.T., M.T.
		Pengenalan Prodi Perencanaan Wilayah dan Kota	Penyaji: Dr. Widya Suryadini Pemateri: Byna Kameswara, S.T., M.T.
		Pengenalan Prodi Teknik Lingkungan	Penyaji: Dr. M. Rangga Sururi Pemateri: Nico Halomoan, S.T., M.T.
2	Kamis, 18 Juni 2020	Sosialisasi FTSP Seri-2: Remote Sensing Technology for Estimating Carbon Emissions, Biomass, and Phenology	
		Sesi 1: Estimation of Carbon Emissions in Peatlands	Penyaji: Dr. Haemi Park (JAXA EORC, Jepang)
		Sesi 2: Teknologi Satelit Remote Sensing Untuk Pemetaan Pertumbuhan Perkebunan Sawit dan Biomassa Mangrove	Penyaji: Dr. Soni Darmawan, S.T., M.T. (Itenas) Pemateri: Rika Hernawati, S.T., M.T.(Itenas)
3	Kamis, 25 Juni 2020	Sosialisasi FTSP Seri-3: State of The Art and Breakhthrough of Air Pollution Monitoring	
		Sesi 1: Impact of Urban Growth On Air Quality	Penyaji: Dr. Prakhar Misra (RIHN Kyoto, Jepang)
		Sesi 2: Kualitas Udara Global Selama Masa Pandemi	Penyaji: Dr. Eng. Didin Agustian (Itenas) Pemateri: Nico Halomoan, S.T., M.T. (Itenas)
4	Kamis, 2 Juli 2020	Sosialisasi FTSP Seri-4: State of The Art Technology For Hazard Mitigation	

		Sesi 1: Teknologi dan Metodologi Peringatan Dini Tsunami	Penyaji: Dr. Aditya Gusman (GNS Science New Zealand)
		Sesi 2: Kontribusi Data Pengamatan GNSS dalam Memahami Dinamika Tektonik Indonesia	Penyaji: Dr. Henri Kuncoro (Itenas)
5	Kamis, 9 Juli 2020	Sosialisasi FTSP Seri-5: State of The Art Research On Geomatic and Planning	
		Sesi 1: Collaborative Research Opportunities in Geomatics	Penyaji: Dr. Jeark A Principe (University of The Philippines Diliman)
		Sesi 2: Our research: Where We Are Now, and Where We Are Going Next	Penyaji: Dr. Widya Suryadini Pemateri: Byna Kameswara, S.T., M.T.
6	Kamis, 16 Juli 2020	Sosialisasi FTSP Seri-6: State of The Art Earth Pbservation and Advancing Infrastructures	
		Sesi 1: Radiometric Cross Validation of THEOS	Penyaji: Dr. Tanakorn Sritarapipat (Suranaree University Thailand)
		Sesi 2: Digital Solution for Advancing Infrastructures	Penyaji: Dr.techn. Indra N Hamdan (Itenas) Pemateri: Andrean Maulana, S.T., M.T.

Berikut di atas merupakan penjabaran tugas dan peran masing-masing anggota tim pelaksanaan 6 seri kegiatan online yang didukung oleh Fakultas Teknik Sipil dan Perencanaan Itenas Bandung.

BAB 4
DESKRIPSI PELAKSANAAN KEGIATAN

Sosialisasi FTSP Seri-1

Kondisi pandemic akibat penyebaran Virus Covid-19 menjadi tantangan tersendiri tidak hanya di Indonesia namun seluruh dunia. Kegiatan-kegiatan yang sering dilakukan berubah bentuk maupun cara untuk beradaptasi mengurangi dampak dan tetap menghasilkan pengaruh positif pada semua kelompok masyarakat. Begitu juga pada bidang Pendidikan termasuk proses pada Pendidikan tinggi. Itenas selaku bagian dari Pendidikan tinggi di Indonesia tetap berupaya terus bergerak memberikan kontribusi pada Indonesia khususnya proses Pendidikan tinggi. Salah Satu Fakultas di Itenas yaitu fakultas Teknik sipil dan perencanaan (FTSP) menginisiasi sosialisasi kolaborasi antar program studi yang tergabung dalam rumpun ilmu dibawah naungan FTSP. Sosialisasi ini akan dilaksanakan dalam bentuk series yang terbagi menjadi beberapa topik pada rumpun ilmu atau keilmuan yang ada pada program studi seperti Teknik geodesi, Teknik Lingkungan, Teknik Sipil, dan Perencanaan Wilayah dan Kota. Yang semuanya merupakan program studi di dalam FTSP.

Sosialisasi ini didukung oleh beberapa sponsor antara lain Masyarakat Ahli Penginderaan Jauh Indonesia (MAPIN), PT. Narcon, PT ASABA – Surveying Division, Bandung Mitigasi Hub, 7 Dasawarsa Geodesi Indonesia, Ikatan Orang Tua Mahasiswa (IOM) Itenas, Ikatan Alumni (IA) Itenas, serta disiarkan melalui PR TV (Pikiran Rakyat). Sosialisasi kali ini mengambil tema promosi dan kolaborasi dalam berbagai penelitian untuk mendukung kegiatan-kegiatan industri di Indonesia. Dimana pada series pertama, sosialisasi “new normal” ini mengenalkan

program studi yang ada di FTSP sekaligus menjelaskan bidang-bidang apa saja yang ada pada setiap program studi. Harapannya kegiatan ini mampu menginisiasi kolaborasi penelitian pada bidang-bidang berbeda dengan rumpun ilmu yang sama. Sosialisasi kali ini dihadiri oleh hamper 200 peserta dari berbagai kalangan seperti mahasiswa, siswa SMA/SMK, para praktisi bidang-bidang terkait, konsultan, Guru, dan Pemerintahan. Sosialisasi kali ini mengundang para dosen dan peneliti pada setiap program studi di FTSP yaitu Dr Soni Darmawan dari prodi Teknik Geodesi, Yessi Nirwana, Ph.D dari Teknik Sipil, Dr Widya Suryadini dari Perencanaan Wilayah dan Kota, dan Dr. M. Rangga Sururi dari Teknik LIngkungan.

Sosialisasi FTSP Seri-2

Itenas sebagai salah satu bagian dari Pendidikan tinggi di Indonesia berkomitmen untuk terus memberikan kontribusi positif pada pengembangan ilmu dan pengetahuan. Melanjutkan sosialisasi minggu lalu, kali ini Fakultas Teknik Sipil dan Perencanaan (FTSP) Itenas Bandung mengadakan sosialisasi seri kedua dengan pembahasan bidang ilmu yang tidak kalah menarik dari Sosialisasi sebelumnya. Sosialisasi kedua ini membahas mengenai salah satu topik riset sekaligus Isu yang menarik bagi rumpun ilmu di Fakultas Teknik SIpil dan Perencanaan (FTSP) yaitu Penggunaan Teknologi Penginderaan Jauh Pada Estimasi Emisi Karbon, Biomassa, dan Fenologi.

Pada Sosialisasi kali ini FTSP mengundang dua narasumber yang merupakan ahli sekaligus peneliti pada bidang penginderaan jauh. Yang pertama adalah Dr. Haemi Park, beliau lahir di Korea Selatan dan saat ini bekerja sebagai peneliti di JAXA AERC, salah satu pusat riset ilmu kebumian yang ada di Jepang. Narasumber kedua adalah Bapak Dr.Soni Darmawan beliau merupakan salah satu dosen Program Studi Teknik Geodesi Itenas yang sekarang menjabat sebagai Dekan FTSP. Sosialisasi kali ini dihadiri oleh lebih dari 250 peserta ditambah peserta umum yaitu 170 orang yang mengikuti acara melalui platform Youtube.

Paparan Sosialisasi kali ini dimulai oleh Dr Haemi Park. Beliau banyak menjelaskan Penelitiannya pada studi kasus Indonesia mengenai pemodelan gas karbon dioksida berbasis data satelit. Paparan berikutnya disampaikan oleh Bapak Soni Darmawan, dimana masih terkait isu penginderaan jauh yaitu dengan topik pendekatan backscatter pada citra SAR untuk identifikasi biomassa dan fase pertumbuhan. Pada paparannya, Dr. Soni Darmawan menjelaskan teknologi radar kedepannya akan terus berkembang sehingga tentunya juga akan terus mengembangkan topik-topik terkait. Sosialisasi kali ini ditutup dengan pembagian hadiah

yang disponsori oleh Masyarakat Ahli Penginderaan Jauh Indonesia (MAPIN), PT. Narcon, PT ASABA – Surveying Division, Bandung Mitigasi Hub, 7 Dasawarsa Geodesi Indonesia, Ikatan Orang Tua Mahasiswa (IOM) Itenas, Ikatan Alumni (IA) Itenas, serta di siarkan melalui PR TV (Pikiran Rakyat). Panitia Penyelenggara mengucapkan banyak terima kasih kepada para sponsor.

Sosialisasi FTSP Seri-3

Sosialisasi New Normal yang diadakan oleh fakultas Teknik sipil dan perencanaan (FTSP) Itenas Bandung memasuki seri ke tiga. Diskusi yang dihadirkan oleh dua narasumber kali ini memiliki topik dampak pandemi Covid-19 pada kualitas lingkungan perkotaan di dunia. Narasumber kunci pada sosialisasi kali ini adalah Dr. Prakhar Misra yang merupakan salah satu peneliti dari Research institute of humanity and nature (RIHN) yang berdomisili di Kyoto,

Japan, dan Dr. Eng. Didin Agustian yang merupakan salah satu peneliti dan dosen dari program studi Teknik Lingkungan Itenas Bandung.

Sosialisasi kali ini masih disponsori oleh Masyarakat Ahli Penginderaan Jauh Indonesia (MAPIN), PT. Narcon, PT ASABA – Surveying Division, Bandung Mitigasi Hub, 7 Dasawarsa Geodesi Indonesia, Ikatan Orang Tua Mahasiswa (IOM) Itenas, Ikatan Alumni (IA) Itenas, serta disiarkan melalui PR TV (Pikiran Rakyat).

Dalam kesempatan kali ini Dr Prakhar Misra memaparkan salah satu penelitian beliau terkait dampak pertumbuhan perkotaan di India terhadap kualitas udara dengan pendekatan penginderaan jauh. Dalam paparannya beliau menjelaskan bahwa perubahan penggunaan lahan perkotaan menjadi salah satu faktor penentu baik/tidaknya kualitas udara perkotaan. Yang menarik dalam temuan studi beliau adalah kawasan permukiman memberikan kontribusi tidak sedikit terhadap emisi perkotaan jika dibandingkan dengan Kawasan komersial dan hasil pembakaran kendaraan bermotor perkotaan. Pada paparan kedua, masih terkait dengan topik kualitas udara perkotaan, Dr. Eng. Didin Agustian menjelaskan berdasarkan data ground based kualitas udara secara global bahwa kondisi pandemi ini turut menurunkan berbagai aktivitas perkotaan dan diketahui terjadi penurunan beberapa elemen udara terkait indikator peningkatan kembali kualitas udara di kota-kota di dunia.

Diskusi menarik ini diakhiri dengan sesi tanya jawab dan pembagian hadiah bagi peserta yang beruntung, termasuk pembagian sertifikat elektronik kepada sekitar lebih dari 200 peserta sosialisasi. Masih ada 2 seri lagi untuk Sosialisasi New Normal yang dilaksanakan oleh FTSP. Informasi terkait pelaksanaan sosialisasi berikutnya dapat dijumpai pada Instagram official Itenas Bandung

Sosialisasi FTSP Seri-4

Pada tanggal 2 Juli 2020 Fakultas Teknik Sipil dan Perencanaan Itenas Bandung melaksanakan kembali Sosialisasi Series New Normal. Kali ke-empat sosialisasi ini mengangkat tema “State of the Art Technology for Hazard Mitigation” yaitu posisi dan peran ilmu pengetahuan dalam mitigasi bencana. Sosialisasi FTSP “New Normal” Series 4 ini dimulai pada pukul 10 pagi. Sosialisasi kali ini diikuti oleh sekitar 200 peserta. Selain melalui aplikasi Zoom, Sosialisasi ini juga ditampilkan pada kanal Youtube Itenas secara live. Terlaksananya kegiatan ini tidak lepas dari peran sponsor. Sponsor-Sponsor yang mendukung sosialisasi ini antara lain

Masyarakat Ahli Penginderaan Jauh Indonesia (MAPIN), PT. Narcon, PT ASABA – Surveying Division, Bandung Mitigasi Hub, 7 Dasawarsa Geodesi Indonesia, Ikatan Orang Tua Mahasiswa (IOM) Itenas, Ikatan Alumni (IA) Itenas, serta disiarkan melalui PR TV (Pikiran Rakyat).

Sosialisasi kali ini mengundang dua narasumber yang merupakan para ahli pada tema diskusi kali ini. Narasumber pertama adalah Bapak Dr. Henri Kuncoro yang merupakan Dosen sekaligus Peneliti pada Prodi Teknik Geodesi Itenas Bandung. Narasumber kedua yg diundang pada sosialisasi kali ini adalah Bapak Dr. Aditya Riadi Gustam beliau merupakan salah satu peneliti di GNS Science New Zealand dengan fokus keahlian terkait dengan isu kebencanaan tsunami. Pada paparan pertama Dr Henri Kuncoro membahas mengenai Kontribusi data pengamatan GNSS dalam memahami dinamika tektonik di Indonesia. Bapak Dr. Henri Kuncoro juga menjelaskan pentingnya memahami kondisi tektonik di Indonesia dalam merumuskan kebijakan-kebijakan Mitigasi Bencana. Selanjutnya, pada sesi kedua Bapak Dr Aditya Riadi Gustam menjelaskan mengenai teknologi dan metodologi peringatan dini tsunami.

Sosialisasi FTSP Seri-5

Pada hari kamis, 9 Juli 2020, Itenas Bandung melalui Fakultas Teknik Sipil dan Perencanaan melaksanakan sosialisasi Series ke-lima dengan mengundang para pakar seperti Dr. Jeark A. Principle dari University of the Philippines Diliman, dan Dr. Widya Suryadini dari Prodi

Teknik Perencanaan Wilayah dan Kota, Itenas, serta Byna Kameswara, M.T. sebagai moderator. Sesuai dengan judul, kegiatan ini bertujuan untuk menghadirkan diskusi terkait kesempatan-kesempatan yang ada dalam melakukan kolaborasi penelitian terutama pada bidang geomatika dan perencanaan.

Sesi pertama diberikan kepada Dr. Jeark A Principe untuk pemaparannya. Presentasi diawali dengan pengantar sekaligus pemaparan sedikit mengenai profil kampus yang menjadi home based beliau dalam melaksanakan kegiatan akademik termasuk penelitian yaitu university of Philippines yang sudah berdiri sejak 1908. Dalam pemaparannya juga beliau menjelaskan sedikit perbedaan sistem yang diterapkan pada universitas di Filipina yaitu University of Philippines terdiri dari 17 kampus yang tersebar di seluruh wilayah Negara Filipina. Terkait dengan bidang beliau pada geomatika, beliau menegaskan kembali bahwa bidang ini merupakan bidang yang tidak terpisahkan dengan bidang lain dalam pengembangan ilmu pengetahuan dalam mencari solusi permasalahan di masyarakat. Dimana geomatika merupakan bagian dari inter-disiplin ilmu yang memberikan pendekatan lokasi pada semua bidang ilmu pengetahuan. Dr. Jeark juga menunjukan beberapa project yang beliau dan rekan-rekan sejawat di Filipina salah satunya adalah SINAG. Dimana SINAG ini adalah bagian dari penelitiannya yang mencoba menggunakan pendekatan sumber solar PV sebagai salah satu upaya dalam membentuk model prediksi masa depan. Di akhir paparannya beliau kembali menegaskan bahwa luasnya lingkup penelitian bidang Geomatika menjadikan kesempatan akan kolaborasi dalam penelitian semakin terbuka lebar dalam dunia ilmu pengetahuan.

Paparan Kedua, dilanjutkan oleh Dr. Widya Suryadini. Serupa dengan sebelumnya, bidang Perencanaan Wilayah dan Kota juga tidak lepas dari banyak issue pada bidang lain dalam menyelesaikan permasalahan ruang. Pada awal paparan Dr. Widya menjelaskan program studi Perencanaan Wilayah dan Kota Itenas terbagi menjadi tiga kelompok keahlian yaitu Ruang Kota & Aktivitas, Mobilitas & Infrastruktur, dan terakhir Wilayah & Pengembangan Peri-Urban. Dimana ketiga Kelompok Keahlian ini menjadi gambaran topik-topik penelitian yang dilakukan dilingkungan program studi Perencanaan Wilayah dan Kota. Pendekatan inter-disiplin ilmu yang ada di dalam Perencanaan Wilayah dan Kota dapat ditunjukan dengan isu-isu yang menjadi acuan dalam setiap penelitiannya. Isu-isu tersebut antara lain Livability, adaptability, Mobility, Connectivity, Community, Equity, dan Well-Being. Dapa akhir simpulan, Dr. Widya mengajak semua pihak yang hadir untuk dapat terus meningkatkan kolaborasi dalam segala hal termasuk penelitian karena tidak ada satupun permasalahan di masyarakat yang hanya dapat diselesaikan oleh satu disiplin ilmu saja.

Kegiatan ini tidak akan terlaksana tanpa dukungan sponsor, sehingga panitia mewakili Itenas Bandung mengucapkan terima kasih kepada Masyarakat Ahli Penginderaan Jauh Indonesia (MAPIN), PT. Narcon, PT ASABA – Surveying Division, Bandung Mitigasi Hub, 7 Dasawarsa Geodesi Indonesia, Ikatan Orang Tua Mahasiswa (IOM) Itenas, Ikatan Alumni (IA) Itenas, serta PR TV (Pikiran Rakyat).

Sosialisasi FTSP Seri-6

Pada hari Kamis, 16 Juli 2020, Fakultas Teknik Sipil dan Perencanan kembali menggelar kegiatan Sosialisasi Series New Normal yang dilaksanakan pada pukul 10.00 WiB sampai dengan 12.00 WIB. Sosialisasi Series 6 ini merupakan sesi terakhir dari rangkaian sosialisasi FTSP yang rutin dilaksanakan setiap minggunya sejak 11 Juni lalu. Pada kesempatan kali ini, materi yang dibahas mengangkat tema mengenai "State of the Art Earth Observation and Advancing Infrastructures" bersama para narasumber yakni Dr. Indra Noer Hamdhan dari Prodi Teknik Sipil Itenas dan Tanakorn Sritarapipat, Ph.D dari Suranaree University Thailand, serta dipandu oleh Yessi Nirwana, Ph.D sebagai moderator. Kegiatan yang diikuti oleh sekitar 345 peserta dari kalangan mahasiswa, dosen, dan umum ini dilaksanakan melalui aplikasi Zoom Meeting, juga disiarkan secara langsung pada kanal Youtube Itenas Official.

Materi pertama disampaikan oleh Dr. Indra Noer Hamdhan, beliau merupakan Peneliti sekaligus Dosen pada Program Studi Teknik Sipil Itenas yang menyelesaikan pendidikan doktor di Graz University of Technology, Austria dengan spesialisasi bidang Geotechnical Engineering. Isu yang dibahas adalah mengenai "Digital Solution for Advancing Infrastructures". Perkembangan teknologi di dunia konstruksi yang semakin hari semakin pesat menuntut para perencana untuk dapat mencari solusi terbaik dari sebuah pekerjaan konstruksi sedemikian hingga dapat meningkatkan produktifitas, efektifitas, dan kualitas dari perencanaan infrastruktur yang dihasilkan. Salah satu solusinya yakni melalui pengenalan sistem solusi digital berbasis Building Information Modeling (BIM) yang dalam hal ini diakomodir oleh satu paket software yang diproduksi oleh Bentley. Saat ini, Itenas menjalin kerjasama dengan Bentley, perusahaan besar yang bergerak dalam produksi software-software infrastruktur. Bentuk kerjasama dilakukan melalui sharing ilmu pengetahuan kepada para mahasiswa Itenas, khususnya Teknik Sipil terkait bagaimana pemanfaatan software Bentley dari mulai tahapan perencanaan, konstruksi, operasional, sampai dengan aset management konstruksi. Tidak hanya itu, terdapat pula software-software lain yang dapat dimanfaatkan Program Studi Teknik Geodesi seperti mapping dan surveying.

Materi kedua disampaikan oleh Tanakorn Sritarapipat Ph.D. Beliau merupakan Dosen dari Sekolah Geoinformatics, Suranaree University of Technology, Thailand yang menyelesaikan pendidikan doktoralnya di Tokyo University pada bidang Civil Engineering dengan ketertarikan keahlian pada image processing, computer programming, dan machine learning. Paparan kedua ini berisi pengenalan dan pembahasan lebih detail mengenai aktivitas akademik di Sekolah Geoinformatics, Suranaree University of Technology yang merupakan pelopor dari Innovative Geoinformatics School di Thailand. Seperti yang diketahui, bahwa geoinformatics

merupakan bidang ilmu yang menggunakan teknologi informasi dan statistik dalam permasalahan geografi dan geosciences, sehingga kegiatan-kegiatan penelitian yang dilakukan tentunya mencakup berbagai bidang seperti perencanaan smart city, smart farming, aging society, UAV mapping, big data analysis, machine learning, manajemen bencana alam, pengendalian cuaca, dan lain-lain. Sekolah Geoinformatics, Suranaree University of Technology juga bekerja sama dengan badan penelitian ruang angkasa Thailan (GISTDA) dalam mengembangkan berbagai teknologi pada bidang pertanian dan keamanan pangan, bencana alam dan geohazard, penginderaan jarak jauh dengan dukungan teknis pada aplikasi satelit. Melalui media ini, beliau sangat berharap semoga kedepan dapat dijalin kolaborasi penelitian antara Itenas dengan Suranaree University of Technology. Di akhir kegiatan, sosialisasi ditutup dengan sesi tanya jawab serta pembagian hadiah bagi para peserta yang beruntung.

Terlaksananya kegiatan ini tidak lepas dari peran sponsor. Ucapan terima kasih yang sebesar-besarnya untuk para sponsor yang sudah mendukung sosialisasi ini, yakni Masyarakat Ahli Penginderaan Jauh Indonesia (MAPIN), PT. Narcon, PT ASABA – Surveying Division, Bandung Mitigasi Hub, 7 Dasawarsa Geodesi Indonesia, Ikatan Orang Tua Mahasiswa (IOM) Itenas, Ikatan Alumni (IA) Itenas, serta disiarkan melalui PR TV (Pikiran Rakyat). Semoga, rangkaian kegiatan ini memberikan manfaat, pengalaman, dan ilmu pengetahuan baru kepada para peserta.

BAB 5
METODE PELAKSANAAN DAN EVALUASI

Mekanisme Pelaksanaan:

a. Sosialisasi Series 1

Hari/Tanggal : Kamis, 11 Juni 2020

Pukul : 09.30 – 12.00 WIB

Tempat : Aplikasi Zoom

Peserta : Siswa SMA/SMK, Mahasiswa, Dosen, dan Umum.

Tema :Pengenalan Prodi meliputi: keilmuan, dosen, kurikulum, fasilitas, kemahasiswaan dan prospek kerja.

Pembicara :Dr. Soni Darmawan, Dr. Widya Suryadini, Yessi Nirwana, Ph.D, Dr. M. Rangga Sururi.

b. Sosialisasi Series 2

Hari/Tanggal : Kamis, 18 Juni 2020

Pukul : 10.00 – 11.30 WIB

Tempat : Aplikasi Zoom

Peserta : Mahasiswa, Dosen, dan Umum.

Tema : Siklus karbon dan pemetaan mangrove di Asia Tenggara.

Pembicara: : - Dr. Haemi Park (Tokyo University)

- Dr. Soni Darmawan (Teknik Geodesi Itenas)

c. Sosialisasi Series 3

Hari/Tanggal : Kamis, 25 Juni 2020

Pukul : 10.00 – 11.30 WIB

Tempat : Aplikasi Zoom

Peserta : Mahasiswa, Dosen, dan Umum.

Tema : Polusi udara di kota besar Asia Tenggara.

Pembicara: : - Dr. Prakhar Misra (RIHN Kyoto)

- Dr. Didin Agustian (Teknik Lingkungan Itenas)

d. Sosialisasi Series 4

Hari/Tanggal : Kamis, 02 Juli 2020
Pukul : 10.00 – 11.30 WIB
Tempat : Aplikasi Zoom
Peserta : Mahasiswa, Dosen, dan Umum.
Tema : Tsunami, Gempa Bumi dan Tektonik Lempeng di Indonesia.
Pembicara: : - Dr. Adit Gusman (GNS Science New Zealand)
- Dr. Henri Kuncoro (Teknik Geodesi Itenas)

e. Sosialisasi Series 5

Hari/Tanggal : Kamis, 09 Juli 2020

Pukul : 10.00 – 11.30 WIB

Tempat : Aplikasi Zoom

Peserta : Mahasiswa, Dosen, dan Umum.

Tema : Suhu permukaan dan perencanaan wilayah.

Pembicara: : - Dr. Jeark A. Principle (University of Manila)

- Dr. Widya Suryadini (Teknik Perencanaan dan Wilayah Kota Itenas)

f. Sosialisasi Series 6

Hari/Tanggal : Kamis, 16 Juli 2020
Pukul : 10.00 – 11.30 WIB
Tempat : Aplikasi Zoom
Peserta : Mahasiswa, Dosen, dan Umum.
Tema : Geoinformatik dan Engineering software (Bentley).

Pembicara: : - Dr. Tanakorn (Suranaree University Thailand)

- Dr. Indra N Hamdan (Teknik Sipil Itenas)

Registrasi

Untuk pendaftaran atau registrasi pada acara sosialisasi FTSP ini gratis/ tidak dipungut biaya. Fasilitas peserta sosialisasi mendapatkan E-Sertifikat dan doorprize.

Sasaran Peserta

Kegiatan sosialisasi ini mempunyai sasaran peserta, diantaranya siswa SMA/SMK, mahasiswa, akademisi, dan umum.

BAB 6
PENUTUP

Demikian laporan kegiatan PKM Sosialisasi/Penyuluhan Pengenalan Program Studi Di Lingkungan FTSP Untuk Siswa SMA dan Umum. Terimakasih.

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Sebagai	:	Pemateri
Tempat	:	Webinar/Video Conference
Tanggal	:	11 Juni - 16 Juli 2020

Demikian surat tugas ini dibuat untuk dipergunakan sebagaimana mestinya.

Bandung, 10 Juni 2020

Lembaga Penelitian dan Pengabdian kepada Masyarakat (LP2M) Itenas
Kepala,

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464	Lorentius Dimas	Dwiavista Putra	lorentiusd2@gmail.com	bandung	'-	Institut Teknologi Itenas (teknik sipil 2
465	Arzunnita	Pramulandani	arzunnitapramulandani@gmail.c	Bandung	Mahasiswa	Institut teknologi nasional
466	Muhammad Aditia	Nurfadila	aditianurfadila22@gmail.com	Bandung	Mahasiswa	Itenas

LAMPIRAN 2

PAMPHLET

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FTSP NEW NORMAL WEBINAR SERIES

PROMOTION & COLLABORATION ON ACADEMIC RESEARCH TO INDUSTRY ACTIVITIES

Setiap hari Kamis

11 Juni - 16 Juli 2020

Contact Person
089699024456 (Bintang)
082121628292 (Siva)

Dual language via Zoom, Youtube, & PRTV. Get **e-certificate & doorprize.**

11 Juni 2020

Pengenalan Program Studi **T. Sipil**
Yessi Nirwana, Ph.D
Pengenalan Program Studi **PWK**
Dr. Widya Suryadini
Pengenalan Program Studi **T. Lingkungan**
Dr. M. Rangga Sururi
Pengenalan Program Studi **T. Geodesi**
Dr. Soni Darmawan

02 07 20

Dr. Adit Gusman
GNS Science
New Zealand

Dr. Henri Kuncoro
Teknik Geodesi
Itenas

18 06 20

Dr. Haemi Park
University of
Tokyo

Dr. Soni Darmawan
Teknik Geodesi
Itenas

09 07 20

Dr. Jeark A. Principe
University of the
Philippines Diliman

Dr. Widya Suryadini
PWK Itenas

25 06 20

Dr. Prakhar Misra
RIHN Tokyo

Dr. Didin Agustian
Teknik Lingkungan
Itenas

16 07 20

Dr. Tanakorn
Suranaree University
Thailand

Dr. Indra N. Hamdan
Teknik Sipil Itenas

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PROMOTION & COLLABORATION ON ACADEMIC RESEARCH TO INDUSTRY ACTIVITIES

Seri 1 : Introduction

Kamis, 11 Juni 2020

Pukul 9:30 - 12:00 WIB.

Registration Link
bit.ly/FTSP-WebinarSeries-1

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Pengenalan Program-Program Studi di bawah Fakultas Teknik Sipil & Perencanaan yang mengupas tentang keilmuan, dosen, kurikulum, fasilitas, kemahasiswaan, dan prospek kerja.

Pengenalan Program Studi
Teknik Sipil
Yessi Nirwana, Ph.D

Pengenalan Program Studi
Teknik Lingkungan
Dr. M. Rangga Sururi

Pengenalan Program Studi
PWK
Dr. Widya Suryadini

Pengenalan Program Studi
Teknik Geodesi
Dr. Soni Darmawan

MODERATOR Rika Hernawati, S.T., M.T.

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Setiap hari Kamis

11 Juni - 16 Juli 2020

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082121628292 (Siva)

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11 Juni 2020

Pengenalan Program Studi **T. Sipil**
Yessi Nirwana, Ph.D
Pengenalan Program Studi **PWK**
Dr. Widya Suryadini
Pengenalan Program Studi **T. Lingkungan**
Dr. M. Rangga Sururi
Pengenalan Program Studi **T. Geodesi**
Dr. Soni Darmawan

02 07 20

Dr. Adit Gusman
GNS Science
New Zealand

Dr. Henri Kuncoro
Teknik Geodesi
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18 06 20

Dr. Haemi Park
University of
Tokyo

Dr. Soni Darmawan
Teknik Geodesi
Itenas

09 07 20

Dr. Jeark A. Principe
University of the
Philippines Diliman

Dr. Widya Suryadini
PWK Itenas

25 06 20

Dr. Prakhar Misra
RIHN Tokyo

Dr. Didin Agustian
Teknik Lingkungan
Itenas

16 07 20

Dr. Tanakorn
Suranaree University
Thailand

Dr. Indra N. Hamdan
Teknik Sipil Itenas

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Dual language via Zoom, Youtube & PRTV. **Free** registration, **e-certificate, & doorprize.**

Seri 3 :
State of the Art and Breakthrough of Air Pollution Monitoring
Hari Kamis, 25 Juni 2020. Pukul 10:00 - 11:30 WIB.

NARASUMBER :

10:00-10:45
Dr. Prakhar Misra
RIHN Kyoto
Impact of Urban Growth on Air Quality

10:45-11:30
Dr. Didin Agustian
Teknik Lingkungan Itenas
Kualitas Udara Global Selama Masa Pandemi

MODERATOR
Dyah Asri Handayani T. Ph.D., M.T.

Registration Link
bit.ly/FTSP-WebinarSeries-3

Contact Person
089699024456 (Bintang)
082121628292 (Siva)

DIADAKAN OLEH **FAKULTAS TEKNIK SIPIL & PERENCANAAN (FTSP)** - PROGRAM STUDI :
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Dual language via Zoom, Youtube & PRTV. **Free** registration, **e-certificate, & doorprize.**

Seri 4 :
State of the Art Technology for Hazard Mitigation
Hari Kamis, 2 Juli 2020. Pukul 10:00 - 11:30 WIB.

NARASUMBER :

10:00-10:45

Dr. Adit Gusman

GNS Science New Zealand

Teknologi dan Metodologi Peringatan Dini Tsunami

10:45-11:30

Dr. Henri Kuncoro

Teknik Geodesi Itenas

Kontribusi Data Pengamatan GNSS dalam Memahami Dinamika Tektonik Indonesia.

Registration Link

bit.ly/FTSP-WebinarSeries-4

Contact Person

089699024456 (Bintang)

082121628292 (Siva)

MODERATOR

Ayu Jessy Kartini, S.T., M.T

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Dual language via Zoom, Youtube & PRTV. **Free** registration, **e-certificate, & doorprize.**

Seri 5 :
State of the Art Research on Geomatic and Planning

Hari Kamis, 9 Juli 2020. Pukul 10:00 - 11:30 WIB.

NARASUMBER :

10:00-10:45
Dr. Jeark A. Principe
University of the Philippines Diliman
Collaborative Research Opportunities in Geomatics

10:45-11:30
Dr. Widya Suryadini
PWK Itenas
Our Research : Where We Are Now, and Where We Are Going Next

Registration Link
bit.ly/FTSP-WebinarSeries-5

Contact Person
089699024456 (Bintang)
082121628292 (Siva)

MODERATOR
Byna Kameswara, S.T., M.T.

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FTSP NEW NORMAL WEBINAR SERIES : PROMOTION & COLLABORATION ON ACADEMIC RESEARCH TO INDUSTRY ACTIVITIES

Dual language via Zoom, Youtube & PRTV. **Free** registration, **e-certificate, & doorprize.**

Seri 6 :
State of the Art Earth Observation & Advancing Infrastructures

Hari Kamis, 16 Juli 2020. Pukul 10:00 - 11:30 WIB.

NARASUMBER :

10:00-10:45
Dr. Tanakorn
Suranaree University Thailand
Radiometric Cross-Validation of THEOS

10:45-11:30
Dr. Indra N. Hamdan
Teknik Sipil Itenas
Digital Solutions for Advancing Infrastructures

Registration Link
bit.ly/FTSP-WebinarSeries-6

Contact Person
089699024456 (Bintang)
082121628292 (Siva)

MODERATOR
Yessi Nirwana PhD.

DIADAKAN OLEH **FAKULTAS TEKNIK SIPIL & PERENCANAAN (FTSP)** - PROGRAM STUDI :
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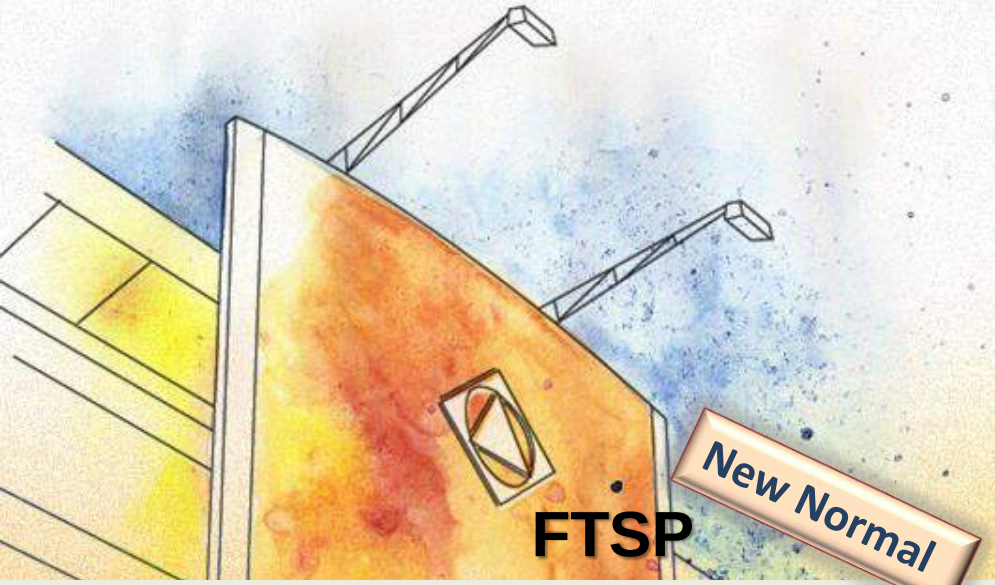
LAMPIRAN 3

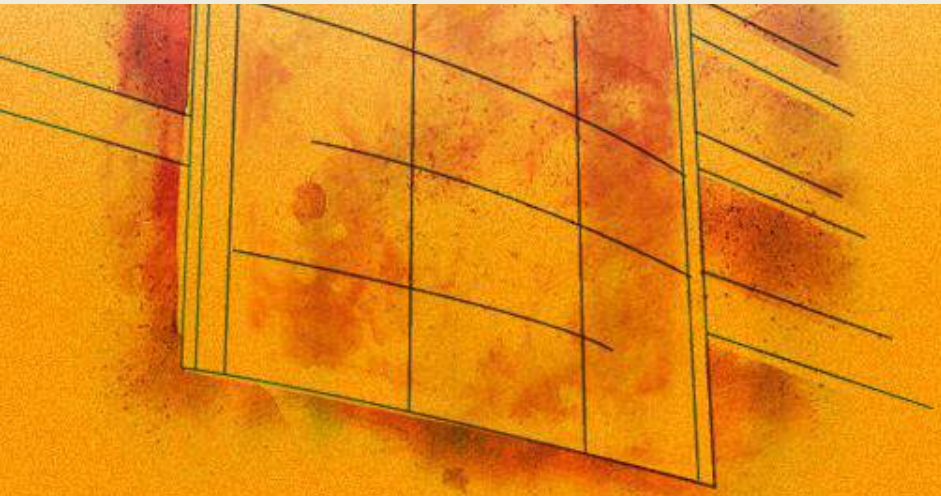
MATERI KEGIATAN



New Normal

FTSP Series **Webinar**

Promotion and collaboration on academic - research to industry activities



Organizer :

- Prodi Teknik Sipil
- Prodi Perencanaan Wilayah Kota
- Prodi Teknik Lingkungan
- Prodi Teknik Geodesi

2015 © Institut Teknologi Nasional Bandung

FTSP Webinar Series (via zoom)

- **Tujuan :**

  Mengenalkan keilmuan di Lingkungan FTSP (*future trend*) dan prospek kerjanya.

  Mengenalkan lintas disiplin keilmuan yang serumpun.

- **Target audien :** Mahasiswa FTSP dan Siswa SMA.

- **Teknik Kegiatan :**

  - ✓ Diselenggarakan seminggu sekali, 2 pembicara/hari (@ 30 menit/pembicara) selama bulan Juni-Juli.
  - ✓ Pembicara kaprodi/kalab/dosen dan dari luar itenas.

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FTSP Webinar Series 1

Kamis, 11 Juni 2020, pukul 09.30-12.00 WIB

Waktu	Kegiatan	Pembicara	Moderator
09.30 – 09.45	Pembukaan	Pimpinan Itenas	Pimpinan fakultas Dekan/WD
09.45 – 10.10	Pengenalan Prodi Sipil	Yessi Nirwana, PhD /perwakilan	
10.10 – 10.35	Pengenalan Prodi PWK	Dr. Widya Suryadini /perwakilan	
10.35 – 11.00	Pengenalan Prodi Teknik Lingkungan	Dr. M. Rangga Sururi /Perwakilan	
11.00 – 11.25	Pengenalan Prodi Teknik Geodesi	Dr. Soni Darmawan /Perwakilan	
11.25 – 12.00	Tanya jawab		

Keterangan :
Pengenalan Prodi meliputi : keilmuan, dosen, kurikulum, fasilitas, kemahasiswaan dan prospek kerja

FTSP Webinar Series 2

Kamis, 18 Juni 2020, pukul 10.00-11.30 WIB

Waktu	Pembicara	Institusi	Moderator
10.00 – 10.45	Dr. Haemi Park	University of Tokyo	Rika Hernawati, S.T.M.T
10.45 – 11.30	Dr. Soni Darmawan	Teknik Geodesi Itenas	

Dr. Haemi Park

Dr. Soni Darmawan

itenas

Tema : siklus karbon dan pemetaan mangrove di Asia Tenggara

FTSP Webinar Series 3

Kamis, 25 Juni 2020, pukul 10.00-11.30 WIB

Waktu	Pembicara	Institusi	Moderator
10.00 – 10.45	Dr. Prakhar Misra	RIHN Kyoto	Dyah Asri Handayani T. PhD.
10.45 – 11.30	Dr. Didin Agustian	Teknik Lingkungan Itenas	

Dr. Prakhar Misra

Dr. Didin Agustian

itenas

Tema : Polusi udara di kota besar Asia Tenggara

FTSP Webinar Series 4

Kamis, 2 Juli 2020, pukul 10.00-11.30 WIB

Waktu	Pembicara	Institusi	Moderator
10.00 – 10.45	Dr. Adit Gusman	GNS Science New Zealand	Ayu Jessy Kartini, S.T., M.T
10.45 – 11.30	Dr. Henri Kuncoro	Teknik Geodesi Itenas	

Dr. Adit Gusman

Dr. Henri Kuncoro

itenas

Tema : Tsunami, Gempa Bumi dan Tektonik Lempeng di Indonesia

FTSP Webinar Series 5

Kamis, 9 Juli 2020, pukul 10.00-11.30 WIB

Waktu	Pembicara	Institusi	Moderator
10.00 – 10.45	Dr. Jeark A. Principle	University of Manila	Iredo Bettie Puspita, S.T. M.T.
10.45 – 11.30	Dr. Widya Suryadini	PWK Itenas	

Dr. Jeark A. Principle

Ira Irawati, S.T., M.T.

itenas

Tema : Suhu permukaan dan perencanaan wilayah

FTSP Webinar Series 6

Kamis, 16 Juli 2020, pukul 10.00-11.30 WIB

Waktu	Pembicara	Institusi	Moderator
10.00 – 10.45	Dr. Tanakorn	Suranaree University Thailand	Yessi Nirwana PhD.
10.45 – 11.30	Dr. Indra N. Hamdan	Teknik Sipil Itenas	

Dr. Tanakorn

Dr. Indra N. Hamdan

itenas

Tema : Geoinformatik dan Engineering software (Bentley)

Keterangan :

- Via zoom and youtube
- Free of charge
- Free of certificate
- Dual language (bahasa and english)
- Link Registration xxxxxx
- Contact person xxxxx
- Logo sponsor (menyusul)
- Medsos lainnya.

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Terimakasih

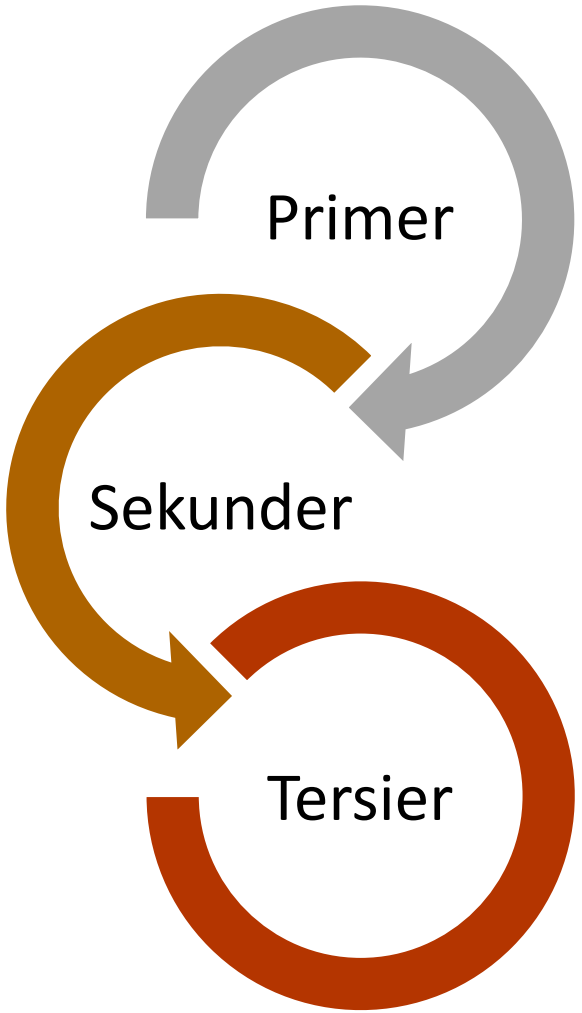
Photo by: Papa Rifa,2020

PROGRAM STUDI

TEKNIK LINGKUNGAN

2020

Manusia & Lingkungan (1)



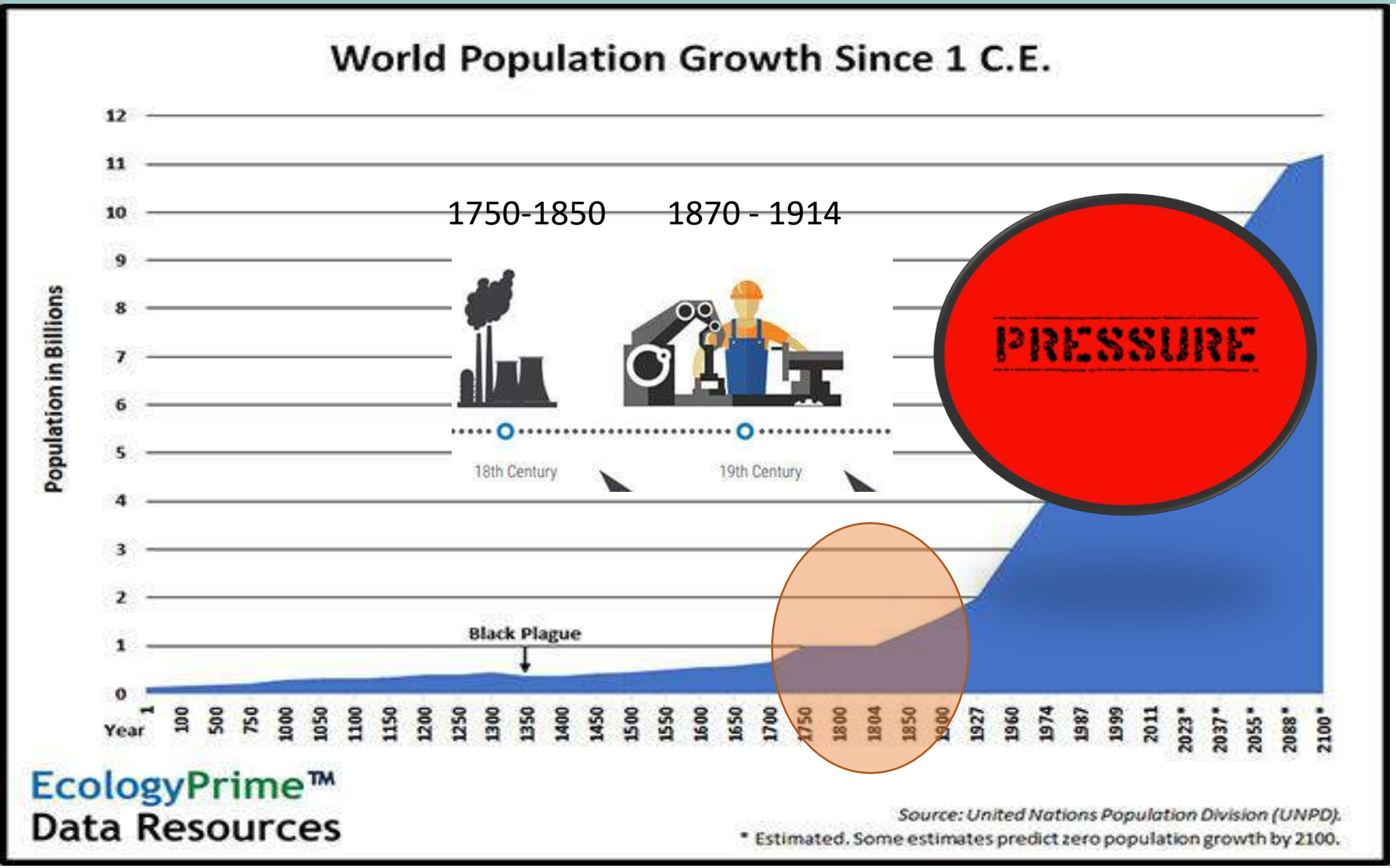
- ❑ Sandang
- ❑ Pangan
- ❑ Papan

- ❑ Menambah Kebahagiaan hidup

- ❑ Meningkatkan prestise

LIMBAH

Manusia & Lingkungan (2)

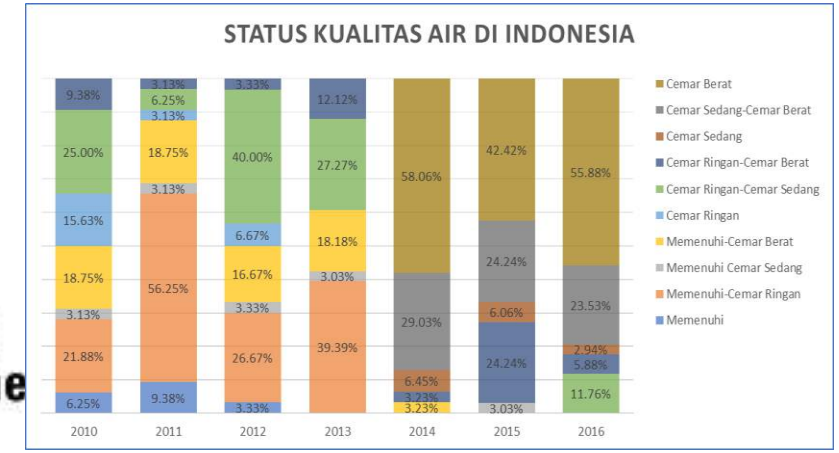


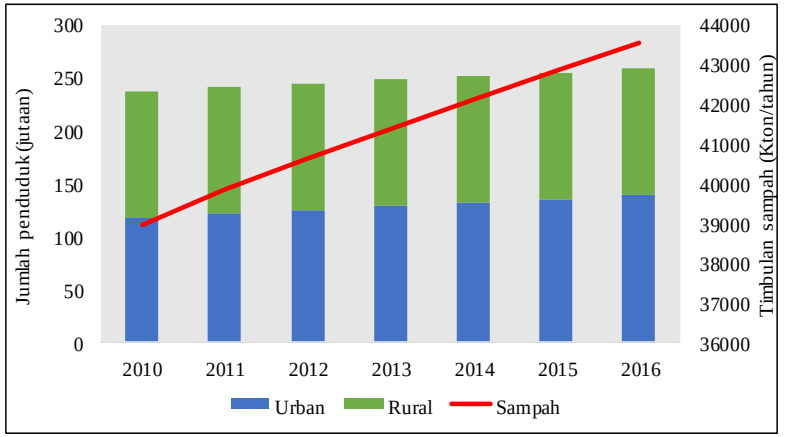
Sumber: london-thames-sewage.weebly.com

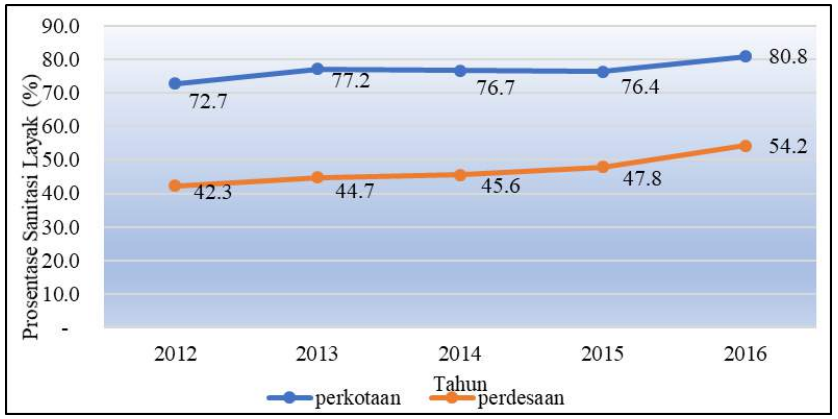
The 1st environmental engineer :Joseph Bazalgette. Bazalgette oversaw the construction of the first large-scale municipal sanitary sewer system in London in the mid-19th century (www.livescience.com).

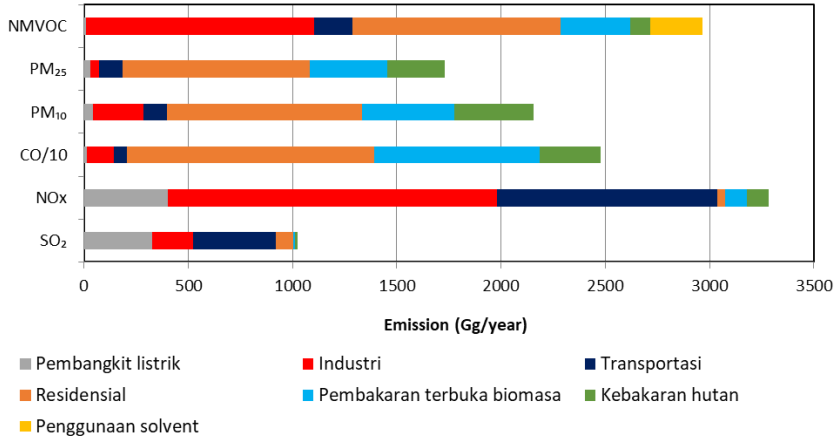
The Role of Environmental Engineering in the Preventive Control of Water-borne Diseases in Developing Countries

B. Z. DIAMANT, F.I.C.E., F.I.P.H.E., F.R.S.H.
Professor of Public Health Engineering,
Ahmadu Bello University, Zaria



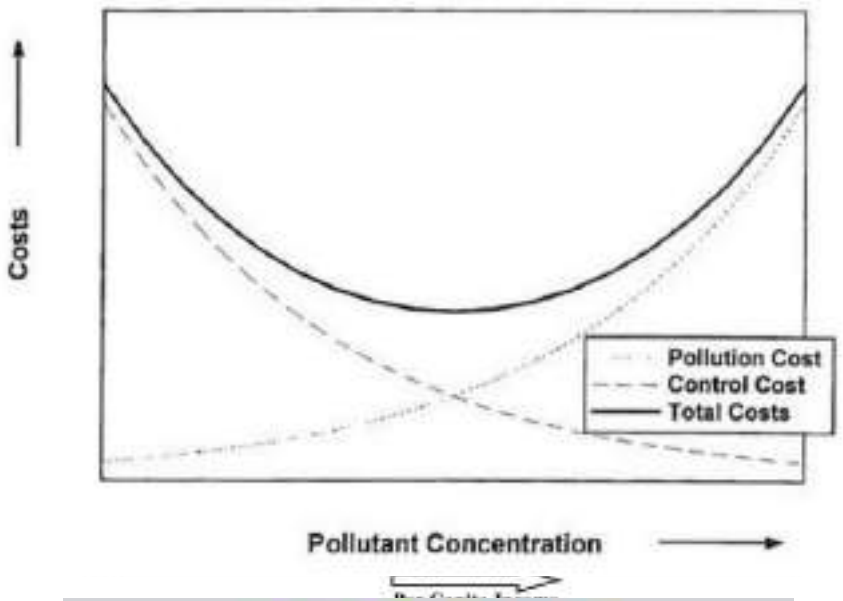






- Preventif
- Kuratif
- keselamatan dan kesehatan kerja

The Kuznets Curve



POPULASI MANUSIA
- Over populasi
- Over konsumsi
- Over by product
- Kemiskinan

SUMBER DAYA ALAM
- Keterbatasan & kualitas/kondisi
- Pemborosan
- Anggapan bahwa teknologi memecahkan semua masalah

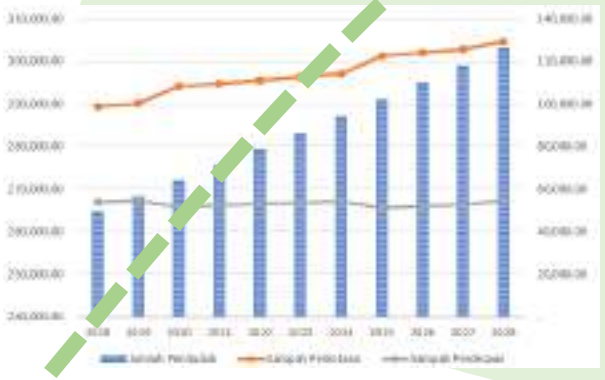
PENCEMARAN LINGKUNGAN: SKALA LOKAL, REGIONAL, GLOBAL

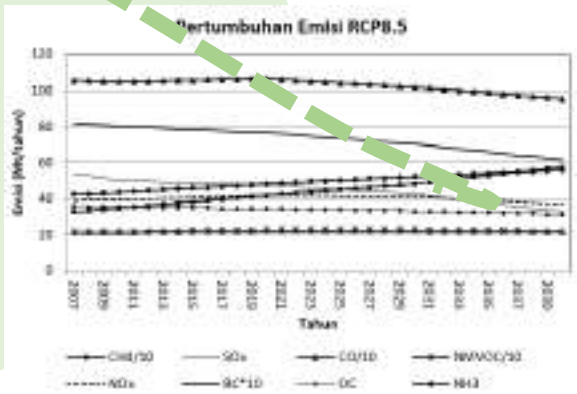
PEMBANGUNAN EKONOMI SELAMA INI CENDERUNG MENGEKSPLOITASI SUMBER DAYA ALAM DAN MENGAKIBATKAN KERUSAKAN LINGKUNGAN

Environmental engineering: the body of knowledge whose application defines the discipline is environmental science, the goal of the discipline is satisfying present, and future human needs through protection of the environment (Reible, 1999)

POTRET LINGKUNGAN MASA DEPAN

Environmental Degradation





Future Outlook

Lingkup Teknik Lingkungan di Indonesia

- TPAM dan Water Treatment
- Teknik PAB&S, Wastewater treatment
- Pengolahan dan pembuangan limbah gas, cair, padat, dan B3
- Teknologi bersih, audit lingkungan/industri
- Mencegah kebisingan
- Mencegah kecelakaan (safety engineering) mencegah penyebaran penyakit lewat air, udara, tanah, biota, dan lingkungan social
- Kesehatan lingkungan permukiman, industri, rumah sakit dan kelembagaan lain, tempat-tempat umum
- Memberi pertolongan pada keadaan bencana/gawat darurat
- Mendukung pembuatan standar, peraturan, hukum lingkungan, dll
- Kesemua ini tercakup dalam lingkungan air /hidrosfir, udara /atmosfir, tanah/litosfir, fauna-flora/biosfir, dan sosial/sosiosfir.

Photo by: Papa Rifa,2020

PROFIL SINGKAT

PROGRAM STUDI TEKNIK LINGKUNGAN

2020

Bidang Air Minum dan Air Limbah

Bidang Persampahan

BIDANG KEILMUAN TEKNIK LINGKUNGAN

Bidang Udara

Bidang Manajemen Lingkungan

TEKNIK LINGKUNGAN
ITENAS
BERDIRI TAHUN 1993

TERAKREDITASI A SEJAK TAHUN 2013

TERAKREDITASI A PADA REAKREDITASI 2018

HINGGA TAHUN 2023

Visi Program Studi Teknik Lingkungan Itenas:

Menjadi unggul dalam bidang teknologi pengolahan serta pengelolaan air dan limbah, dalam mendukung pembangunan yang berkelanjutan, sesuai dengan target Sustainable Development Goals (SDGs) tahun 2030

Visi Program Studi Teknik Lingkungan Itenas:

1. Menyelenggarakan pendidikan yang menghasilkan sarjana teknik yang ahli dalam bidang teknologi pengolahan serta pengelolaan air dan limbah
2. Mengembangkan teknologi pengolahan serta pengelolaan air dan limbah berbasis *resource recovery* sehingga bisa berkontribusi dalam pembangunan berkelanjutan
3. Meningkatkan kapasitas masyarakat dalam bidang pengelolaan air dan limbah sehingga bisa bekerja sama dalam pembangunan berkelanjutan
4. Berkontribusi aktif dalam forum ilmiah, asosiasi profesi, pemerintahan dan industri secara nasional dan internasional

Perkuliahan terdiri dari 8 Semester (4 Tingkat)

Kurikulum yang berlaku adalah "Kurikulum Tahun 2017"

144 sks

(Satuan Kredit Semester)

+

20 skk

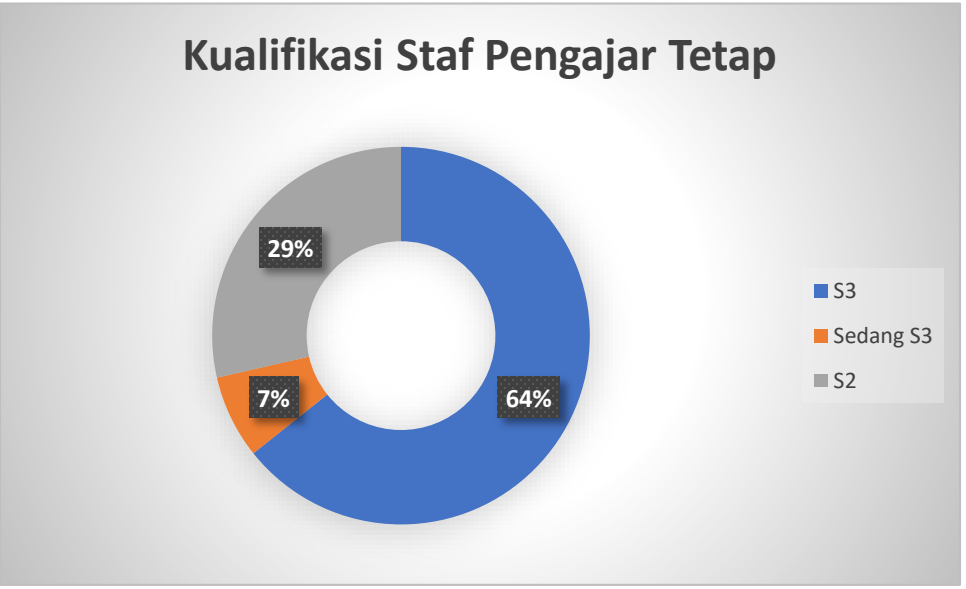
(Satuan Kredit Kemahasiswaan)

TEKNIK LINGKUNGAN ITENAS BANDUNG

8

STAF PENGAJAR TETAP

STAF PENGAJAR TETAP 14 DOSEN



Dr.Eka Wardhani
57194040579

Kancitra Pharmawati, MT.

Dr.Moh. Rangga
57200560095

Mila Dirgawati,PhD
56798631400

Nico Halomoan, MT.

PhD Candidate
Agung Ghani, MT

Dr.Eng. DiDin
24605839300

Dr.Eng. Dyah Asri
57202713589

Dr. Rachmawati
55348878900

Dr. Etih Hartati

Iwan Juwana.,PhD
36656051100

Siti Ainun,MSc
57210622375

Yulianti Pratama, MT.

Dr.Eng. M. Chandra
31367671600

Prof. Juli Soemirat
55445452500

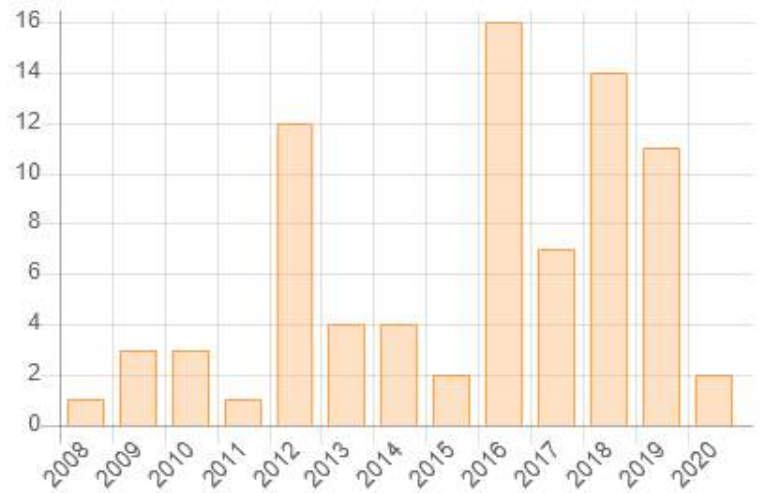
PUBLIKASI DOSEN TETAP

Department Profile

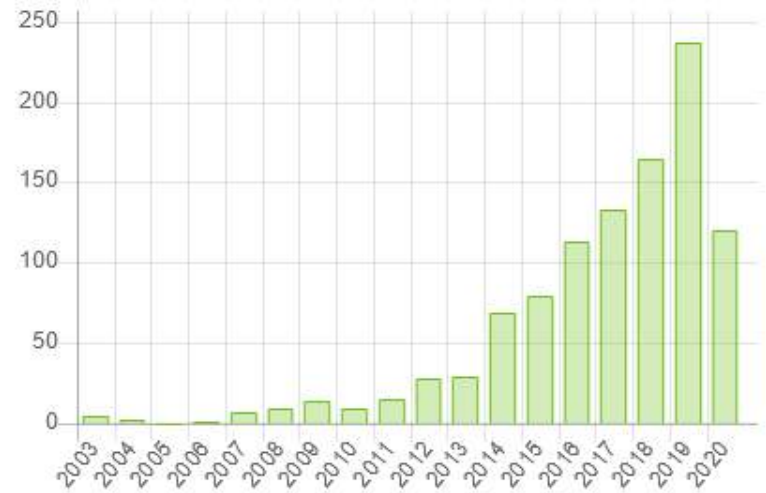
Teknik Lingkungan
Institut Teknologi Nasional Bandung
S1 | Code : 25201
www.itenas.ac.id

Overview | Authors | Scopus Documents | GS Documents

Documents Per Year Scopus



Citations per Year Google



Google

254
Documents

1,275
Citations

Scopus

87
Documents

727
Citations

KERJASAMA INTERNASIONAL

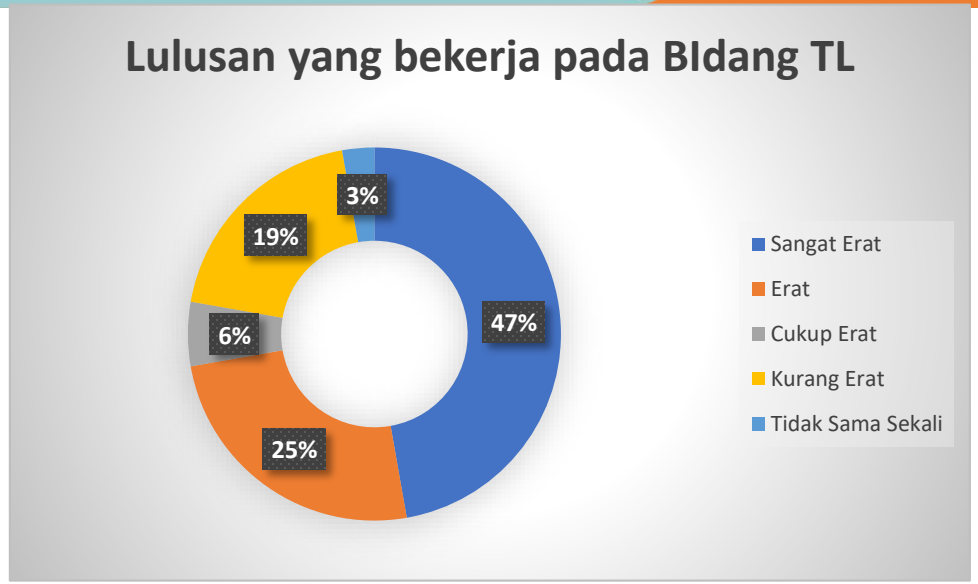
- Integrated better air quality program (IBAQ program): development of clean air action plan for Indonesian smaller cities,
- International Air Quality Specialist (Consultant) for the Sustainable Urban Mobility for All Initiative (SUMAI) Project in Cambodia,
- Air quality and GHGs specialist for Feasibility Study of BRT Project in Bandung, Indonesia,
- Software Pipe Design, JICA
- Student Exchange dengan Radboud University Belanda,

MAHASISWA dan ALUMNI

Mahasiswa Baru
Program Studi Teknik Lingkungan

TAHUN	FRESH	TRANSFER	TOTAL
2014	146	0	146
2015	127	1	128
2016	113	0	113
2017	112	3	115
2018	111	4	115

Catatan :
- Transfer = masuk ke Itenas pindahan dari PT/Program Studi lain



LULUSAN : 528 Sarjana Teknik Lingkungan

Rata-rata waktu mendapat pekerjaan=2,3 bulan

Jumlah Mahasiswa Lulus
Program Studi Teknik Lingkungan

TAHUN	FRESH	TRANSFER	TOTAL
2014/2015	21	1	22
2015/2016	22	0	22
2016/2017	42	0	42
2017/2018	31	0	31
2018/2019	93	1	94

Catatan :
- Transfer = masuk ke Itenas pindahan dari PT/Program Studi lain

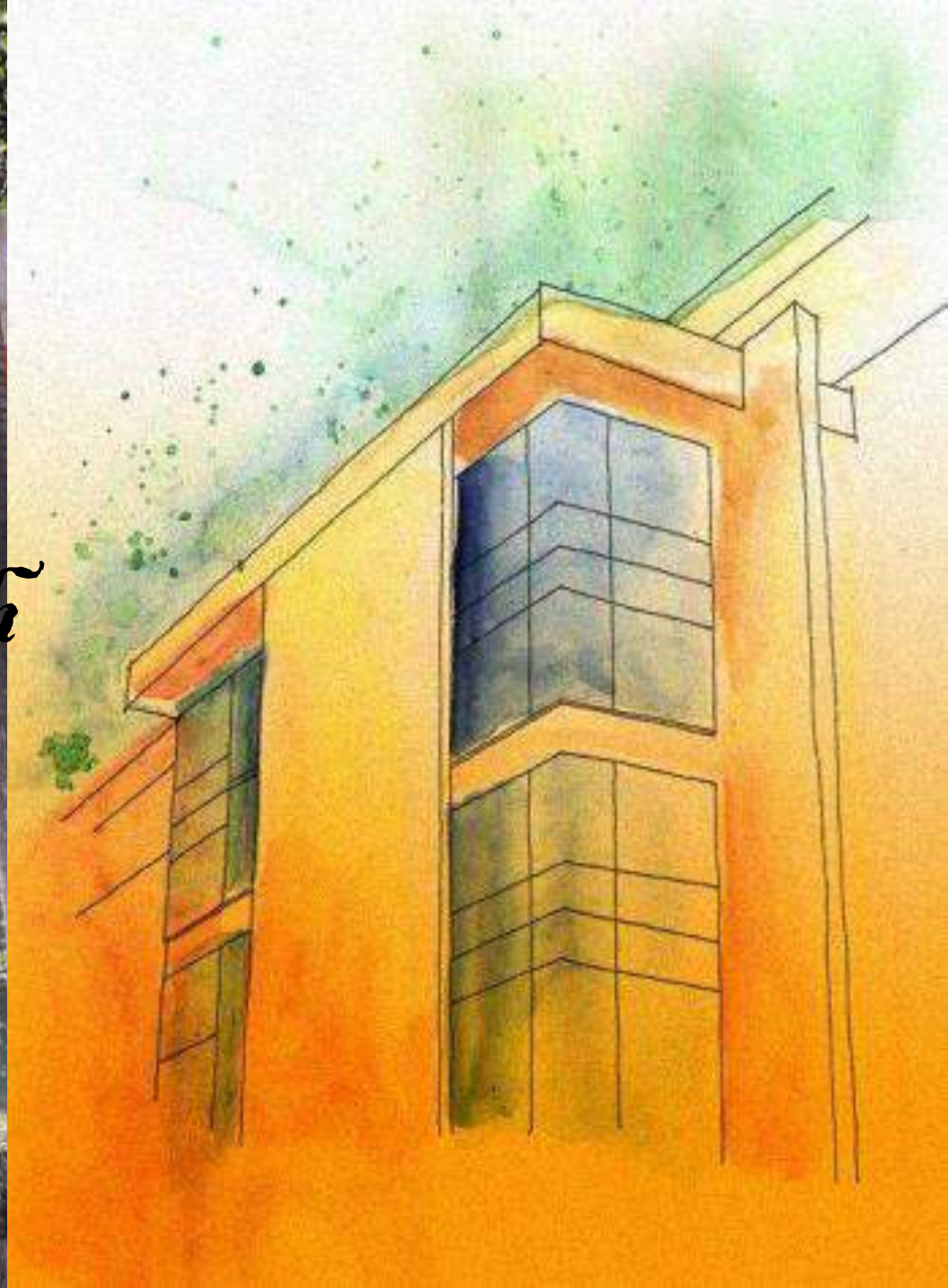
KEGIATAN KEMAHASISWAAN

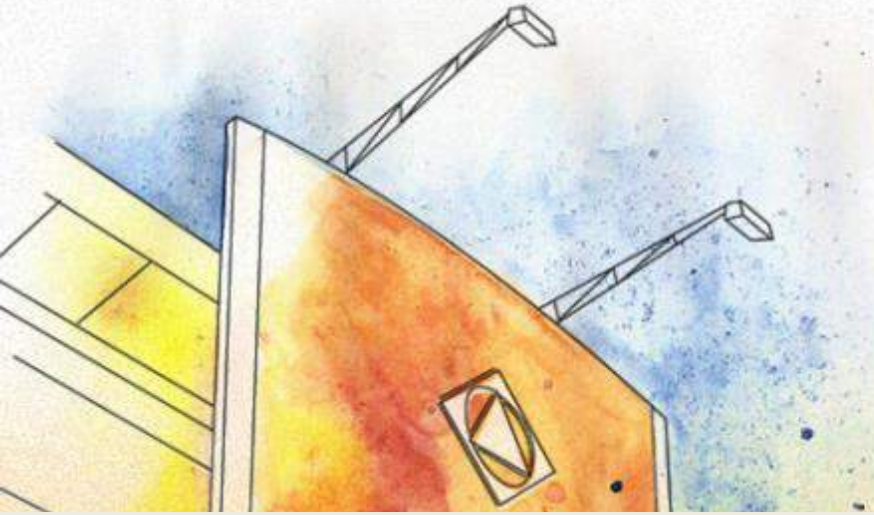
Wahana dan sarana pengembangan diri mahasiswa ke arah perluasan wawasan dan peningkatan kecendekiawan serta integritas kepribadian untuk mencapai tujuan Pendidikan.

KULIAH TAMU

Public Lecture
Prof. Chandra Venkataraman
Indian Institute of Technology (IIT) Bombay, India

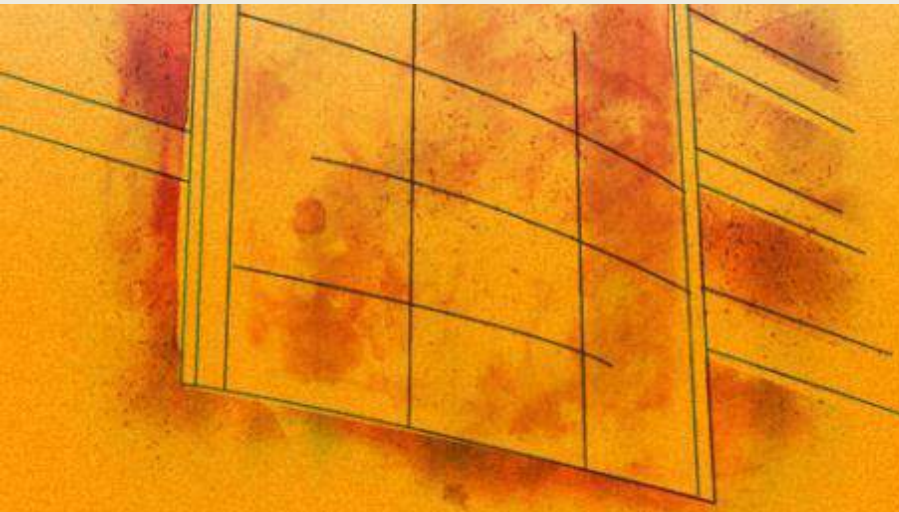
Terimakasih





FTSP "New Normal" Webinar Series :
Promotion and Collaboration on Academic – Research to Industry Activities

Pengenalan Program Studi Teknik Geodesi - Itenas



Oleh :
Dr. Soni Darmawan & Rika Hernawati, M.T.

Program Studi Teknik Geodesi – Itenas Bandung
Jl. PKH. Hasan Mustapa No. 23 Bandung 40124
Telp. +62-22-7272215, Fax.+62-22-7202892

2015 © Institut Teknologi Nasional Bandung

Dr. Soni Darmawan

Teknik Geodesi
INSTITUT TEKNOLOGI NASIONAL - BANDUNG

Soni_darmawan@itenas.ac.id
0822 1660 2544

.

Dekan Fakultas Teknik Sipil dan Perencanan (2020-2025)
Ketua Jurusan Teknik Geodesi Itenas – Bandung (2017-2020)
Sekjen Masyarakat Ahli Penginderaan Jauh Indonesia (MAPIN) (2019-2022)

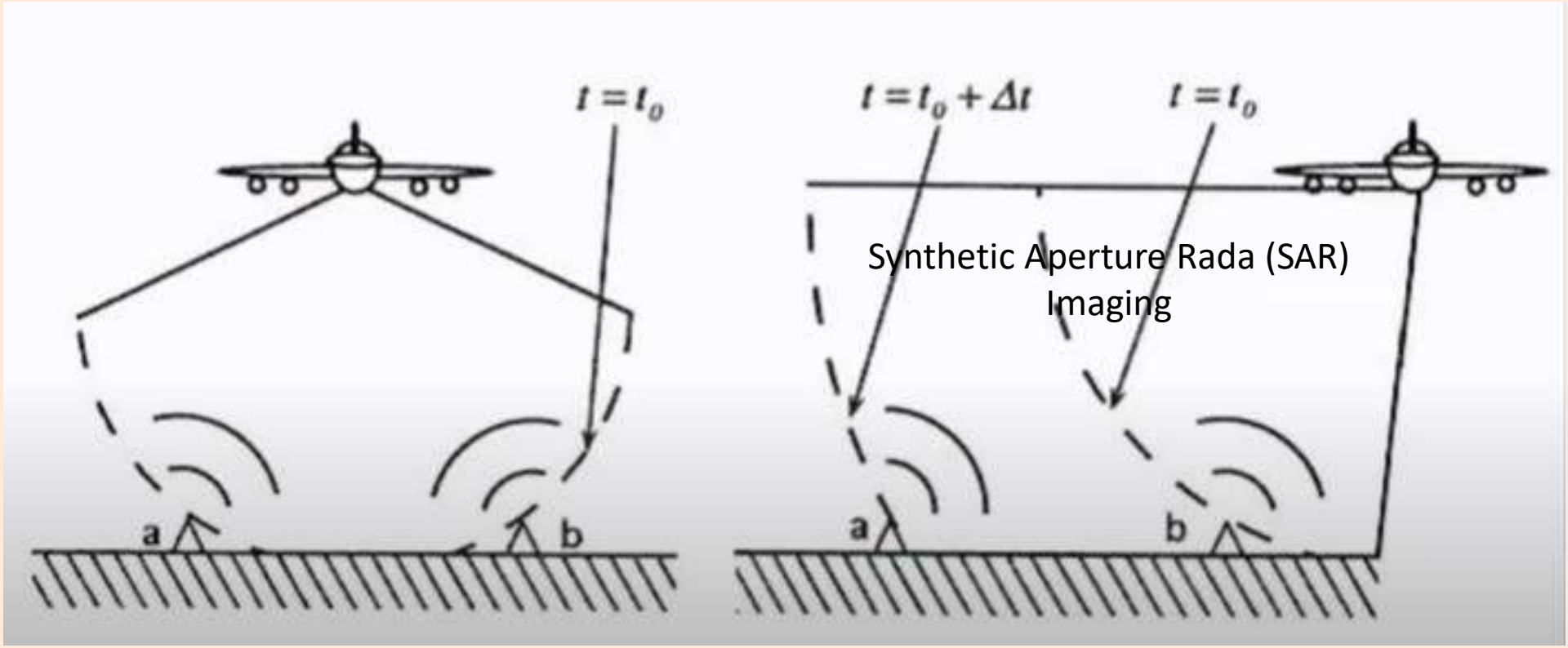
- 2013 – 2016 Postdoctoral University of Tokyo.
- 2012 Lecturer in Institut Teknologi Nasional, Bandung, Indonesia.
- 2011 : Doctor from Geodesy and Geomatics Engineering, Faculty of Earth Science and Technology, Institute of Technology Bandung (ITB) –Indonesia.
- 2009 – 2010 : sandwich program, between ITB and Center for Environmental Remote Sensing (CeRES)-Chiba University.
- 2007 – 2008 : research fellow from Japan International Research Center for Agricultural Sciences (JIRCAS), Tsukuba.
- 2004 : Master from Geodesy and Geomatics Engineering, ITB.
- 1999 : Undergraduate from Geodesy Engineering, ITB.

Down and side looking Radar

Teknik Geodesi
INSTITUT TEKNOLOGI NASIONAL - BANDUNG

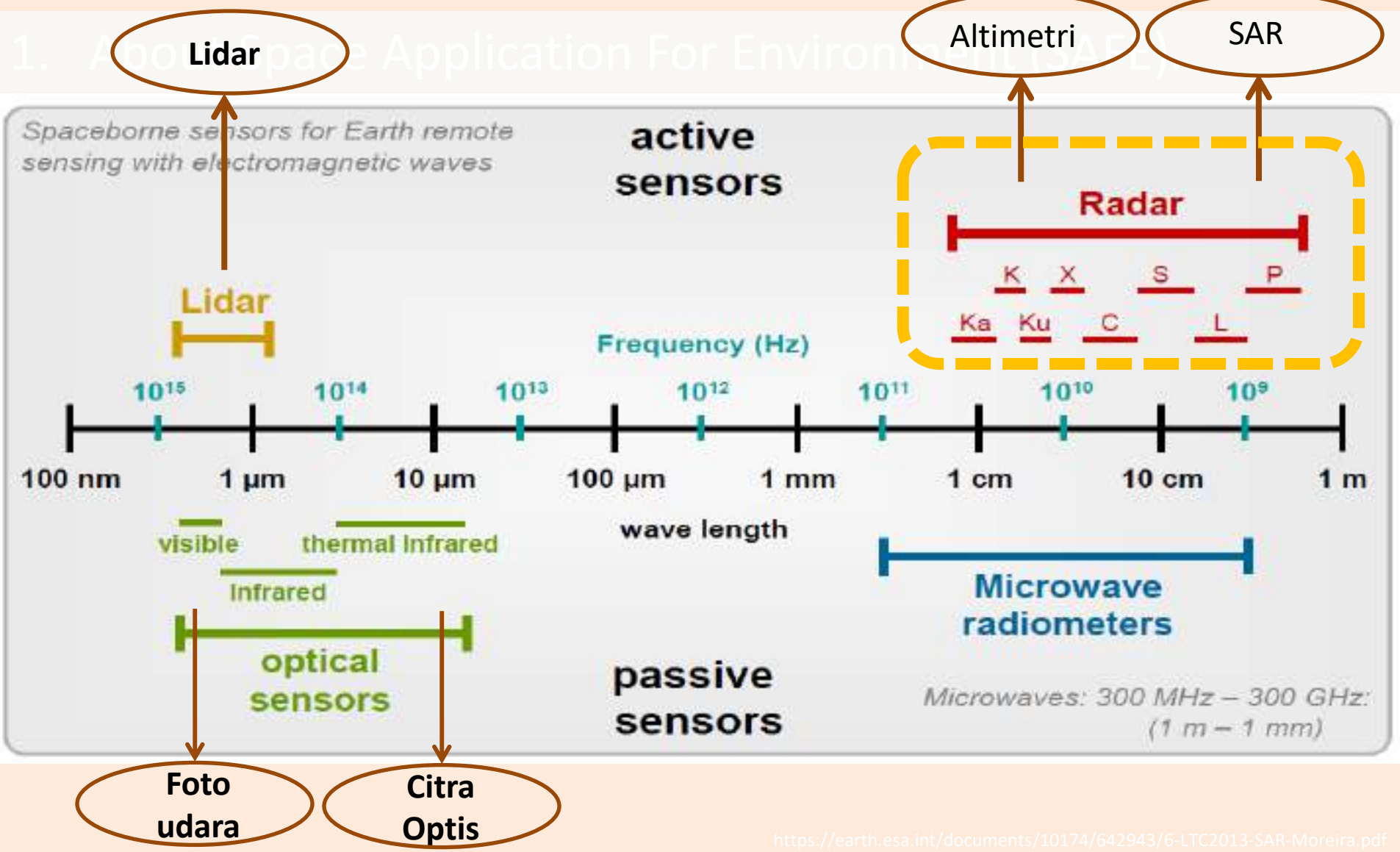
Down looking

Side looking



Satelite Altimetri
(non imaging / only point)

Gelombang elektromagnetik



1. About Space Application For Environment (SAFE)

https://earth.esa.int/documents/10174/642943/6-LTC2013-SAR-Moreira.pdf

1 Apa itu Teknik Geodesi

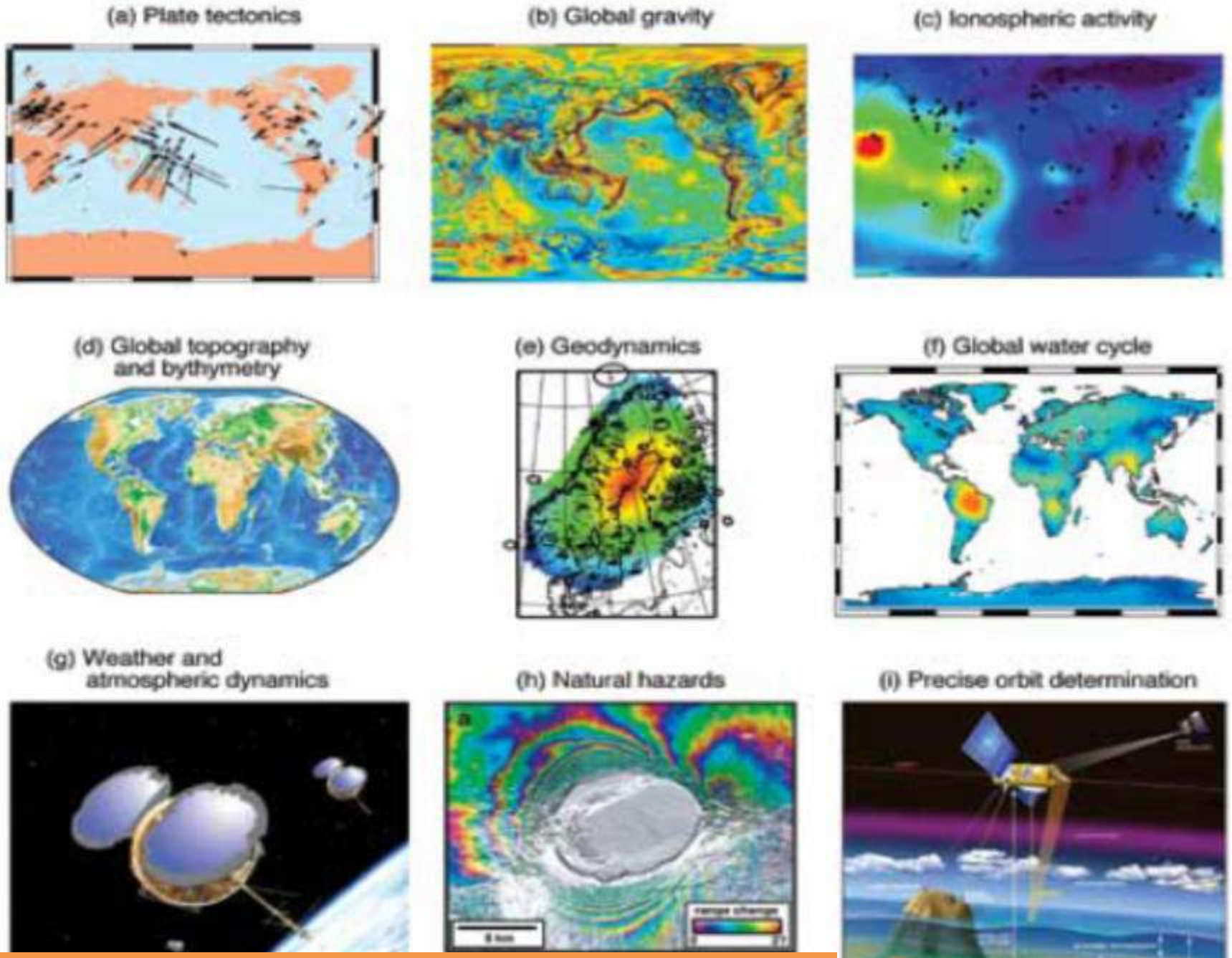
Teknik Geodesi
INSTITUT TEKNOLOGI NASIONAL - BANDUNG

- Geodesi merupakan ilmu pengukuran dan pemetaan permukaan bumi (Helmert 1843 – 1917)

- Menurut IAG (International Association Of Geodesy, 1979) Geodesi adalah disiplin ilmu yang mempelajari tentang pengukuran dan perepresentasian dari Bumi dan benda-benda langit lainnya, termasuk medan gaya beratnya masing-masing, dalam ruang tiga dimensi yang berubah dengan waktu.

- Geodesi Modern (Rizos, 2012) :
  - Menentukan posisi (statik/kinematik) yang presisi dipermukaan bumi untuk skala lokal, regional dan global
  - Memetakan secara geomatry daratan dan lautan
  - Menentukan bentuk bumi serta gaya beratnya dalam variasi ruang dan waktu
  - Menentukan fenomena dinamis di daratan, lautan dan atmosfer.

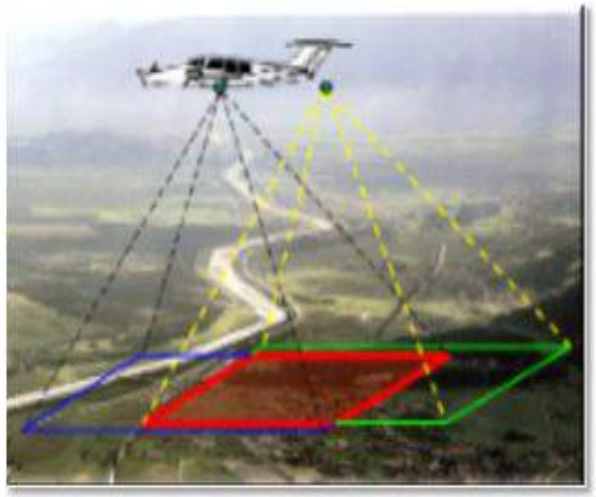
- Terminologi baru : Geodesy – Geomatika – Informasi Geospasial (IG)

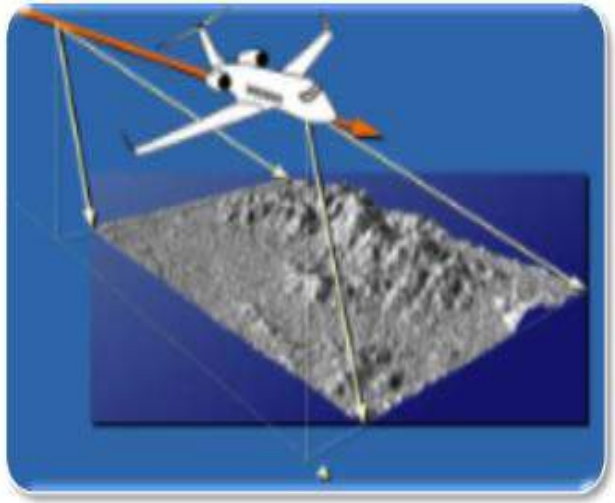


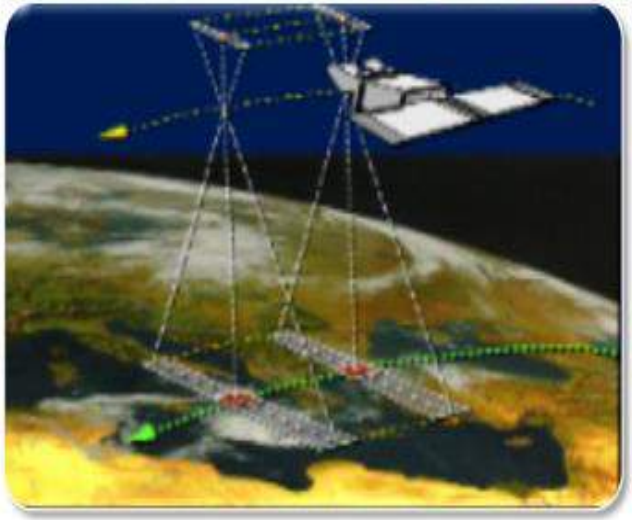
Tantangan di keilmuan Geodesi

Akuisisi Data Geospasial:
Survei dan Pemetaan

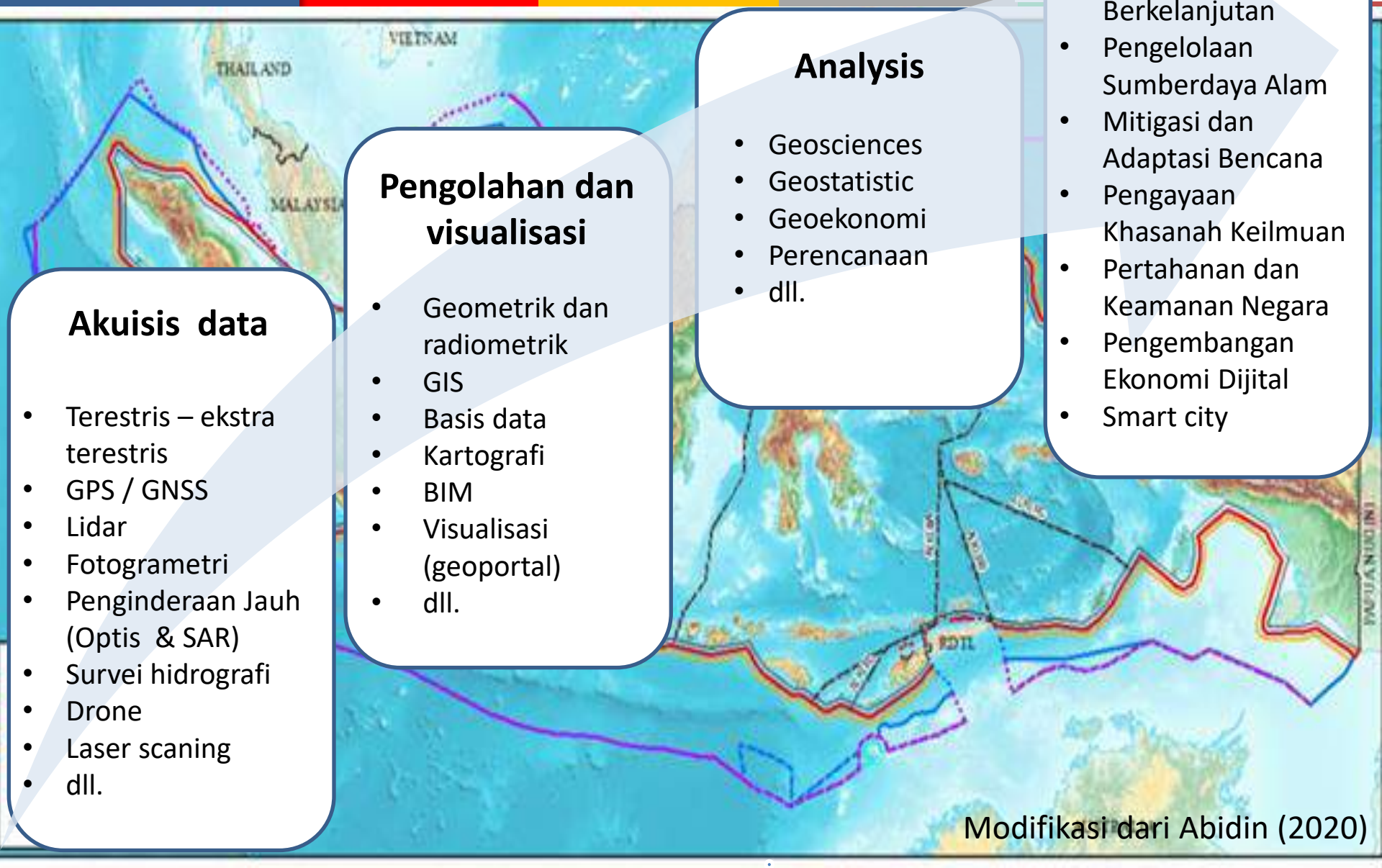
- Terestris dan Ekstra-Terestris (Darat dan Laut)
- Fotogrametri
- Inderaja (Remote Sensing)







Data dan Informasi Geospasial



Akuisis data

- Terestris – ekstra terestris
- GPS / GNSS
- Lidar
- Fotogrametri
- Penginderaan Jauh (Optis & SAR)
- Survei hidrografi
- Drone
- Laser scaning
- dll.

Pengolahan dan visualisasi

- Geometrik dan radiometrik
- GIS
- Basis data
- Kartografi
- BIM
- Visualisasi (geoportal)
- dll.

Analysis

- Geosciences
- Geostatistic
- Geoekonomi
- Perencanaan
- dll.

Pemanfaatan

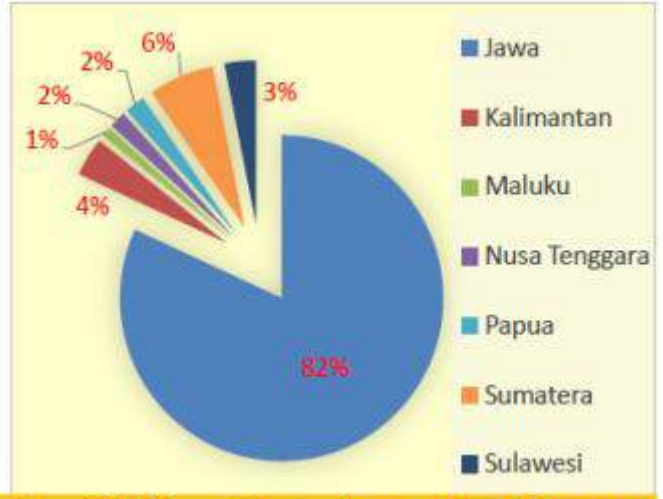
- Pembangunan Berkelanjutan
- Pengelolaan Sumberdaya Alam
- Mitigasi dan Adaptasi Bencana
- Pengayaan Khasanah Keilmuan
- Pertahanan dan Keamanan Negara
- Pengembangan Ekonomi Dijital
- Smart city

Modifikasi dari Abidin (2020)

Kebutuhan SDM Geospasial

Teknik Geodesi
INSTITUT TEKNOLOGI NASIONAL - BANDUNG

Status SDM IG Nasional



Tahun	Proyeksi Kebutuhan	SDM IG Tersedia	Gap SDM IG	Pemenuhan SDM IG	Rencana Pemenuhan
2015	31.500	8.584	22.917		22.917
2016	32.414	11.084	23.830	2.500	21.330
2017	33.353	13.584	22.270	2.500	19.770
2018	34.321	16.084	20.737	2.500	18.237
2019	35.316	18.584	19.233	2.500	16.733
2020	36.340	21.084	17.757	2.500	15.257
2021	37.394	23.584	16.311	2.500	13.811
2022	38.479	26.084	14.895	2.500	12.395
2023	39.594	28.584	13.511	2.500	11.011
2024	40.743	31.084	12.159	2.500	9.659

Hasil Survei BIG tahun 2015. Kebutuhan SDM untuk surveyor kadaster berlisensi, dan pemetaan desa belum diperhitungkan

(Abidin, 2020)

Kebutuhan SDM Kadastral

Teknik Geodesi
INSTITUT TEKNOLOGI NASIONAL - BANDUNG

PROGRAM PENDAFTARAN TANAH 2020 - 2024

	2020	2021	2022	2023	2024
Program Prioritas	**Peningkatan Kualitas**	**Berbasis Elektronik**	**Berbasis Elektronik**	**Stelsel Positif**	**Institusi Standar Dunia**
Pendaftaran Tanah Sistematis Lengkap (PTSL) Basis Data Estimasi (126 Juta Bidang)	• Target Peta Bidang Tanah Terdaftar : 9.164.220 Bidang • Target Peta Bidang K4 : 50.462 Bidang • Minimal 10 Kota Lengkap	• Target Peta Bidang Tanah Terdaftar : 15.765.158 Bidang • Target Peta Bidang K4 : 7.552.436 Bidang	• Target Peta Bidang Tanah Terdaftar : 17.399.967 Bidang • Target Peta Bidang K4 : 9.557.415 Bidang	• Target Peta Bidang Tanah Terdaftar : 15.640.209 Bidang	• Target Peta Bidang Tanah Terdaftar : 14.921.850 Bidang
	• Proses dan hasil PTSL elektronik dan tervalidasi (tekstual dan spasial) • K4 dan Kota Lengkap • Data PTSL dapat di akses oleh unit kerja internal ATR/BPN	• Improvement data berbasis elektronik • Inisiasi kadaster 3D	• Hasil PTSL mencantumkan RRR dan 3D • Hasil PTSL *Fully Digital Base*	• Inisiasi integrasi data PTSL menjadi bagian dari BIG data • Sebagian wilayah lokasi PTSL di *declare* menjadi stelsel positif	• Seluruh Bidang Tanah Terdaftar dan Lengkap sejumlah 126 Juta Bidang • Data PTSL menjadi *core* BIG data untuk layanan informasi dan transaksi pertanahan • Ibu Kota Provinsi merupakan daerah pendaftaran tanah sudah lengkap

(BPN, 2020)

2 Pendirian Teknik Geodesi Itenas

Teknik Geodesi
INSTITUT TEKNOLOGI NASIONAL - BANDUNG

Sejak tahun 1985 (35 tahun yll)

MENTERI PENDIDIKAN DAN KEBUDAYAAN
REPUBLIK INDONESIA

KEPUTUSAN
MENTERI PENDIDIKAN DAN KEBUDAYAAN
REPUBLIK INDONESIA

No. 0781/0/1985

Tentang

PENDIRIAN STATUS TERDAFTAR PADA FAKULTAS/JURUSAN DALAM LINGKUNGAN INSTITUT TEKNOLOGI NASIONAL (ITENAS) DI BANDUNG

MENTERI PENDIDIKAN DAN KEBUDAYAAN,

Menimbang : a. bahwa berdasarkan keputusan Menteri Pendidikan dan Kebudayaan tanggal No. 0781/1985 telah ditetapkan berdiri dan mulai beroperasi Institut Teknologi Nasional di Bandung menjadi Institut Teknologi Nasional (ITENAS) ;

b. bahwa dalam rangka pembinaan perguruan tinggi swasta perlu mengadakan penilaian terhadap Fakultas/Jurusan dalam lingkungan Institut Teknologi Nasional (ITENAS) di Bandung untuk ditetapkan status terdaftar sesuai dengan Undang-undang No. 22 Tahun 1961 tent ng Perguruan Tinggi ;

c. bahwa berdasarkan data dan informasi dari Koordinator Koordinasi Perguruan Tinggi Swasta Wilayah IV di Bandung, perguruan tinggi swasta/sekolah perguruan tinggi swasta tersebut pada sub b sudah memenuhi syarat untuk diberikan status terdaftar untuk Program S_1 dan menyelenggarakan Program D III.

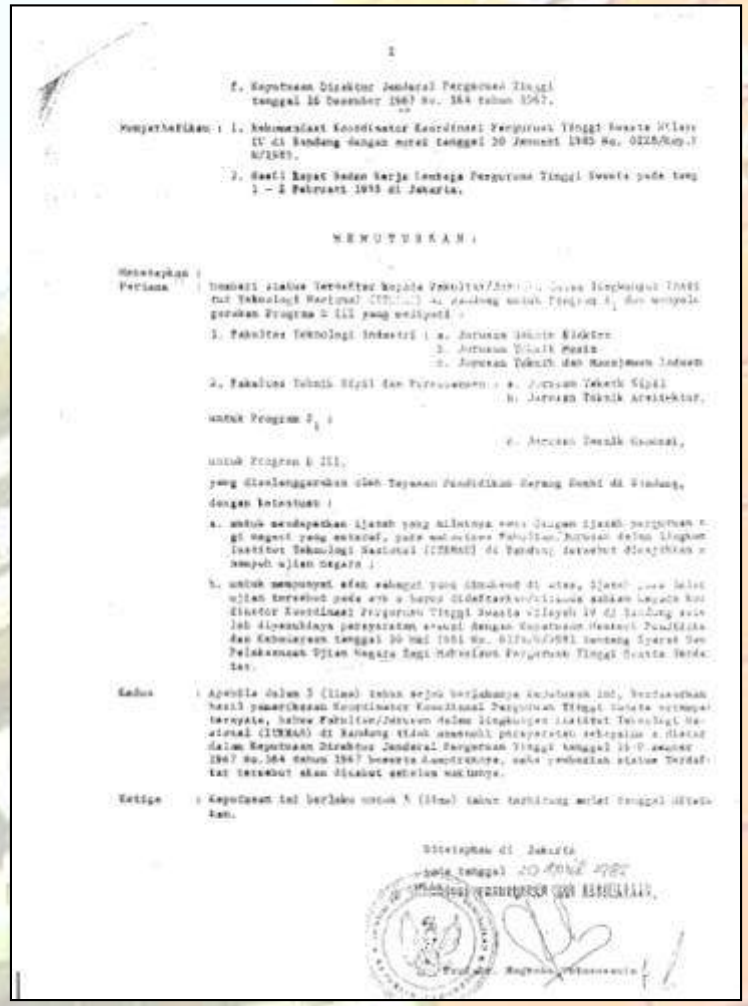
Mengingat : a. Undang-undang No. 22 Tahun 1961 ;

b. Peraturan Pemerintah :
1. No. 23 Tahun 1959 ;
2. No. 34 Tahun 1960 ;
3. No. 3 Tahun 1980 ;
4. No. 27 Tahun 1981 ;

c. Keputusan Presiden Republik Indonesia :
1. No. 44 Tahun 1974 ;
2. No. 45/M Tahun 1983 ;
3. No. 15 Tahun 1984 ;

d. Keputusan Menteri Pengerian Tinggi dan Ilmu Pengetahuan tanggal 17 Februari 1962 No. 31 tahun 1962 ;

e. Keputusan Menteri Pendidikan dan Kebudayaan :
1. tanggal 31 Desember 1970 No. 0349/1970 ;
2. tanggal 11 September 1980 No. 0220/0/1980 ;
3. tanggal 24 Februari 1981 No. 107/0/1981 ;
4. tanggal 30 M a i 1981 No. 0176/0/1981 ;
5. tanggal 19 Februari 1982 No. 062/0/1982 ;
6. tanggal 5 April 1982 No. 0153/0/1982 ;
7. tanggal 25 M a i 1982 No. 0295/0/1982 ;
8. tanggal 26 Juni 1982 No. 0413/0/1982 ;
9. tanggal 16 Juni 1982 No. 0372/0/1982 ;
10. tanggal 12 Juli 1982 No. 0338/0/1982 ;
11. tanggal 24 Maret 1982 No. 0219/0/1982 ;
12. tanggal 27 Februari 1982 No. 0161/0/1982 ;
13. tanggal 9 Agustus 1984 No. 0338/0/1984 ;
14. tanggal 1985 No. 0781/0/1985 ;



f. Keputusan Direktur Jenderal Pergurusan Tinggi tanggal 16 Desember 1967 No. 384 tahun 1967.

Menjatahkan : 1. Rekomendasi Koordinator Koordinasi Perguruan Tinggi Swasta Wilayah IV di Bandung dengan surat tanggal 20 Januari 1985 No. 0228/Koord.IV/1985.

2. Hasil Rapat Badan Kerja Lembaga Perguruan Tinggi Swasta pada tang 1 – 2 Februari 1985 di Jakarta.

M E N E T U S K A N :

Menetapkan :

Pertama : Terhadap status terdaftar bagi Fakultas/Jurusan lingkungan Institut Teknologi Nasional (ITENAS) di Bandung untuk Program S_1 dan menyelenggarakan Program S_1 III yang meliputi :

1. Fakultas Teknologi Industri : a. Jurusan Teknik Elektro
b. Jurusan Teknik Mesin
c. Jurusan Teknik dan Manajemen Industri

2. Fakultas Teknik Sipil dan Perencanaan : a. Jurusan Teknik Sipil
b. Jurusan Teknik Arsitektur.

untuk Program S_1 :

c. Jurusan Teknik Geodesi,

untuk Program D III.

yang diselenggarakan oleh Yayasan Pendidikan Nurang Bandi di Bandung,

dengan ketentuan :

a. untuk mendapatkan ijazah yang nilainya sama dengan ijazah perguruan tinggi negeri yang setingkat, pada mahasiswa Fakultas/Jurusan dalam lingkungan Institut Teknologi Nasional (ITENAS) di Bandung tersebut diwajibkan mengikuti ujian negara ;

b. untuk mengunyai sifat sebagai yang dimaksud di atas, ijazah dari lulusan ujian tersebut pada sub a hanya diberikan apabila lagalh Kepala Kantor Koordinasi Perguruan Tinggi Swasta wilayah IV di Bandung telah dipenuhinya persyaratan sesuai dengan Keputusan Menteri Pendidikan dan Kebudayaan tanggal 30 Mei 1981 No. 0176/0/1981 tentang Syarat dan Pelaksanaan Ujian Negara Bagi Mahasiswa Perguruan Tinggi Swasta Terdaftar.

Kedua : Apabila dalam 5 (lima) tahun sejak berlakunya keputusan ini, berdasarkan hasil pemeriksaan Koordinator Koordinasi Perguruan Tinggi tersebut ternyata, bahwa Fakultas/Jurusan dalam lingkungan Institut Teknologi Nasional (ITENAS) di Bandung tidak memenuhi persyaratan sebagaimana dimaksud dalam Keputusan Direktur Jenderal Pergurusan Tinggi tanggal 16 Desember 1967 No.384 tahun 1967 beserta lampirannya, maka terhadap status terdaftar tersebut akan dicabut kembali kedudukannya.

Ketiga : Keputusan ini berlaku untuk 5 (lima) tahun terhitung mulai tanggal ditetapkan.

Ditetapkan di Jakarta
pada tanggal 20 APRIL 1985

3 Visi-Misi Prodi Teknik Geodesi

Teknik Geodesi
INSTITUT TEKNOLOGI NASIONAL - BANDUNG

VISI

Program Studi Teknik Geodesi Itenas menjadi penyelenggara pendidikan tinggi teknik yang unggul di bidang ilmu dan teknologi kegeodesian untuk menunjang pembangunan berkelanjutan di lingkup nasional dan global berlandaskan nilai-nilai integritas, kualitas, dan inovasi yang tinggi.

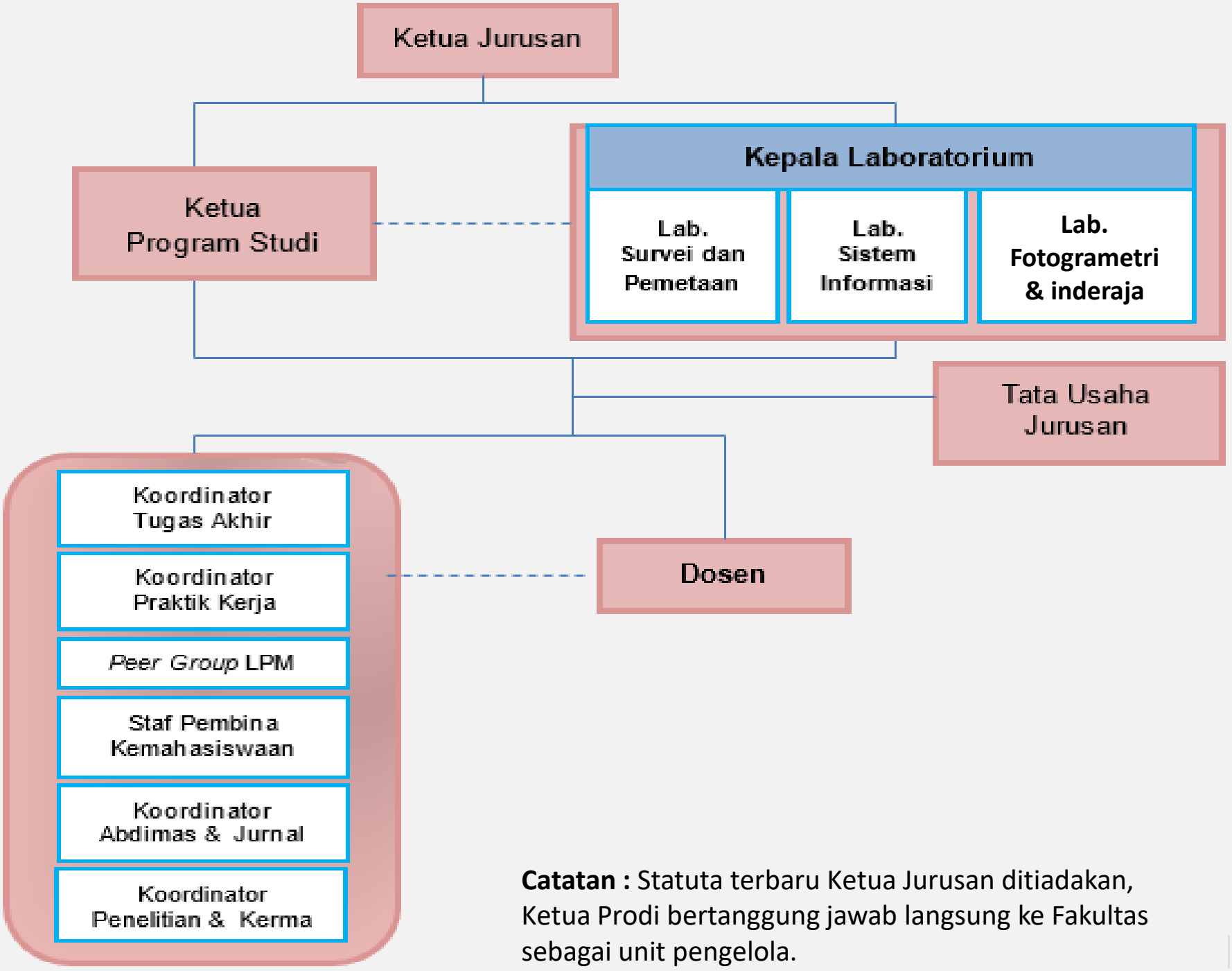
MISI

1. Menyelenggarakan pendidikan yang menghasilkan sumber daya manusia yang memiliki integritas dan inovasi di bidang geodesi.
2. Melaksaanakan kegiatan penelitian untuk menghasilkan karya ilmiah yang inovatif dalam bidang geodesi yang memberikan manfaat pada pengembangan keilmuan dan teknologi.
3. Melaksanakan kegiatan pengabdian pada masyarakat dalam bidang geodesi untuk mengimplementasikan hasil-hasil penelitian yang bermanfaat bagi masyarakat.
4. Berperan aktif dalam forum keilmuan dan profesi untuk mengikuti perkembangan ilmu dan teknologi di bidang geodesi.

4 Tujuan

Teknik Geodesi
INSTITUT TEKNOLOGI NASIONAL - BANDUNG

1. Menghasilkan lulusan yang berintegritas dan inovatif di bidang geodesi secara terpadu sehingga memiliki daya saing yang tinggi.
2. Menghasilkan karya ilmiah dan karya inovatif di bidang geodesi.
3. Menerapkan hasil penelitian pada kegiatan pengabdian kepada masyarakat.
4. Memperluas jaringan komunikasi untuk mengikuti perkembangan ilmu dan teknologi di bidang geodesi melalui forum keilmuan dan profesi.



Catatan : Statuta terbaru Ketua Jurusan ditiadakan, Ketua Prodi bertanggung jawab langsung ke Fakultas sebagai unit pengelola.

Dosen tetap Teknik Geodesi

Ir. M. Basyid, M.T

Ir. Rinaldy, MT

Ir. Aprilana, MT.

Dr.. Dewi K.S. MT

Ir. Sumarno, MT

Ir. Hary N., MT.

Ir. Ratih C.P, MT.

Indrianawati, ST.M.T

Dr. Rian N. MT.

Dr. Soni Darmawan

Thonas Indra, MT.

Dr. Dian H.

Rika H. ST. MT

Ayu Jessy, ST.MT.

Nurul, ST. MT.

Dr. Henri K.

5 Asosiasi profesi

Teknik Geodesi
INSTITUT TEKNOLOGI NASIONAL - BANDUNG

IKATAN SURVEYOR INDONESIA
Indonesian Surveyors Association
member of Federation Internationale des Geometres (FIG)
member of Asean Federation of Land Surveying and Geomatic (Asean FLAG)

MAPIN
MASYARAKAT AHLI PENGINDERAAN JAUH INDONESIA
Indonesian Society for Remote Sensing (ISRS)

Masyarakat Ahli Survei Kadaster Indonesia

Kurikulum

Teknik Geodesi
INSTITUT TEKNOLOGI NASIONAL - BANDUNG

Total 57 Matakuliah, 145 SKS (18 Matakuliah berpraktikum)

Tabel 5. Bahan Kajian Program Studi Teknik Geodesi

Singkatan	Bahan Kajian
BK1	Sains Dasar
BK2	Sains Rekayasa Umum
BK3	Survai Terestris
BK4	Hidrografi
BK5	Fotogrametri
BK6	Penginderaan Jauh
BK7	Sistem Informasi Geografis
BK8	Kartografi
BK9	Manajemen dan Kewirausahaan
BK10	Metodologi penelitian
BK11	Komunikasi dan Presentasi
BK12	Ilmu Sosial & Etika Profesi
BK13	Pengayaan Aplikasi Ilmu Teknologi Survai dan Pemetaan

Kegiatan Perkuliahan

Kegiatan Praktikum

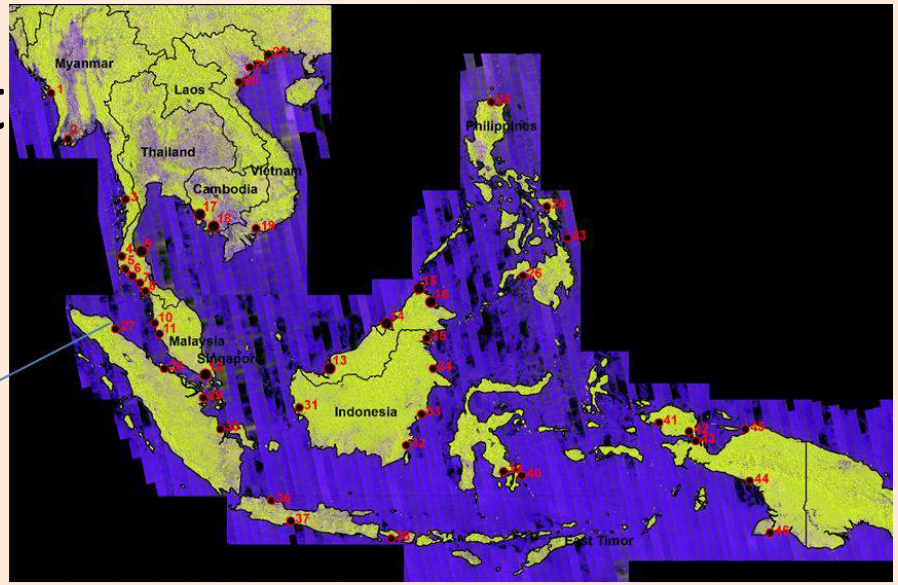
Kegiatan penelitian

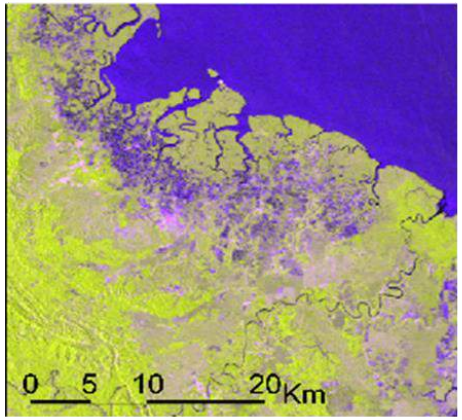
Teknik Geodesi
INSTITUT TEKNOLOGI NASIONAL - BANDUNG

Journal of
Applied Remote Sensing
RemoteSensing.SPIEDigitalLibrary.org

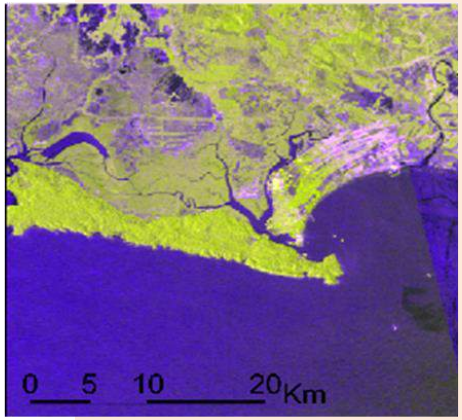
Development of aboveground mangrove forests' biomass dataset for Southeast Asia based on ALOS-PALSAR 25-m mosaic

Soni Darmawan
Dewi K. Sari
Wataru Takeuchi
Ketut Wikantika
Rika Hernawati

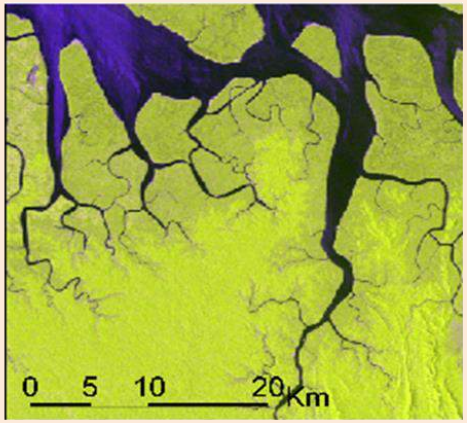




27. Langsa Aceh 4°31'N 98°1'E
ROI -> 10.199 pixel



37. Cilacap Central Java 7°41'S 108°54'E
ROI -> 9.437 pixel



43. Teluk Bintuni Papua 2°34'S 133°47'E
ROI -> 118.879 pixel

Kegiatan PKM

Teknik Geodesi
INSTITUT TEKNOLOGI NASIONAL - BANDUNG

Pelatihan Guru SMA

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Inovasi

Teknik Geodesi
INSTITUT TEKNOLOGI NASIONAL - BANDUNG

Pembuatan Peta Mudik (Hak Cipta)

Click to Edit Master text styles

- evel
- vel

SURAT PENCATATAN

CIPTAAN

Kerjasama

Teknik Geodesi
INSTITUT TEKNOLOGI NASIONAL - BANDUNG

6 Kegiatan kemahasiswaan

Teknik Geodesi
INSTITUT TEKNOLOGI NASIONAL - BANDUNG

Kunjungan Industri

Diest Natalis

Kegiatan Seminar

7 Mahasiswa berprestasi

Teknik Geodesi
INSTITUT TEKNOLOGI NASIONAL - BANDUNG

Kegiatan Wisuda

8 Ikatan Alumni

Teknik Geodesi
INSTITUT TEKNOLOGI NASIONAL - BANDUNG

IKATAN ALUMNI GEODESI ITENAS

9 Prospek kerja

Teknik Geodesi
INSTITUT TEKNOLOGI NASIONAL - BANDUNG

GIAN NUGRAHA P., S.T.
NIM 23-2008-016
SALES & SUPPORT MANAGER
PT. GPS LANDS INDOSOLUTIONS

- Trimble Certified Trainer Period 2013 – 2014
- Trimble Certified Trainer Period 2014 – 2015

Tjetjep Hendrawan, S.T.
NIM 2390031
PNS

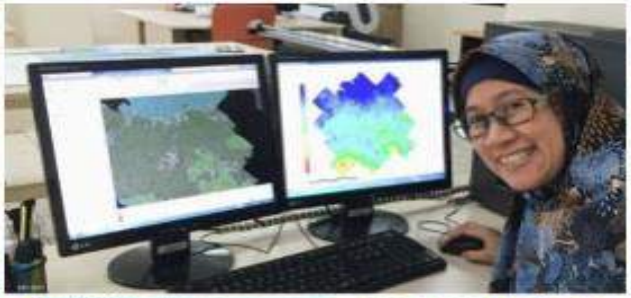
Kepala Seksi Pertambangan
Dinas Pertambangan dan Energi
Provinsi Banten

Indonesian Navy team for Search And Rescue (SAR) mission of PT.PAS – Helicopter EC 130, October 2015, Toba Lake – Indonesia

Agung Jati Pramono, S.T.
NIM 23-2009-026
Hydrographic Surveyor
PT. Geolindo Mitra Kencana

- 2013 – now : Offshore Chief Processor, West Africa
- 2010 – 2012 : Senior Data Compiler at Norwegian Sector, North Sea
- 2008 – 2009 : Senior Data Compiler at UK sector, North Sea
- 2007 – 2008 : Senior Data Processor at Dutch Sector, North Sea
- 2005 – 2006 : Senior Data Processor, Asia Pacific

Aries Kismantara, S.T.
NIM 23-87-802
Offshore Chief Processor, West Africa
at Subsea7 SA, Survey Department



- 1996-2004 : PT. Kalvindo Raya Semesta Jakarta as Data Processor
- 2004-2008 : PT. Fugro Indonesia - Jakarta as Senior Data Processor
- 2008-present : PT. EGS Indonesia as Processing Supervisor

FITRI NOVIYANTI, S.T.
NIM 23-90-044
Processing Supervisor
PT. EGS Indonesia

Pelaksanan Proyek Pembangunan Jembatan Layang (flyover) Merak dan Balaraja

SUPARYANTO, S.T., M.Sc.
NIM 23-93-036
Kepala Sub-bagian Leger Jalan
Dirjen Bina Marga – Kemen-PU

WIDJAJA WARDHANA, S.T.
NIM 23-87-826
GEODETIC ENGINEER

Audience with Menteri Koordinator Politik, Hukum, dan Keamanan Republik Indonesia (July 2015)

- Sarjana Teknik Geodesi Itenas (1994)
- Magister Geoteknik Universitas Parahyangan (1999)
- Doktor Studi Pembangunan Universitas Satya Wacana – Cum Laude (2011)
- Diploma in Spiritual Direction, Pontifical Theological Faculty Teresianum, Rome, Italy
- Diploma in Spiritual Direction – Summa Cum Laude (2001)

Dr. Helena Anggraeni T. Sugianto, S.T., M.T.
NIM 23-90-019

- Vice General Superior of Daughter of Carmel Congregation
- Speaker of ministries in Indonesia, Singapore, Australia, Nederland, Belgia, Germany, and USA.

- Party Chief Survey – project "Pipeline Freespan Survey at Oyong-Grati Pipeline, Oyong-Wortel Pipeline, and Maleo-EGP Tie In Pipeline, Santos-Madura, 2015"
- Party Chief Survey – project " As-Built Survey 10" FPRO-ECOM Pipeline and 14" KLA-LPRO Pipeline, PHE ONWJ-West Java, 2015"
- Trainer Coordinator – Pelatihan Akuisi Survey Multibeam, Sub-Bottom Profile, Sidescan Sonar, dan Magnetometer, Cilacap-Jawa Tengah, 2015.

MOCH. CIPTA PRATAMA, S.T.
NIM 23-2007-008
Hydrographic Surveyor/Technical Support
PT Geolindo Mitra Kencana

Prospek kerja

Teknik Geodesi
INSTITUT TEKNOLOGI NASIONAL - BANDUNG

MARIA MARSELINA BHENGE
NIM 23-2006-005
Mahasiswa Program Magister
Geodesi & Geomatika - ITB

L. M. SABRI, S.T., M.T.
NIM 23-1994-021
Dosen Tetap Jurusan Teknik Geodesi
Universitas Diponegoro

HARI ADRIANTO, S.T.
NIM 23-2008-010
Geodetic Engineer/Junior
Hydrographic Surveyor
PT Calmarine Indonesia

YADI MULYADI, S.T.
NIM 23-1995-021
Geodetic Engineer
BGP Indonesia

CHAERUL ANWARI, S.T.
NIM 23-2001-020
Offshore Surveyor
Orogenic GeoExpro. Sdn Bhd - Malaysia

TEUKU RIZKY, S.T.
NIM 23-2006-017
Geodetic Engineer
Truebridge Callender Beach, SDN, BHD.
Brunei Darussalam

BENYAMIN A. ROOROH, S.T., M.T.
NIM. 23-1996-025
Kepala Seksi Pengolahan Data & Informasi
KPP Madya Balikpapan – Dirjen Pajak

MONALDI PAHERA, S.T.
NIM 23-2005-005
Party Chief-Surveying - Bechtel,
Wheatstone ISBL- Batam Module Yard

AMIE SOERYOWICAKSONO, S.T.
NIM 23-95-007
Senior Quality Training and Method
Coordinator - PT TomTom Indonesia

Prospek kerja

Teknik Geodesi
INSTITUT TEKNOLOGI NASIONAL - BANDUNG

SUSI HENDRIAWATY, S.T.
NIM 23-2004-006
Kasubid Evaluasi Ekonomi, Fisik, dan Tata Ruang
Bappeda Kab. Tabalong
Provinsi Kalimantan Selatan

- 2007 - PT. Blom Nusantara
- 2008 - Surveyor di PKP2B Batubara PT. Adaro Indonesia
- 2010 s.d. sekarang - PNS di Kabupaten Tabalong Provinsi Kalimantan Selatan

YACKOB ASTOR, S.T., M.T.
NIM 23-1998-001
Dosen Politeknik Negeri Bandung
Kandidat Doktor Geodesi & Geomatika ITB

- 2006-2014 Tenaga Ahli Geodesi di PT. Aerovisi Utama, Jakarta
- 2007-2009 Direktur Utama PT. Geoplan Studio, Bandung
- 2008-2009 Manager Teknik PT. Soltiv Reka Teknik, Bandung
- 2008-2014 Dosen di STMIK CIC, STIKOM, dan Unswagati, Cirebon
- 2010-2015 Kandidat Doktor Program studi Teknik Geodesi dan Geomatika ITB

MOHAMAD RIDWAN, S.T.
NIM 23-2000-029
CHIEF GEODETIC ENGINEER – INFRASTRUCTURE PROJECTS
SUMMARECON AGUNG Tbk.

JEMBRISER Y.S. KUEAIN, S.T.
NIM 23-1995-029
HSE Site Lead – Operasi Tangguh LNG
Bintuni Papua Barat, British Petroleum (BP).

MOCH. FATTAHILLAH P.K.
NIM 23-2004-021
Direktur Utama PT. Maitra Teknika Utama

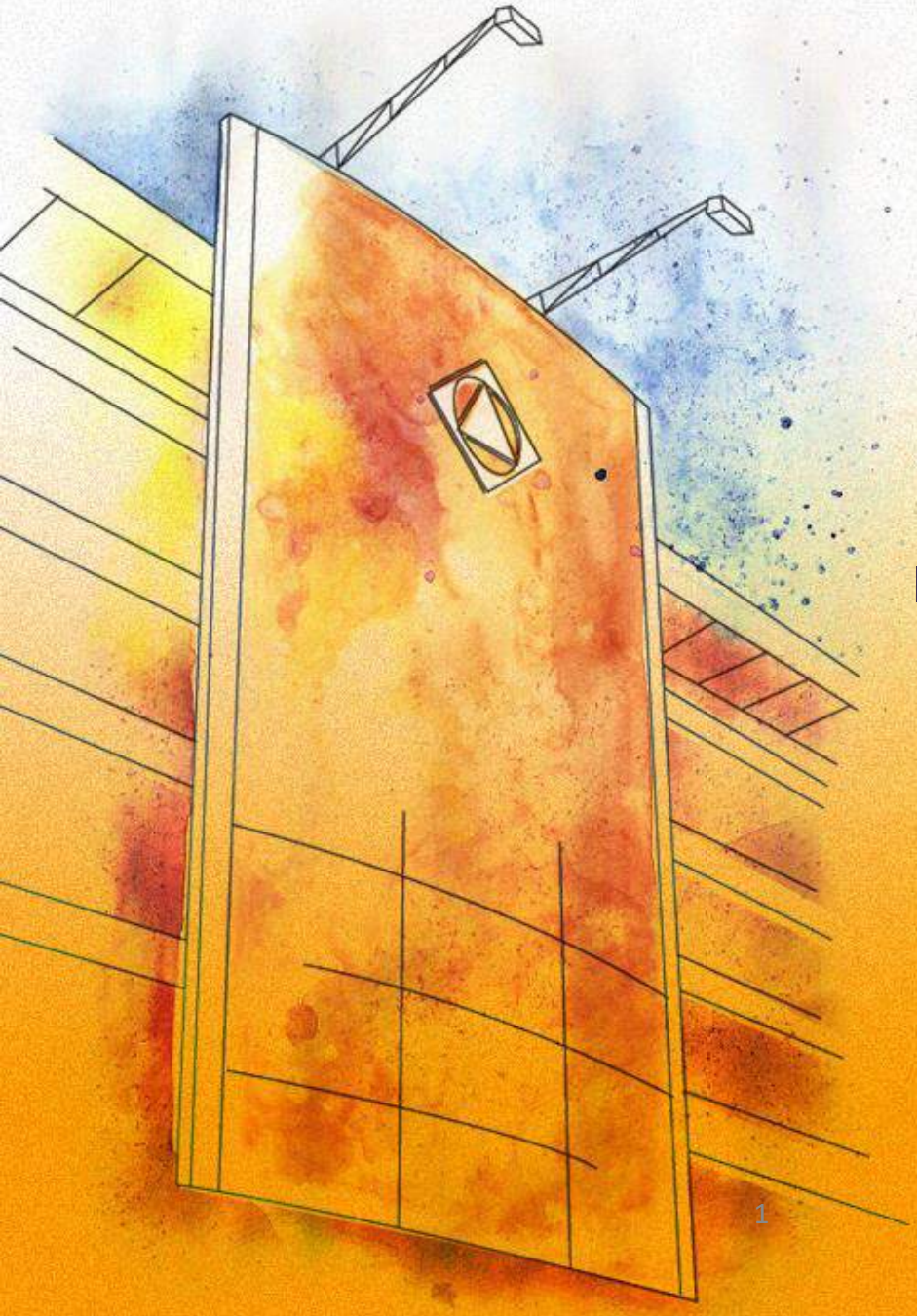
UMAR ROSADI, S.T.
NIM 23-1998-006
Staf Pusat Vulkanologi dan Mitigasi Bencana Geologi – Badan Geologi
Kementerian Energi dan Sumber Daya Mineral

MUHAMMAD FARIZI GURANDHI
NIM 23-2009-006
Offshore Surveyor
PT. GEO SAMUDRA UTAMA
(MEMBER OF OROGENIC GROUP SDN BHD)

MASYITAH GINTING, S.T.
NIM 23-2006-012
Analis Kendali Mutu Pengukuran & Pemetaan – Seksi Pemetaan Tematik
BPN Kanwil Jawa Barat

MUHAMMAD FACHRY, S.T., M.T.
NIM 23-96-007
Kabid Fisik dan Prasarana, Bappeda Kab. Sarolangun – Provinsi Jambi

Terimakasih atas perhatiannya



TEKNIK SIPIL

INSTITUT TEKNOLOGI NASIONAL

Yessi Nirwana, Ph.D
&
Bernadinus Herbudiman, M.T.

UNGGUL & MANDIRI

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Yessi Nirwana Kurniadi, ST, MT, PhD

Bio

24 September 1978. **Menikah**, ibu dari 2 anak

Pendidikan

Doctor of Philosophy Engineering (PhD) dari ***Civil Engineering, Civil Engineering Faculty. Tohoku University, Japan*** (Oktober 2004-September 2008).

Master Teknik (MT) dari **Teknik Sipil, Fakultas Teknik Sipil dan Perencanaan. Institut Teknologi Bandung** (Juli 2002-September 2004).

Sarjana Teknik (ST) dari **Program Studi Teknik Kelautan, Jurusan Teknik Sipil, Fakultas Teknik Sipil dan Perencanaan. Institut Teknologi Bandung** (Juli 1997– Februari 2002).

Awards

Monbukagakusho Scholarship (3 tahun) dari *Ministry of Education Japan*

Beasiswa Peningkatan Prestasi (1 tahun) dari ITB

Pengalaman Kerja

Dosen Tetap Itenas (Agustus 2013 - sekarang)

Ketua Program Studi Teknik Sipil (Juni 2016 – sekarang)

Kepala Laboratorium Mekanika Fluida dan Hidraulika (Maret 2014 – Mei 2016)

Tenaga ahli di beberapa konsultan/kementerian (2011-2012)

Penugasan

Sekretaris Badan Musyawarah Perguruan Tinggi Teknik Sipil Seluruh Indonesia (BMPTTSSI) periode 2019 - 2023.

Publikasi (*Highlight*)

Pemodelan Hidrodinamika dan Transpor Sedimen di Perairan Pesisir Sekitar Tanjung Pontang, Banten. Jurnal Kelautan Nasional 13 (2), 75-88., 2018

Transformasi Gelombang pada Batimetri Ekstrim dengan Model Numerik SWASH Studi Kasus: Teluk Pelabuhan Ratu, Sukabumi. Jurnal Reka Racana 3 (1), 1-10., 2017

Sedimentation Process Study at Entrance Channel. Study Case: Pulau Baai Port. Proceeding of The Second International Conference on Port, Coastal, and Offshore Engineering, Bandung, Indonesia, 38 (In CD), 2012

Teknik SIPIL ?

Engineer teknik sipil adalah profesi yang berkaitan dengan desain dan konstruksi gedung, jalan, jembatan, kanal, rel, bendungan dan Pelabuhan.

itenas

4 Mengapa memilih teknik sipil?

- Kebutuhan infrastruktur yang terus meningkat → membutuhkan banyak engineer teknik sipil

5 Mengapa memilih teknik sipil?

Merdeka > Uang

Indonesia butuh puluhan ribu insinyur, ini solusinya

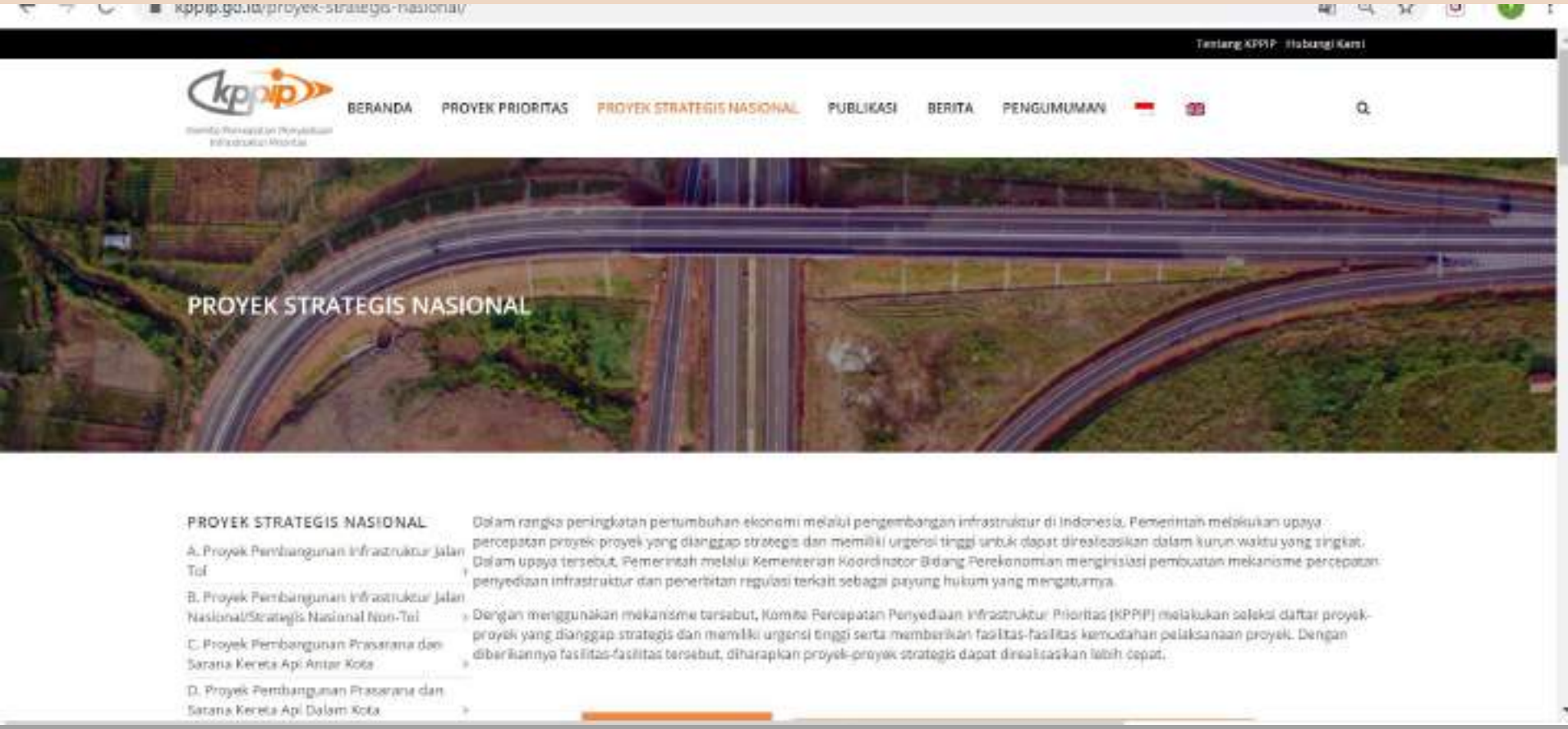
Sabtu, 28 Oktober 2017 22:00
Reporter : Idris Rusadi Putra

Merdeka.com - Sektor infrastruktur menjadi salah satu sektor yang menyerap banyak tenaga ahli teknik atau insinyur. Pemerintahan **Jokowi** yang saat ini sangat fokus pada kegiatan pembangunan infrastruktur membutuhkan puluhan ribu tenaga ahli teknik untuk membangun berbagai proyek infrastruktur yang telah dicanangkan hingga 2019.

Persatuan Insinyur Indonesia (PII) menyebut, pembangunan infrastruktur di berbagai kawasan di Indonesia hingga tahun 2019 akan membutuhkan sedikitnya

itenas

6 Mengapa memilih teknik sipil?



https://kppip.go.id/proyek-strategis-nasional/

itenas

7 Mengapa memilih teknik sipil?

- Gaji Besar

Jika Anda ingin mengetahui, pekerjaan apa saja yang memiliki gaji tertinggi di Indonesia, berikut akan kami paparkan ulasannya di bawah ini!

1. Ahli Konstruksi

Pekerjaan dengan gaji tertinggi di Indonesia salah satunya bisa Anda temukan pada seseorang yang bekerja sebagai ahli konstruksi.

Semakin lama bidang konstruksi ini berkembang lebih baik sehingga mampu memberikan jani yang terbaik

Di Indonesia, seorang project manager ahli konstruksi diberi gaji dari perusahaannya sebesar Rp 30 juta hingga Rp 70 juta per bulannya.

itenas

Mengapa memilih teknik sipil?

- Project Engineer pendidikan S1 pengalaman kerja 5-8 Tahun Rentang Gaji Rp. 18.000.000- Rp. 30.000.000
- Engineering Manager pendidikan S1 pengalaman kerja 10+ Tahun Rentang Gaji Rp. 50.000.000- Rp. 85.000.000
- Project Manager pendidikan S1 pengalaman kerja 10+ Tahun Rentang Gaji Rp. 45.000.000- Rp. 80.000.000
- Project Engineer pendidikan S1 pengalaman kerja 8+ Tahun Rentang Gaji Rp. 30.000.000- Rp. 50.000.000

Jika anda:

- Punya ketertarikan pada desain dan konstruksi infrastruktur
- Penasaran bagaimana membangun jembatan, gedung pencakar langit, terowongan bawah laut, jalan rel, jalan tol, bendungan
- Senang dengan analisis, bermain dengan data
- Senang matematika dan fisika

BERGABUNGLAH DENGAN

TEKNIK SIPIL

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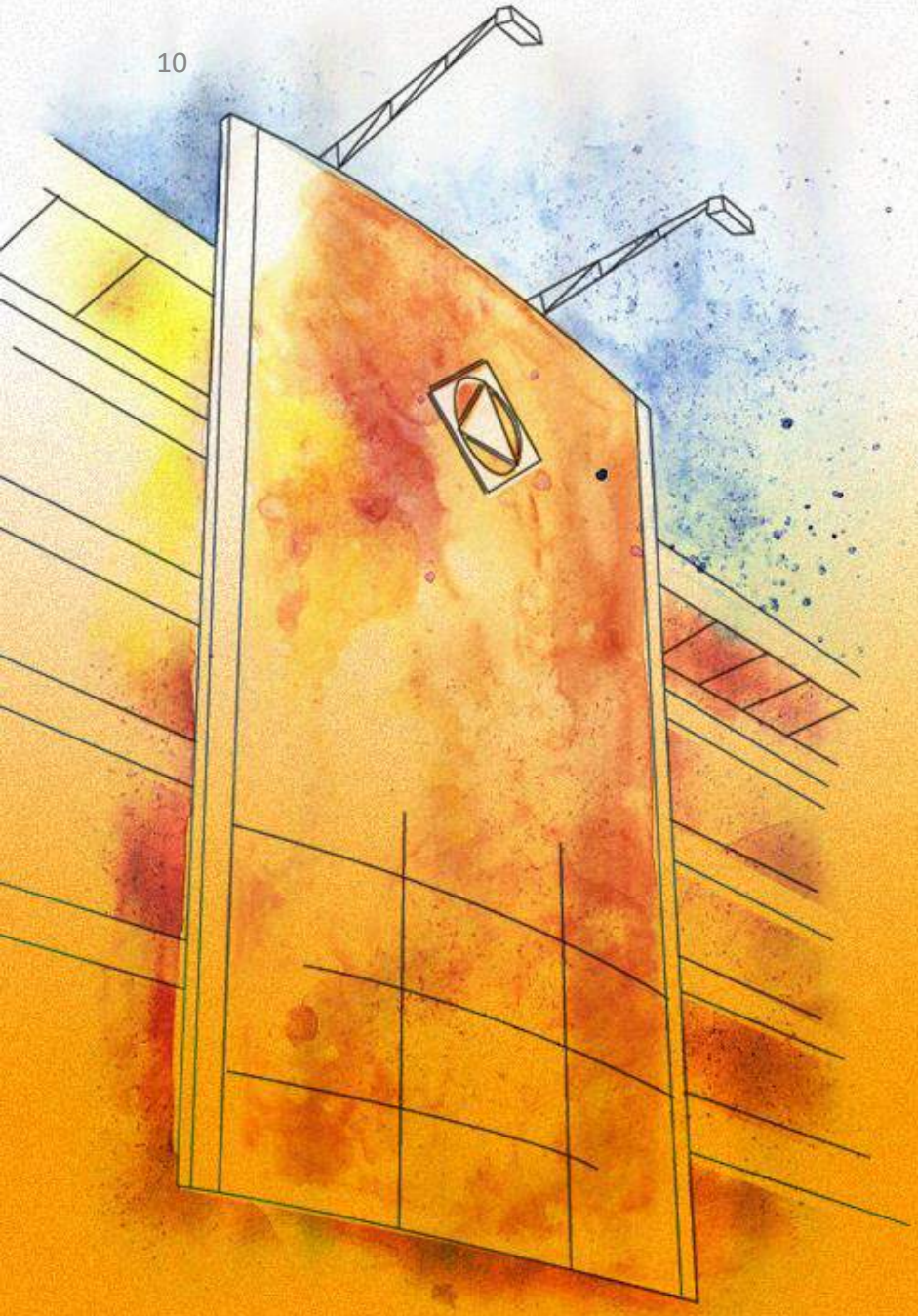
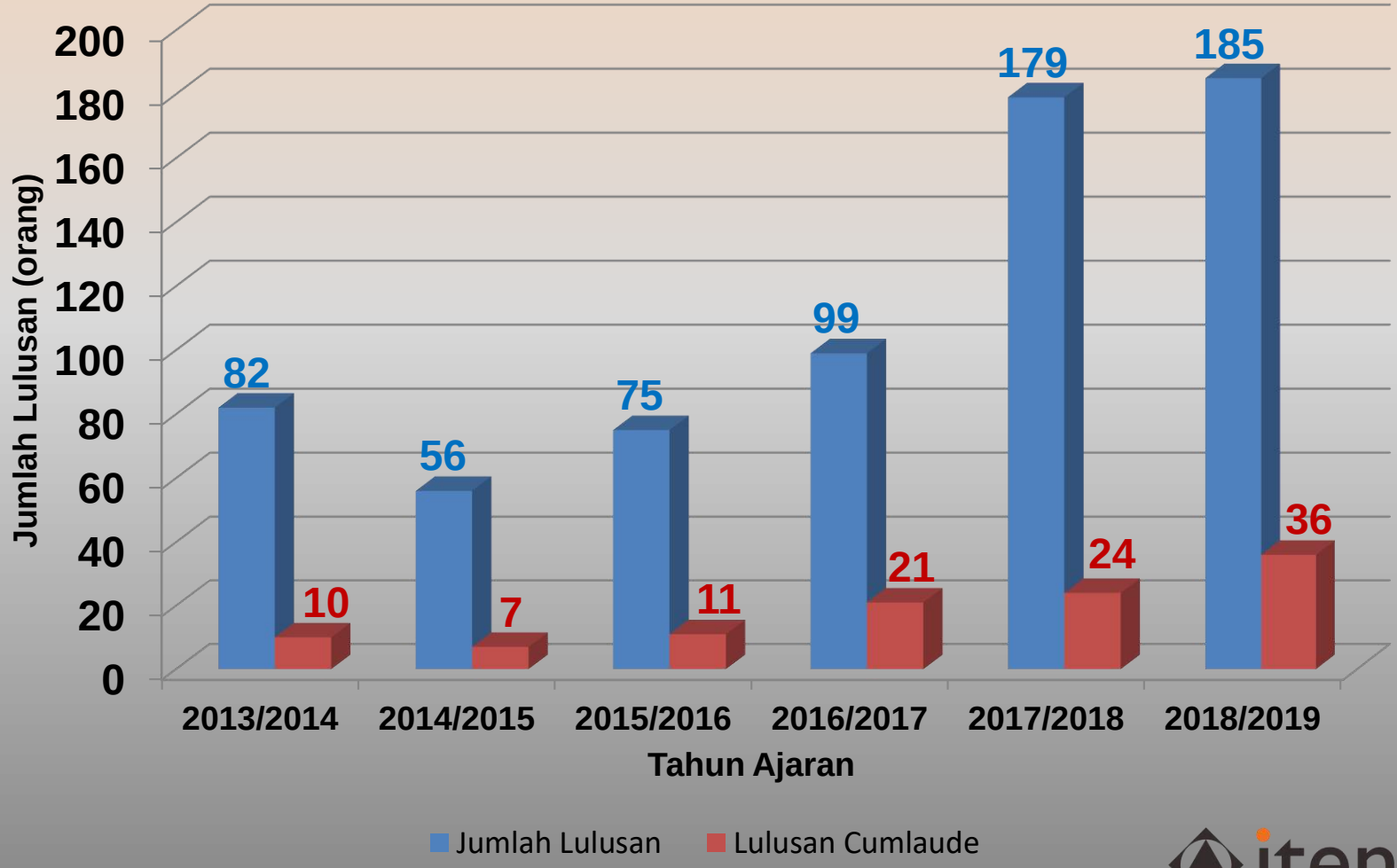


TEKNIK SIPIL ITENAS

2019 © Institut Teknologi Nasional Bandung

LULUSAN PROGRAM STUDI TEKNIK SIPIL



itenas

itenas

PROFIL ALUMNI
JURUSAN TEKNIK SIPIL ITENAS

Ir. Didi Ruswandi, MT.

Alumni Teknik Sipil Itenas
Angkatan 1987

Kepala Dinas Pekerjaan Umum
Kota Bandung

itenas

PROFIL ALUMNI
JURUSAN TEKNIK SIPIL ITENAS

Rudi Febrijanto, ST., MT.

Alumni Teknik Sipil Itenas
Angkatan 1989

Kepala Bidang Sumber Daya
Kelitbangan Pusjatan
Kementerian Pekerjaan Umum dan
Perumahan Rakyat

itenas

PROFIL ALUMNI JURUSAN TEKNIK SIPIL ITENAS

Dery Indrawan, ST., MT.

Alumni Teknik Sipil Itenas
Angkatan 1993

Kepala Bidang Program dan Evaluasi
Pusat Penelitian Sumber Daya Air (Pusair)
Kementerian Pekerjaan Umum dan Perumahan Rakyat

itenas

PROFIL ALUMNI
JURUSAN TEKNIK SIPIL ITENAS

Dr.techn. Aswandi

Alumni Teknik Sipil Itenas
Angkatan 1987

Wakil Rektor bidang Akademik dan Kemahasiswaan Universitas Universal – Batam

itenas

Ir. Awan Hermawan Purwadinata

Alumni Teknik Sipil Itenas
Angkatan 1984

Corporate Deputy Director Of
Infrastructure Maintenance
And Infrastructure Assets

PT Kereta Api Indonesia

itenas

PROFIL ALUMNI
JURUSAN TEKNIK SIPIL ITENAS

Ir. H. Ibnu Jayusman

Alumni Teknik Sipil Itenas
Angkatan 1982

Direktur Utama
PT. Titian Usaha Graha Utama
(Kontraktor)

itenas

PROFIL ALUMNI
JURUSAN TEKNIK SIPIL ITENAS

Heru Gultom, ST., MT.

Alumni Teknik Sipil Itenas
Angkatan 1992

Direktur Utama
PT. Nasuma Putra
(Konsultan)

itenas

PROFIL ALUMNI
JURUSAN TEKNIK SIPIL ITENAS

Iswan Hasjim, ST., MT.

Alumni Teknik Sipil Itenas
Angkatan 1989

Wakil Bupati
Kabupaten Halmahera Selatan

itenas

Pero Hermana, ST.

Alumni Teknik Sipil Itenas
Angkatan 1996

Construction Superintendent
Eni Oil & Gas Company

itenas

Yavid, ST.

Alumni Teknik Sipil Itenas
Angkatan 1985

OPERATION MANAGER
PT.Freeport Indonesia
Affiliate of Freeport McMoRan
Copper & Gold Inc

itenas

Sandrila Marshela, ST.

Alumni Teknik Sipil Itenas
Angkatan 2008

Geoteknik Manajer
PT. Soilens

itenas

PROFIL ALUMNI JURUSAN TEKNIK SIPIL ITENAS

Shezy Nurhayati Permana, ST.

Alumni Teknik Sipil Itenas Angkatan 2011

Senior Officer Teknik & Pengembangan
PT. Citra Marga Lintas Jabar

itenas

PROFIL ALUMNI
JURUSAN TEKNIK SIPIL ITENAS

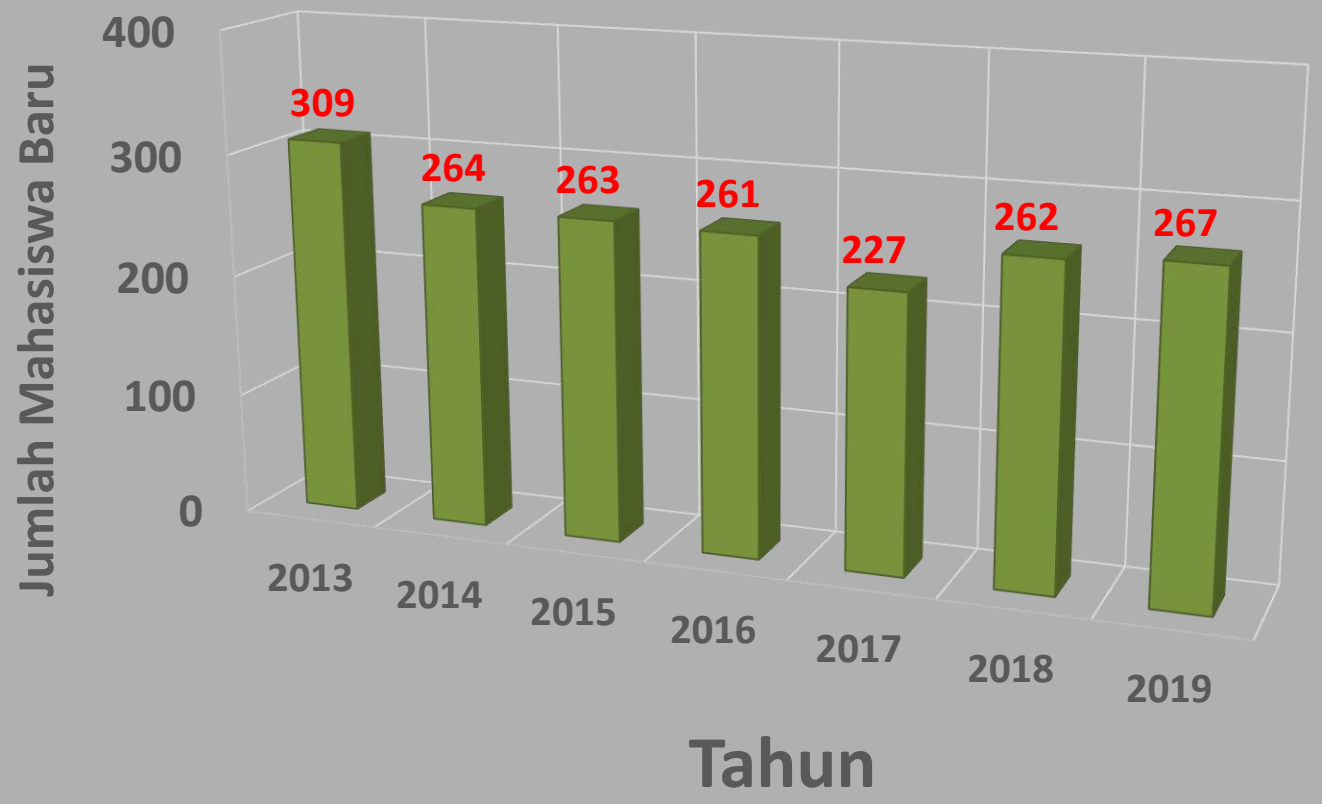
Erwin Dwi Sasrasasmita, ST.

Alumni Teknik Sipil Itenas
Angkatan 2011

Engineer
PT. Brantas Abipraya

itenas

Jumlah Mahasiswa Baru



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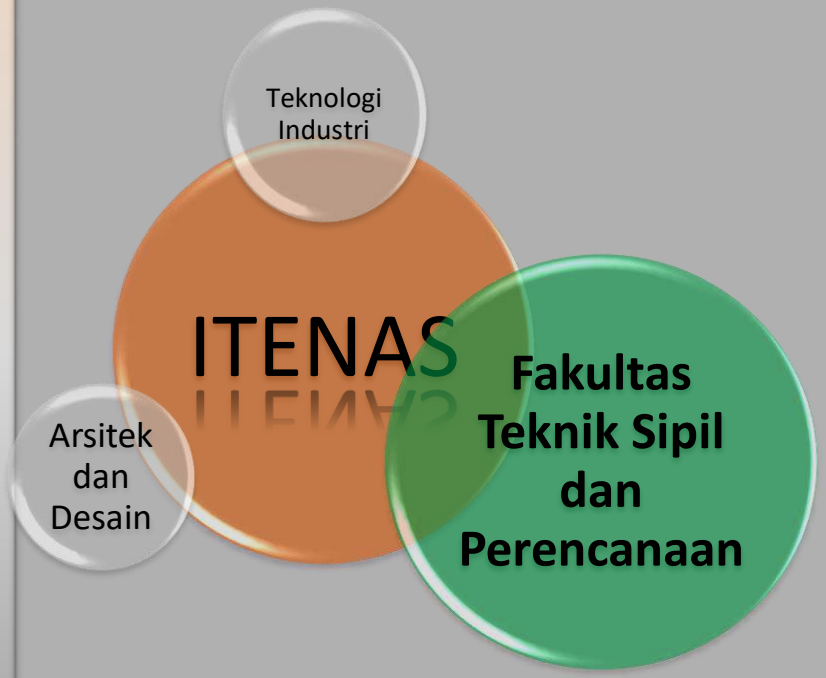
Overview



- TEKNIK SIPIL
- Teknik Geodesi
- Perencanaan Wilayah & Kota
- Teknik Lingkungan

"Itenas menjadi Institusi pendidikan tinggi yang unggul dalam pengembangan teknologi, manajemen dan desain untuk pembangunan nasional."

Institut Teknologi Nasional - Bandung, **VISI**

itenas

Sekilas Perkembangan

Berdiri Tahun 1984	Surat Keputusan Menteri Pendidikan dan Kebudayaan RI Nomor 0181/O/1985 menyatakan pemberian status Terdaftar
3 Oktober 1990	Surat Keputusan Menteri Pendidikan dan Kebudayaan No. 0637/O/1990 tanggal 3 Oktober 1990 menyatakan pemberian status Diakui
24 September 1993	Surat Keputusan Direktur Jenderal Pendidikan Tinggi No. 575/DIKTI/Kep/1993 tanggal 24 September 1993, Jurusan Teknik Sipil memperoleh status Disamakan.
11 Agustus 1998	Status Berakreditasi berdasarkan Keputusan Badan Akreditasi Nasional Perguruan Tingi (BAN-PT) Departemen Pendidikan dan Kebudayaan Republik Indonesia Nomor: 001/BAN-PT/Ak-I/VIII/1998 tanggal 11 Agustus 1998
4 April 2002	Mendapatkan status Berakreditasi PERINGKAT B berdasarkan Keputusan BAN-PT Nomor 003/BAN-PT/Ak-V/S1/IV/2002
4 Juli 2011	Berakreditasi PERINGKAT B berdasarkan Keputusan BAN-PT Nomor 016/BAN-PT/Ak-XIV/S1/VII/2011
4 Agustus 2016	Berakreditasi PERINGKAT B berdasarkan Keputusan BAN-PT Nomor 1476/BAN-PT/Akred/S/VIII/2016

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BEBAN KULIAH & MASA STUDI

Beban Kuliah di Jurusan Teknik Sipil Itenas : 144 sks

Dengan jumlah mata kuliah sebanyak 54 mata kuliah wajib (134 sks) dan 5 mata kuliah pilihan (10 sks):

- Bidang Struktur
- Bidang Transportasi
- Bidang Sumber Daya Air
- Bidang Geoteknik
- Bidang Manajemen Rekayasa Konstruksi
- Bidang Mata Kuliah Umum

KURIKULUM 2017

No.	Nama Mata Kuliah	sks	No.	Nama Mata Kuliah	sks
	SEMESTER 1			SEMESTER 2	
1	Pancasila	2	1	Statika	3
2	Fisika	3	2	Pengantar Infrastruktur Berkelanjutan	2
3	Matematika 1	3	3	Mekanika Fluida	3
4	Bahasa Indonesia	2	4	Mekanika Tanah 1	3
5	Bahasa Inggris 1	2	5	Kewarganegaraan	2
6	Statistika & Probabilitas	2	6	Matematika 2	3
7	Geologi Teknik	2	7	Perpetaan	2
8	Gambar Teknik	2			
	Jumlah	18		Jumlah	18

KURIKULUM 2017

No.	Nama Mata Kuliah	sks	No.	Nama Mata Kuliah	sks
	SEMESTER 3			SEMESTER 4	
1	Teknologi Bahan	3	1	Analisis Struktur 1	3
2	Mekanika Bahan	3	2	Struktur Baja 1	3
3	Rekayasa Hidrologi	3	3	Struktur Beton Bertulang 1	3
4	Hidraulika	2	4	Drainase Perkotaan	2
5	Mekanika Tanah 2	3	5	Perancangan Fondasi 1	2
6	Sistem Transportasi	2	6	Perencanaan Transportasi	2
7	Matematika Teknik	3	7	Material Perkerasan Jalan	3
	Jumlah	19		Jumlah	18

itenas

KURIKULUM 2017

No.	Nama Mata Kuliah	sks	No.	Nama Mata Kuliah	sks
	SEMESTER 5			SEMESTER 6	
1	Analisis Struktur 2	3	1	Peranc. Struktur Jembatan	3
2	Struktur Baja 2	3	2	Manajemen Konstruksi	3
3	Struktur Beton Bertulang 2	3	3	Metode Konstruksi Dasar	2
4	Irigasi	2	4	Peranc. Geometri Jalan	2
5	Perancangan Fondasi 2	2	5	Pemel. & Peningkatan Jalan	2
6	Rek. & Manajemen Lalu Lintas	3	6	Bahasa Inggris 2	2
7	Peranc. Perkerasan Jalan	2	7	Bangunan Air	2
	Mata Kuliah Pilihan Sem. 5		8	Metode Komputasi	2
8	Din. Struktur & Rekayasa Gempa	2		Mata Kuliah Pilihan Sem. 6	
9	Teknik Sungai	2	9	Struktur Kayu	2
10	Penyelidikan Geoteknik	2	10	Din. Tanah & Fondasi Dinamis	2
	Jumlah	20		Jumlah	20

KURIKULUM 2017

No.	Nama Mata Kuliah	sks	No.	Nama Mata Kuliah	sks
	SEMESTER 7			SEMESTER 8	
1	Peranc. Struktur Jembatan	3	1	Kewirausahaan	2
2	Ekonomi Rekayasa	2	2	Rekayasa Lingkungan	2
3	Peralatan Konstruksi	2	3	Agama	2
4	Rekayasa Pantai	2	4	Tugas Akhir	4
5	Konstruksi Jalan	3		Mata Kuliah Pilihan Sem. 8	
6	Kerja Praktek	3	5	Estimasi Biaya Konstruksi	2
	Mata Kuliah Pilihan Sem. 7		6	Metode Konstruksi Lanjut	2
7	Struktur Beton Prategang	2	7	Pengelolaan Sumber Daya Air	2
8	Optimasi Waduk	2	8	Rekayasa Pelabuhan	2
9	Perbaikan Tanah	2	9	Analisis Geoteknik Terapan	2
10	Rekayasa Jalan Rel	2	10	Rekayasa Bandara	2
11	Peng. Ekonomi Transportasi	2			
	Jumlah	19		Jumlah	12

SUMBER DAYA JURUSAN

Gedung 12

Loka Bumiagara

SUMBER DAYA JURUSAN - DOSEN

Silvia Sukirman, Ir.
Priyanto Saelan, Ir., MT.
Dr. Dwi Prasetyanto, MT.
Dr. Imam Aschuri, Ir., MT.
Dr. Herman, Ir., MT.
Emma Akmalah, ST, MT, Ph.D
Elkhasnet, Ir., MT.
Hazairin, Ir., MT.
Dr. Yati Muliati, Ir., MT.
Kamaludin, Ir., MT.
Abinhot Sihotang, Ir., MT.
Rini Ratnayanti, Ir., MT.
Nur Laeli Hajati, ST., MT.
Oka Purwanti, ST., MT.
Ikhya, ST., MT. MM.
Bernardinus Herbudiman, ST., MT.

Dr.techn. Indra Noer Hamdhan, ST., MT.
Fransiska Yustiana, ST., MT.
Yedida Yosananto, ST., MT.
Sofyan Triana, ST., MT. (Studi S3)
Yessi Nirwana K, ST, MT, Ph.D
Dr. Yuki Achmad Yakin, ST, MT.
Barkah Wahyu, ST., MT.
Andrean Maulana, ST., MT.
Nessa Valiantine Diredja ST., MT.
Erma Desmaliana ST., MT.
Dr. Eng. Fitry Suciati, SSi., MSi.
Amatulhay Pribadi, ST., MT.
Aden Firdaus, ST., M.Sc.
Euneke Widyaningsih, ST., MT.
Desti Santi Pratiwi, ST., MT.

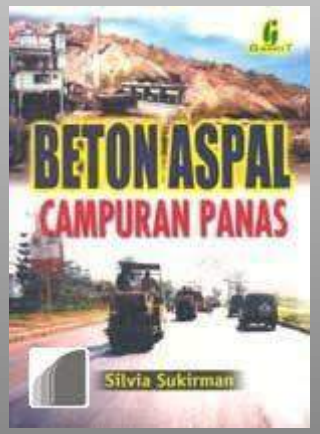
itenas

SUMBER DAYA JURUSAN – DOSEN KBI TRANSPORTASI

Silvia Sukirman, Ir.

Pendidikan:

S1 – Univeritas Katolik Parahyangan (Teknik Sipil)
S2 – Pasca Jalan Raya ITB (Teknik Sipil – Transportasi)



SUMBER DAYA JURUSAN – DOSEN KBI TRANSPORTASI

Dr. Dwi Prasetyanto, MT.

Pendidikan:

S1 – ITB (Teknik Sipil)
S2 – ITB (Teknik Sipil – Transportasi)
S3 – Universitas Katolik Parahyangan, Bandung (Teknik Sipil – Transportasi)

Kaprodi S2 Magister Teknik Sipil

itenas

SUMBER DAYA JURUSAN – DOSEN KBI TRANSPORTASI

Elkhasnet, Ir., MT.

Pendidikan:

S1 – ITB (Teknik Sipil)
S2 – ITB (Teknik Sipil – Transportasi)

itenas

SUMBER DAYA JURUSAN – DOSEN KBI TRANSPORTASI

Dr. Herman, Ir., MT.

Pendidikan:

S1 – ITB (Teknik Sipil)
S2 – ITB (Teknik Sipil – Transportasi)
S3 – Universitas Katolik Parahyangan, Bandung (Teknik Sipil – Transportasi)

Ketua KBI Transportasi

itenas

SUMBER DAYA JURUSAN – DOSEN KBI TRANSPORTASI

Oka Purwanti, ST., MT.

Pendidikan:

S1 – Itenas, Bandung (Teknik Sipil)
S2 – ITB (Teknik Sipil – Transportasi)

itenas

SUMBER DAYA JURUSAN – DOSEN KBI TRANSPORTASI

Sofyan Triana, ST., MT.

Pendidikan:

S1 – Itenas, Bandung (Teknik Sipil)
S2 – ITB (Teknik Sipil – Transportasi)

itenas

SUMBER DAYA JURUSAN – DOSEN KBI TRANSPORTASI

Barkah Wahyu, ST., MT.

Pendidikan:

S1 – Universitas Sriwijaya, Palembang (Teknik Sipil)
S2 – ITB (Teknik Sipil – Sistem dan Teknik Jalan Raya)

Kalab Material Perkerasasan Jalan

itenas

SUMBER DAYA JURUSAN – DOSEN KBI TRANSPORTASI

Andrean Maulana, ST., MT.

Pendidikan:

S1 – ITB (Teknik Sipil)
S2 – ITB (Teknik Sipil – Transportasi)

itenas

SUMBER DAYA JURUSAN – DOSEN KBI GEOTEKNIK

Dr. Imam Aschuri, Ir., MT.

Pendidikan:

S1 – Univeritas Brawijaya, Malang (Teknik Sipil)
S2 – ITB (STJR - Transportasi)
S3 – Ulster University, UK (Teknik Sipil – Highway Engineering)

itenas

SUMBER DAYA JURUSAN – DOSEN KBI GEOTEKNIK

Dr.tech. Indra Noer Hamdhan, ST., MT.

Pendidikan:

S1 – ITB (Teknik Sipil)
S2 – ITB (Teknik Sipil – Geoteknik)
S3 – Tu Graz Austria (Teknik Sipil – Geotechnical)

Ketua Jurusan

itenas

SUMBER DAYA JURUSAN – DOSEN KBI GEOTEKNIK

Ikhya, ST., MT., MM.

Pendidikan:

S1 – Univesitas Katolik Parahyangan, Bandung (Teknik Sipil)
S2 – Univesitas Katolik Parahyangan, Bandung (Teknik Sipil - Geoteknik)
S2 – ITB (MM)

itenas

SUMBER DAYA JURUSAN – DOSEN KBI GEOTEKNIK

Dr. Yuki Achmad Yakin, ST., MT.

Pendidikan:

S1 – Univesitas Katolik Parahyangan, Bandung (Teknik Sipil)
S2 – Univesitas Katolik Parahyangan, Bandung (Teknik Sipil - Geoteknik)
S3 – Univesitas Katolik Parahyangan, Bandung (Teknik Sipil - Geoteknik)

Kepala Laboratorium Geoteknik

itenas

SUMBER DAYA JURUSAN – DOSEN KBI GEOTEKNIK

Desti Santi Pratiwi, ST., MT.

Pendidikan:

S1 – Itenas, Bandung (Teknik Sipil)
S2 – ITB (Teknik Sipil – Geoteknik)

SUMBER DAYA JURUSAN – DOSEN
KBI STRUKTUR

Priyanto Saelan, Ir., MT.

Pendidikan:

S1 – ITB (Teknik Sipil)
S2 – ITB (Teknik Sipil – Struktur)

Kepala Laboratorium Bahan dan Struktur

itenas

SUMBER DAYA JURUSAN – DOSEN
KBI STRUKTUR

Abinhot Sihotang, ST., MT.

Pendidikan:

S1 – ITB (Teknik Sipil)
S2 – ITB (Teknik Sipil – Struktur)

itenas

SUMBER DAYA JURUSAN – DOSEN KBI STRUKTUR

Kamaludin, Ir., MT., M.Kom.

Pendidikan:

S1 – Itenas, Bandung (Teknik Sipil)
S2 – ITB (Teknik Sipil – Struktur)
S2 – STIMIK LIKMI Bandung (Sistem Informasi)

itenas

SUMBER DAYA JURUSAN – DOSEN KBI STRUKTUR

Nur Laeli Hajati, ST., MT.

Pendidikan:

S1 – Itenas, Bandung (Teknik Sipil)
S2 – ITB (Teknik Sipil – Struktur)

itenas

SUMBER DAYA JURUSAN – DOSEN
KBI STRUKTUR

Nessa Valiantine Diredja ST., MT.

Pendidikan:

S1 – Univeritas Kristen Maranatha, Bandung (Teknik Sipil)
S2 – Universitas Katolik Parahyangan, Bandung (Teknik Sipil – Struktur)

itenas

SUMBER DAYA JURUSAN – DOSEN KBI STRUKTUR

Erma Desmaliana ST., MT.

Pendidikan:

S1 – Itenas, Bandung (Teknik Sipil)
S2 – ITB (Teknik Sipil – Struktur)

itenas

SUMBER DAYA JURUSAN – DOSEN KBI STRUKTUR

Amatulhay Pribadi, ST., MT

Pendidikan:

S1 – ITB (Teknik Sipil)
S2 – ITB (Teknik Sipil)

itenas

SUMBER DAYA JURUSAN – DOSEN KBI STRUKTUR

Euneke Widyaningsih, ST., MT.

Pendidikan:

S1 – Itenas, Bandung (Teknik Sipil)
S2 – ITB (Teknik Sipil – Struktur)

itenas

SUMBER DAYA JURUSAN – DOSEN
KBI MANAJEMEN REKAYASA KONSTRUKSI

Bernardinus Herbudiman, ST., MT.

Pendidikan:

S1 – Universitas Atmajaya, Jogjakarta (Teknik Sipil)
S2 – ITB (Teknik Sipil – Struktur)

Kepala Laboratorium Manajemen Konstruksi

itenas

SUMBER DAYA JURUSAN – DOSEN KBI MANAJEMEN REKAYASA KONSTRUKSI

Emma Akmalah, Ph.D.

Pendidikan:

S1 – ITB (Teknik Sipil)
S2 – ITB (Teknik dan Manajemen Industri)
S3 – Colorado State University, USA (Teknik Sipil – WRPM)

itenas

SUMBER DAYA JURUSAN – DOSEN KBI MANAJEMEN REKAYASA KONSTRUKSI

Hazairin, Ir., MT.

Pendidikan:

S1 – Itenas, Bandung (Teknik Sipil)
S2 – ITB (Teknik Sipil – MRK)

itenas

SUMBER DAYA JURUSAN – DOSEN KBI MANAJEMEN REKAYASA KONSTRUKSI

K. Rini Ratnayanti, ST., MT.

Pendidikan:

S1 – Itenas, Bandung (Teknik Sipil)
S2 – Universitas Katolik Parahyangan, Bandung (Teknik Sipil – MRK)

itenas

SUMBER DAYA JURUSAN – DOSEN KBI MANAJEMEN REKAYASA KONSTRUKSI

Aden Firdaus, ST., M.Sc.

Pendidikan:

S1 – ITB (Teknik Sipil)
S2 – University of Twente (Construction Management & Engineering)

itenas

SUMBER DAYA JURUSAN – DOSEN KBI SUMBER DAYA AIR

Dr. Yati Muliati, Ir., MT.

Pendidikan:

S1 – Itenas, Bandung (Teknik Sipil)
S2 – ITB (Teknik Sipil – Kelautan)
S3 – ITB (Teknik Sipil - Kelautan)

itenas

SUMBER DAYA JURUSAN – DOSEN KBI SUMBER DAYA AIR

Fransiska Yustiana, ST., MT.

Pendidikan:

S1 – Univeritas Atmajaya, Jogjakarta (Teknik Sipil)
S2 – UGM (Teknik Sipil – TSA)

itenas

SUMBER DAYA JURUSAN – DOSEN KBI SUMBER DAYA AIR

Yedida Yosananto, ST., MT.

Pendidikan:

S1 – Univeritas Brawijaya, Malang (Teknik Pengairan)
S2 – Universitas Brawijaya, Malang (Teknik Sipil – TSA)

Kepala Laboratorium Sumber Daya Air

itenas

SUMBER DAYA JURUSAN – DOSEN KBI SUMBER DAYA AIR

Yessi Nirwana K., Ph.D.

Pendidikan:

S1 – ITB (Kelautan)
S2 – ITB (Teknik Sipil – TSA)
S3 – Tohoku University, Jepang (Teknik Sipil)

Ketua Program Studi Teknik Sipil

itenas

SUMBER DAYA JURUSAN – DOSEN KBI SUMBER DAYA AIR

Dr. Eng. Fitri Suciati

Pendidikan:

S1 – ITB (Oseanografi)
S2 – ITB (Sains Kebumian)
S3 – Kyushu University (Maritime Engineering)

SUMBER DAYA
Laboratorium, Perpustakaan, dll

Laboratorium Komputer Jurusan
Laboratorium Komputer Itenas (Terpusat)
Laboratorium Hidraulika & Mekanika Fluida
Laboratorium Teknik Pantai
Laboratorium Geoteknik
Laboratorium Teknologi Beton
Laboratorium Simulasi Struktur
Laboratorium Material Perkerasan Jalan

Perpustakaan Jurusan
Perpustakaan Itenas
Ruang Audio Visual

Prasarana Olahraga (Tenis, basket, futsal, panjat dinding)

Masjid
Kantin

itenas

PRESTASI JURUSAN

- Prestasi Jurusan
- Prestasi Staf Pengajar
- Prestasi Mahasiswa

PRESTASI JURUSAN

Tahun 2002 memperoleh grant TPSDSP untuk 4 Tahun Pengembangan (2002-2006) melalui Dirjen Dikti dari Asian Development Bank, sebesar Rp. 10,879 milyar (ADB Loan No. 1792 – INO)

Tahun 2009 memperoleh Hibah Jurnal Bermutu Tingkat Nasional dari Dirjen Dikti pada tahun 2009, sebesar Rp. 50 jt

Tahun 2019 memperoleh Hibah Program Pembinaan (PP) PTS Skema B dari Dirjen Kelembagaan Iptek dan Dikti pada tahun 2019, sebesar Rp. 1,5 milyar.

itenas

PRESTASI JURUSAN

- Jurusan Berprestasi di lingkungan Fakultas Teknik Sipil dan Perencanaan

  (FTSP Award 2016)

itenas

PRESTASI JURUSAN – Mahasiswa

- Agustus 2007, Gemilang – Haris F. – Jonathan – Irfandy (Pembimbing: B. Herbudiman, ST., MT.)

  memperoleh Juara 2 Kategori Jembatan Kayu dan Penghargaan Kategori Jembatan Teringan

  pada Kompetisi Jembatan Indonesia ke-3 (KJI) Tingkat Nasional yang diselenggarakan Dirjen Dikti & Politeknik Negeri Jakarta

PRESTASI JURUSAN – Mahasiswa

September 2008, **Ruli Adi Prasetia (2004), Bonty Wilman Silaen (2004), Ayu Setyaning Pijar Kemala (2006)**

(Pembimbing: B. Herbudiman, ST., MT.)

Juara 2
Indocement Awards 2008 Tingkat Nasional Concrete Competition Award yang diselenggarakan Semen Tiga Roda

PRESTASI JURUSAN – Mahasiswa

Agustus 2009, **Diena Muliasari (2006), Sandrila Marshela (2008)**

(Pembimbing: B. Herbudiman, ST., MT.)

Penghargaan Jembatan Terindah

pada Kompetisi Jembatan Indonesia ke-5, diselenggarakan Dirjen Dikti dan PNJ

PRESTASI JURUSAN – Mahasiswa

Aulia – Sandrila M. (2008) - B. Herbudiman M.T.

Teknik Sipil
Juara 3 - Kompetisi Jembatan Indonesia 2010 (UI, Jakarta)
Kategori Jembatan Bentang Panjang

itenas

PRESTASI JURUSAN – Mahasiswa

Ridha A. (2009) – Ratu Puji L. (2010) - B. Herbudiman M.T.

Teknik Sipil
Juara 3 - Kompetisi Jembatan Indonesia 2011 (UI, Jakarta)
Kategori Jembatan Busur

itenas

PRESTASI JURUSAN – Mahasiswa

Azi F. – Mike E. – Badriana N. – Teguh - B. Herbudiman M.T.

Teknik Sipil
Juara 3 - Kompetisi Jembatan Indonesia 2012 (ITS, Surabaya)
Kategori Jembatan Kayu

itenas

PRESTASI JURUSAN – Mahasiswa

Etna R. F. - Fauziah F.I. - B. Herbudiman M.T.

Teknik Sipil
Juara 3 - Kompetisi Jembatan Indonesia 2013
Kategori Jembatan Pejalan Kaki

itenas

PRESTASI JURUSAN – Mahasiswa

Fadjar M. Elfaaz – Dita Melinda – Ria Utami (2012) – Yessi Nirwana Kurniadi, PhD.

Dedikasi 2014 Juara Harapan 1 Nasional
Lomba Inovasi Ketekniksipilan Nasional
"Inovasi Desain Emerged Breakwater" Makassar 2014

itenas

PRESTASI JURUSAN – Mahasiswa

Lingga P. – Amelia D.A. – Dejan N. (2013) - B. Herbudiman M.T.

Teknik Sipil
Finalis Kompetisi Jembatan Indonesia 2016, Palembang
Kategori Jembatan Busur

itenas

PRESTASI JURUSAN – Mahasiswa

Nira Yunita Permata - Wulan Fitry - Richard Sianturi (2013) - Yessi Nirwana Kurniadi, PhD.

Dedikasi 2016
Finalis Lomba Inovasi Breakwater Metode Tiang Pancang
Makasar, 23 Oktober 2016 - 27 Oktober 2016

itenas

PRESTASI JURUSAN – Mahasiswa

Irfan Arif Fajrianto- Fauzi Kawa Zulbani - Fachrul Nevada, Baiq Mardhiyanti (2013) - Yedida Yosananto, ST, MT.

Finalis Kompetisi Bangunan Air Indonesia 2017
Malang, 1 – 4 Mei 2017

itenas

PRESTASI JURUSAN – Mahasiswa

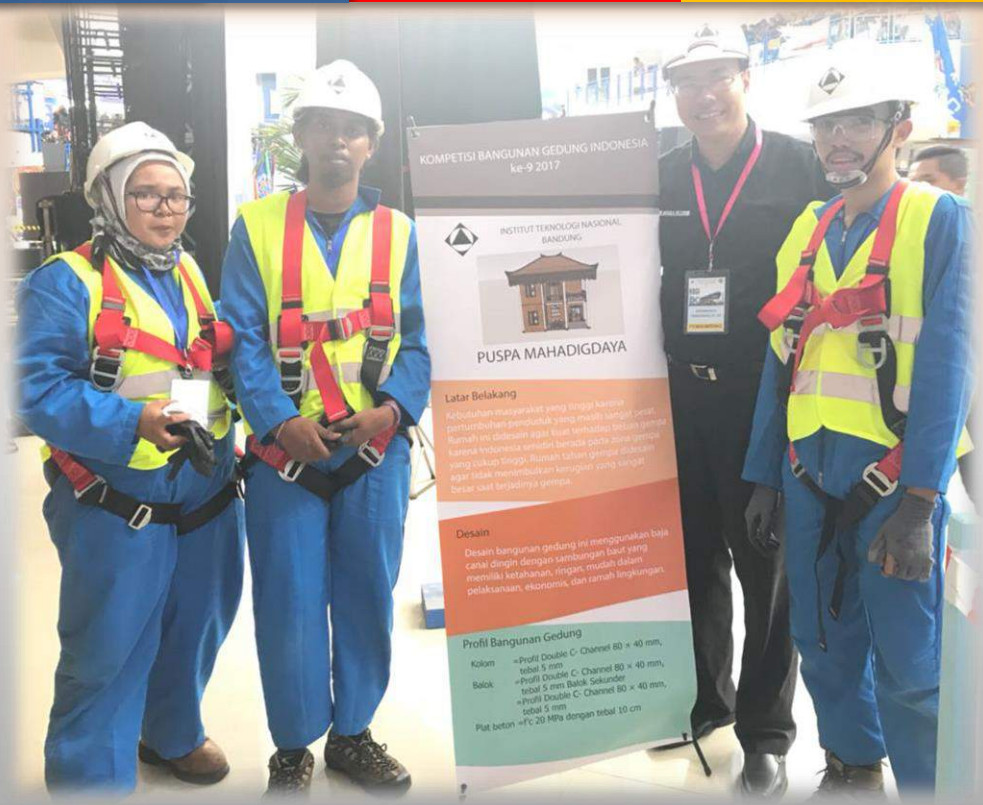
Tim Orizein Angkatan 2015
- **Ghifari Faturrahman**
- **Hasbi Fadhilah T.R**
- **Indra Gazali**

Dosen Pemimbing:
Herman, ST, MT.

Prestasi Dalam Lomba Karya Tulis Ilmiah Nasional 2017 Bogor, 13 – 15 Oktober 2017.
- Finalis 6 Besar
- Juara 3 Nasional

itenas

PRESTASI JURUSAN – Mahasiswa



Altie S.A. (2014) – Ginanjar M.I. – Pulung D. (2015) - B. Herbudiman, M.T.

Teknik Sipil
Finalis Kompetisi Bangunan Gedung Indonesia 2017, Malang

itenas

PRESTASI JURUSAN – Mahasiswa

Tim Banyujingga Angkatan 2015
- Ghifari Faturrahman
- Fitriyanto Hermansah
- Indra Gazali
- Fakhrizal Noor (Manajer)

Dosen Pembimbing:
Yedida Yosananto, ST, MT.

Prestasi Dalam Kompetisi Bangunan Air Indonesia 2018 Malang, 8 – 12 April 2018.
- Finalis 10 Besar
- Juara Poster Terbaik
- Juara Maket Terbaik

itenas

PRESTASI JURUSAN – Mahasiswa

Tim Arakata Jingga 2015
- **Ghifari Faturrahman**
- **Rizal Mutaqin**
- **Anggara**

Dosen Pembimbing:
Yessi Nirwana K., Ph.D

Prestasi dalam DEDIKASI 2018 “Lomba Desain Floating Breakwater”, 26 – 29 November 2018.
- Finalis 10 Besar

itenas

PRESTASI JURUSAN – Mahasiswa

Tim Gangga Adiwijaya
- **Nabilla (2105)**
- **Kinan Ramaulidika (2016)**
- **Jhon Wilson (2016)**

Dosen Pembimbing:
Yedida Yosananto, ST, MT.

Prestasi Dalam Kompetisi Bangunan Air Indonesia 2019 Malang, 11 – 13 April 2019.
- Finalis 10 Besar
- Juara Maket Terfavorit

itenas

PRESTASI JURUSAN – Mahasiswa

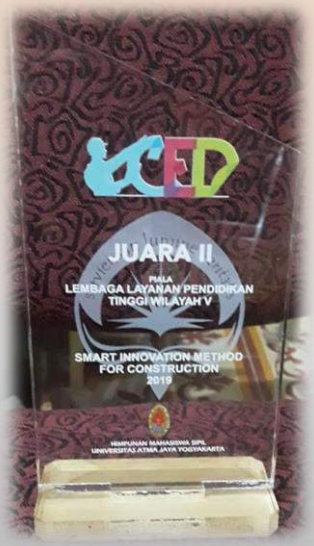
Tim Orson Angkatan 2016
- M. Farhan
- Nirpan Lesmana
- Yasmin

Dosen Pembimbing:
Yedida Yosananto, ST, MT.

Prestasi Dalam Kompetisi Bangunan Air Indonesia 2019 Malang, 11 – 13 April 2019.
- Finalis 10 Besar

itenas

PRESTASI JURUSAN – Mahasiswa



Tim Bumiagara Angkatan 2015
- **Ghifari Faturrahman**
- **Indra Gazali**
- **Aliza**

Dosen Pembimbing:
K. Rini Ratnayanti, ST, MT.

Prestasi Dalam Kompetisi “Smart Innovation Method for Construction 2019” Yogyakarta, 26 - 27 April 2019.
- Finalis 5 Besar
- Juara 2

itenas

PRESTASI JURUSAN – Mahasiswa

Student Summer Camp at Kansai University, Japan

itenas

Kegiatan Summer Camp di Kansai Univ Jepang

Kegiatan Jurusan

- Perkuliahan - Asistensi - Responsi
- Praktikum - Penelitian di Laboratorium
- Kuliah Tamu
- Kunjungan Studi
- Seminar - Lokakarya - Diskusi Ilmiah
- Pembekalan Calon Wisudawan
- Kursus Singkat (*Short Course*)
- Kegiatan Kemahasiswaan

Kegiatan Jurusan

Kunjungan Studi ke Konstruksi MRT Jakarta (2017)

itenas

Kegiatan Jurusan

Kunjungan Studi ke Bendungan Ir. H. Djuanda (2018)

itenas

Kegiatan Jurusan

Kunjungan Studi ke ATCS Kota Bandung (2018)

itenas

Kegiatan Jurusan

Kunjungan Studi ke Konstruksi Bendungan Cipanas Majalengka (2019)

Kunjungan Studi Proyek Jalan Tol Becakayu

itenas

itenas

Kegiatan Jurusan

Seminar Mansoer Wiratmadja
8 April 2019

itenas

Kegiatan Jurusan

Pembekalan Calon Wisudawan/wati (2017)

itenas

Kegiatan Jurusan

Pengabdian Kepada Masyarakat – Sosialisasi Keselamatan Lalu Lintas ke SMA-SMA di Bandung (2017)

itenas

Kegiatan Jurusan

International Plaxis Course, Bandung & Bali (2010 - 2019)

itenas

Kegiatan Itenas

- **Dies Natalis**
- **Wisuda**
- **Bursa Tenaga Kerja**

itenas

Mari Maju dan Berkarya

Bersama Jurusan Teknik Sipil Itenas

Sumber gambar : **Autodesk civil 2011**

Sekian dan Terima Kasih ...

itenas

FTSP "New Normal" Webinar Series :

Promotion and Collaboration on Academic – Research to Industry Activities

Analisis *Backscatter* Pada Citra SAR Untuk Identifikasi Biomasa dan Fase Pertumbuhan

Oleh :

Dr. Soni Darmawan & Rika Hernawati, M.T.

Program Studi Teknik Geodesi – Itenas Bandung

Jl. PKH. Hasan Mustapa No. 23 Bandung 40124

Telp. +62-22-7272215, Fax.+62-22-7202892

2015 © Institut Teknologi Nasional Bandung

Dr. Soni Darmawan

Teknik Geodesi
INSTITUT TEKNOLOGI NASIONAL - BANDUNG

Soni_darmawan@itenas.ac.id
0822 1660 2544

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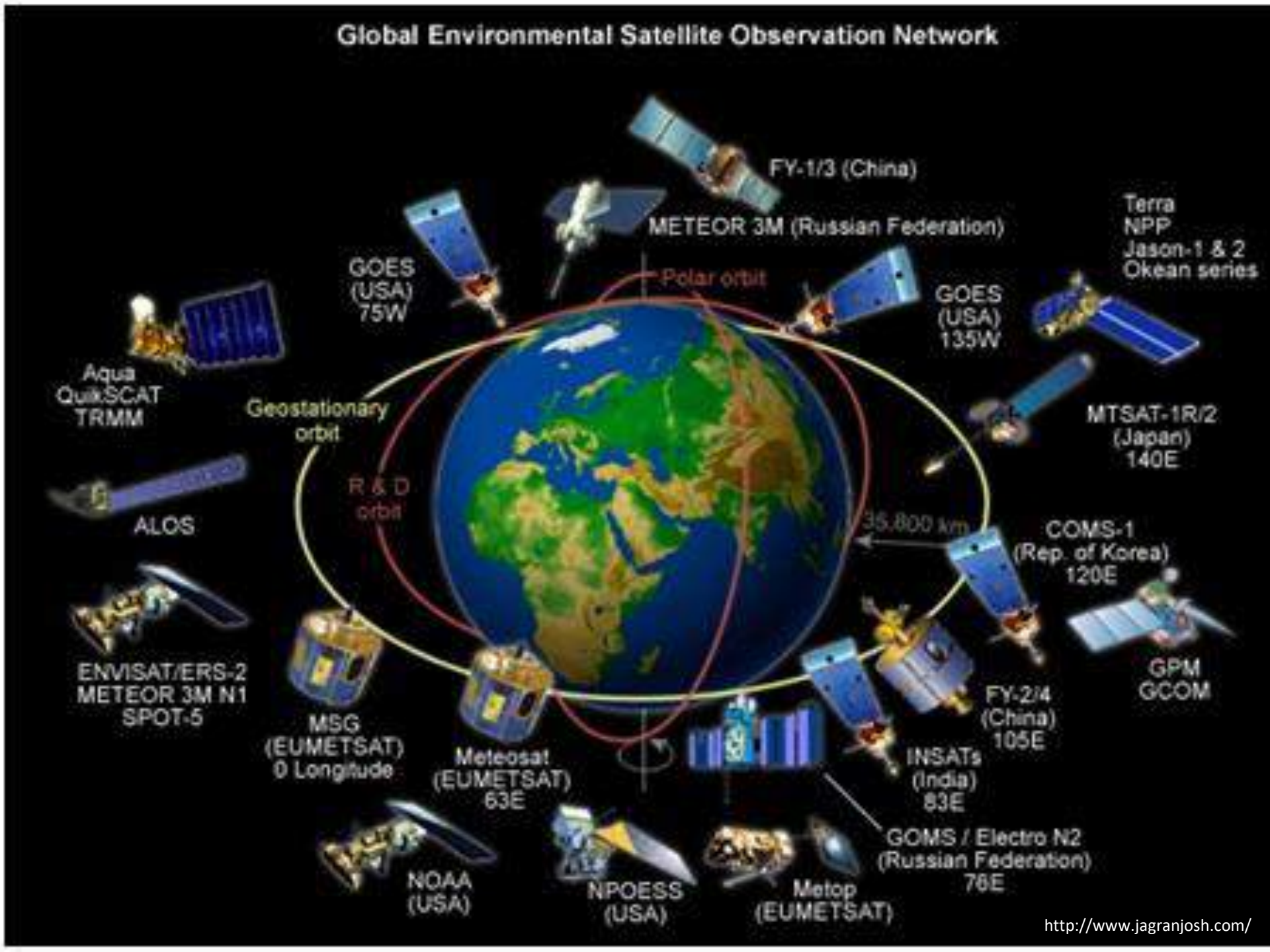
Dekan Fakultas Teknik Sipil dan Perencanan (2020-2025)
Ketua Jurusan Teknik Geodesi Itenas – Bandung (2017-2020)
Sekjen Masyarakat Ahli Penginderaan Jauh Indonesia (MAPIN) (2019-2022)

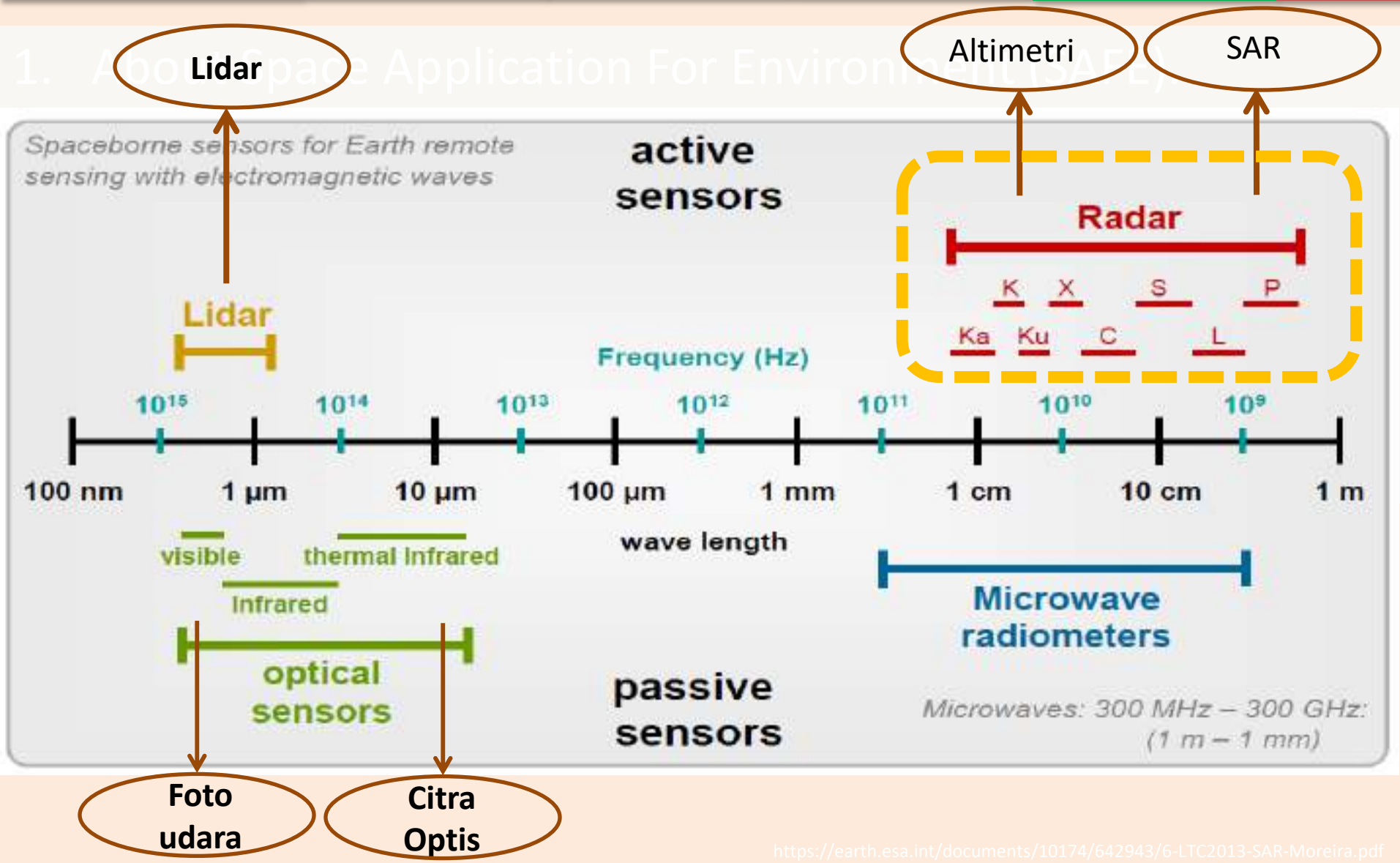
- 2013 – 2016 Postdoctoral University of Tokyo.
- 2012 Lecturer in Institut Teknologi Nasional, Bandung, Indonesia.
- 2011 : Doctor from Geodesy and Geomatics Engineering, Faculty of Earth Science and Technology, Institute of Technology Bandung (ITB) –Indonesia.
- 2009 – 2010 : sandwich program, between ITB and Center for Environmental Remote Sensing (CeRES)-Chiba University.
- 2007 – 2008 : research fellow from Japan International Research Center for Agricultural Sciences (JIRCAS), Tsukuba.
- 2004 : Master from Geodesy and Geomatics Engineering, ITB.
- 1999 : Undergraduate from Geodesy Engineering, ITB.


Global Environmental Satellite Observation Network
FY-1/3 (China)
METEOR 3M (Russian Federation)
Polar orbit
GOES (USA) 75W
GOES (USA) 135W
Terra
NPP
Jason-1 & 2
Okean series
Aqua
QuikSCAT
TRMM
Geostationary orbit
R & D orbit
35,800 km
MTSAT-1R/2 (Japan) 140E
ALOS
COMS-1 (Rep. of Korea) 120E
ENVISAT/ERS-2
METEOR 3M N1
SPOT-5
MSG (EUMETSAT) 0 Longitude
Meteosat (EUMETSAT) 63E
FY-2/4 (China) 105E
GPM
GCOM
INSATs (India) 83E
GOMS / Electro N2 (Russian Federation) 76E
NOAA (USA)
NPOESS (USA)
Metop (EUMETSAT)
http://www.jagranjosh.com/

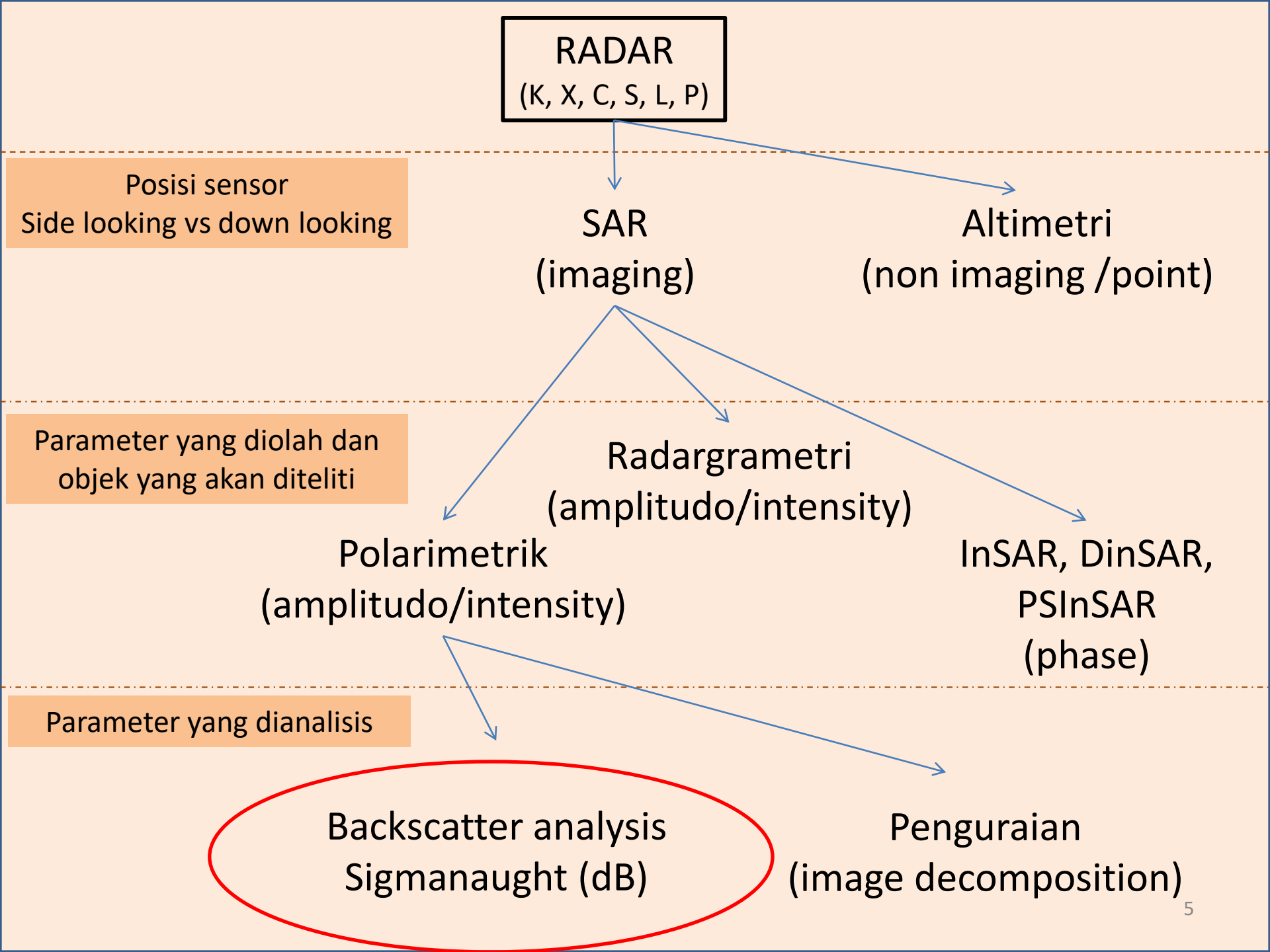
5 Gelombang elektromagnetik

Teknik Geodesi
INSTITUT TEKNOLOGI NASIONAL - BANDUNG

1. About Space Application For Environment (SAFE)

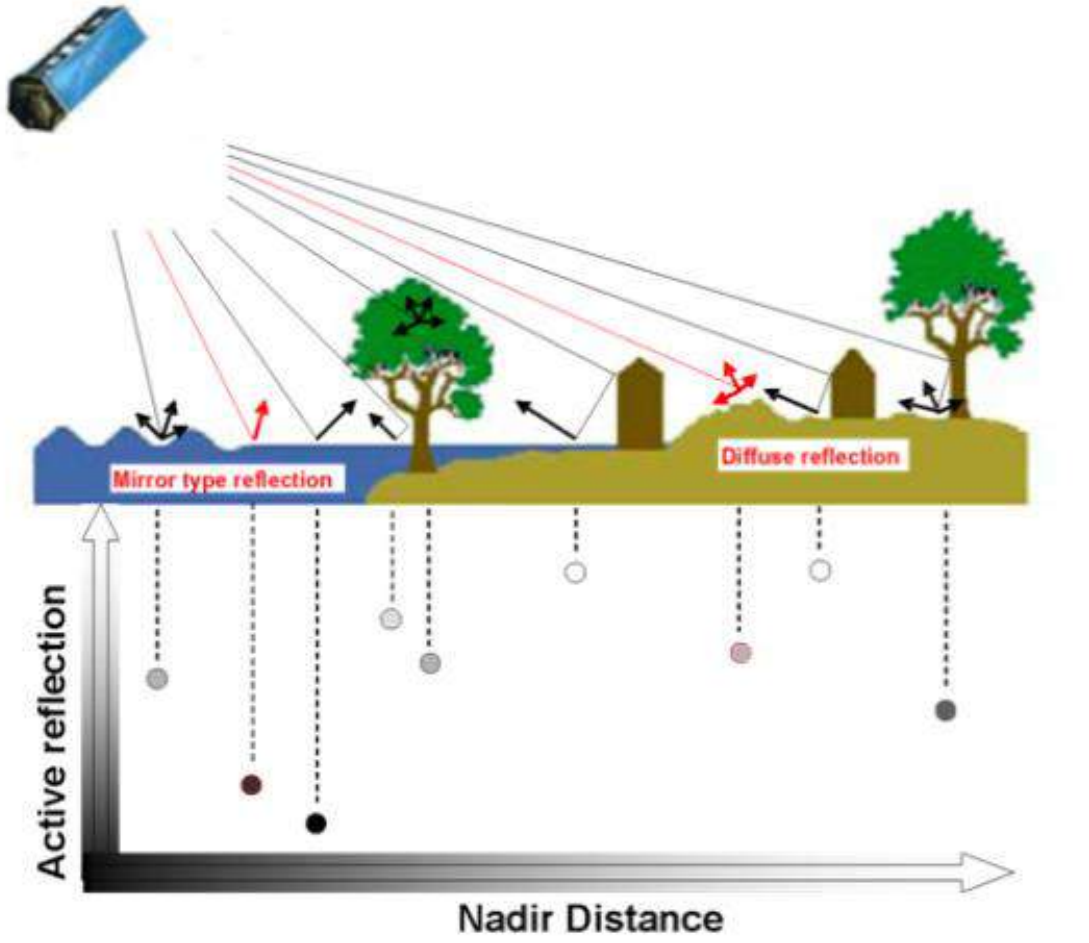


https://earth.esa.int/documents/10174/642943/6-LTC2013-SAR-Moreira.pdf

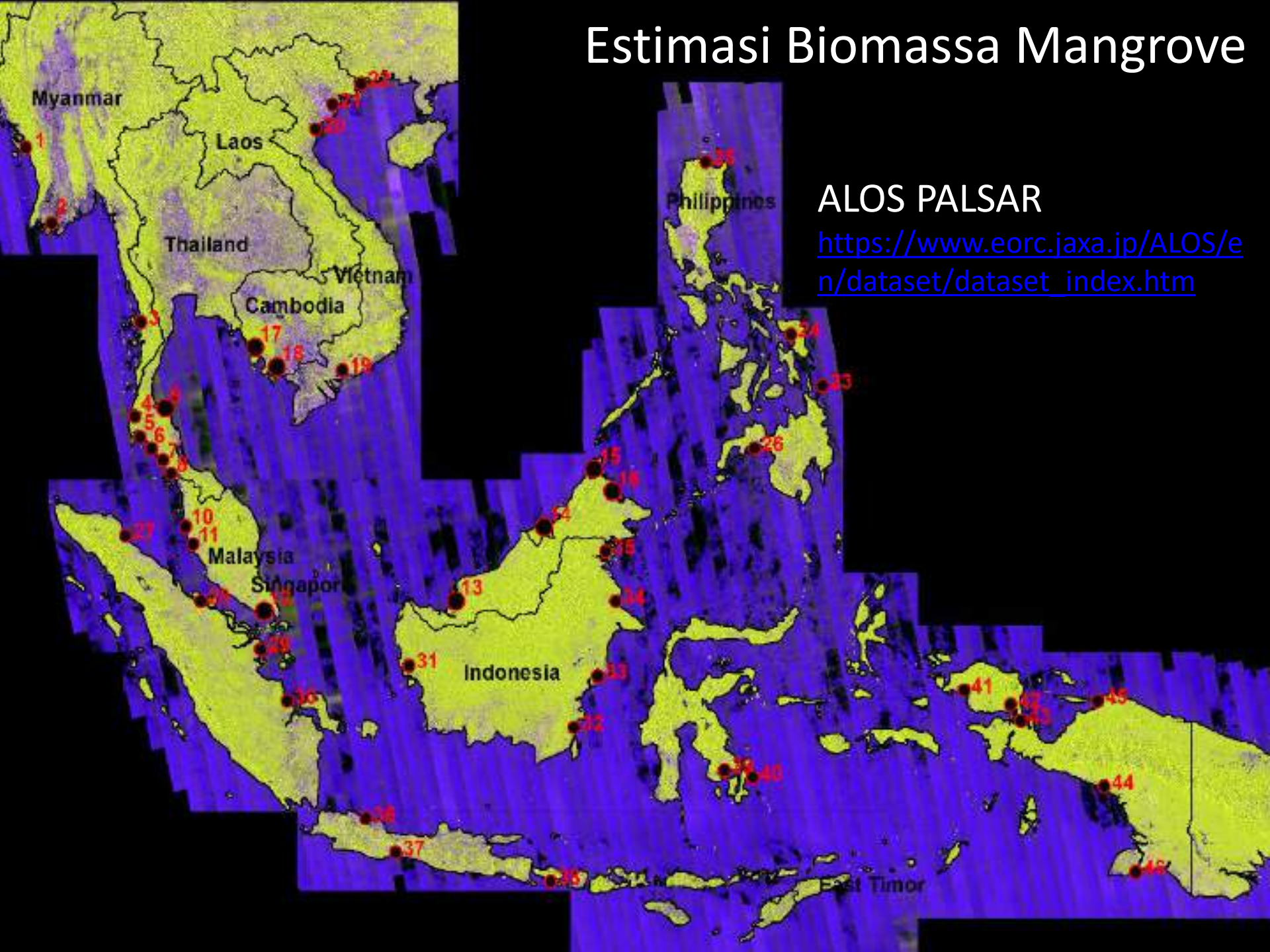

RADAR
(K, X, C, S, L, P)
Posisi sensor
Side looking vs down looking
SAR
(imaging)
Altimetri
(non imaging /point)
Parameter yang diolah dan
objek yang akan diteliti
Radargrametri
(amplitudo/intensity)
Polarimetrik
(amplitudo/intensity)
InSAR, DinSAR,
PSInSAR
(phase)
Parameter yang dianalisis
Backscatter analysis
Sigmanaught (dB)
Penguraian
(image decomposition)

Nilai backscatter pada vegetasi dipengaruhi oleh:

1. Panjang gelombang (K, X, C, L dan P band).
2. Jenis polarisasi (HH, VV, VH dan HV).
3. Incidence angle.
4. Konstanta dielektric.
5. Struktur obyek yang diamati.



Estimasi Biomassa Mangrove

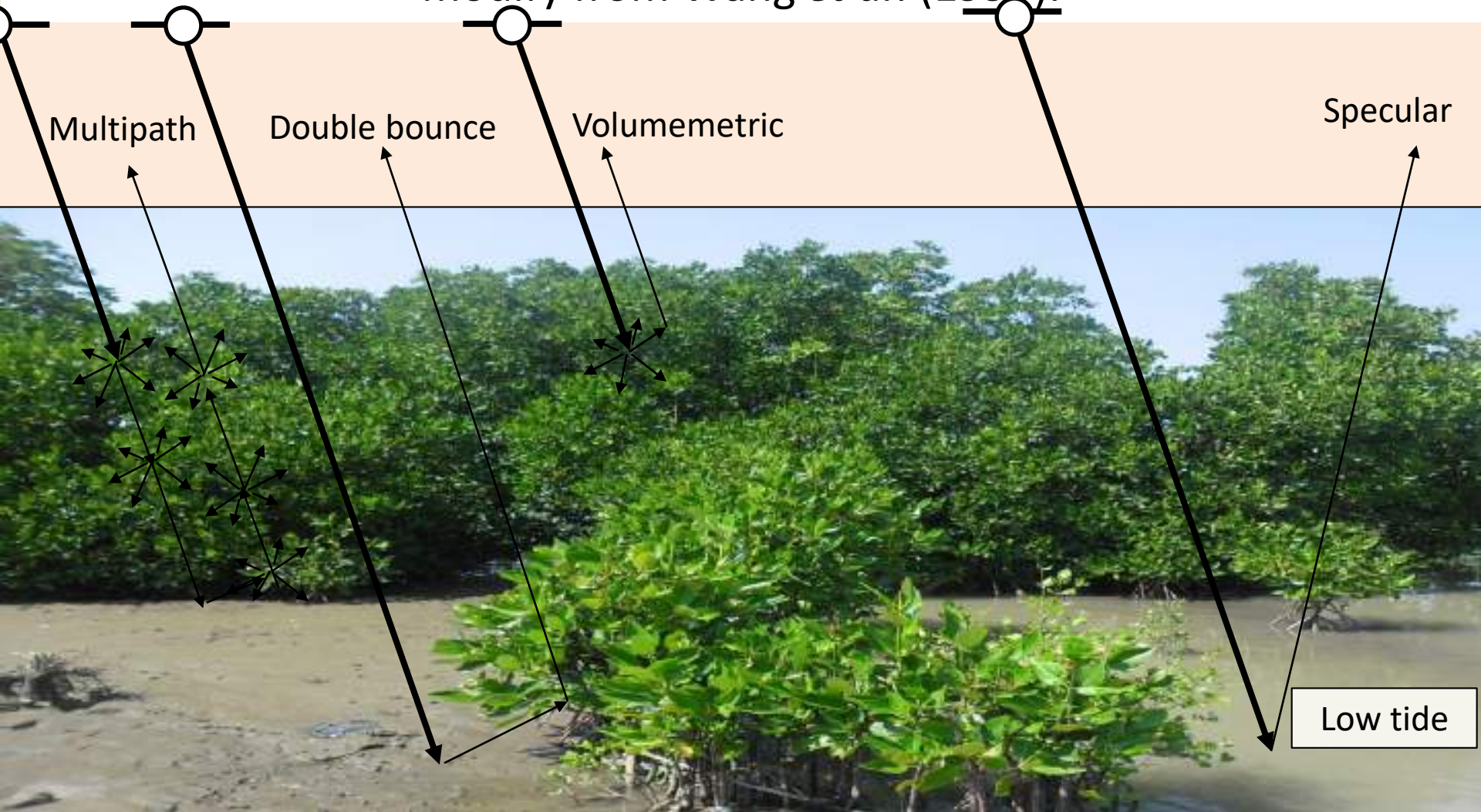


ALOS PALSAR

https://www.eorc.jaxa.jp/ALOS/en/dataset/dataset_index.htm

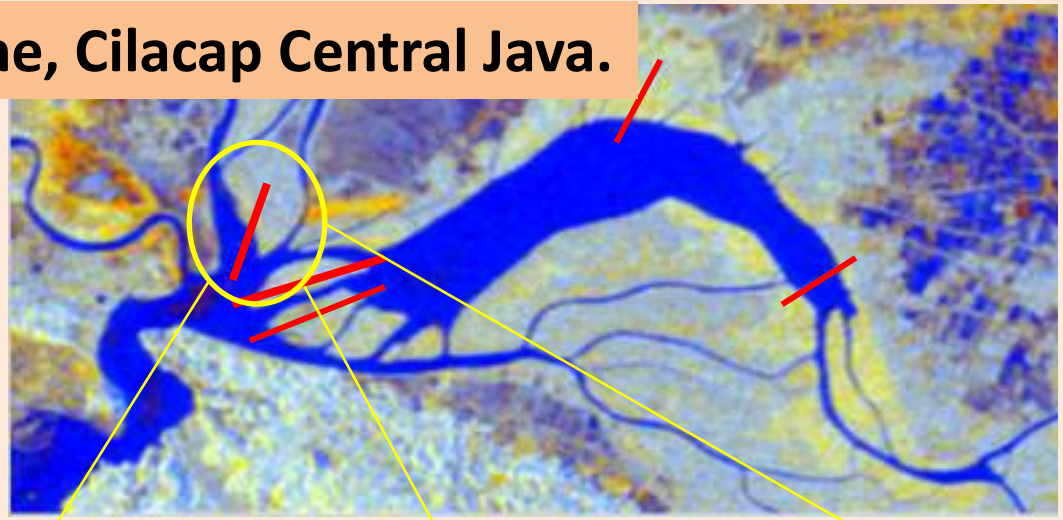
Backscatter L band

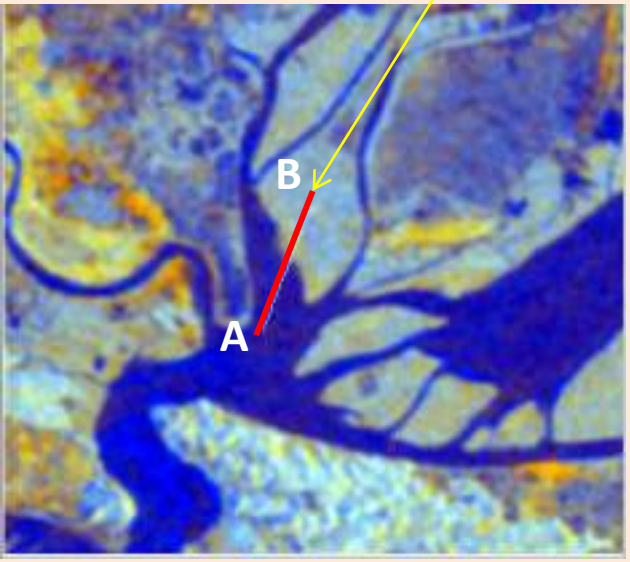
Illustration of L – band reflection on Mangrove forest, modify from Wang *et al*. (1995).



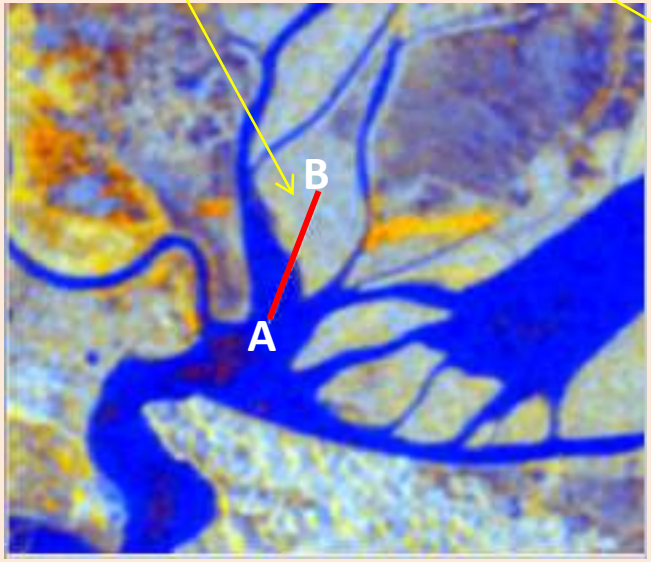
Sample

Mangrove zone, Cilacap Central Java.

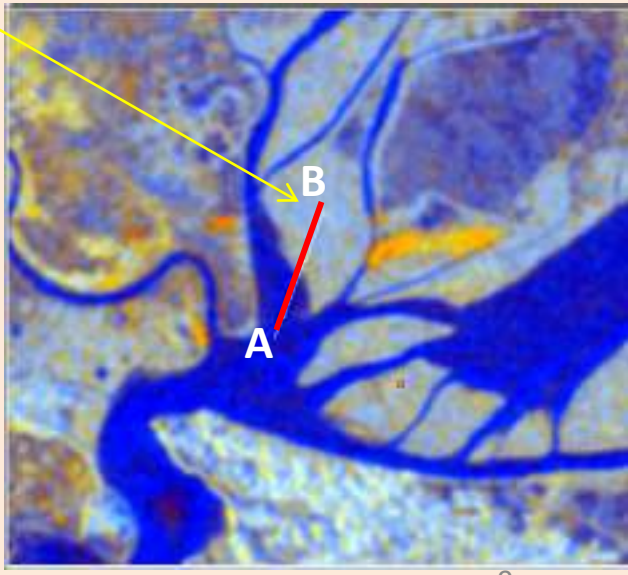




30-04-2008, 15.33.49



09-05-2008, 02.50.03

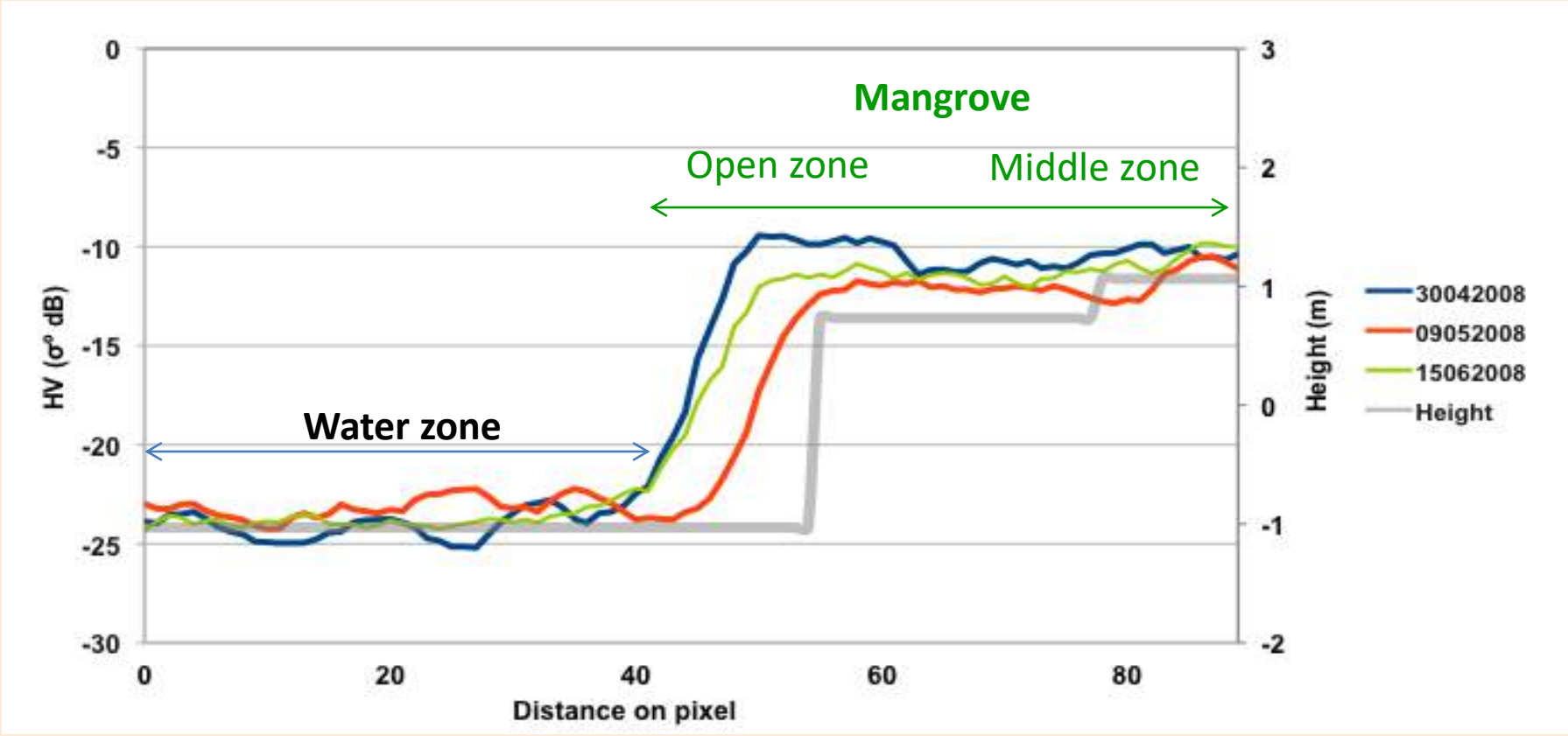


15-06-2008, 15.33.31

11 Pengaruh pasang surut

Teknik Geodesi
INSTITUT TEKNOLOGI NASIONAL - BANDUNG

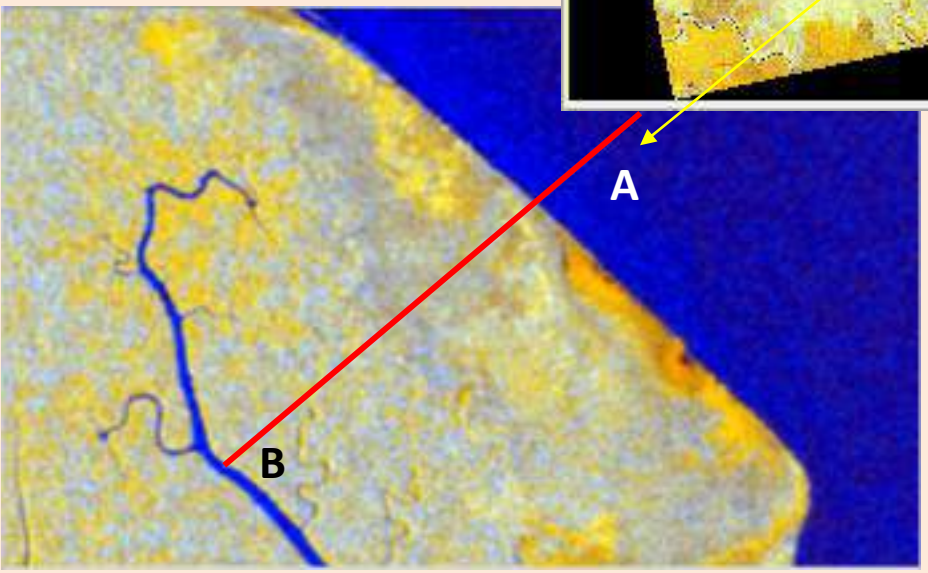
Mangrove zone, Cilacap Central Java.



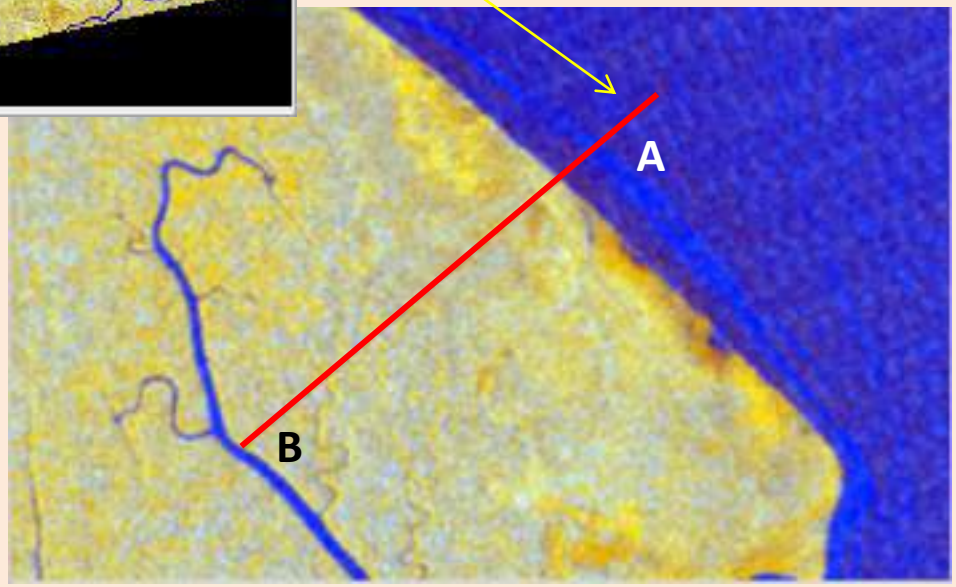
Low tide Height tide

Sample

Mangrove zone, Banyuasin South Sumatera.



10-05-2008, 15.48.03

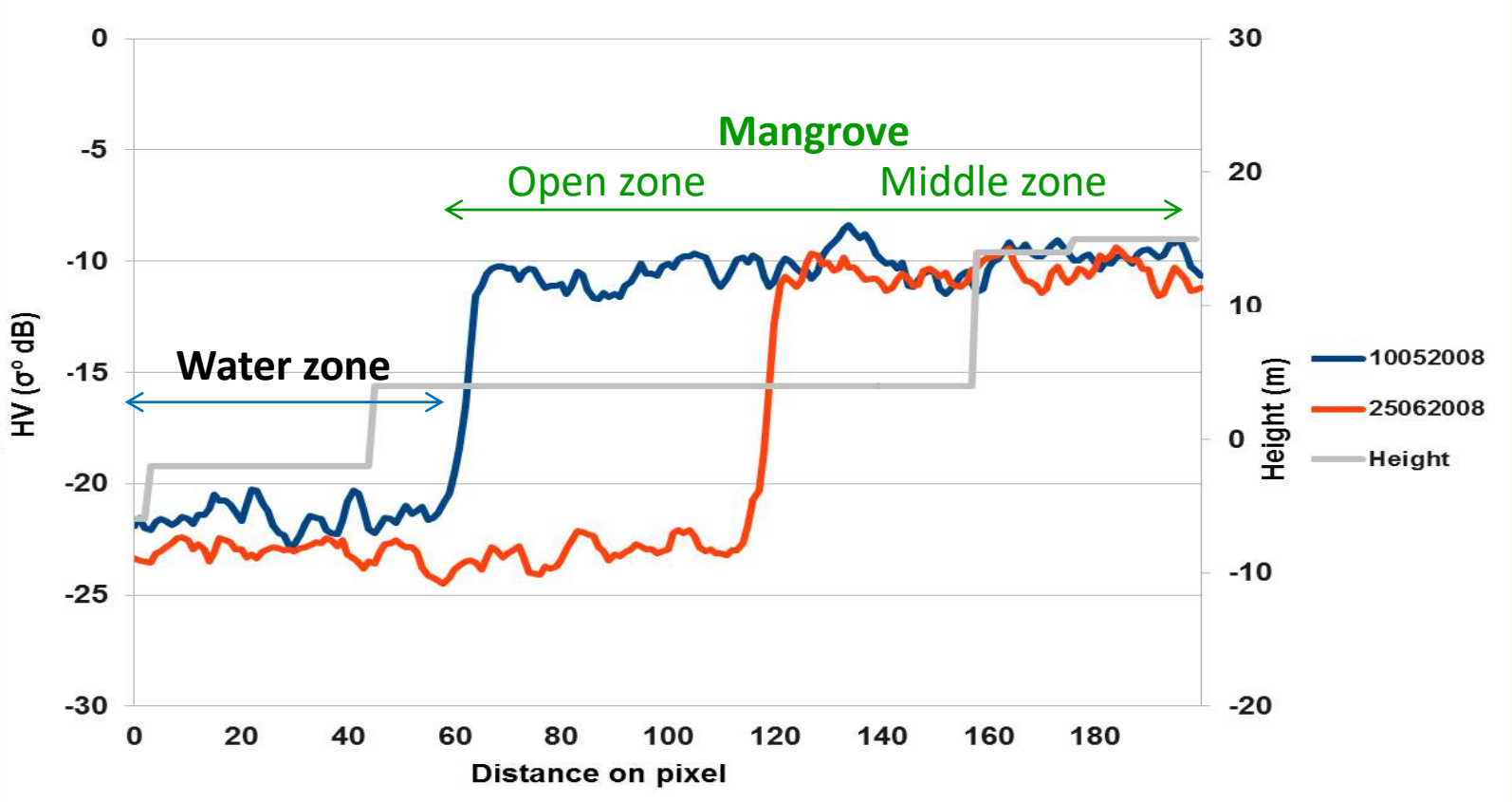


25-06-2008, 15.47.35

13 Pengaruh pasang surut

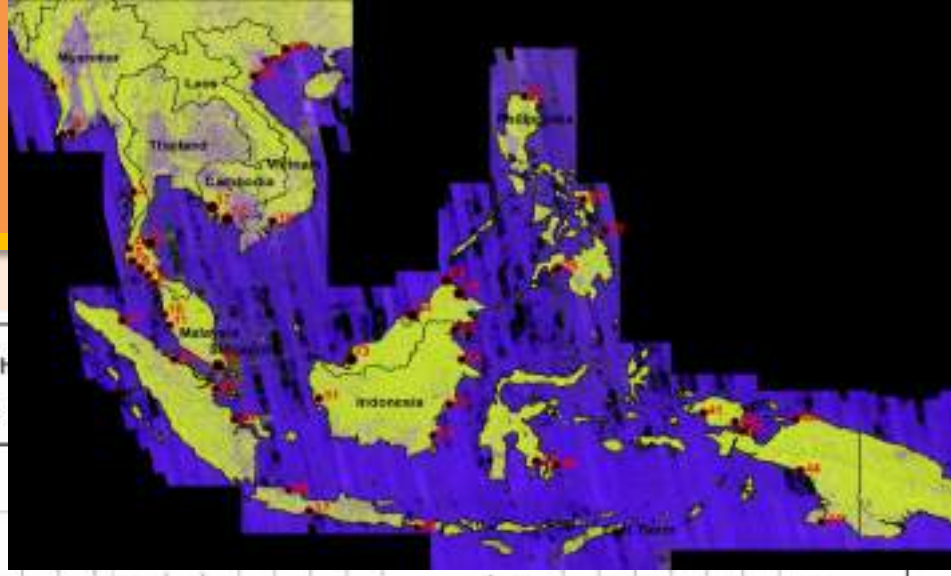
Teknik Geodesi
INSTITUT TEKNOLOGI NASIONAL - BANDUNG

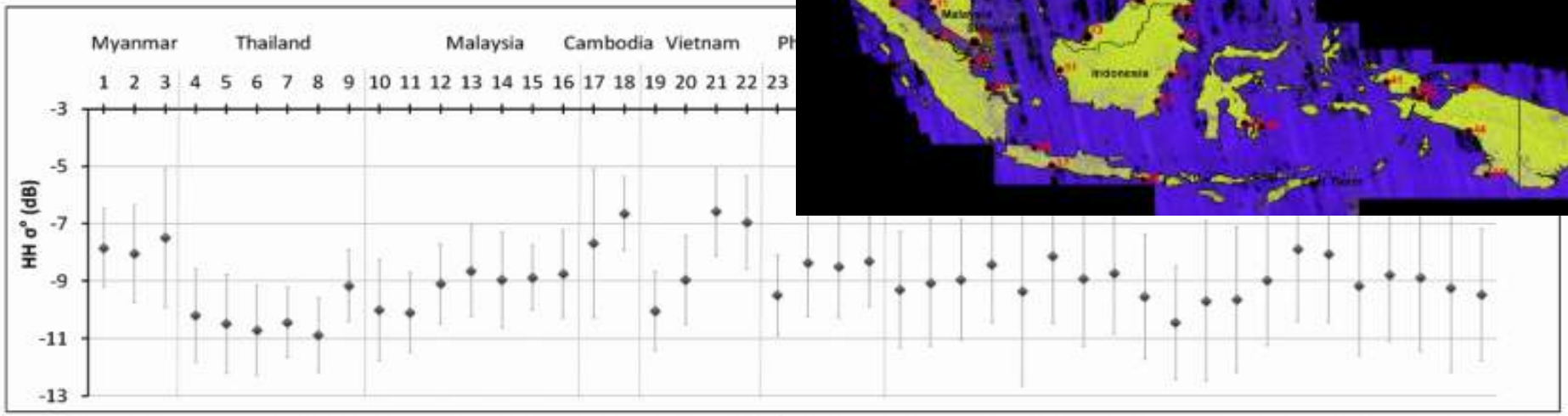
Mangrove zone, Banyuasin South Sumatera.



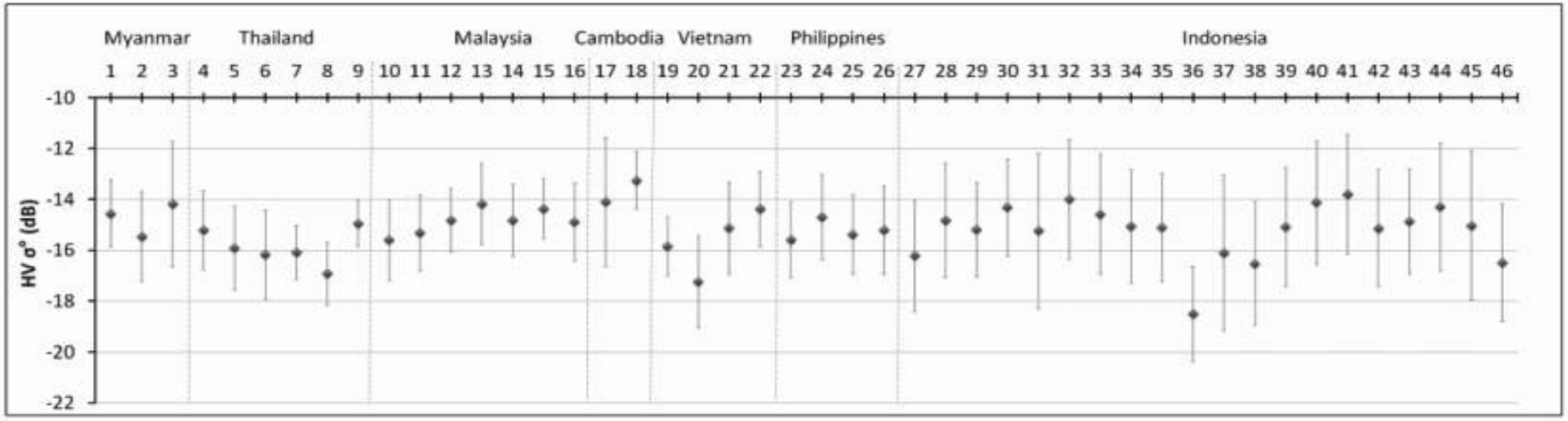
Low tide Height tide

14 Backscatter Characteristics

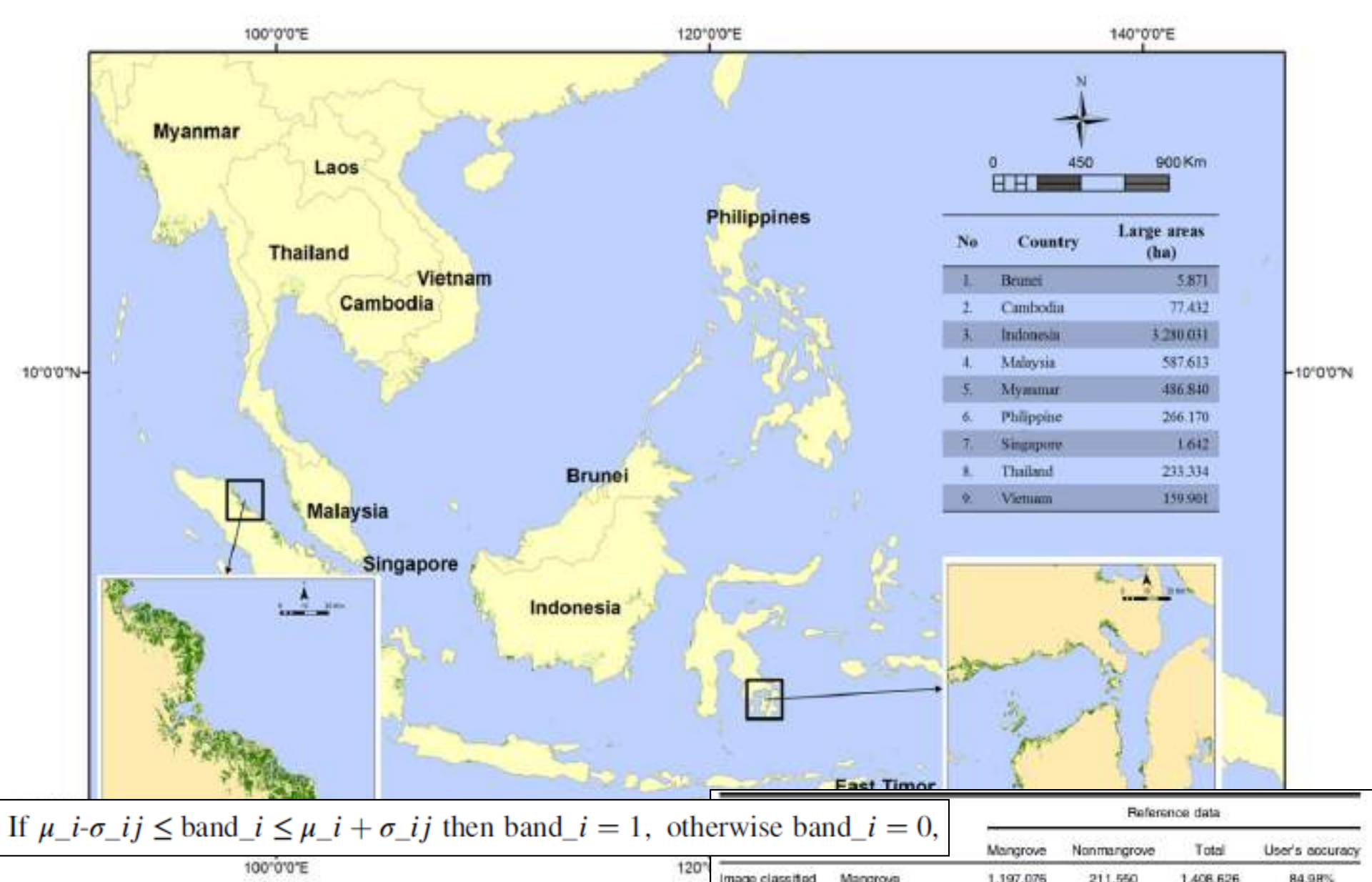




(a)



(b)



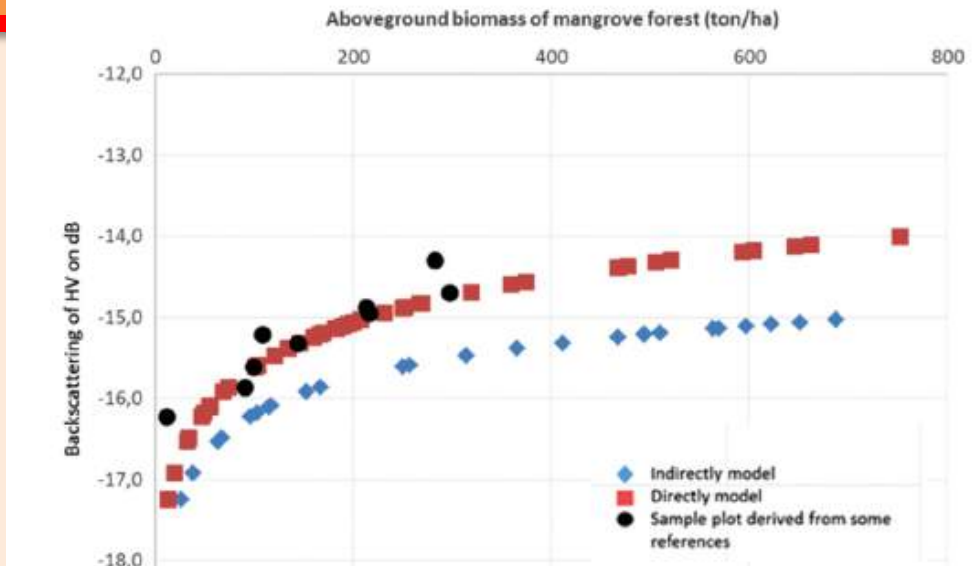
No	Country	Large areas (ha)
1.	Brunei	5.871
2.	Cambodia	77.432
3.	Indonesia	3.280.031
4.	Malaysia	587.613
5.	Myanmar	486.840
6.	Philippine	266.170
7.	Singapore	1.642
8.	Thailand	233.334
9.	Vietnam	159.901

$$\text{If } \mu_i\text{-}\sigma_ij \le \text{band}_i \le \mu_i + \sigma_ij \text{ then band}_i = 1, \text{ otherwise band}_i = 0,$$

		Reference data			
		Mangrove	Nonmangrove	Total	User's accuracy
Image classified	Mangrove	1,197,076	211,550	1,408,626	84.98%
	Nonmangrove	201,370	685,374	886,744	77.29%
	Total	1,398,446	896,924	2,295,370	
	Producer's accuracy	85.60%	76.41%		
				Overall accuracy = 82.01%	

(Darmawan et. al. 2019)

Algorithma estimasi biomassa



$$HH\ (\sigma^\circ) = 3.6\ \ln(\text{tree height}) - 23.7$$
$$HV\ (\sigma^\circ) = 4.4\ \ln(\text{tree height}) - 24.9$$
$$\text{tree height} = 2.8 \ln(DBH) + 0.4$$
$$AGB = 0.25\ DBH^{2.46}$$

indirectly model
(Takeuchi et al., 2011)

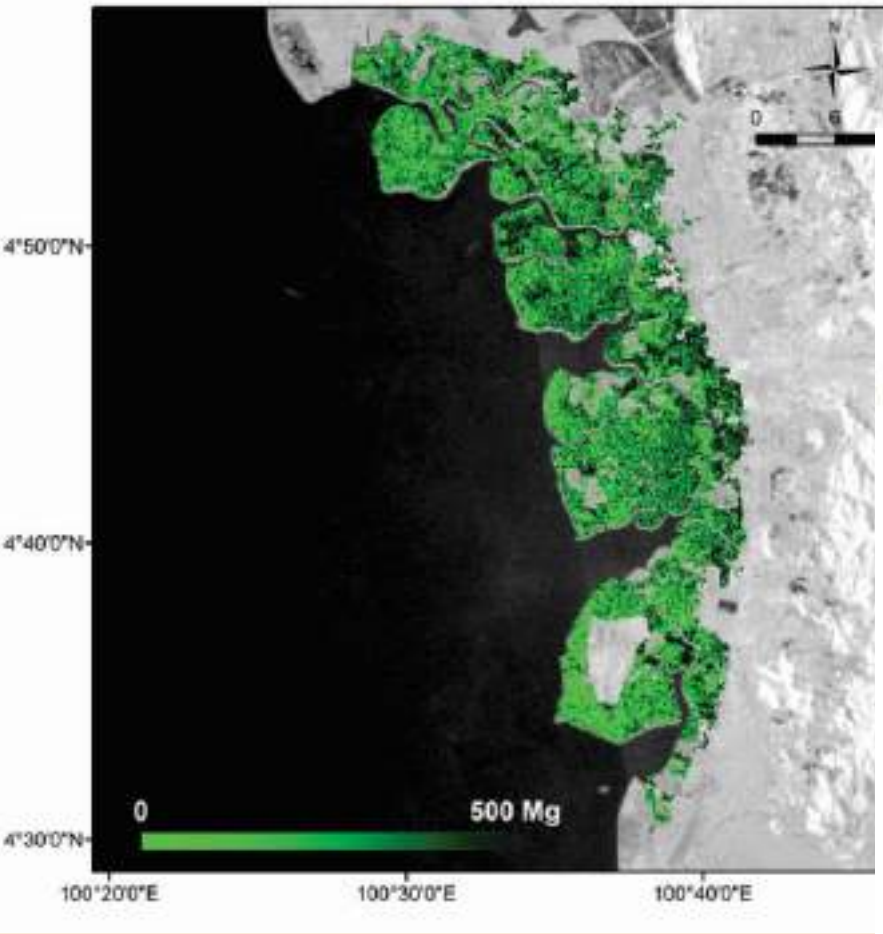
$$HH\ (\sigma^\circ) = 0.472\ \ln(AGB) - 12.326$$
$$HV\ (\sigma^\circ) = 0.800\ \ln(AGB) - 19.305$$

directly model
(Hamdan et al., 2014)

Effect topography and tidal heigh on ALOS PALSAR measurements → Darmawan et al., 2015

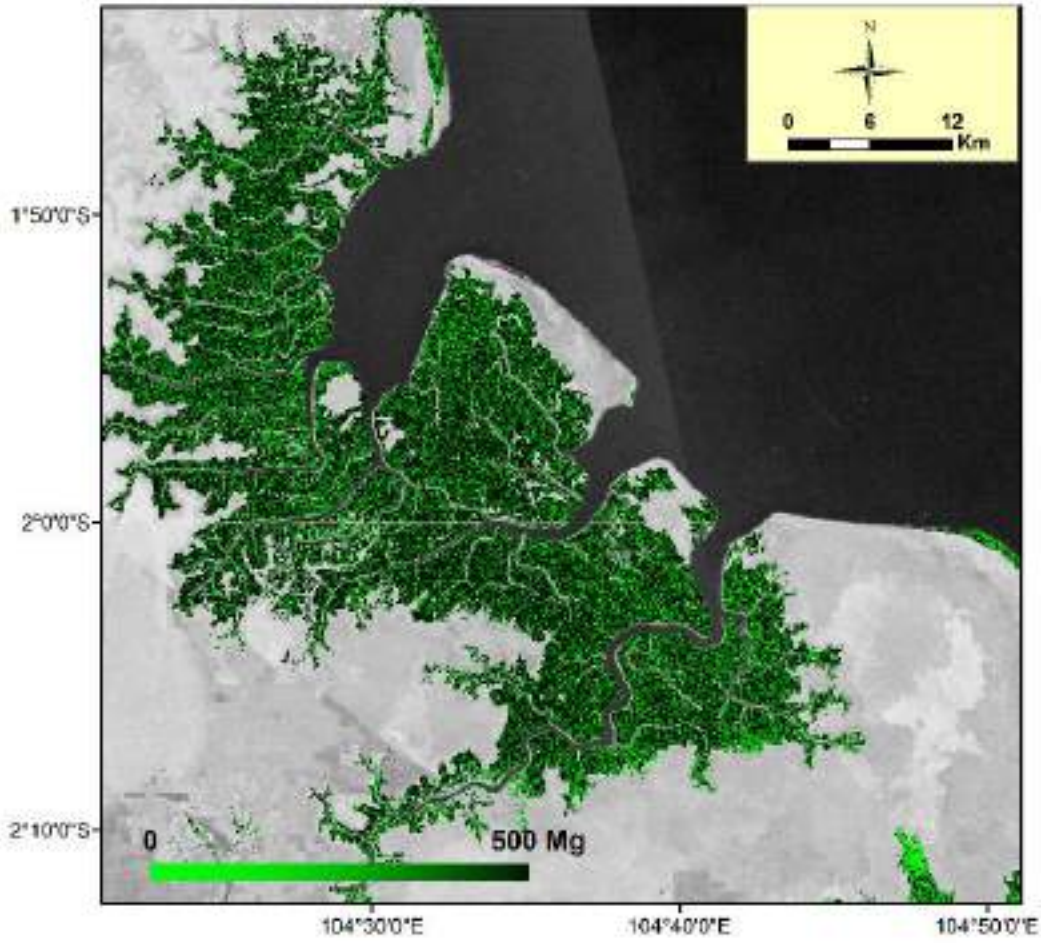
17 Biomassa mangrove

Teknik Geodesi
INSTITUT TEKNOLOGI NASIONAL - BANDUNG



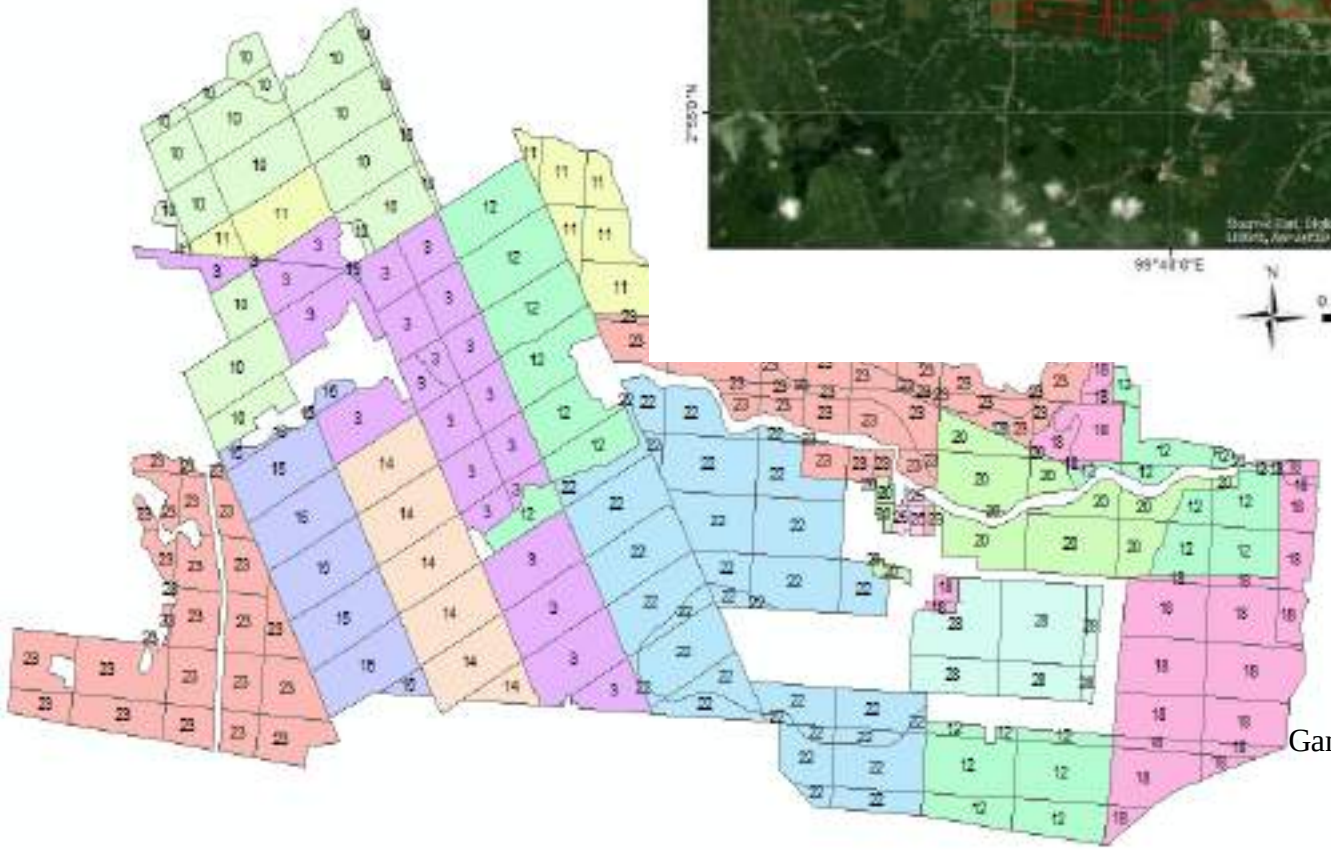
Jebong Perak, Malaysia

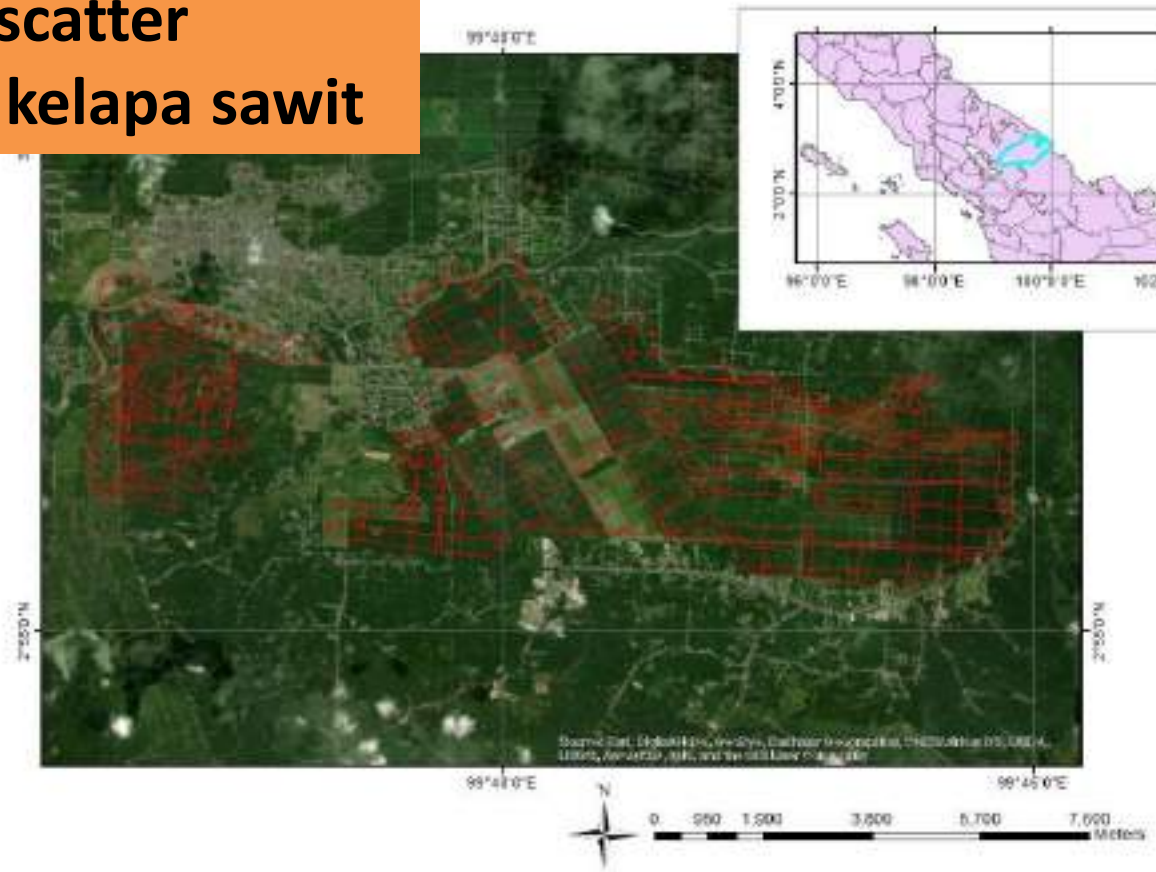
Banyuasin, Sumatera Selatan
Indonesia



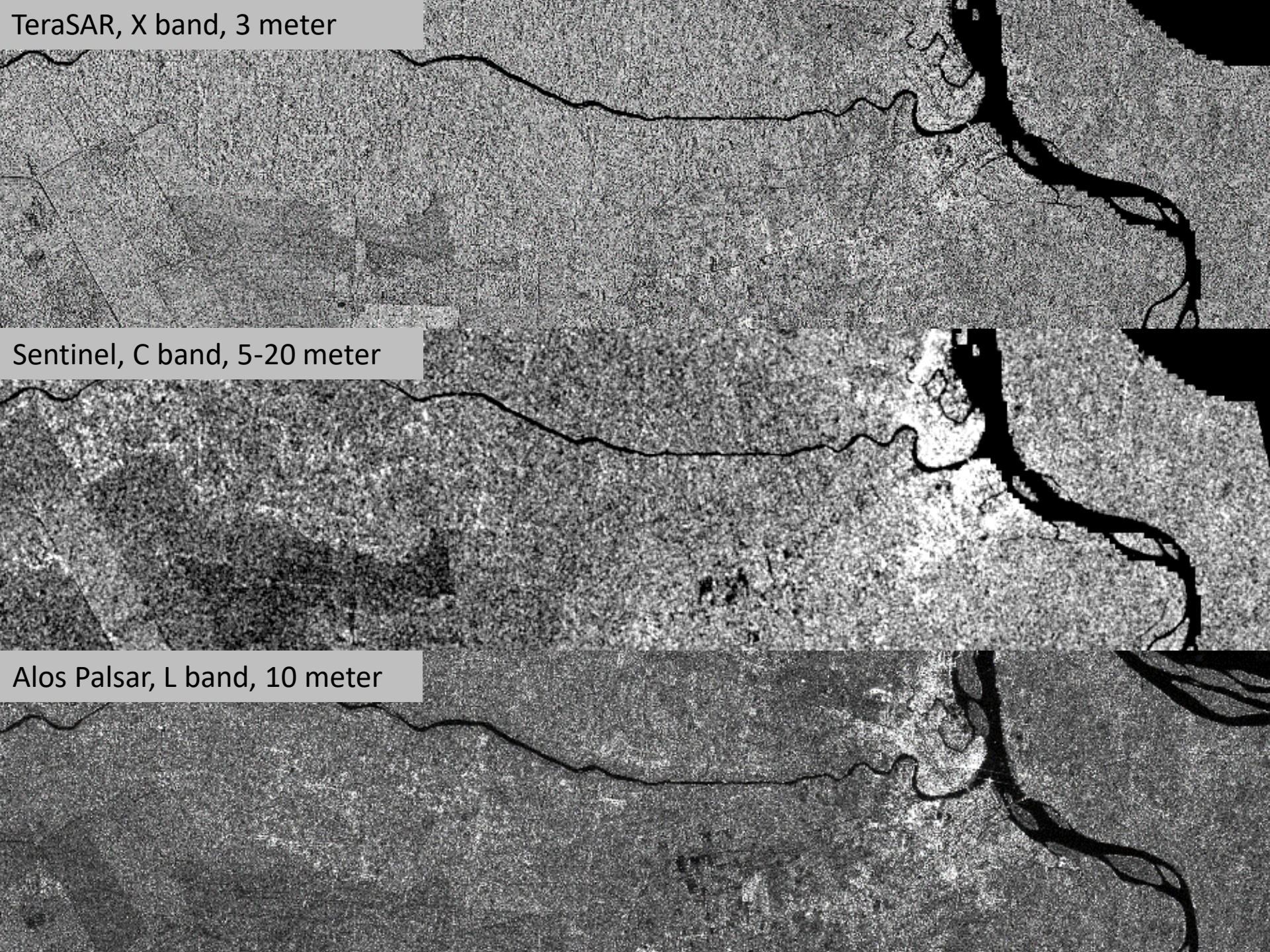
18 Analiasis backscatter pertumbuhan kelapa sawit

Kabupaten Asahan,
Sumatera Utara



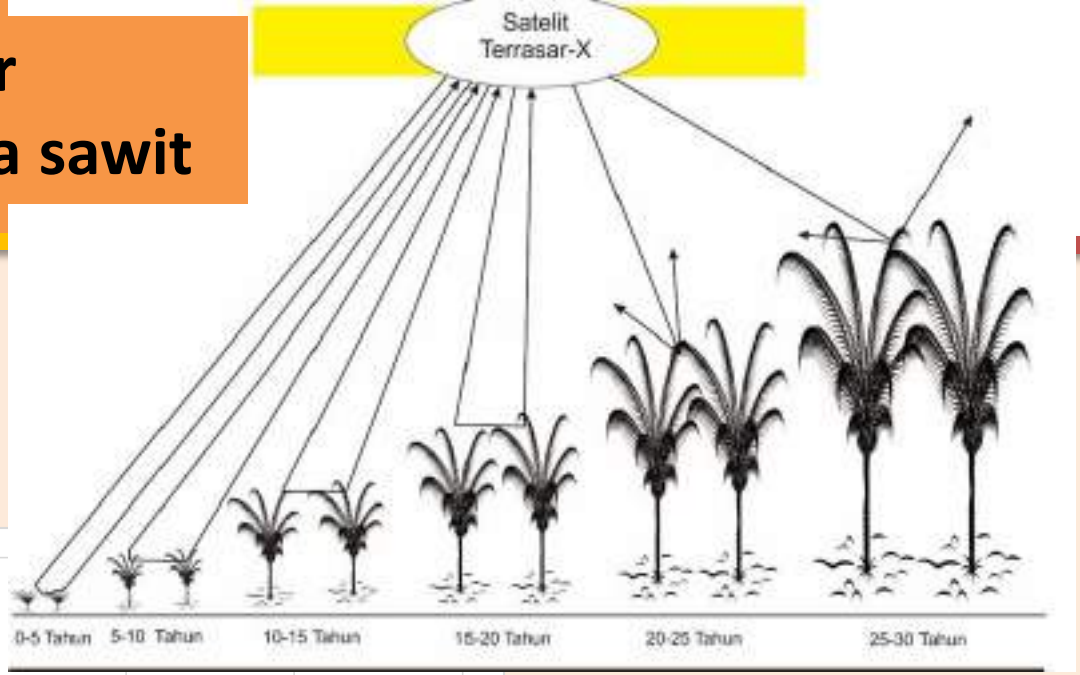


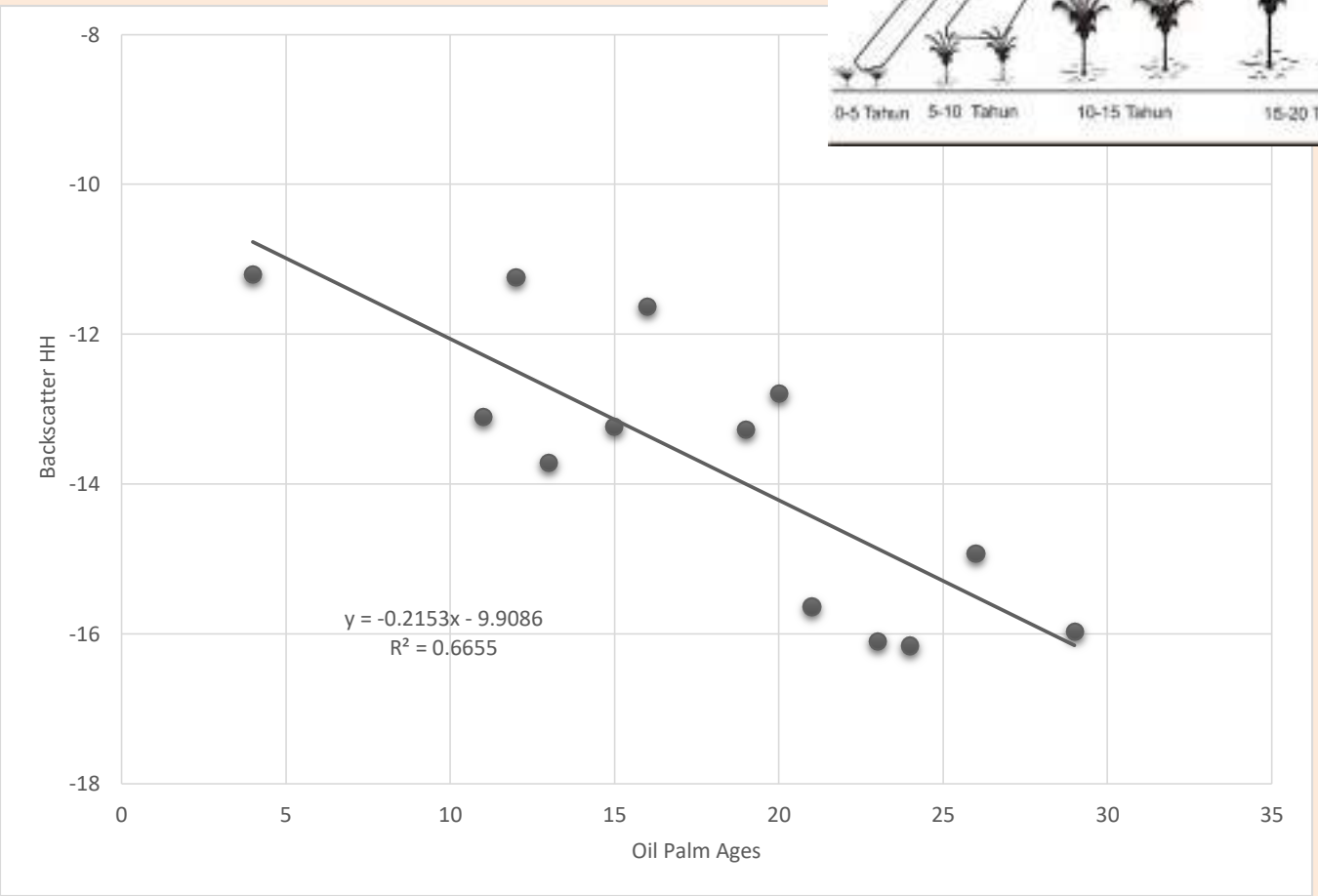
Gambar 3.3 Data Umur Tanaman Kelapa Sawit
Sumber: LAPAN (2016)


TeraSAR, X band, 3 meter
Sentinel, C band, 5-20 meter
Alos Palsar, L band, 10 meter

20 Analiasis backscatter pertumbuhan kelapa sawit

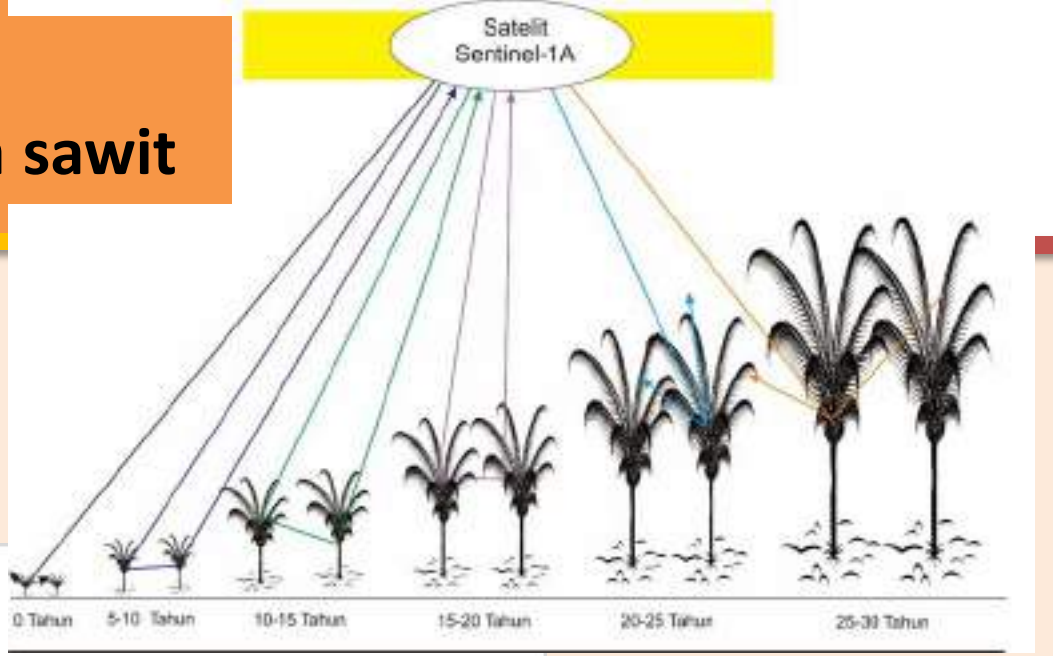
Pada Citra TeraSAR X

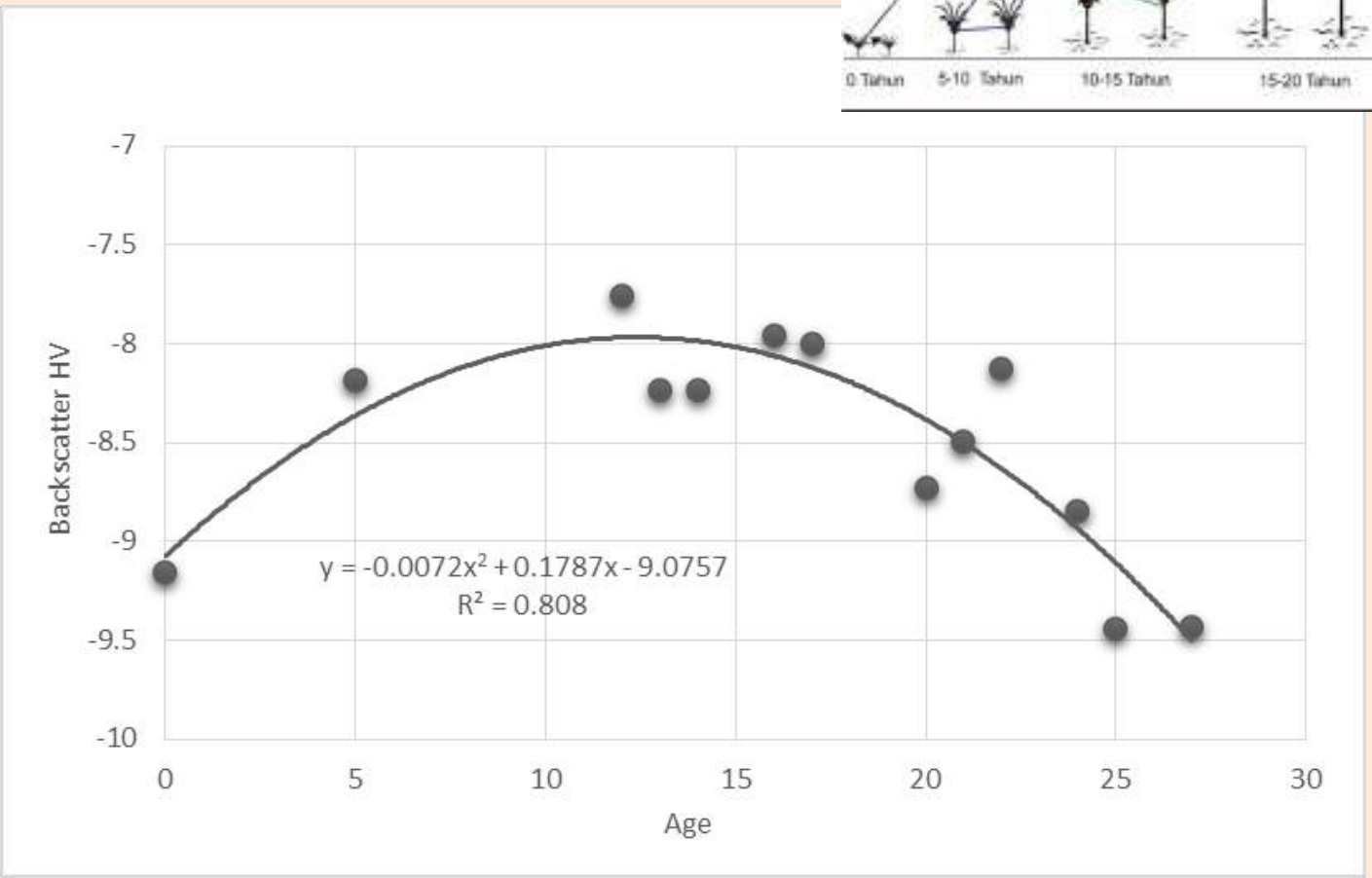




21 Analiasis backscatter pertumbuhan kelapa sawit

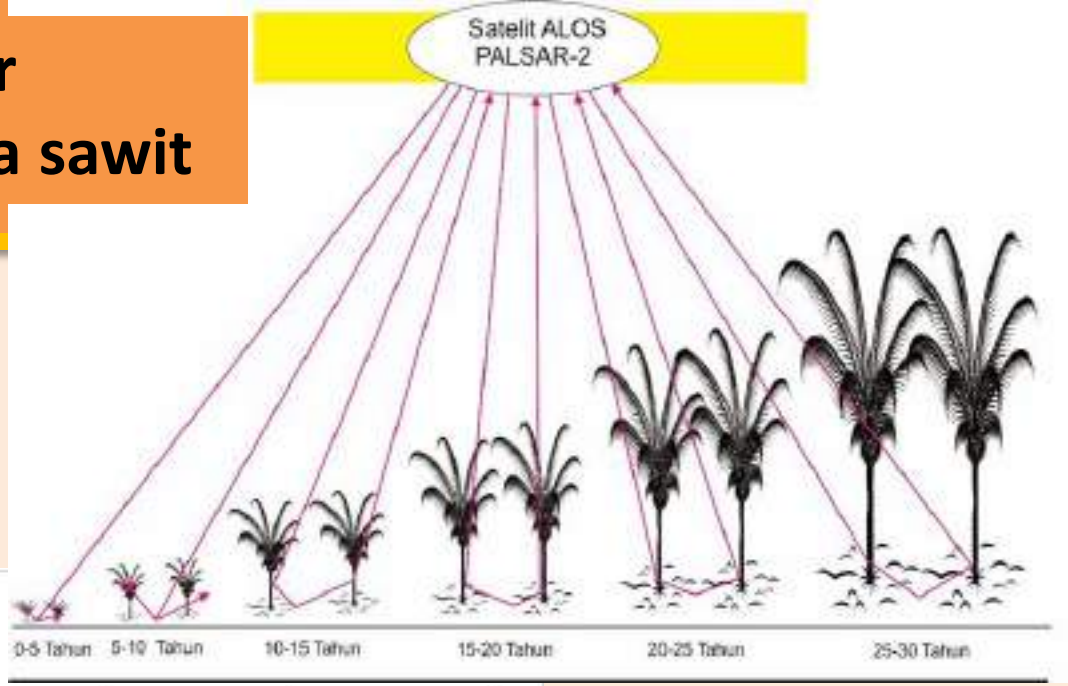
Pada Citra Sentinel

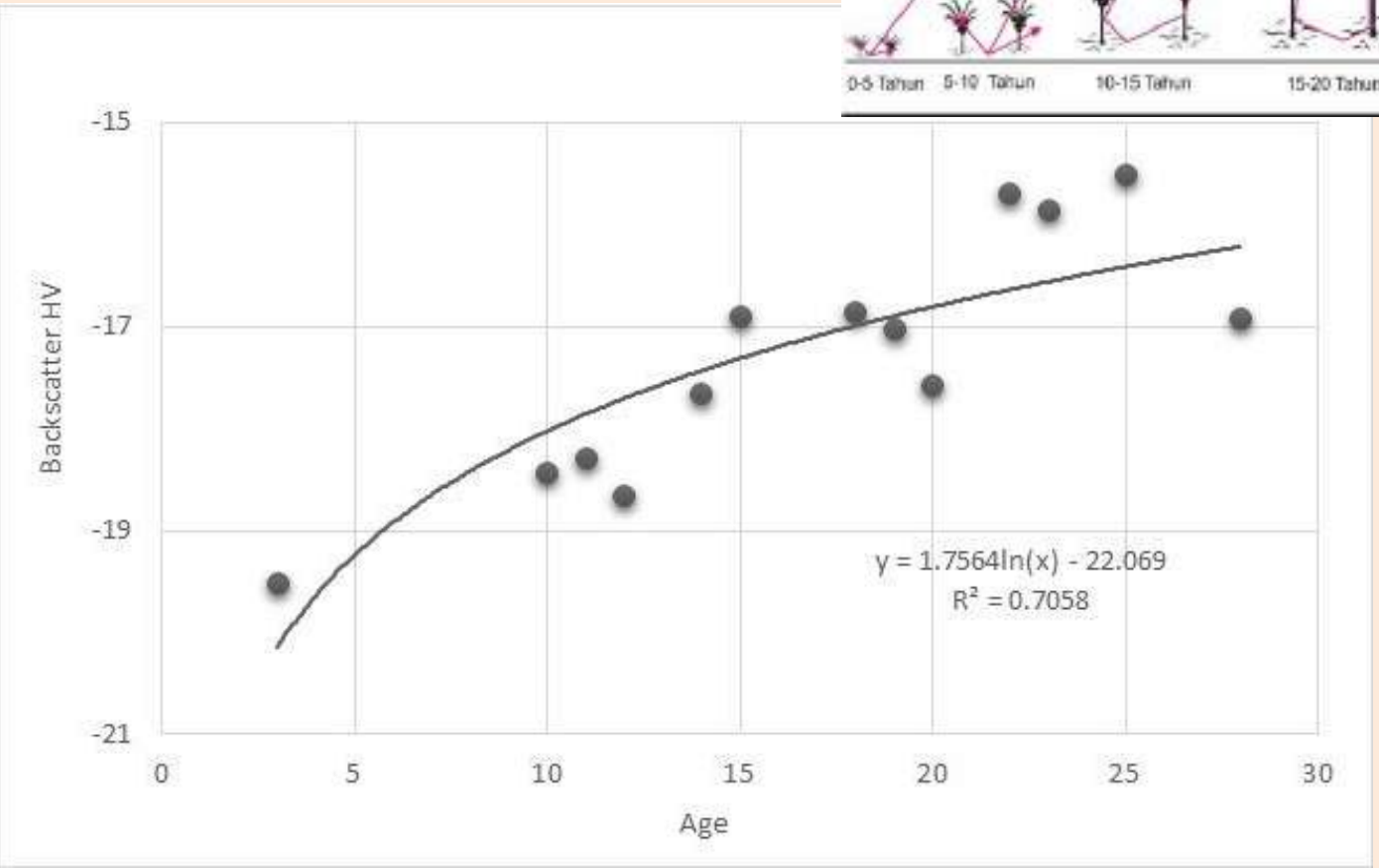




22 Analiasis backscatter pertumbuhan kelapa sawit

Pada Citra Alos Palsar





Terimakasih atas perhatiannya

FTSP New Normal Web Series 3

Impact of Urban Growth on Air Quality
in Indian cities using Remote Sensing

Prakhar Misra, PhD.

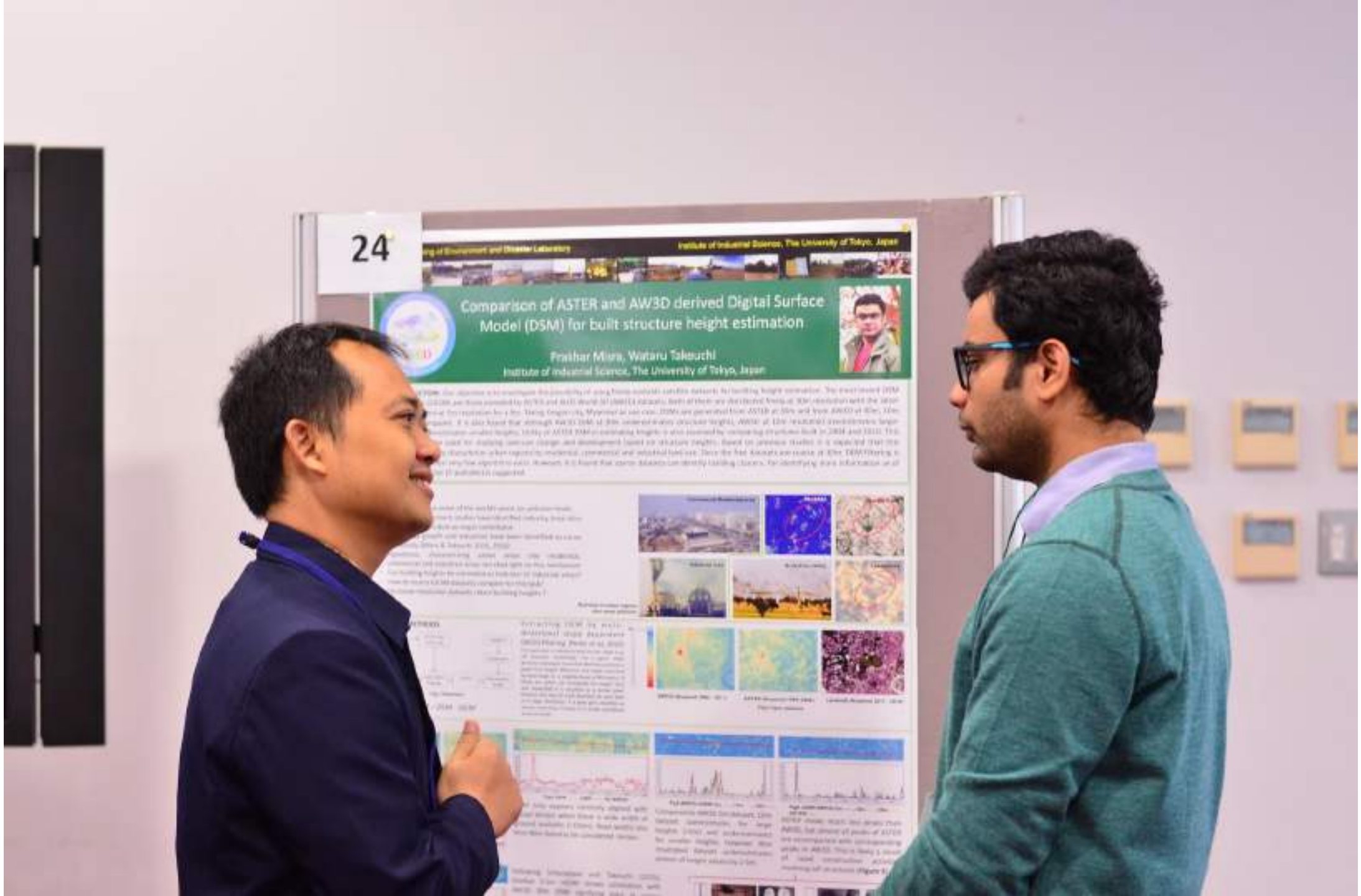
Researcher, RIHN

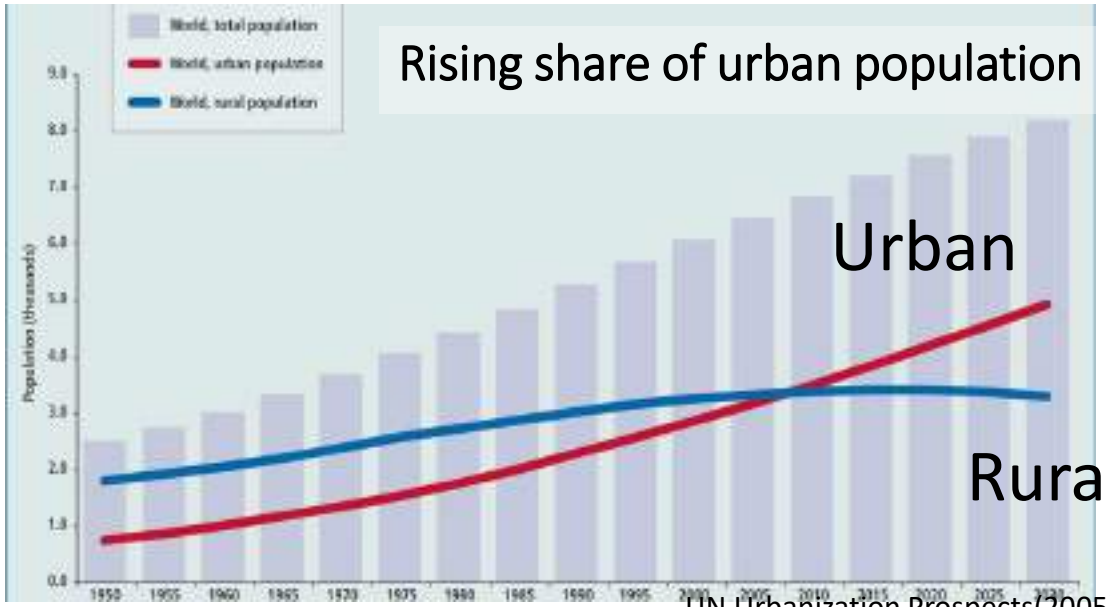
ITENAS (Zoom), 25 June 2020

11 SUSTAINABLE CITIES AND COMMUNITIES

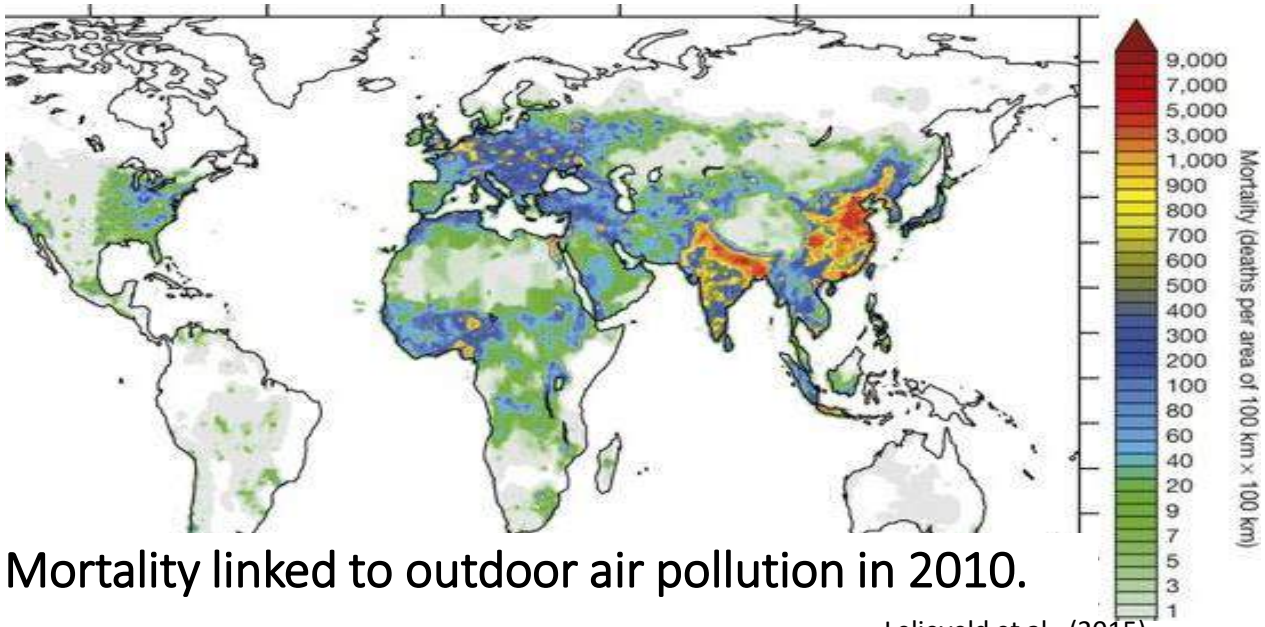
Inter-University Research Institute Corporation National Institutes for the Humanities
Research Institute for Humanity and Nature

THE FIFTH INTERNATIONAL CONFERENCE
OF INDONESIAN SOCIETY FOR REMOTE SENSING
(ICOIRS) AND MAPIN CONGRESS
"The Revolution Of Earth Observation For a Better Human Life"


24
Comparison of ASTER and AW3D derived Digital Surface Model (DSM) for built structure height estimation
Prashar Misra, Wataru Takeuchi
Institute of Industrial Science, The University of Tokyo, Japan

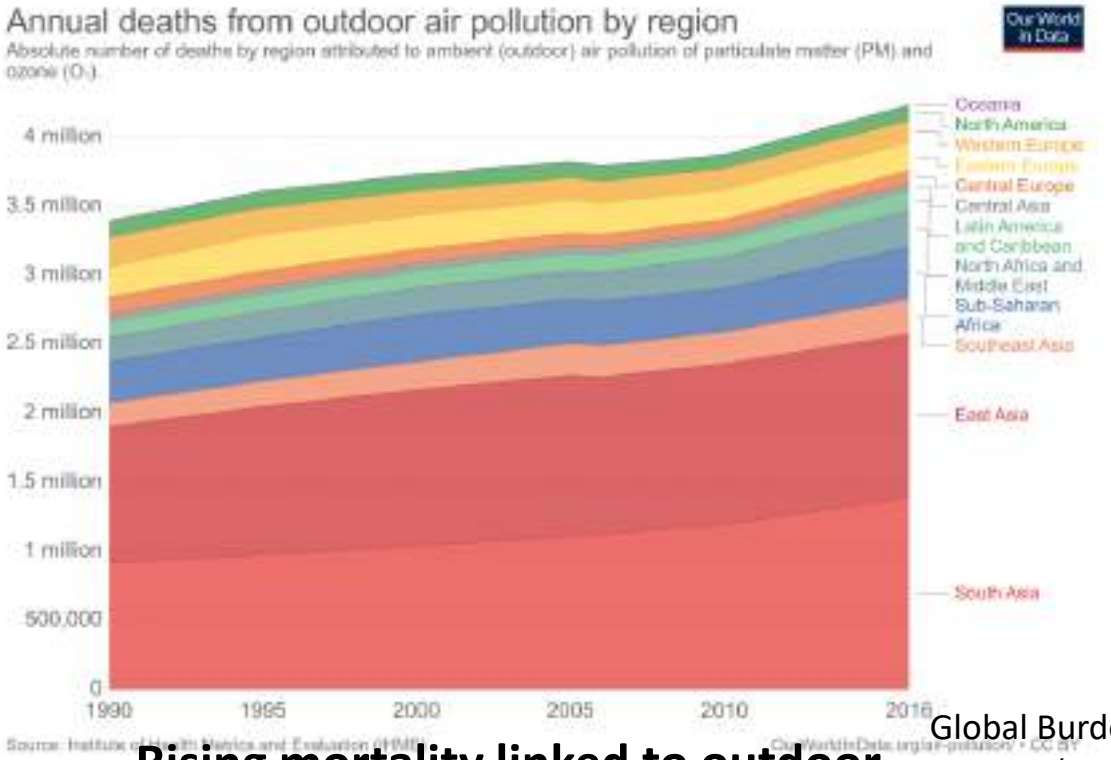


UN Urbanization Prospects(2005)



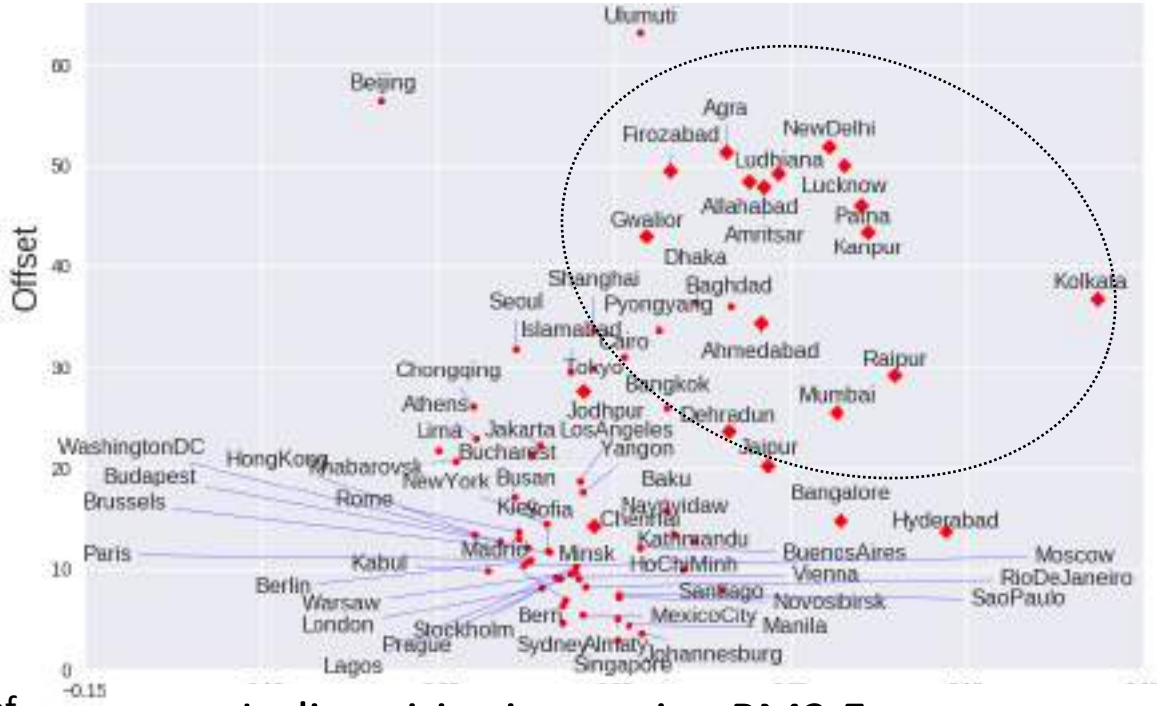
Mortality linked to outdoor air pollution in 2010.

Lelieveld et al., (2015)



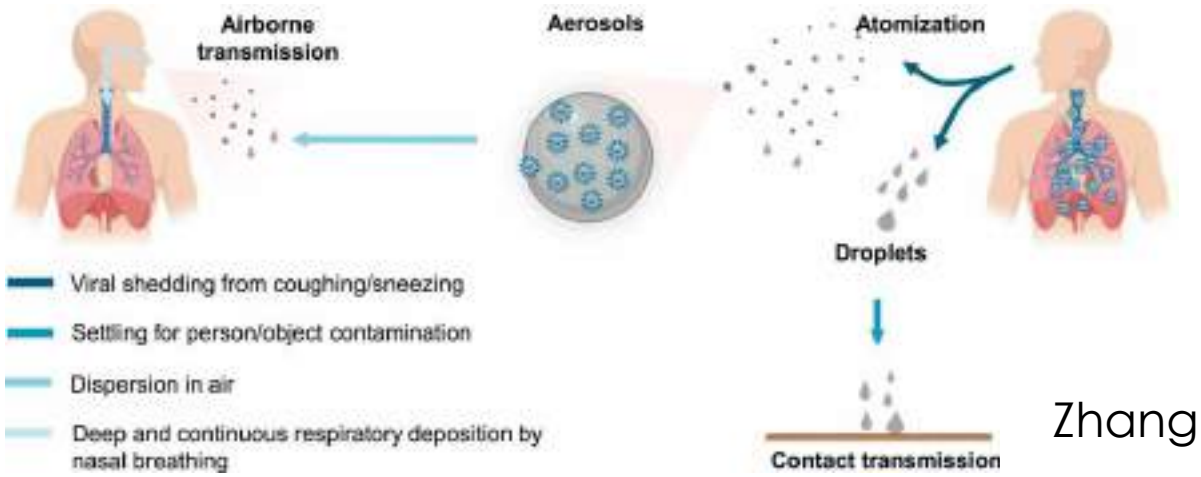
Rising mortality linked to outdoor

Global Burden of Disease (2015)

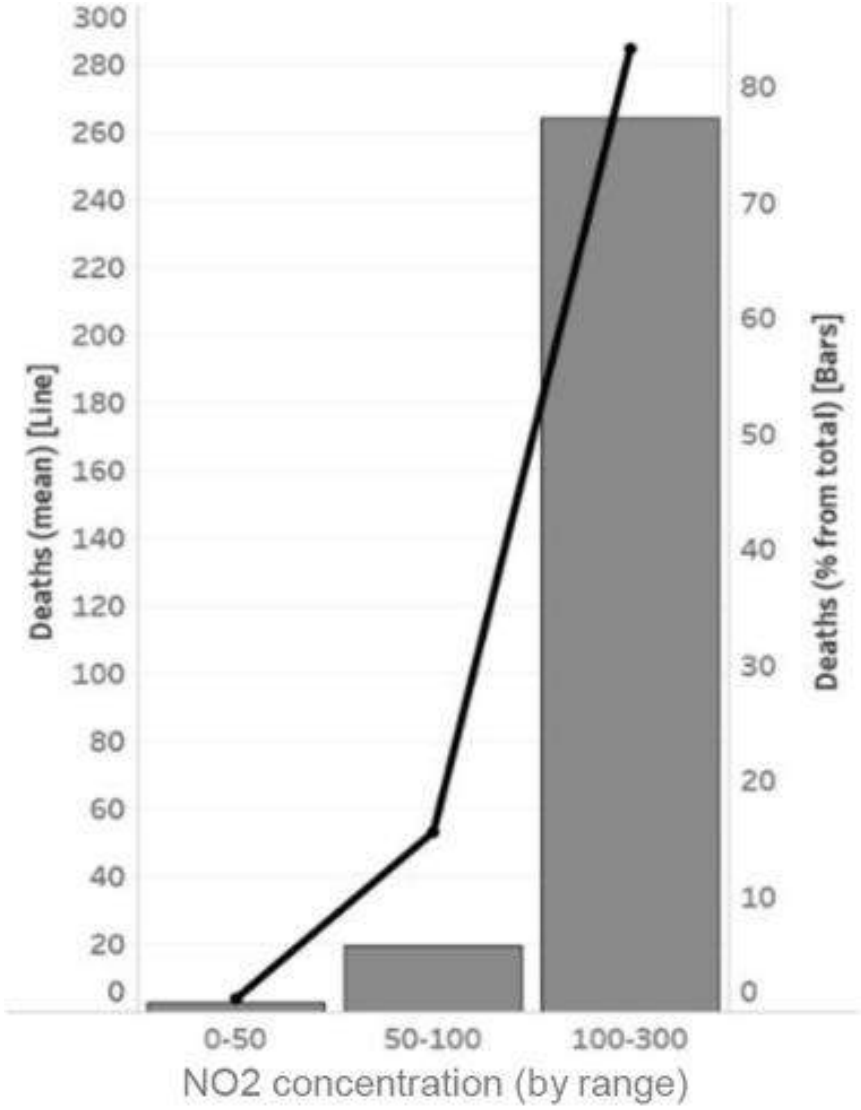


Indian cities increasing PM2.5 (Misra, et al, 2017)

Exposure to air pollution linked to higher COVID-19 related death rates



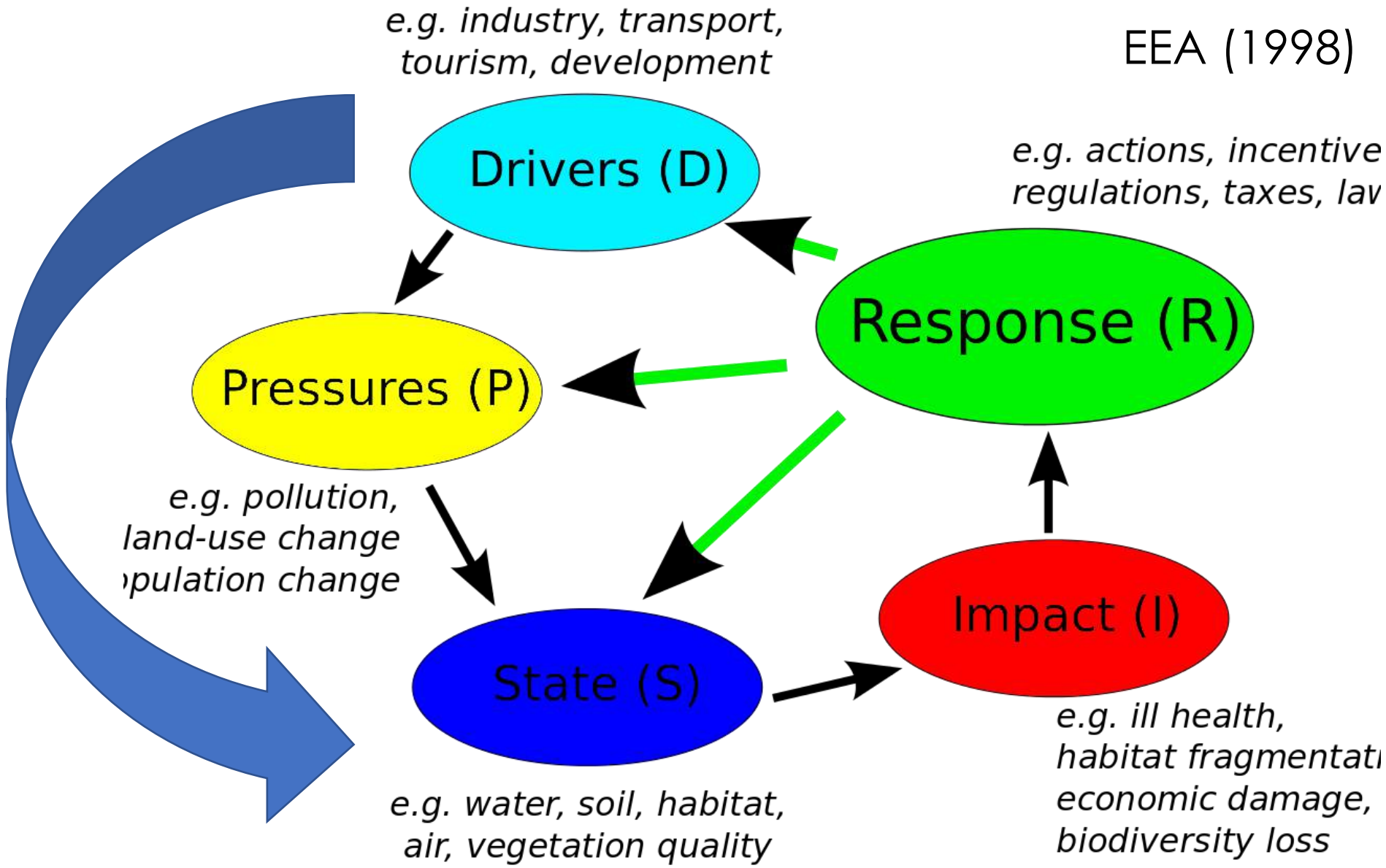
Zhang et al., (2020)



Ogen, (2020)

"Increase of 1 $\mu g/m^3$ in $PM_{2.5}$ is associated with an 8% increase in the COVID-19 death rate" Wu et al., (2020)

DPSIR Framework for Integrated Environment Assessment



Lack of evidence based policy for PM2.5 management

Road –rationing policy ("odd-even rule")

Before odd-even

During odd-even

Hindustan TImes

But,

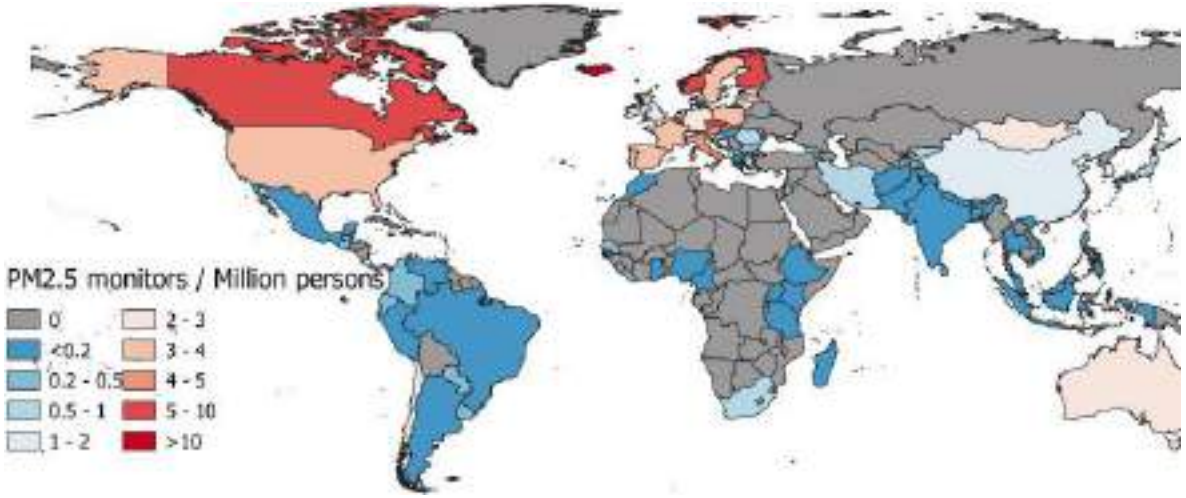
"Traffic intervention" policy fails to mitigate air pollution in megacity Delhi

Sourangsu Chowdhury[a], Sagnik Dey[a], Sachchida Nand Tripathi[b,*], Gufran Beig[c], Amit Kumar Mishra[d], Sumit Sharma[e]

2017

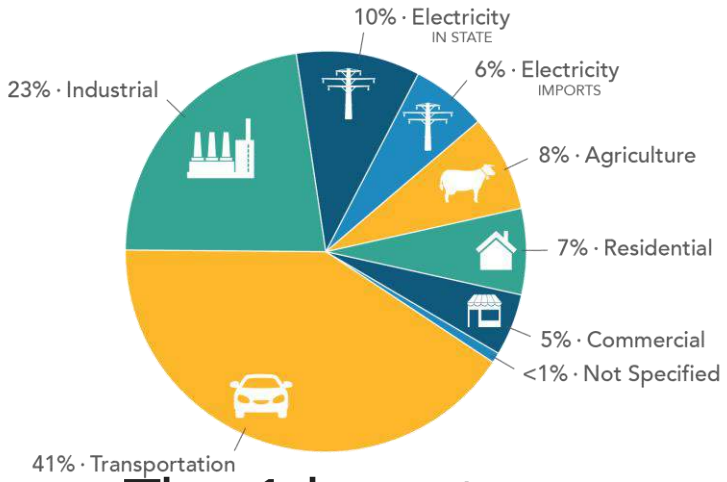
Challenge: Lack of PM2.5 concentration data and updated emission inventory

Lack of PM2.5 monitors mean lack of time-series data for assessing impact of policy



Martin et al., 2019

An **emissions inventory** is a database that lists, by source, the amount of air pollutants discharged into the atmosphere during a year or other time period



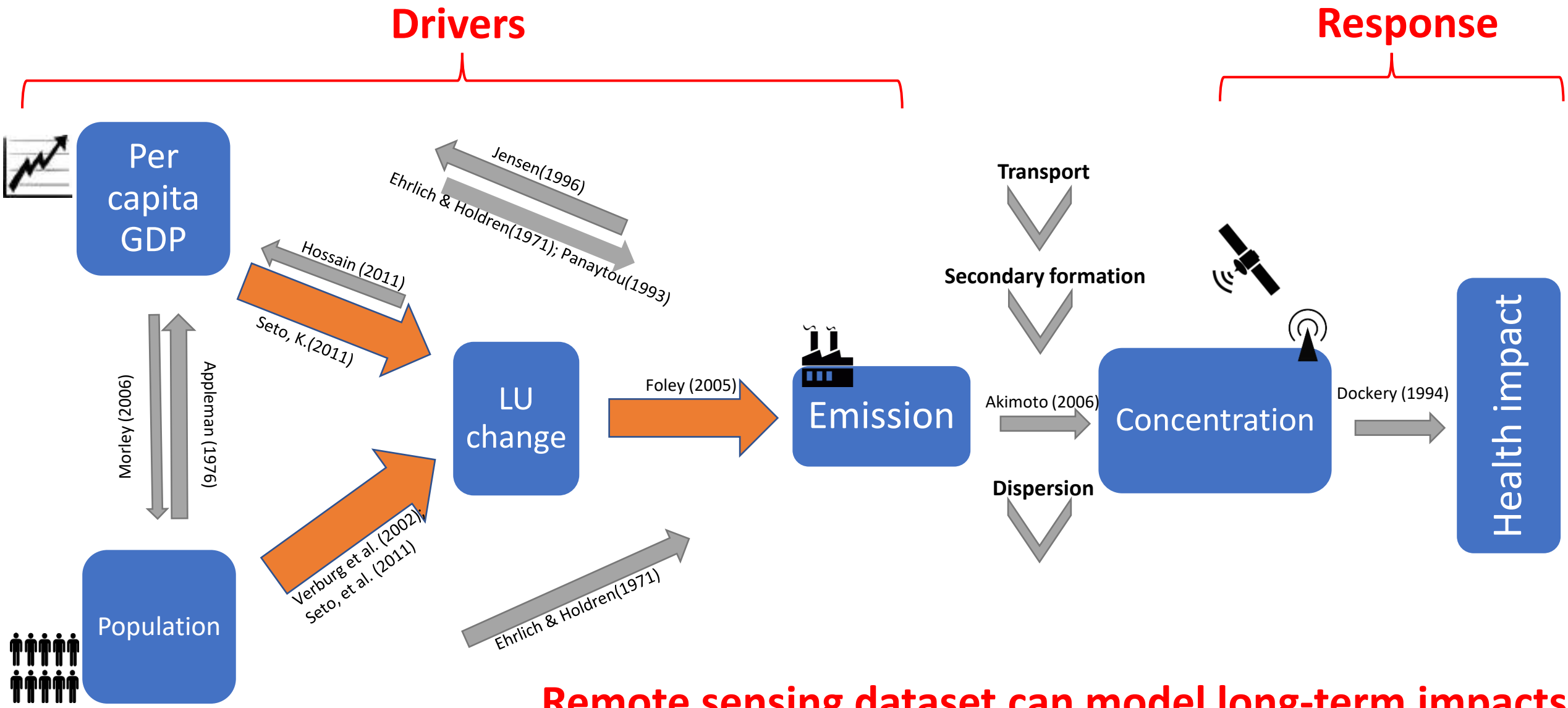
Tier-1 inventory

versus

Puliafito et al., 2019

Tier-3 inventory

Flowchart

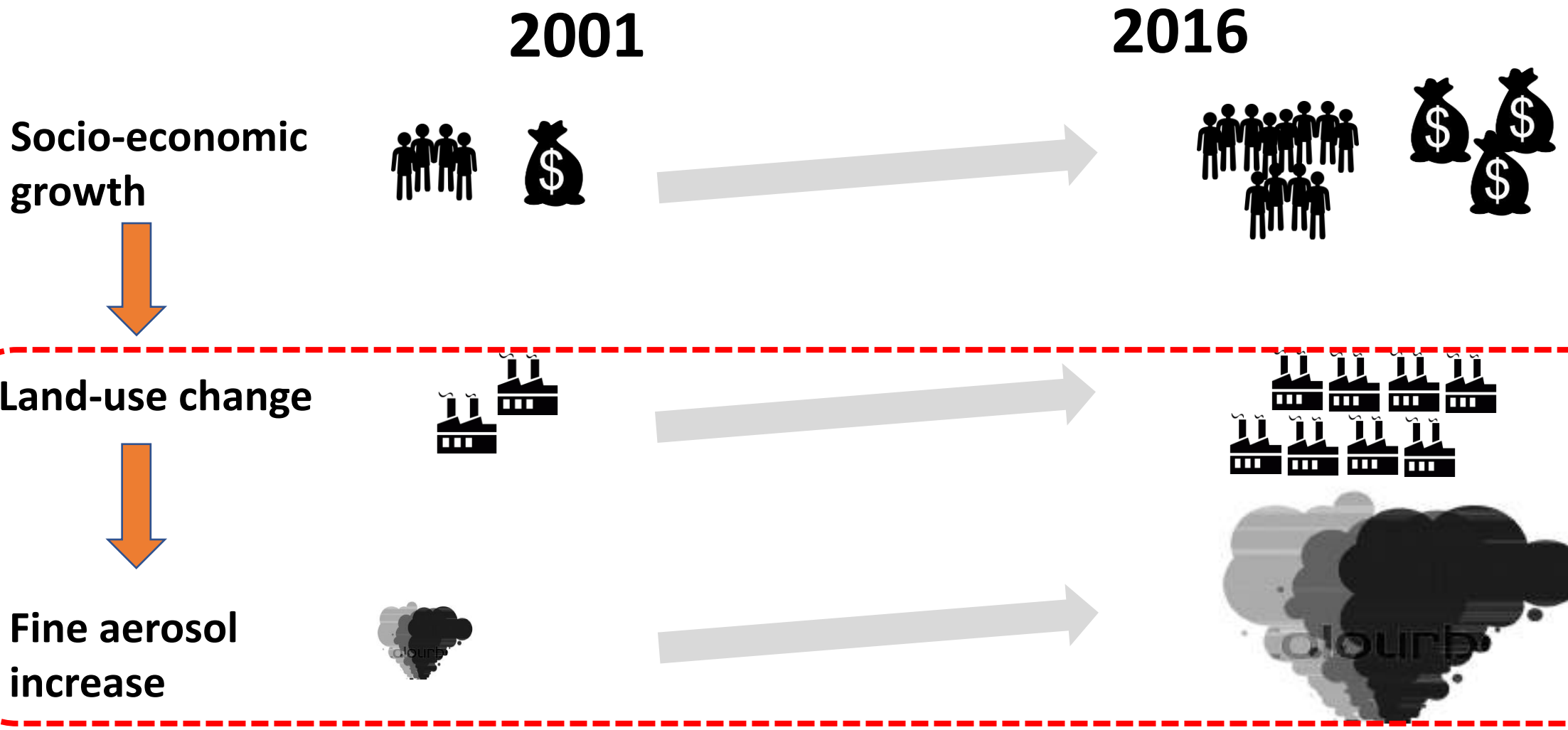


Remote sensing dataset can model long-term impacts

Remote Sensing	Statistical modeling	Social Sensing, Low-cost Sensors

Hypothesis

Socio-economic development impacts urban air quality through land-use change



Objective

1. Model 16 year seasonal trend of fine aerosol emission from urban land-use
2. Estimate contribution by urban land-use type in 20 Indian cities

Originality

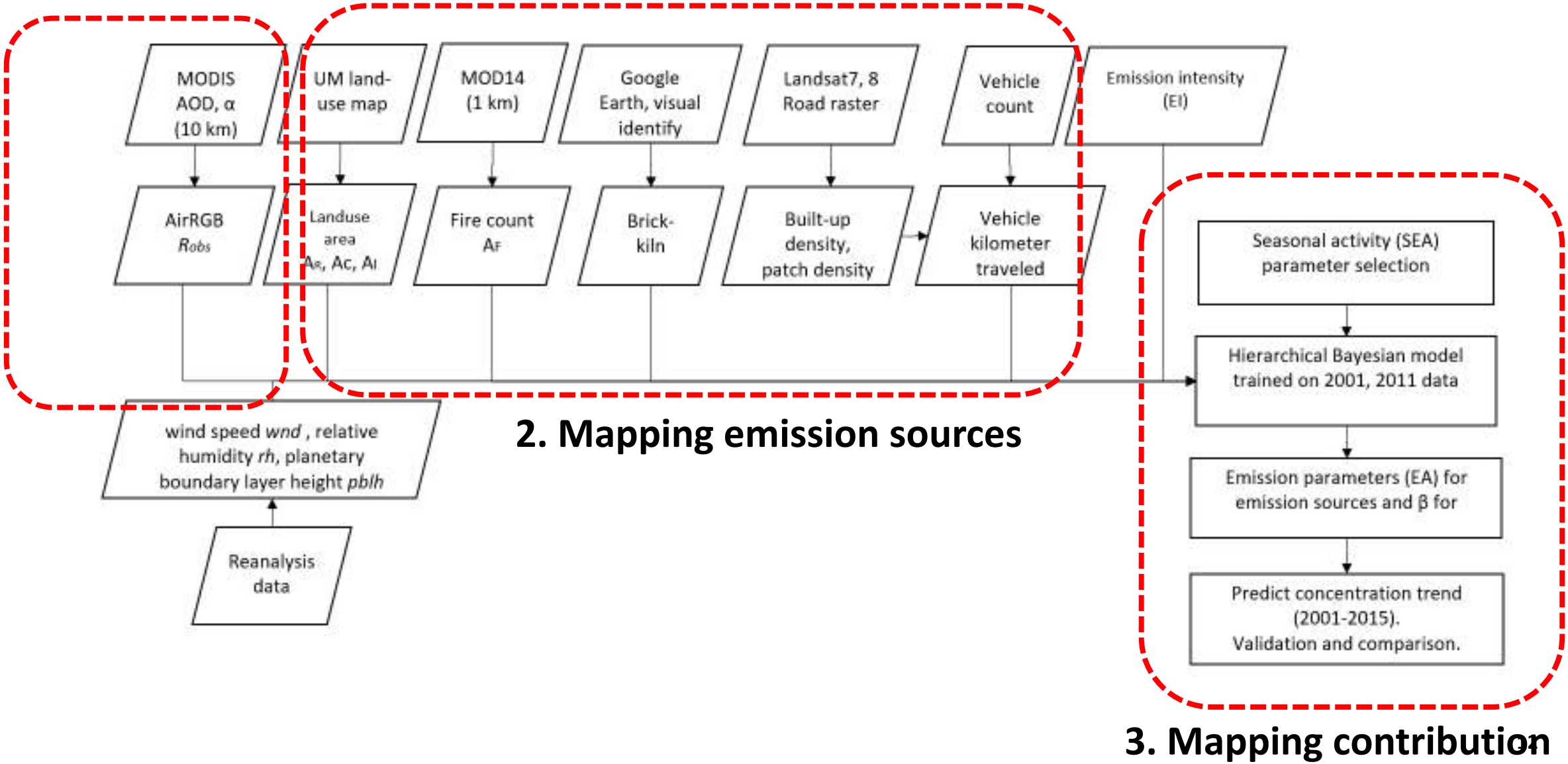
Open remote sensing data methodology to estimate anthropogenic contribution by linking digital surface model with fine aerosol emissions.

Key assumption

In the long term: emission rise $\propto$ concentration rise

Flowchart

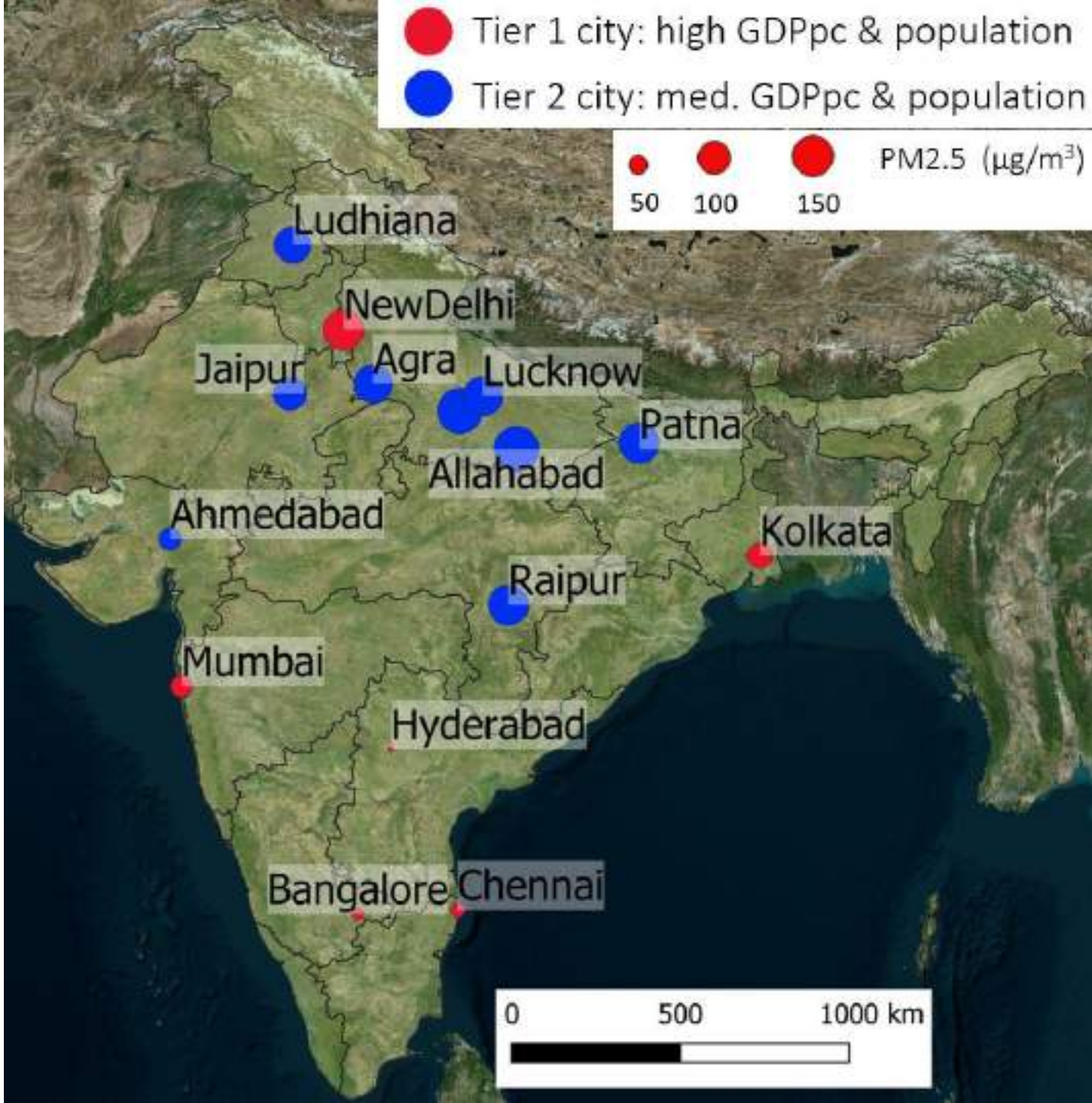
1. Mapping fine aerosol



Study locations

PM2.5 < 25µg/m³ (WHO)

6 **Megacities**
10 Medium **cities**

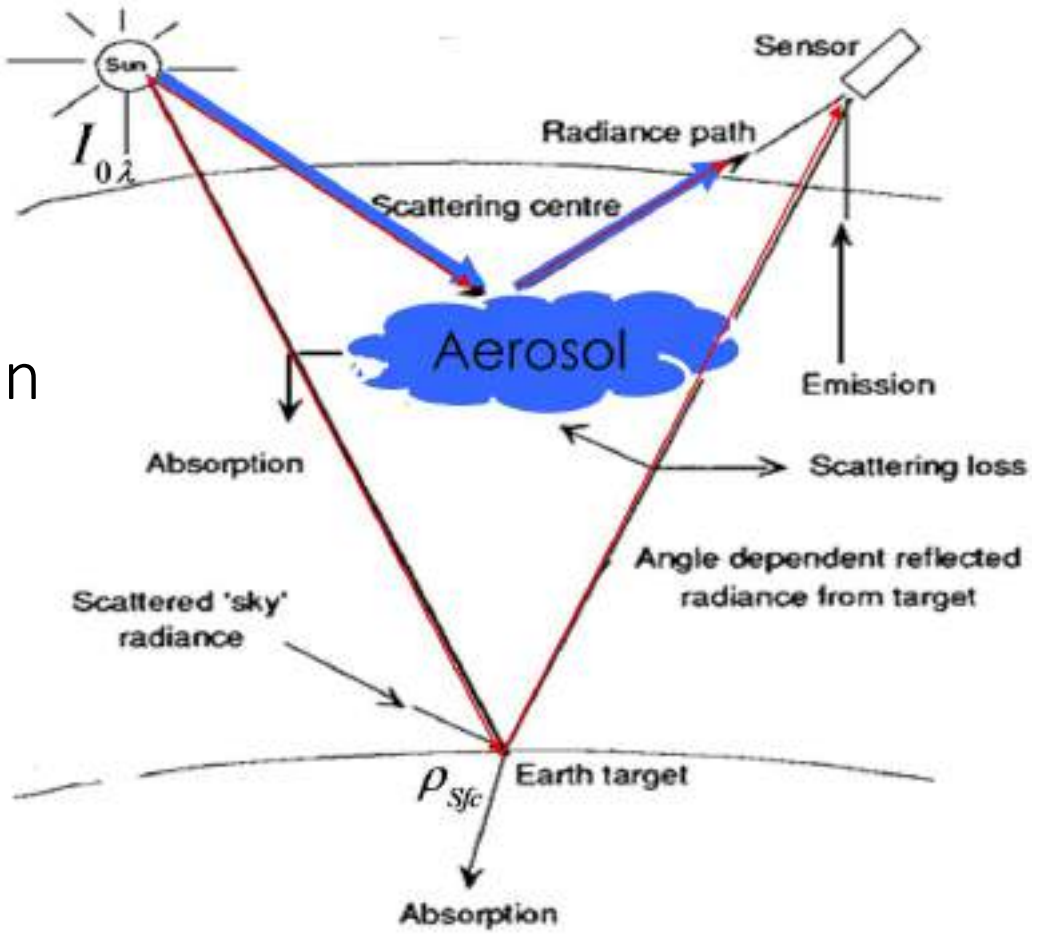


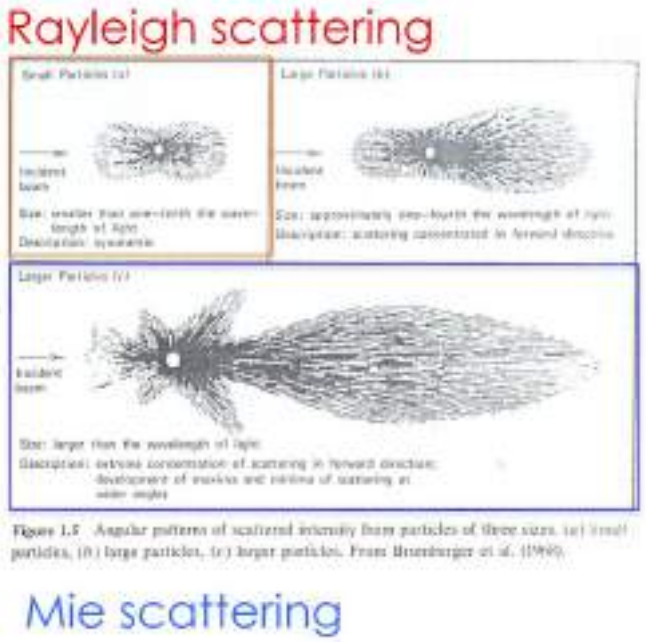
Contents

1. Mapping PM2.5 indicator from satellite
2. Mapping emission sources
3. Modeling impact of urban growth

Principle of aerosol remote sensing

Gas, cloud and aerosol:
Scattering and absorption





Credit: Jhoon Kim, Yonsei University

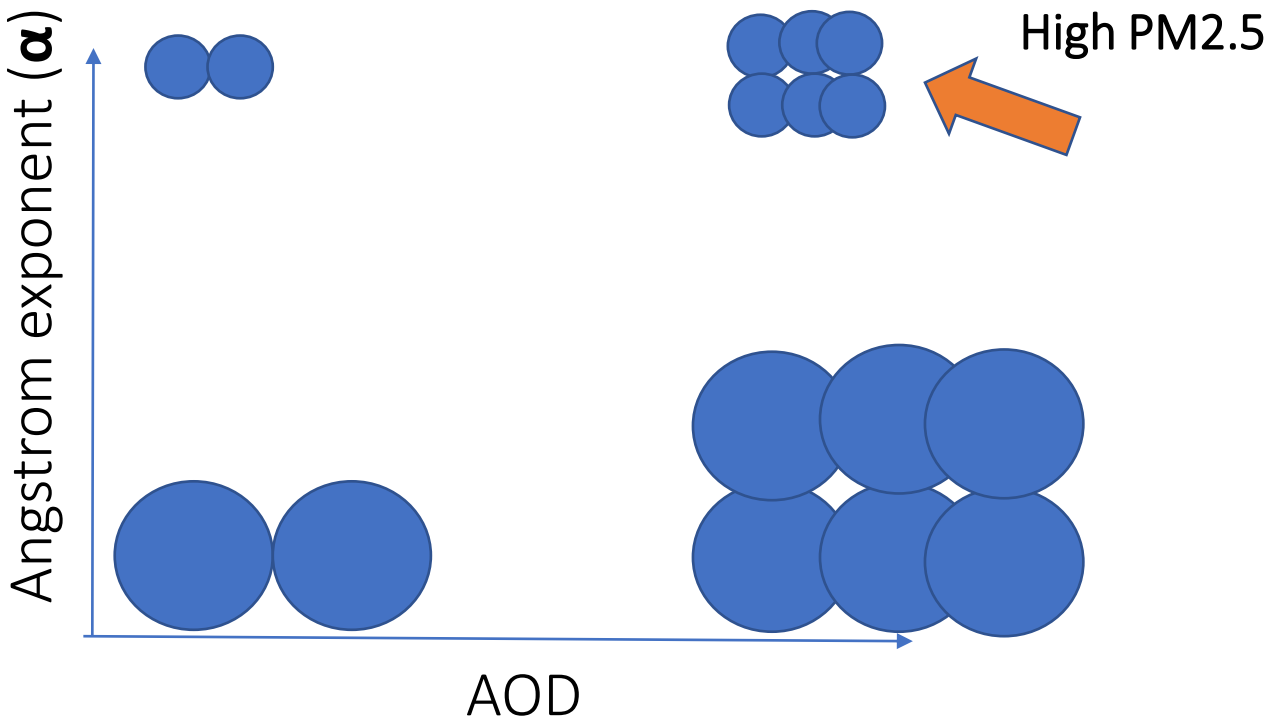
Aerosol reflectance = TOA reflectance – Surface reflectance – Rayleigh reflectance

Aerosol optical properties

Angstrom exponent (α)

Spectral dependence of AOD (how AOD varies with wavelength)

High values: >1 (fine aerosols, e.g. combustion)
Low values: <1 (coarse aerosols, dust)



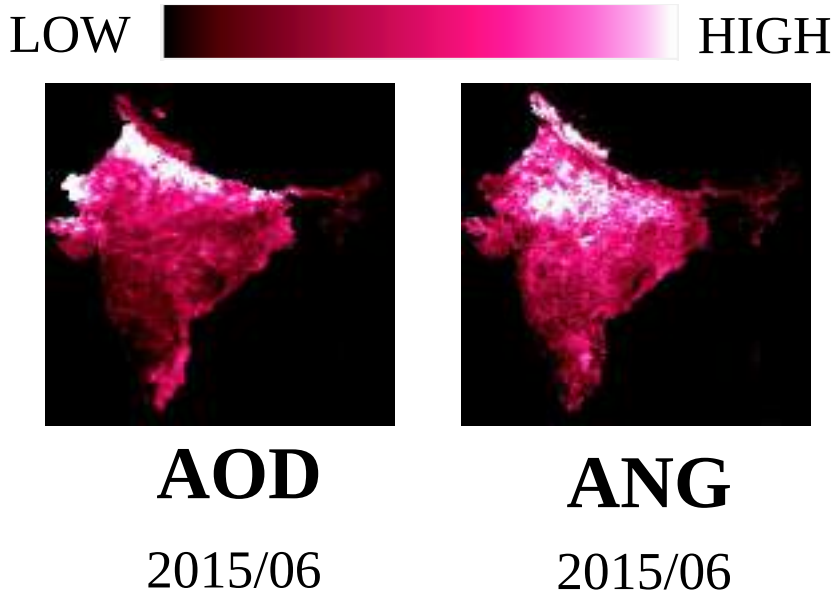
$$\alpha = -\frac{log\frac{\tau_\lambda}{\tau_{\lambda_o}}}{log\frac{\lambda}{\lambda_o}}$$

Aerosol optical depth (AOD or τ)

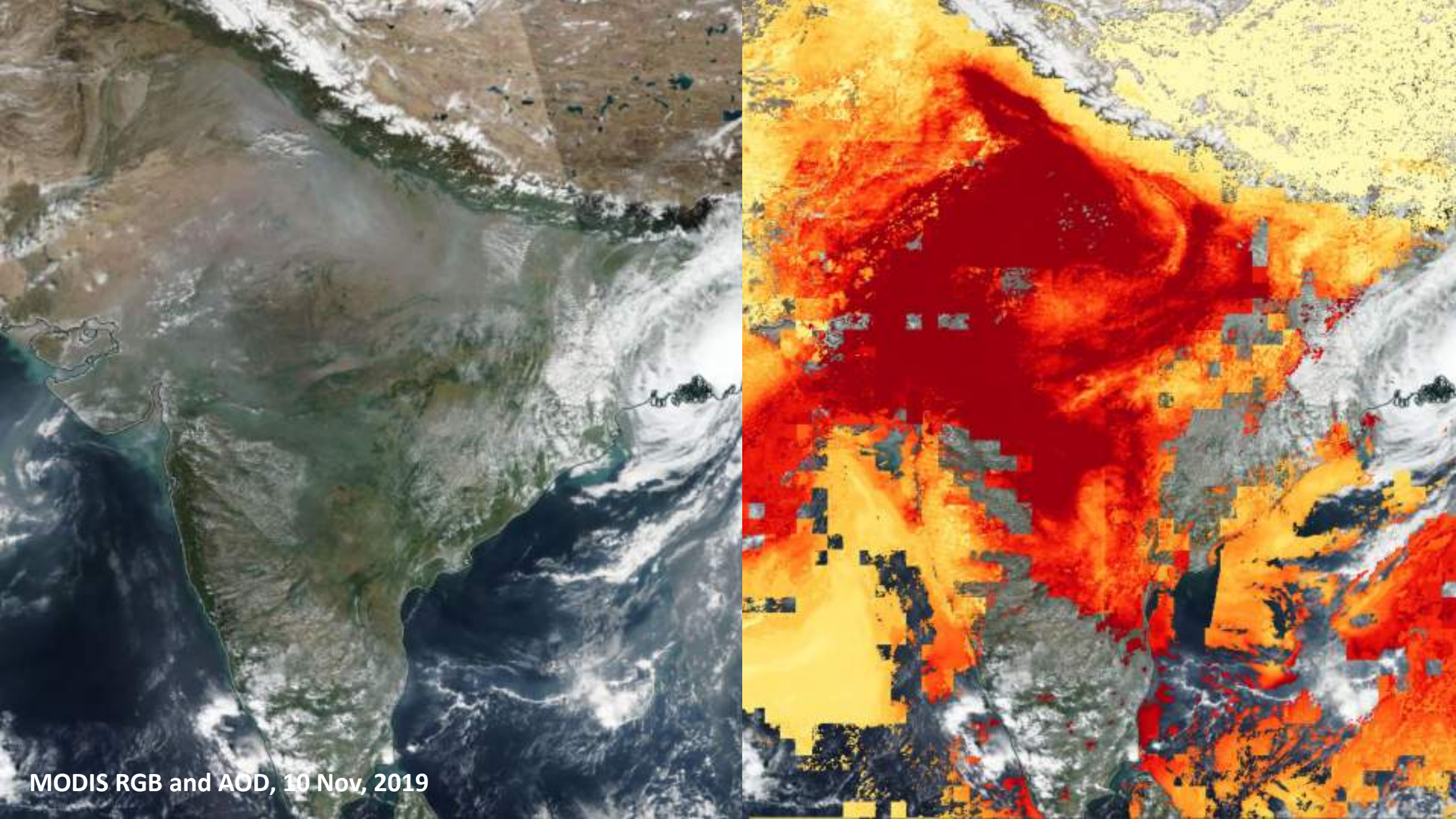
Attenuation of light due to scattering or absorption
Integrated over vertical column from surface to TOA

Dataset used

- MOD04L2 C6 product from MODIS
- 10 km spatial resolution
- 2001 – 2016 Monthly composite from daily level global images
- Daily revisit at 10:00-11:00 AM
- Deep_Blue_Aerosol_Optical_Depth_550_Land
- Deep_Blue_Angstrom_Exponent_Land
- AOD, ANG for 60 world capitals and polluted cities

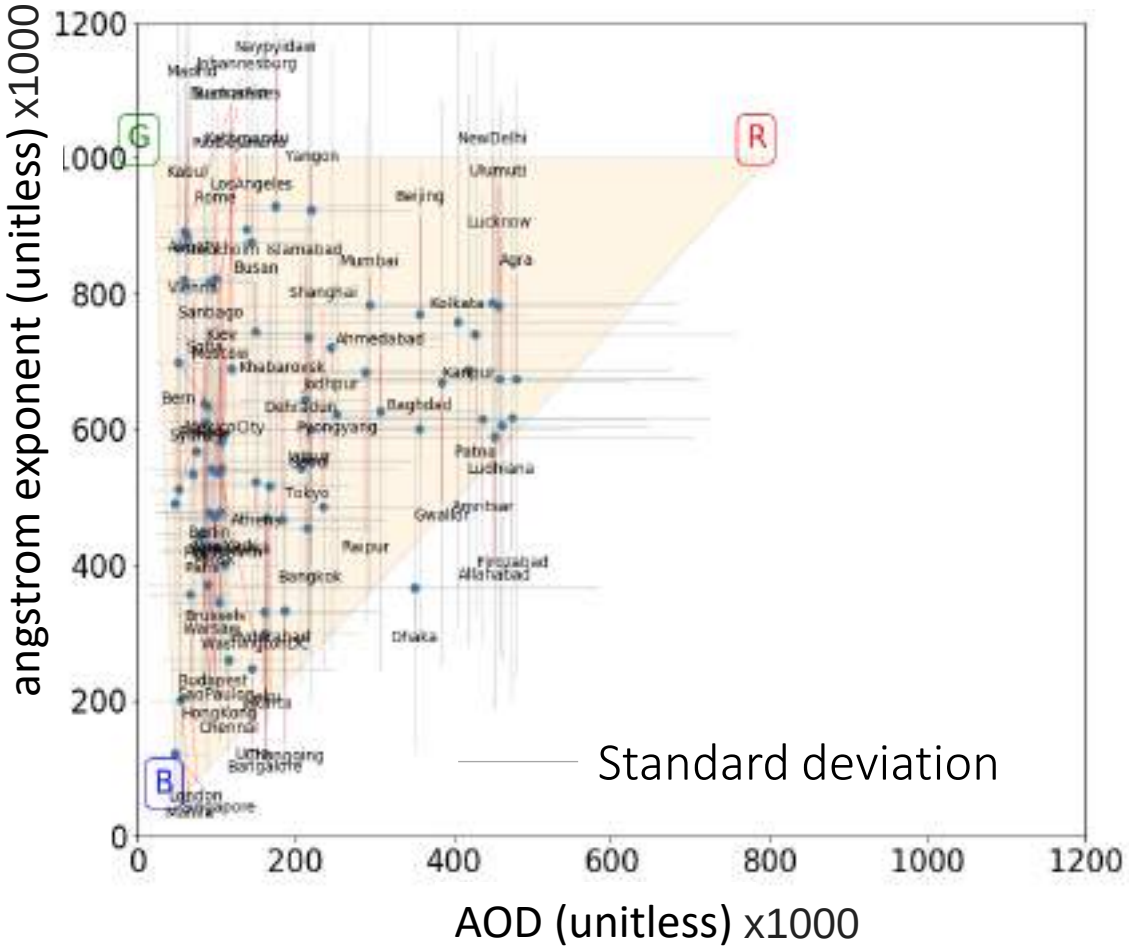


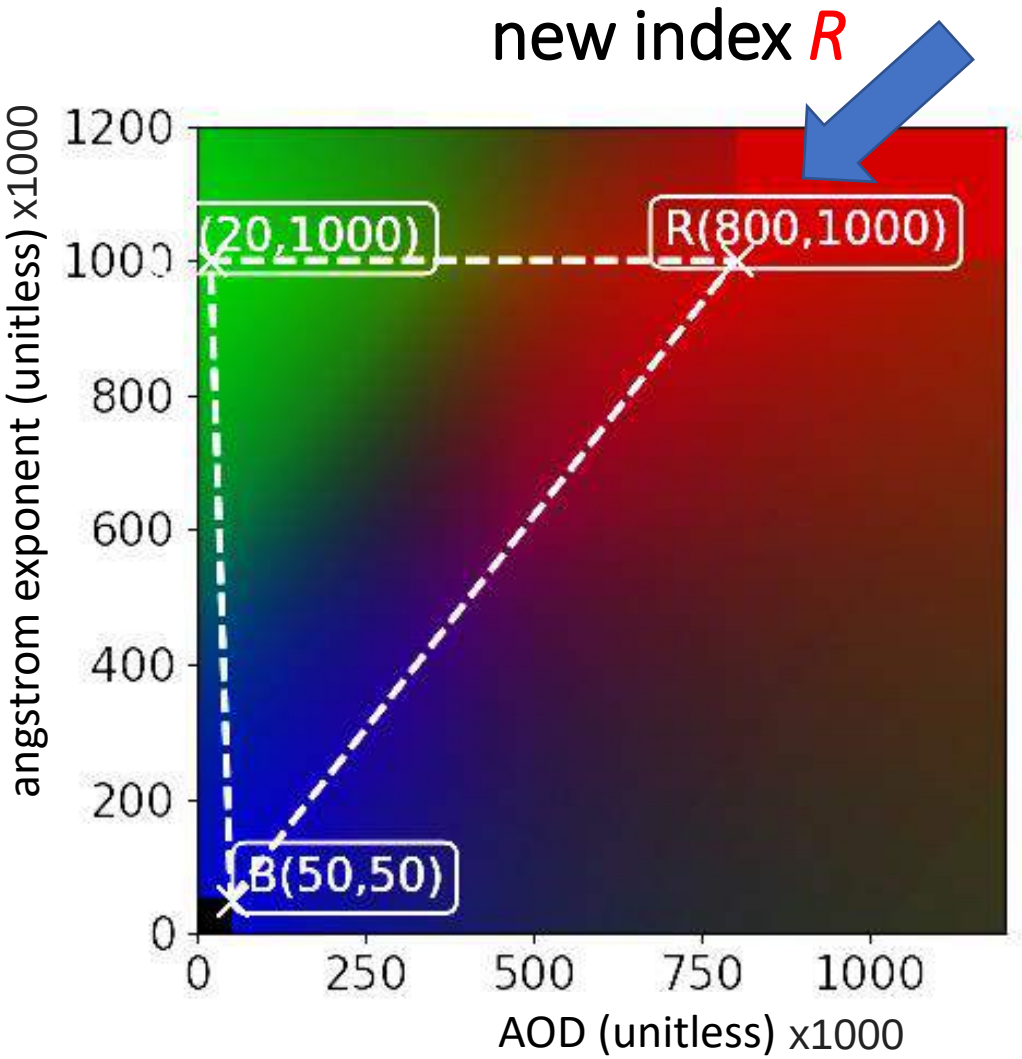
Sample monthly composite image over India



MODIS RGB and AOD, 10 Nov, 2019

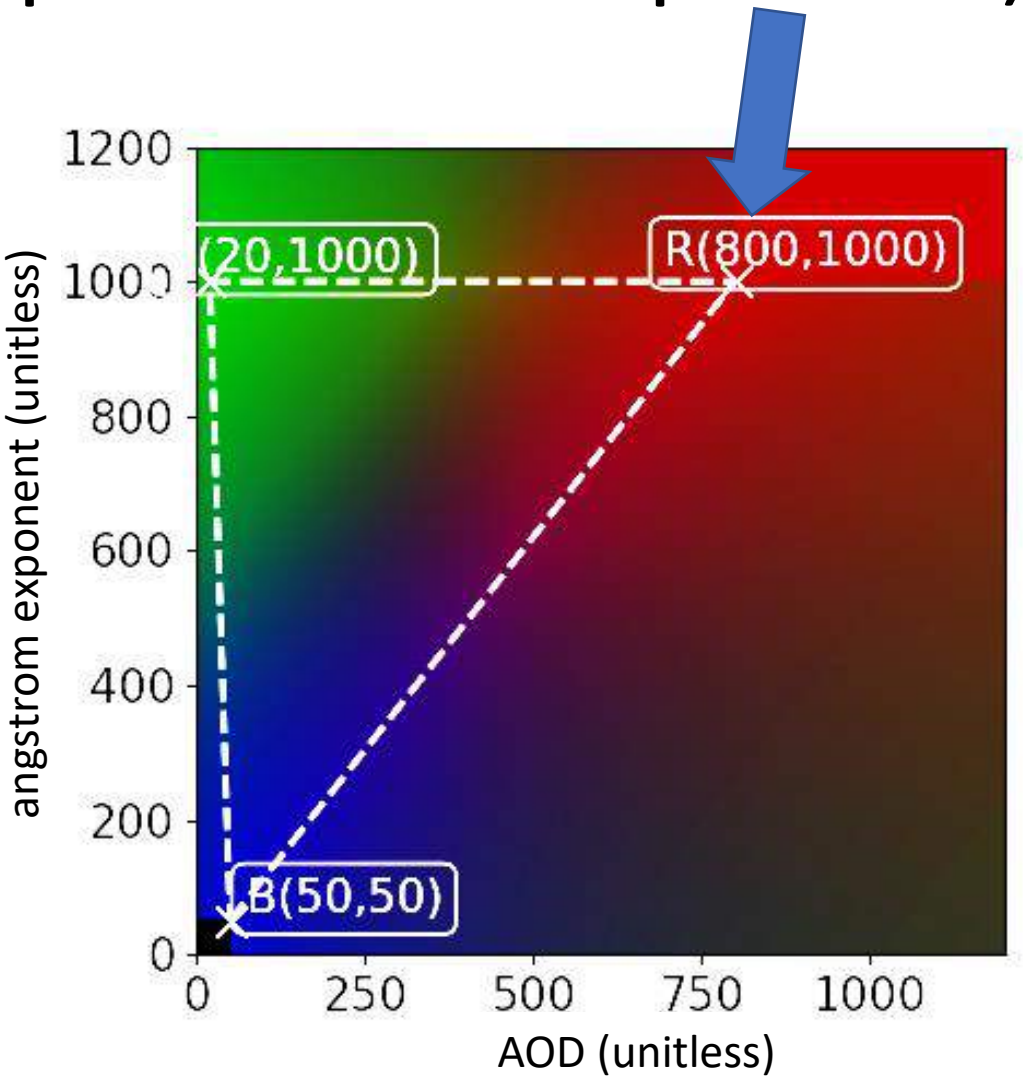
Decomposition for urban air quality scenario estimation



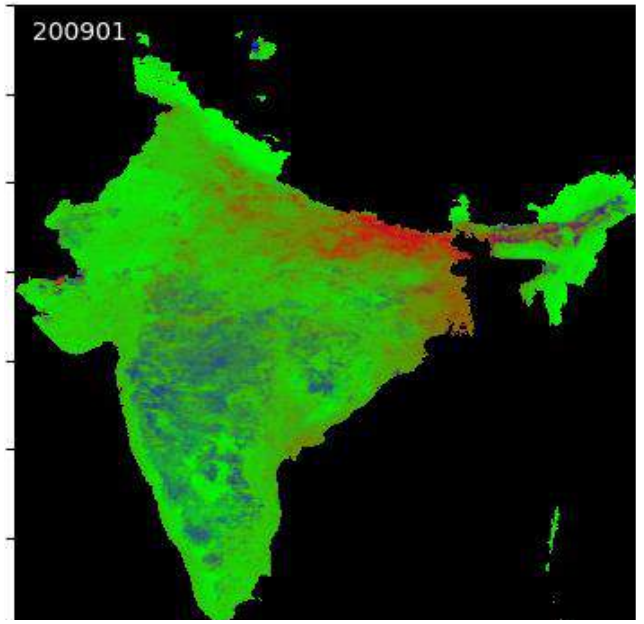


(Misra, Fujikawa & Takeuchi, Remote Sensing, 2017)

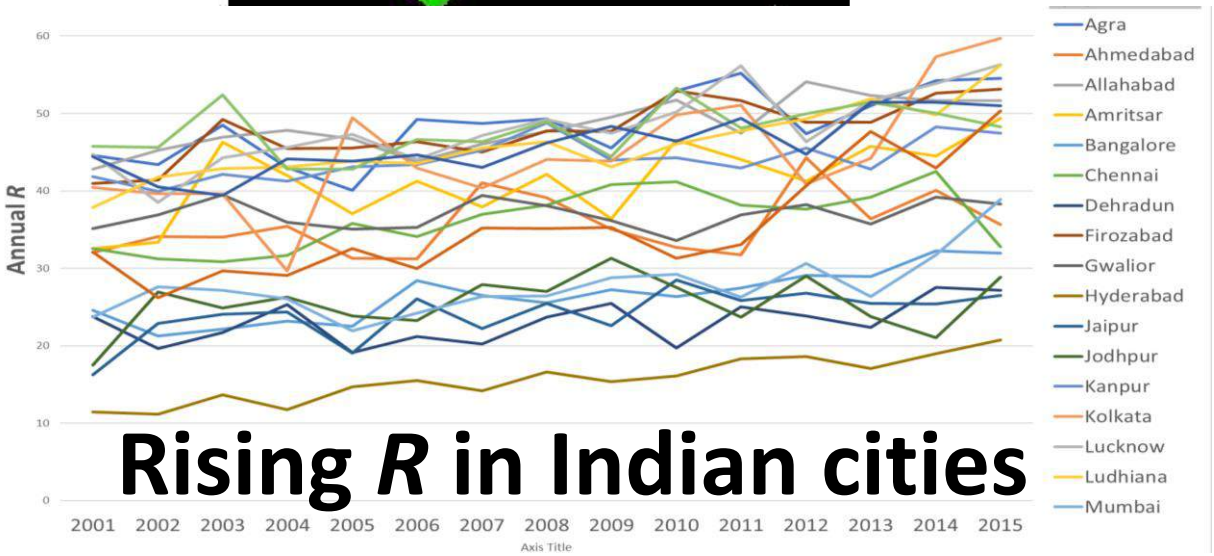
Urban $PM_{2.5}$ indicator, ***R*** from (MODIS AOD, angstrom exponent decomposition), 2001-2016



(Misra, Fujikawa & Takeuchi, 2017)

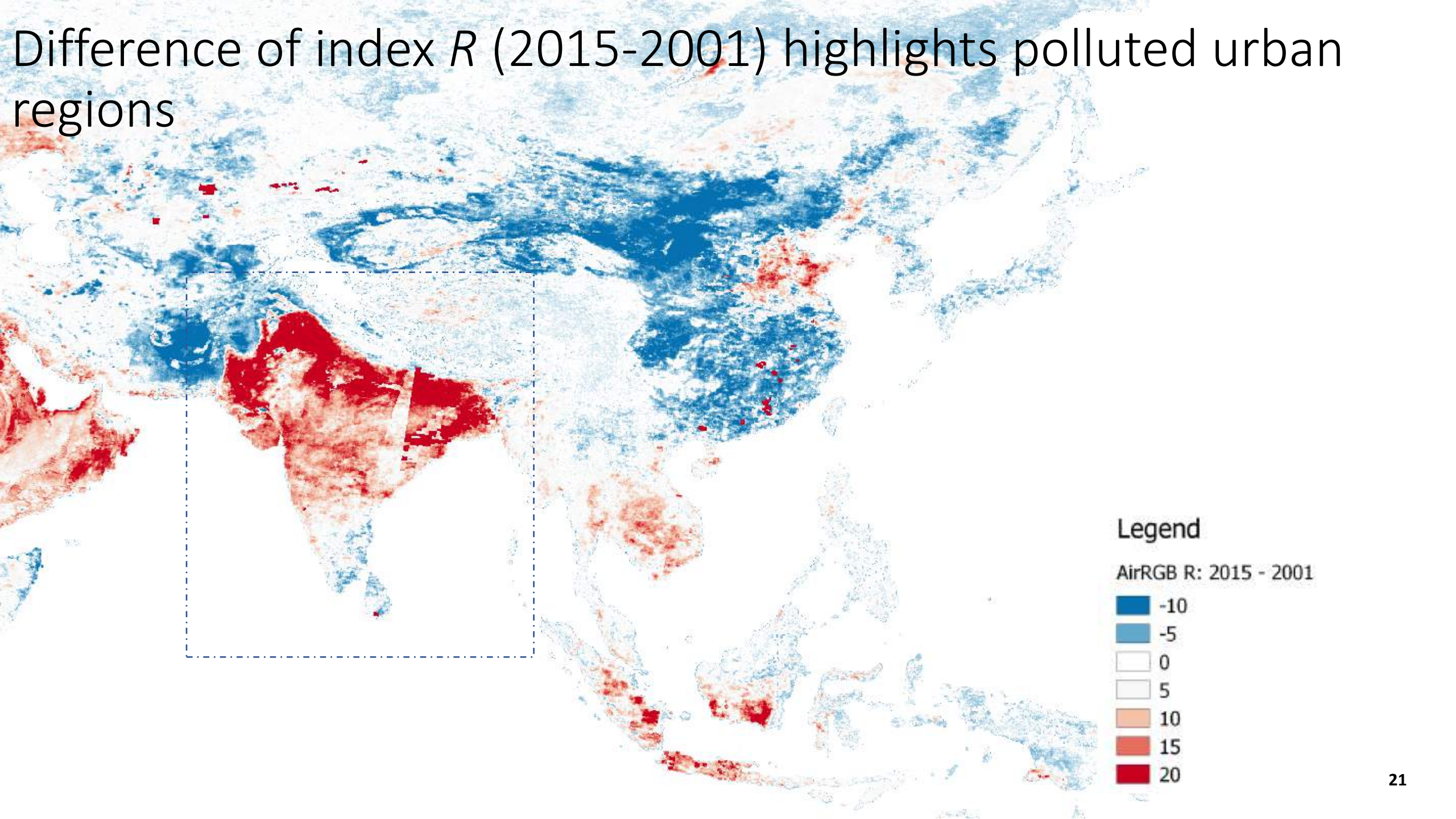


10 km resolution



Rising *R* in Indian cities

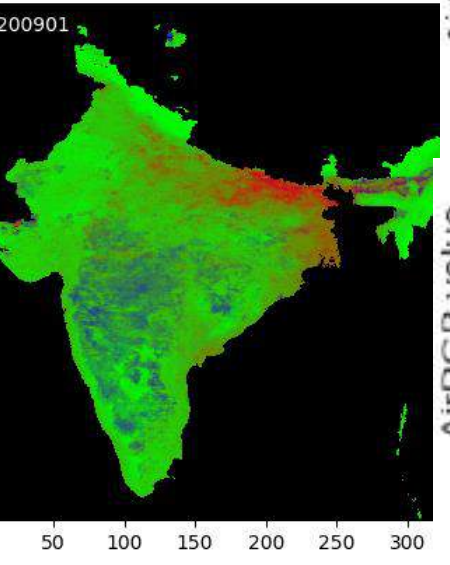
Difference of index *R* (2015-2001) highlights polluted urban regions

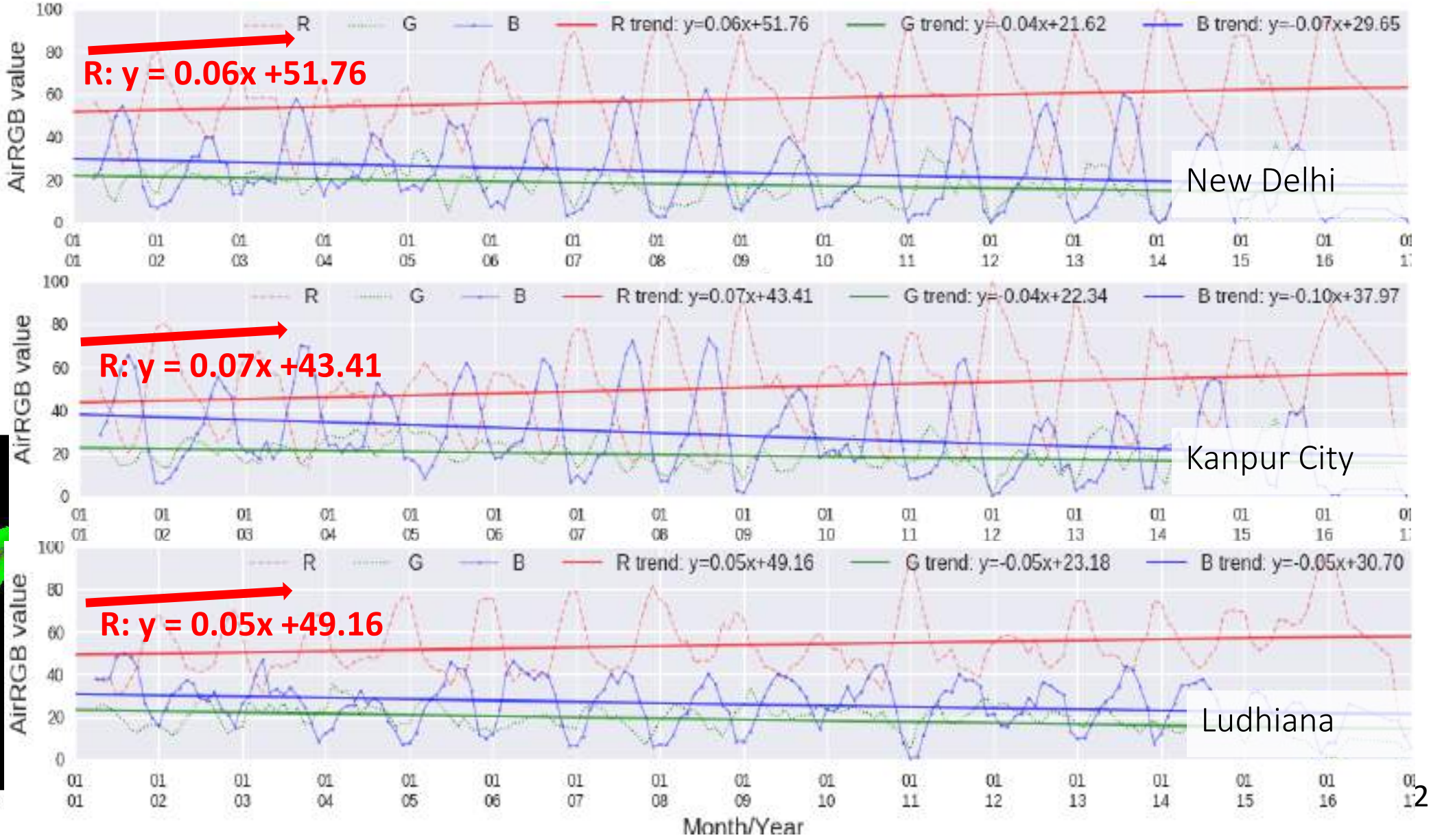


Rising fine aerosol across North India

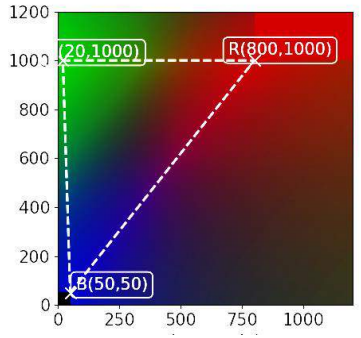
Uncertainty

- R ±15.98
- G ± 22.15
- B ± 23.20

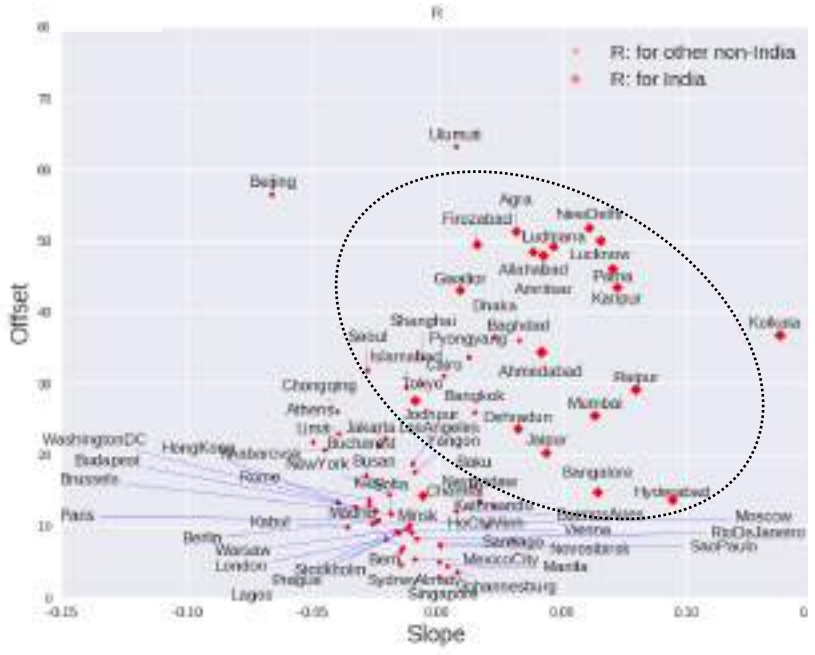




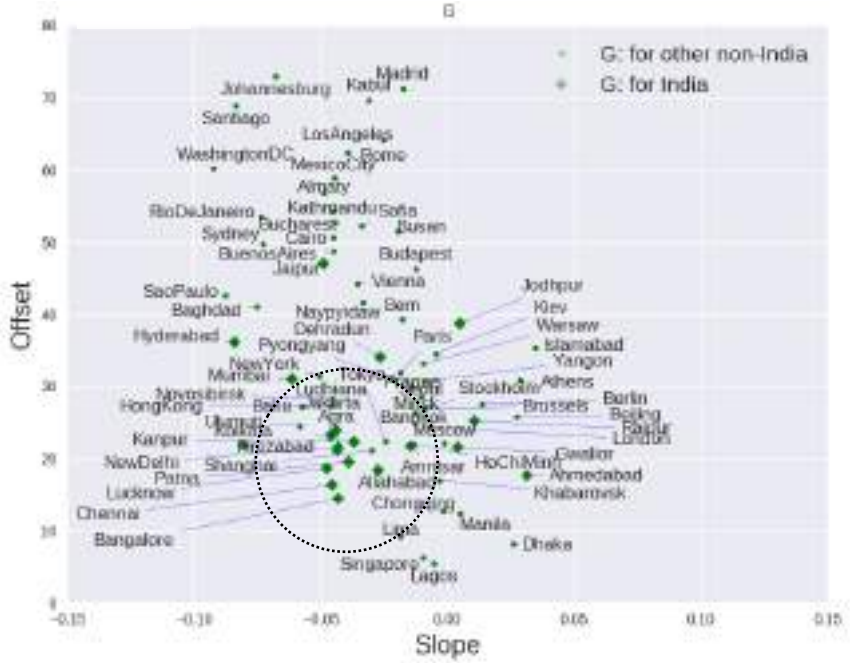
Indian cities worse off than others



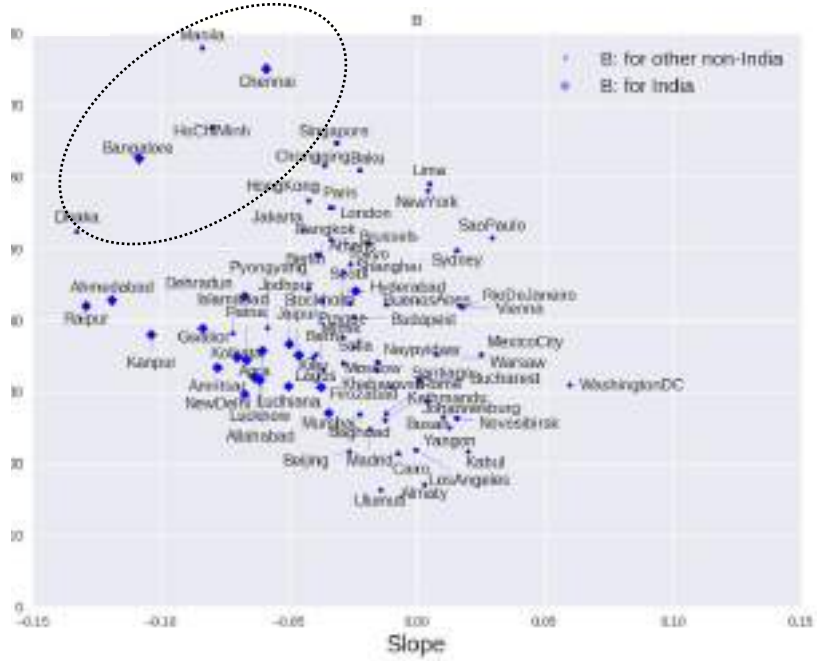
R

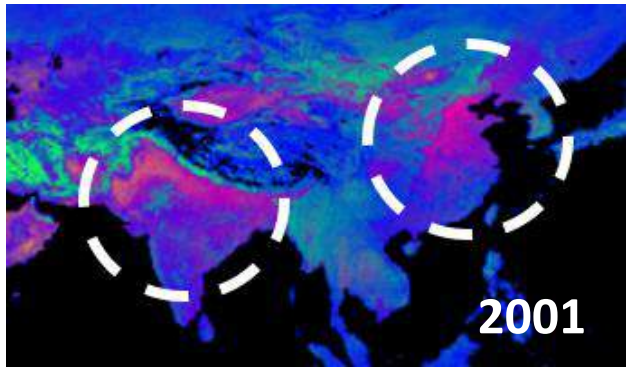


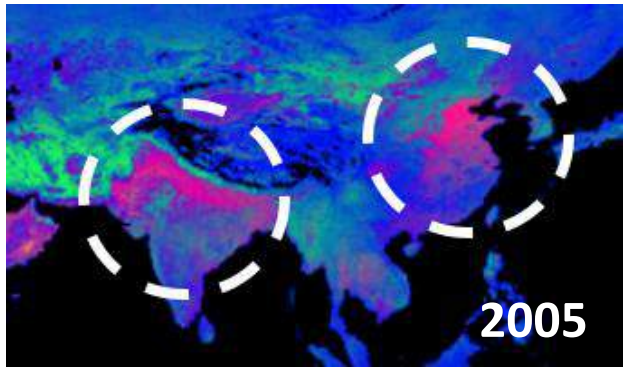
G

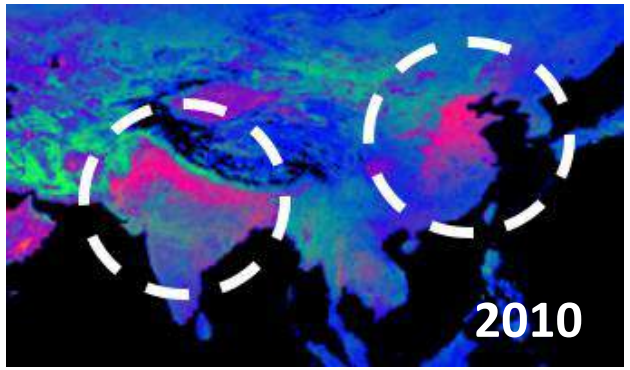


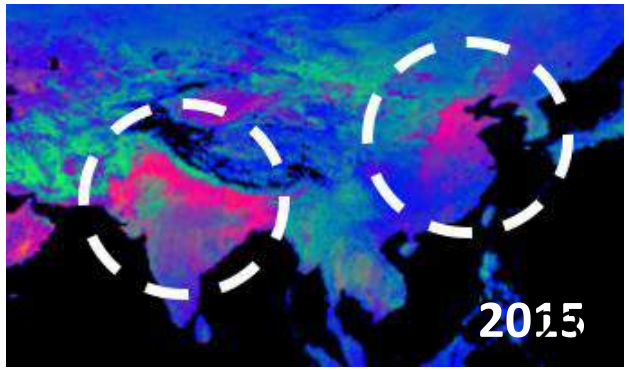
B











Contents

1. Mapping PM2.5 indicator from satellite
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Common emission sources in Indian cities

Waste-burning

Commercial

Industrial

Brick factories

Crop residue

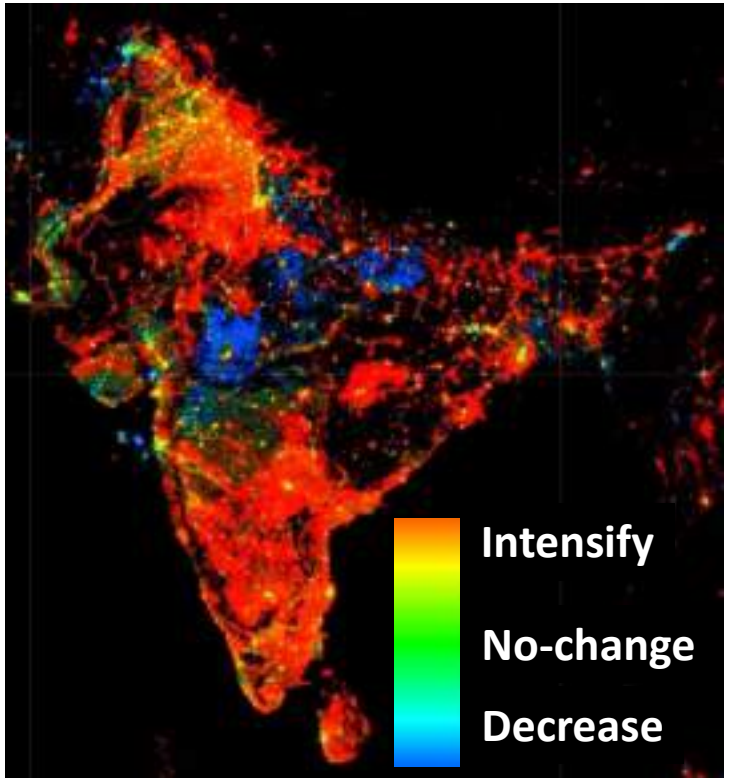
Traffic

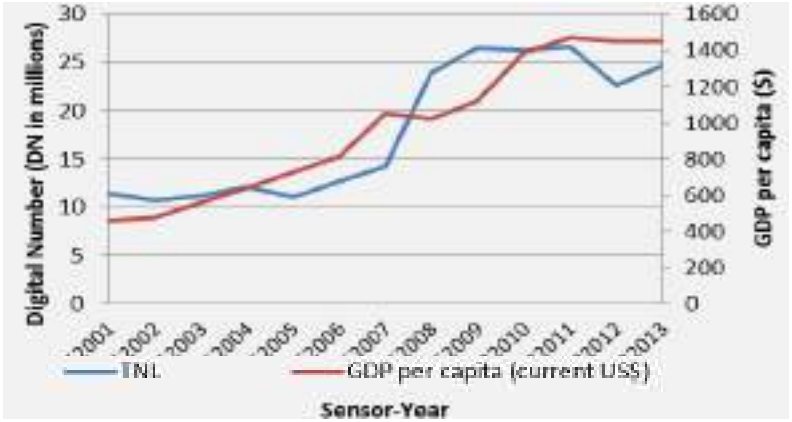
How to estimate their contribution to urban pollution?

Urban land-use can be identified by height and light

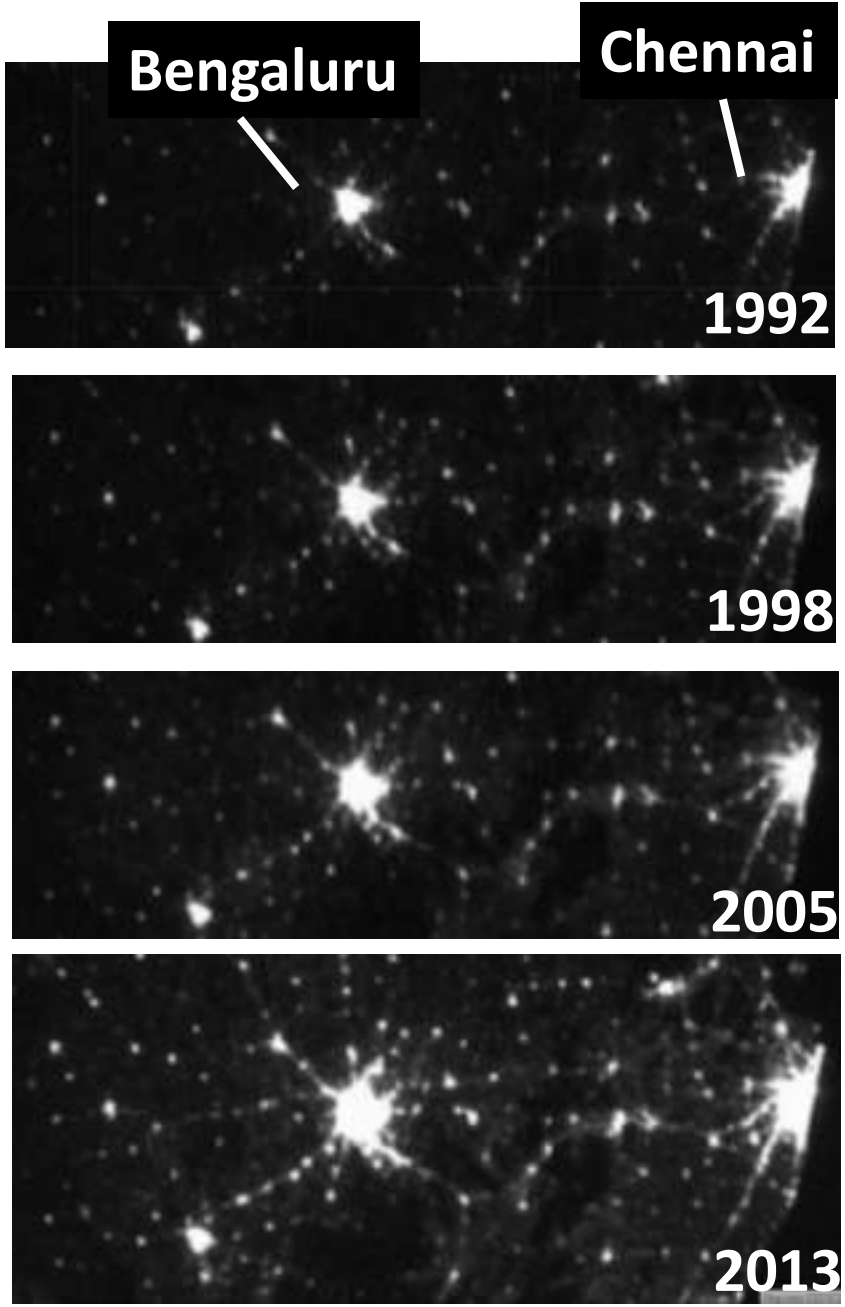
	Residential	Commercial	Industrial
Nighttime light	Low	High	Variable
Structure height	Low	Low, Tall	Low, Tall
Distribution	Area	Area/point	Point

Night light shows economic activities





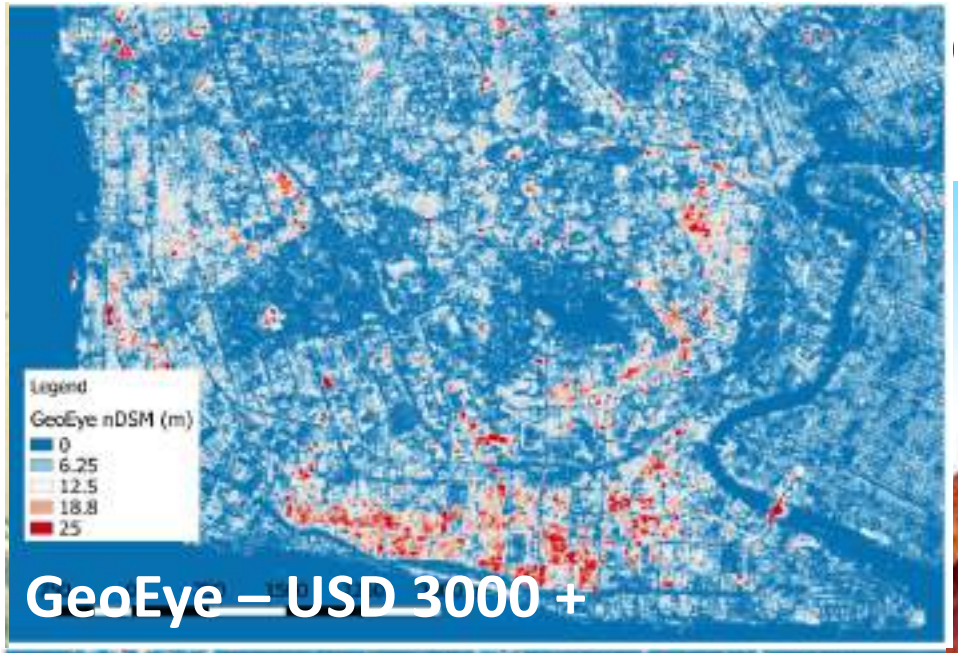
Night light is correlated with economic activities



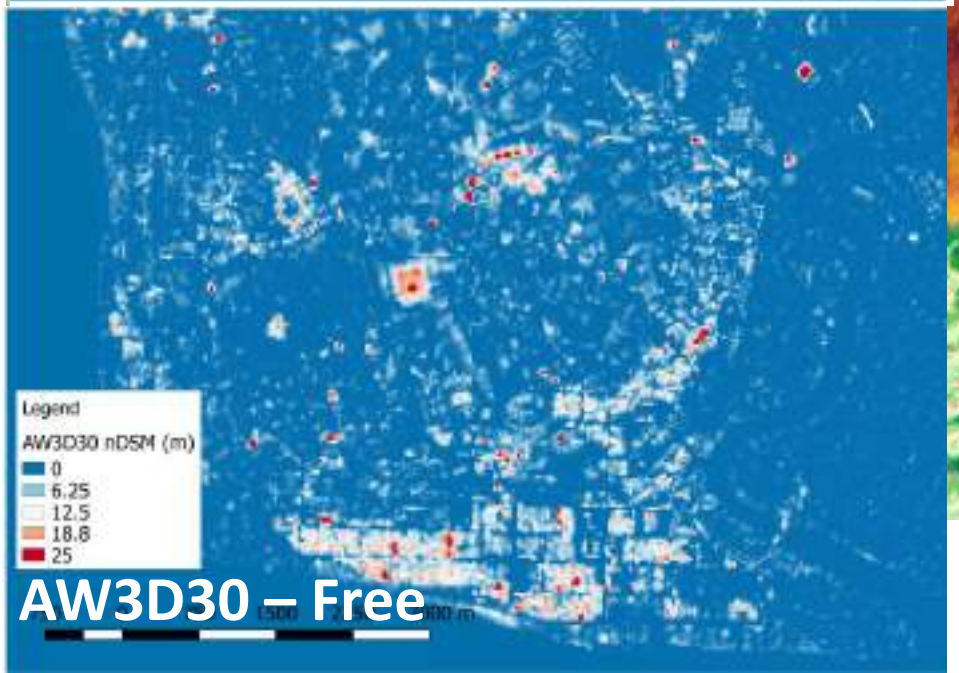
Nightlight captures built-up growth

(Misra and Takeuchi, 2016)

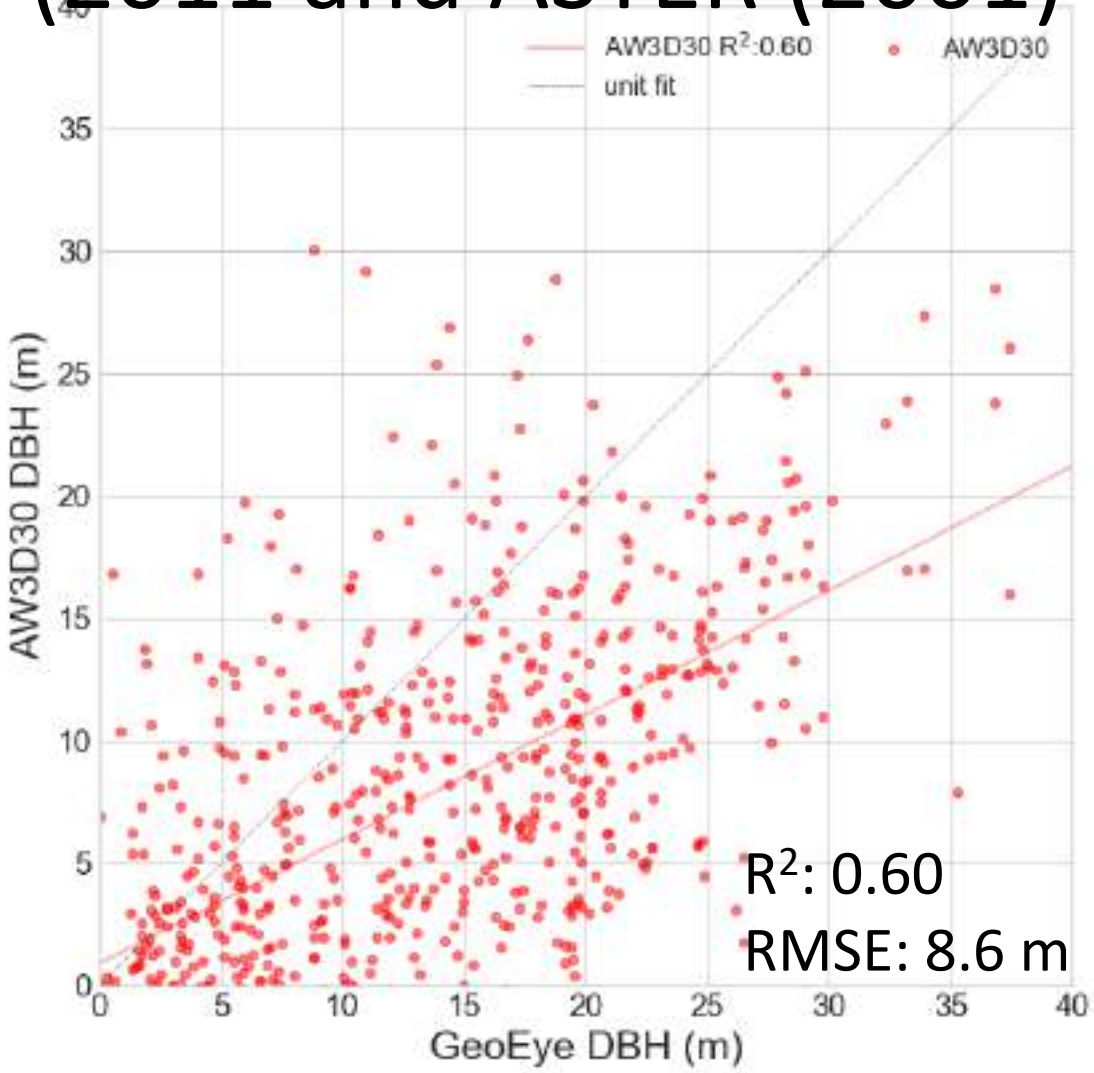
Building height can be observed from open digital 30 (2011 and ASTER (2001)



GeoEye – USD 3000 +



AW3D30 – Free



Good correlation between commercial and open building height (Misra et al., 2018)

Limitation – Open global data only for 2001 and 2011

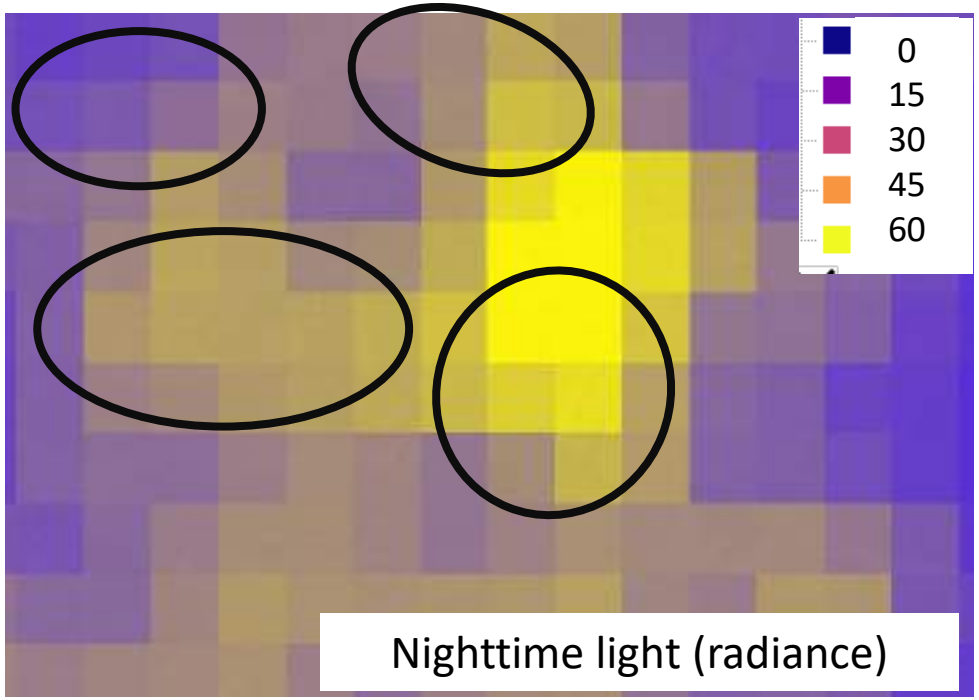
Training areas

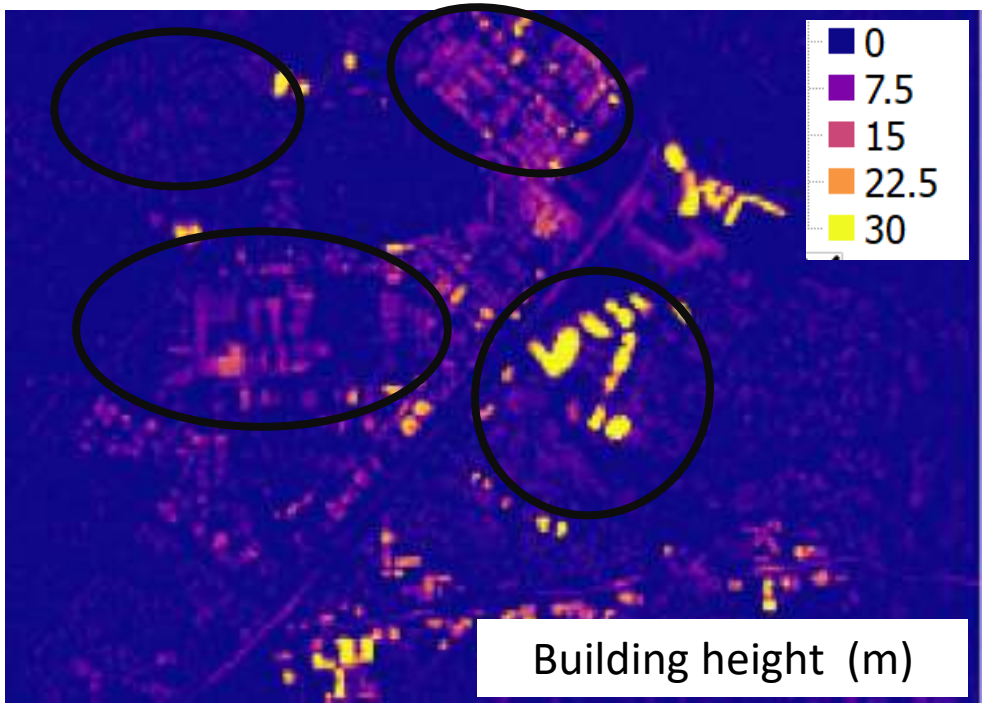
- Identify location
- Collect building height and nighttime light
- Tall residential not considered
  - Insufficient pixels
  - Not common
  - Shares characteristics with industrial

200 m

Urban land-use

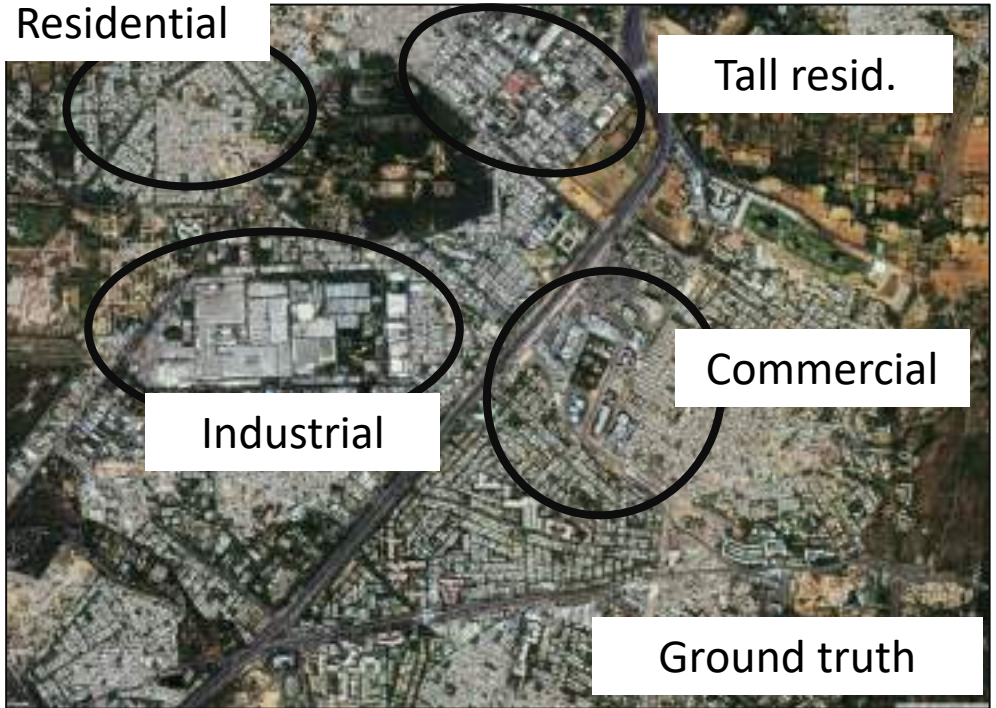
(from building height, night light); 2001, 2011

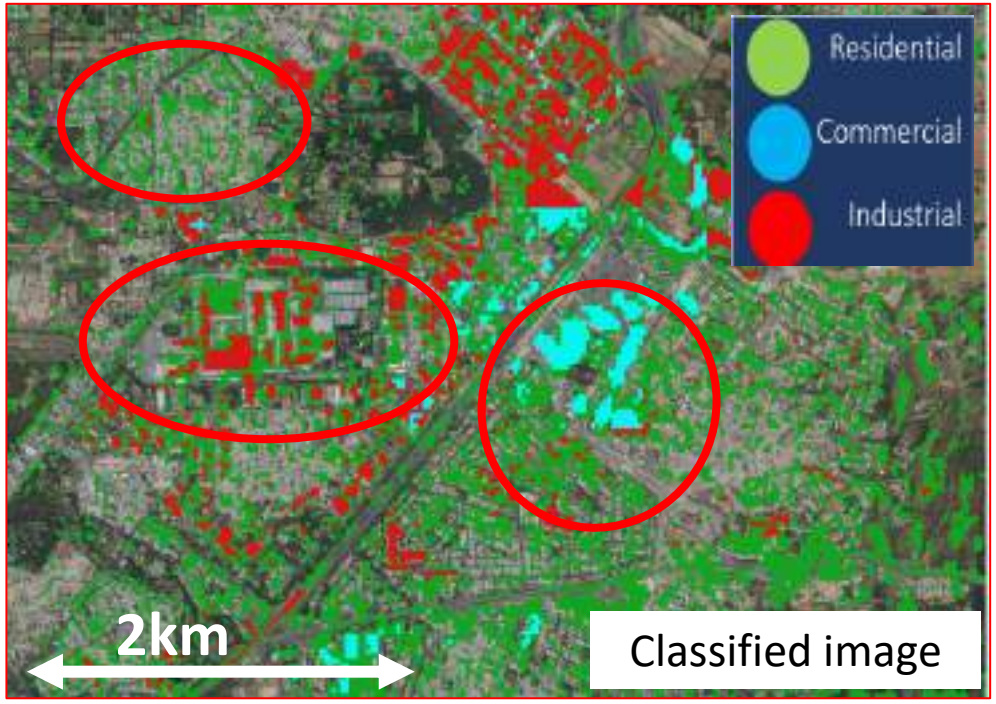




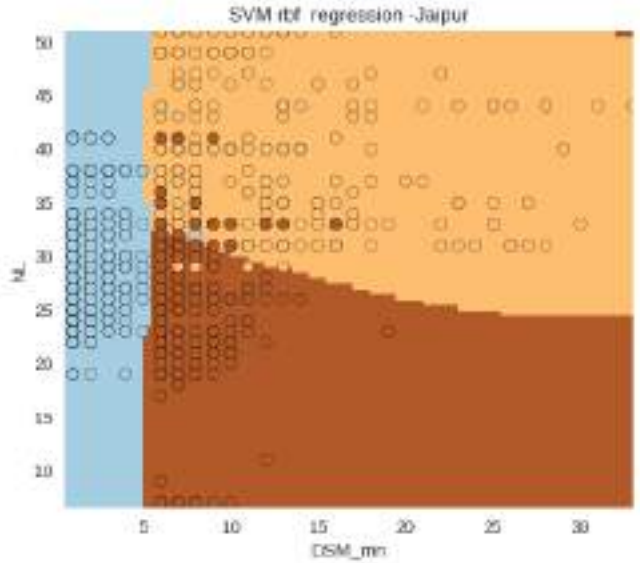
Residential, commercial and industrial areas:

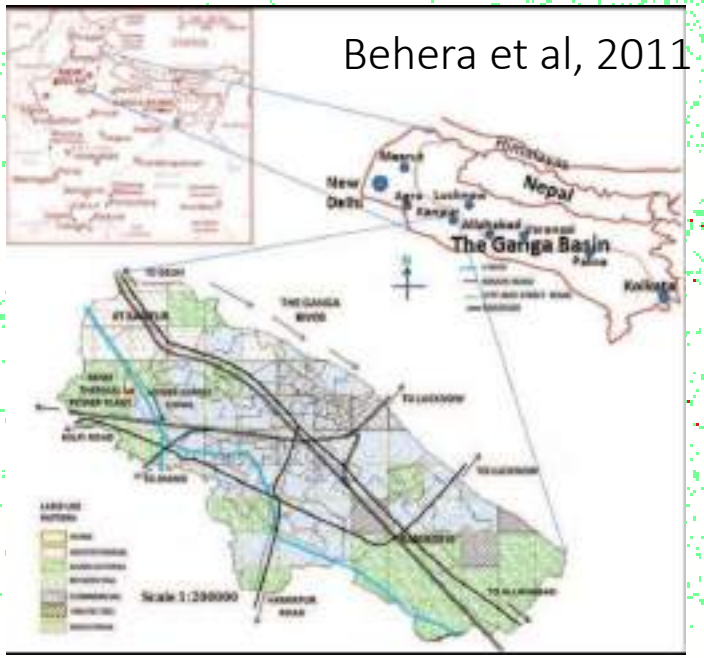
- building height from AW3D (2011), ASTER (2001)
- nighttime light from VIIRS DNB





Land-use map – Kanpur 2011



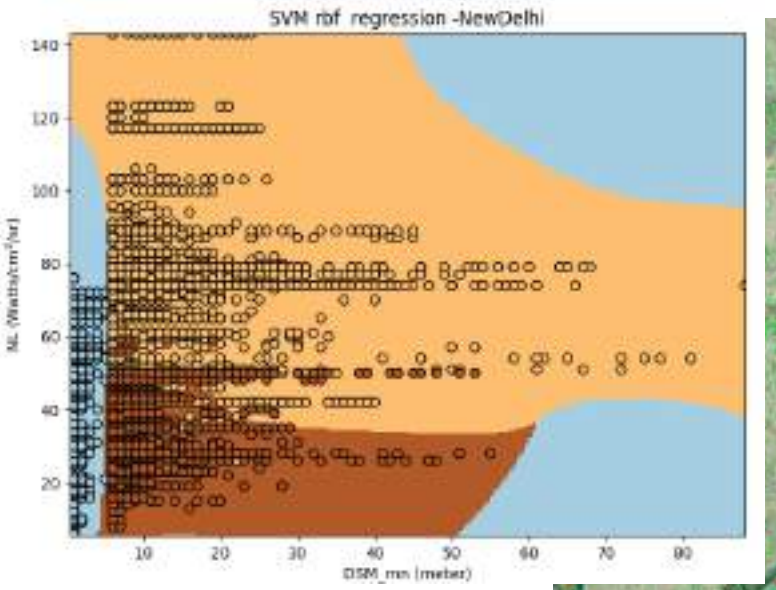


Residential

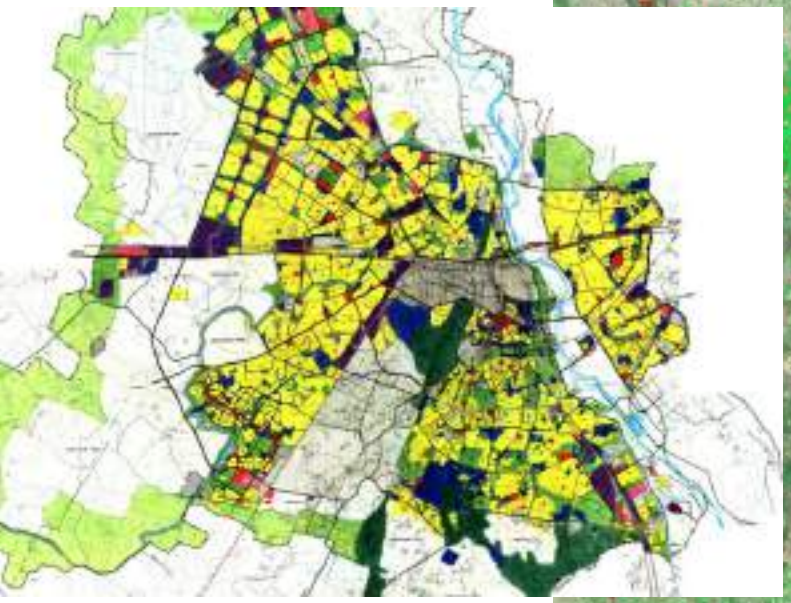
Commercial

Industrial

4km



Land-use map New Delhi 2011



New Delhi Master plan (DDA)

Residential

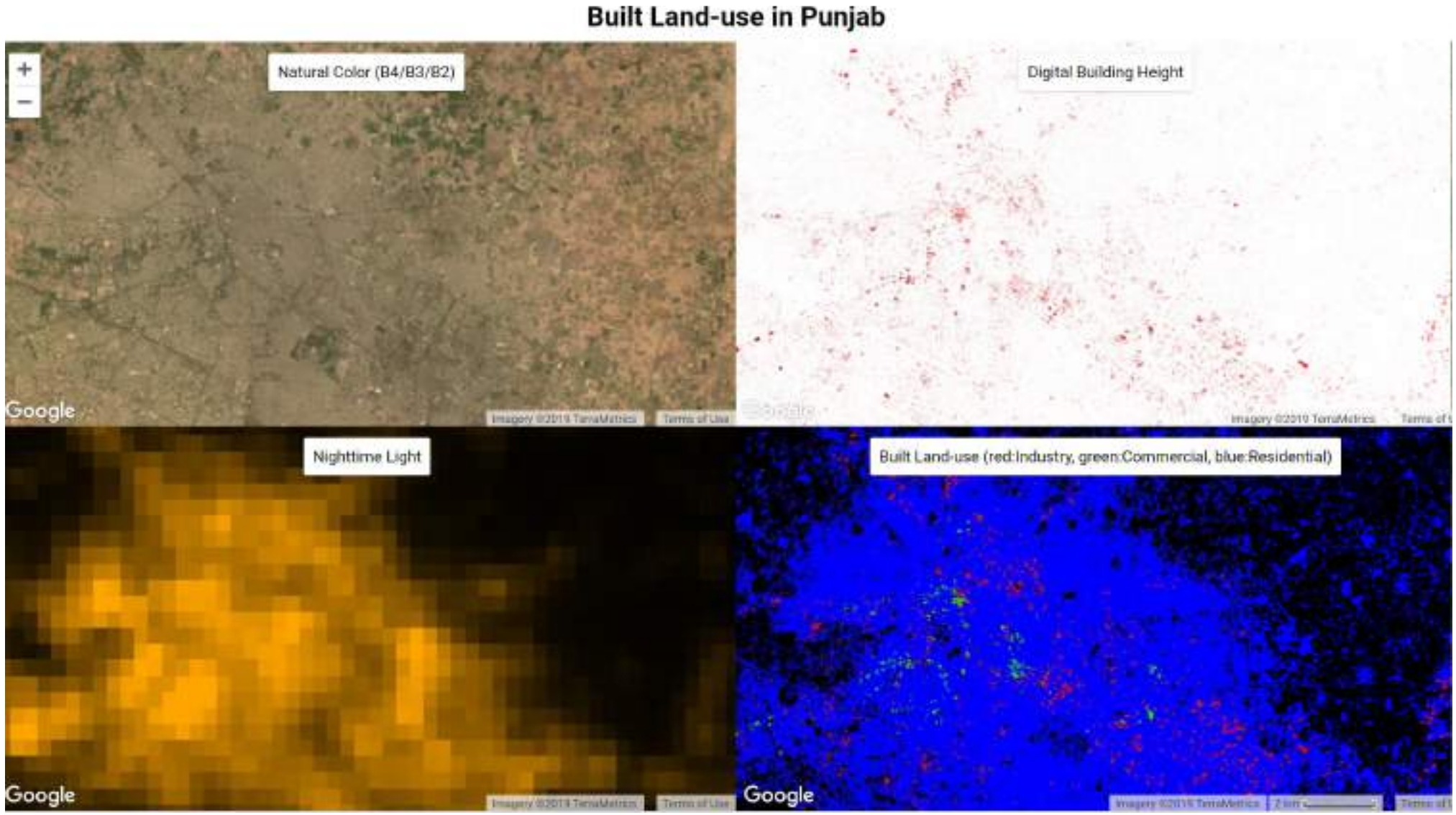
Commercial

Industrial

4km

Data released as Google Earth Engine App

(https://tinyurl.com/y6olvmm7)



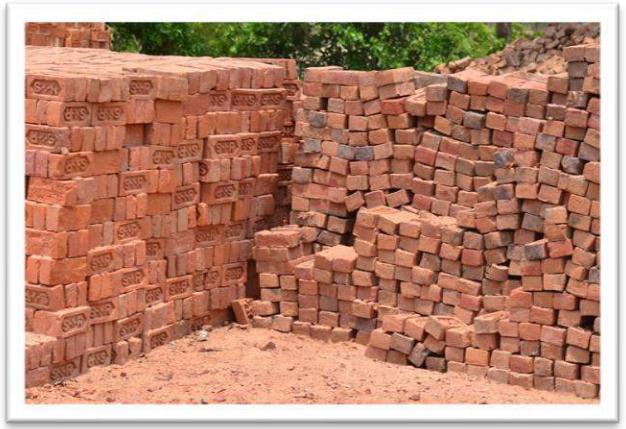
1. Misra, Avtar & Takeuchi, *Remote Sensing,* 2018

2. Misra, Avtar & Takeuchi, *ICUS,* 2018

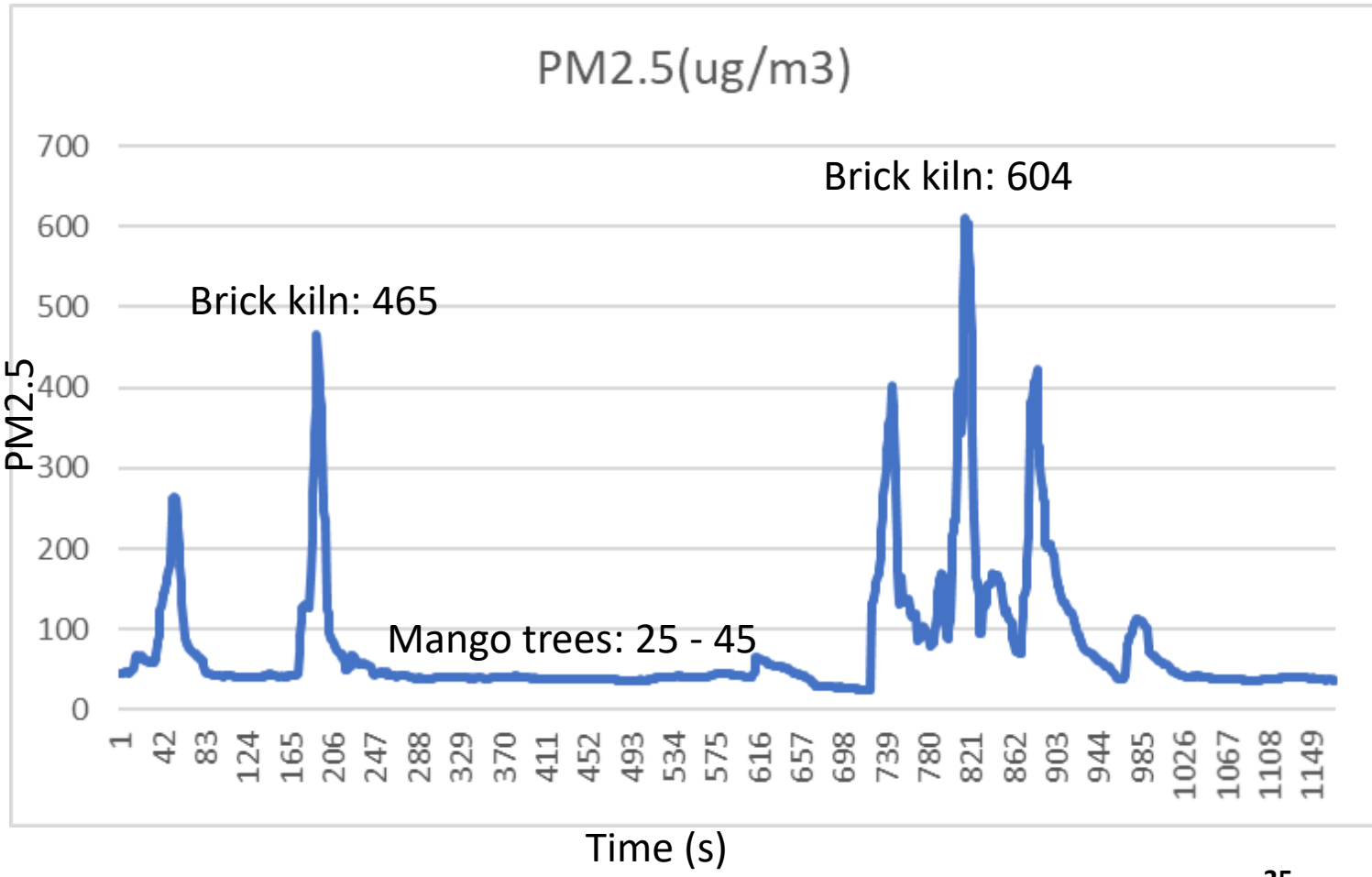
3. Tanakorn and Takeuchi, *Remote Sensing Applications: Society and Environment* 2016)

Brick kiln - Double contribution

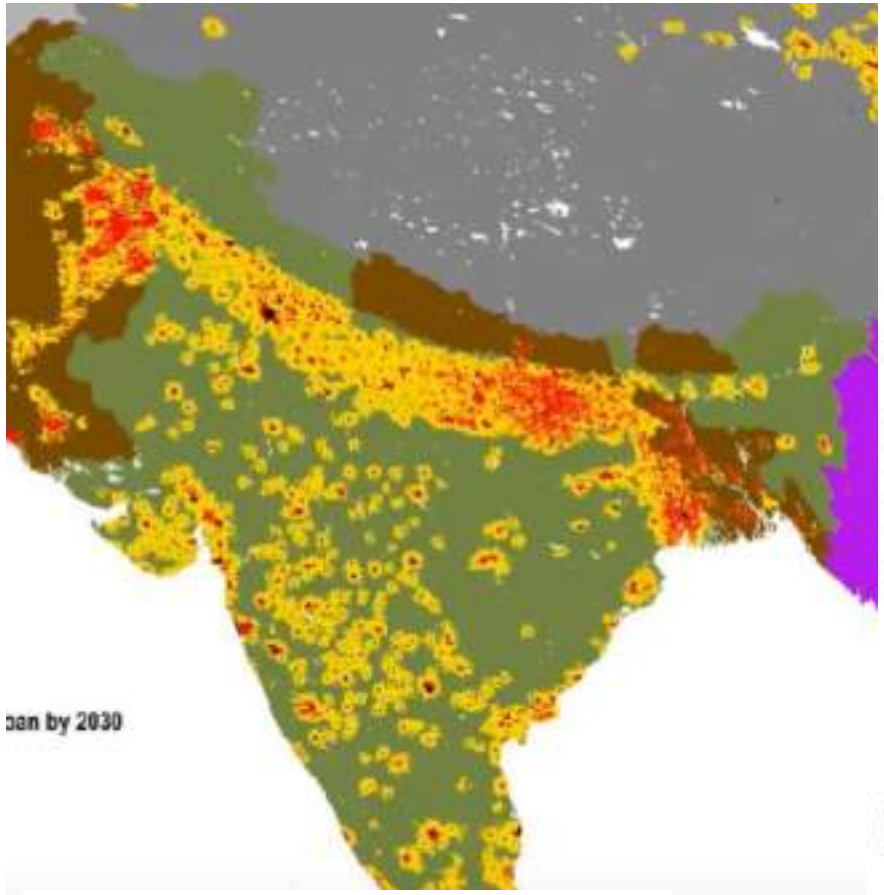
Consumption: **600-ton coal/year**
Production: **4 million bricks/year**
Season: Dry season (onset, offset uncertain)



Brick field PM2.5 concentration higher than surrounding



‘Housing for All’, urbanization policy in Indian subcontinent implies brick kiln count rise

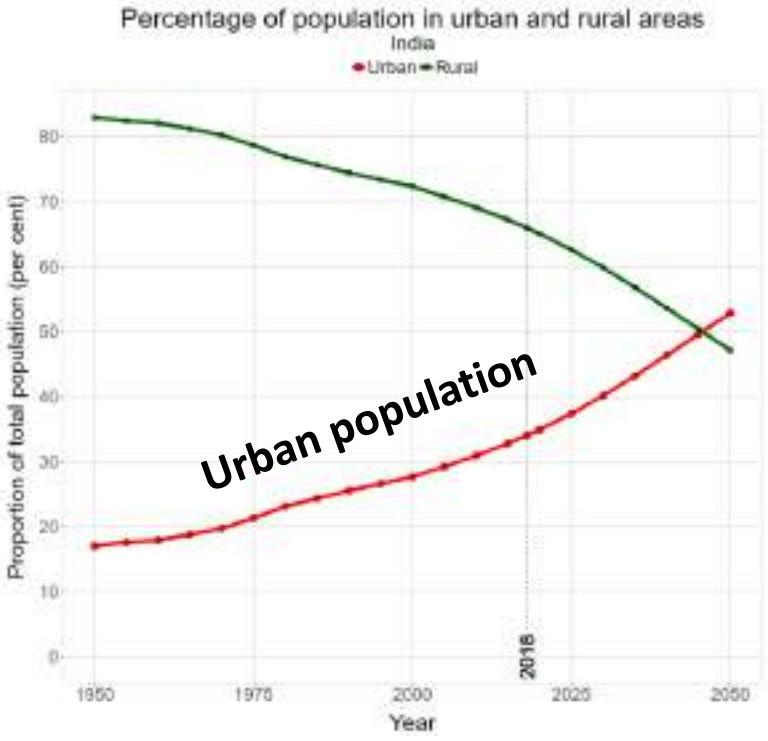


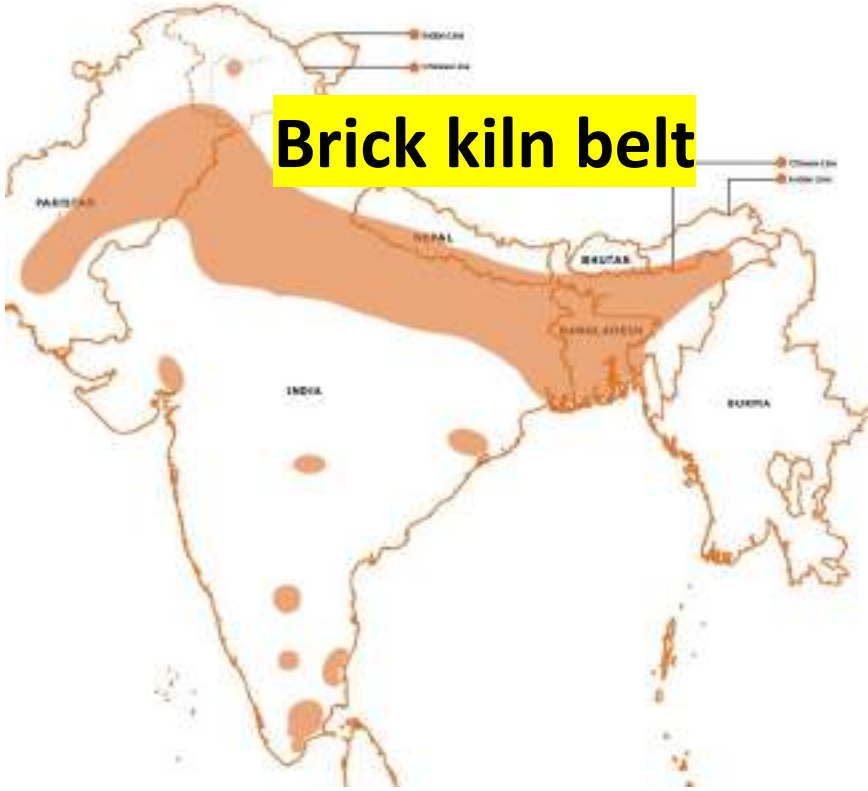
Likelihood to become urban by 2030

100%

1%

Adapted from Seto, et al (2012)

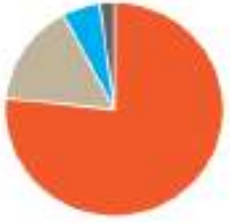




NUMBER OF OPERATIONAL ENTERPRISES AND TOTAL PRODUCTION*

Country	Number of enterprises	Total production billion bricks/year
India[23]	35,000	185
Pakistan*	11,500	56
Bangladesh[3]	4,500	17.4
Nepal[4]	450	2.3
Total	51,450	260.7

*Numbers are estimates only



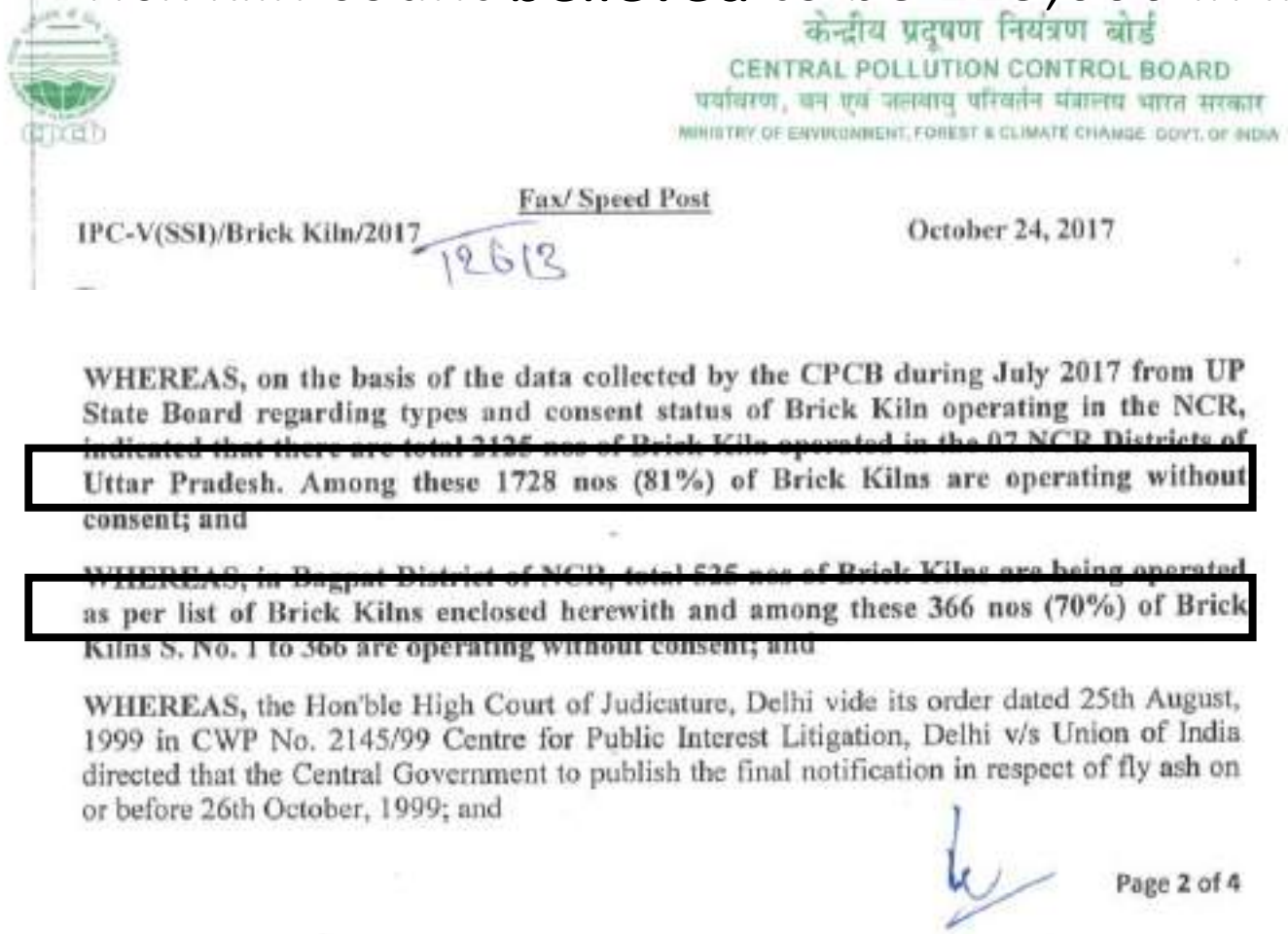
Fixed Chimney Bull’s Trench Kiln mostly in North India

Adapted form Maithel, et al (2014)

Needed - Brick kiln location open data

70% kilns illegal

Brick kiln count **believed** to be 125,000 in India



केन्द्रीय प्रदूषण नियंत्रण बोर्ड
CENTRAL POLLUTION CONTROL BOARD
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय भारत सरकार
MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE GOVT. OF INDIA

Fax/ Speed Post

IPC-V(SSI)/Brick Kiln/2017 12613 October 24, 2017

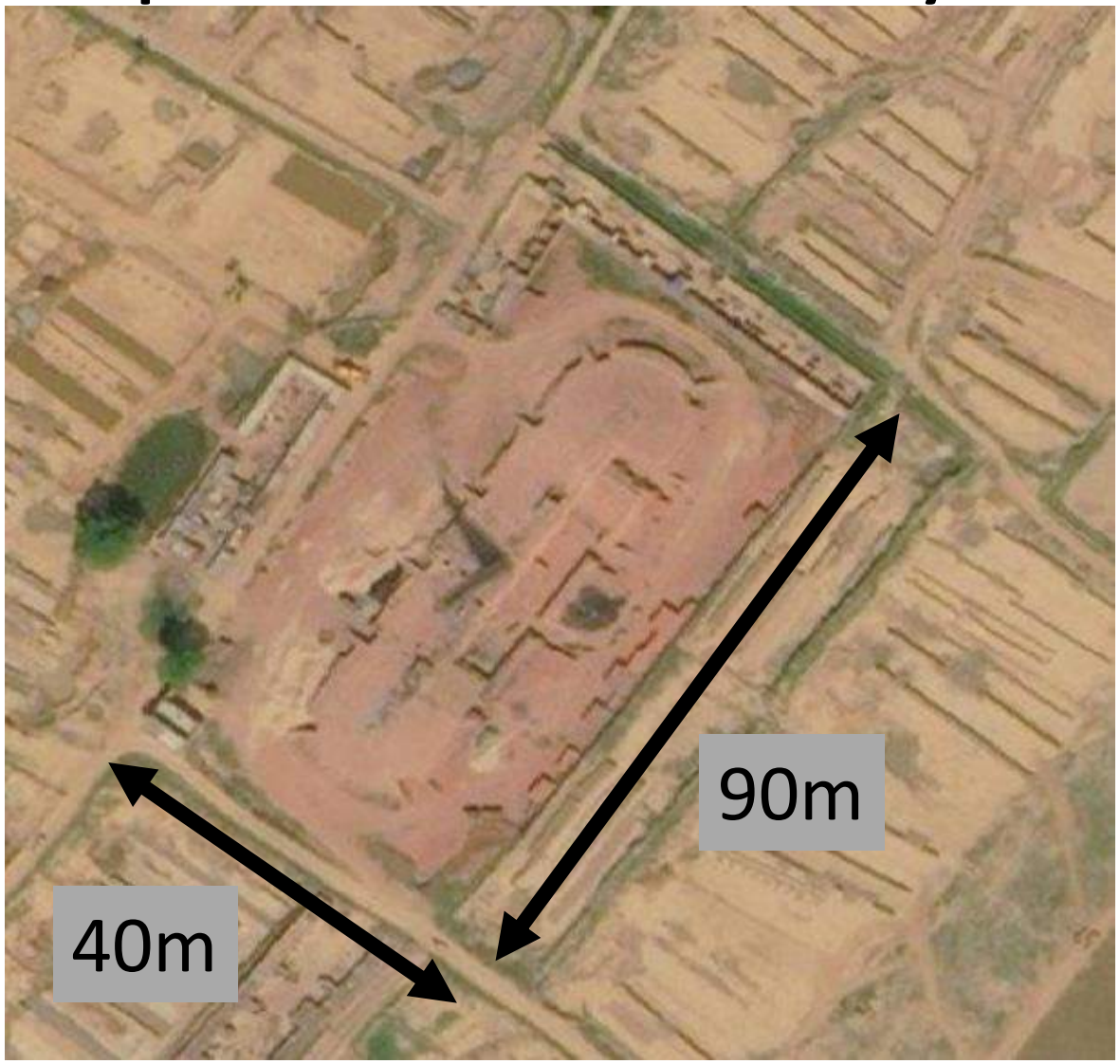
WHEREAS, on the basis of the data collected by the CPCB during July 2017 from UP State Board regarding types and consent status of Brick Kiln operating in the NCR, indicated that there are total 2125 nos of Brick Kiln operated in the 07 NCR Districts of Uttar Pradesh. Among these 1728 nos (81%) of Brick Kilns are operating without consent; and

WHEREAS, in Baghpat District of NCR, total 525 nos of Brick Kilns are being operated as per list of Brick Kilns enclosed herewith and among these 366 nos (70%) of Brick Kilns S. No. 1 to 366 are operating without consent; and

WHEREAS, the Hon'ble High Court of Judicature, Delhi vide its order dated 25th August, 1999 in CWP No. 2145/99 Centre for Public Interest Litigation, Delhi v/s Union of India directed that the Central Government to publish the final notification in respect of fly ash on or before 26th October, 1999; and

Page 2 of 4

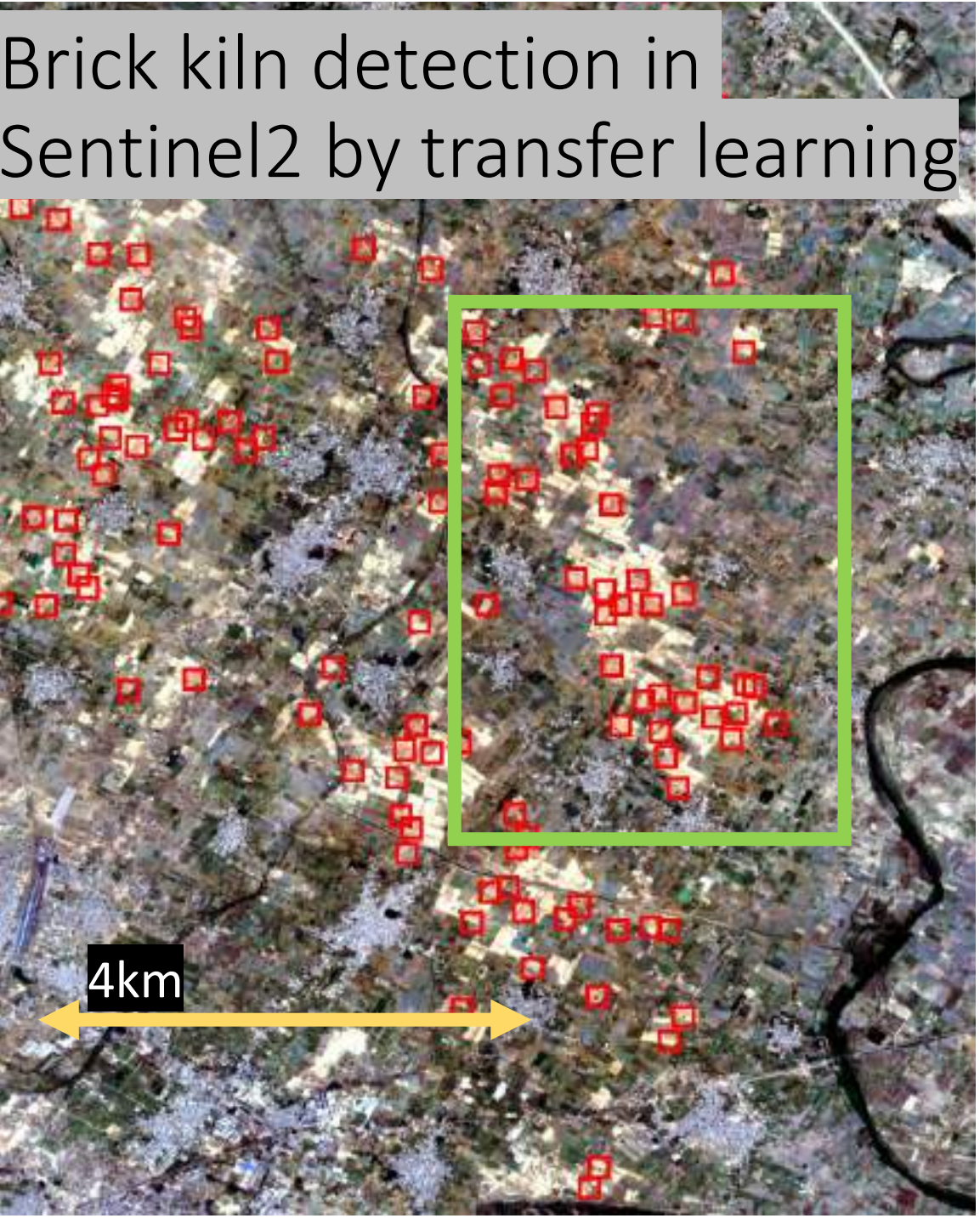
Brick kilns appear reddish having round or ellipse shape with a chimney shadow

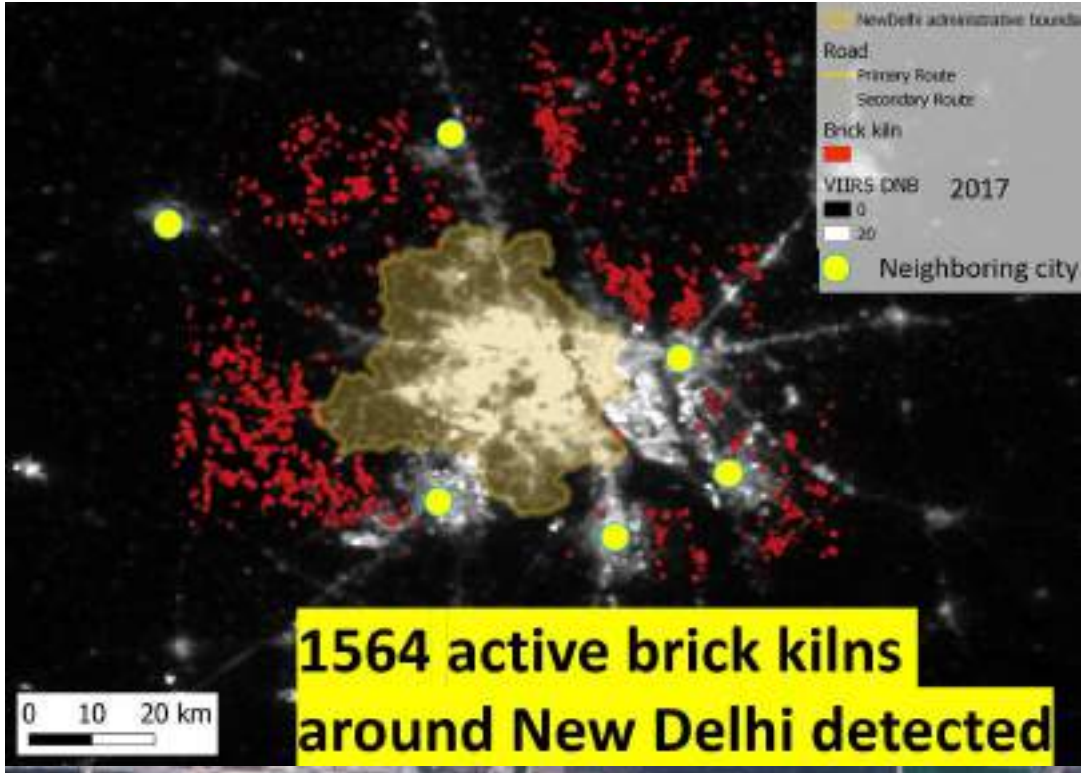


Reference Image DG Google Earth

Sentinel 2

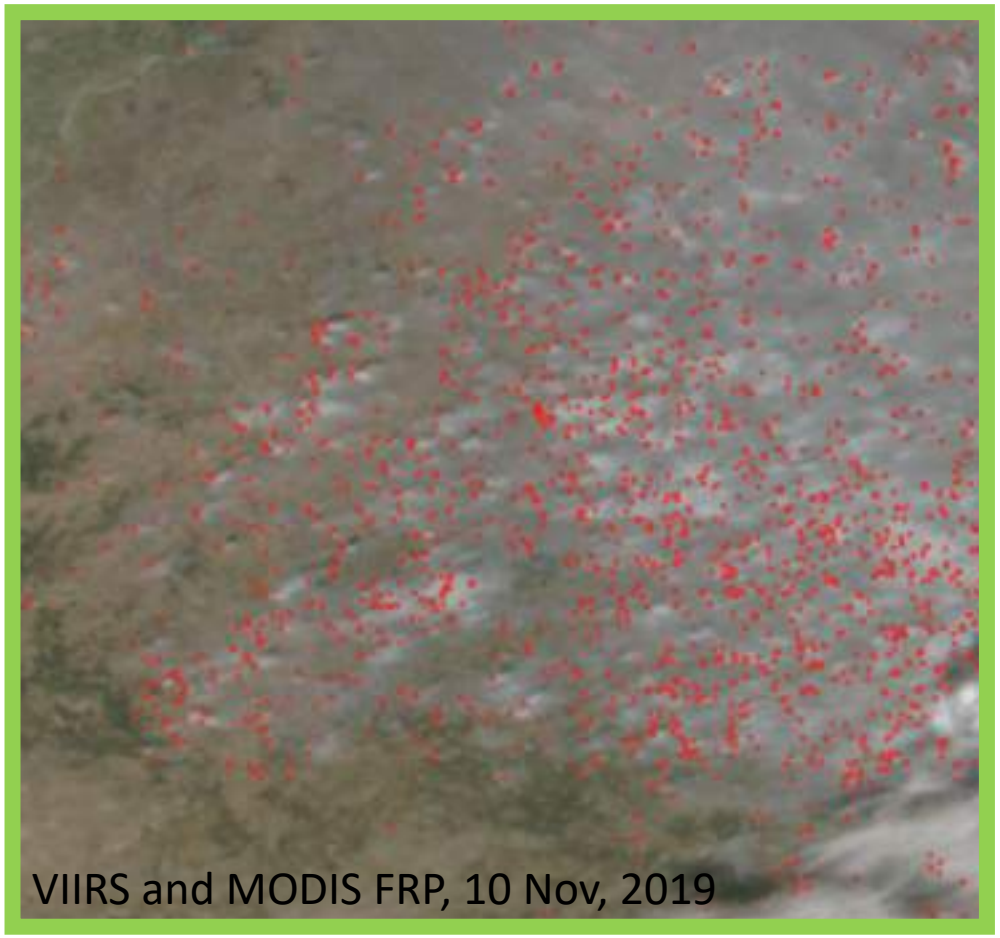
Brick kiln detection in Sentinel2 by transfer learning



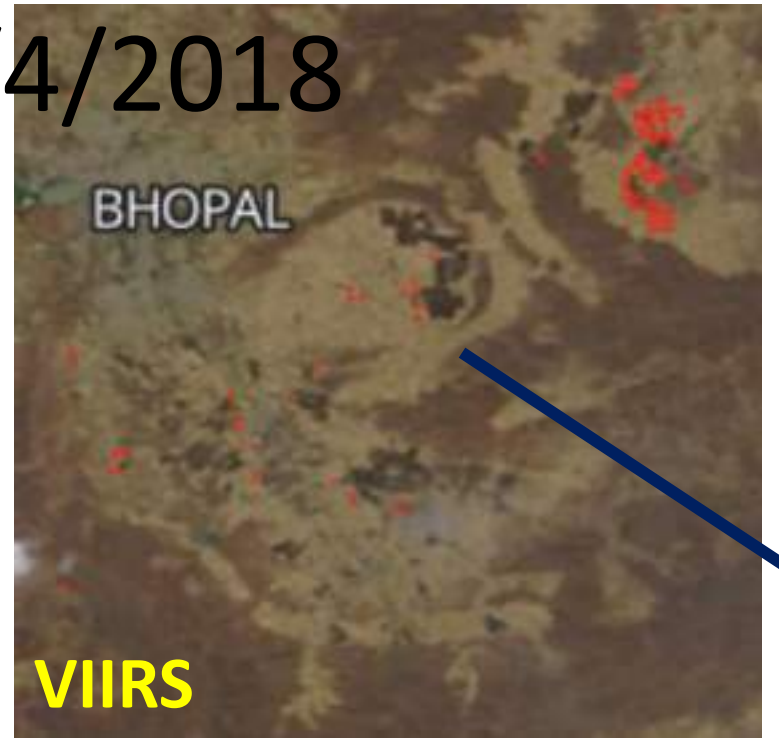


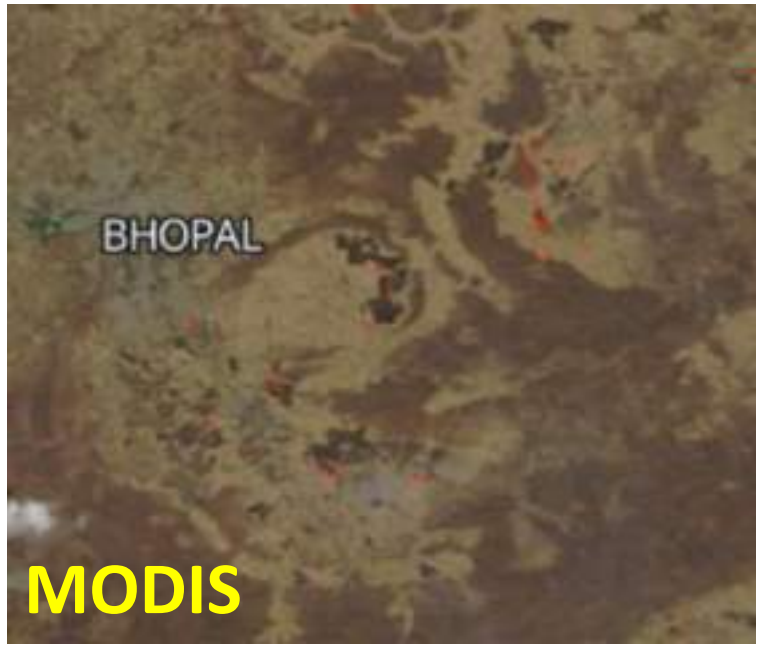
Misra, Takeuchi & Imasu, *ACRS 2019, Daejeon, South Korea*

Crop residue fire observed as thermal anomaly



Bhopal - Crop burning 17/4/2018



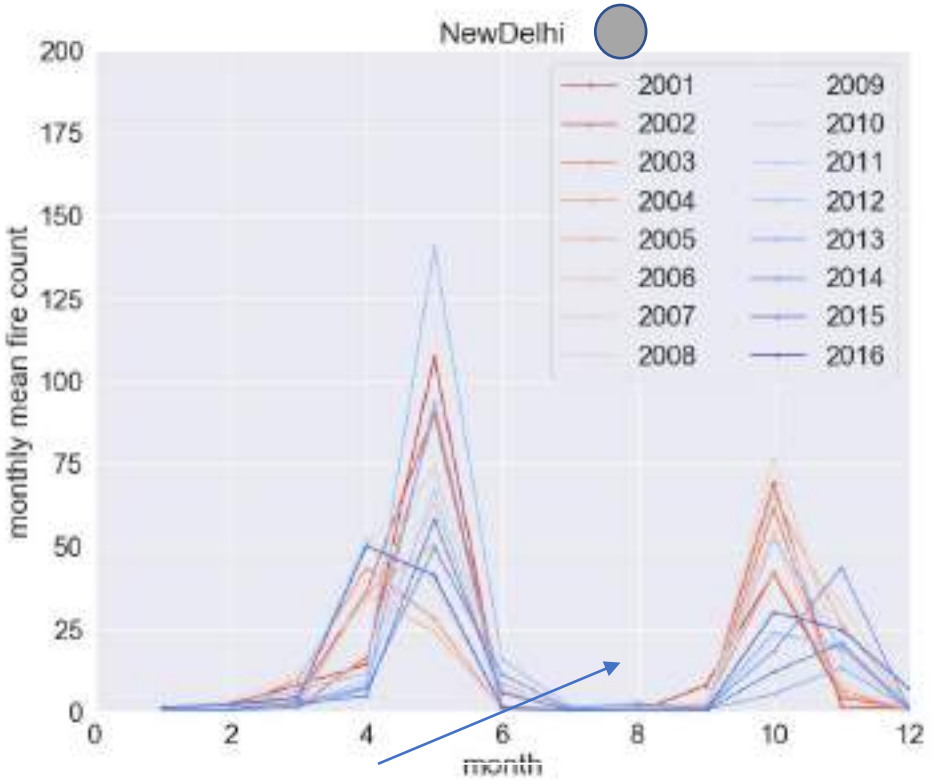


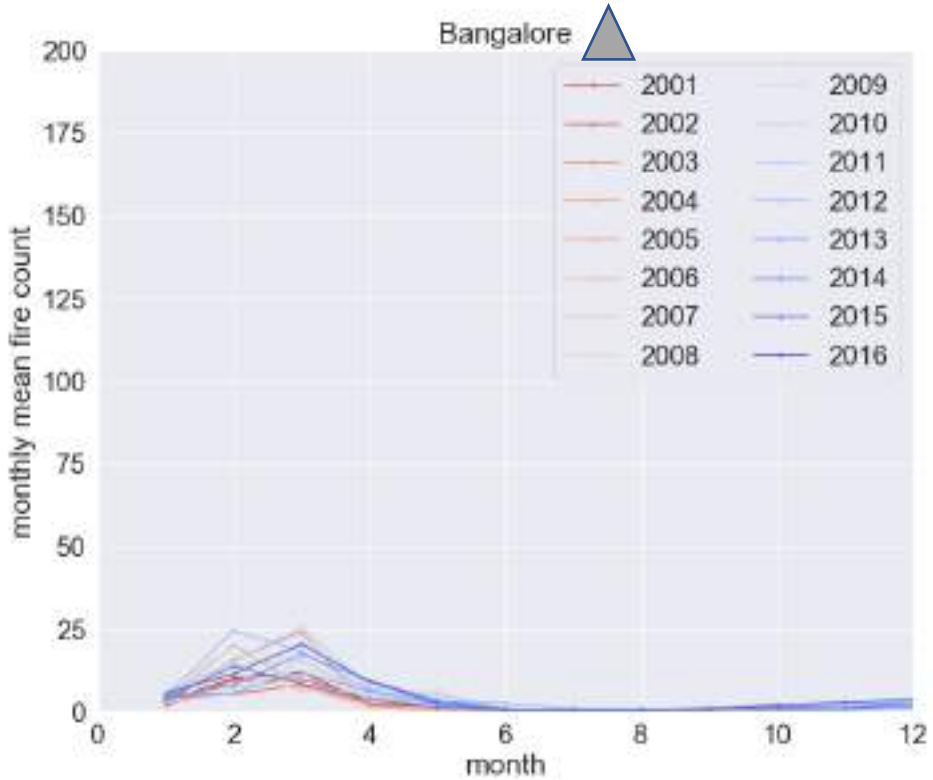
Brown burnt scar and fire

Agricultural fires (MOD14 FRP); 2001-2016

- Fire count within 200km
- Concentrated within 2-3 month span

- In accordance with Venkataraman et al. (2006); Krishna et al (2011)





Autumn fire count
Underestimated, shifting pattern

Contents

1. PM2.5 indicator from satellite
2. Mapping emission sources
3. Modeling impact of urban growth

Geographic weighted regression model to estimate relative strength of concentration from sector emissions

Observed fine aerosol concentration

Primary aerosol concentration

Secondary aerosol, meteorological dispersion

$$R_{obs_k}(mon, yr) = R_{em_k}(mon, yr) + EA_{O_k}(mon, yr) + \epsilon_k$$

Misra, Imasu and Takeuchi (2019), Impact of Urban Growth on Air Quality in Indian Cities Using Hierarchical Bayesian Approach, *Atmosphere*

Geographic weighted regression (GWR) model to estimate relative strength of concentration from sector emissions

Observed fine aerosol concentration | Primary aerosol concentration | Secondary aerosol, meteorological dispersion

$$R_{obs_k}(mon, yr) = R_{em_k}(mon, yr) + EA_{O_k}(mon, yr) + \epsilon_k$$

Aerosol emission

$$\boldsymbol{Emission\ of\ LU\ type_{year\ t} = Total\ LU\ units_{year\ t} . Emission\ per\ unit_{base\ year} . \frac{Technology_{year\ t}}{Technology_{base\ year}}}$$

target

Primary aerosol concentration

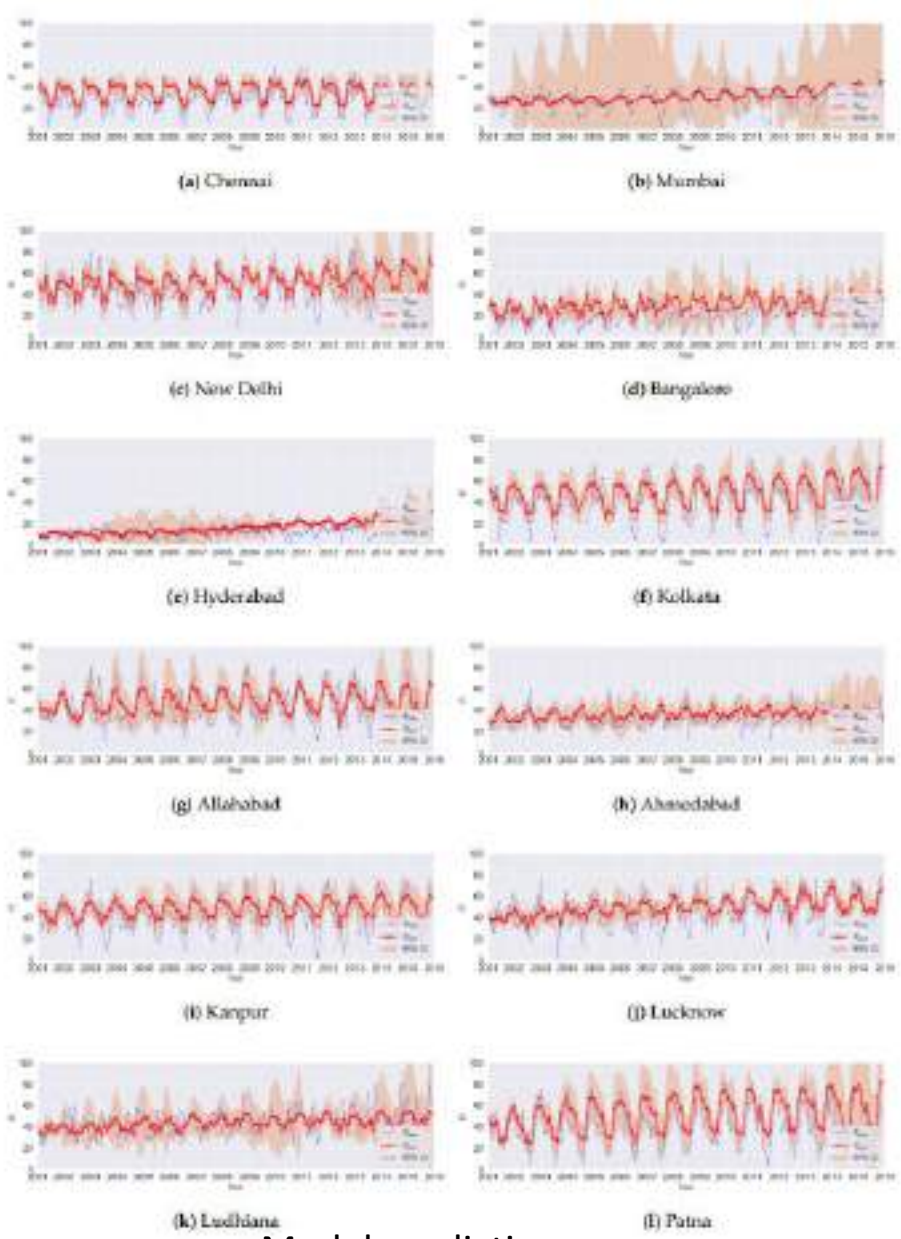
$$\boldsymbol{R_{em_k}(mon, yr) = \sum GWR\left(Emission\ of\ LU\ type_{year\ t}\right) . seasonality}$$

Secondary aerosol, meteorological dispersion

$$EA_{O_k}(mon, yr) = EC_{O_k} + \beta_{wnd} . wnd_k(mon, yr) + \beta_{rh} . rh_k(mon, yr) + \beta_{pblh} . pblh_k(mon, yr)$$

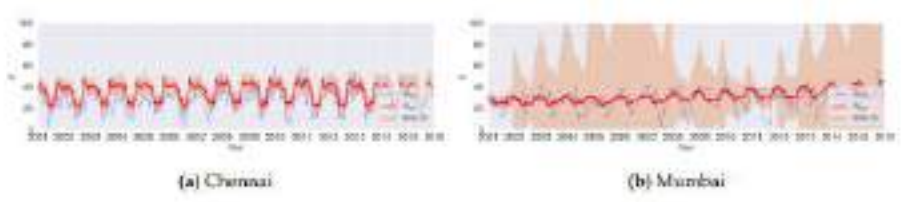
Misra, Imasu and Takeuchi (2019), Impact of Urban Growth on Air Quality in Indian Cities Using Hierarchical Bayesian Approach, *Atmosphere*

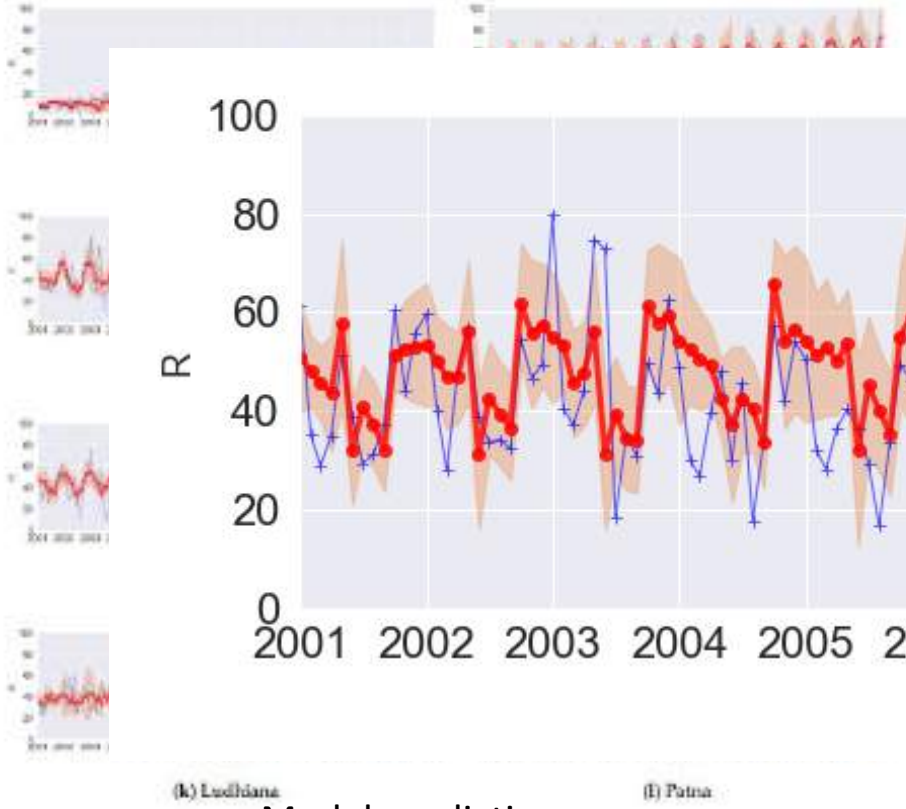
Model prediction and source contribution estimations

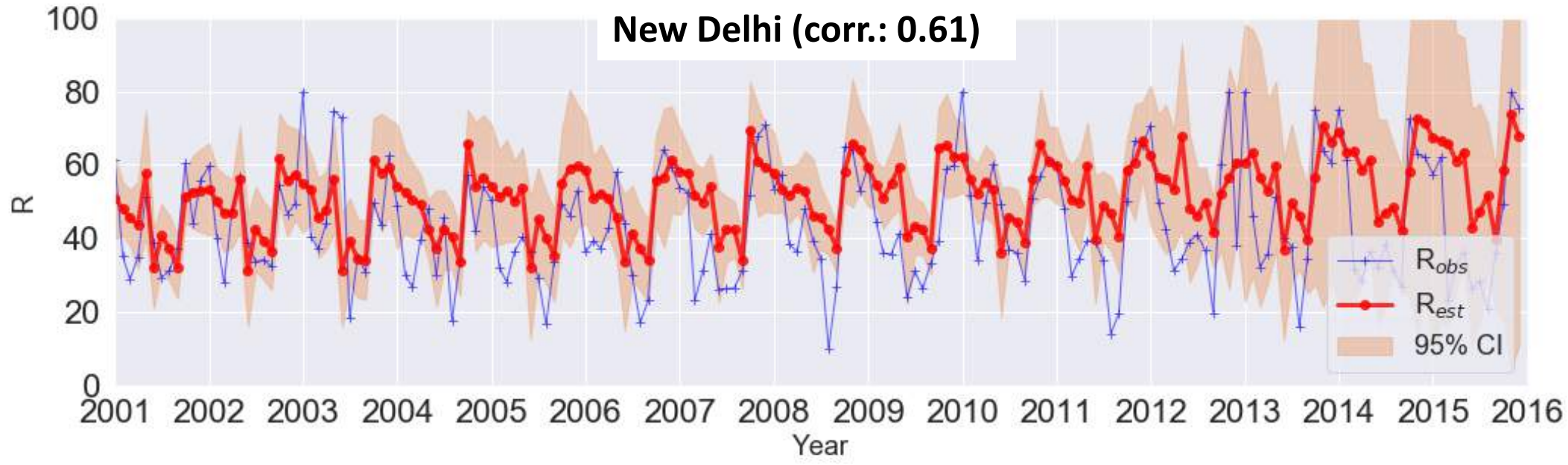


Model predictions

Model prediction and source contribution estimations

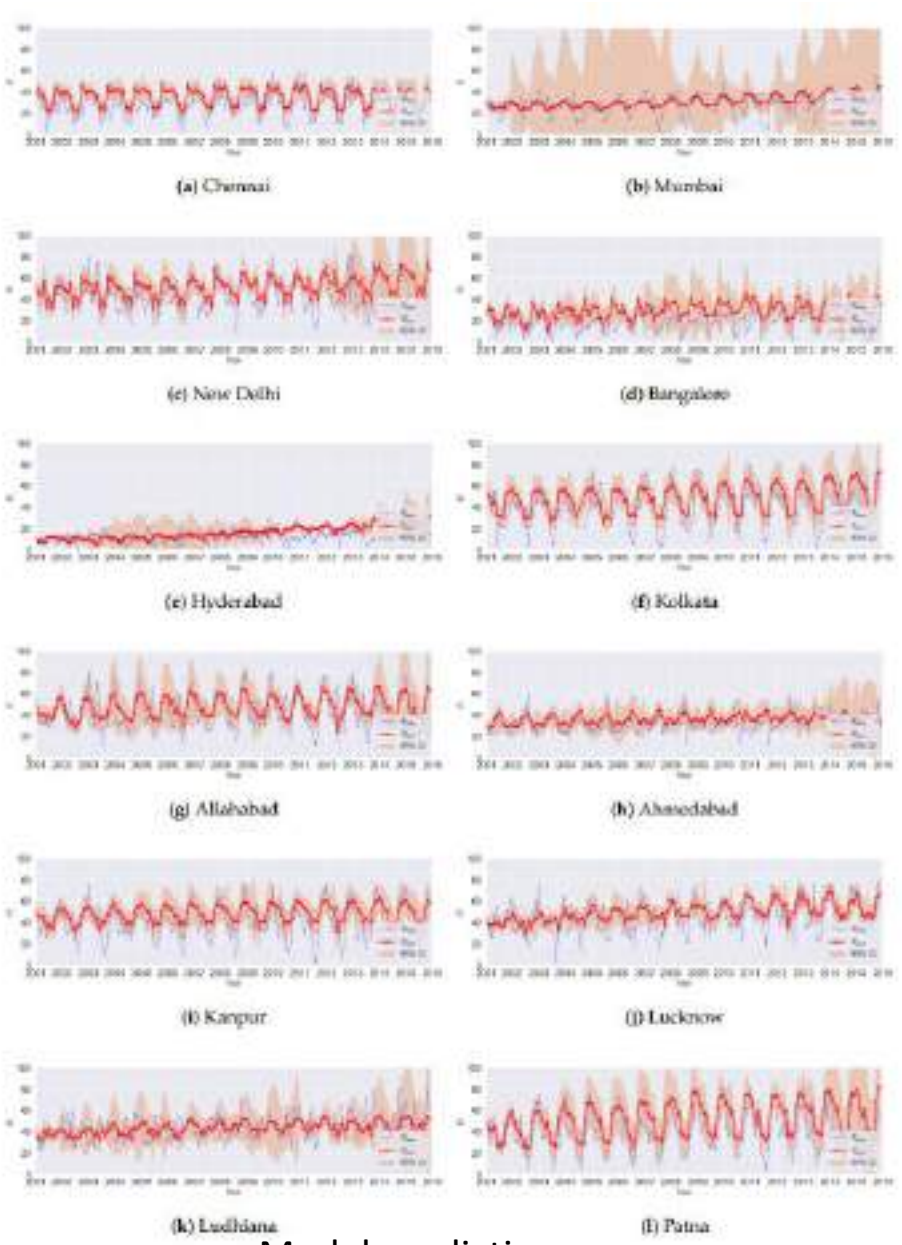




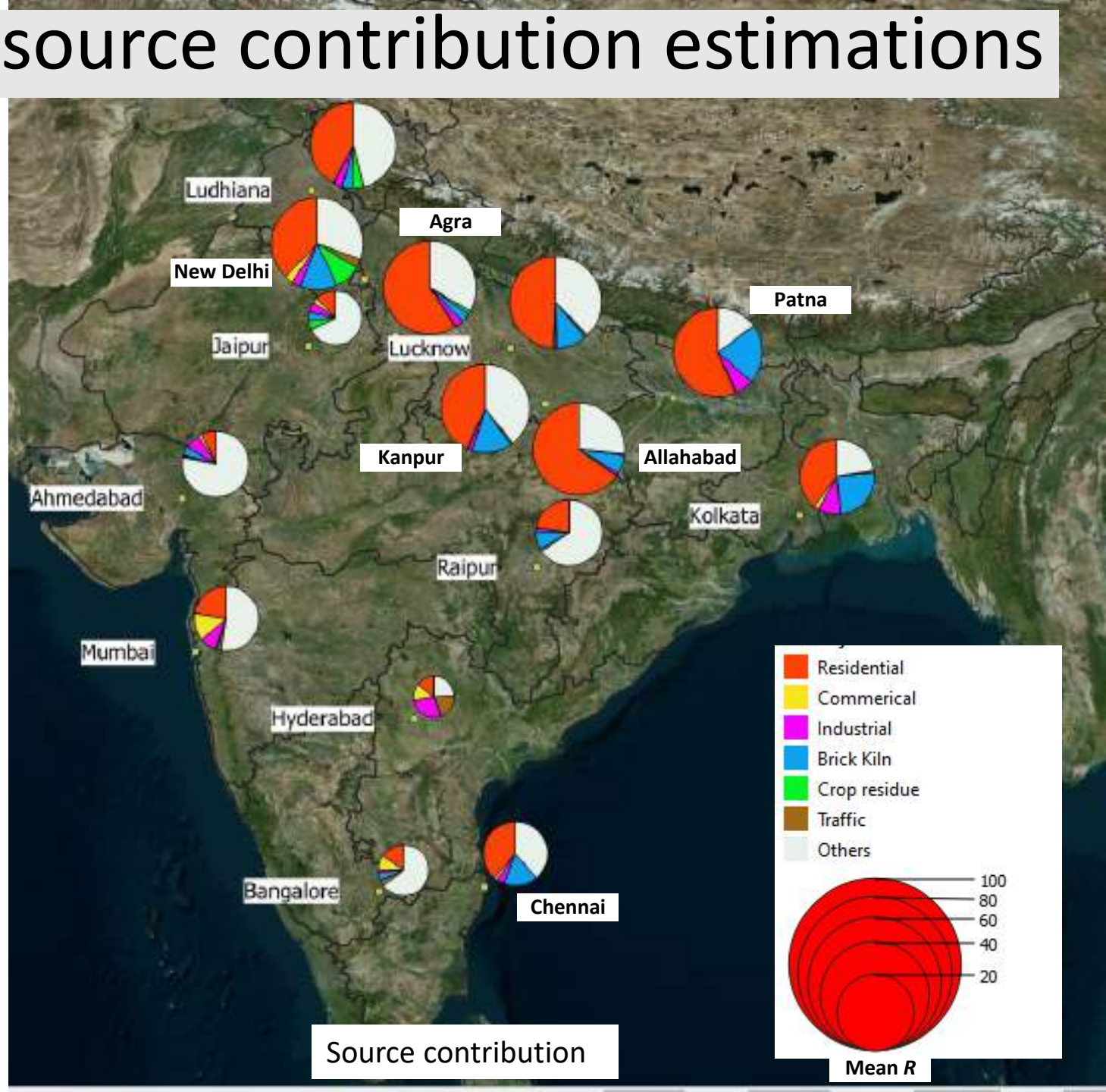


Model predictions

Model prediction and source contribution estimations

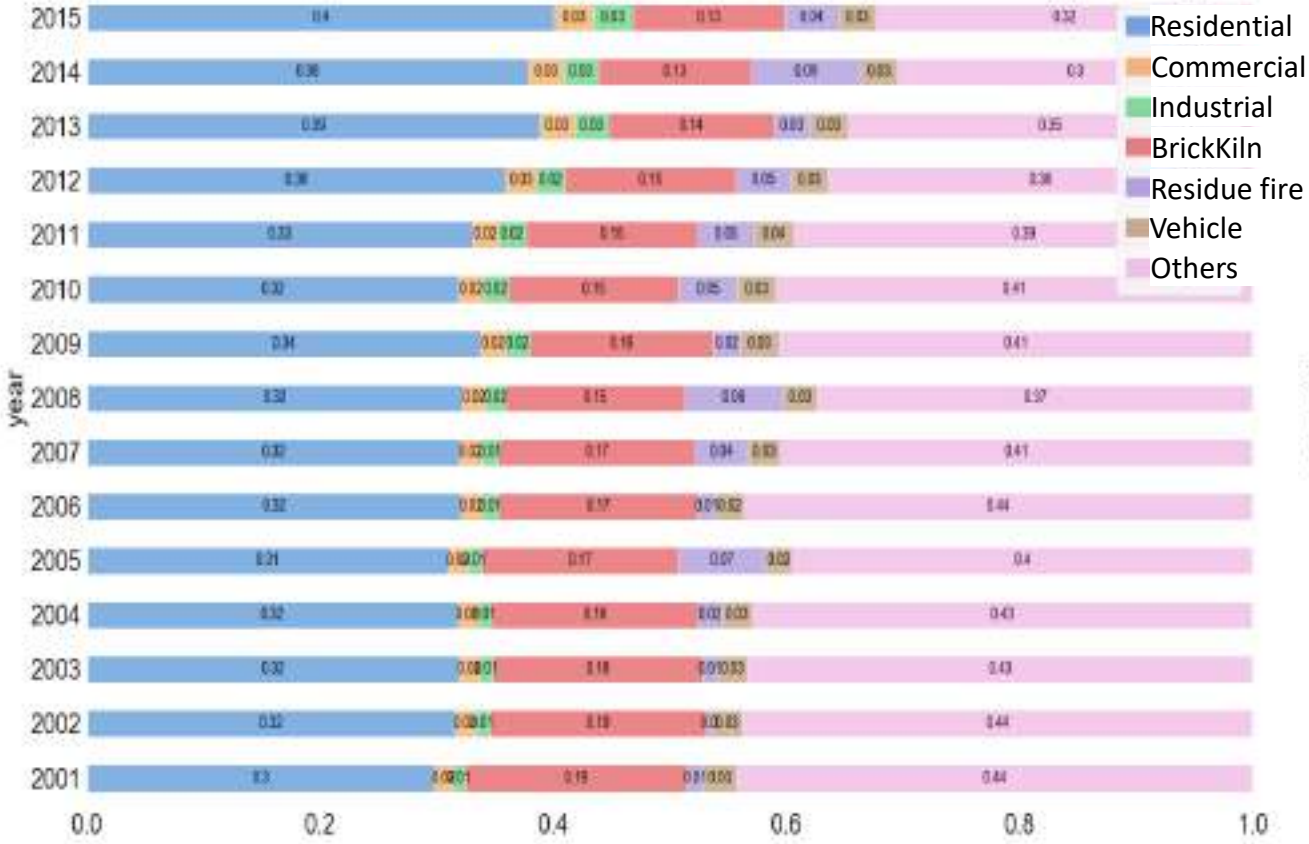


Model predictions

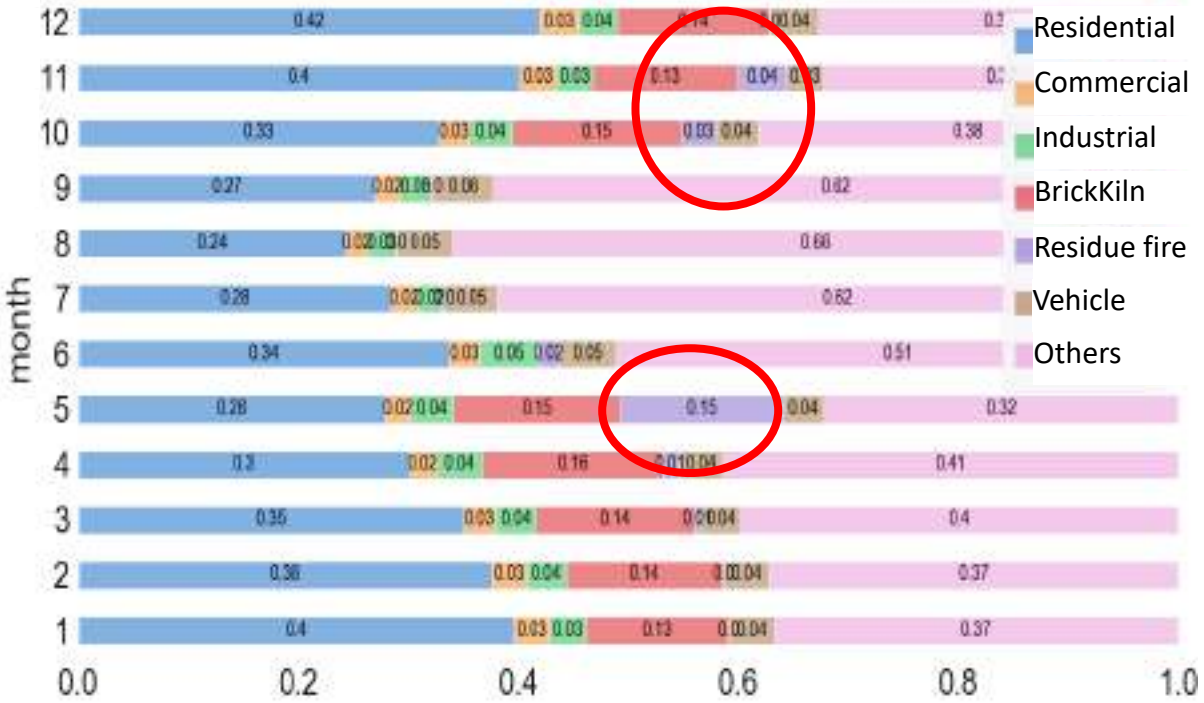


Source contribution

Residential (37%), brick kiln (13%) and residue fire (9%) have highest contribution to concentration in Delhi



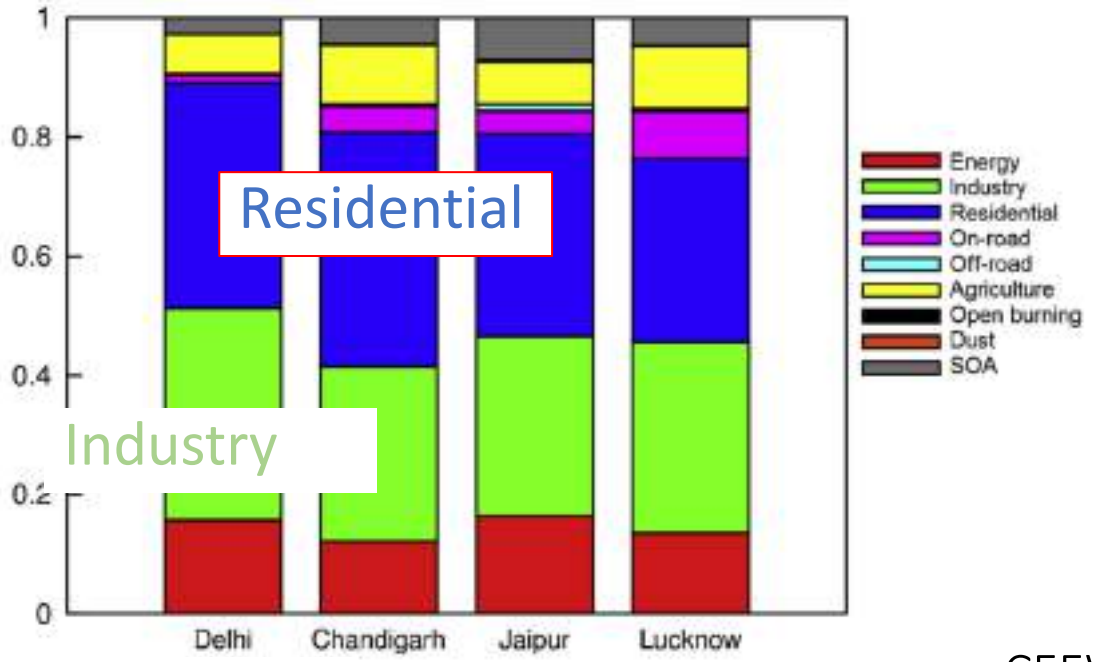
Increasing contribution of crop fire over 15 years, for November



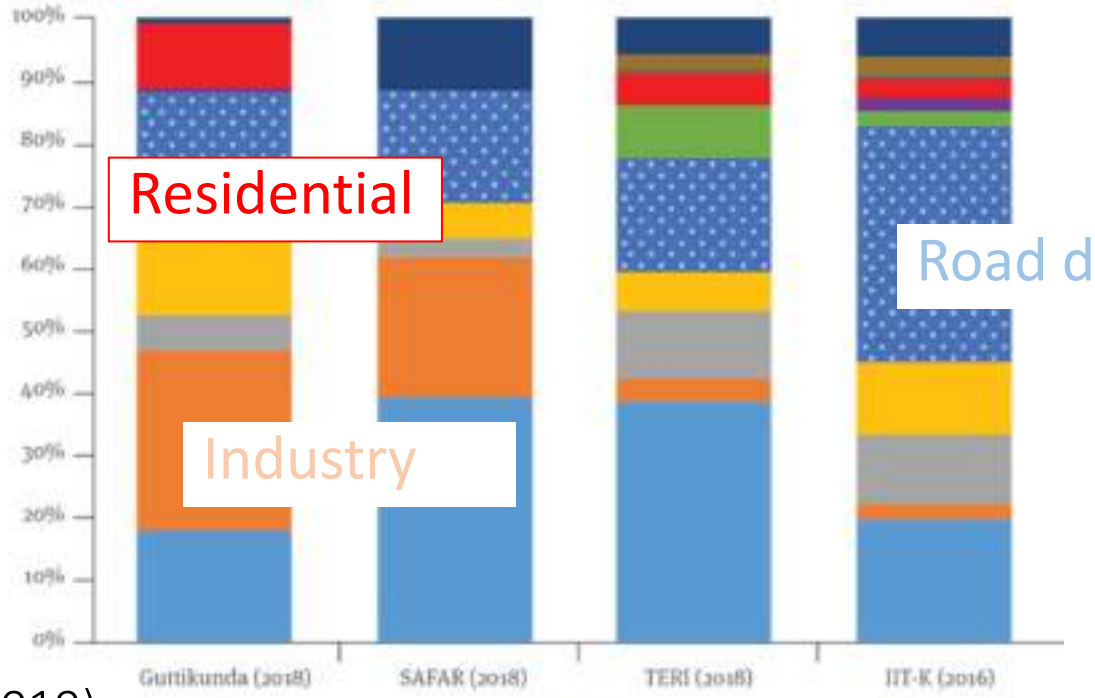
Crop residue fire contribution is seasonal, for 2015

Misra, Imasu and Takeuchi (2019), Impact of Urban Growth on Air Quality in Indian Cities Using Hierarchical Bayesian Approach, *Atmosphere*

Recent research agree for residential contribution and somewhat for brick kiln and agricultural fire to urban fine particles



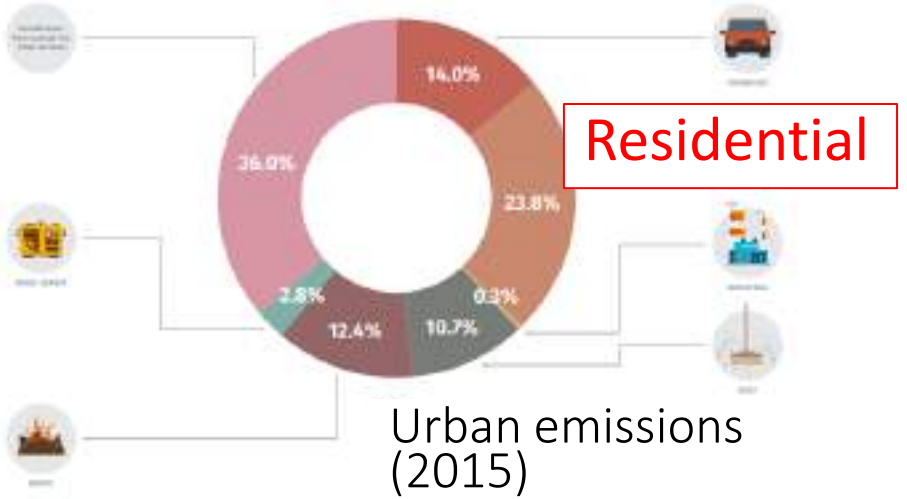
Guo et al.,2017



CEEW (2019)

Indian annual ambient air quality standard is achievable by completely mitigating emissions from household sources

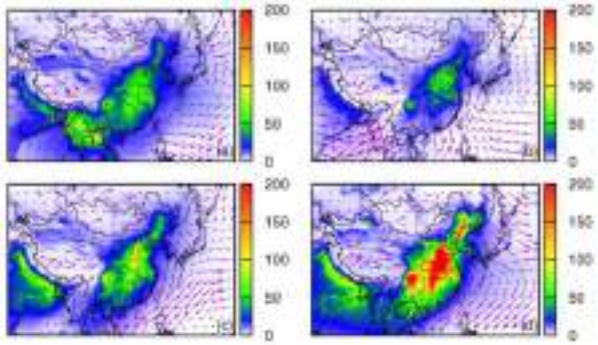
Sourangsu Chowdhury[a,b], Sagnik Dey[a,c,1], Sarath Guttikunda[d], Ajay Pillarisetti[b], Kirk R. Smith[b,e,1], and Larry Di Girolamo[f]



Urban emissions (2015)

Limitations of existing techniques to see street PM2.5

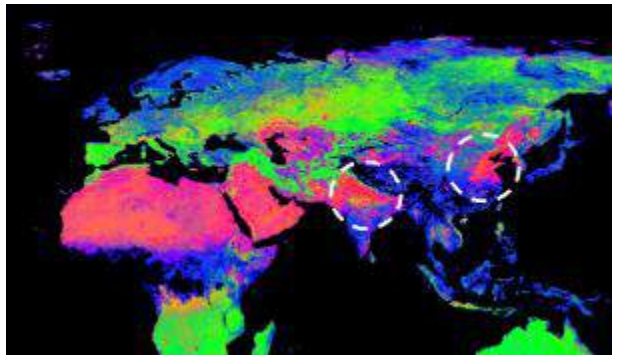
1. Weather and chemistry simulation model



Hu et al., 2016

High resolution land-use and emission inventory not available in most countries

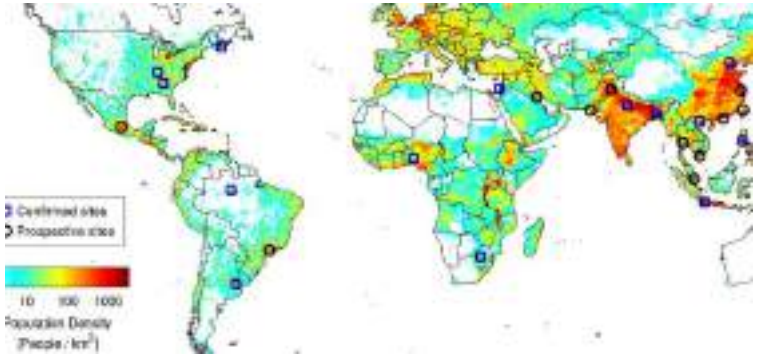
2. Satellite retrieval



Misra, Fujikawa and Takeuchi, 2017

Top of atmosphere retrievals are vertical column integration

3. Ground monitoring station



SPARTAN network Snider et al., 2015

Expensive costs, usually measure ambient concentration only

Increasing accuracy

Conclusions

- Open remote sensing data based framework for estimated land-use change impacts fine aerosol, alternative to regional CTM
- Residential areas contribute to >60% emissions among commercial, vehicle
- Brick kilns 2nd largest polluter ~ 10% contribution in large, growing cities

Limitation -

- Theoretical: seasonal emission activity , meteorological transport
- Data: concentration retrieval, fire counts, granular land-use map

Future step

- Portable cost sensor and area mapping for high resolution exposure

Thank you for your attention

_··_

Fakultas Teknik Sipil dan Perencanaan (FTSP) Webinar Series 2020

itenas
Institut Teknologi Nasional

Kualitas Udara Global Selama Masa Pandemi Covid-19

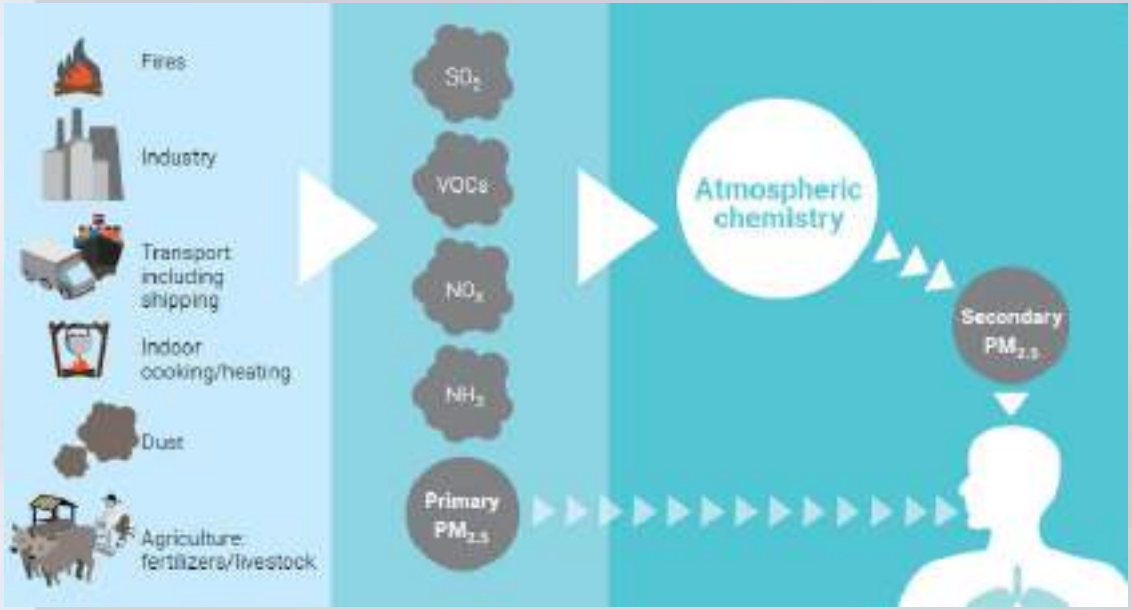
Dr. Didin Agustian Permadi
https://www.researchgate.net/profile/Didin_Agustian

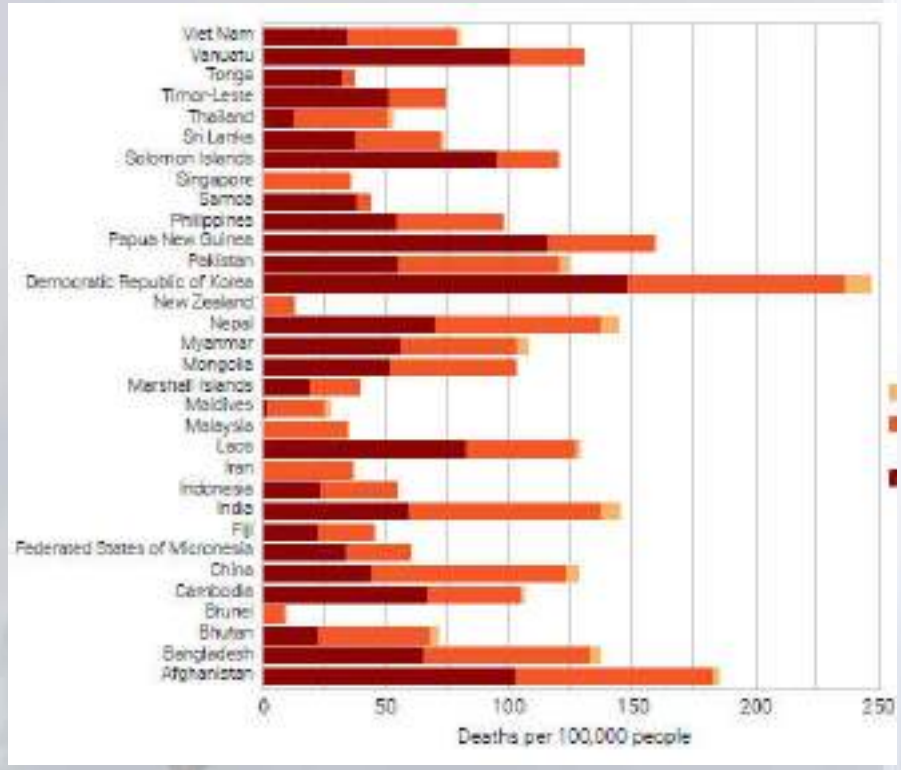
Kamis, 25 Juni 2020

Outline:

- Pencemaran udara, sumber dan dampaknya
- Kualitas udara global selama masa pandemi Covid-19
- Kualitas udara di Jakarta selama masa pandemi Covid-19
- Dapatkah kita melakukan sesuatu seperti yang kita alami saat pandemi??
- Solusi ke depan: implikasi terhadap perbaikan kesehatan dan mitigasi perubahan iklim (*co-benefits*)

Pencemaran Udara, sumber dan Dampaknya

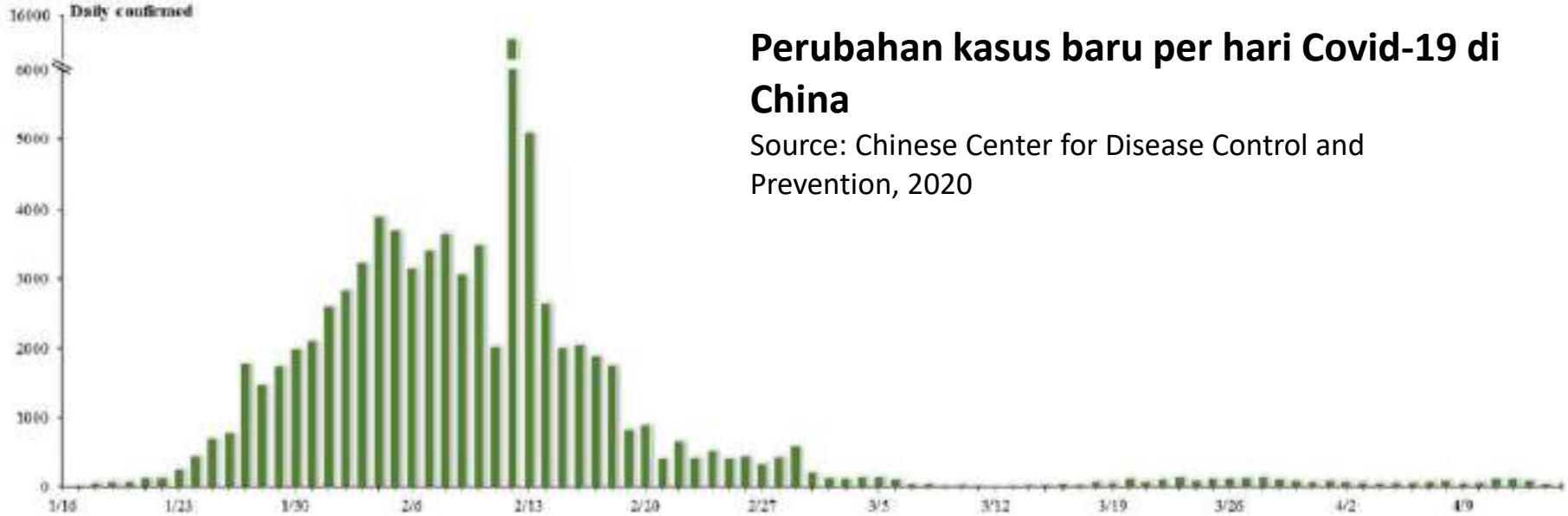




Jumlah kematian per 100,000 penduduk yang diakibatkan oleh pencemaran udara

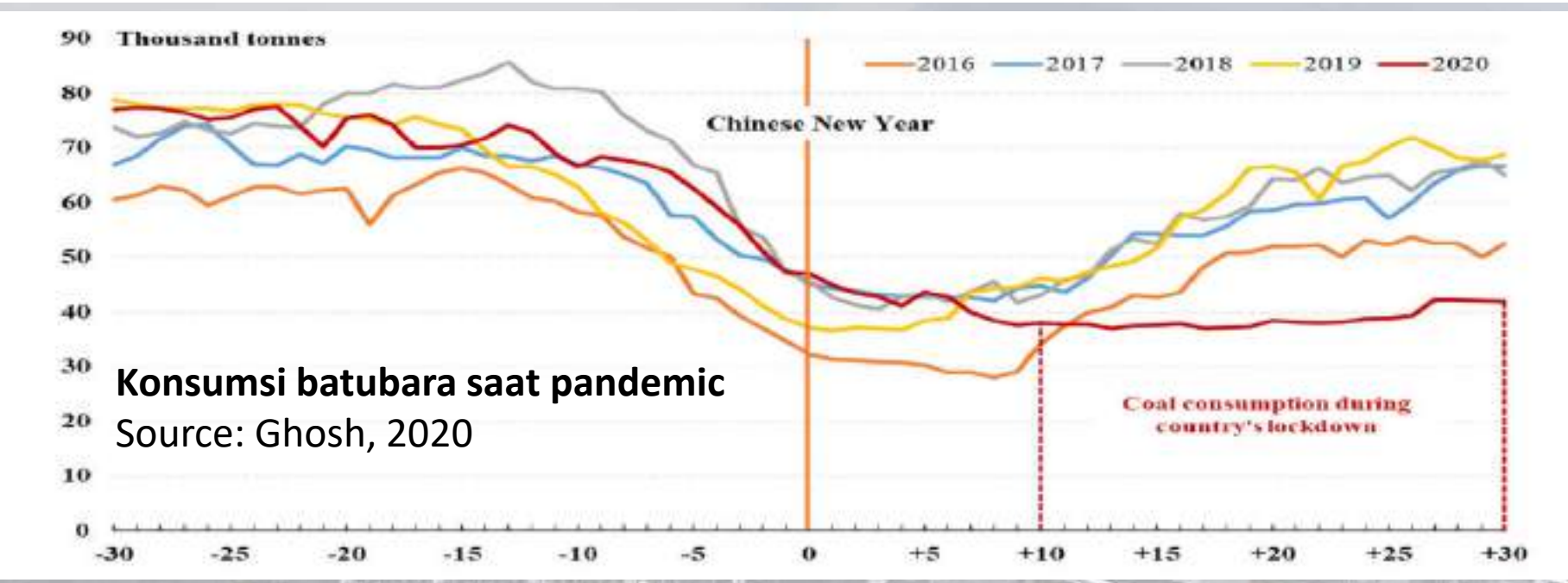
Sumber: Air Pollution in Asia and the Pacific (UNEP, 2018)

Covid-19 Pandemic 2020



Perubahan kasus baru per hari Covid-19 di China

Source: Chinese Center for Disease Control and Prevention, 2020



Konsumsi batubara saat pandemic

Source: Ghosh, 2020

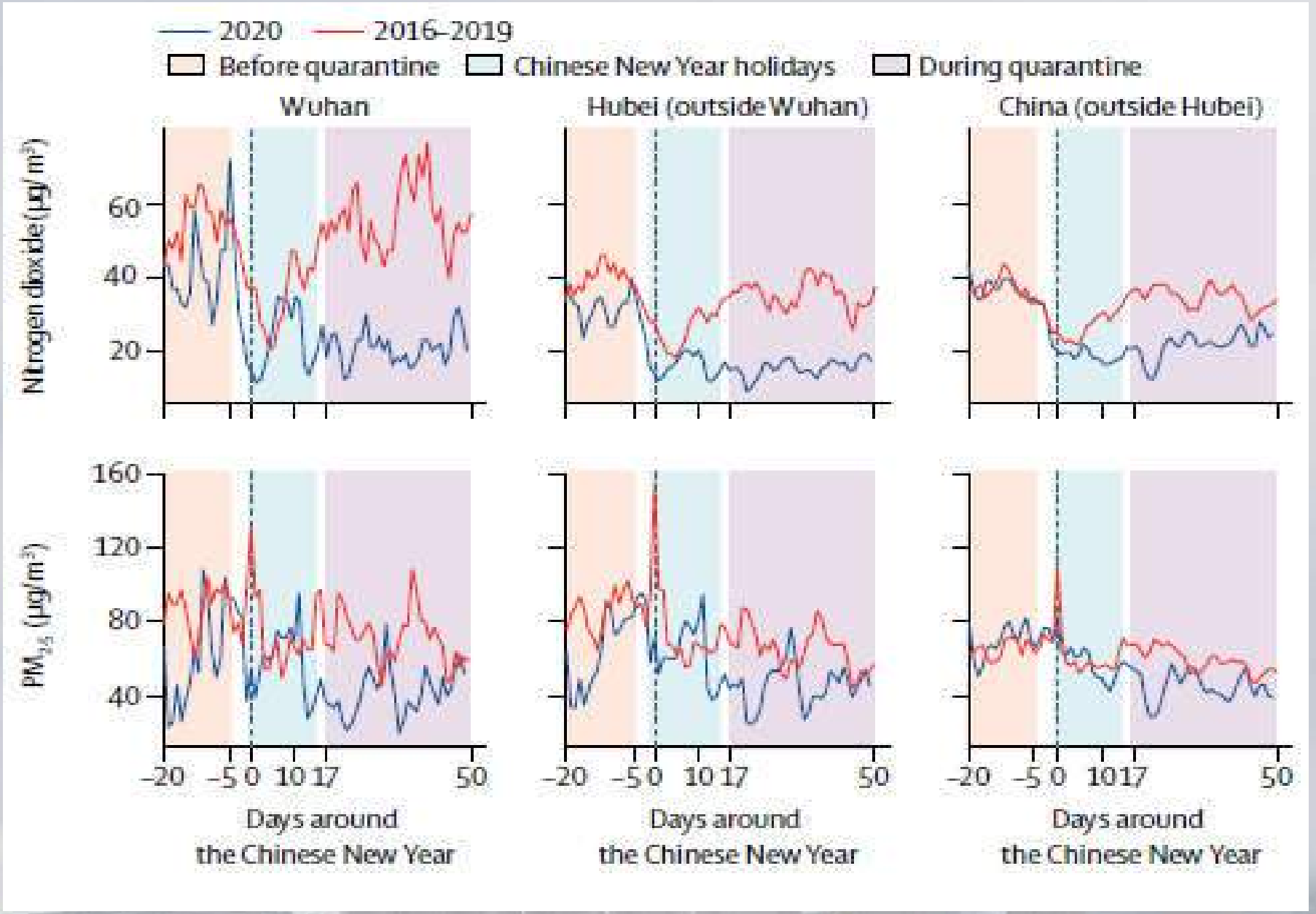
Dampak terhadap Mobilitas?

Wuhan Yangtze River Bridge, sebelum dan sesudah lockdown

Sumber: Pasley and Frias, 2020

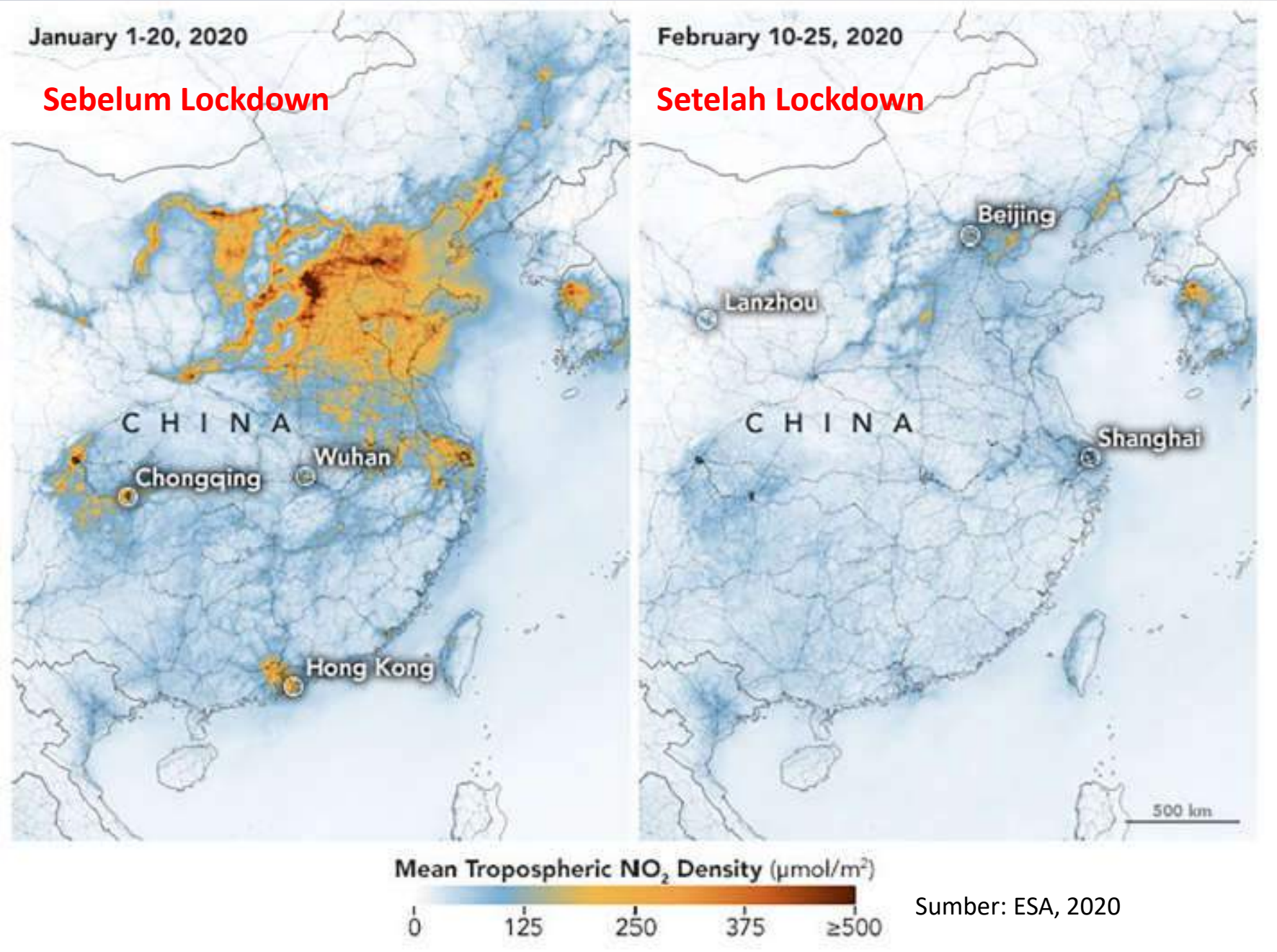
Wuhan Train Stations, sebelum dan sesudah lockdown

Kualitas Udara di China?



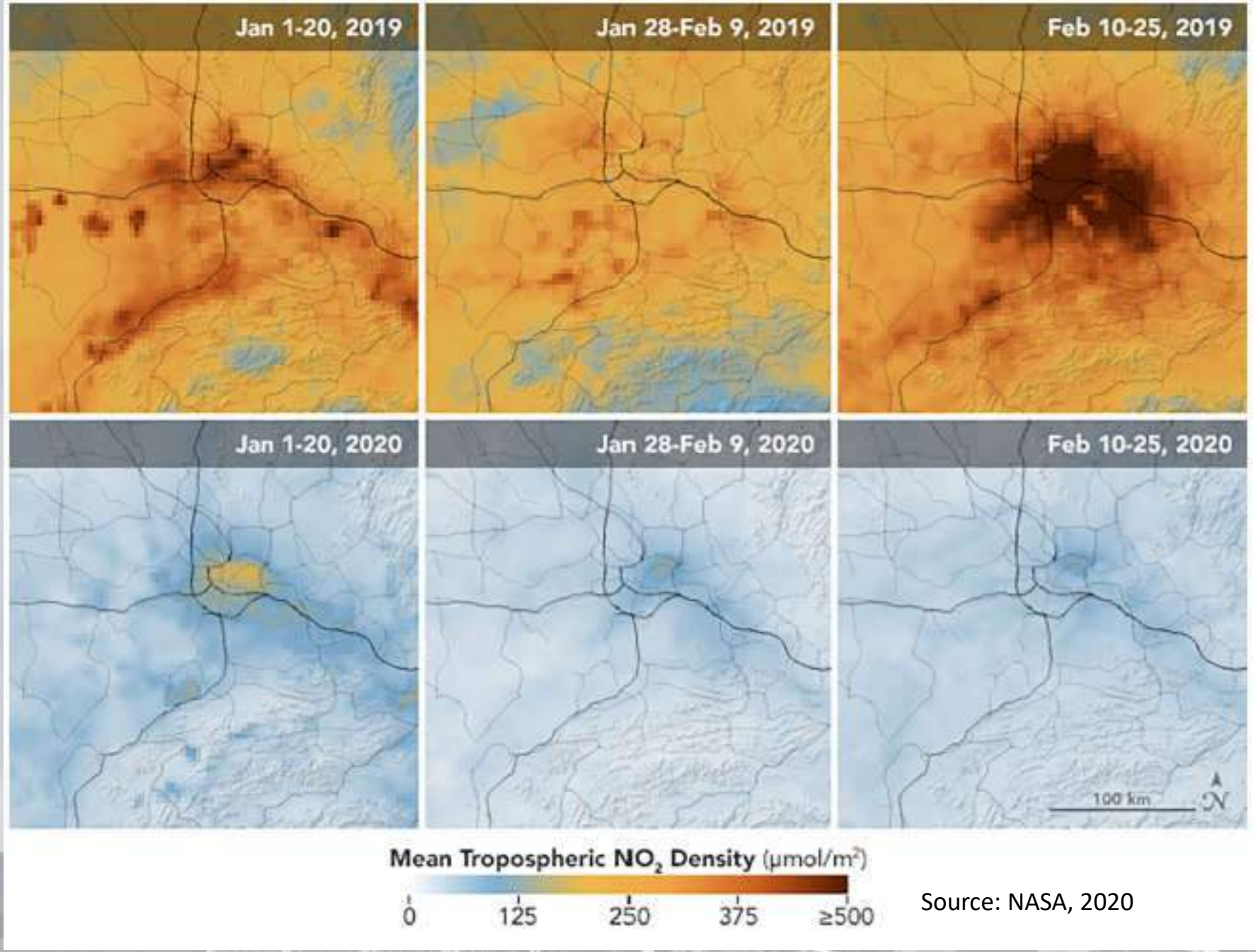
Source: Lancet Planet Health 2020

Data Observasi Satelit (China)



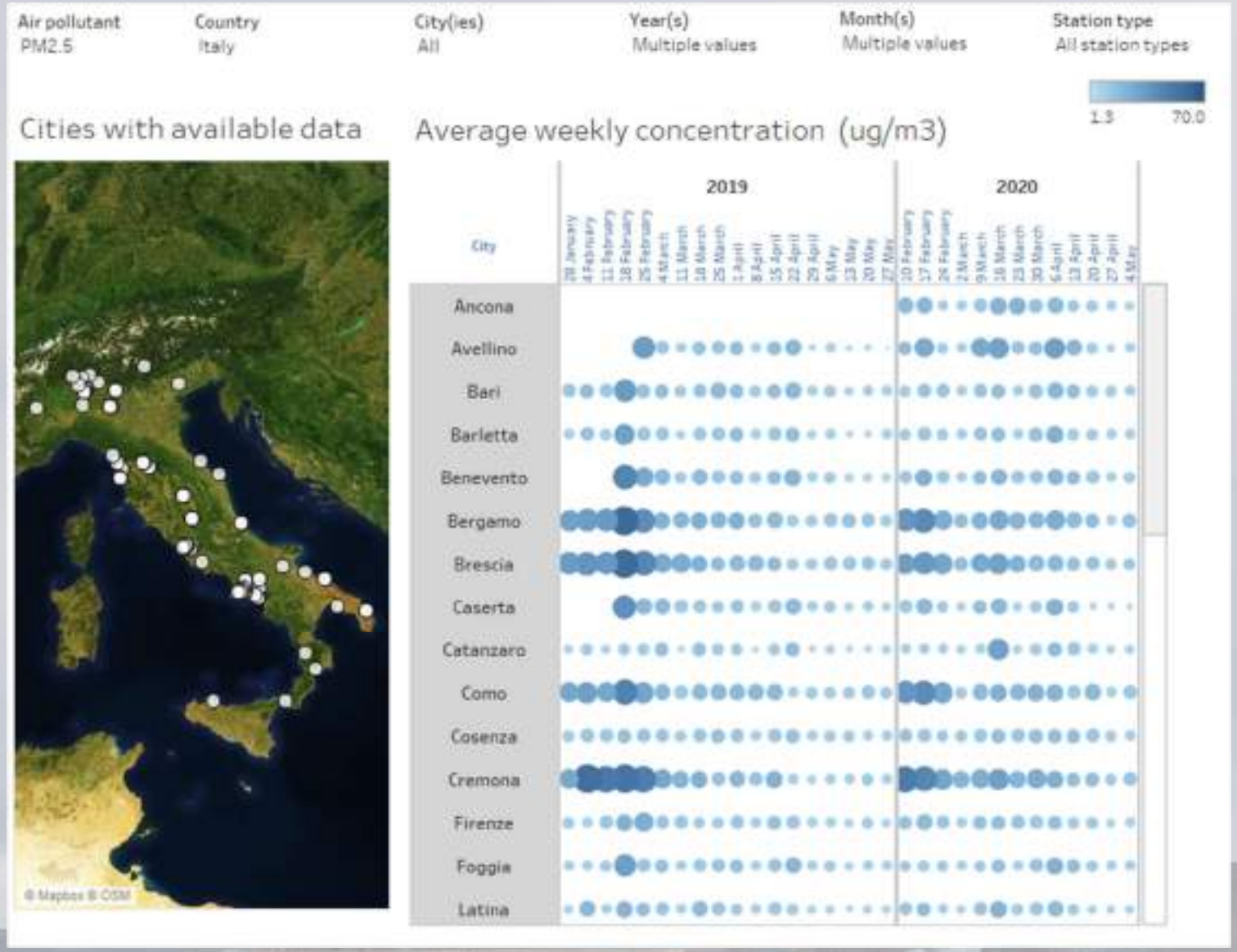
Sumber: ESA, 2020

Data Observasi Satelit (Wuhan)



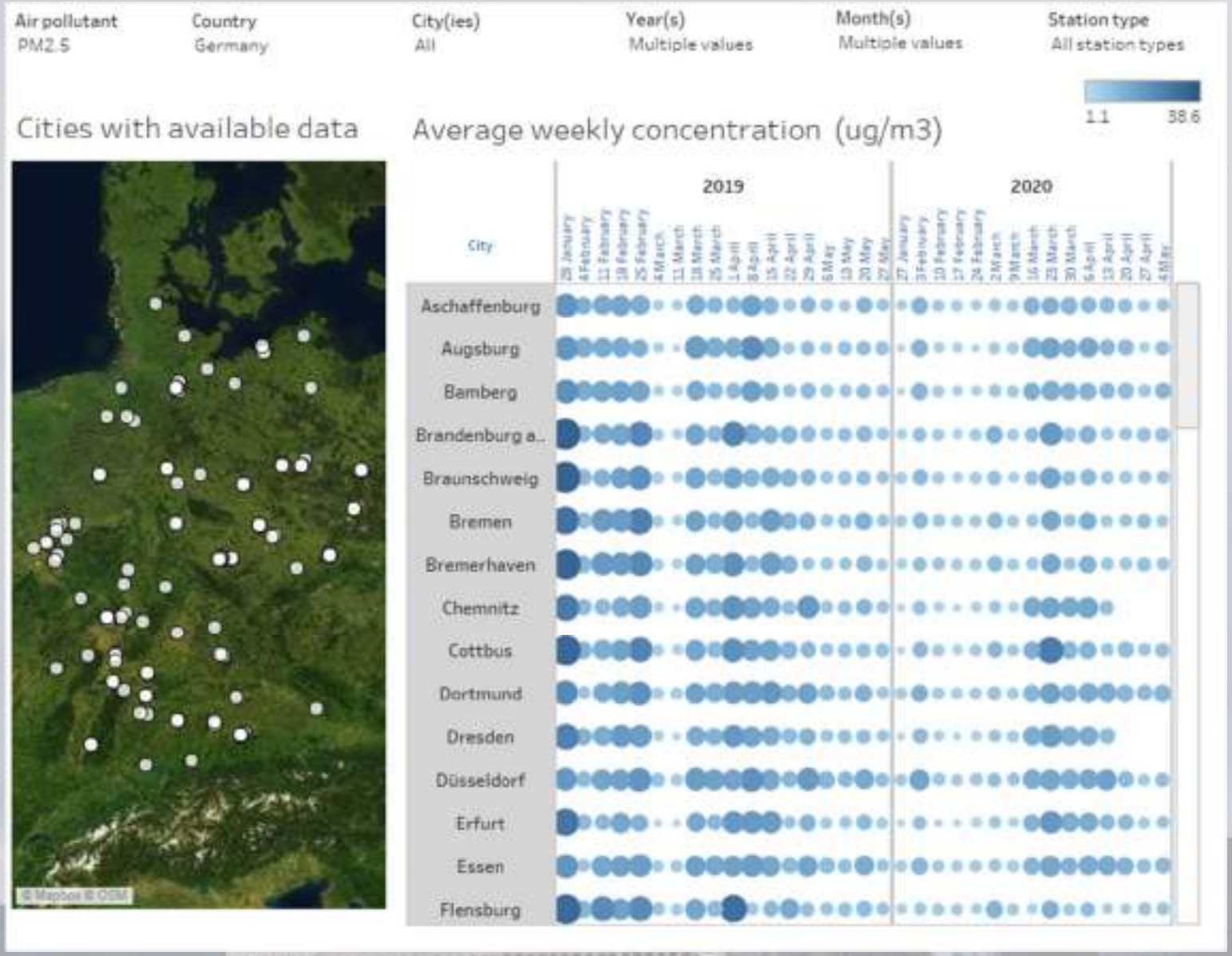
Source: NASA, 2020

Kondisi Kualitas Udara di Beberapa Negara: Italy



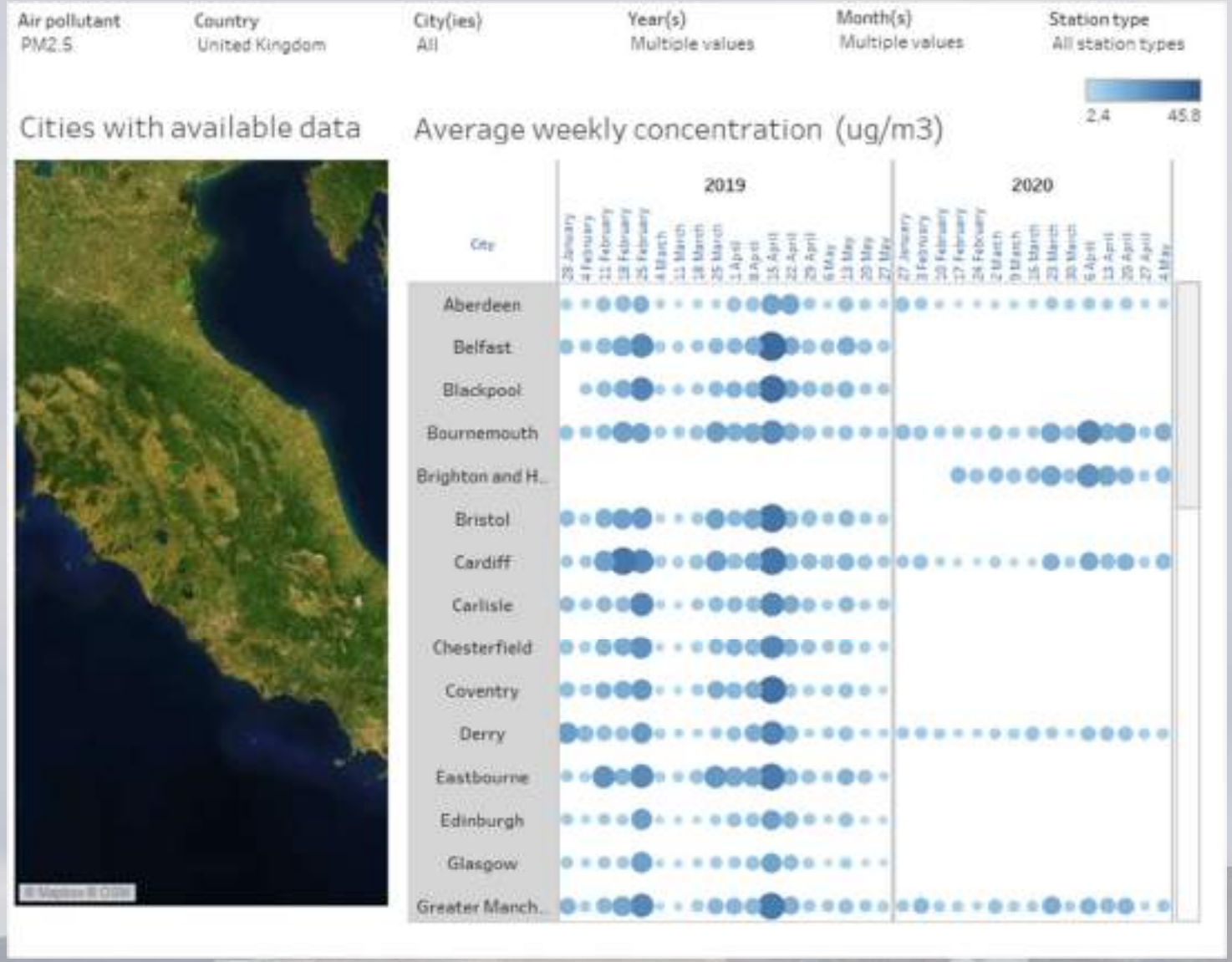
Sumber: https://www.eea.europa.eu/themes/air/air-quality-and-covid19/monitoring-covid-19-impacts-on

Kondisi Kualitas Udara di Beberapa Negara: Jerman



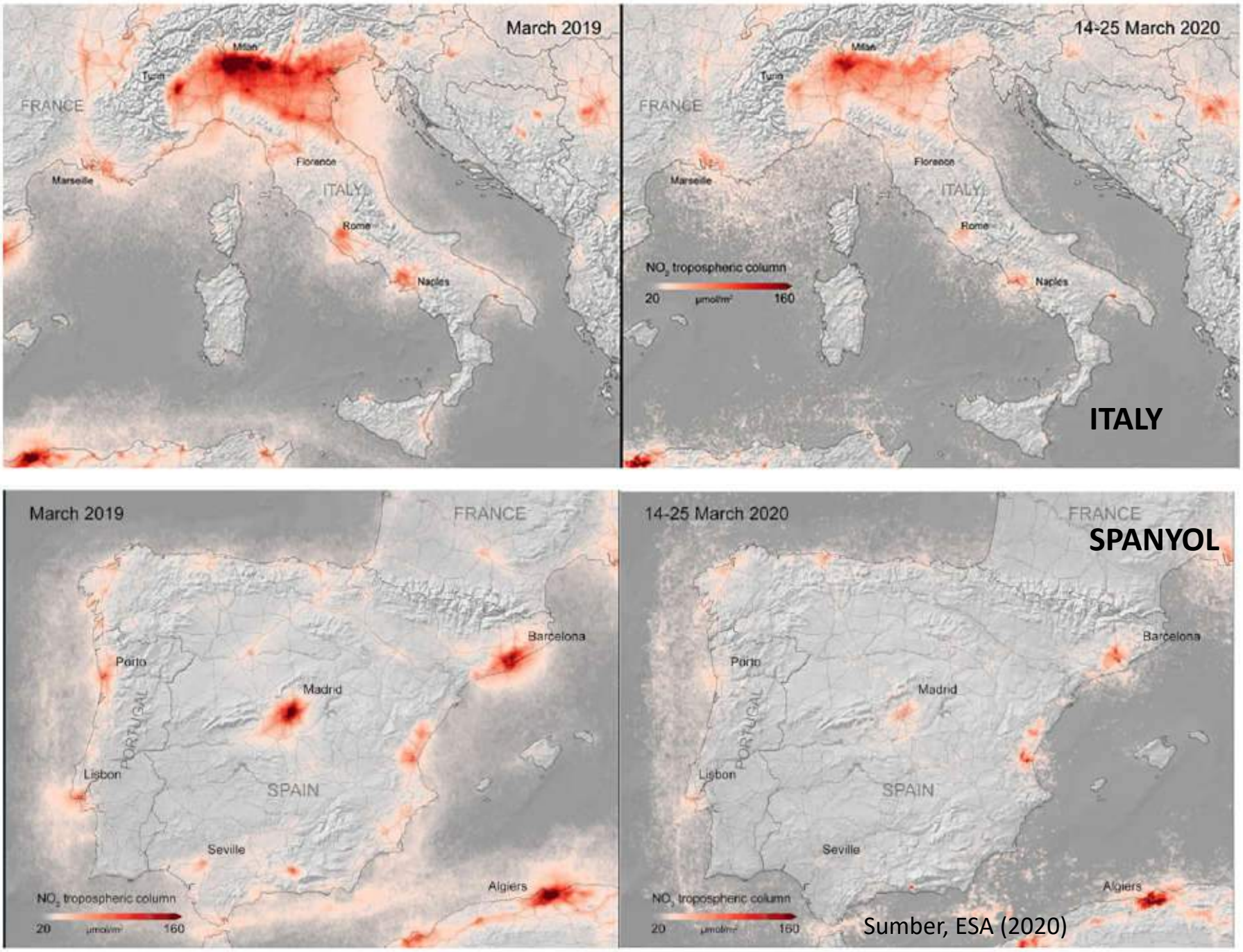
Sumber: https://www.eea.europa.eu/themes/air/air-quality-and-covid19/monitoring-covid-19-impacts-on

Kondisi Kualitas Udara di Beberapa Negara: Inggris

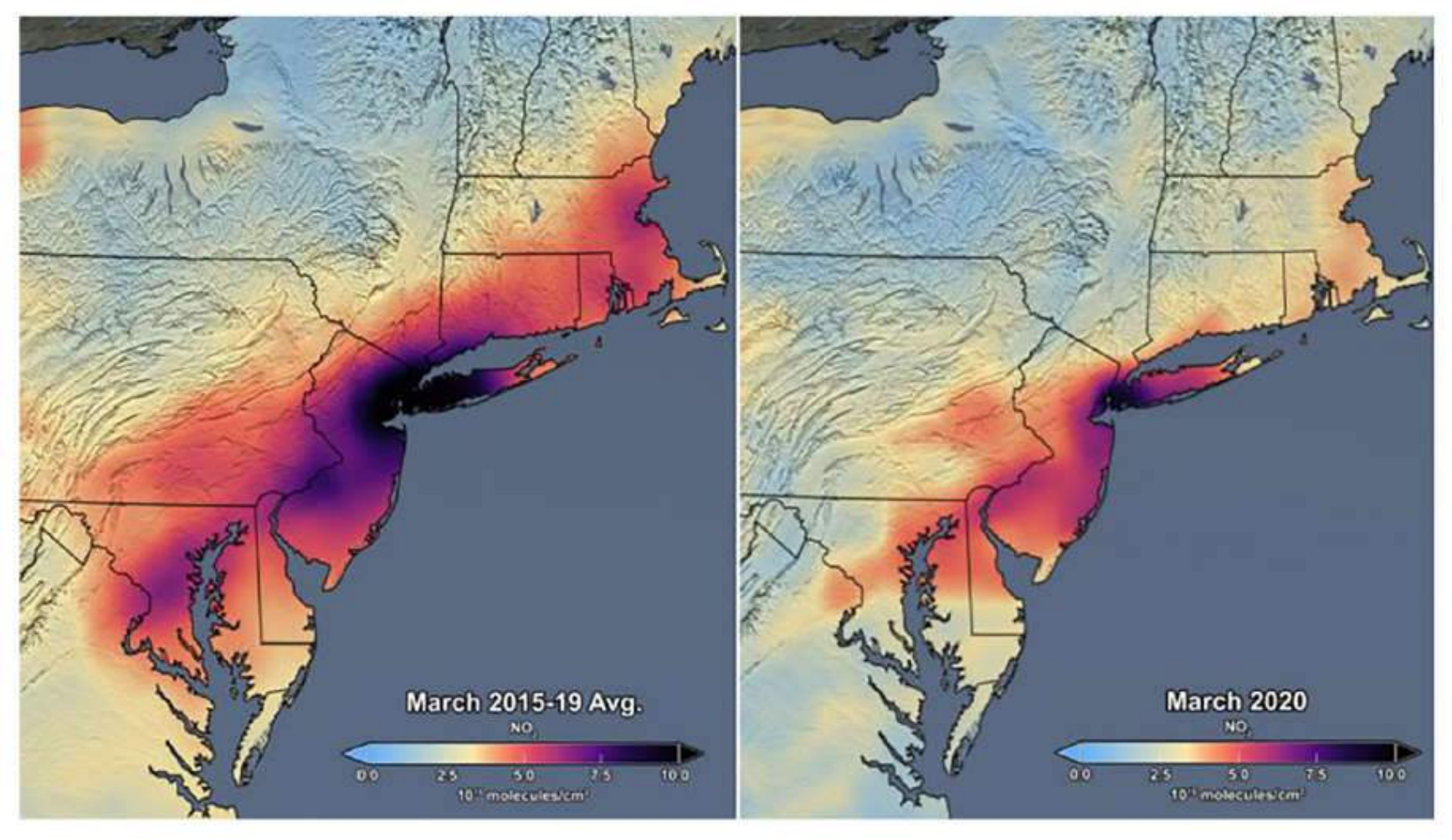


Sumber: https://www.eea.europa.eu/themes/air/air-quality-and-covid19/monitoring-covid-19-impacts-on

Data Observasi Satelit untuk Negara Negara Eropa (NO_2)



Data Observasi Satelit untuk Amerika Serikat (NO_2)



Sumber: NASA (2020)

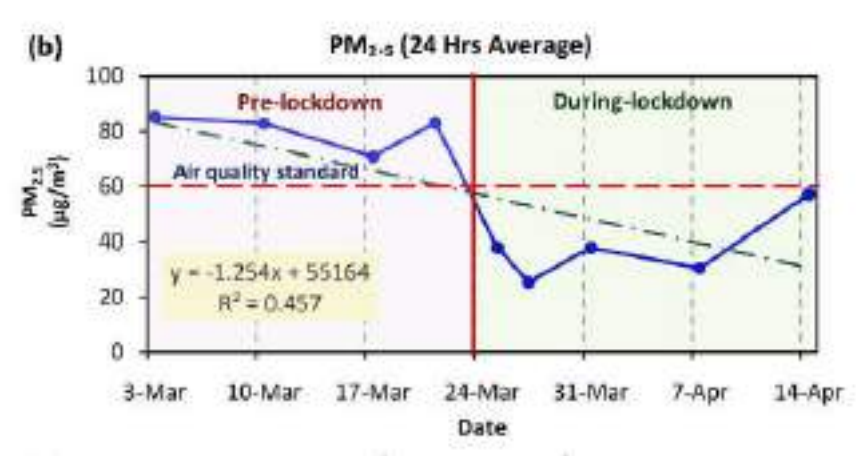
A view of Milan, Italy, on January 8, 2020.
Source: BBC

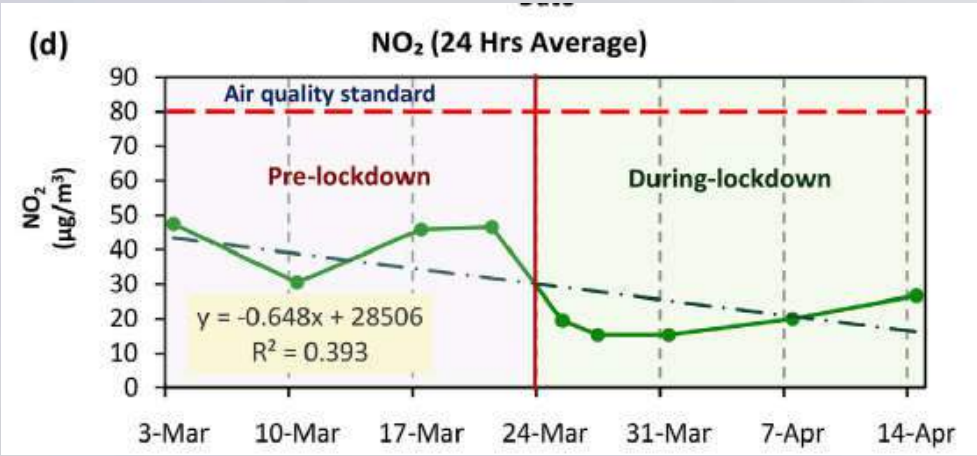
A view of Milan, Italy, on March 18, 2020.
Source: BBC

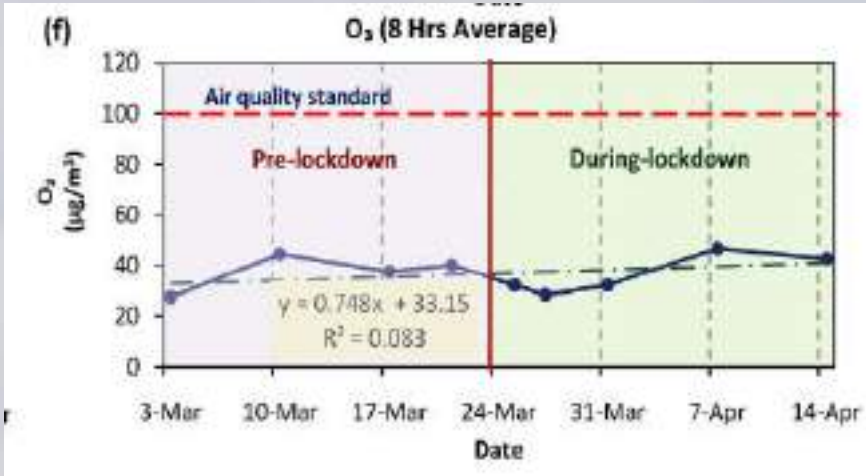
The usual smog in Los Angeles, California. David McNew/Getty Images

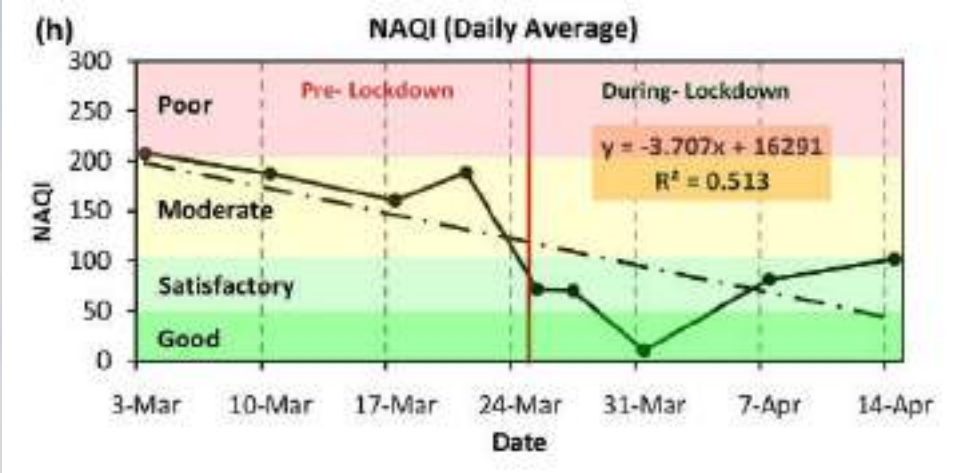
The San Gabriel Mountains are visible in Los Angeles, California, on April 14, 2020. *Sources: Business Insider*

Kualitas Udara di India

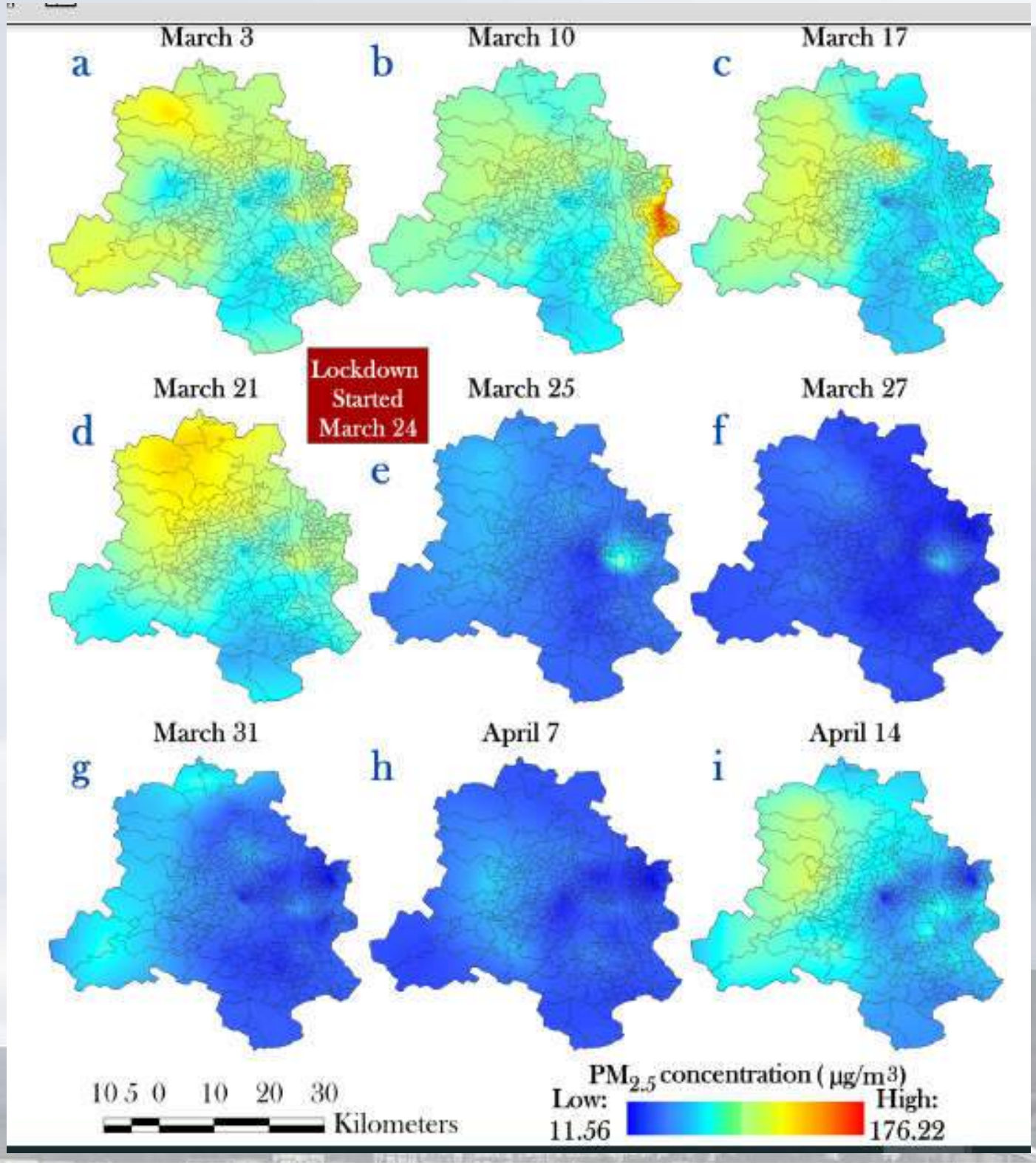








Sumber: Mahato et al., 2020



Perubahan Kualitas Udara $PM_{2.5}$ di New Delhi: Sebelum dan Sesudah Lockdown

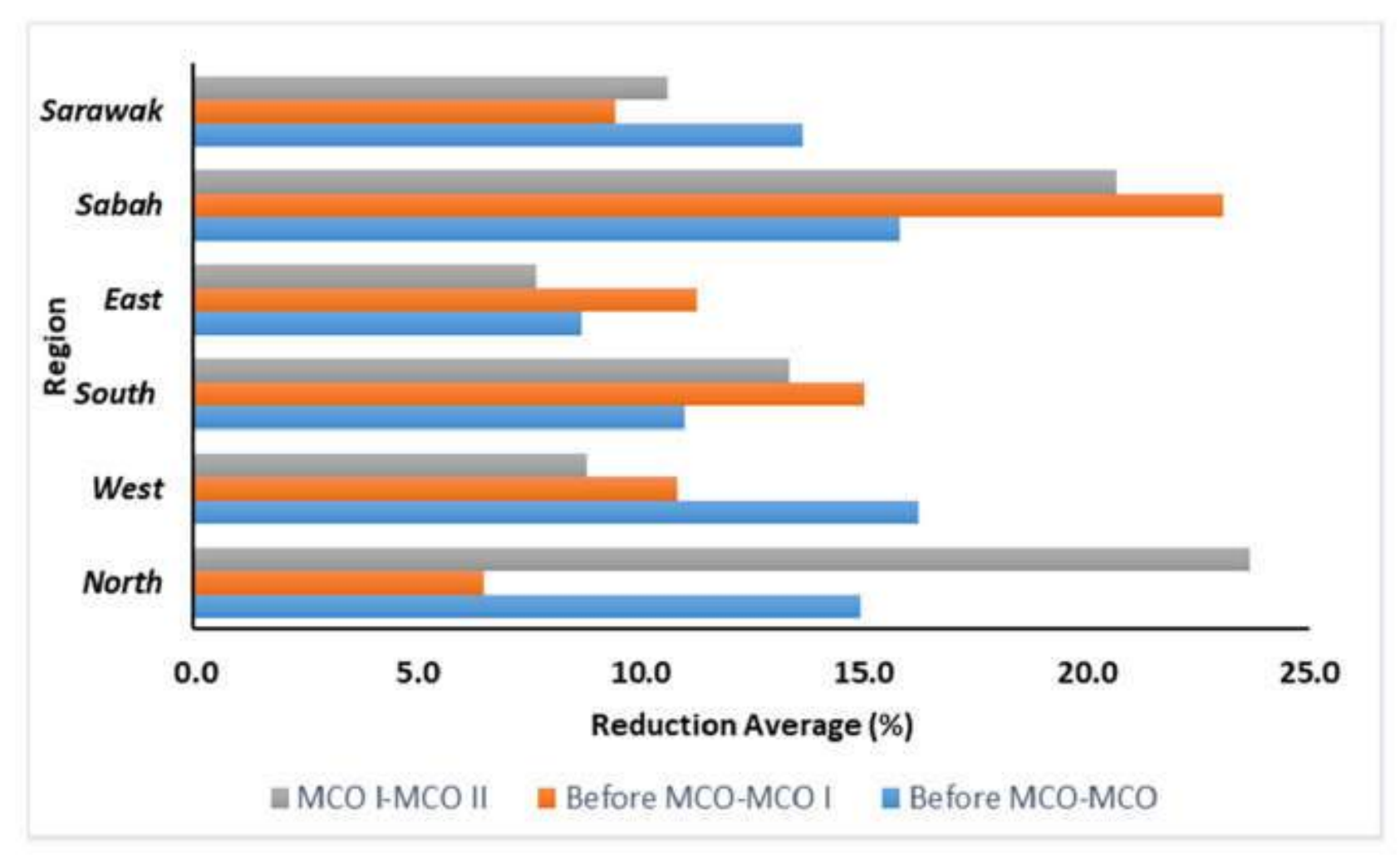
Sumber: Mahato et al., 2020

New Delhi, India, on March 21, 2018.
Source: *The New York Times*

New Delhi, India, on April 8, 2020, after a 21-day nationwide lockdown. *Source:* *The New York Times*

Jammu, India on May 3, 2020. Mukesh Gupta/Reuters

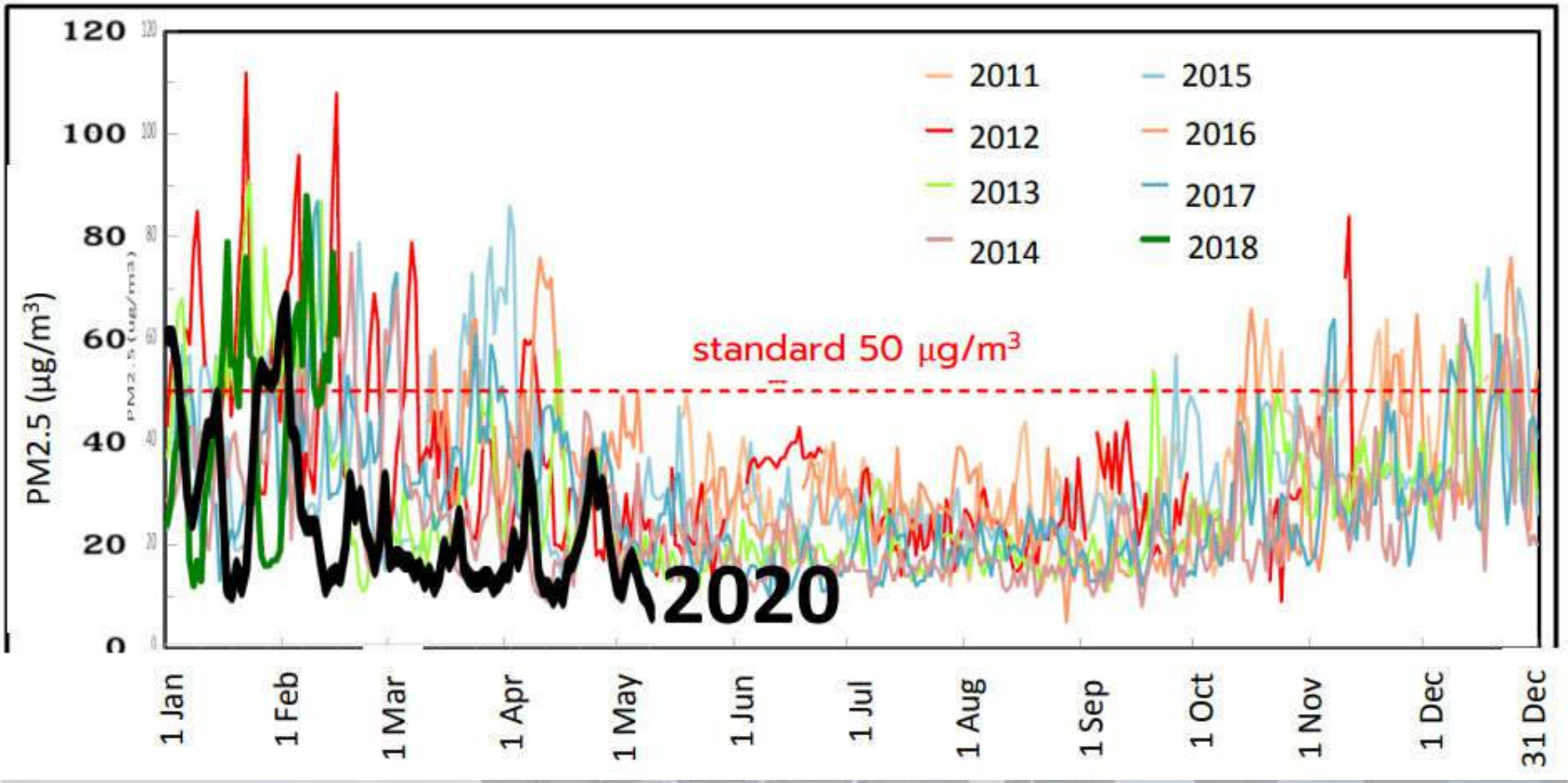
Kualitas Udara di Malaysia Akibat Kebijakan *Movement Control Order* (MCO)



Sumber: Abdullah et al., 2020

Kualitas Udara di Bangkok, Thailand

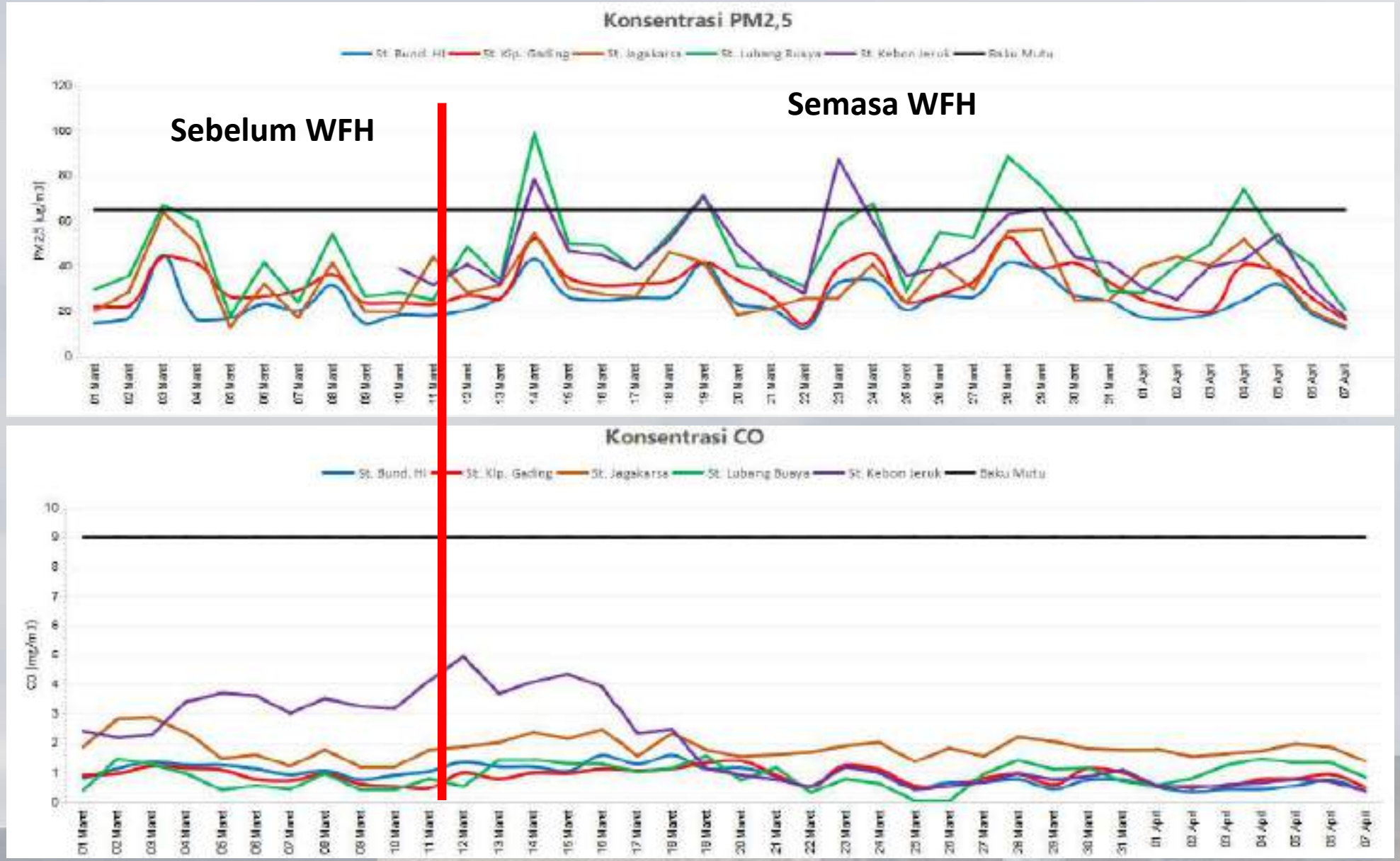
24-h average of PM2.5 in BMR between 2011-2018



Compiled and presented by Pongkiatkul (2020) from PCD (2020)

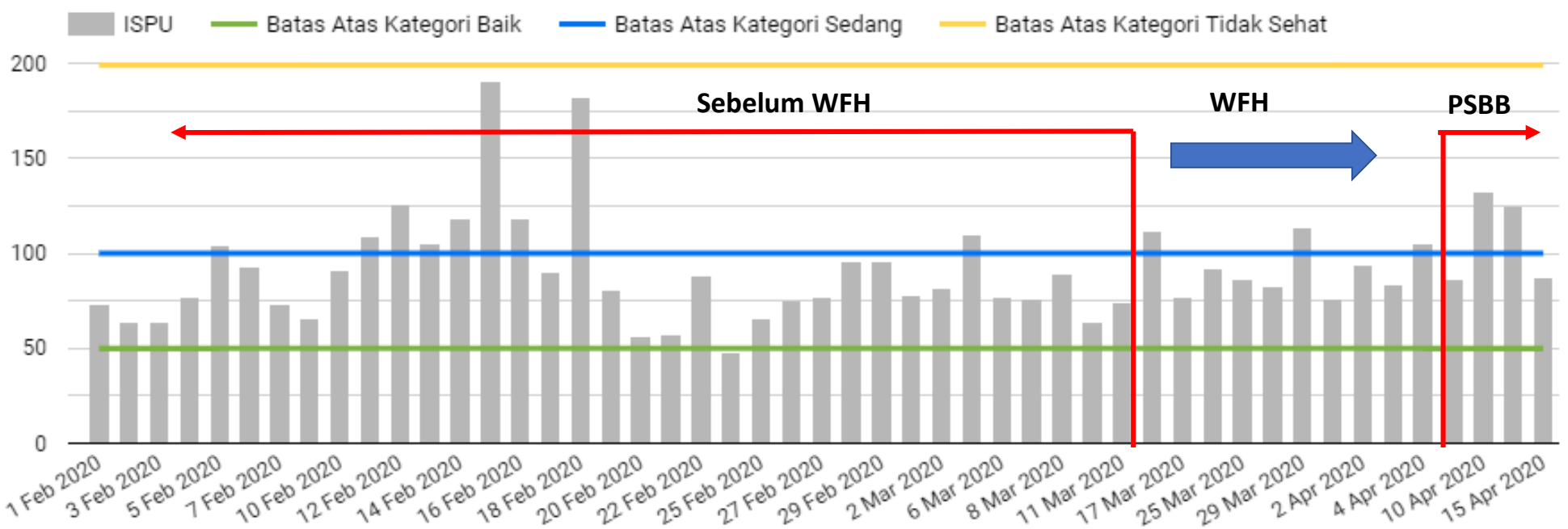
Bagaimana Kondisi Kualitas Udara di Jakarta, Indonesia ?

Konsentrasi Pencemar Udara Terukur di Beberapa Stasiun Pengukur Kualitas Udara



Sumber: https://lingkunganhidup.jakarta.go.id/data-tahun-2020/

Indeks Standar Pencemar Udara

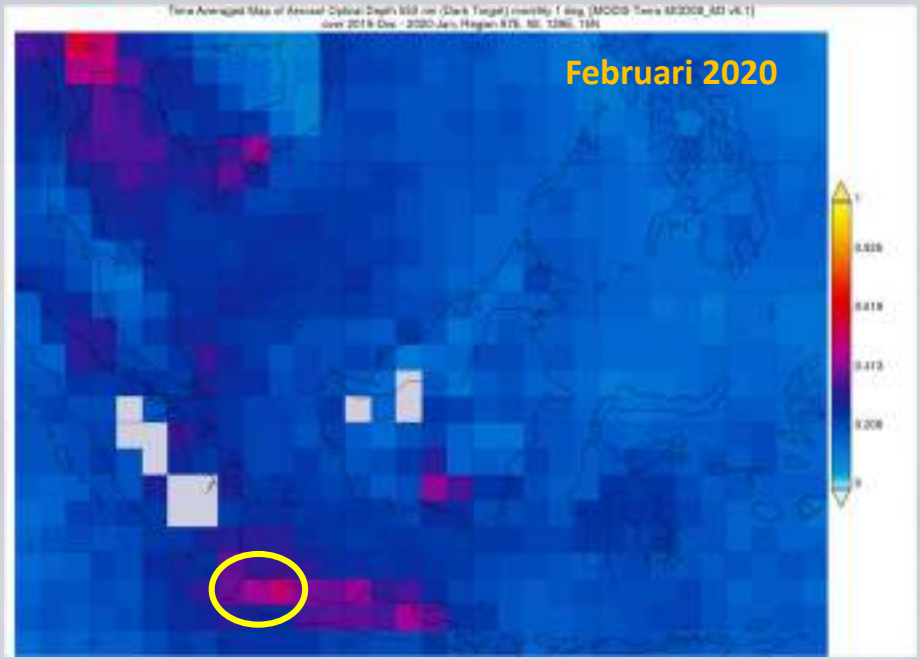


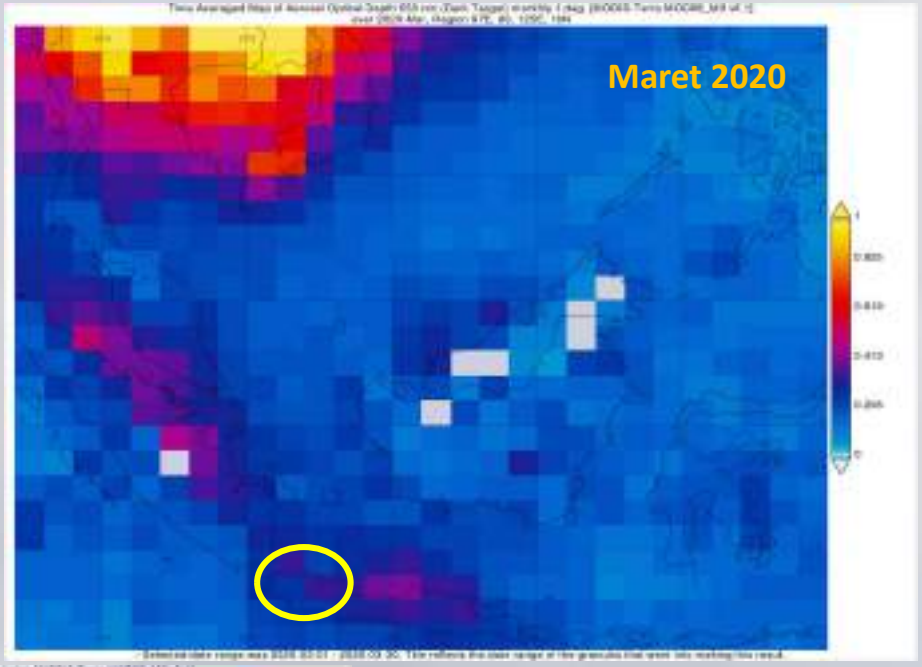
Sumber: https://lingkunganhidup.jakarta.go.id/data-tahun-2020/

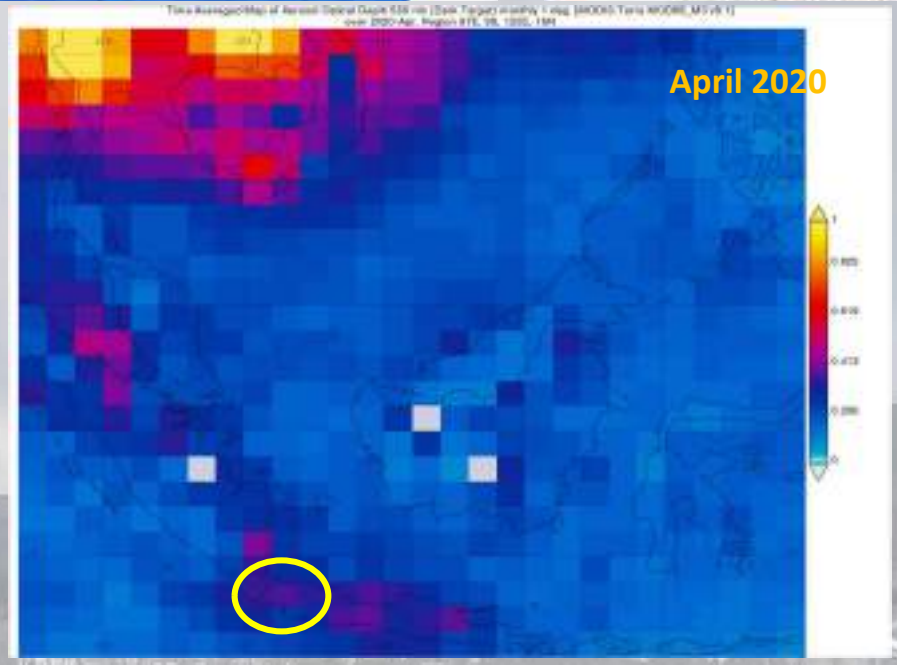
$$Xx \rightarrow I$$

$$I = \frac{Ia - Ib}{Xa - Xb}(Xx - Xb) + Ib \quad \ldots\ldots\ldots\

Hasil Monitoring Satelit (MODIS) untuk Parameter Aerosol Optical Depth (AOD) - Indonesia







Sumber:
https://giovanni.gsfc.nasa.gov/

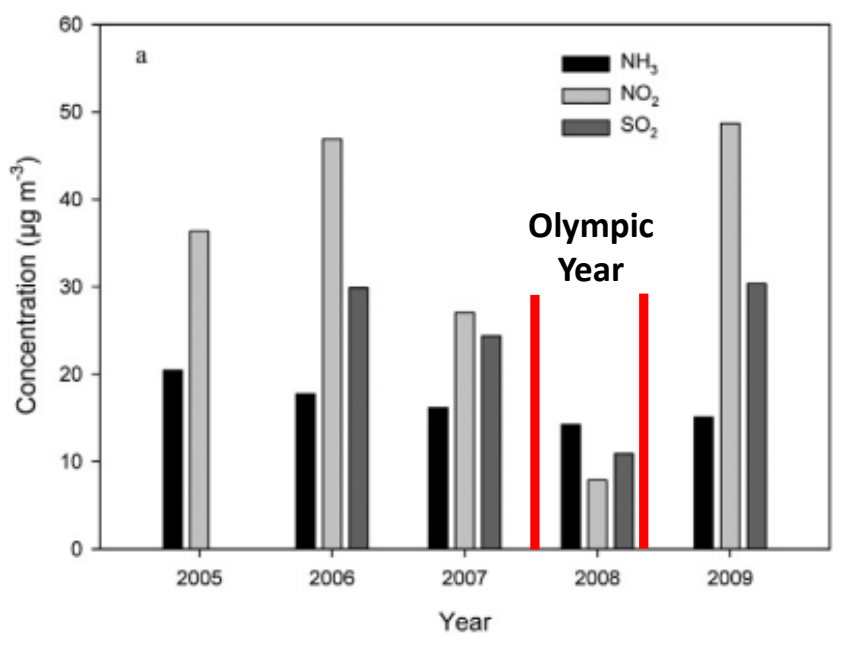
Dapatkan kita melakukan sesuatu seperti yang dialami saat pandemi?

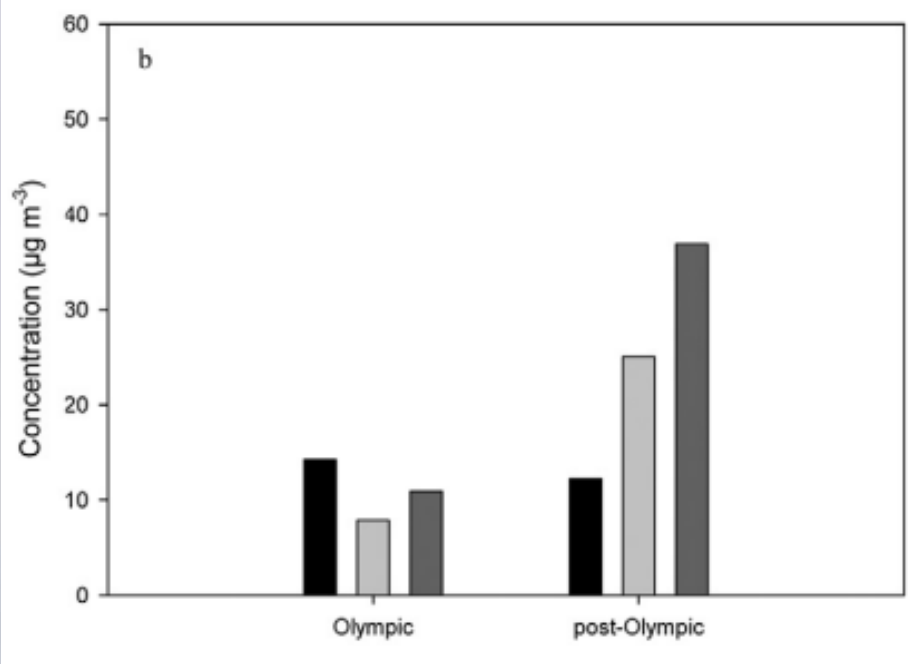
- Dalam Pengelolaan Kualitas Udara ada yang dinamakan dengan *Stringent Pollution Control Measures*
- Sudah diterapkan untuk:
  - Perbaikan kualitas udara untuk penyelenggaraan Olimpiade Beijing 1998
  - Perbaikan kualitas udara di Kota Shanghai untuk menghadapi pertemuan G20 Summit 2016
  - Banyak contoh lain: Commonwealth Games new Delhi, Asian Games Jakarta – Palembang, earth-hour, dll

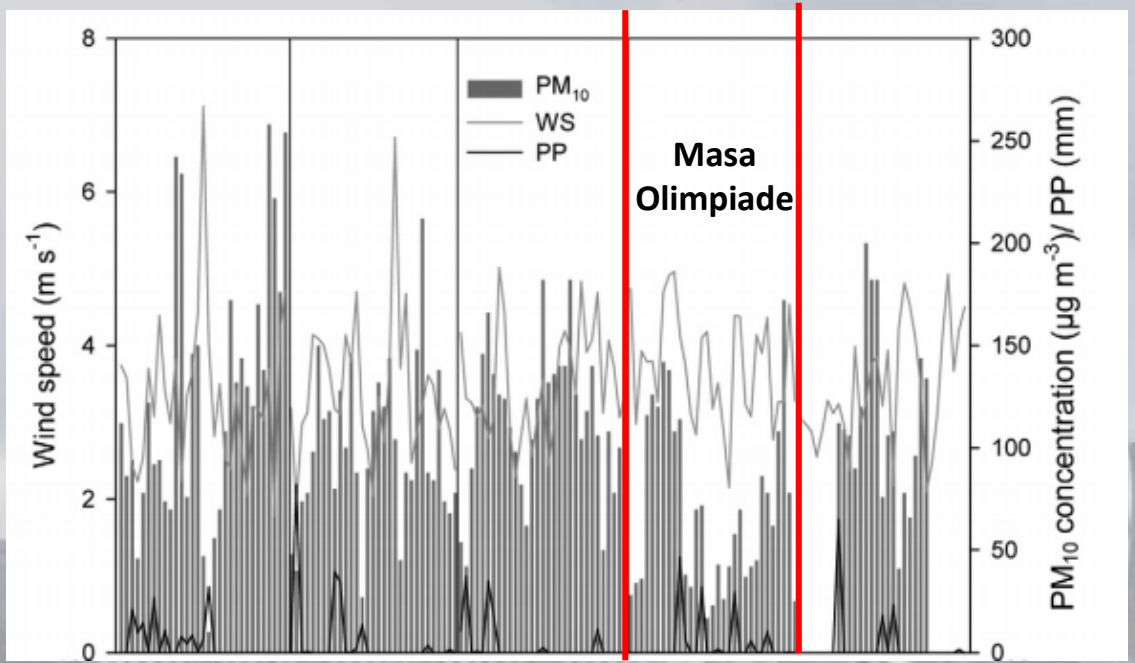
Olimpiade Beijing 2008

- Sebelum penyelenggaraan pemerintah mengumumkan penutupan kegiatan konstruksi, pertambangan dan pabrik kimia
- Industri di dalam Kota Beijing diminta untuk menurunkan emisi sebesar 30%
- 300 perusahaan di kota-kota tetangga (Tianjin and Tangshan) ditutup sementara selama olimpiade
- 50% dari sekitar 3.3 juta kendaraaan di Beijing dilarang beroperasi di jalanan kota selama penyelenggaraan olimpiade

Capaian Perbaikan Kualitas Udara







Source: Shen et al. (2011)

Stringent Control Measures (G20 Blue Shanghai)

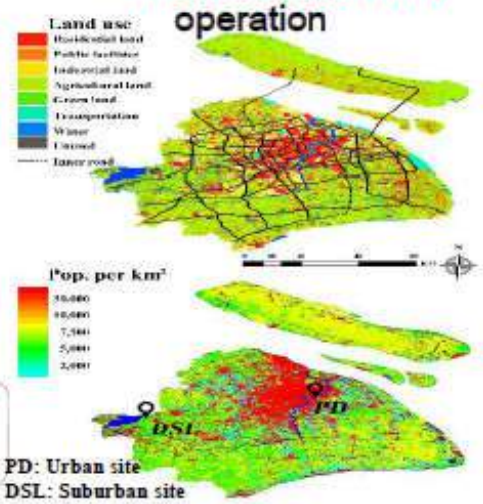
Sumber: Lee et al. (2018)

31%

Closure of public coal-fired power plant

50%

Ban non-road machinery operation



100%

Restrict driving of "yellow-label" vehicles and ban 200t below and 600t above single-hull ferry boat

84 %

100%

Ban all agriculture-fire emissions

50 %

Road fly-ash cleaning
(Including 6 State highways)

50%

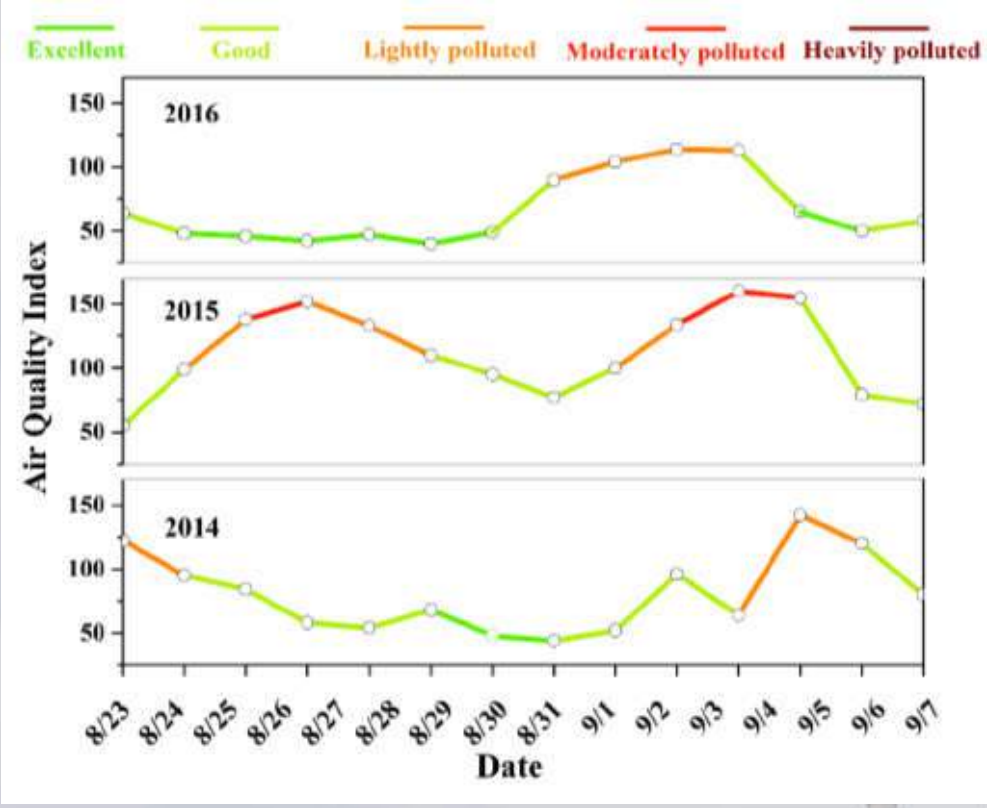
Curtail 101 large construction activities

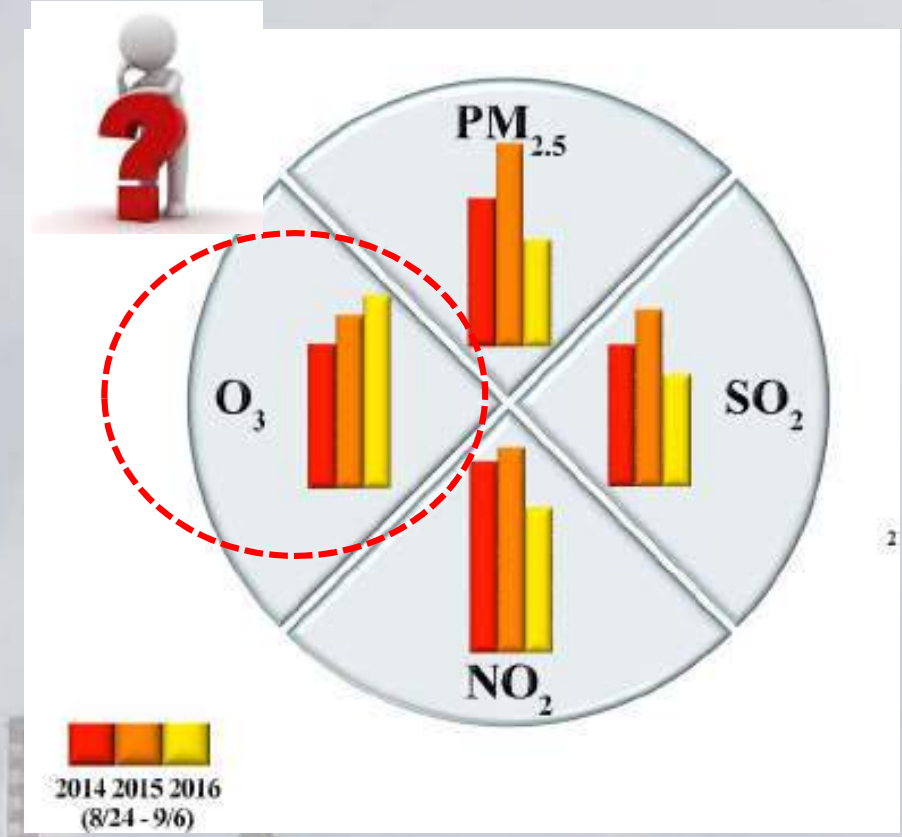
100%

24/7 expanded monitoring and reporting in all administrative districts

Halt 255 industries and manufactories

Dampak terhadap Kualitas Udara





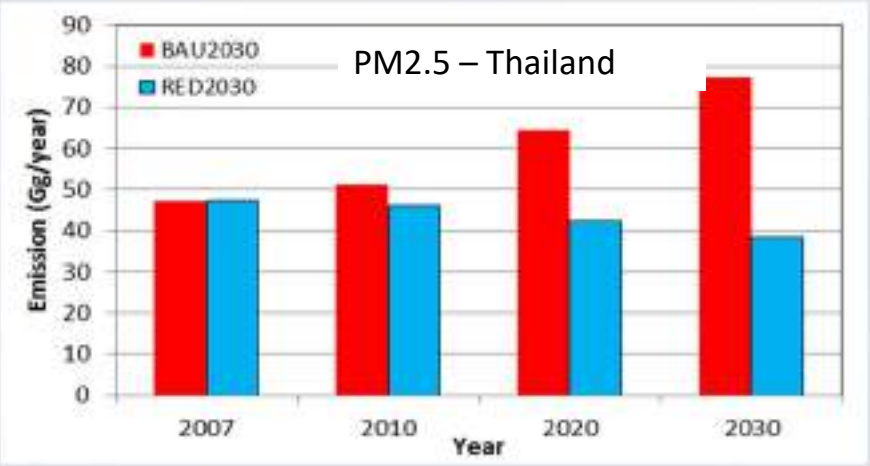
Sumber: Lee et al. (2018)

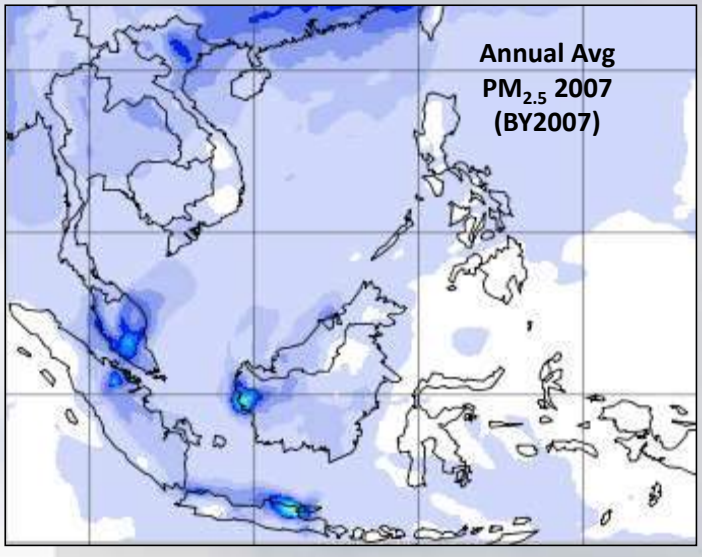
Mengapa setelah dilakukan beberapa upaya penurunan emisi, konsentrasi $PM_{2.5}$, SO_2 dan NO_2 menurun tapi ozone (O_3) naik?

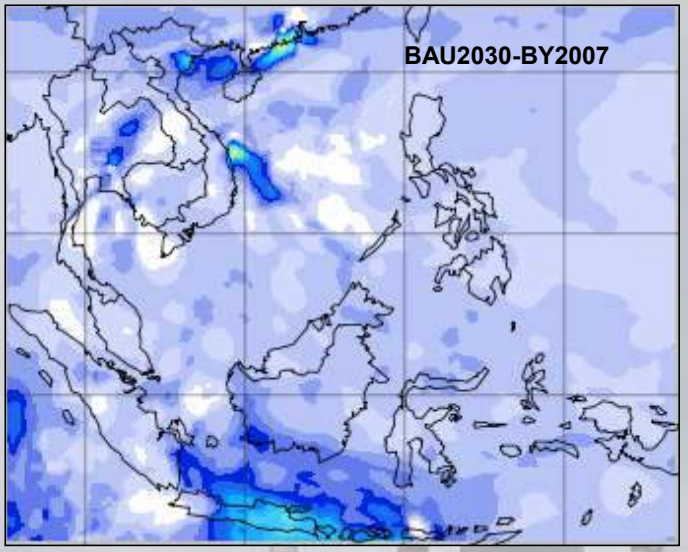
Jika kita melakukan sesuatu untuk menurunkan emisi secara berkala

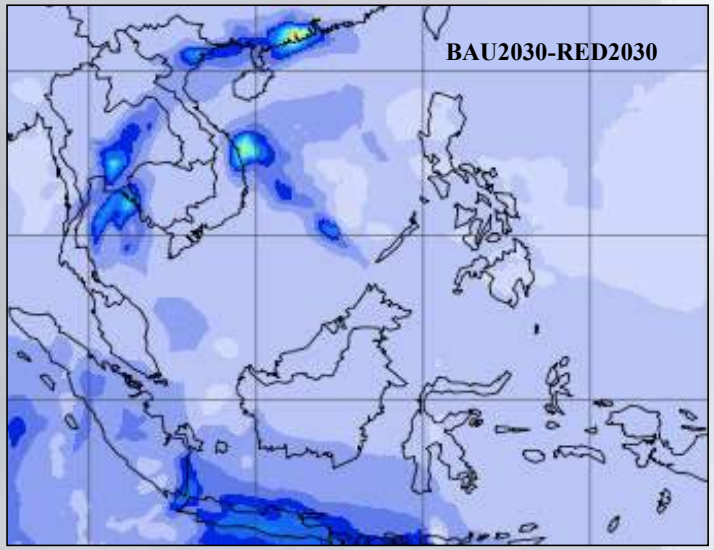
No	Sector	Emission Reduction Scenario in 2030 (RED2030)	
		Indonesia	**Thailand**
1	Transportation	All personal cars have to comply with Euro 4 in 2030 according to the roadmap	All personal cars <1,600 CC in the market in 2030 will have fuel consumption 5 liters/100 km and comply with Euro 4 standard
		Fuel shifting for public from gasoline/diesel to CNG for all public buses and taxi	Promoting cleaner fuel such as CNG/NGV that will increase of around 88% in 2030
2	Residential	Full implementation of "zero kero" program to cover 42 million (64%) households converted from kerosene to LPG by 2012 and 80% of number of households as end-point (by 2030)	50% of total fuel consumption of wood and charcoal in 2030 will be converted to LPG)
		Substitution of traditional fuel wood cook stoves to clean burning biomass stoves (gasifier stoves)	Electricity to replace biomass (in 2030 20% of fuel wood will be converted to electricity)
3	Industry	Fuel switch from coal to biomass and natural gas for cement, iron steel, pulp and paper, and textiles and fertilizer industries	Increasing efficiency of boilers (new rotary burners) and furnaces (by preheating fuel) that can save energy of around 16% by 2030
		Modernization of process from wet to dry killn in cement industry and increasing efficiency of boilers and furnace that can save energy around 16% by 2030	Full implementation of maximum feasible reduction (application of air pollution control devices) in cement and iron industry by 2030
4	Biomass open burning	20% reduction of burned area for forest fire and crop residue open burning in 2014 and around 40% in 2030 as compared to the year of 2010 (National strategic plan 2010)	Forest area burned not over 48,000 ha/year (2030) (National master plan)
		Zero burning of solid waste by 2030 due to improved SW management in most of urban areas	Zero burning policy to re-use of crop residue as bio-energy up to 25% from total energy demand in 2030[g]
			Amount of solid waste subjected to burn should be reduced at least 75% through adequate solid waste management system in 2030

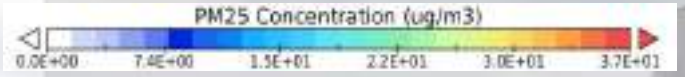
Implikasi terhadap Emisi dan Kualitas Udara

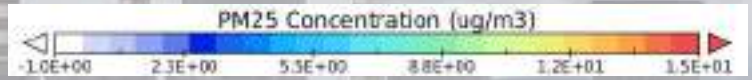






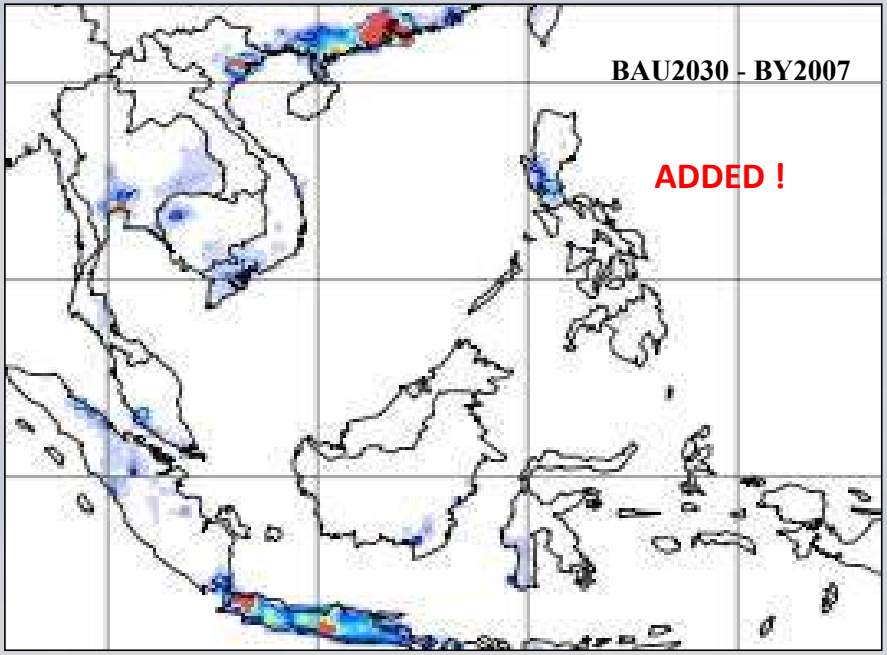


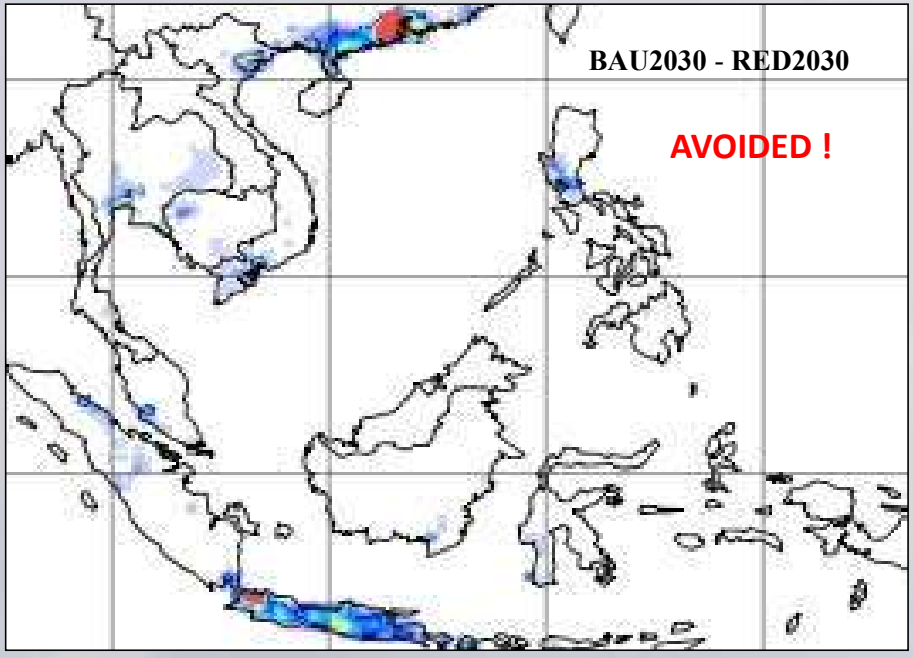


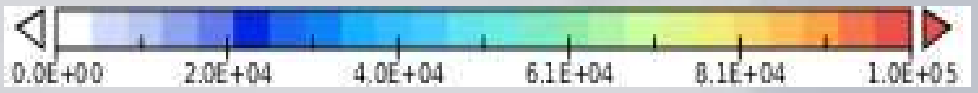


Sumber: Permadi et al. (2018). Atmospheric Chemistry and Physics, 18, 3321 - 3334

Implikasi terhadap Penurunan Resiko Kematian Dini





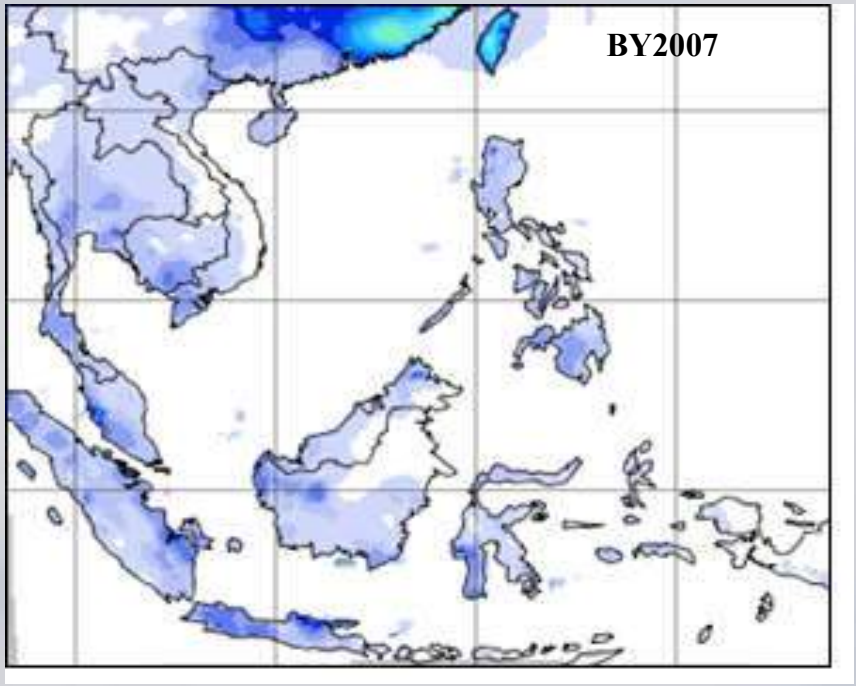


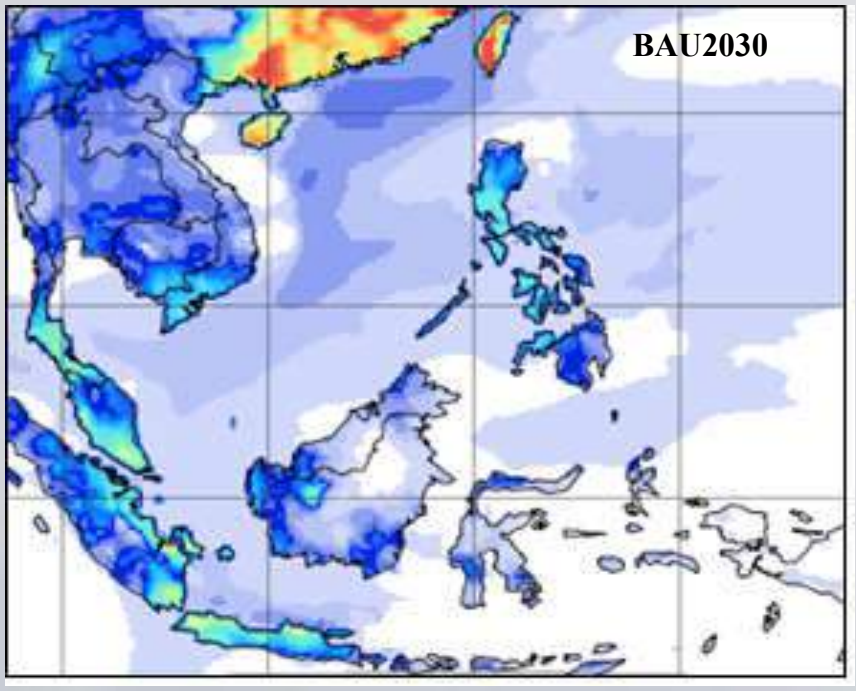
Cases of premature mortality per 100,000 of population

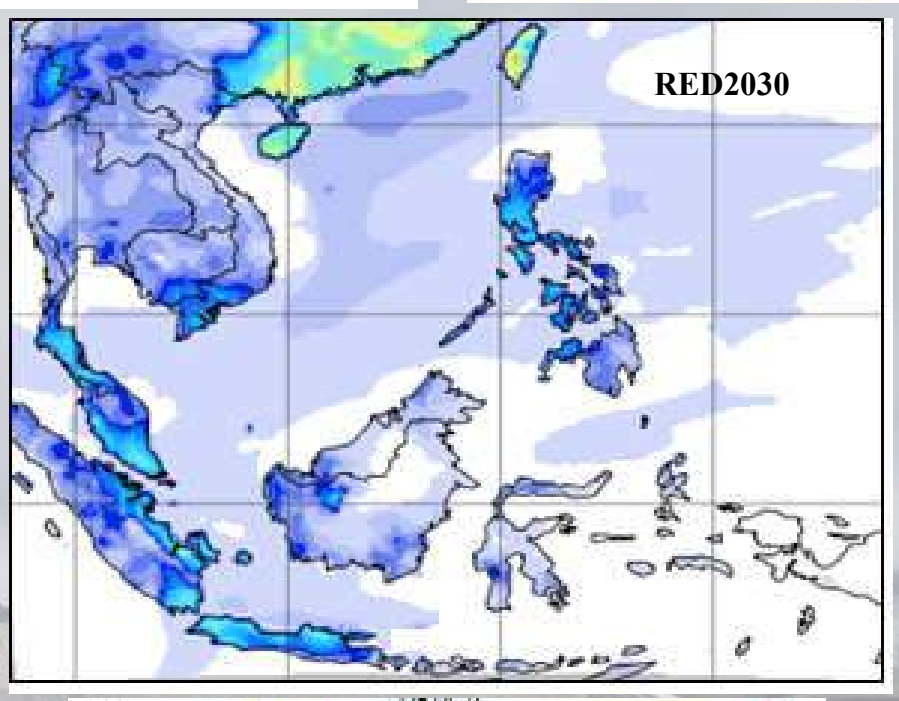
(BAU2030-RED2030)	INA	Thailand
Avoided Mortality/100,000 population (this study)	58	41
Shindell et al. (2011)	74	68

Sumber: Permadi et al. (2018). Atmospheric Chemistry and Physics, 18, 3321 - 3334

Implikasi Terhadap Perubahan Iklim (*Short Term*)







Aerosol Direct Radiative Forcing: dampak aerosol (*black carbon*) terhadap pemanasan atmosfir (mekanisme penyerapan sinar UV) dinyatakan dalam satuan energi, Watt /m^2

Sumber: Permadi et al. (2018). Atmospheric Chemistry and Physics, 18, 3321 - 3334

Summary

- Pencemaran udara adalah permasalahan global dan telah menyebabkan gangguan kesehatan dan kematian
- Penanganan pandemi Covid-19 secara global melalui karantina (Lock Down) dan lain-lain memberikan dampak terhadap berkurangnya emisi pencemar udara
- Diperlukan upaya sistematis untuk mengurangi emisi di sumber-sumber pencemar utama, dengan program yang tersusun (*action plan*) dan implementasi yang konsisten
- Keuntungan lain (co-benefits) selain membaiknya kualitas udara adalah: berkurangnya resiko kematian dini akibat pencemaran udara dan memperlambat pemanasan global yang hasilnya bisa dilihat dalam jangka waktu yang pendek (1-30 tahun)

Can we tackle air pollution problem the same urgency as we handle COVID-19?

Terima Kasih Atas Perhatiannya

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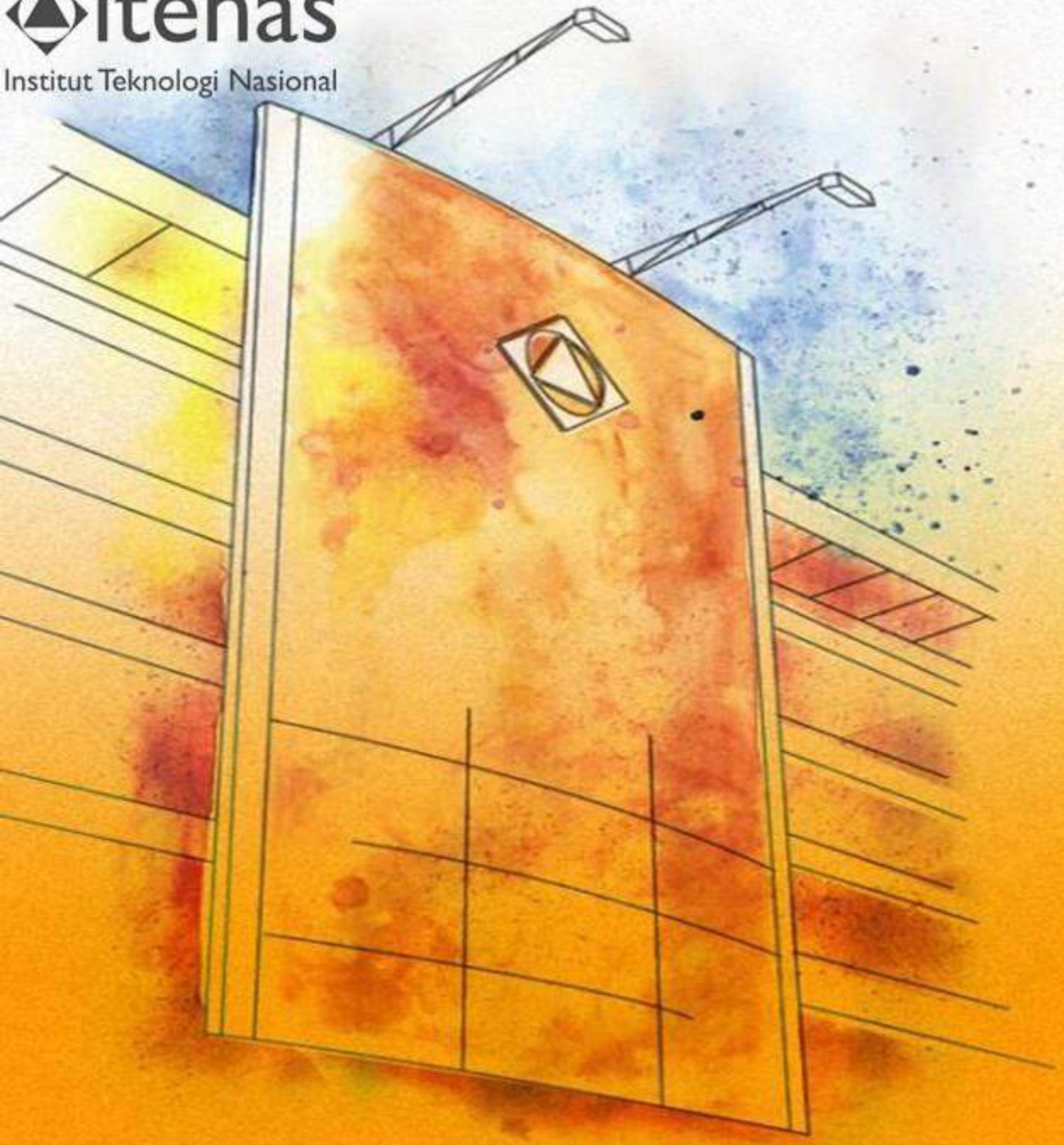
Institut Teknologi Nasional



FTSP NEW NORMAL WEBINAR SERIES

PROMOTION & COLLABORATION ON ACADEMIC RESEARCH TO INDUSTRY ACTIVITIES

Kontribusi Data Pengamatan GNSS Dalam Memahami Dinamika Tektonik Indonesia

Henri Kuncoro

Teknik Geodesi Itenas

Supported by

Tiga Pilar Utama Geodesi

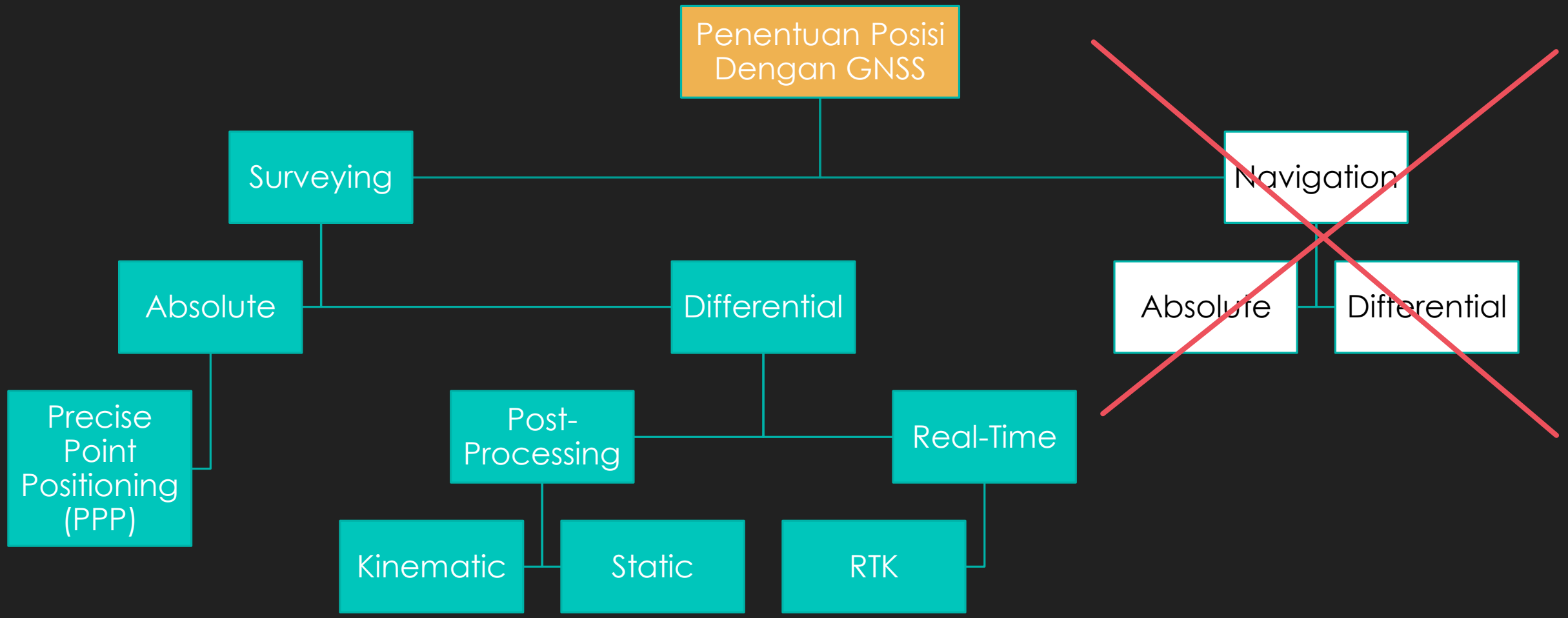
- Positioning
- Earth Rotation and Orientation
- Gravity Field

GPS/GNSS

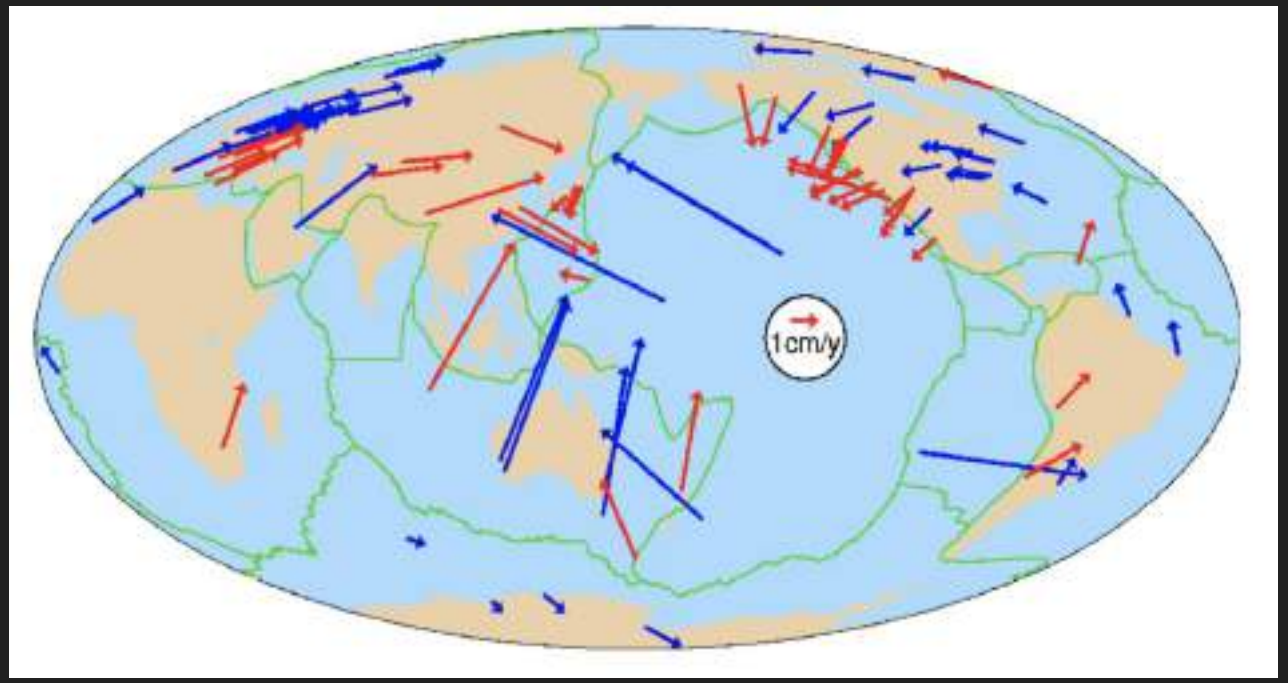
VLBI

SLR

Penentuan Posisi Dengan GNSS

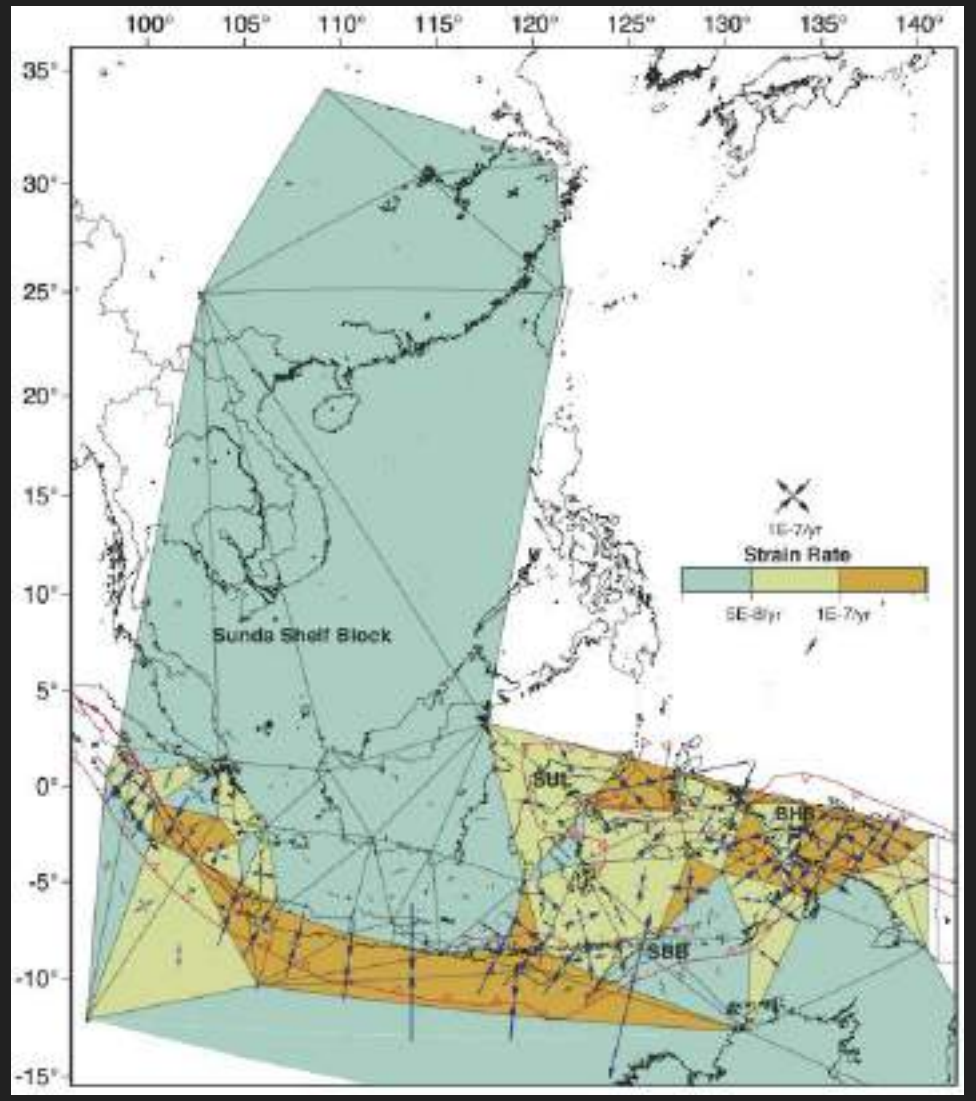


Aplikasi Data GNSS Untuk Tektonik



- Vektor Biru: Bagian Stabil dari Lempeng Tektonik
- Vektor Merah: Zona yang mengalami deformasi

Kondisi Tektonik Indonesia

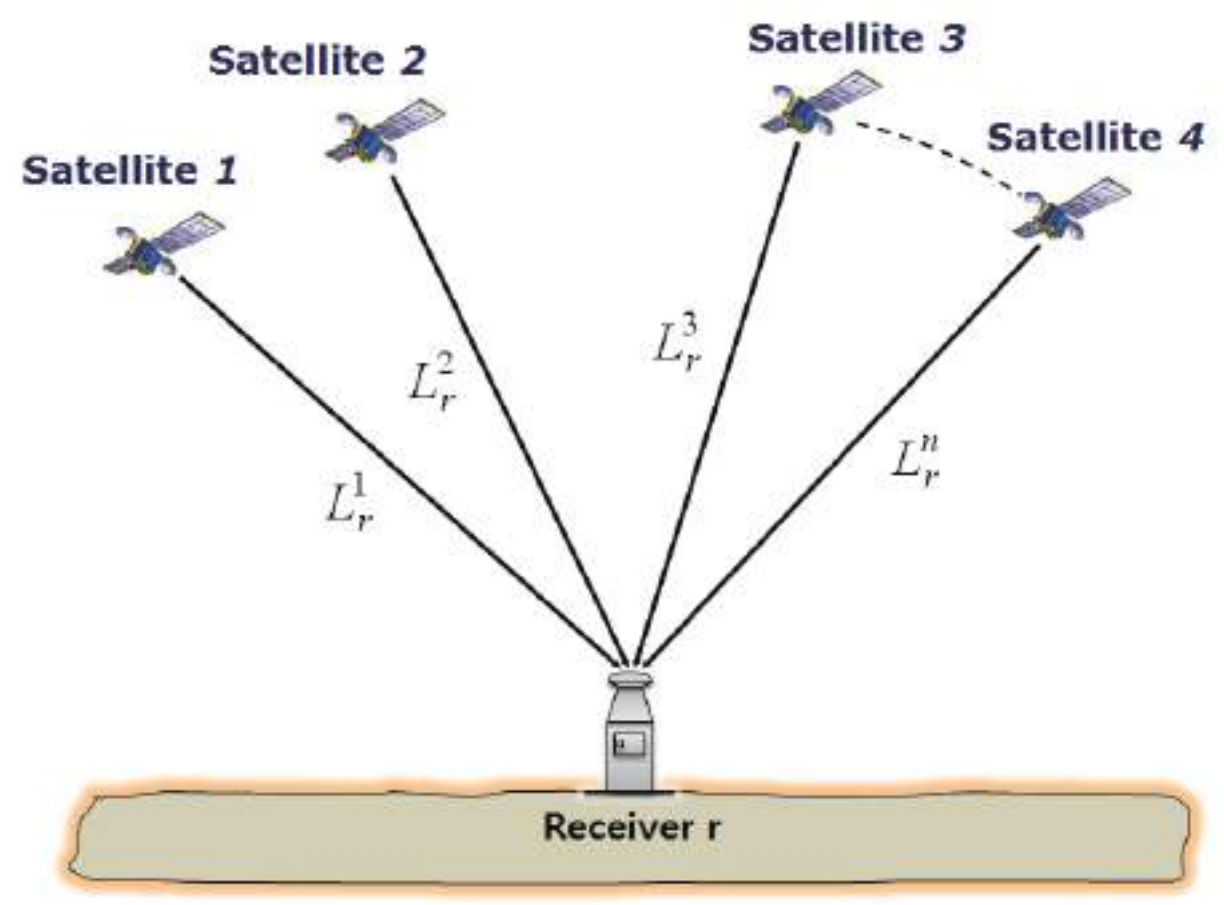


(Bock et al., 2003)

Tujuan

- Memahami penentuan posisi menggunakan data pengamatan GNSS
- Memahami pemanfaatan data posisi tersebut untuk studi tektonik
- Memahami pembangunan model tektonik untuk wilayah Indonesia

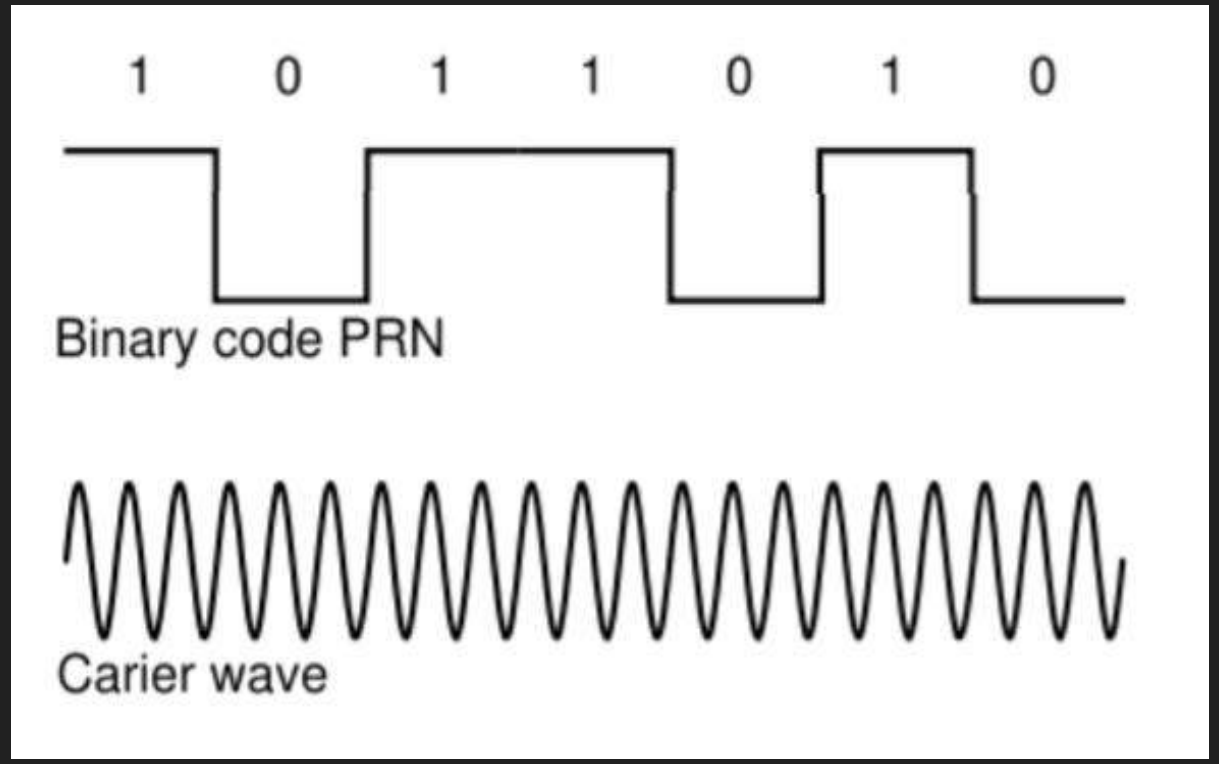
Konsep Penentuan Posisi Dengan GNSS



- Skema pada gambar di samping adalah skema penentuan posisi secara absolut
- Skema penentuan posisi secara differensial dapat meningkatkan ketelitian karena bias dan kesalahan tereduksi dan ada pula yang tereliminasi

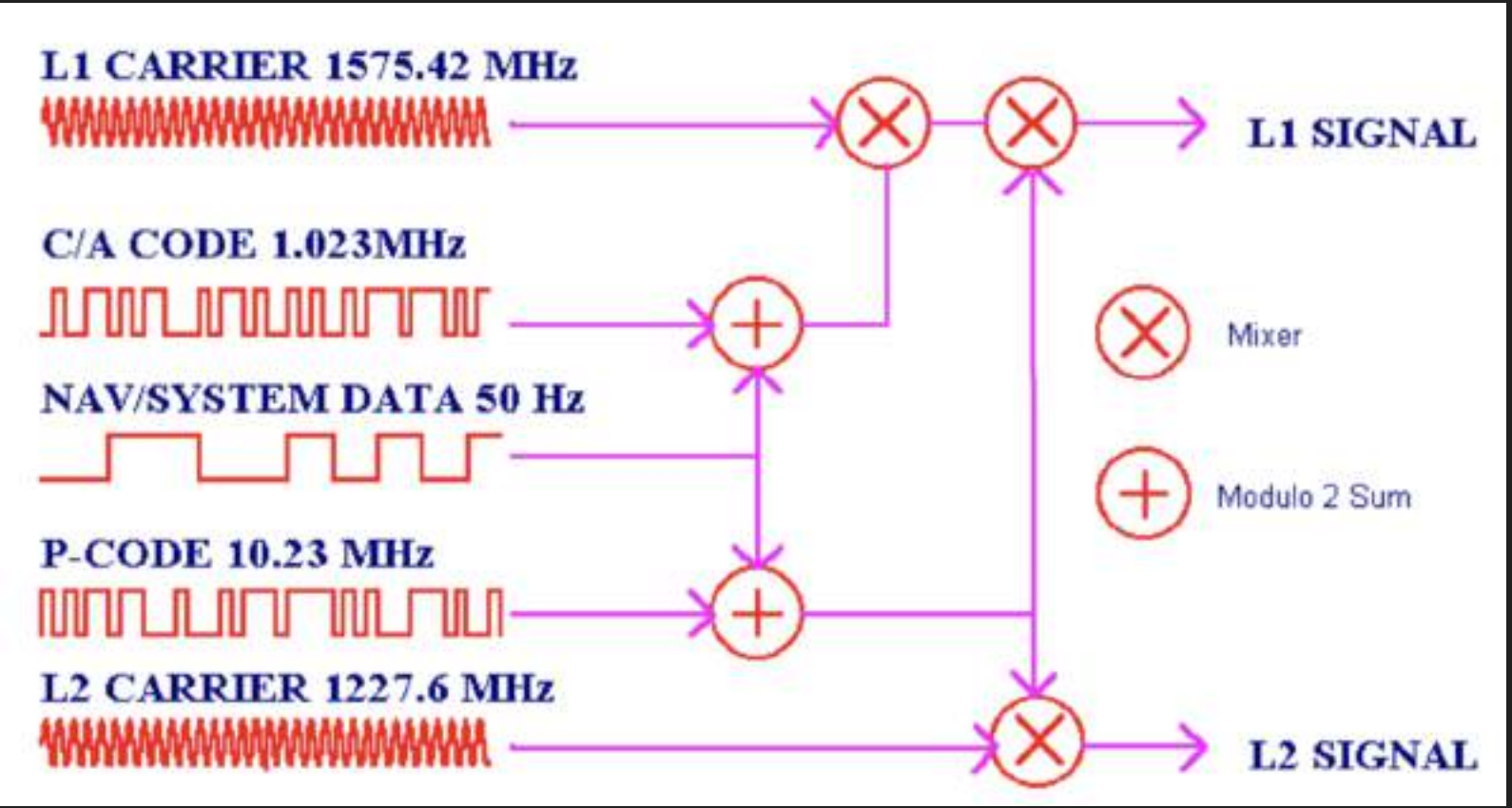
$$L_r^1 = \sqrt{(x^{s1} - x_r)^2 + (y^{s1} - y_r)^2 + (z^{s1} - z_r)^2} + \Delta\tau . c$$

Data Pengamatan GNSS



- Data kode menghasilkan jarak pseudorange
- Data fase menghasilkan jarak fase

Data Pengamatan GNSS



- Data Utama:
  - Jarak Pseudorange
  - Data Fase
  - Epok Pengamatan
- Data Pendukung:
  - Data Navigasi

Persamaan Jarak Fase dan Jarak Pseudorange

- Persamaan Jarak Fase:

Jarak Geometri Bias Troposfer

$$L_A^j(T_A) = \rho_A^j(t_A, t^j) + c\tau_A - c\tau^j + Z_A^j - I_A^j + B_A^j$$

Bias Fase

Jarak Fase Kesalahan Jam Bias Ionosfer

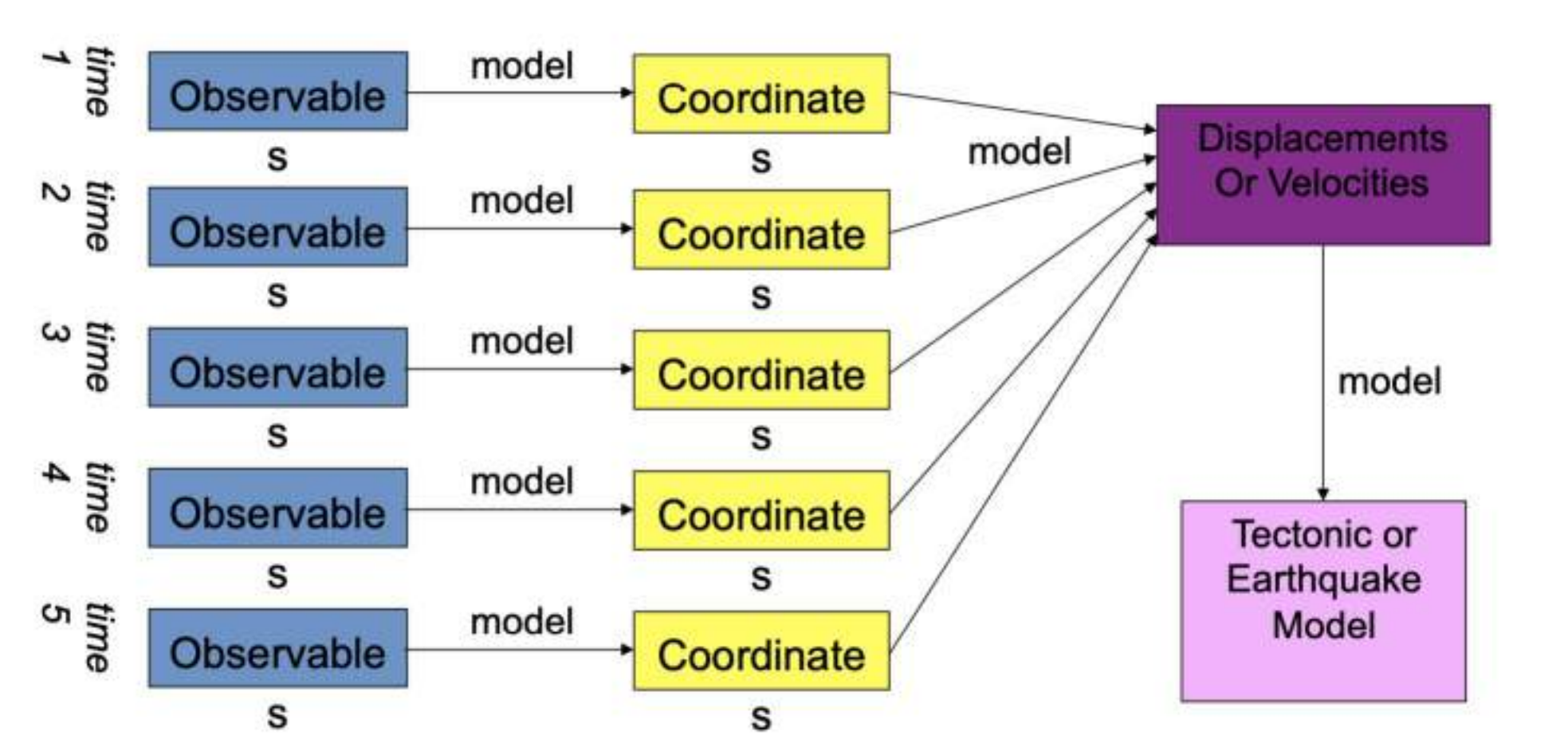
- Persamaan Jarak Pseudorange:

Jarak Geometri Bias Troposfer

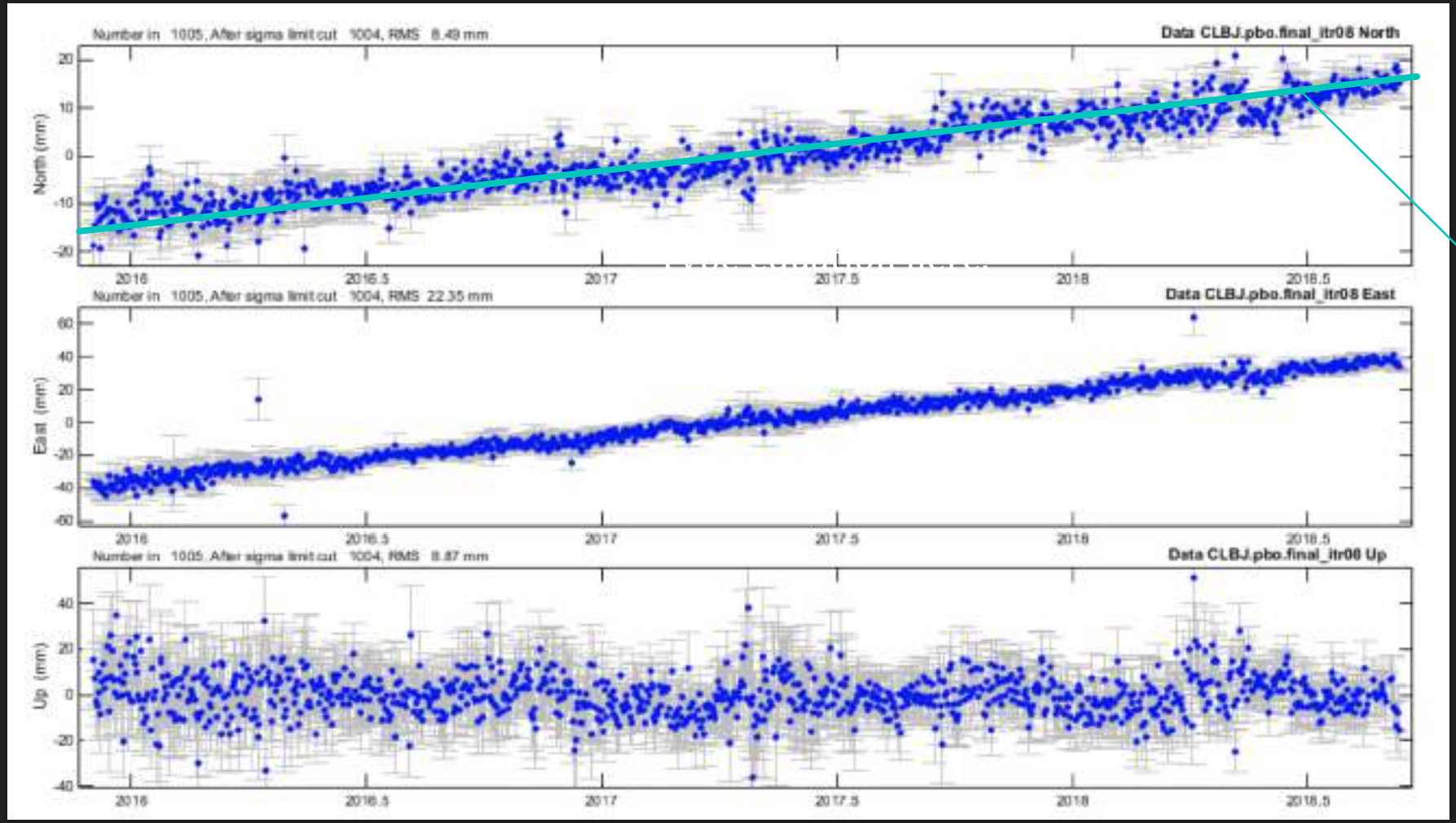
$$P_A^j(T_A) = \rho_A^j(t_A, t^j) + c\tau_A - c\tau^j + Z_A^j - I_A^j$$

Jarak Pseudorange Kesalahan Jam Bias Ionosfer

Estimasi Posisi



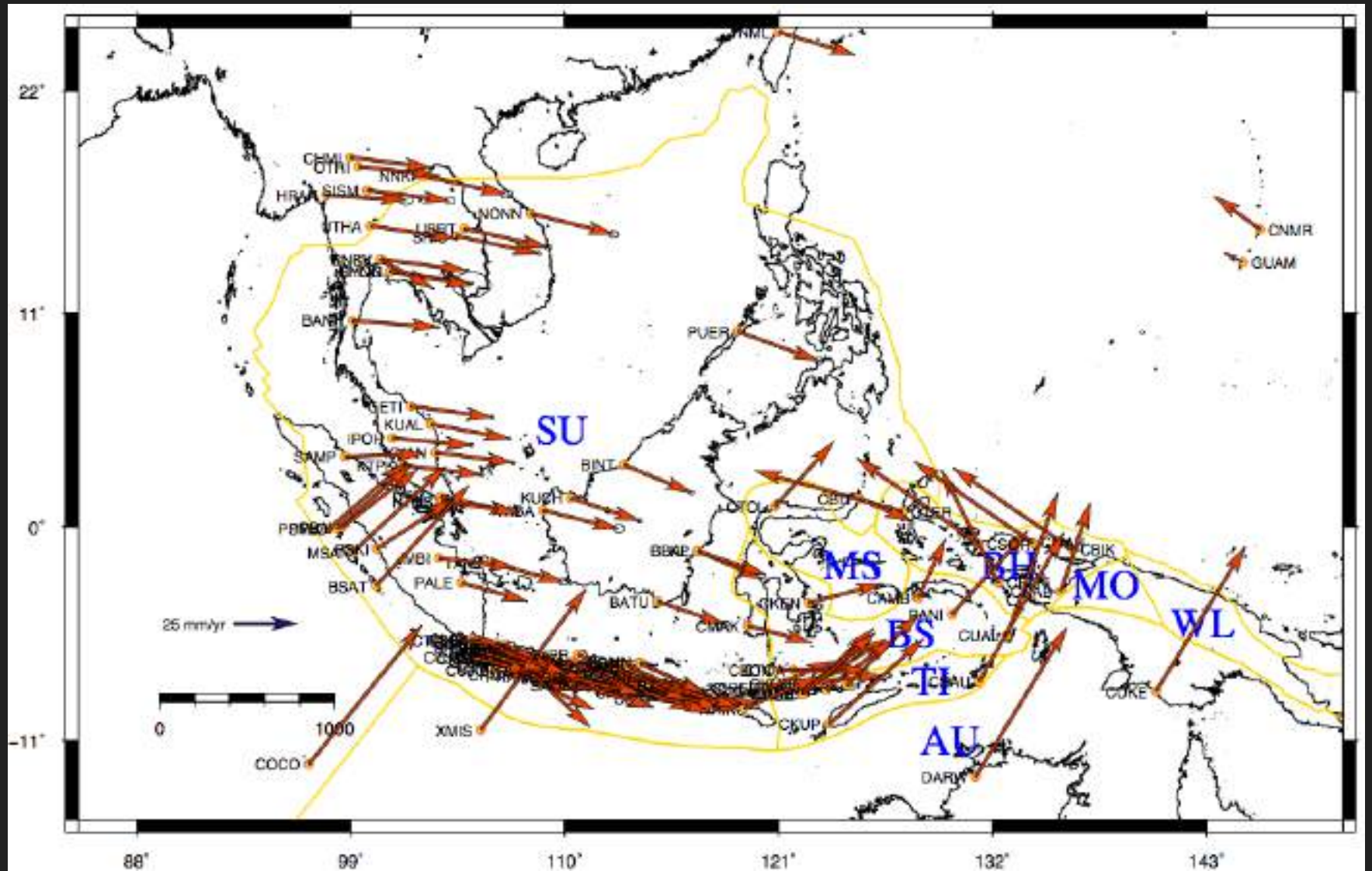
GPS Time Series



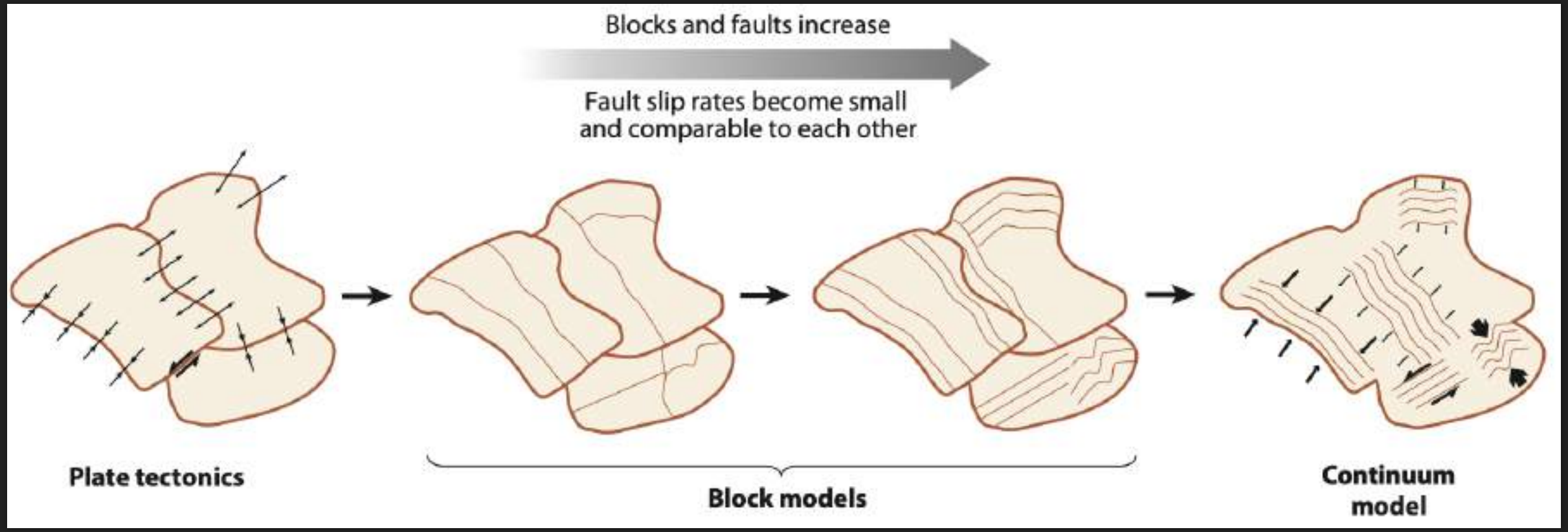
$y = ax + b$

(Web SRGI, 2020)

Vektor Kecepatan GPS di Indonesia



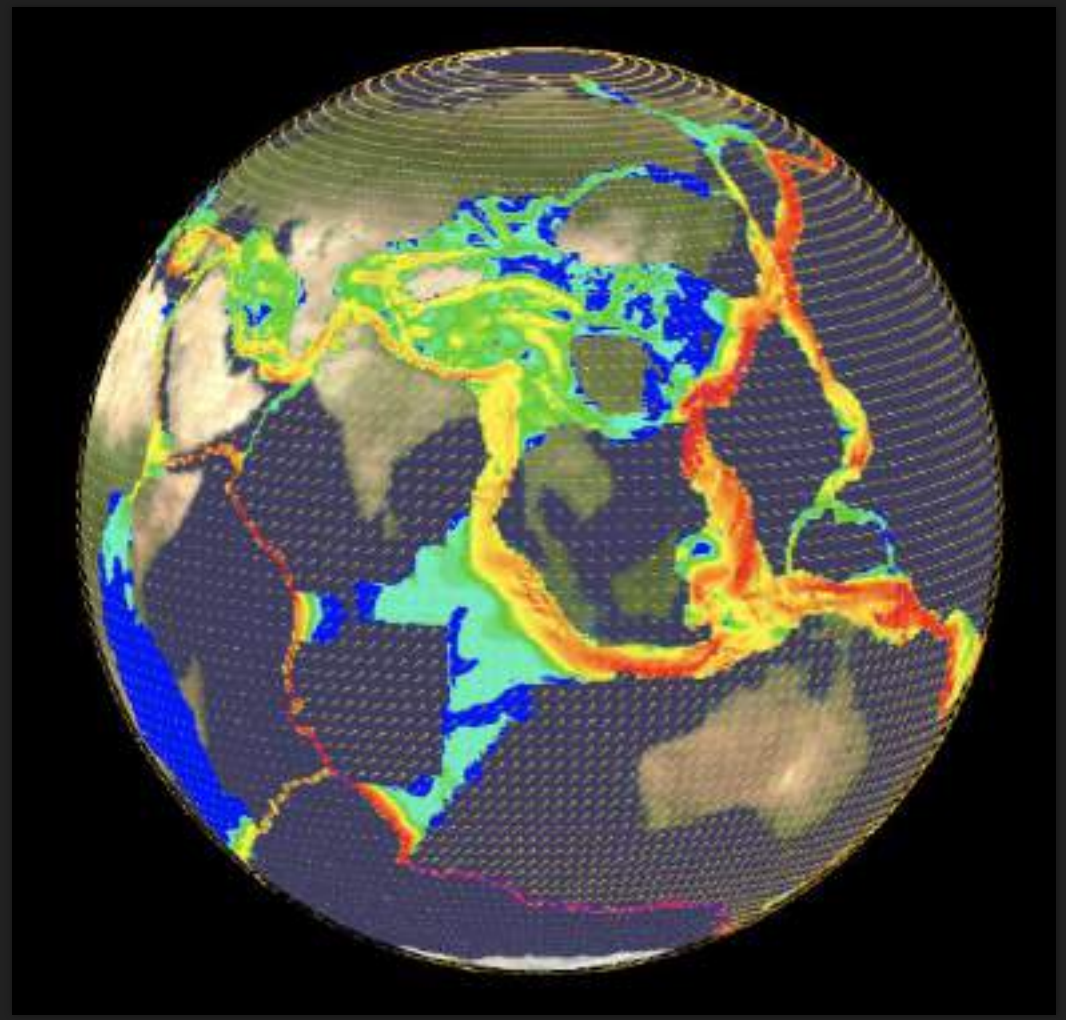
Model Tektonik



Block Model

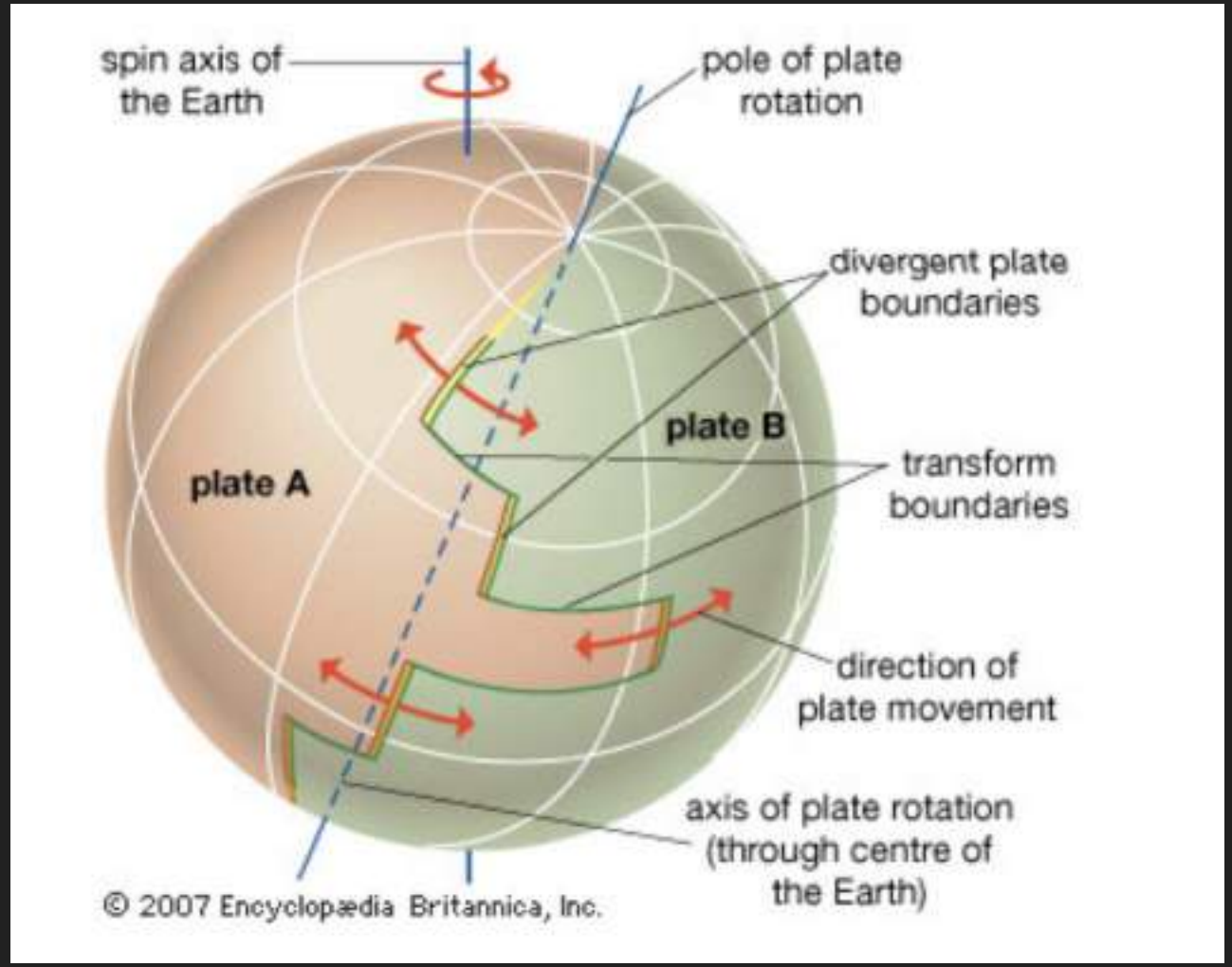
- Prinsip Dasar:
  - Lempeng tektonik bersifat Rigid
  - Terdeformasi hanya pada zona batas antar lempeng
  - Pergerakan lempeng tektonik pada bidang bola adalah rotasi. Parameter rotasi tersebut antara lain: Kutub rotasi (lintang dan bujur) dan Kecepatan sudut.
- Kuantifikasi dengan data geodesi:
  - Mengestimasi vektor kecepatan dari kecepatan sudut
  - Mengestimasi kecepatan sudut dari vektor kecepatan GPS

Block Model



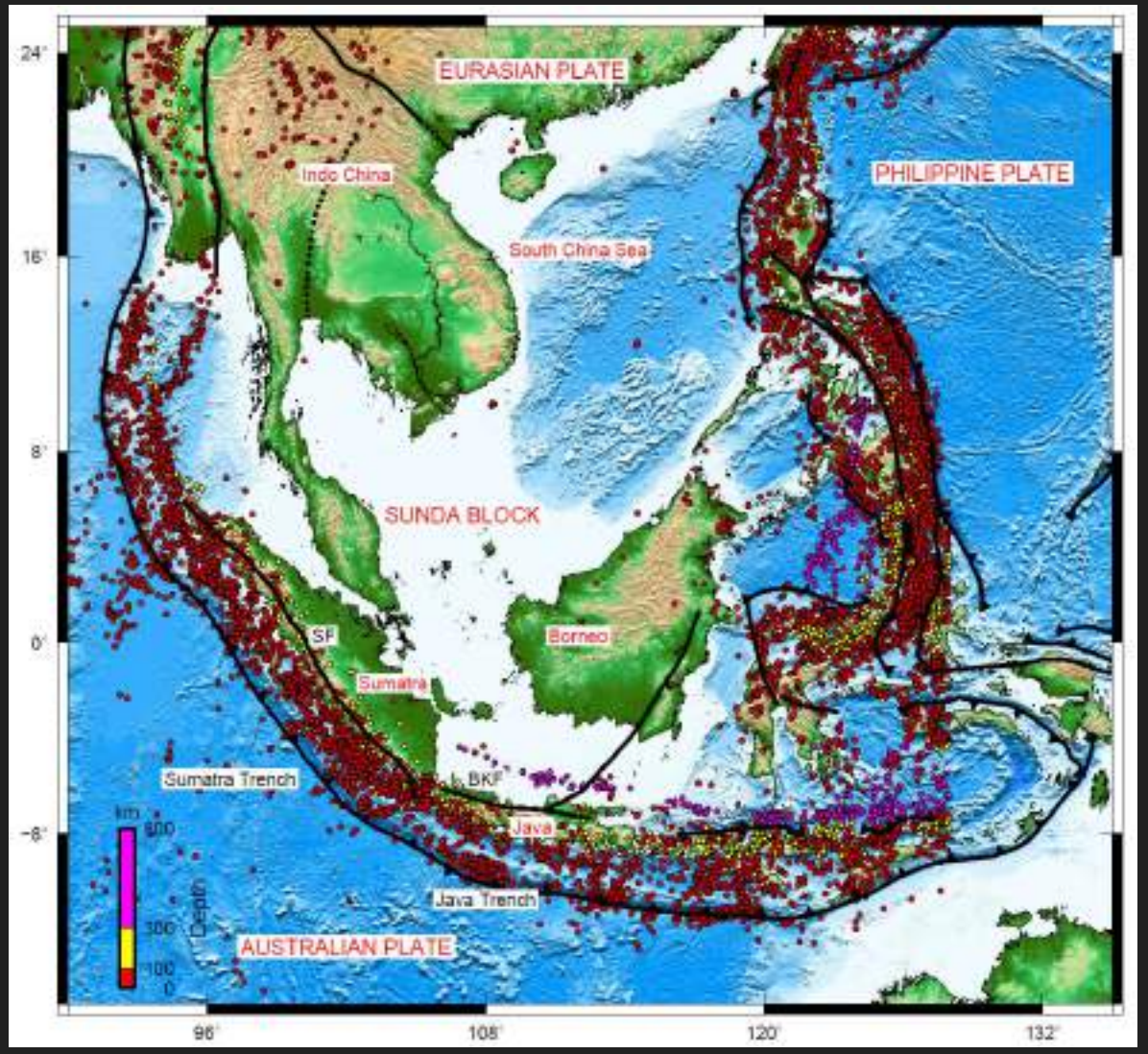
- Area stabil (area yang bersifat rigid) ditunjukkan oleh vektor berwarna orange
- Area terdeformasi ditunjukkan oleh besarnya nilai regangan

Kuantifikasi Pada Area Stabil

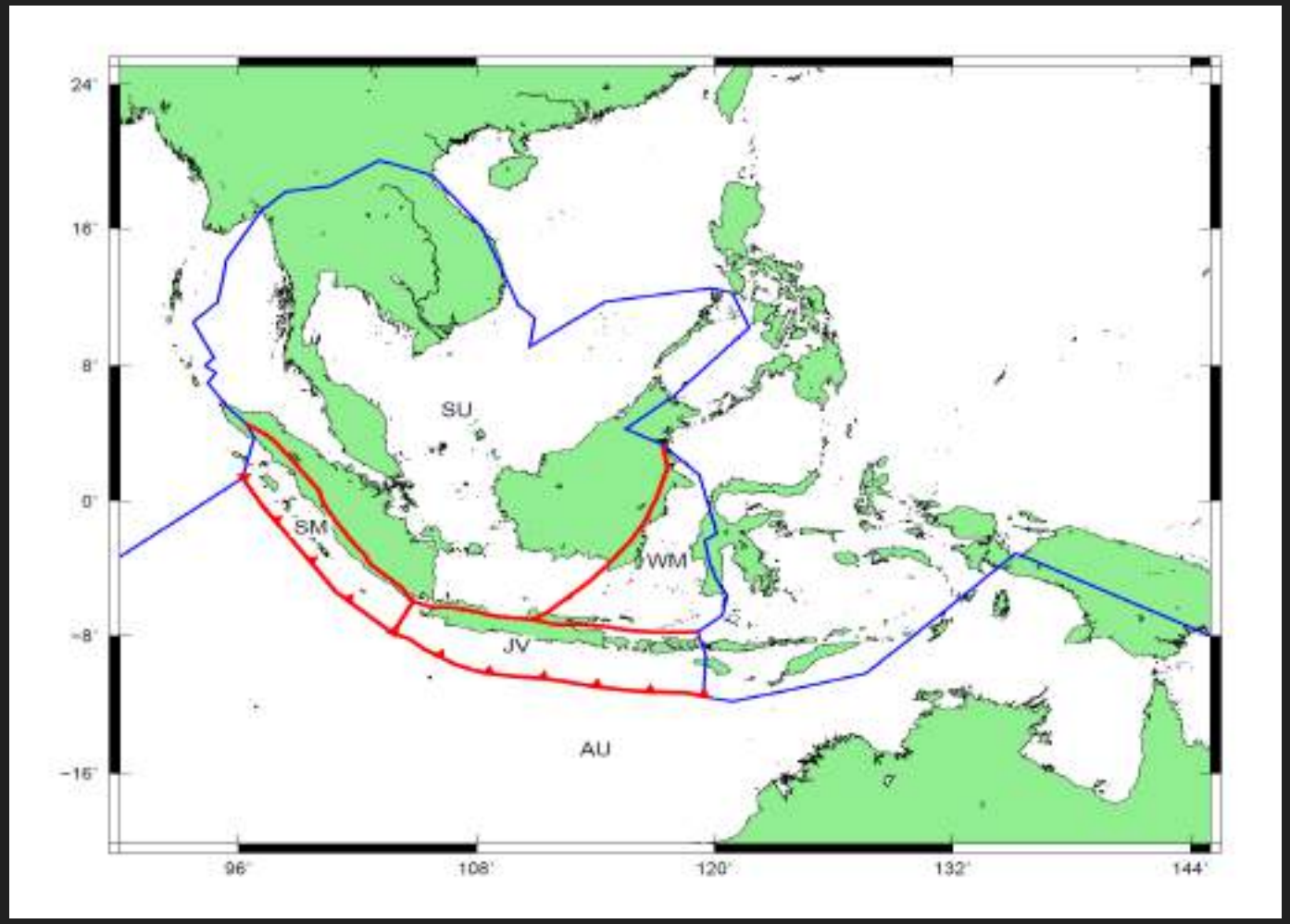


- $\underline{v} = \underline{\omega} \times \underline{r}$

Rotasi Blok di Indonesia



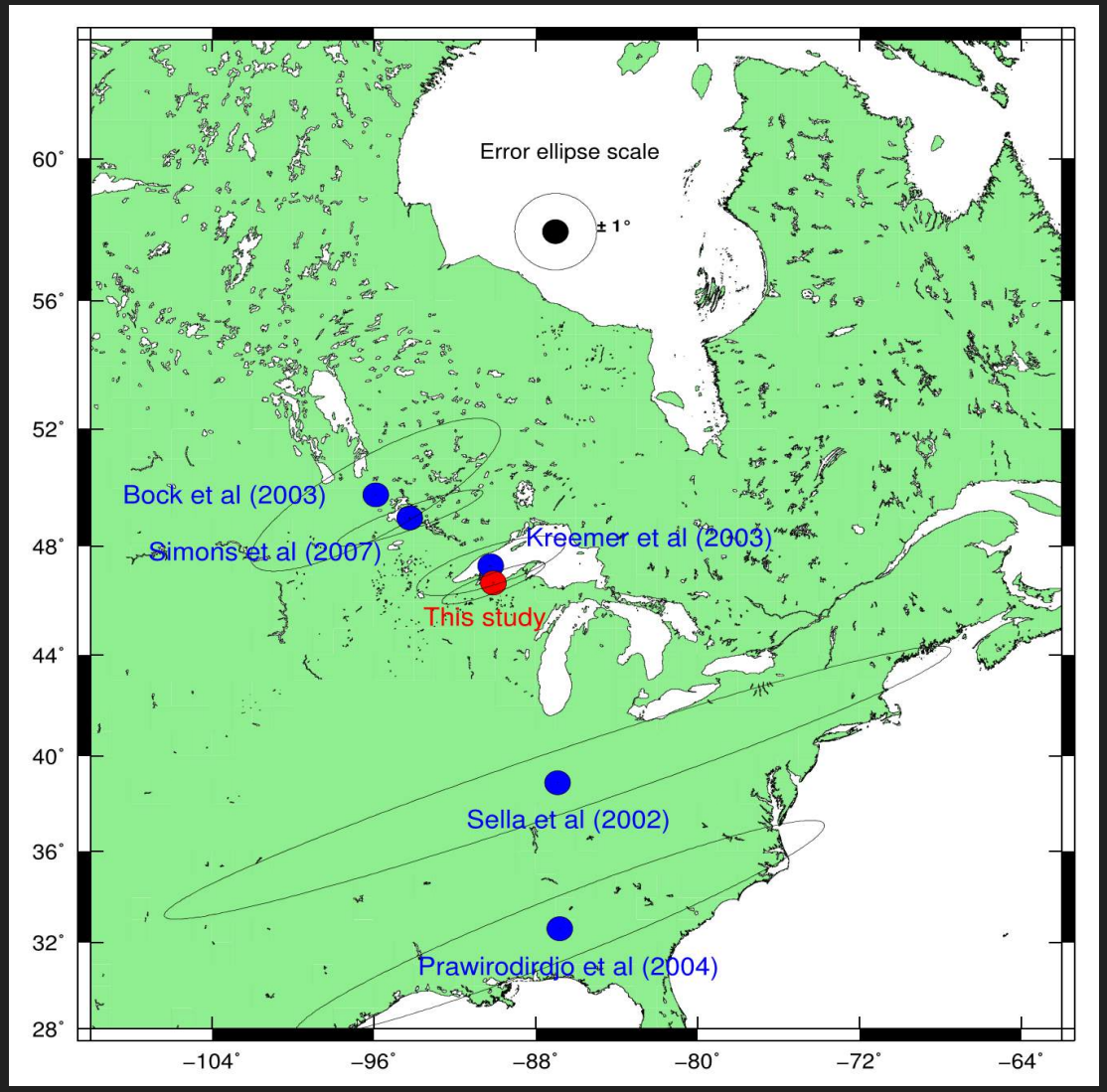
Pendefinisian Batas Blok Indonesia Bagian Barat



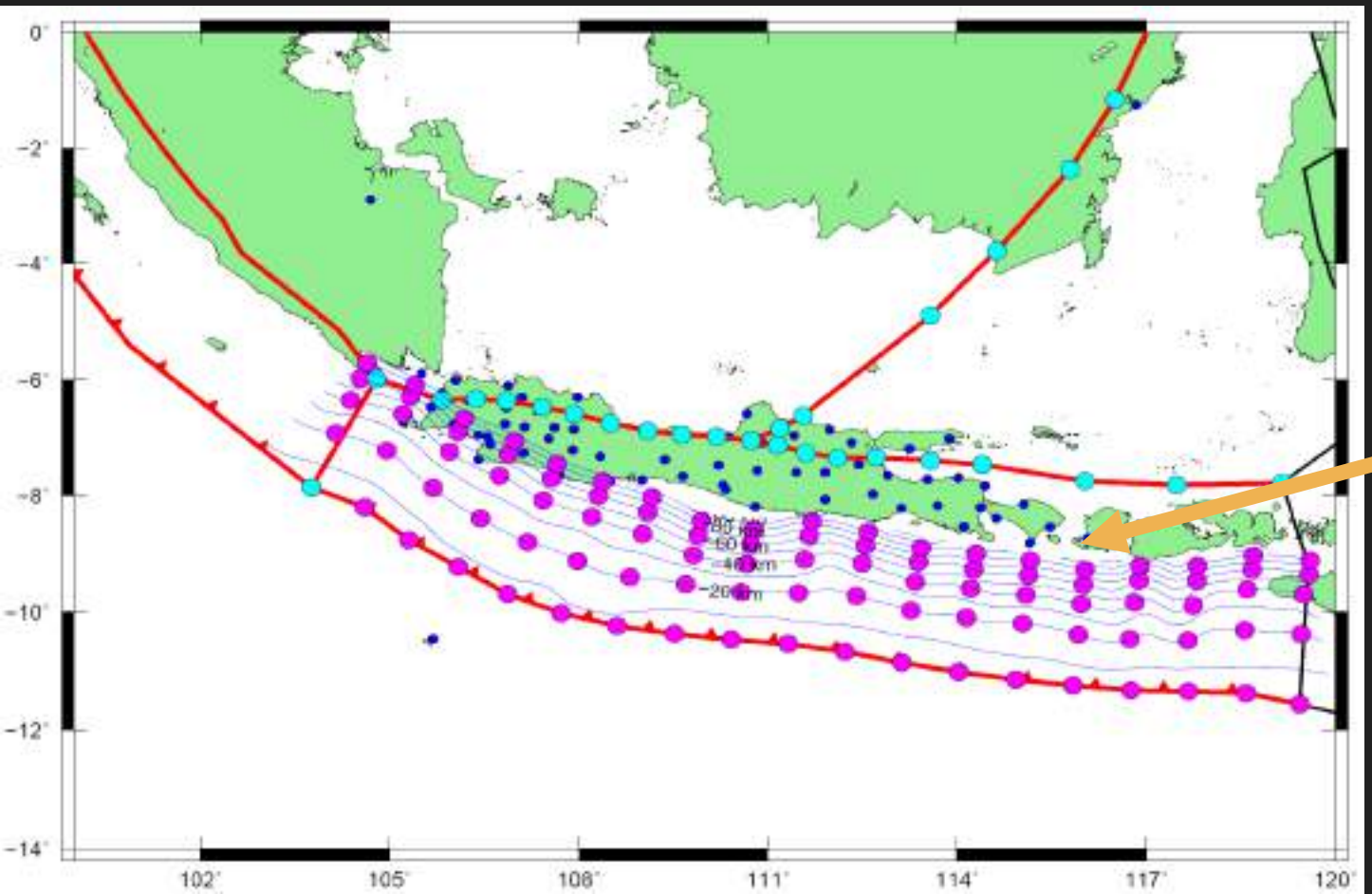
Hasil Parameter Rotasi Blok

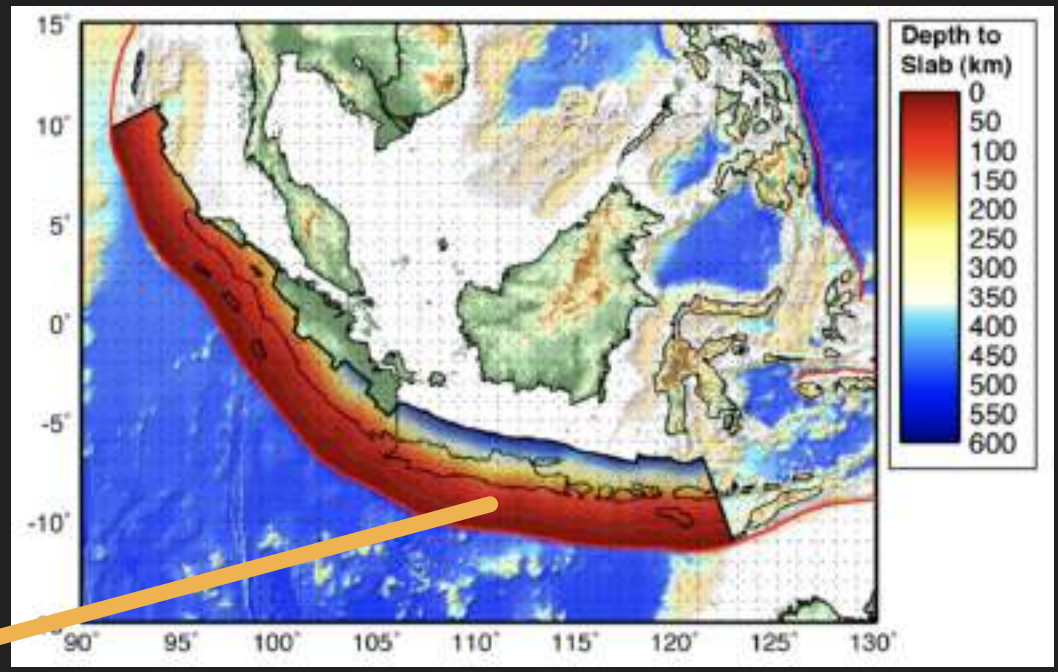
Block Name	Euler pole parameters			Error Ellipses			X^2
	Latitude (°N)	Longitude (°E)	Angular velocity (°/Myr)	σ_{max} (°)	σ_{min} (°)	Azimuth (°)	
Sunda	46.7	-90.1	0.327 ± 0.004	1.35	0.25	112	0.21
Australia	-32.1	218.7	-0.633 ± 0.001	0.25	0.06	73	0.17
Sumatra	-36.0	115.3	-0.346 ± 0.009	2.01	0.65	153	0.27
Java	53.8	166.5	0.277 ± 0.011	14.75	0.38	56	0.06
West Makassar	45.9	153.2	0.299 ± 0.020	11.60	0.38	46	0.15

Perbandingan Hasil Kutub Rotasi Blok Sunda

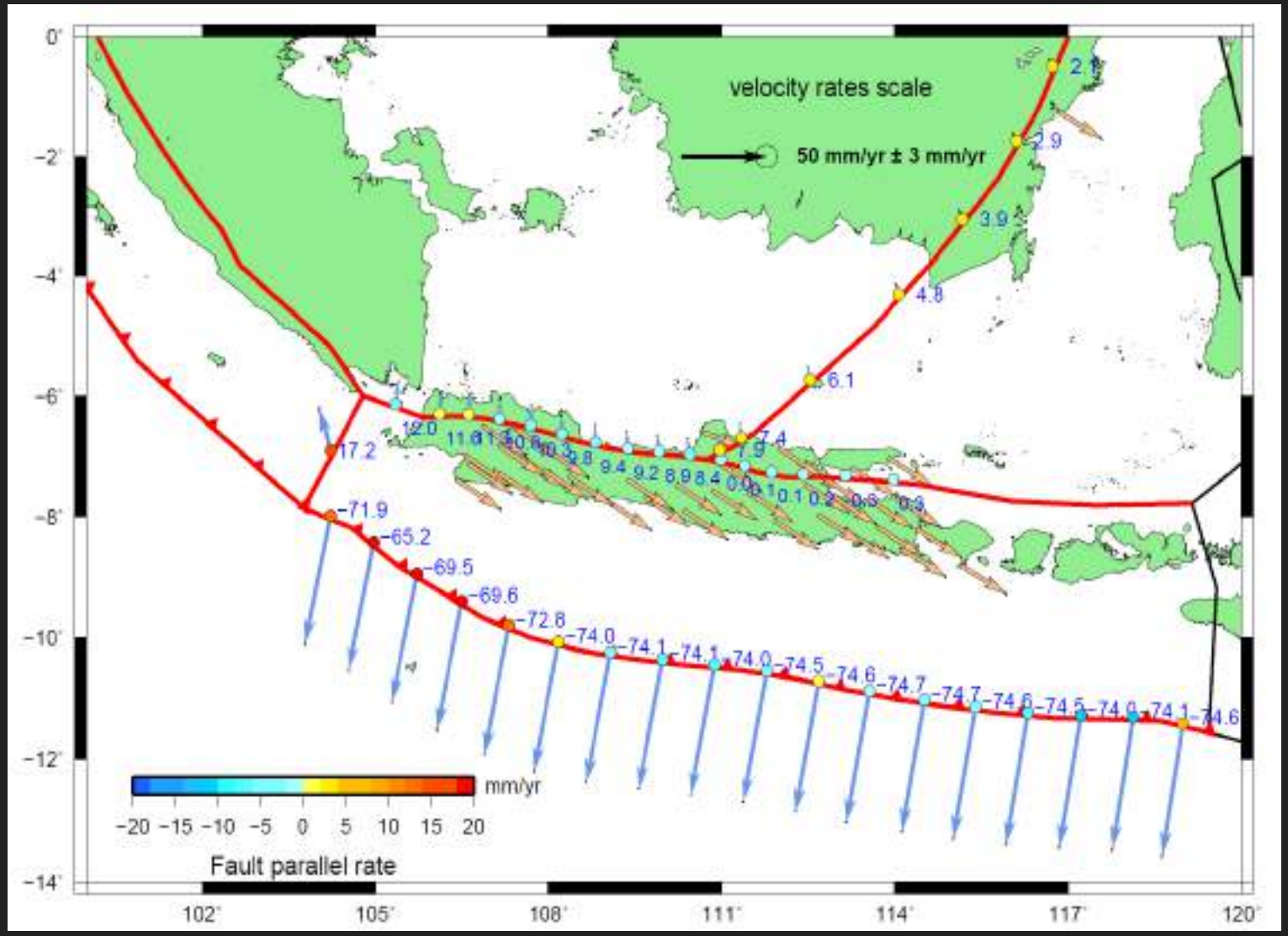


Kuantifikasi Pada Area Terdeformasi

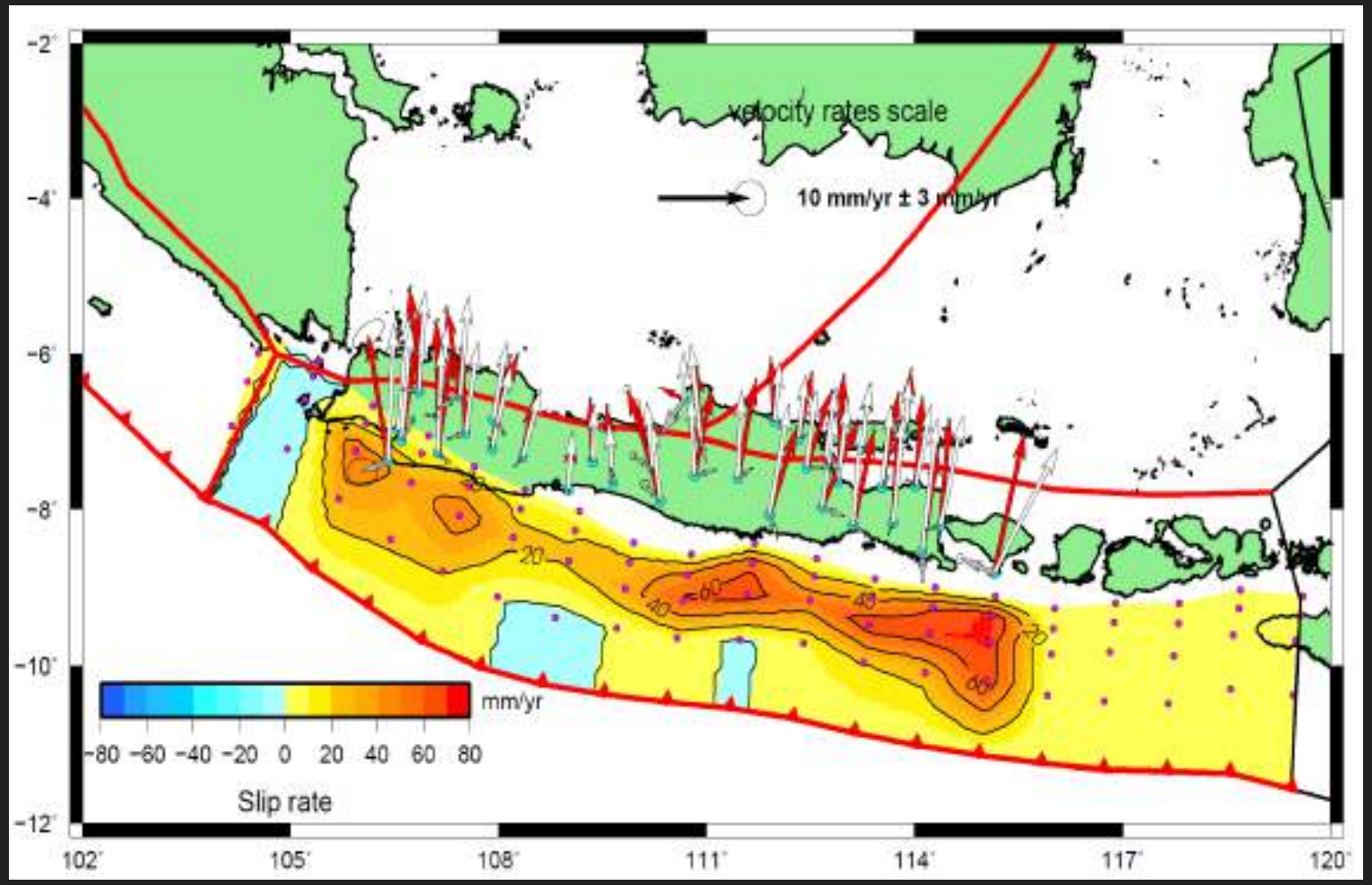




Hasil Slip Rates



Hasil Slip Deficit Rates



Kesimpulan

- Penentuan posisi dengan GNSS dapat dilakukan secara absolut maupun differensial. Dalam hal untuk pemodelan tektonik, diperlukan posisi dengan ketelitian yang tinggi sehingga kesalahan dan bias yang ada pada data pengamatan GNSS harus direduksi atau dieliminasi.
- Koordinat hasil dari pengolahan data GNSS yang berupa posisi 3D dapat digunakan untuk studi tektonik apabila data posisi tersebut digunakan untuk menghitung vektor pergeseran atau vektor kecepatan yang terdefinisi dengan baik dalam suatu kerangka referensi.
- Model Tektonik Indonesia meliputi model rotasi blok untuk area stabil dan deformasi elastik untuk zona batas antar lempeng/blok. Hasil pemodelan menunjukkan bahwa area terdeformasi seperti zona subduksi Jawa memiliki slip deficit rate yang cukup besar. Hal ini dapat menjadi indikator bahwa di area yang mengalami penguncian berpotensi menghasilkan gempa bumi di masa yang akan datang.

Collaborative Research Opportunities in Geomatics

Jeark A. Principe, PhD
Department of Geodetic Engineering
College of Engineering
University of the Philippines Diliman

Outline

I. Introduction
   A. University of the Philippines
   B. Department of Geodetic Engineering
   C. Training Center for Applied Geodesy and Photogrammetry
   D. DGE Laboratories

II. Geomatics
   A. What is Geomatics?
   B. Geomatics Research
   C. Geomatics Integration with Research and Development

III. Geomatics Researches in UP DGE/TCAGP

IV. Conclusion

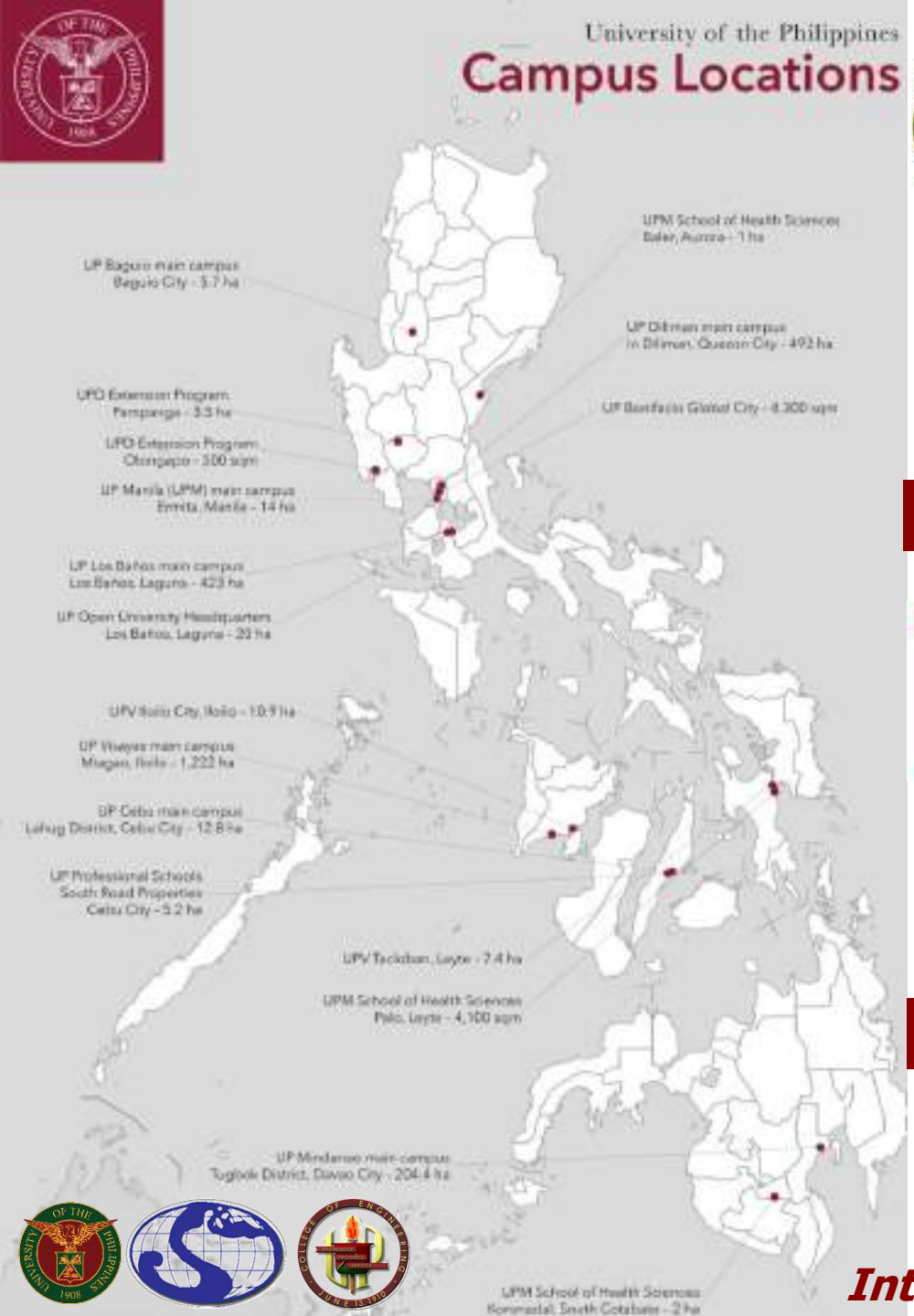
Introduction

University of the Philippines

Department of Geodetic Engineering (DGE)

Training Center for Applied Geodesy and Photogrammetry

DGE Laboratories



University of the Philippines

The country's national university established in 1908

- Premier institution of higher learning
- University system:
  - 8 constituent universities
  - 1 autonomous college
  - 17 campuses

World University Rankings 2020

Times Higher Education World University Rankings

World: **401-500**

Asia: **#65**

Quacquarelli Symonds World University Rankings

World: #**356**

Asia: **#72**

Student Population (2013)

Undergraduate	~44,000
Postgraduate	~15,000

University of the Philippines Diliman

The Oblation Plaza. Photo by Eric Augustus Tingatinga.

https://www.up.edu.ph/about-up/university-history

University of the Philippines
Diliman

STUDENTS

Total No. of students: 22,765

- **Undergraduate:** 13,322
- **Graduate:** 8,473
- **Juris Doctor:** 970

as of 18 August 2017

DEGREE-GRANTING UNITS

No. of degree granting units: 26

- **Arts and Humanities Cluster:** 5
- **Management and Economics Cluster:** 8
- **Science and Technology Cluster:** 7
- **Social Sciences and Law Cluster:** 6

No. of academic programs offered: 376

- **Pre-Baccalaureate Certificate/Diploma:** 20
- **Baccalaureate:** 120
- **Post-Baccalaureate Certificate/Diploma:** 12
- **Masters:** 152
- **Doctorate:** 71
- **Juris Doctor:** 1

Source: UPDIO (2020)

FACULTY

Total No. of Faculty: 1,531

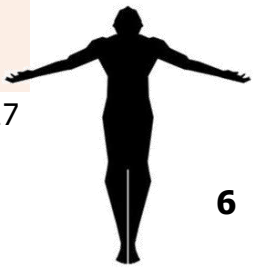
- **Full Professor:** 273
- **Associate Professor:** 256
- **Assistant Professor:** 628
- **Instructor:** 374

Lecturer: 821

Professor Emeritus: 44

Visiting Professor: 15

as of 31 July 2017



Department of Geodetic Engineering

Established in June 1937

- BSc **Geodetic Engineering** (4-yr)
- MSc **Geomatics Engineering** (2-yr)
- Training Courses through TCAGP

Remote Sensing & Photogrammetry
Geoinformatics
Applied Geodesy

- ***Full-time faculty***
  - ✓ BS: 6, MS: 13, PhD: 6
- ***Students*** (as of 2nd Sem, AY 2019-20)
  - ✓ BS GE: 388
  - ✓ MS GmE: 75

Training Center for Applied Geodesy and Photogrammetry (TCAGP)

Established in June 1964

- research and extension arm of the UP Department of Geodetic Engineering
- center of excellence for education, training and research in the field of geomatics in the Philippines

DGE Laboratories

INSTRUCTIONAL

- Remote Sensing Image Analysis Lab
- ESRI Geographic Information Systems Lab
- Surveying Instruments Room

RESEARCH

- Applied Geodesy & Space Technology
- Environmental Applications of Geomatics Engineering (EnviSAGE)
- Geo-Simulation Group
- Surveying, Land Administration and Valuation (SurvLAV)

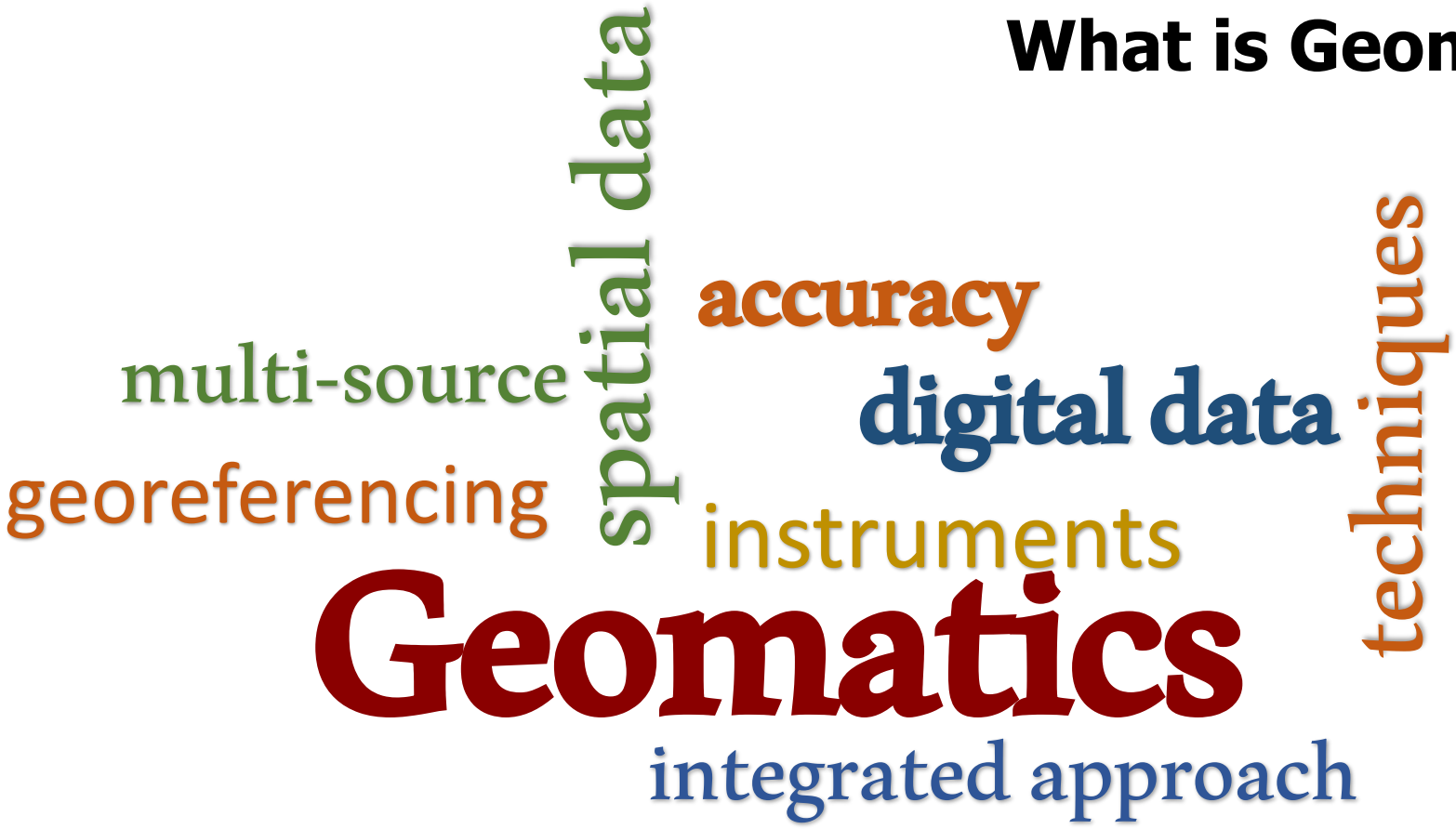
Geomatics

What is Geomatics?

Geomatics Research

Geomatics Integration with Research and Development

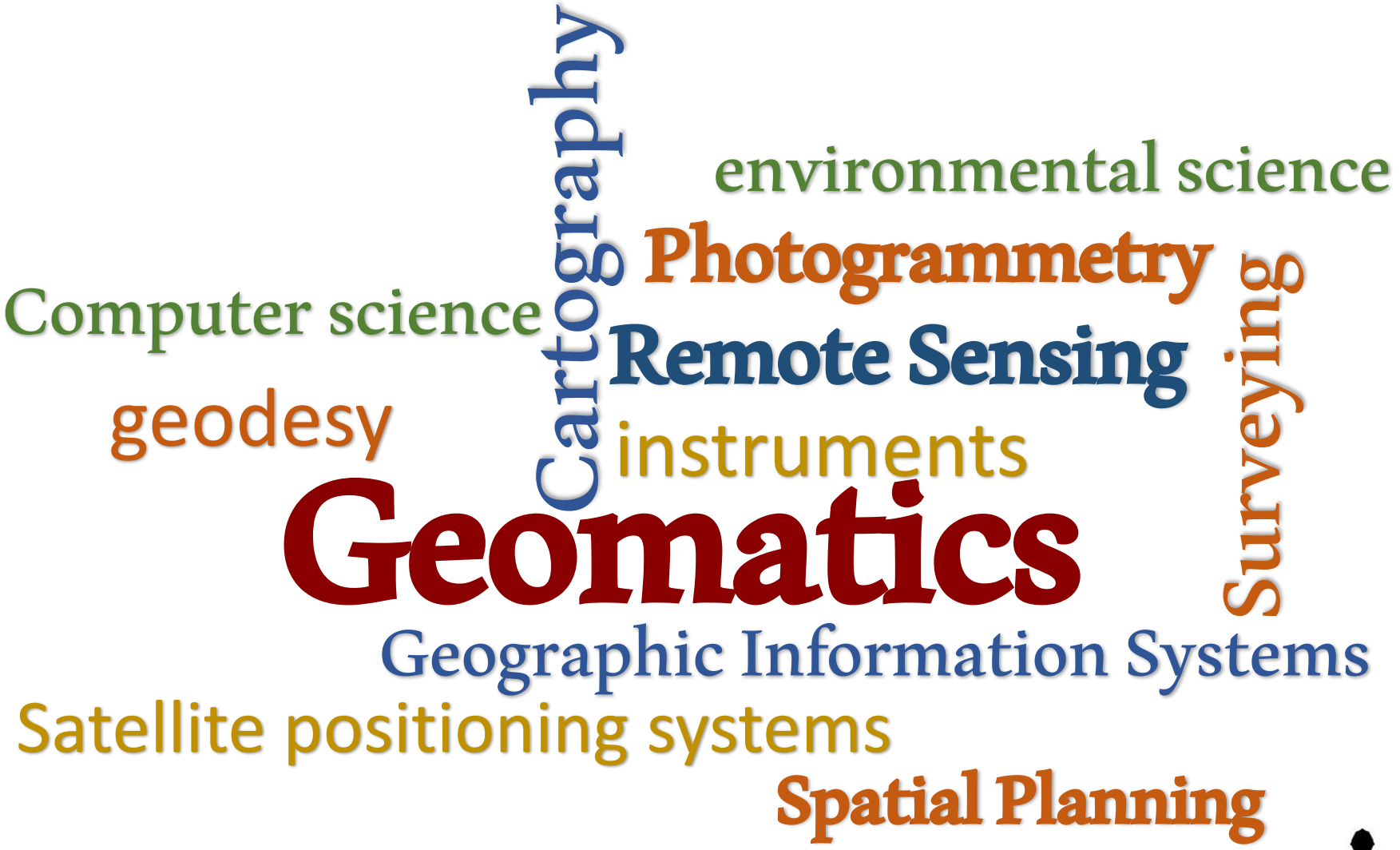
What is Geomatics?



"systemic, multidisciplinary, integrated approach to selecting the instruments and the appropriate techniques for collecting, storing, integrating, modeling, analyzing, retrieving at will, transforming, displaying, and distributing spatially georeferenced data from different sources with well-defined accuracy characteristics and continuity in a digital format"

(Gomarasca, 2010)

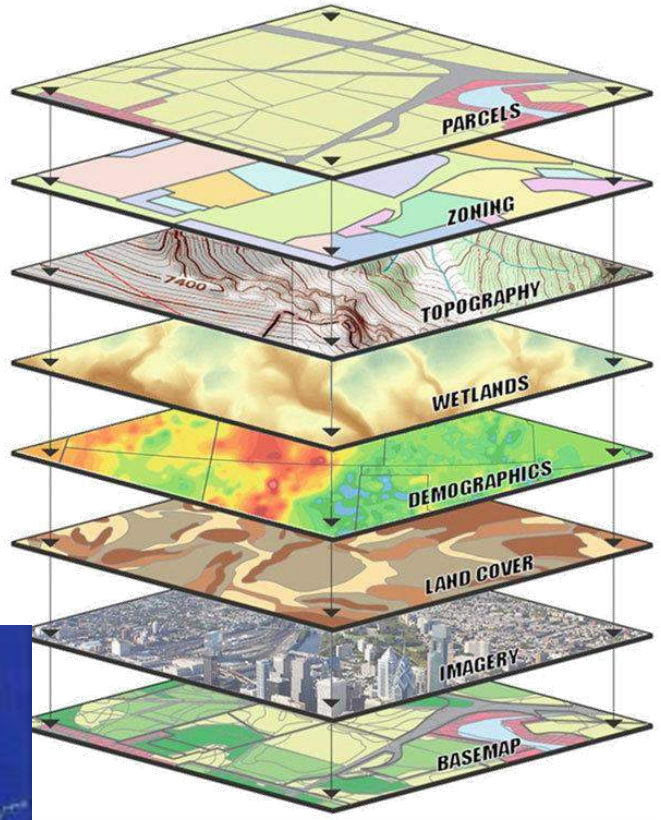
What is Geomatics?



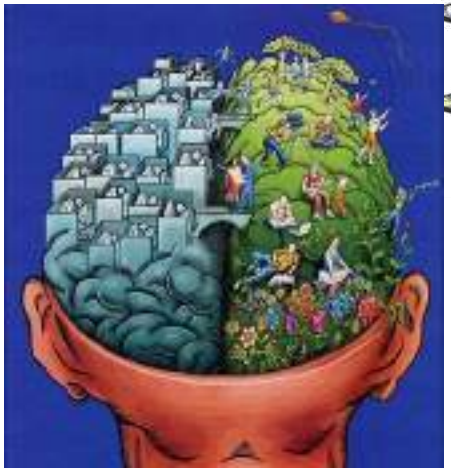
Geomatics Research

Spatially-oriented analysis

- understanding spatial phenomenon
- advantage in spatial coverage
- both local and global analyses possible



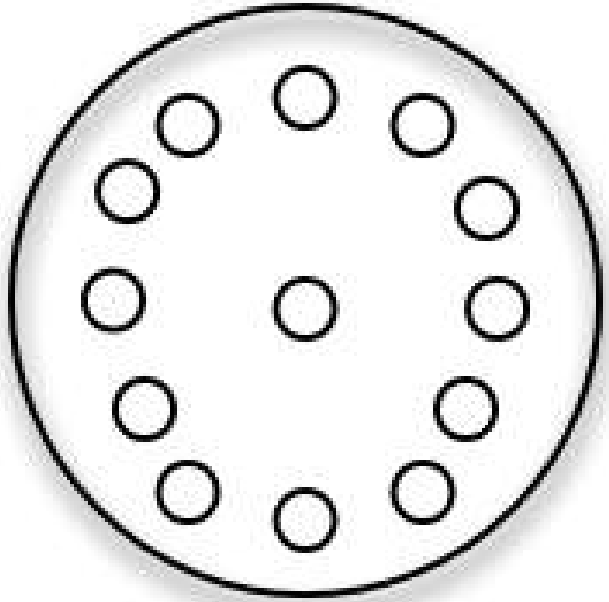
Kolios, et al. (2017)



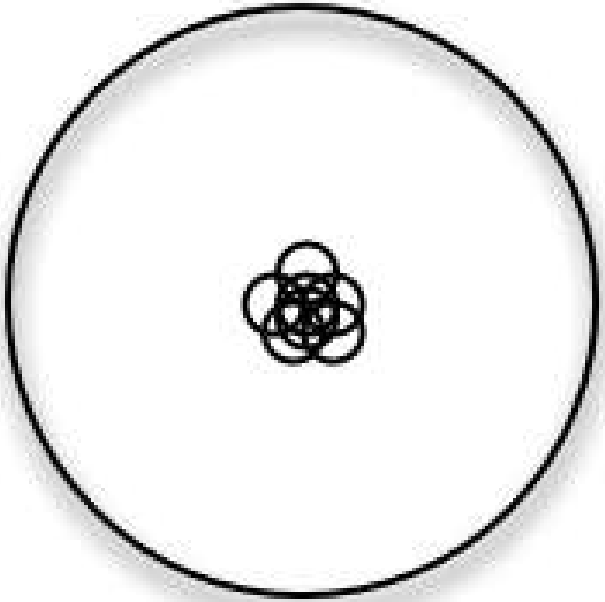
McFarlane, T. (2010)

Geomatics Research

Multidisciplinary and Interdisciplinary

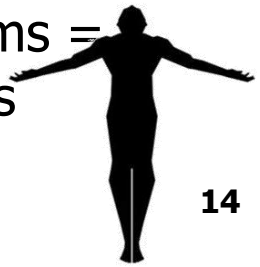


Jensenius, A.R. (2012)



Multidisciplinary
Sedimentation studies: hydrology, geology, surveying, ecology, etc.

Interdisciplinary
Geosciences + information systems = Geoinformatics



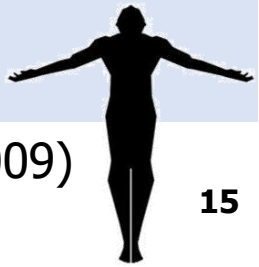
Geomatics Integration with Research and Development

Issues

- Software-related challenges for non-technical personnel
- Methodological difficulties
- Software license cost
- Data availability, access, and cost
- Sustainability in project implementation and processes

Suggestions

- **Capacity building:** not merely technology-driven
- **Data:** must be made available, accessible at reasonable cost
- **Projects:** not donor-driven but driven by local stakeholders



Pilesjö, P., & Mårtensson, U. (2009)

Geomatics Researches
in UP DGE/TCAGP

Digital Imaging for Monitoring and Assessment (DIME)

- **Project Leader**

  Dr. Czar Jakiri S. Sarmiento

- **Funding agency**

  DOST Innovation Council

- **Objectives**

  - ✓ to provide a monitoring system suited for the National Greening Program using remotely-sensed data.
  - ✓ exploratory research regarding the applicability of readily-available dataset such as Landsat and Sentinel, along with baseline data gathering related to NGP

- **Collaborating agencies**

  UP TCAGP
  Department of Budget and Management (DBM)
  Other National Government Agencies

Tide gauge and satellite altimetry for possible vertical land motion detection in South East Bohol Trench and Fault

- **Project Leader**

  Dr. Rosalie B. Reyes

- **Funding agency**

  Korea Hydrographic Office

- **Collaborating agencies**

  UP TCAGP

  Physical Oceanography Division, National Mapping and Resource Information Authority (NAMRIA)

Geospatial Assessment and Modelling of Urban Heat Islands in Philippine Cities (Project GUHeat)

- **Project Leader**

  Dr. Ariel C. Blanco

- **Funding agency**

  Department of Science and Technology Council for Industry, Energy and Emerging Technology, Research and Development (DOST-PCIEERD)

- **Collaborating agencies**

  UP TCAGP

  Local Government Units (LGUs)

Land Sector Modernization (LandSMode)

- **Project Leader**

  Asst. Prof. Louie P. Balicanta

- **Funding agency**

  Department of Environment and Natural Resources (DENR)

- **Project Components/Activities**

  Three Dimensional Cadastre

  Unified Projection System for Cadastre

  Cadastral Survey Records Reconstruction

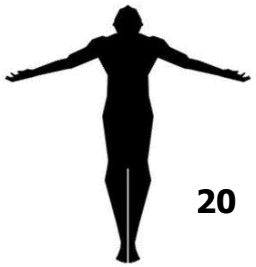
  Property Survey using RTK-GNSS Component for policy development

  Calibration Baseline Establishment Research

- **Collaborating agencies**

  UP TCAGP

  Land Management Bureau (LMB-DENR)



Tracing for Allocation of Medical Supplies (TrAMS)

❑**Project Leader**

Asst. Prof. Roseanne V. Ramos

❑**Funding agency**

DOST-PCIEERD

❑**Objective**

help the government in the proper allocation of medical resources by developing an online system for providing information on hospital resources and inventory, real-time requests of medical supplies, and possible sources of medical supplies

❑ **Collaborating agencies**

UP TCAGP, Partner hospitals

Comprehensive Assessment and Conservation of Blue Carbon Ecosystems and their Services in the Coral Triangle (BlueCARES)

❑**Project Director**

Dr. Ariel C. Blanco

❑**Funding agency**

JICA Philippines

❑ **Project Aim**

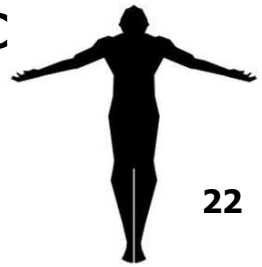
further advance the utilization of space technology and geo-simulation for coastal environmental applications implemented by the University of the Philippines

❑ **Collaborating departments in UP**

Geodetic Engineering, Civil Engineering, Marine Science, Biology, Environment Science and Meteorology, Public Administration and Governance, Sociology

❑**Expected Outputs**

- Blue Carbon Citizen Science & Capacity Building
- Blue Carbon Network
- National Blue Carbon Strategy



Solar PV Resource and Installation Assessment Using Geospatial Technologies (SINAG)

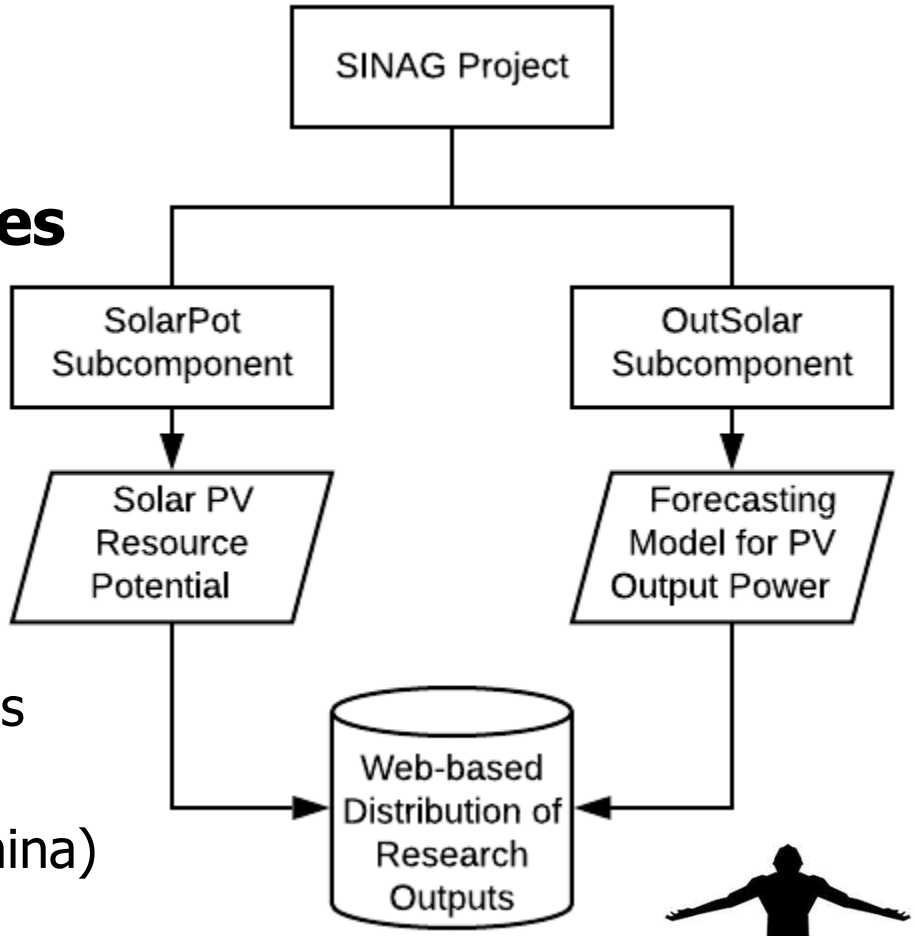
(under proposal stage)

❑ Project Leader

Dr. Jeark A. Principe

❑ Target Collaborating agencies

- PAGASA
- DOE
- SUCs/HEIs
- Solar energy companies in the Philippines
- CMA Public Meteorological Services China
- Beijing Giant Weather Co., Ltd (China)



Conclusion

- Geomatics research covers a wide range of applications and therefore opens diverse opportunities for collaborations
- There are issues or challenges in this field of research which may serve as catalysts for the improvement of Geomatics research using experiences gained in the past
- All relevant stakeholders should take part in any Geomatics research so there would be "ownership" of products and processes

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MacFarlane, Trish. "How Visual Spatial Skills Affect Leader Performance." *Trish McFarlane*, 27 Sept. 2010, www.trishmcfarlane.com/2010/09/27/how-visual-spatial-skills-affect-leader-performance/. Accessed 6 July 2020.

Tingatinga, Eric Augustus. "The Oblation Plaza". https://www.up.edu.ph/about-up/university-history/. Accessed 3 July 2020.

ありがとうございます

Thank You

Terima kasih

Salamat po

Jeark A. Principe, PhD
japrincipe@up.edu.ph

BACHELOR PROGRAM IN URBAN AND REGIONAL PLANNING

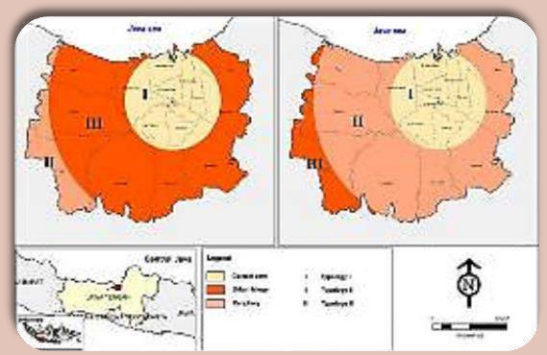
OUR RESEARCH: WHERE WE ARE NOW, AND WHERE WE ARE GOING NEXT

Dr. Widya Suryadini, S.T., M.T.

WORKING LABORATORIA

URBAN SPACES
AND
ACTIVITIES

MOBILITIES
AND
INFRASTRUCTURES

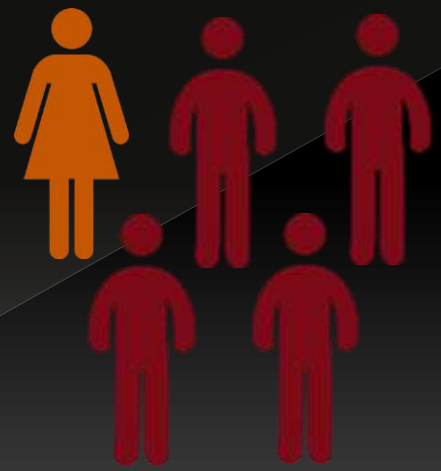


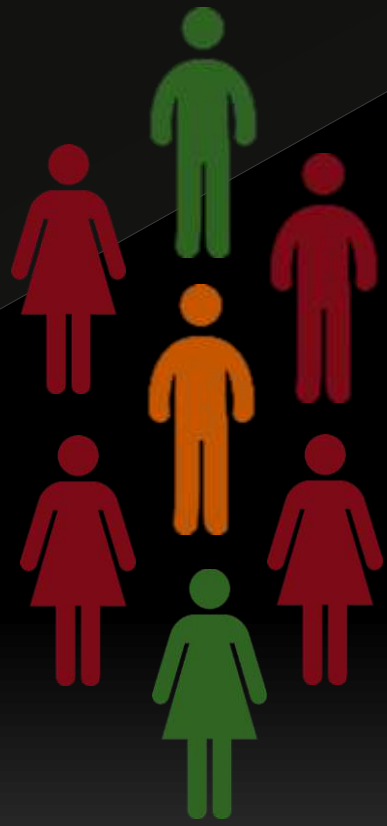
REGIONAL
AND
PERI-URBAN
DEVELOPMENT

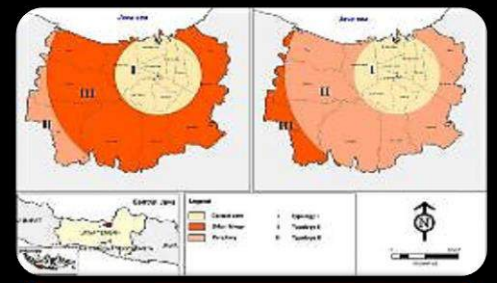
17 Lecturers: 3 PhD, 4 PhD Students, 10 Masters

URBAN SPACES & ACTIVITIES

MOBILITIES & INFRASRUCTURES

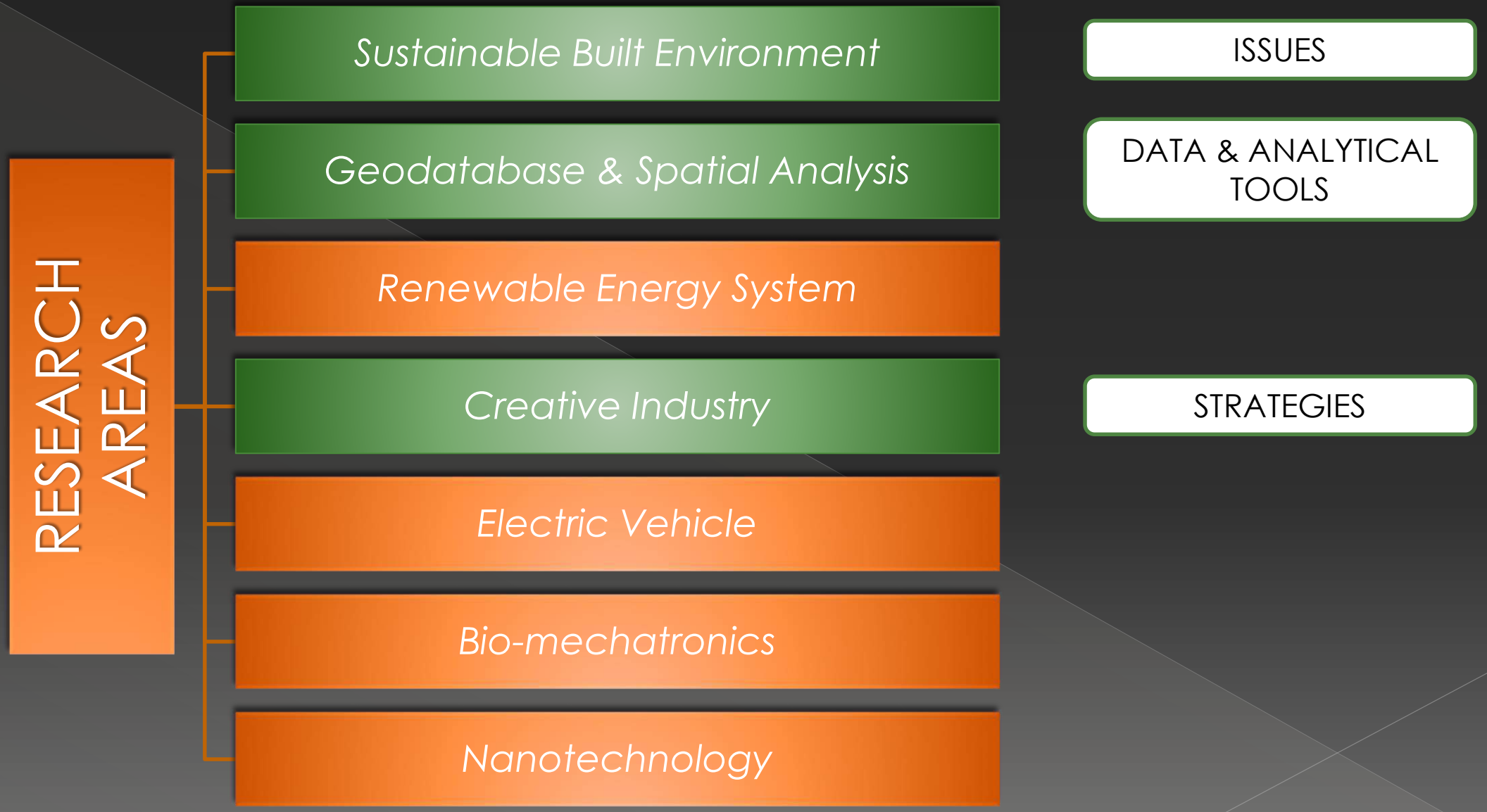






REGIONAL & PERI-URBAN DEVELOPMENT

17 Lecturers: 3 PhD, 4 PhD Students, 10 Masters


RESEARCH AREAS
Sustainable Built Environment
Geodatabase & Spatial Analysis
Renewable Energy System
Creative Industry
Electric Vehicle
Bio-mechatronics
Nanotechnology
ISSUES
DATA & ANALYTICAL TOOLS
STRATEGIES

Past Researches

- Marketing strategy for Gunung Sewu Geopark
- Urban-kampung-interface: a case study of Kampung Baluwerti, Surakarta
- Land conversion: how livelihoods are changing in peri-urban West Java
- The typology of peri-urban in Bandung metropolitan area
- Physical, social, and economical transformation in the peri-urban areas at Metropolitan Bandung
- Rural-urban linkage at peri-urban areas at Bandung Metropolitan area
- Modelling freight transportation in Europe : Transtools and value of time
- Metropolitan process, Urban form, and daily mobility in Bandung Agglomeration
- Transportation Happiness in Bandung City (ongoing research)
- Walkability and eco-friendly development
- Micro-climate, urban heat island, and the built environment

Past Researches

- Car-Free Days and behavioural changes in private vehicles rides
- Sistem Parkir Progresif (On Street) dalam Meningkatkan Efektivitas Transport Demand Management (TDM)
- The probability of modal change from private cars to Bandung Monorail
- Prediction of land use transformation due to Light Rail Transit (LRT) development in Palembang
- Kajian Perkembangan Fisik Dan Tipologi Kawasan Permukiman Di Pusat Pertumbuhan Kecamatan Tembalang, Kota Semarang
- A study on the livelihood of Kampung Pelangi, Gunung Brintik, Semarang using Sustainable Urban Livelihood approach
- Irigarayan fluidity as a perspective in reading the spatiality of Indonesian urban liminal spaces

CITIES ARE OUR FUTURE

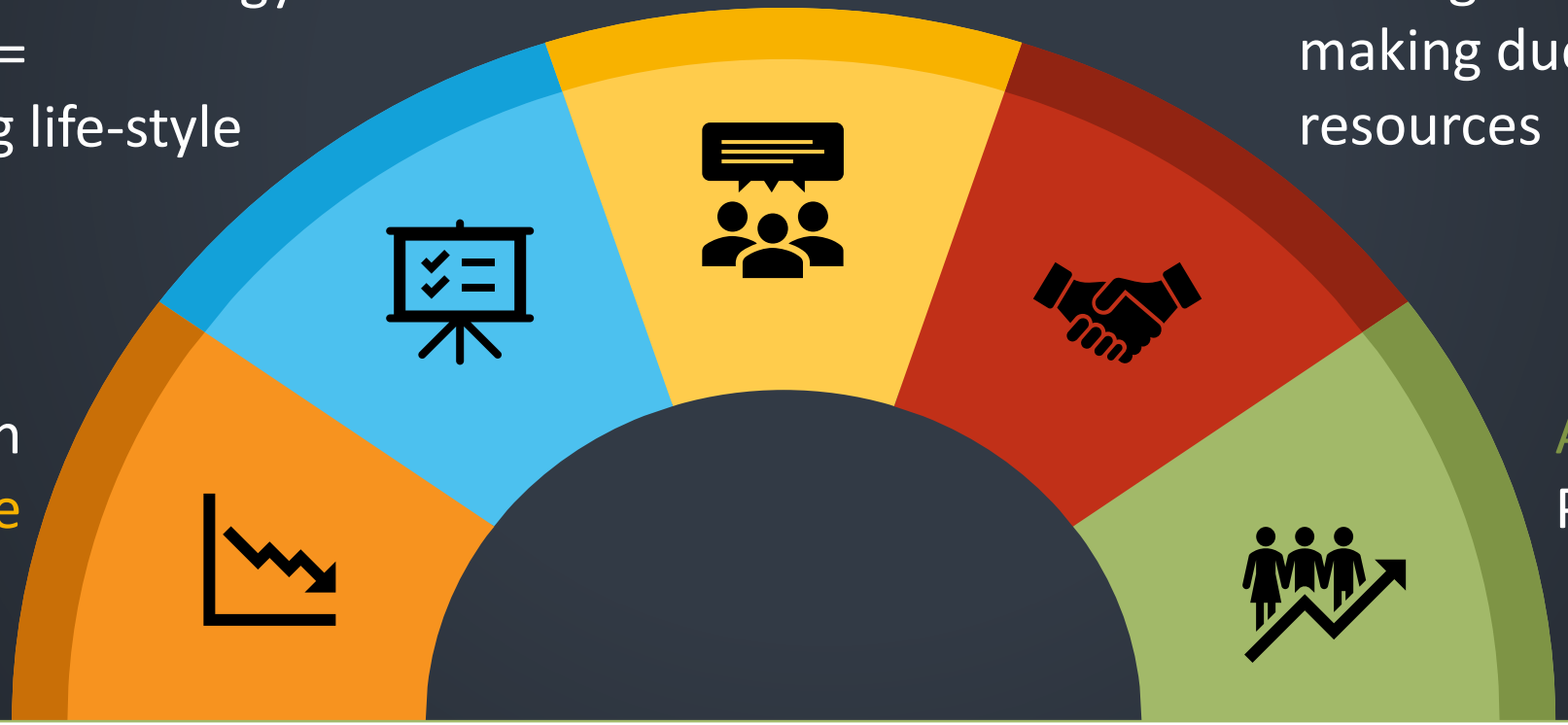
Cities as SOLUTION

Advance in technology
=
Changing life-style

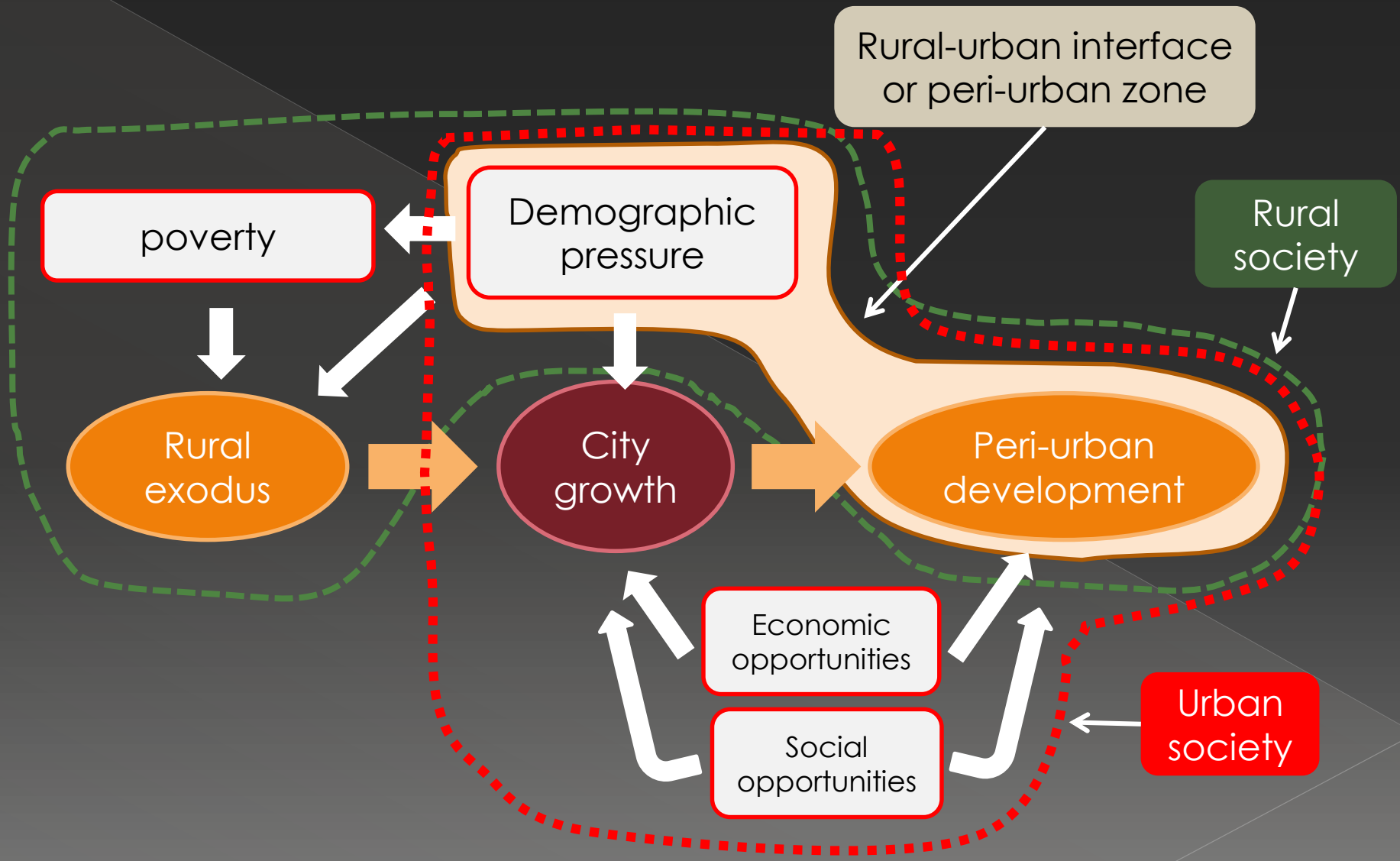
Strategic decision making due to limited resources

Urban
Quality Of Life

Anthropocene:
People First



ISSUES IN REGIONAL & PERI-URBAN DEVELOPMENT



Issues in Mobility & Infrastructure

Strategies for Sustainable Mobility And Infrastructure

Green Transportation

Intelligent Transport System

Transport Demand Management

Game Theory

Value Capture

Advancing the Ability of Institutions and Finance System In Infrastructure Development

Improving Access To Infrastructure

Road

Airport and City

Toll Road

Pedestrian

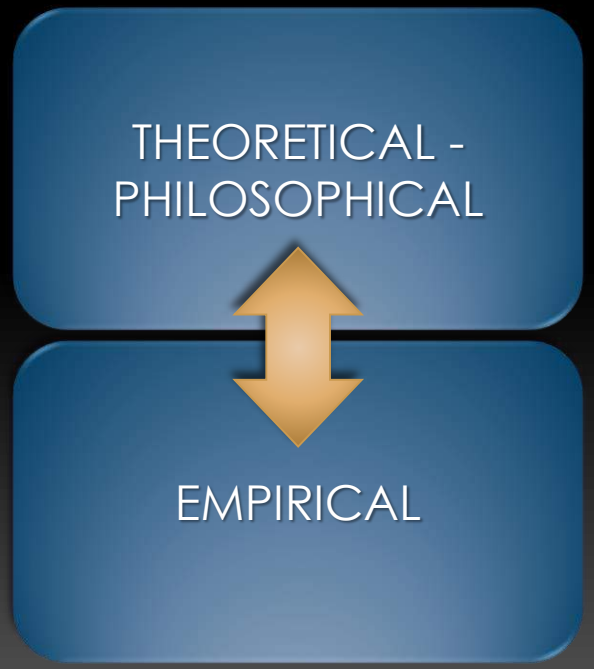
Social Network Analysis

Spatial Modelling

Apps Development

Developing the Approach, Method, and Analytical Techniques

SUSTAINABILITY & BEYOND



THANK YOU

For further inquiries, please contact widya@itenas.ac.id

Radiometric Cross Validation of THEOS

Tanakorn Sritarapipat[1],
Teerasit Kasetkasem[2],
Sorasak Khoomboon[2]

[1]School of Geoinformatics, Institute of science, Suranaree University of Technology
[2]Electrical Engineering, Faculty of Engineering, Kasetsart University

Contents

- Radiometric calibration and validation
- Radiometric cross validation of THEOS
- Experimental results of cross validation for THEOS
- Conclusions and recommendations

THEOS
Thailand Earth Observation Satellite

Radiometric calibration and validation

Radiometric calibration and validation

- A satellite starts to operate in an extremely harsh environment,
- Consequently, a degradation process in all of the components begins
- Conditions, such as exposure to mechanical stress, ultra-violet (UV) radiation, cosmic rays, energy generated during solar flares, etc.
- These factors degrade the imaging instrument (Barnes, 2001)

https://www.alten.com/innovation-in-the-space-industry-launching-new-technology-into-space/

- Radiometric calibration and validation are needed for providing high-quality scientific data.

  (Teillet et al. 2001)

- It is necessary to adjust the radiation of satellite images continuously

  in order to have an accurate stable radiation.

- Radiometric validation

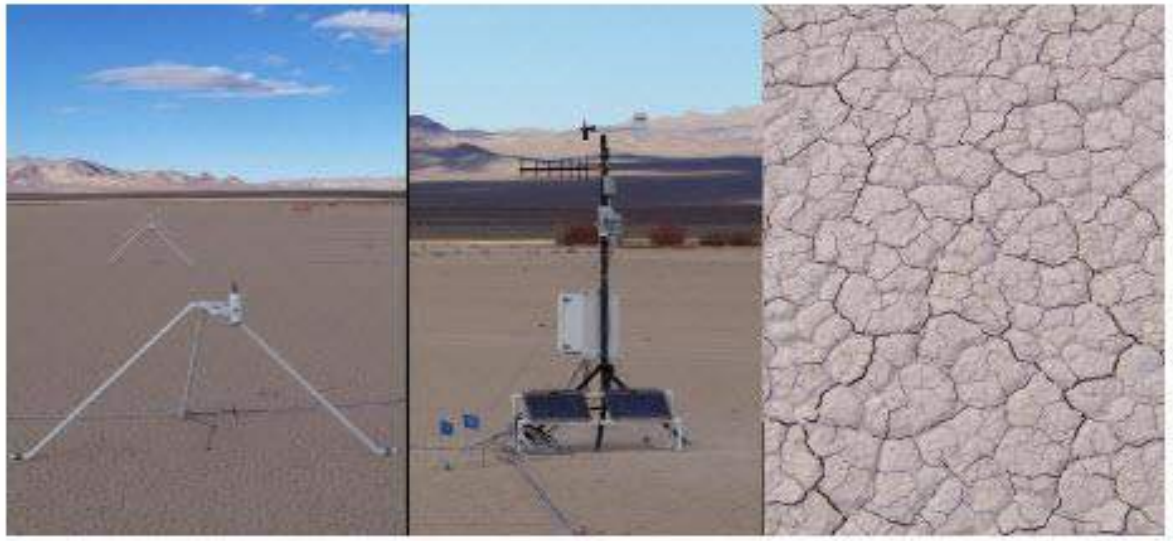
  is the process of comparing the radiation values from satellite images against the actual measured radiation

or radiation values obtained from the reliable references

- There are two main methods for radiometric calibration and validation
  - Vicarious Calibration
  - Pseudo Invariant Calibration Site (PICS)

Vicarious Calibration

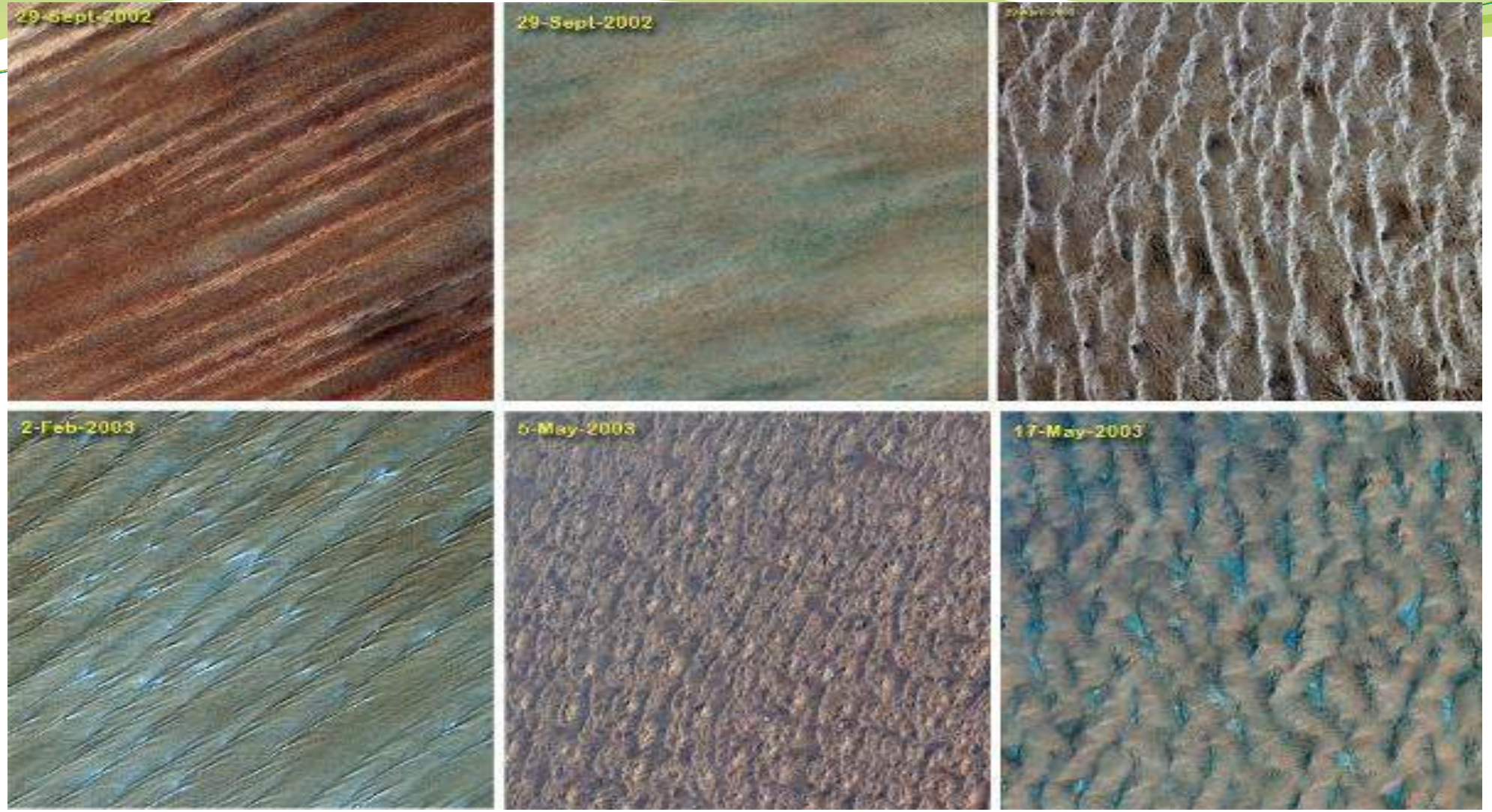
- Vicarious Calibration is a measurement of reflected light energy directly from the simulated area or natural area that has equal light reflection including measuring the atmosphere at the same time as satellite imaging to calculate the light energy.



http://calvalportal.ceos.org/cal/val-wiki/-/wiki/CalVal+Wiki/Frenchman+Flat/pop_up;jsessionid=8D150DE1BFB9496E99CF92C9656895C2?_36_viewMode=print

Pseudo Invariant Calibration Site (PICS)

- Pseudo Invariant Calibration Site (PICS) assume that the reflected light of the known area has not changed.
- The test area has the constant physical and has equal light reflection.
- There is no adverse effect on the atmospheric and low variation in each time such as desert.
- Desert is a very dry area with a very small water mist on the atmosphere.
- Those areas are designed by WGCV (Working Group on Calibration and validation) of the CEOS (Committee of Earth Observation Satellite)



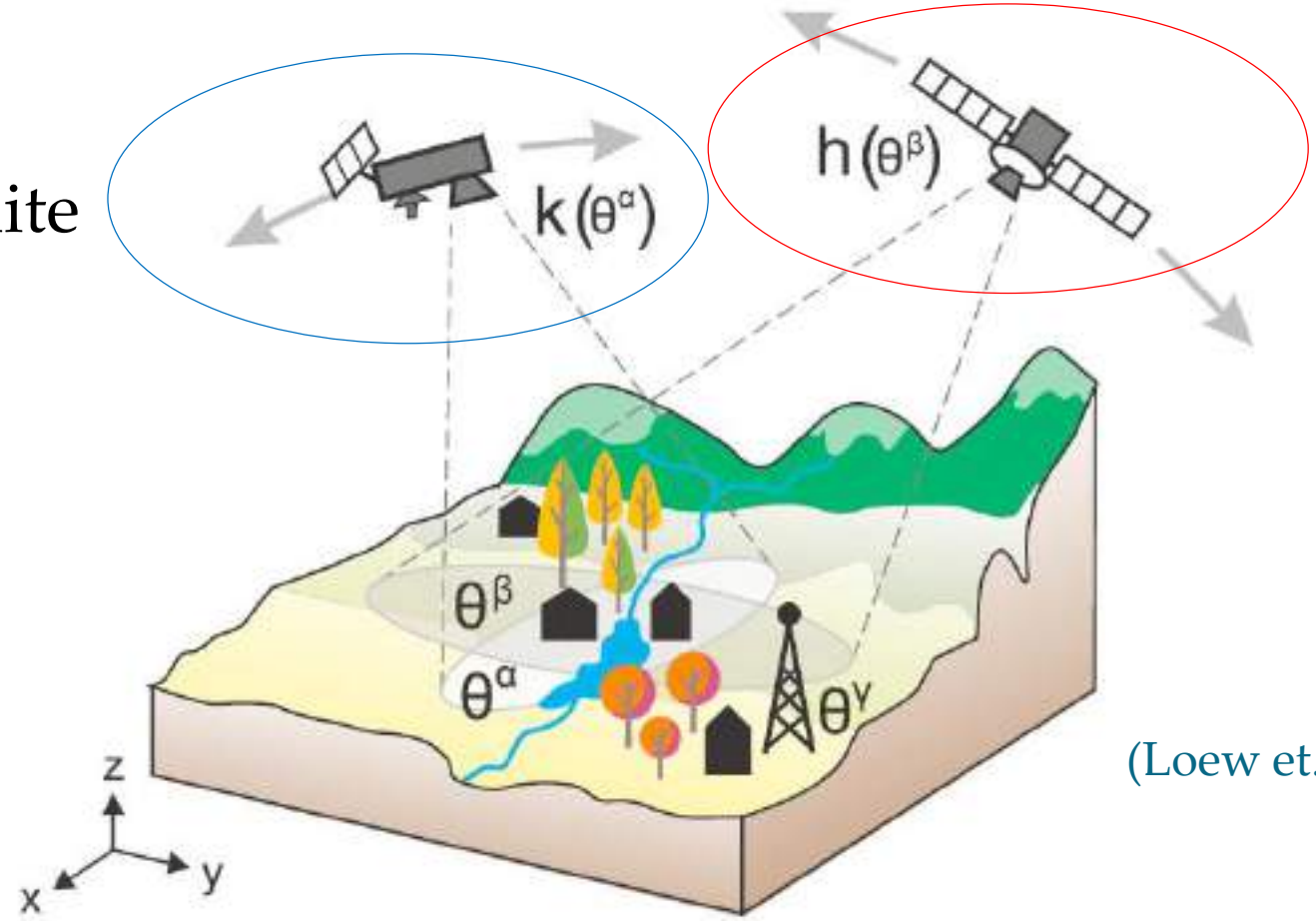
(1) Libya 4, (2,3) Mauritania 1 & 2, (4) Algeria 3, (5) Libya 1, (6) Algeria 5

(https://www.usgs.gov/media/images/calibrationvalidation-pseudo-invariant-test-sites)

- The calibration method using the PICS test area is NOT an actual measurement in a real condition.
- But it can be useful for reducing the steps of the process of real operation.
- So, it is suitable for long-term radiometric calibration and validation.

Radiometric cross validation

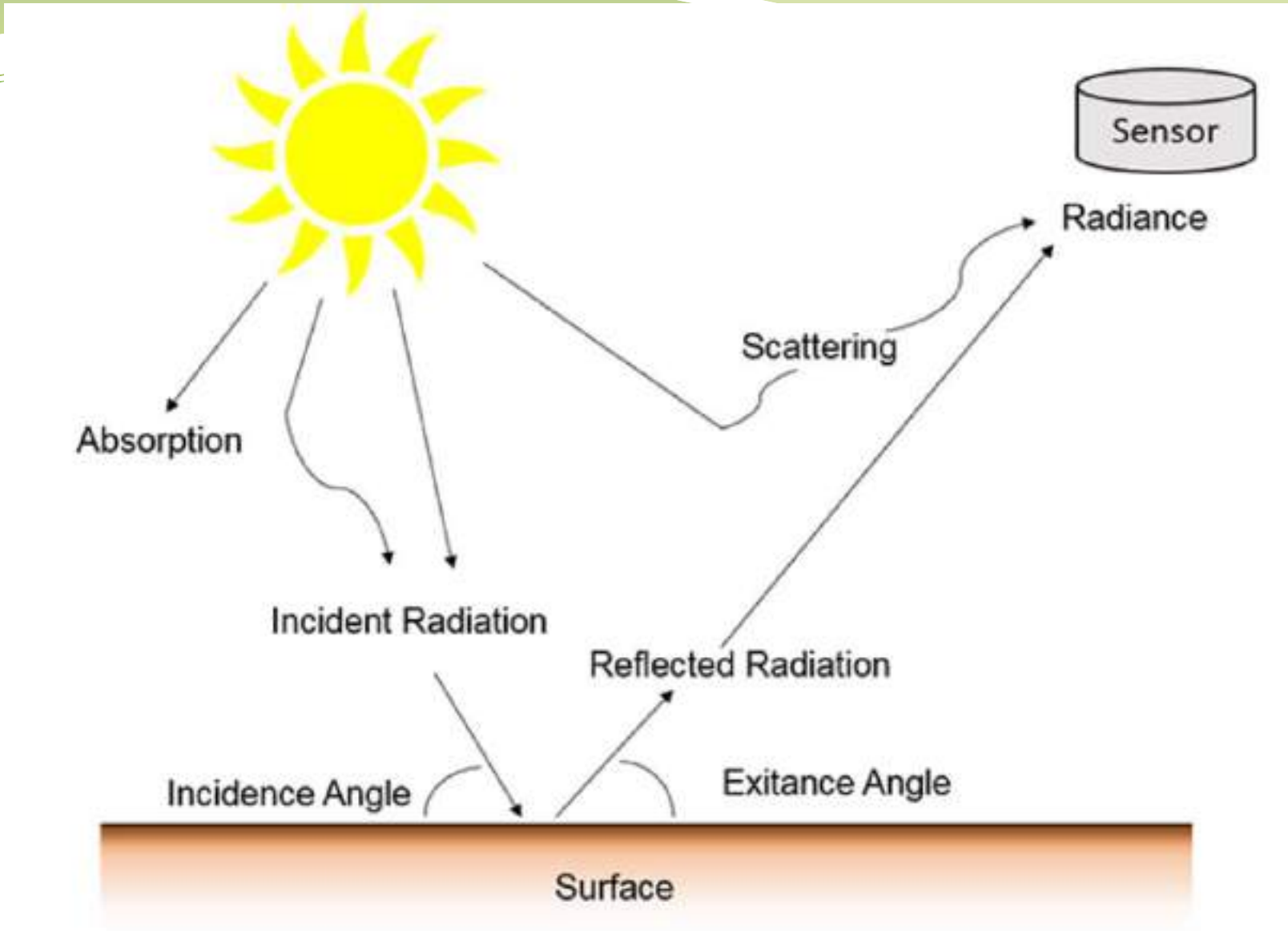
Reliable satellite



Your satellite

(Loew et.al, 20108)

Figure 2. General sketch of the validation problem. A true, but unknown field of a geophysical variable θ is observed by different measurement systems on different spatial (and temporal) scales, denoted as α, β, and γ, using nonlinear mapping functions (h, k).



The figure above depicts the atmospheric effects that influence the measurement of reflected energy by remote sensors. this include path radiance from atmospheric scattering and the reduction of the total irradiance.

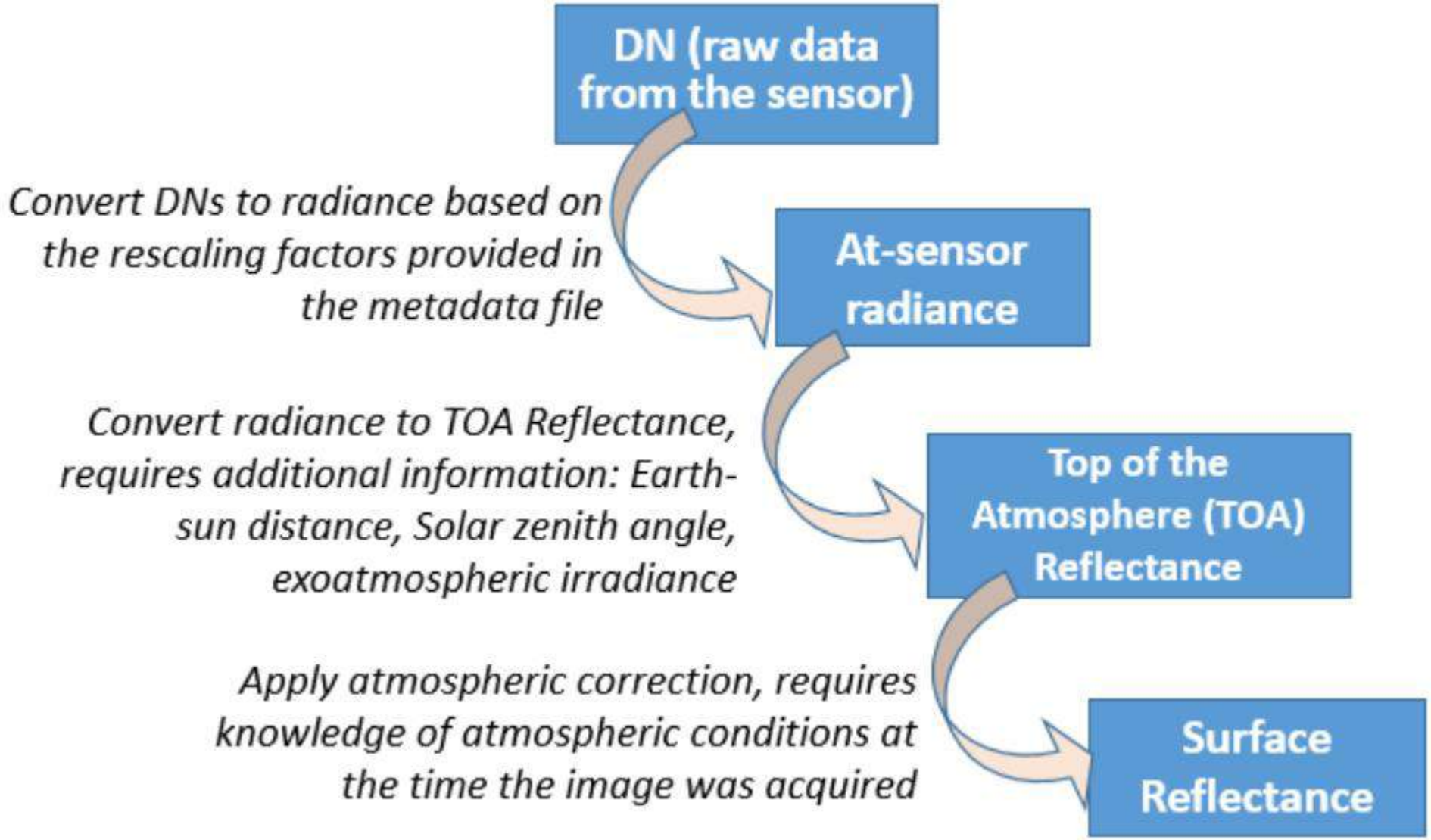
http://gsp.humboldt.edu/OLM/Courses/GSP_216_Online/lesson4-1/radiometric.html

- Digital Number
  - Light source
  - Sensor
  - Atmosphere
  - Surface material
- At sensor Radiance ($Wm^{-2}.sr^{-1}.\mu m^{-1}$)
  - Light source
  - Atmosphere
  - Surface material
- TOA Reflectance (ratio)
  - Atmosphere
  - Surface material

TOA = Top of atmosphere

http://gsp.humboldt.edu/OLM/Courses/GSP_216_Online/lesson4-1/radiometric.html

Radiometric Calibration & Correction Process



http://gsp.humboldt.edu/OLM/Courses/GSP_216_Online/lesson4-1/radiometric.html

Converting DN to At-sensor radiance

- At sensor radiance

$$L_{\lambda}^{i} = M_{L}^{i} \times Q_{cal}^{i} + A_{L}^{i}$$

Where

L_{λ}^{i} = Spectral radiance for band i (W/(m2 * sr * μm))

M_{L}^{i} = Radiance multiplicative scaling factor for band i

A_{i}^{L} = Radiance additive scaling factor for band i

$Q_{i\ cal}^{L}$ = pixel value (DN) for band i

Converting DN to TOA reflectance

- TOA reflectance

$$\rho_{\lambda}^{i} = \frac{M_{p}^{i} \times Q_{cal}^{i} + A_{p}^{i}}{\cos \theta_{sz}}$$

Where

ρ_{λ}^{i} = TOA reflectance (ratio) for band I

M_{p}^{i} = Reflectance multiplicative scaling factor for band i

A_{p}^{i} = Reflectance additive scaling factor for band i

Q_{cal}^{i} = Pixel value (DN) for band i

θ_{sz} = Solar zenith angle; $\left(\theta_{sz} = 90^{\circ} - \theta_{se}\right)$

θ_{se} = Sun elevation angle

- Radiometric cross validation

$$RMSE = \sqrt{\sum_{i=1}^{n} \frac{(\hat{y}_i - y_i)^2}{n}}$$

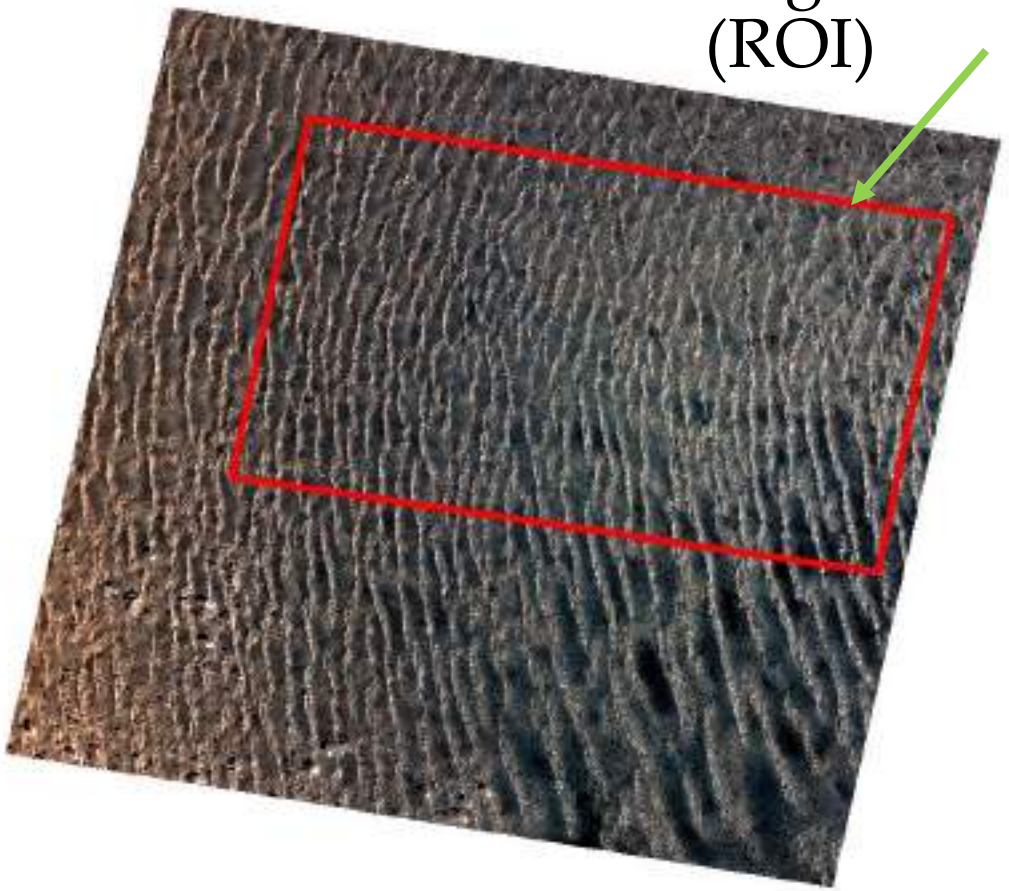
  - Results of Root mean square error (RMSE)
    - High RMSE → Low radiometric accuracy (low reliable)
    - Low RMSE → High radiometric accuracy (high reliable)

Radiometric cross validation of THEOS

- Since Thailand is located near the equator the has the effects from atmosphere and light variations.
- It is impossible to simulate test area that is suitable for Vicarious calibration
- The calibration method using PICS is applied for THEOS radiometric validation
- TOA reflectance is used for comparison of various satellite sensors; THEOS, LANDSAT-8, SENTINEL-2
- Libya desert (one of PICS) is selected as the study area

Study area

- Region of interest
  in Libyan Desert



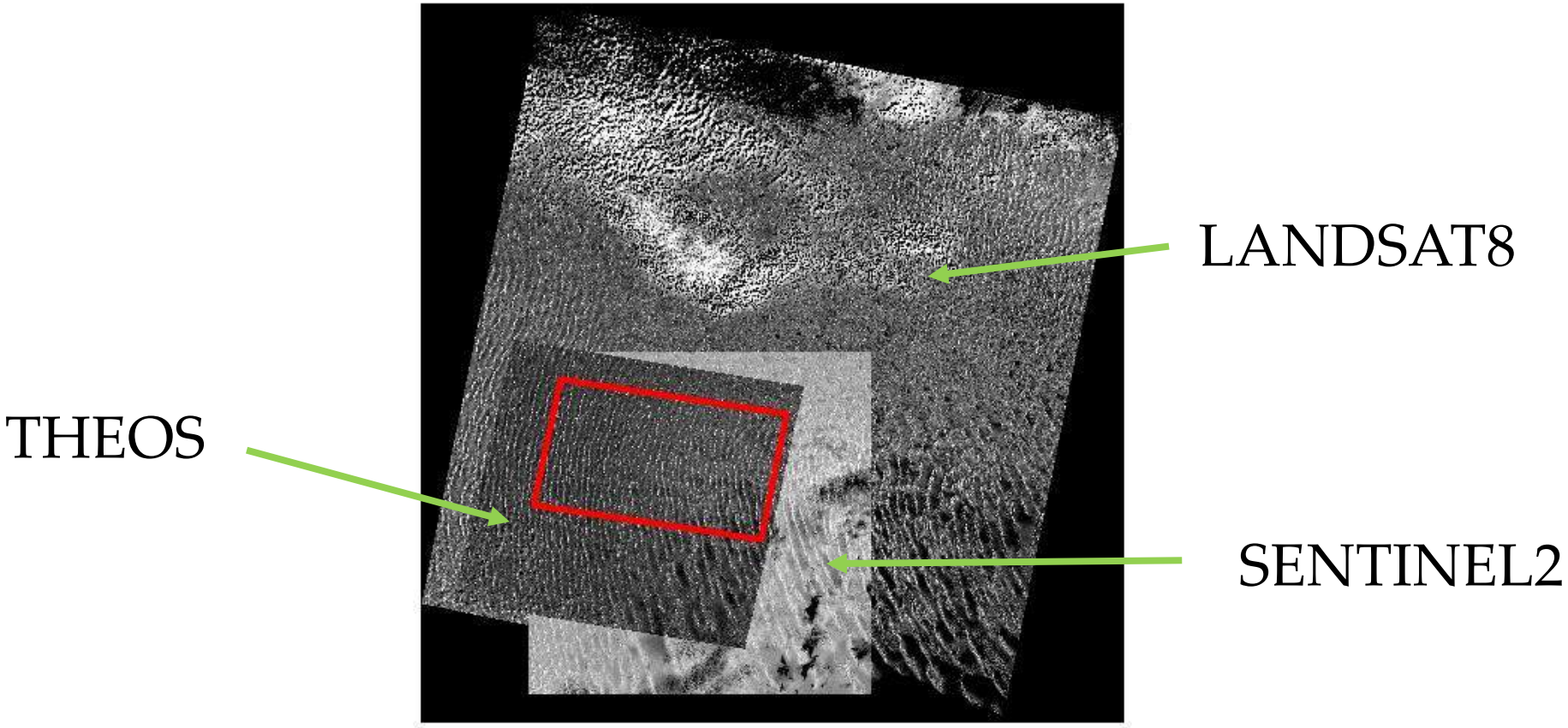
THEOS image on 2016/02/21
in Libya Desert (one of PICS)

Dataset with THEOS, LANDSAT8, SENTINEL2

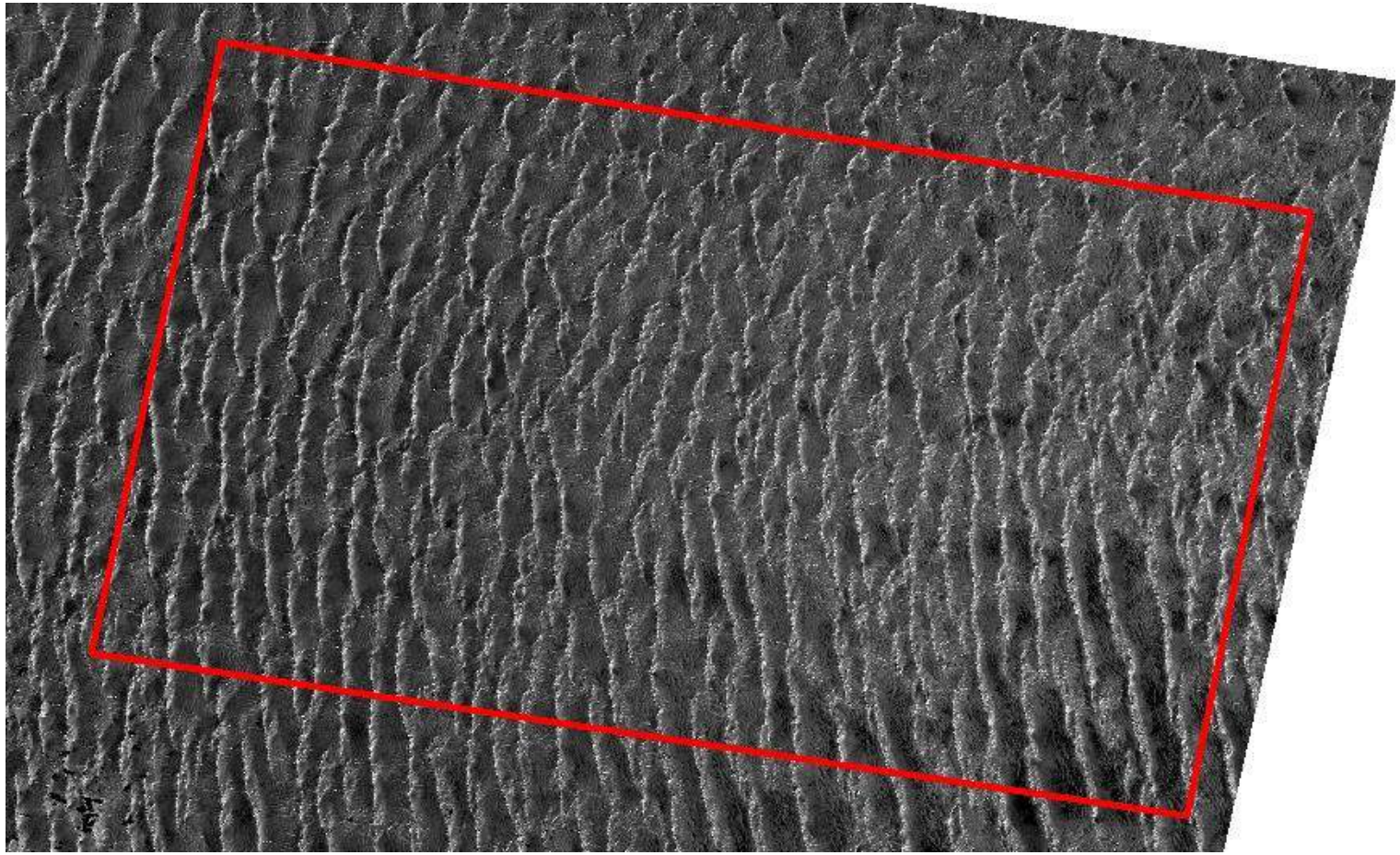
- THEOS
  - 2013 - 2016 86 images
- LANDSAT-8
  - 2013 – 2016 57 images
- Sentinel-2
  - 2015 – 2016 15 images

- Spectral bands : Blue, Green, Red, Near infrared

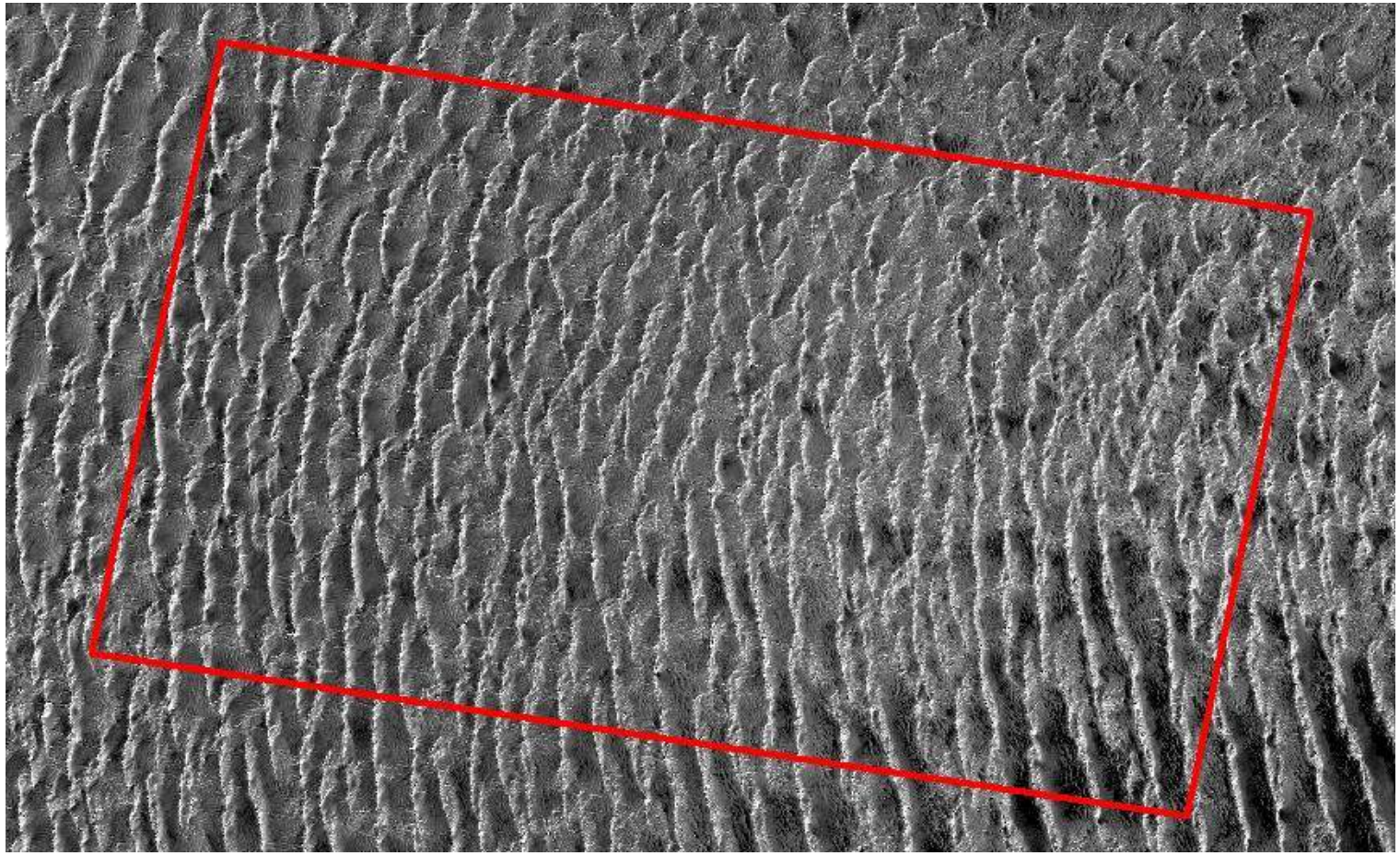
Sattellite	Spatial resolution (m.)	Band	Spectral range (nm.)	Center wavelength (nm.)
THEOS	15	Blue	450-520	485
	15	Green	530-600	565
	15	Red	620-690	655
	15	Near Infrared	770-900	835
LANDSAT-8	30	Blue	452-512	483
	30	Green	533-590	560
	30	Red	636-673	660
	30	Near Infrared	851-879	865
SENTINEL-2	10	Blue	458-523	490
	10	Green	543-578	560
	10	Red	650-680	665
	10	Near Infrared	785-899	842



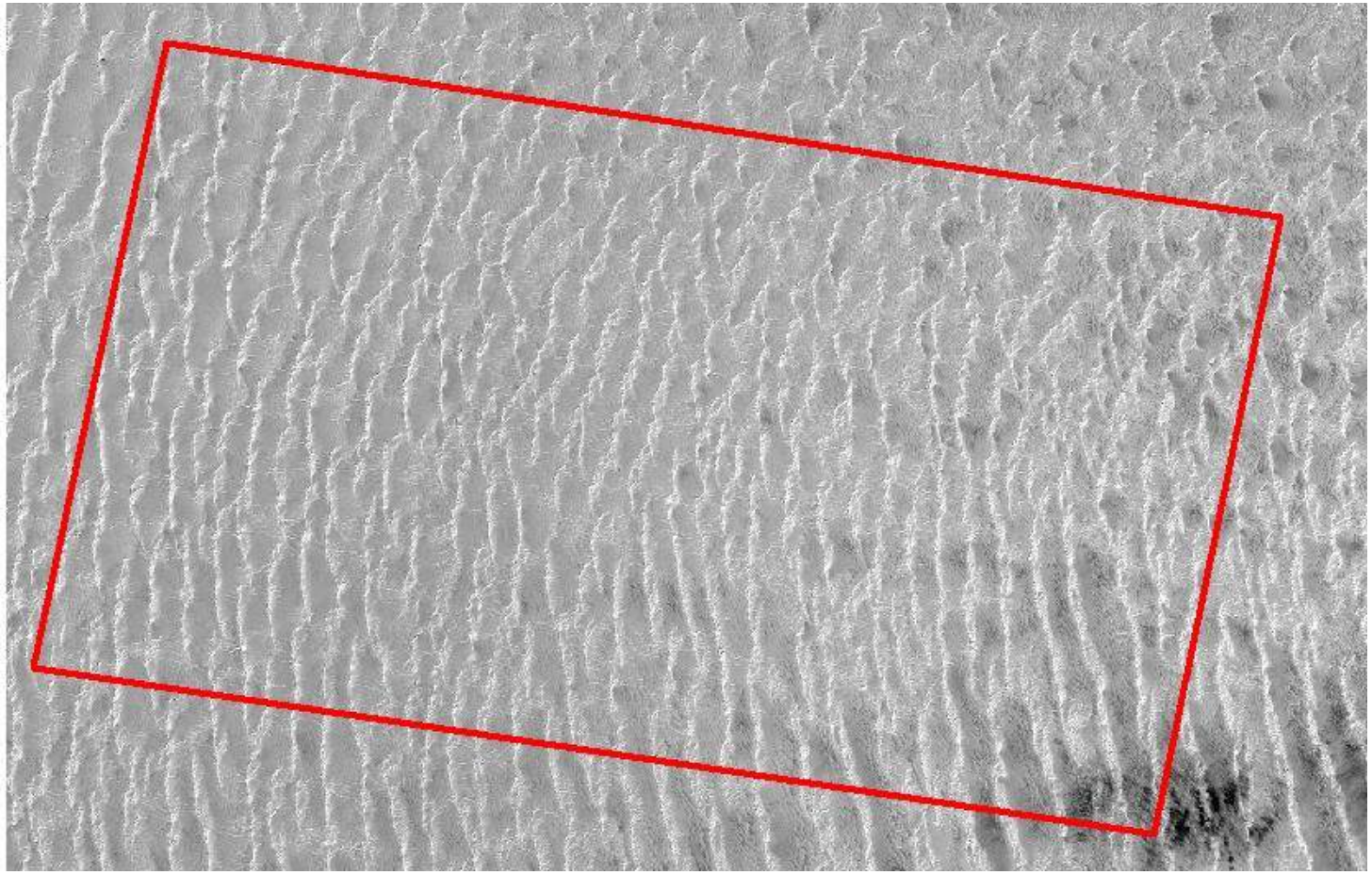
THEOS, LANDSAT8, SENTINEL2 images



DN Red band THEOS image on 21 Feb 2016



DN Red band LANDSAT8 image on 20 Feb 2016



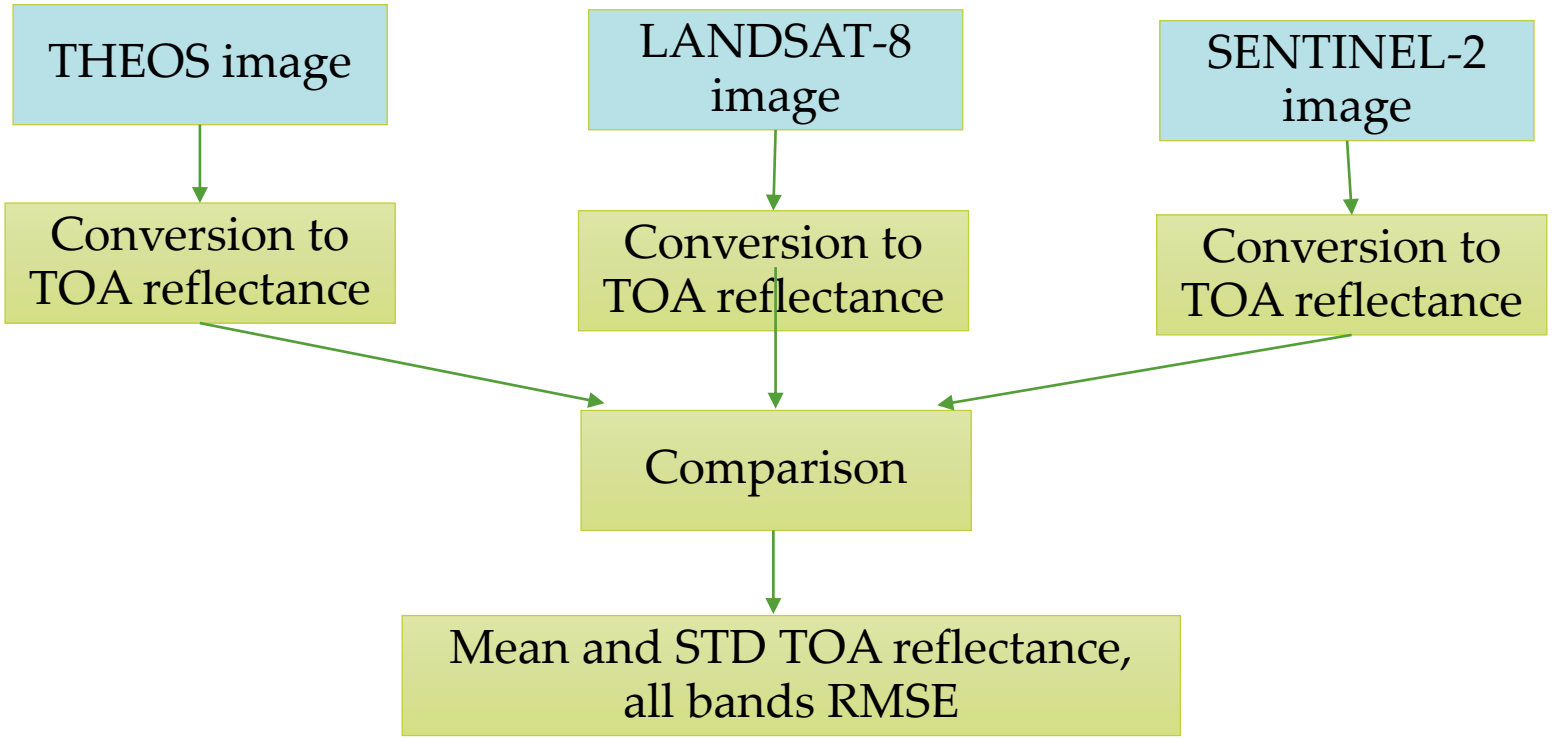
DN Red band SENTINEL2 image on 19 Feb 2016

Number of pairs

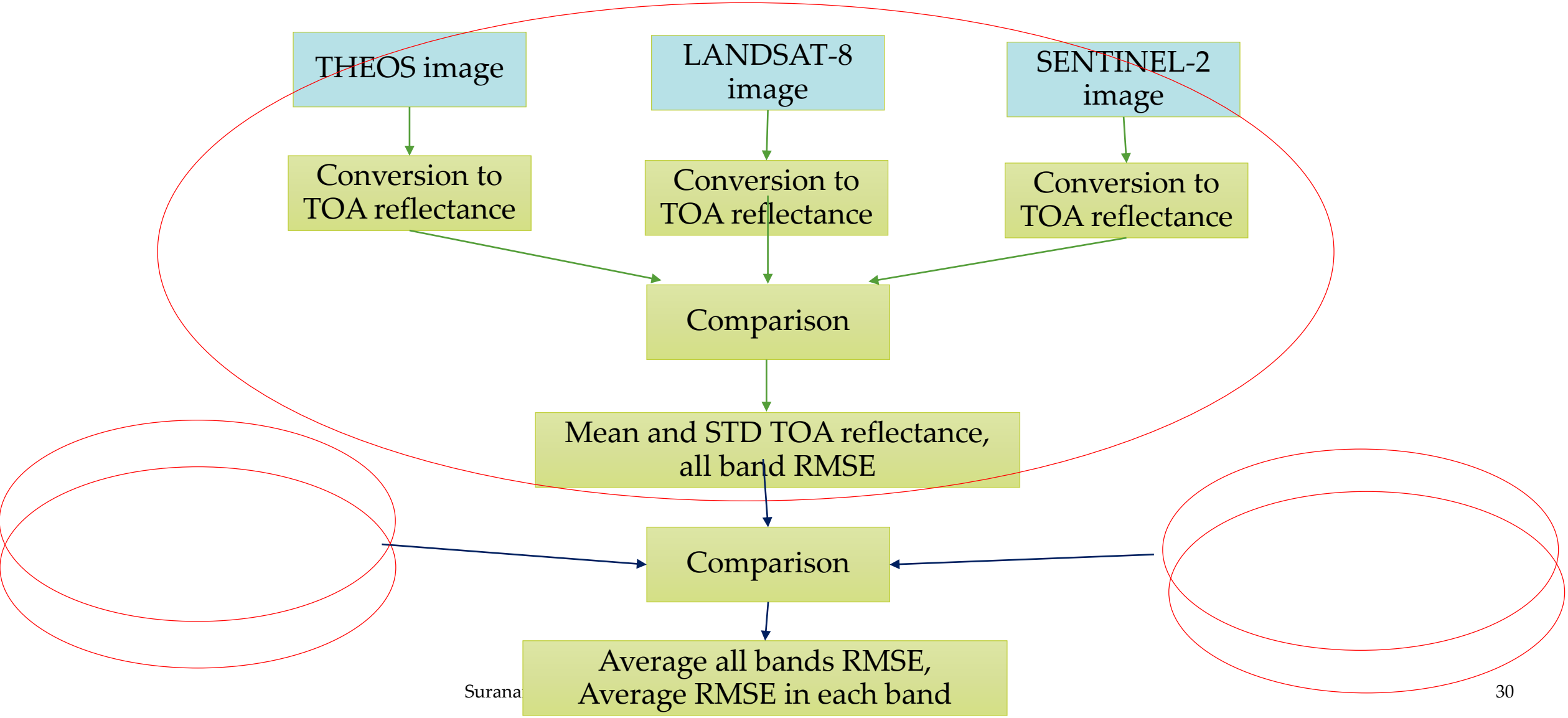
- In this study, each pair that can be compared to each other **MUST** have a duration that was taken for up to 10 days.

- THEOS – LANDSAT-8
  - 66 pairs
- THEOS – SENTINEL-2
  - 14 pairs
- THEOS – LANDSAT-8 – SENTINEL-2
  - 10 pairs

Flowchart


THEOS image
LANDSAT-8 image
SENTINEL-2 image
Conversion to TOA reflectance
Conversion to TOA reflectance
Conversion to TOA reflectance
Comparison
Mean and STD TOA reflectance, all bands RMSE

Flowchart


THEOS image
LANDSAT-8 image
SENTINEL-2 image
Conversion to TOA reflectance
Conversion to TOA reflectance
Conversion to TOA reflectance
Comparison
Mean and STD TOA reflectance, all band RMSE
Comparison
Average all bands RMSE, Average RMSE in each band

Converting DN to At-Sensor radiance for THEOS

- At-sensor radiance

$$L_{\lambda}^{i} = \frac{DN_i}{Gain_i}$$

Where

L_{λ}^{i} = At-sensor spectral radiance for band i (W/(m2 * sr * μm)

DN_i = Digital number of band i

$Gain_i$ = Gain for band i ;

Converting At-Sensor radiance to TOA reflectance of THEOS

- TOA reflectance

$$\rho_{\lambda}^{i} = \frac{\boldsymbol{\pi} \times \boldsymbol{d^2} \times \boldsymbol{L_{\lambda}^{i}}}{\boldsymbol{Esun^{i}} \times cos\theta_{sz} \times cos\theta_{sat}}$$

Where

ρ_{λ}^{i} = TOA reflectance (ratio) for band i

$\boldsymbol{L_{\lambda}^{i}}$ = At-sensor spectral radiance for band *i* (W/(m2 * sr * μm)

$\boldsymbol{Esun^{i}}$ = Mean exo-atmospheric solar irradiance (W/(m2 * sr * μm) for band i

d = Earth-Sun distance (astronomical units)

θ_{sz} = Solar zenith angle

θ_{sat} = Incidence angle

Converting DN to TOA reflectance for LANDSAT-8

- TOA reflectance

$$\rho_{\lambda}^{i} = \frac{M_b^i \times Q_{cal}^i + A_b^i}{\cos\theta_{sz}}$$

Where

ρ_{λ}^{i} = TOA reflectance (ratio) for band I

M_b^i = Reflectance multiplicative scaling factor for band i

A_b^i = Reflectance additive scaling factor for band i

Q_{cal}^i = Pixel value (DN) for band i

θ_{sz} = Solar zenith angle; $(\theta_{sz} = 90^\circ - \theta_{se})$

θ_{se} = Sun elevation angle

Converting DN to TOA reflectance for SENTINEL-2

- TOA reflectance

$$\rho_{\lambda}^{i} = \frac{DN_i}{Gain_i}$$

Where

ρ_{λ}^{i} = TOA reflectance (ratio) for band I

DN_i = Digital number of band i

$Gain_i$ = Gain for band i ;

Comparison

- Root mean square error (RMSE)

$$RMSE = \sqrt{\sum_{i=1}^{n} \frac{(\hat{y}_i - y_i)^2}{n}}$$

- Ratio

$$\text{Ratio} = \frac{\hat{y}_i}{y_i}$$

Experimental results of cross validation for THEOS

- Comparison of TOA reflectance of THEOS, LANDSAT8, and SENTINEL2
  - Mean TOA reflectance
  - Standard deviation (STD) TOA reflectance
  - Ratio of mean TOA reflectance
  - All band RMSE of mean TOA reflectance

- Time Series Comparison of TOA reflectance of THEOS, LANDSAT8, and SENTINEL2
  - Averaged all band RMSE of mean TOA reflectance
  - Averaged RMSE of mean TOA reflectance in each band
  - Averaged ratio of mean TOA reflectance in each band

Date Image			
	THEOS	LANDSAT8	SENTINEL2
Date	20160216	20160220	20160208

Mean TOA Reflectance			
	THEOS	LANDSAT8	SENTINEL2
Blue	0.174924	0.245261	0.252928
Green	0.309650	0.334411	0.327973
Red	0.481412	0.455473	0.464649
NIR	0.568477	0.573807	0.537202

STD TOA Reflectance			
	THEOS	LANDSAT8	SENTINEL2
Blue	0.009692	0.013581	0.015111
Green	0.020929	0.021649	0.022202
Red	0.034047	0.029529	0.033203
NIR	0.04237	0.037048	0.039486

Ratio Mean TOA Reflectance			
	THEOS/LANDSAT8	THEOS/SENTINEL2	LANDSAT8/SENTINEL2
Blue	0.713215	0.691595	0.969686
Green	0.925956	0.944134	1.019632
Red	1.056949	1.036077	0.980253
NIR	0.99071	1.058218	1.068141

RMSE Mean TOA Reflectance			
	THEOS_LANDSAT8	THEOS_SENTINEL2	LANDSAT8_SENTINEL2
RMSE	0.039565	0.043816	0.019522

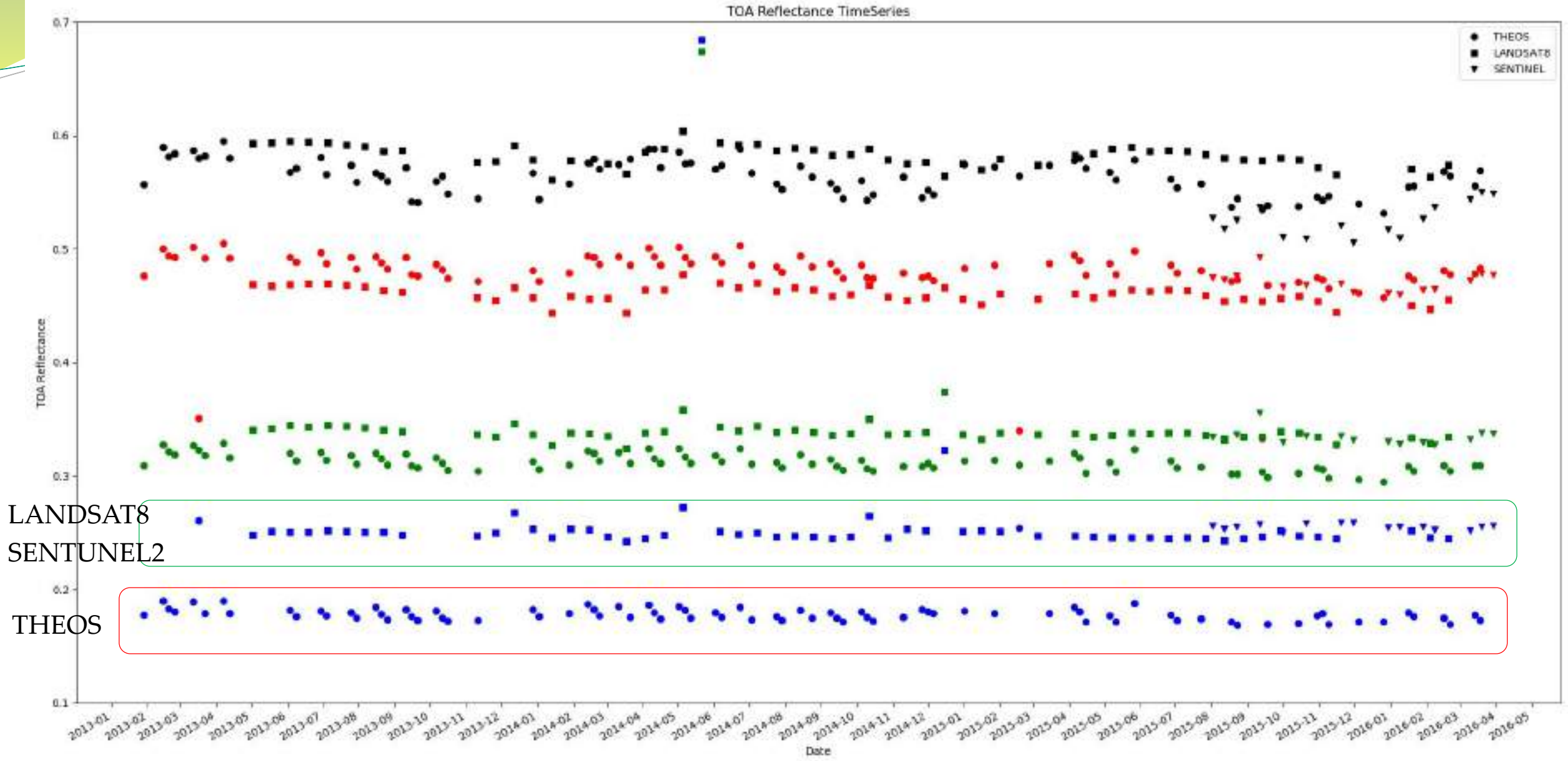
- Time series Comparison from 2013 to 2016

- THEOS – LANDSAT-8
  - 2013-2016
  - 66 pairs
- THEOS – SENTINEL-2
  - 2015-2016
  - 14 pairs
- THEOS – LANDSAT-8 – SENTINEL-2
  - 2015-2016
  - 10 pairs

THEOS_LANDSAT8	
Total pair	66
RMSE All band	0.042525478
RMSE Blue band	0.071202132
RMSE Green band	0.026766315
RMSE Red band	0.03189295
RMSE NIR band	0.022946143
Average Ratio Blue band	0.719633994
Average Ratio Green band	0.925937892
Average Ratio Red band	1.052441163
Average Ratio NIR band	0.971323653

THEOS_SENTINEL2	
Total pair	14
RMSE All band	0.049039
RMSE Blue band	0.078668
RMSE Green band	0.032794
RMSE Red band	0.044012
RMSE NIR band	0.028683
Average Ratio Blue band	0.701344
Average Ratio Green band	0.908809
Average Ratio Red band	0.986148
Average Ratio NIR band	1.04703

LANDSAT8_SENTINEL2	
Total pair	10
RMSE All band	0.029217
RMSE Blue band	0.00964
RMSE Green band	0.010005
RMSE Red band	0.022143
RMSE NIR band	0.052987
Average Ratio Blue band	0.964588
Average Ratio Green band	0.991637
Average Ratio Red band	0.959676
Average Ratio NIR band	1.099515



LANDSAT8
SENTUNEL2

THEOS

Radiometric cross validation of THEOS

- **All bands**
  - RMSE THEOS LANDSAT8 = 0.04252
    → High radiometric accuracy
  - RMSE THEOS SENTINEL2 = 0.04903
    → High radiometric accuracy
  - RMSE LANDSAT8 SENTINEL2 = 0.029217
    → Very high radiometric accuracy

→ Better 40% than THEOS

- **Green band, Red band, NIR band**
  - RMSE THEOS LANDSAT8 = 0.02676 (Green), 0.03189 (Red), 0.02294 (NIR)
    → High radiometric accuracy
    NIR → Very high radiometric accuracy
  - RMSE THEOS SENTINEL2 = 0.03279 (Green), 0.04401 (Red), 0.02868 (NIR)
    → High radiometric accuracy

  - RMSE LANDSAT8 SENTINEL2 = 0.01000 (Green), 0.02214 (Red), 0.05298 (NIR)
    → High radiometric accuracy
    Green and **Red** → Very high radiometric accuracy

- **Blue band**
  - RMSE THEOS LANDSAT8 = 0.07120
    → Low radiometric accuracy
  - RMSE THEOS SENTINEL2 = 0.07866
    → Low radiometric accuracy
  - RMSE LANDSAT8 SENTINEL2 = 0.00964
    → Very high radiometric accuracy → better 7 times than THEOS

Conclusions

- **Radiometric cross calibration** of **THEOS** with LANDSAT8 and SENTINEL2
- The calibration method using **PICS** is applied (Libya dessert)
- **TOA reflectance** is selected for radiometric comparison
- For THEOS radiometric validation
  - All bands → High radiometric accuracy
  - **Green, red, blue and NIR** bands → High radiometric accuracy
  - **Blue band** → Low radiometric accuracy
  - **Calibration process** is needed ;especially for blue band

Recommendations

- Reducing RMSE TOA reflectance → Higher radiometric accuracy
  - by improving dark signal and PRNU process
  - **by improving physical gains**

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- https://www.usgs.gov/media/images/calibrationvalidation-pseudo-invariant-test-sites

Thank you for your attention

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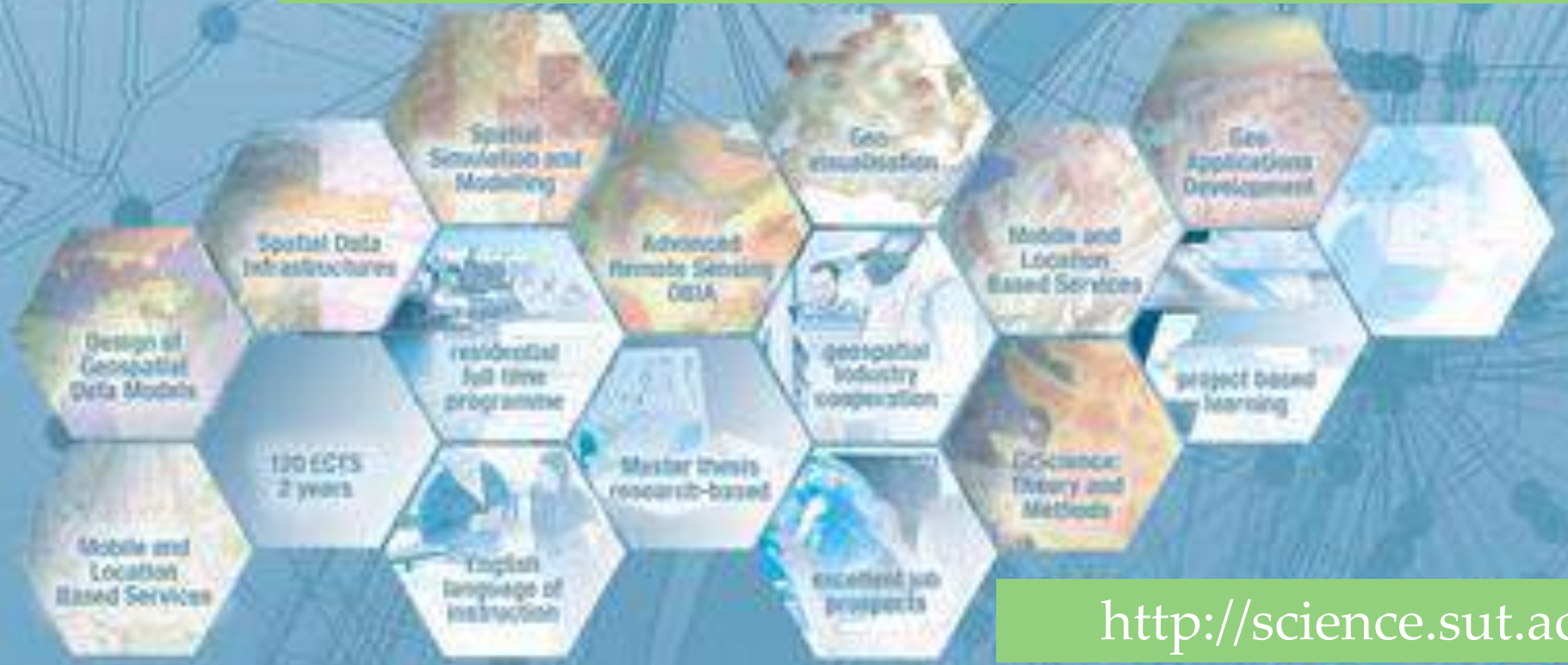

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Welcome to School of Geoinformatics

School of Geoinformatics, Institute of Sciences, Suranaree University of Technology, Thailand was established in 1993 in recognition of the significance of innovative development of Geoinformatics technology.

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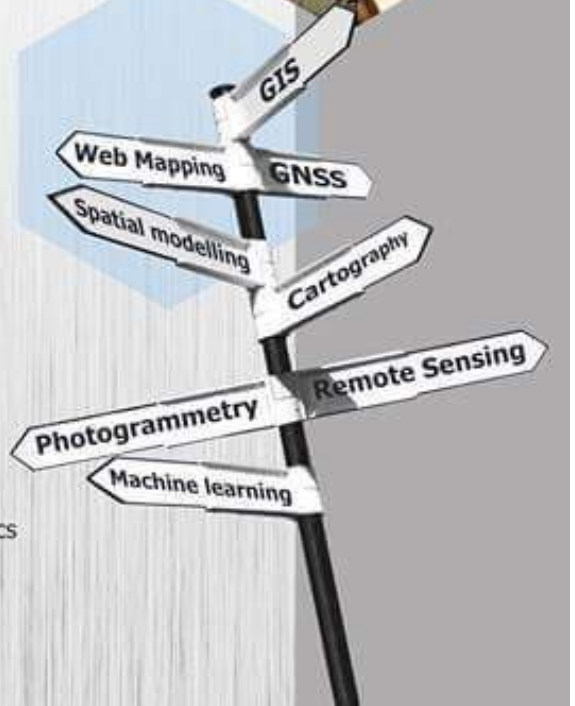
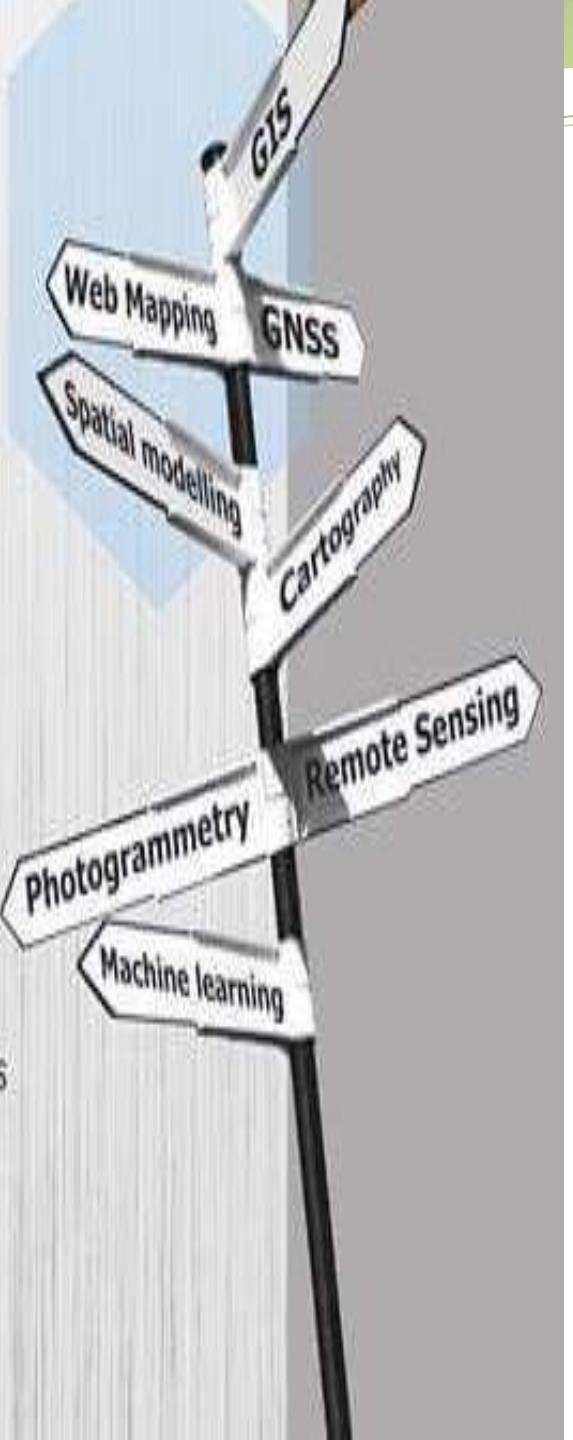
Research areas

- Natural Disasters
- Climate Change
- Smart City
- Smart Farming
- Flood modeling
- UAV Mapping
- Big data analysis
- Machine learning in Geoinformatics





Research interests

- Smart city
- Smart farming
- Aging society
- Disaster management
- Flood modelling
- UAV mapping
- Image processing
- Machine learning
- Big data analysis
- Climate change
- Logistic management
- Biodiversity

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Lecturer

EDUCATION:

Ph.D. Geomatics University of Florida, USA

- อาจารย์สาขาวิชาภูมิสารสนเทศ มหาวิทยาลัยเทคโนโลยีสุรนารี

EXPERTISE AND INTERESTS:

Geomatics, Spatial Statistics, Hydraulic Models, GIS

Dr. Tanakorn Sritarapipat

Lecturer

EDUCATION:

Ph.D. Civil Engineering,

The University of Tokyo, Japan

- อาจารย์สาขาวิชาภูมิสารสนเทศ มหาวิทยาลัยเทคโนโลยีสุรนารี

Email: tanakorn.s@sut.ac.th

EXPERTISE AND INTERESTS:

Image Processing, Computer programming,

Machine Learning, Deep Learning, Remote Sensing

Mrs. Rachaneekorn Somakul

Email:
rs224652@gmail.com

Secretary

School of Geoinformatics

Suranaree University of Technology

111 University Avenue, Suranaree, Muang,

Nakhonratchasima (30000)

Mobile:+66-919-5446-55
Tel: +66-44-224652 (office)
Fax: +66-44-224185

Tentative plan: Collaboration between GISTDA & SUT

THEOS-2

BACKGROUND

GISTDA

Geo-Informatics and Space Technology Development Agency (Public Organization):GISTDA

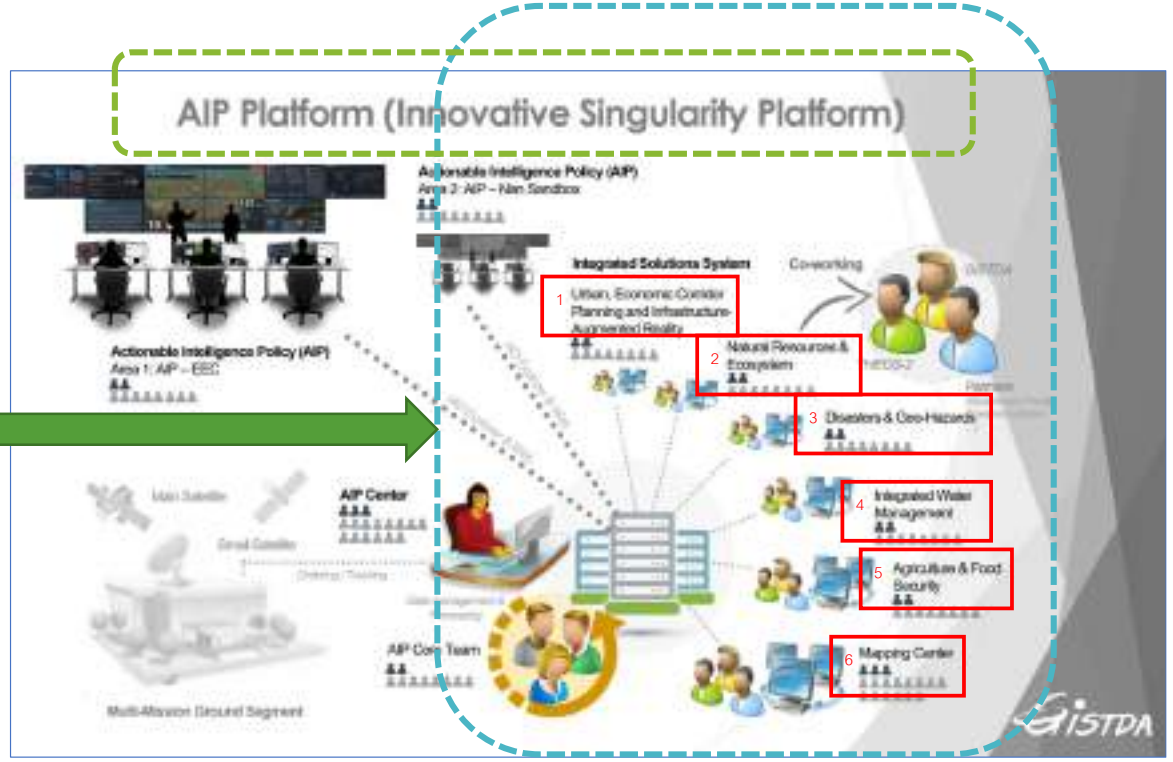
GISTDA To be Value based Organization in Geo-space Intelligence Deliveries by 2020

The Government grants permission to make a progress on THEOS-2 satellite Going forward on a complete development for the country with Space Technology Pointing out that it is beyond a satellite!!!

15 Mar 2017 Phakpoom Laotrakul | Categories: Portfolio / Project Space Technology

Gallery

- **Establish a Regional GISTDA center of lower North-eastern region**
- **in SUT**



For more information: https://www.gistda.or.th/main/en/node/1753

Capacities of school of Geoinformatics collaboration with GISTDA

Regional GISTDA center of lower North-eastern region in SUT

** AIP (Actionable Intelligence Policy)

- **AIP 1: AGRICULTURE AND FOOD SECURITY**
- **AIP 2: DISASTERS AND GEOHAZARDS**
- **TECHNICAL SUPPORT FOR SATELLITE APPLICATIONS**

AIP 1: Agriculture and Food Security

Significances

North-eastern region: The largest area of both sugarcane and cassava cultivation fields in Thailand

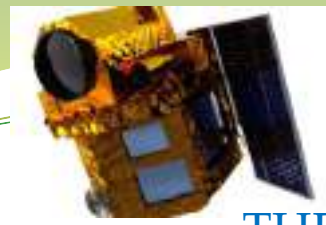
Sugarcane and cassava factories apply Remote-sensing technology to increase the productivity of yields

3 of 5 leading sugarcane companies and 2 leading cassava companies in this region have a strong research collaboration with school of Geoinformatics, SUT

Current implementation: UAS; Optical sensors and Multispectral sensors towards Satellite images; Sentinel, RADAR (and THEOS 2

AIP Platform	Project(s) & activity
Agriculture and food security	**Current Project(s)** 1. Sugarcane yield and productivity assessment by UAS and Multispectral sensors 2. Growth monitoring of sugarcanes in regional-scale farming by RADAR image 3. Mobile application for sugarcane transportation and logistics management 4. Identifying weed invasion in cassava fields for precision extermination and management by Geoinformatics technology
	Tentative project(s) 1. Starch assessment in cassava fields using infrared image and transportation mobile application for cost reduction of farmers 2. Auto-classification of sugarcane varieties in North-eastern region by using Geoinformatics technology

AIP 1: Agriculture and Food Security
(Serve for Lower North-eastern regional provinces: Nakhonratchasima, Chaiyaphum, Burirum, Surin province)



THEOS 2: Regional platform

UAV-Local platform

Factories

Farmers

Analysis

Web service & Mobile Application platform

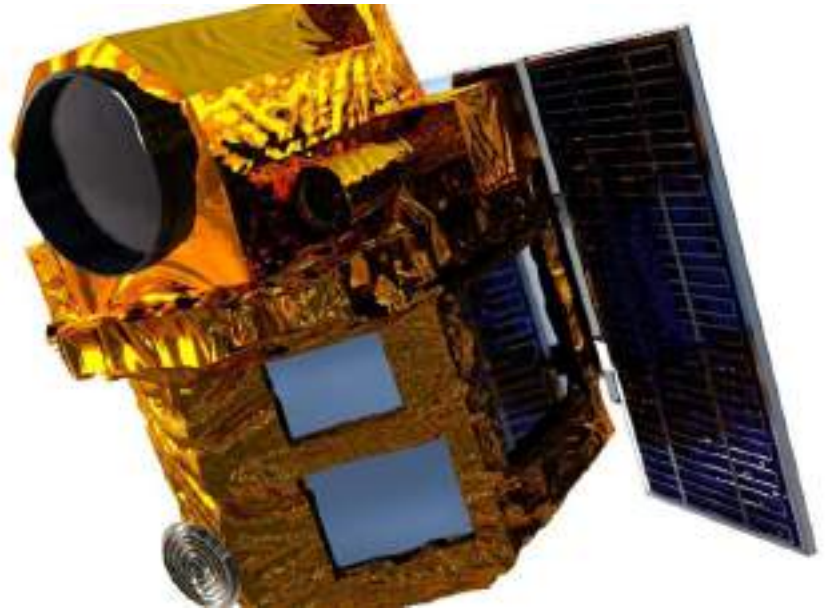
Researchers

Geodatabase

AIP 2: Disasters and Geohazards

AIP Platform	Project(s) or activitie(s)
Disasters and Geohazards	**Developed Project(s)** 1. Assessment of vulnerable drought areas by spatial modeling; Nakhon ratchsima province, Thailand 2. Mapping hazard and susceptibility of urban flood by using MIKE- 21; Nakhon ratchsima province, Thailand
	Tentative project(s) 1. Monitoring and warning system for agricultural drought in lower North-eastern region 2. Monitoring and warning system for flooding disaster in lower North-eastern region 3. Monitoring and warning system for landslide in lower North-eastern region 4. Monitoring and warning system for air pollution & P.M 2.5 in lower North-eastern region

TECHNICAL SUPPORT FOR SATELLITE APPLICATIONS-THEOS-2

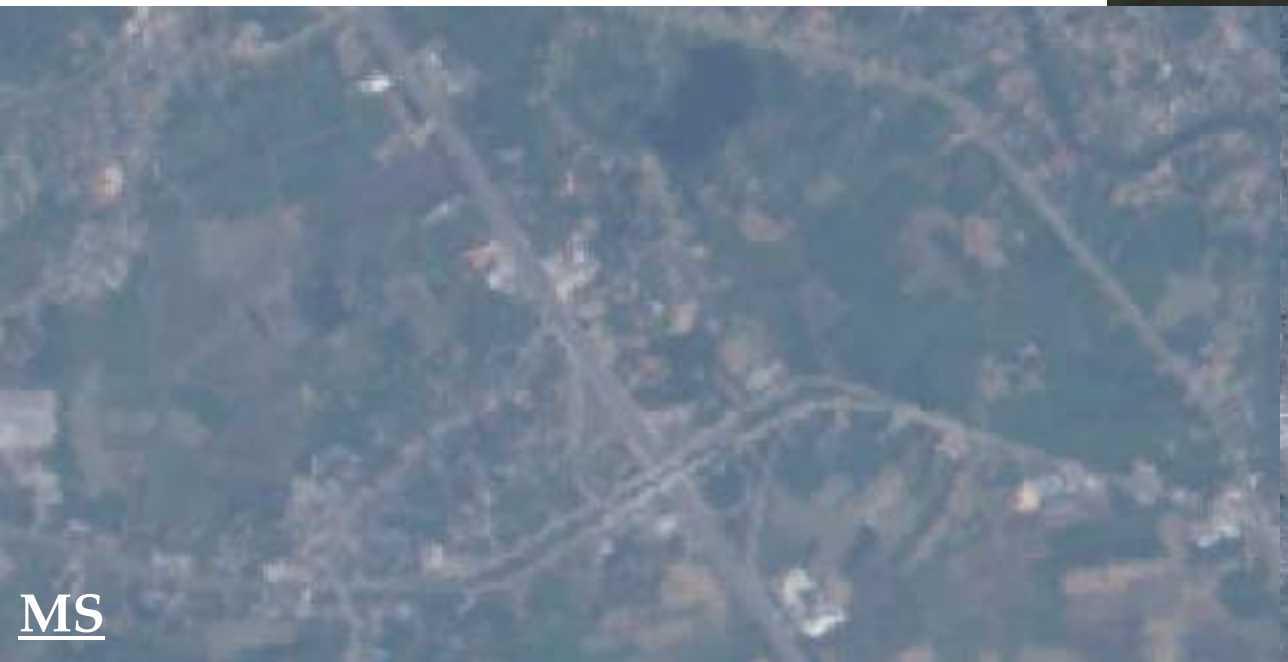


Platform	Project(s) or Activitie(s)
Technical support for satellite applications	**Developed Project(s)** 1. Land cover classification for economic crops in Thailand 2. Fusion and registration for THEOS multispectral and panchromatic images
	Tentative project(s) 1. Assessment of economic crop areas at country scale in Thailand 2. Pan-sharpening for THEOS image with reducing spectral distortion

Image fusion of THEOS multispectral and panchromatic images

- **Multispectral images**
  - 15 meters-resolution → low spatial resolution
  - 4 bands (R,G,B,NIR) → **high spectral resolution**
- **Panchromatic images**
  - 2 meters-resolution → **high spatial resolution**
  - 1 band (Panchromatic band) → low spectral resolution
- **Fused Multispectral images**
  - 2 meters-resolution → **high spatial resolution**
  - 4 bands (R,G,B,NIR) → **high spectral resolution**

→ Obtain spectral distortion (color cast)



Calval

Calibration and validation of THEOS

Group	Parameter		Method	Cal/Val target
Spatial	Focusing		Cal/Val	Edge, Siemens, Night Lamp
	GSD		Evaluate	GCP DB
	MTF		Evaluate, Restore	Edge, Siemens, Night Lamp
	TDI	Gain	Evaluate	Images
		Line rate	MTF	GCP DB
		Yaw Steering	AOCS	GCP DB
MTFC			Enhance	PSF matrix
DRA			Enhance	
Fusion			Enhance	
Absolute Radiometric			Enhance	Tarp, Images
Users Manual				

1. Yellow: Evaluation & Validation
2. Blue: Calibration & Validation
3. Green: Cal/Val + Image Restoration
4. White: Image Enhancement & For user

✱ Interior Orientation = Optical Distortion + CCD Geometry

Group	Parameter	Method	Cal/Val target
Radio-metric	Noise	Restoration	Images
	Equalization (Vp + NUC)	Cal., Restoration	Images
	SNR	Evaluation	Tarp, Images
	Non-Linearity	Restoration	Images
	Dynamic Range		Images
	Electric Gain/Offset		Images
Geo-metric	Time Sync		
	POD		GCP DB
	AOCS On-Orbit Cal.		GCP DB
	KPADS initialization		GCP DB
	Interior Orientation		GCP DB
	Exterior Orientation		GCP DB
	Planimetric		GCP DB, DEM
	Registration		GCP DB, DEM
	Geo-Accuracy		GCP DB

Table 1. KOMPSAT-2 Cal/Val Parameters

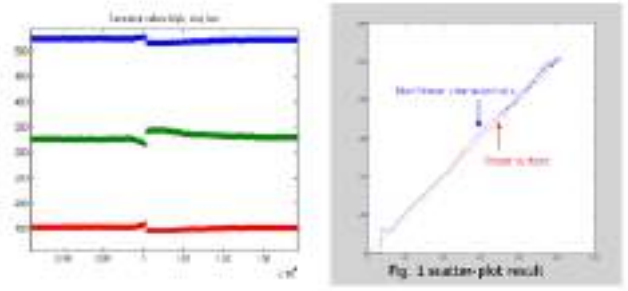


Figure 13. Non-linearity in Butting zone

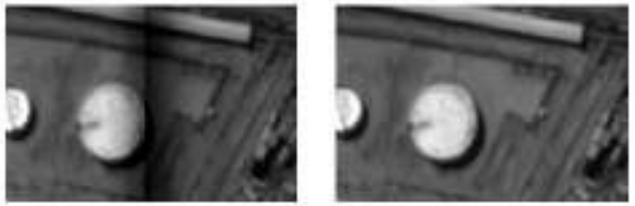


Figure 14. Up: The butting zone between PAN2 & PAN4, Bottom: Corrected

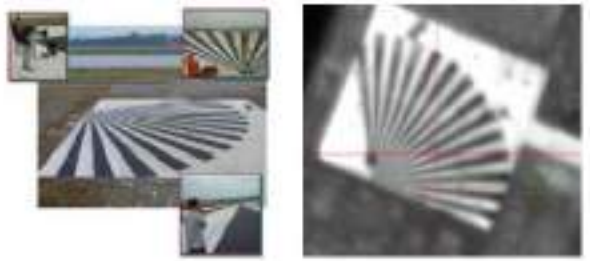


Figure 1. Siemens target at Goheung & KOMPSAT-2 image at Sep 1, 2006

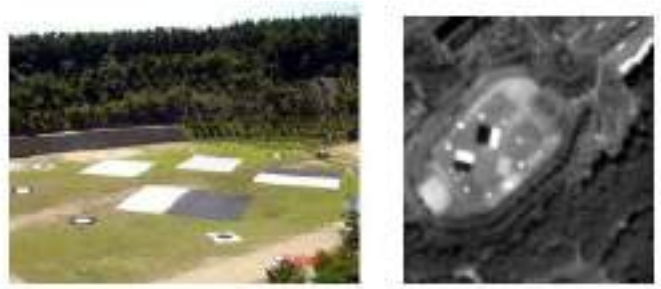


Figure 2. Deployed Tarp target, KOMPSAT-2 image at Oct 1, 2006

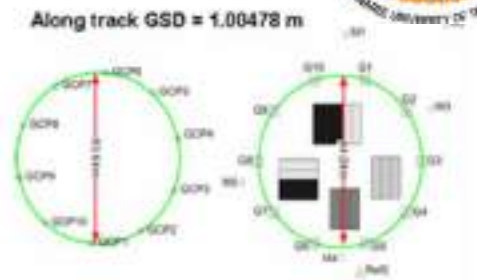


Figure 9. The result of GSD Check (3 deg Tilt)

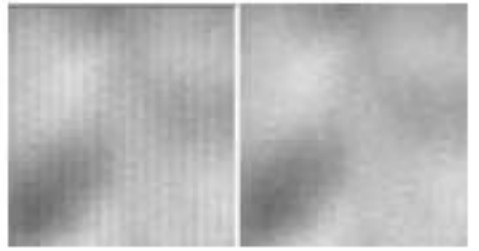


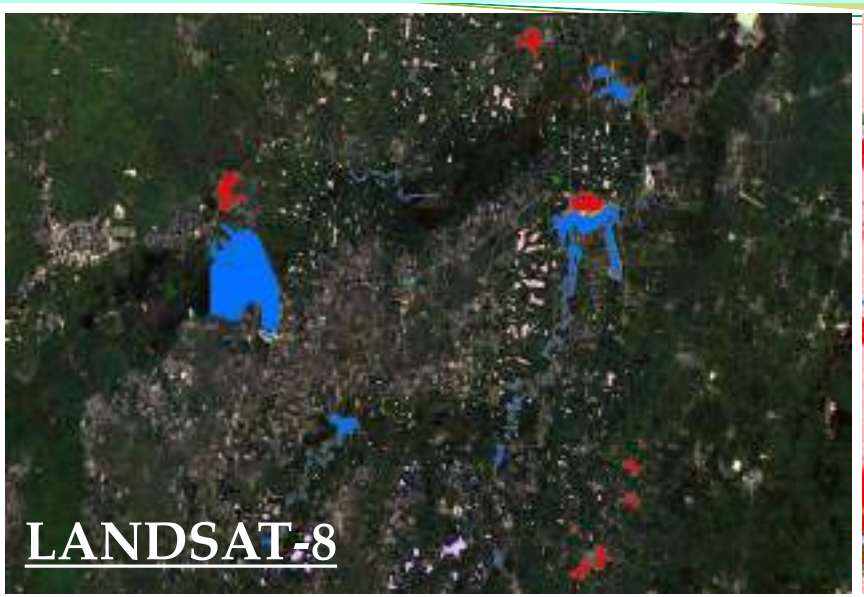
Figure 10. MS4 band fluctuation in K2 MSC image (Left: Raw image, Right: Restored image by FFT method)

REFERENCE Dong-Han Leea, D.C. Seo, J.H. Song, M.J. Choi, H.S. Lim SUMMARY OF CALIBRATION AND VALIDATION FOR

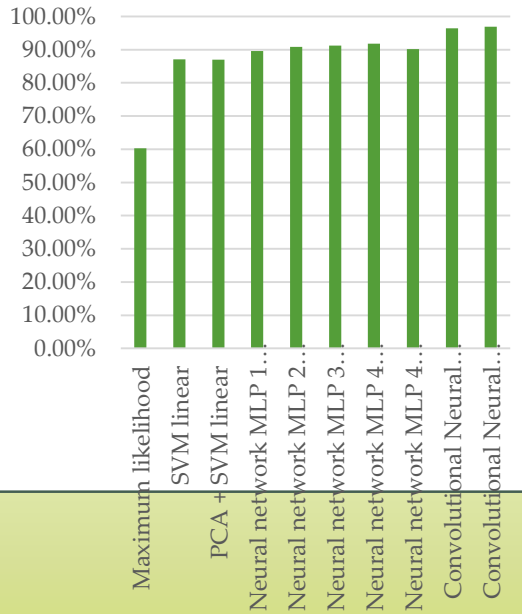
Machine learning and Deep learning

Land cover classification for Economic crops in Thai

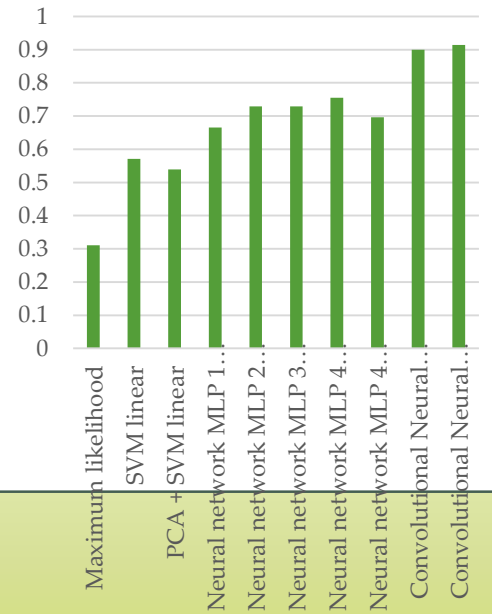
1000	Urban
2101	Active paddy
2202	Corn
2203	Cassava
2204	Sugarcane
2302	Para-rubber
2303	Oil palm
3000	Forest
4000	Water



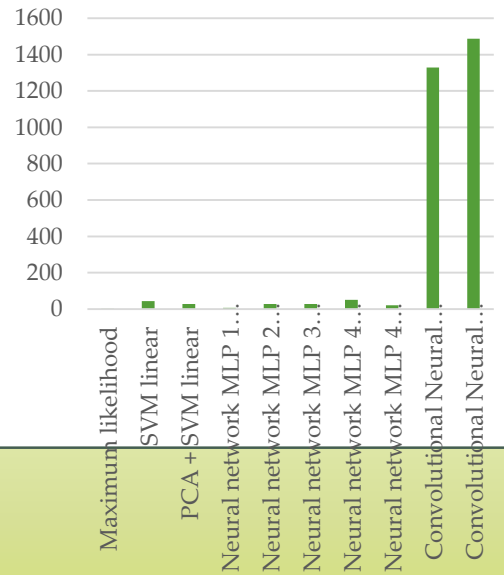
Overall accuracy



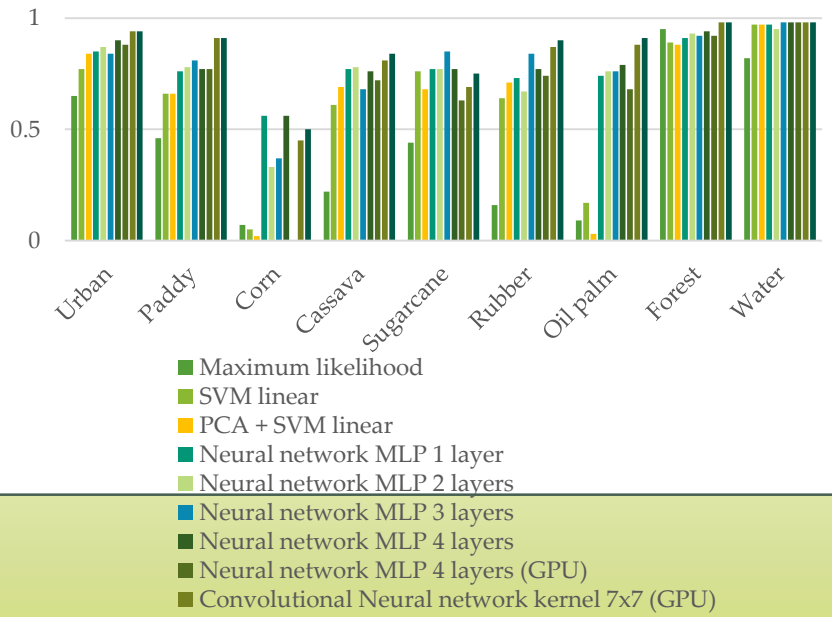
Kappa coefficient



Computing time (Minute)



Precision in each class

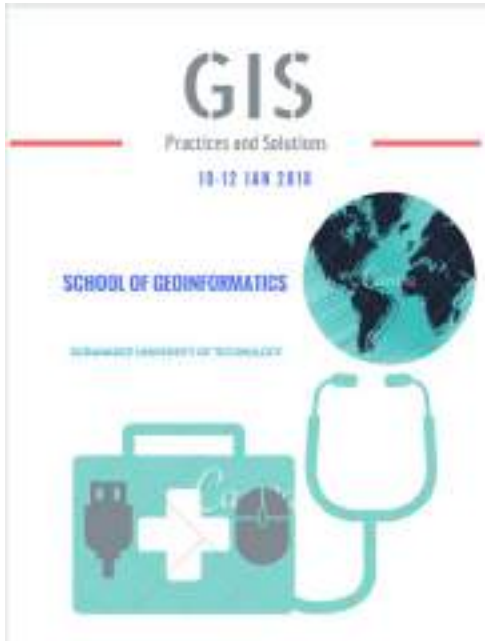


Academic services

We have served numerous Government organisations and companies over Thailand, in particular, the lower North-eastern Region of Thailand;

- Police Department of Thailand
- Center of Disaster prevention and resilience, Lower North-eastern Region, Thailand
- Bureau of Urban and Regional planning, Nakhon Ratchasima province, Thailand
- Sugar companies, Mitphol research and development company Co.,Ltd., Burirum research and development company Co.,Ltd., Surin sugar factory.
- Cassava and starch companies, SWG company Co.,Ltd., TSP company Co.,Ltd.
- Etc.

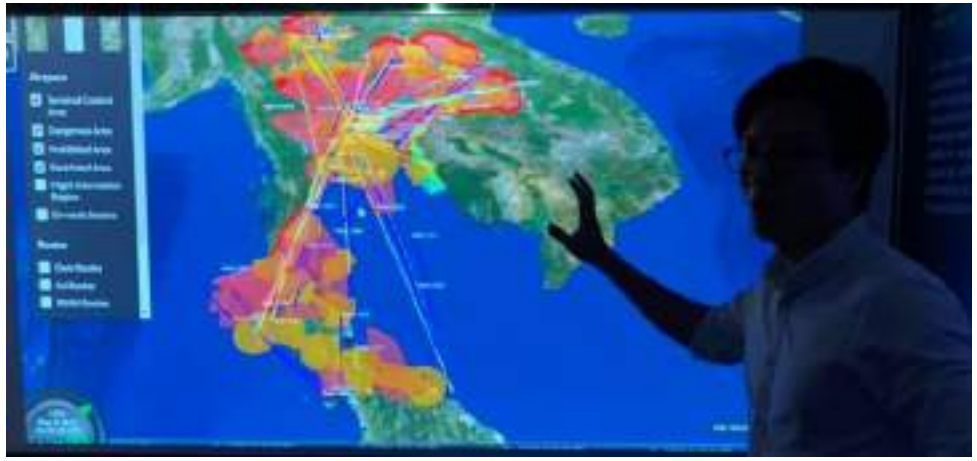
Organise national conferences & training courses in Geoinformatics



ACTIVITIES

ACTIVITIES

ACTIVITIES

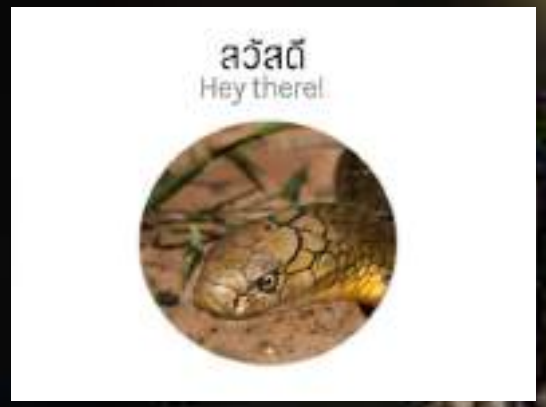


Academic collaborations

We are delighted to develop and collaborate some academic courses,

- Collaborative modular courses
- Double-degree programme
- Exchanged students for short/long term programmes: Training courses

Research collaborations and assistances: Biodiversity



School of Geoinformatics;

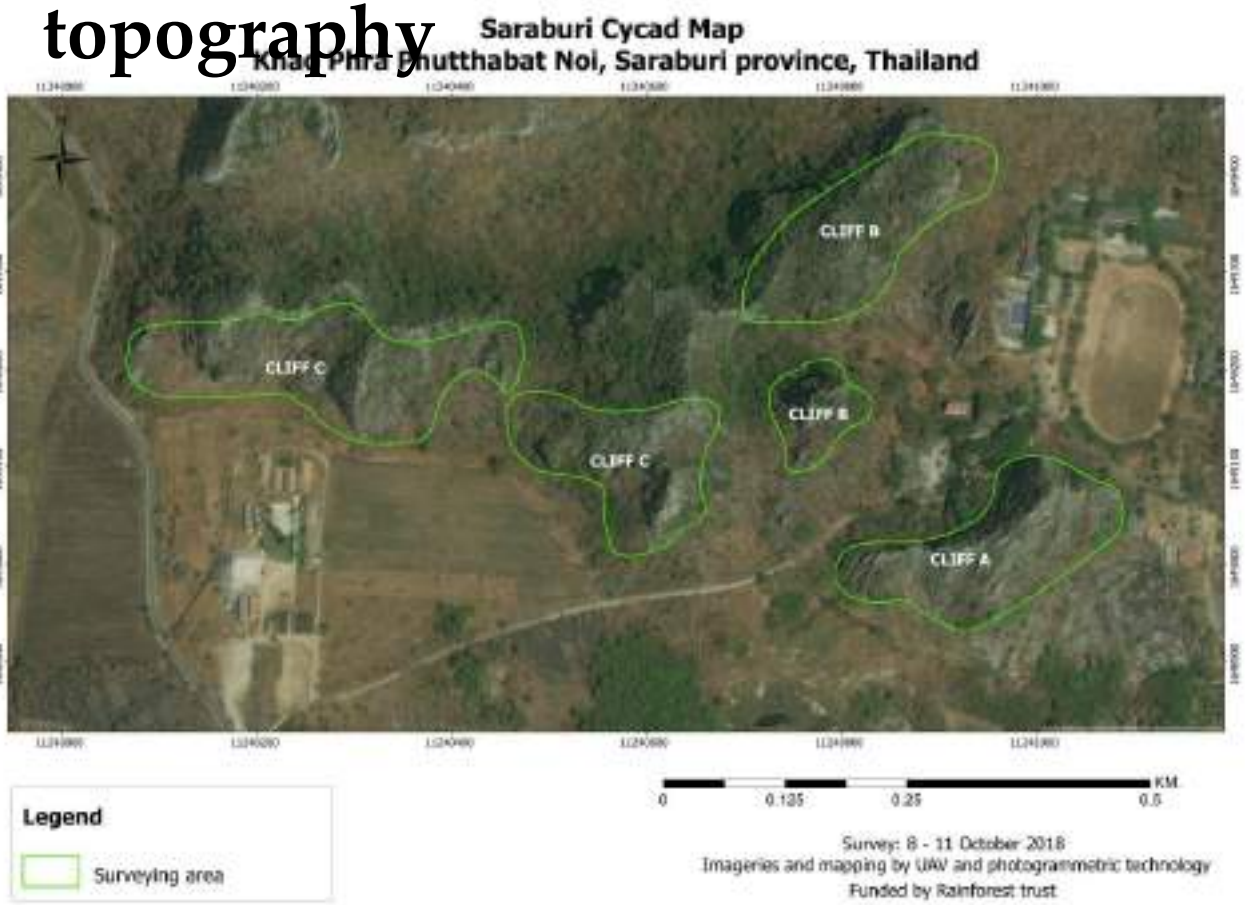
- We provide spatial data and based maps for analysing in GIS
- We give some advice for analysing spatial data in GIS
- We are researching about the home ranges and spatial factors of some local snake species, including King cobra, and vipers.

Dr. Colin T. Strine

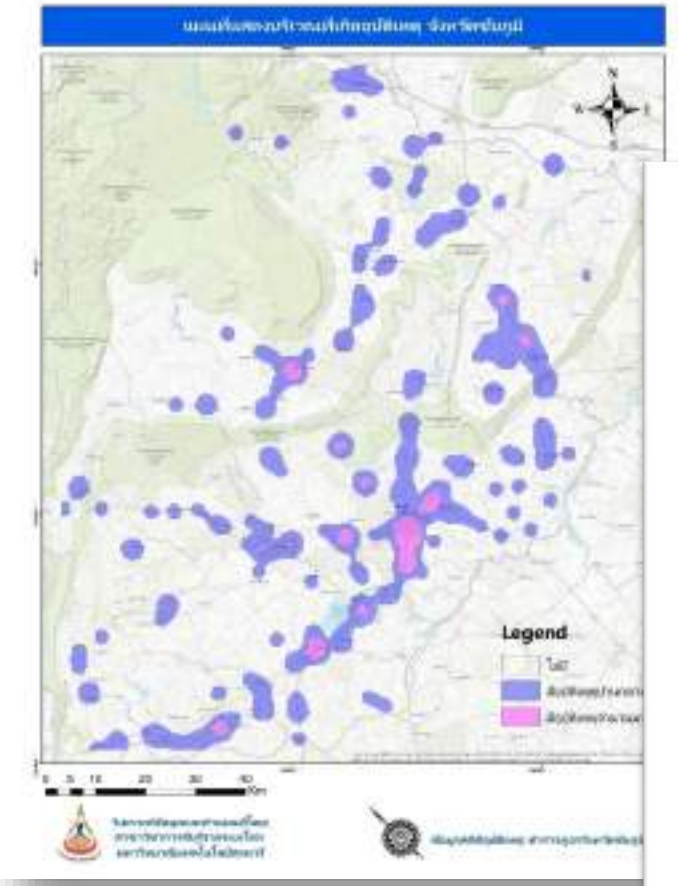
Research collaborations and assistances

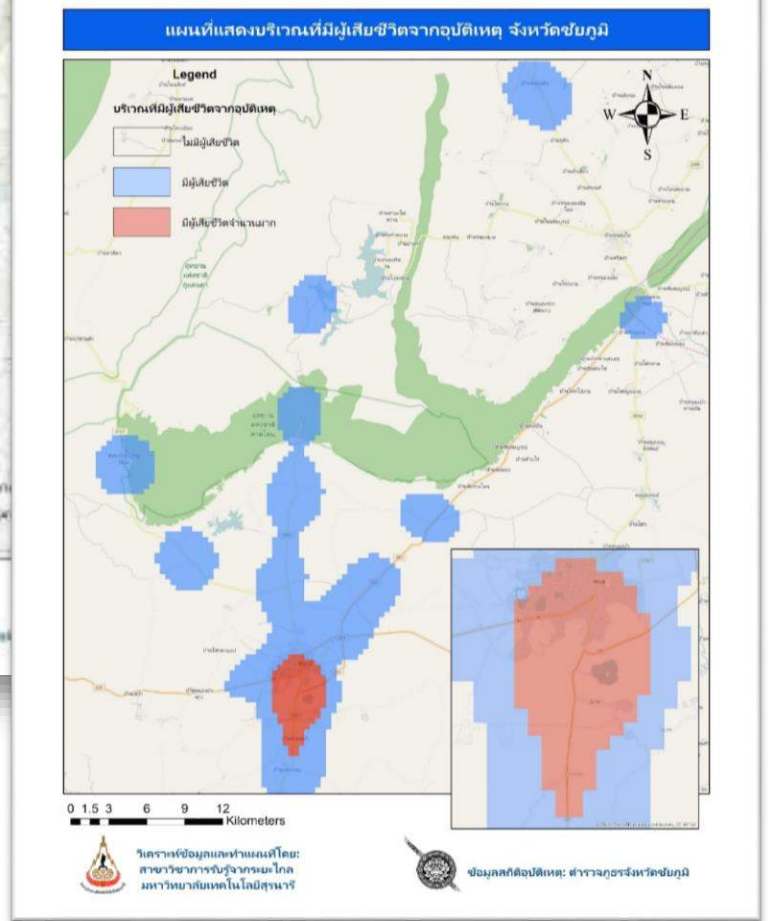
RAINFOREST TRUST

- **Mapping Cycad in karst topography**



Research collaborations and assistances: Accidental mapping





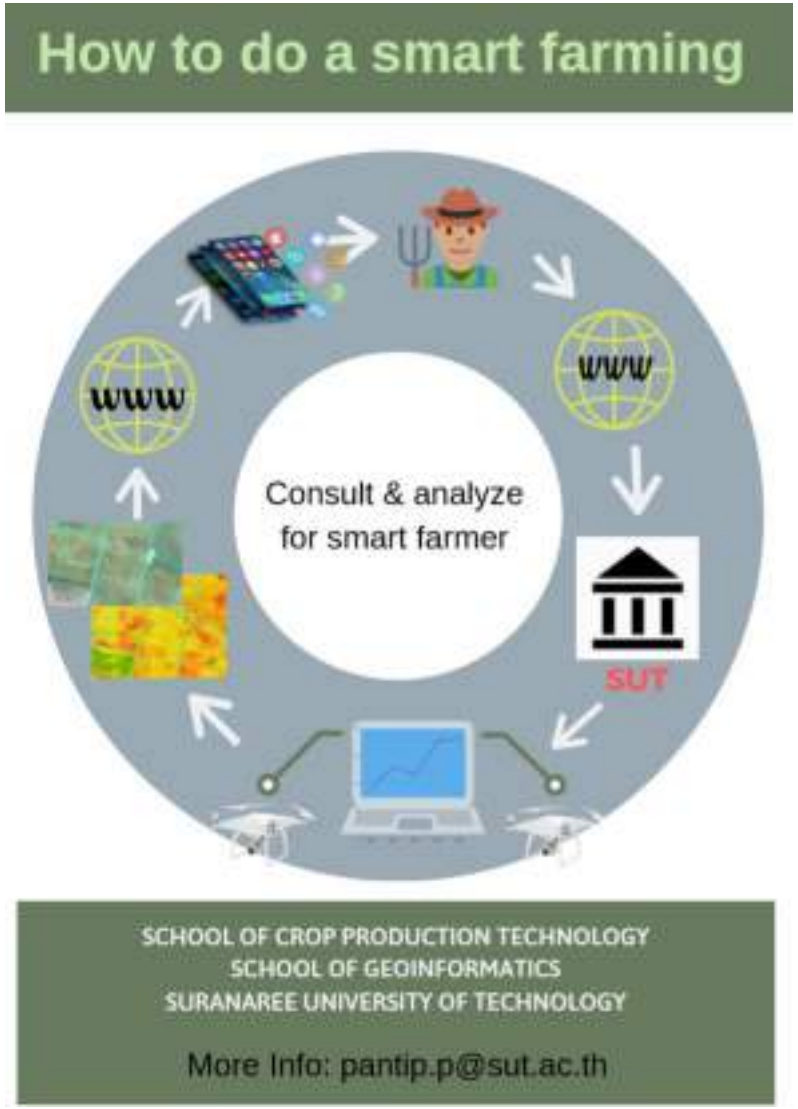
We analyse Accident incidents in Chaiyapum province for police department of Thailand

ข้อมูลสถิติอุบัติเหตุ: ตำรวจภูธรจังหวัดชัยภูมิ

วิเคราะห์ข้อมูลและทำแผนที่โดย:
สาขาวิชาการรับรู้จากระยะไกล
มหาวิทยาลัยเทคโนโลยีสุรนารี

Reduce death tolls in 10-15 April 2017

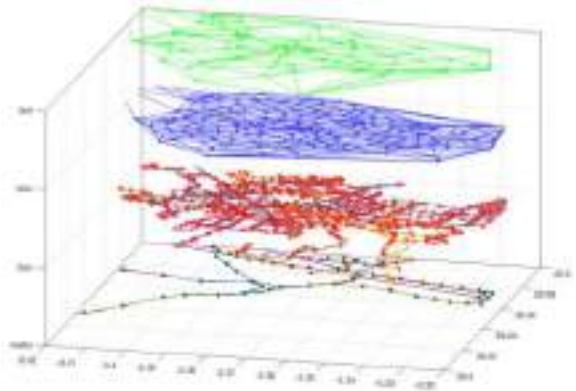
Research collaborations and assistances: Precision agriculture



Research collaborations and assistances: Transportation & Logistics

- **Research funding topic: Innovation implementation and trends in Transportation and Logistics of agriculture products in Thailand**

NATIONAL INNOVATION AGENCY
MINISTRY OF SCIENCE AND TECHNOLOGY



Research collaborations and assistances

- **Mapping damage levels of sightseeing place using high resolution image from UAV**

Digital Solutions for Advancing Infrastructures

Dr.techn. Indra Noer Hamdhan

PT Delta Sigma Nusantara

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MoU ITENAS and Bentley Systems

itenas
Institut Teknologi Nasional

Bentley
Advancing Infrastructure

MEMORANDUM OF UNDERSTANDING

BETWEEN

INSTITUT TEKNOLOGI NASIONAL

AND

BENTLEY SYSTEMS INTERNATIONAL LIMITED

MEMORANDUM OF UNDERSTANDING

BETWEEN

INSTITUT TEKNOLOGI BANDUNG

AND

BENTLEY SYSTEMS INTERNATIONAL LIMITED

INSTITUT TEKNOLOGI NASIONAL (hereinafter referred to as "ITENAS"), an institution of higher learning whose address is at Jl. PH.H. Mustofa No.23, Neglasari, Kec. Cibeunying Kaler, Kota Bandung, Jawa Barat 40124, Indonesia and shall include its lawful representatives and permitted assigns; BENTLEY SYSTEMS INTERNATIONAL LIMITED (hereinafter referred to as "BENTLEY"), a private limited company, incorporated under the laws of Ireland with its registered office at Second Floor, Block 2, Park Place, Upper Hatch Street, Dublin 2, Ireland and shall include its lawful representatives, affiliates and permitted assigns; hereinafter referred to singularly as "the Party" and collectively as "the Parties".

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MoU ITENAS and Bentley Systems

AREAS OF CO-OPERATION

1. Each Party will, subject to the laws, rules, regulations and national policies from time to time in force, governing the subject matter in their respective countries, endeavor to take necessary steps to encourage and promote co-operation in the following areas:

   a) Knowledge sharing for students and student Ambassador program;

   b) Knowledge sharing for staff and Staff Ambassador program;

   c) International Bentley Webinars;

   d) Bentley conference participations;

   e) ITENAS to organize session and events via ITENAS-Bentley BIM Laboratory formation; and

   f) any other areas of co-operation to be mutually agreed upon by the Parties.

(Source: https://www.mynewlab.com/services/bim-laboratory-furniture-design/

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YAYASAN PENDIDIKAN DAYANG SUMBI
INSTITUT TEKNOLOGI NASIONAL

KEPUTUSAN
REKTOR INSTITUT TEKNOLOGI NASIONAL
Nomor: 0207/A.17.01/Rektorat/Itenas/XII/2019

tentang:

Pendirian Pusat Studi Geoteknik Nasional Itenas

REKTOR INSTITUT TEKNOLOGI NASIONAL:

Menimbang :

1. Bahwa salah satu misi Institut Teknologi Nasional adalah mengembangkan Penelitian dibidang Teknologi.
2. Bahwa untuk mewujudkan misi institut Teknologi Nasional tersebut perlu dibentuk Pusat Studi Geoteknik Nasional Itenas sebagai suatu wadah yang dapat mendorong berkembangnya penelitian dalam bidang Geoteknik.

Mengingat :

1. Peraturan Pemerintah No. 30 Tahun 1990
2. Undang-Undang No. 2 Tahun 1989;
3. Keputusan Menteri Pendidikan dan Kebudayaan;
   a. No. 021 1 II/11982 Tanggal 26 Juni 1982;
   b. No. 0180/D/1985 juncto No. 01800/1985 Tanggal 20 April 1985;
4. Keputusan Dewan Pengurus Yayasan Pendidikan Dayang Sumbi:
   a. No. 01 KepDS/1972 Tanggal 14 Desember 1972;
   b. No. 07Kpts/YPDS/11/2012 tanggal 6 Februari 2012.

MEMUTUSKAN

Menetapkan :

Pertama : Pendirian Pusat Studi Geoteknik Nasional Itenas

Kedua : Pusat Studi Geoteknik Nasional Itenas berada di bawah koordinasi Lembaga Penelitian dan Pengabdian Kepada Masyarakat yang bertanggungjawab kepada Rektor.

Ketiga : Anggaran pengembangan Pusat Studi Geoteknik Nasional Itenas menjadi bagian dari Rencana Kegiatan dan Anggaran Tahunan Lembaga Penelitian dan Pengabdian Kepada Masyarakat.

Keempat : Surat Keputusan ini mulai berlaku sejak tanggal ditetapkannya dengan ketentuan bahwa akan diperbaiki sebagaimana mestinya apabila dikemudian hari ternyata terdapat kekeliruan dalam Surat Keputusan ini.

Ditetapkan di : Bandung
Pada tanggal : 16 Desember 2019
Rektor,

Dr. Imam Aschuri, Ir., M.T.

Tembusan :
1. Yth. Ketua Yayasan Pendidikan Dayang Sumbi ;
2. Yth. Para Wakil Rektor;
3. Yth. Para Dekan Fakultas;
4. Yth. Ketua LPPM;
5. Yth. Para Ketua Jurusan.

Pusat Studi Geoteknik Nasional (*National Geotechnics Center*) Itenas

15.12.2019

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Bentley Institute

Academic SELECT Subscription

The Bentley Institute Academic Program is committed to helping prepare students for tomorrow's infrastructure workforce. The Academic SELECT Subscription provides academic institutions with a comprehensive portfolio of more than 50 applications from Bentley, a leading company dedicated to providing software solutions for *advancing* infrastructure.

The Academic SELECT Subscription enables educators to give their students hands-on experience with the same software used by infrastructure professionals worldwide, providing students with an important competitive edge when they explore job opportunities.

Features

- Over 50 software applications (details in chart) for use in classrooms and labs
- Access to software downloads
- Free, instructor-led online learning for educators
- Upgrades to the latest software versions
- 24/7 technical support
- Networking and support via Bentley Communities

Modeling and Visualization	MicroStation, MicroStation PowerDraft, Bentley View, LumenRT
Reality Modeling	ContextCapture, Descartes *On-campus use only: Bentley Pointools*
Building Design	OpenBuildings Designer (enabled with Energy Simulator and GenerativeComponents capabilities) OpenBuildings Station Designer (includes LEGION Simulator and LEGION Model Builder)
Construction	SYNCHRO
Civil Design	OpenRail ConceptStation, OpenRail Designer, OpenRoads ConceptStation, OpenRoads Designer, OpenSite Designer
Geotechnical Engineering	SoilVision 2D/3D Suite, gINT Professional
Bridge Analysis	OpenBridge Designer, LEAP Bridge Concrete, LEAP Bridge Steel, RM Bridge Advanced, RM Bridge Enterprise
Structural Analysis and Detailing	STAAD.Pro, STAAD Advanced Concrete Design, STAAD Foundation Advanced, RAM Structural System, RAM Connection, RAM Elements, RAM Concept, MicroStran, ProStructures
Hydraulics and Hydrology	OpenFlows WaterGEMS, OpenFlows WaterCAD, OpenFlows SewerGEMS, OpenFlows SewerCAD, OpenFlows HAMMER, OpenFlows CivilStorm, OpenFlows StormCAD, OpenFlows PondPack, OpenFlows FlowMaster
Offshore Structural Analysis	MAXSURF Enterprise *On-campus use only: SACS Marine Enterprise, SACS Offshore Structure Enterprise, MOSES Advanced, MOSES Enterprise*
Plant Design	OpenPlant PID, OpenPlant Modeler, OpenPlant Isometrics Manager, AutoPLANT Modeler
Pipe Stress and Vessel Analysis	AutoPIPE
Electrical Design	Bentley Substation, Promis.e
Project Delivery	Navigator
Mapping and Surveying	OpenCities Map, OpenCities Map Enterprise

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BENTLEY SOLUTIONS RESELLER

INTERNATIONAL

This BENTLEY CHANNEL PARTNER AGREEMENT, including the Exhibits hereto (this "**Agreement**") is made as of 18th of June 2020 (the "**Effective Date**") between Bentley Systems International Limited, a private limited company incorporated under the laws of Ireland with company registration number 474589 and having its registered office at Charlemont Exchange, 5th Floor, Charlemont Street, Dublin 2, D02v N88, Ireland and PT Delta Sigma Nusantara with company registration number C-671.HT.03.01-Th.2002 and principal place of business at Jl. Pahlawan No. 58, 40124 Bandung, Indonesia, tax identification nr. 80.957.948.5-423.000 ("**Channel Partner**").

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AGENDA:

- Development on Digital Solutions over the years
- Digital Solutions for MRT Projects
- Q&A

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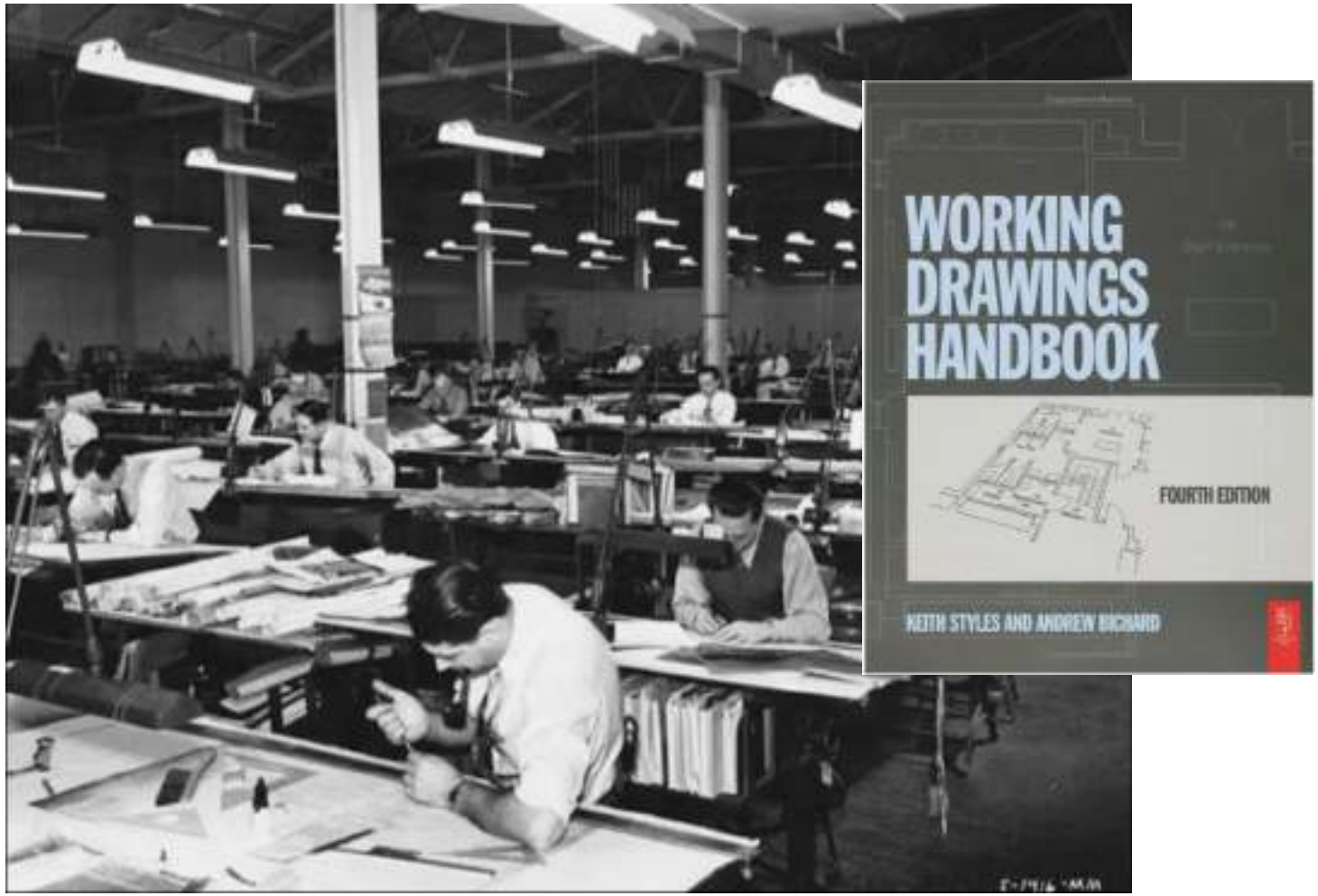
Why “Going Digital”?

About 40-50 years ago…



(Source: https://archinect.com/news/article/150078470/vintage-photos-remind-of-the-profession-before-autocad)

ISSUES:

1. Time consuming
2. Labor intensive
3. Inconsistency on Quality
4. High-risk of errors

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Why “Going Digital”?

After CAD (around 30 years ago)..

(Source: https://www.thomasnet.com/insights/the-history-and-future-of-cad-cam-technology/)

BENEFITS:

1. Lesser time for drawing production.
2. Increase in productivity (less people can produce more results).
3. Higher drawing quality and more consistent.
4. Easy to rectify the errors.

FUTURE “THREATS”:

1. More complex project (due to authorities’/owners’ requirement, site constraints, etc).
2. Tougher competition in the construction industry.
3. Tight schedule.

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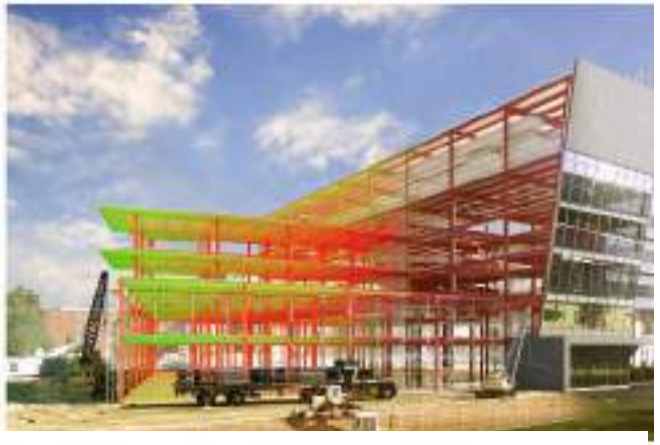
Bentley®

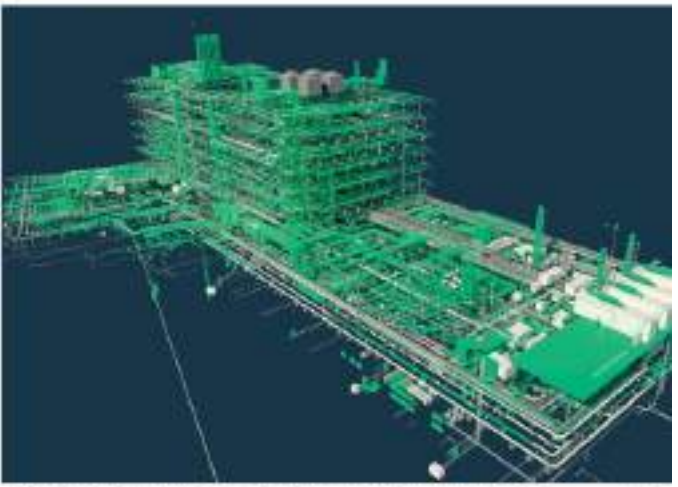
BIM in Asia: The Game Changer



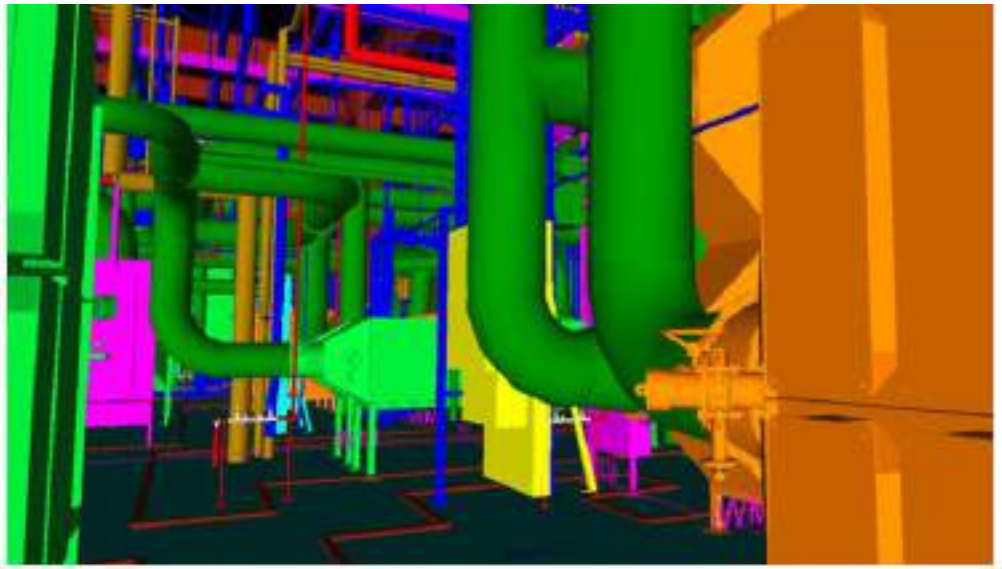
ARCHITECTURENOW

HOME NEWS PROJECTS PEOPLE REVIEW AWARDS PRACTICE CALENDAR

Working with BIM



ASB building at Christchurch Hospital by Warren and Mahoney & Kotra Health Design



BIM to Experience Growth by 2020

How Building Information Modeling Saved One University $10 Million

No money, no problems.

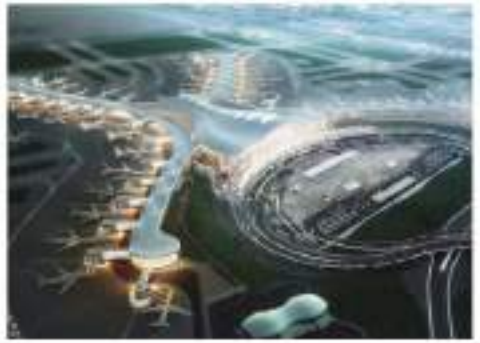
arabianindustry.com / Construction

Home Construction Hospitality Technology Oil & Gas Tenders Aviation Markets Travel

News Interviews Opinion In Depth Photos

Dubai to make BIM software mandatory for major projects

Construction Feature



Related Headlines

What is BIM?

BIM is Not:

- Software
- A 3D means for producing 2D Drawings (3D CAD)

BIM is:

- A Process
- Collaborative
- Communication
- Enhanced by effective use of software

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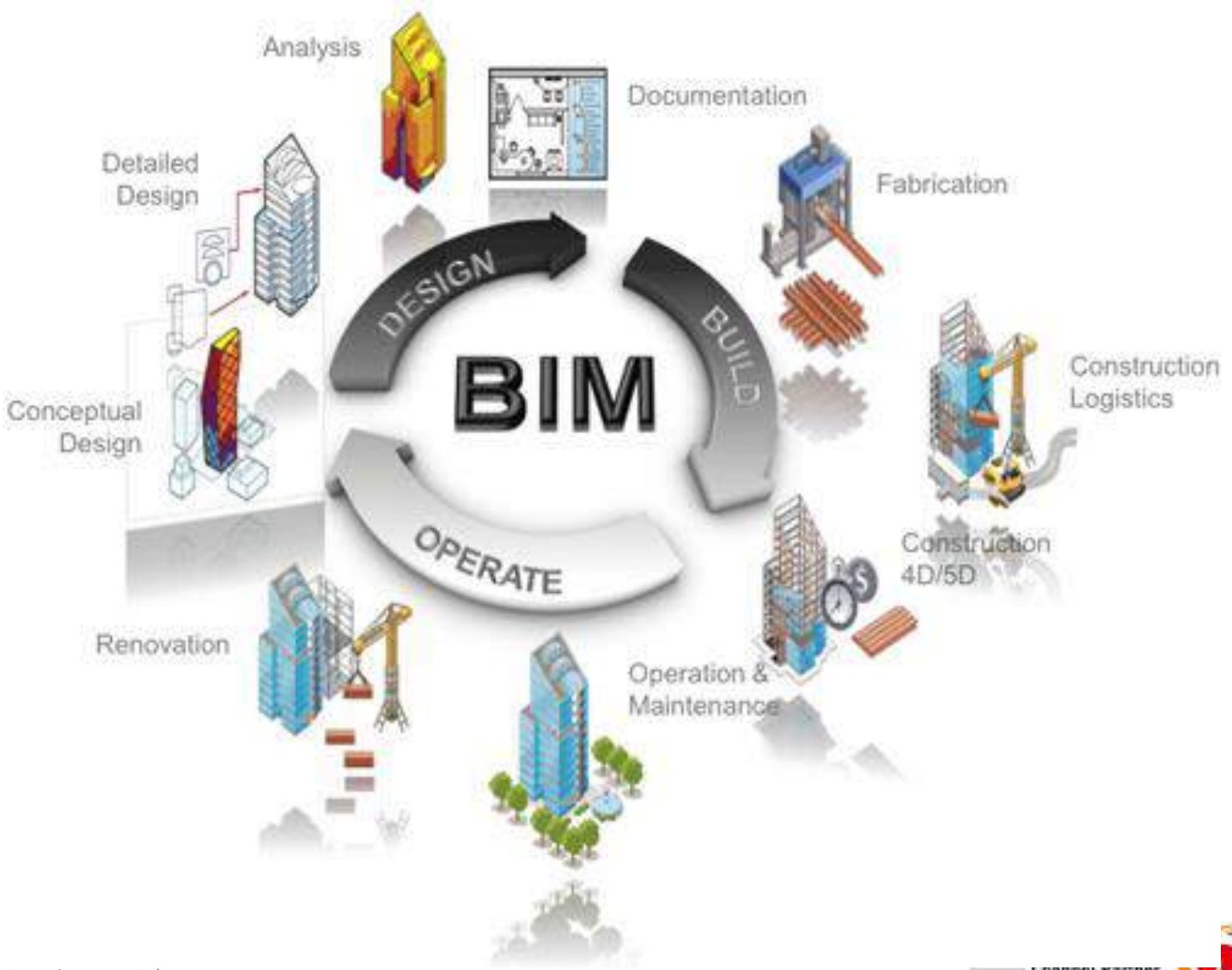
The classic engineering lifecycle, now called “BIM”…



Pinterest.com

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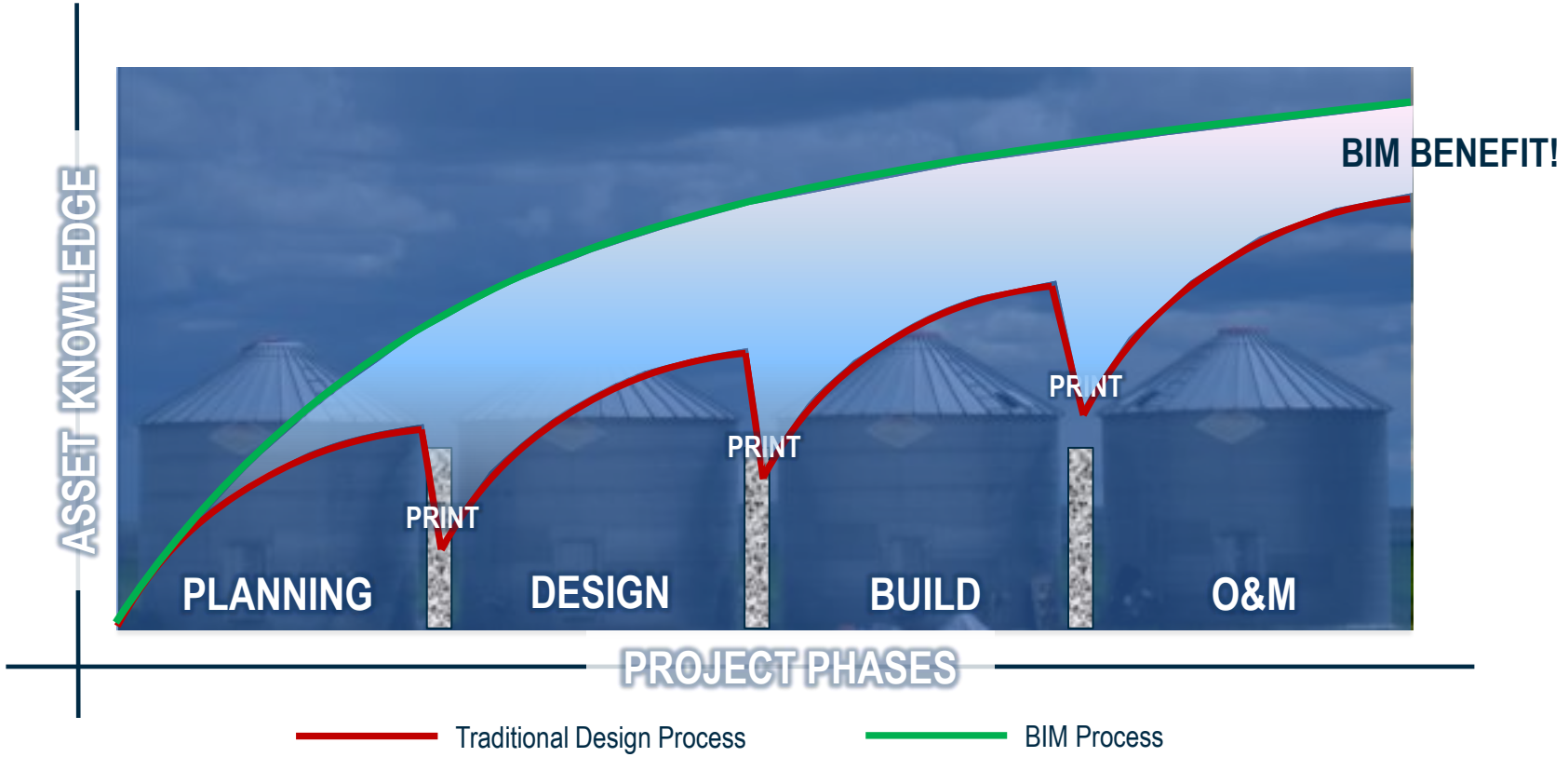
Why Building Information Management (BIM) ?



- BIM is ***NOT*** ***a mega-sized software application.***
- BIM ***IS*** ***a framework of Interoperable Products*** that deliver *Information Mobility* across project phases

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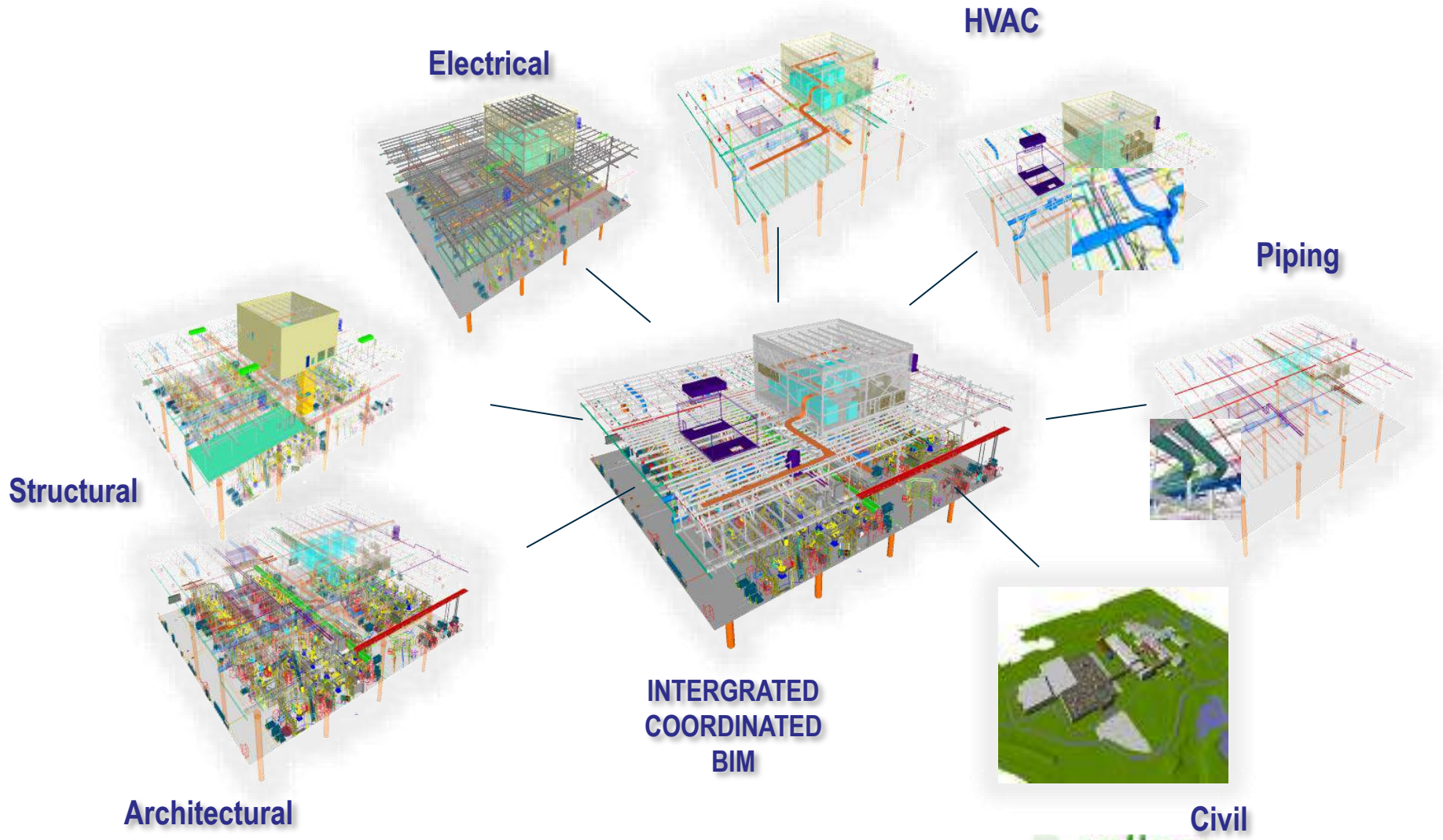
BIM Model



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“BIM-enabled” *Operations and Maintenance*

Relationship with other publications

This PAS builds on the existing code of practice for the collaborative production of architectural, engineering and construction information, defined within BS 1192:2007.

“LEVEL 1”
DESIGN

It is a companion document of, and refers heavily to PAS 1192-2:2013, *Specification for information management for the capital/delivery phase of construction projects using building information modelling*.

“LEVEL 2”
CONSTRUCTION

It also refers heavily to the BS ISO 55000 series, *Asset management*, PAS 55:2008, *Asset management*, and to existing facilities management standards BS 8210:2012 and BS 8587:2012. BS 8536:2010 and BS 8572:2011 have also been useful source documents in relation to facilities management.

“LEVEL 3”
OPERATIONS

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“Kebijakan Pemerintah terkait BIM”

MENTERI PEKERJAAN UMUM DAN PERUMAHAN RAKYAT
REPUBLIK INDONESIA

PERATURAN MENTERI PEKERJAAN UMUM DAN PERUMAHAN RAKYAT
REPUBLIK INDONESIA
NOMOR 22/PRT/M/2018
TENTANG
PEMBANGUNAN BANGUNAN GEDUNG NEGARA

DENGAN RAHMAT TUHAN YANG MAHA ESA

MENTERI PEKERJAAN UMUM DAN PERUMAHAN RAKYAT
REPUBLIK INDONESIA,

LAMPIRAN IV
PERATURAN MENTERI PEKERJAAN UMUM
DAN PERUMAHAN RAKYAT
NOMOR 22/PRT/M/2018
TENTANG
PEDOMAN PEMBANGUNAN BANGUNAN
GEDUNG NEGARA

KEGIATAN DAN TUGAS PENYEDIA JASA KONSTRUKSI

A. PENYEDIA JASA PERENCANAAN KONSTRUKSI

13. Penggunaan *Building Information Modelling* (BIM) wajib diterapkan pada Bangunan Gedung Negara tidak sederhana dengan kriteria luas diatas 2000 m^2 (dua ribu meter persegi) dan diatas 2 (dua) lantai. Keluaran dari perancangan merupakan hasil desain menggunakan BIM untuk:
    a. gambar arsitektur.
    b. gambar struktur.
    c. gambar utilitas (mekanikal dan elektrikal)
    d. gambar lansekap.
    e. rincian volume pelaksanaan pekerjaan.
    f. rencana anggaran biaya

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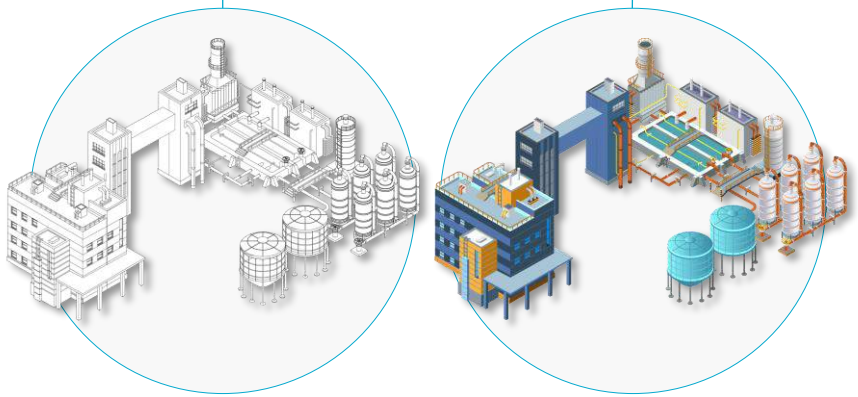
CAD
BIM
Digital Twin
Bentley

Digital Twin

Engineering Technology	Specs Drawings Documents Models	Analyses Geotech OEM specs		3D/AR/VR/XR	Immersive Visualization
Operations Technology	IoT feeds Sensors Drones	Cameras LiDAR Point clouds		4D	Timeline of Change
Information Technology	Asset tags Work orders Inspection records	Main't records		AI/ML	Analytics Visibility

Living digital twin

Real-world



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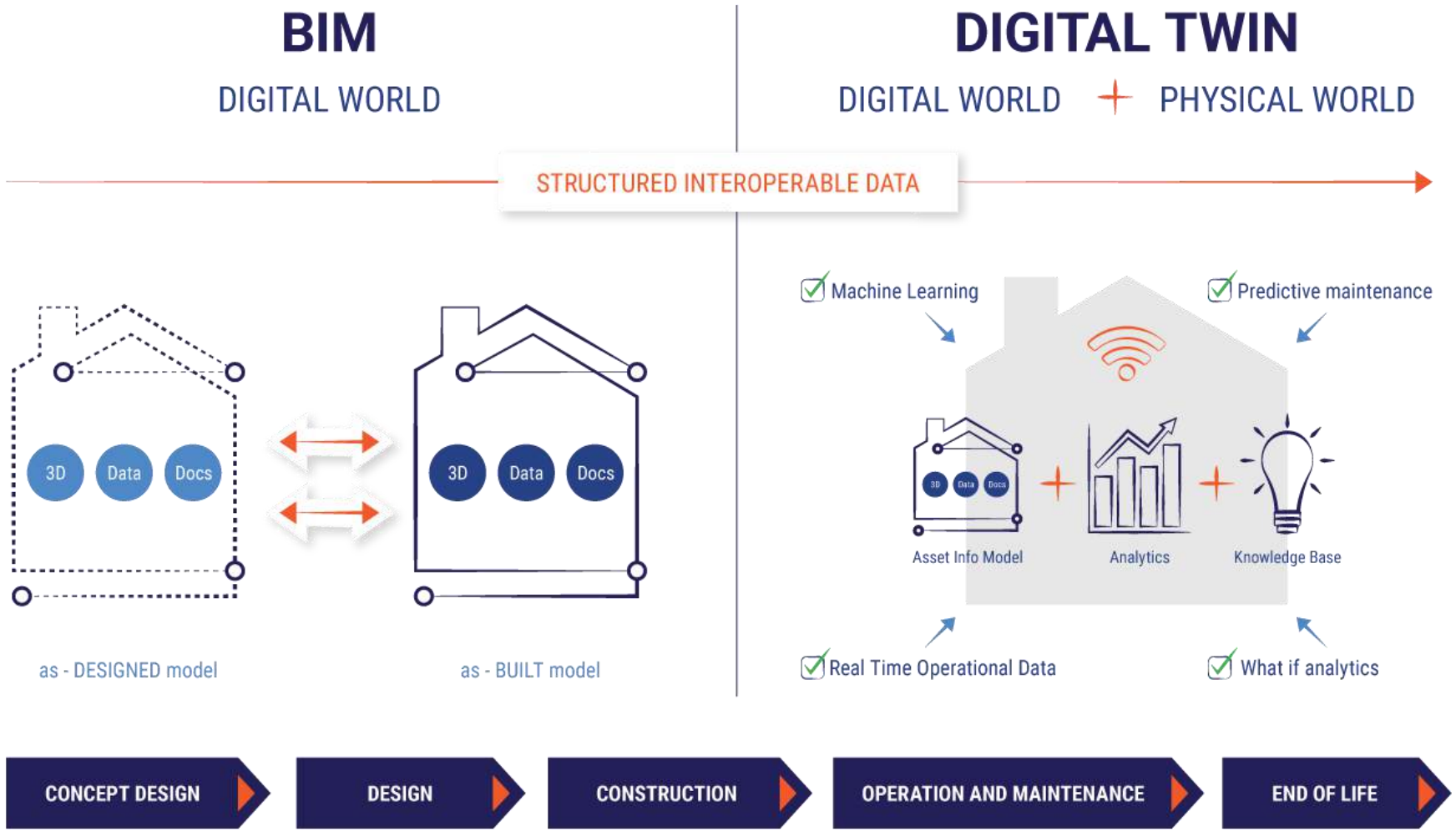

(source: https://cobuilder.com/en/the-digital-twin-a-bridge-between-the-physical-and-the-digital-world/)

Crossrail Limited – United Kingdom

Physical Railway **Digital Railway**

Bentley's mission is to provide ***innovative software and services*** for the enterprises and professionals who ***design, build, and operate*** the world's infrastructure – sustaining the global economy and environment for ***improved quality of life***.

Bentley
Advancing Infrastructure

ProjectWise
CONNECT Edition
Design Integration
BIM Review
Bid Management
Construction Management
Advanced Work Packaging
Completions
Connected Data Environment
Connection Center
Components Center
Optioneering Center
iModelHub
ContextShare
365 Services
CONNECT services
Asset Lifecycle Information Management
Asset Reliability
Operational Analytics
Enterprise Interoperability
AssetWise
CONNECT Edition
ProjectWise Edge Mobile
ProjectWise Worksite
OpenRoads Navigator Mobile
Mobile Apps
Navigator Mobile
Navigator Web
AssetWise Mobile
Map Mobile
MINING
MineCycle
OpenPlant
STAAD
Promis.e
Map
Descartes
ContextCapture
OpenRoads
OpenRail
gINT
Hasstad
WATER & WASTEWATER
Hasstad
OpenPlant
AECOsim
STAAD
RAM
gINT
OpenUtilities
OpenRoads
Descartes
ContextCapture
CITIES
Map
Descartes
OpenRoads
OpenRail
OpenUtilities
Communications
AECOsim
ContextCapture
LumenRT
SITEOPS
Electronic Plan Review
NUCLEAR POWER
AutoPIPE
OpenPlant
AECOsim
STAAD
SITEOPS
Descartes
ContextCapture
CAMPUSES
Map
Descartes
AECOsim
RAM
STAAD
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OpenUtilities
Communications
ROADS
OpenRoads
OpenBridge Modeler
LEAP
RM Bridge
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Map
Hasstad
SUPERLOAD
BUILDINGS
AECOsim
RAM
STAAD
ProStructures
Hevacomp
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gINT
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OpenUtilities
Communications
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ContextCapture
LumenRT
Descartes
COMMUNICATIONS NETWORKS
Communications
STAAD
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BRIDGES
OpenBridge Modeler
RM Bridge
LEAP
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gINT
ProStructures
ContextCapture
LumenRT
LARS
Descartes
BENTLEY'S APPLICATION PLAYBOOKS
CONSTRUCTION
Navigator
ConstructSim
ProStructures
AECOsim
Descartes
OpenRoads
SITEOPS
ContextCapture
LumenRT
SUBSURFACE UTILITIES
OpenUtilities
Communications
Hasstad
OpenRoads
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Descartes
ContextCapture
POWER PLANTS
OpenPlant
AutoPIPE
Promis.e
STAAD
ProStructures
AECOsim
gINT
Descartes
ContextCapture
OpenRoads
Descartes
ConstructSim
PROCESS PLANTS
OpenPlant
AutoPLANT
AutoPIPE
PlantWise
Promis.e
AECOsim
ProStructures
STAAD
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SITEOPS
ContextCapture
LumenRT
Descartes
ConstructSim
RAIL & TRANSIT
OpenRail
OpenBridge Modeler
RM Bridge
LEAP
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CompliPro
Substation
UTILITY NETWORKS
OpenUtilities
CommunicationNode
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Hasstad
STAAD
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SITEOPS
ContextCapture
LumenRT
InspectTech
WIND FARMS
SACS
MOSES
MAXSURF
ProSteel
OpenPlant
gINT
ContextCapture
Descartes
OFFSHORE STRUCTURES
SACS
MOSES
MAXSURF
AutoPIPE
ProSteel
ConstructSim
OpenPlant
gINT
ContextCapture
Construction
MicroStation
CONNECT Edition
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Digital Solutions for MRT Projects

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Advancing Infrastructure

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WORKFLOWS

Context Capture → OpenRail ConceptStation → OpenRail Designer

Reality Modelling
Point Clouds
Survey

Conceptual
Design

Rail
Design

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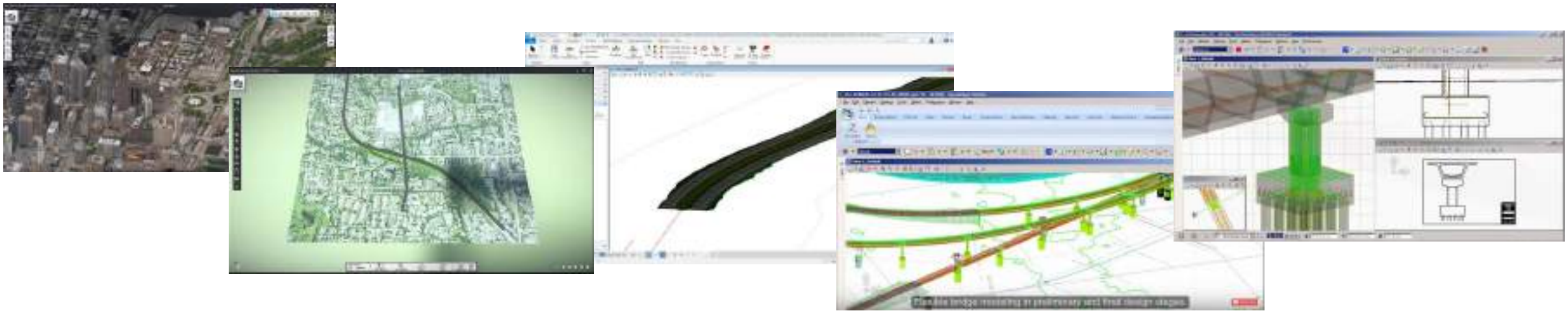
WORKFLOWS



Context Capture → OpenRail ConceptStation → OpenRail Designer ⇄ OpenBridge Designer → Pro-Structures

Reality Modelling
Point Clouds
Survey

Conceptual
Design

Rail
Design

Bridge
Design

Detailed
Design

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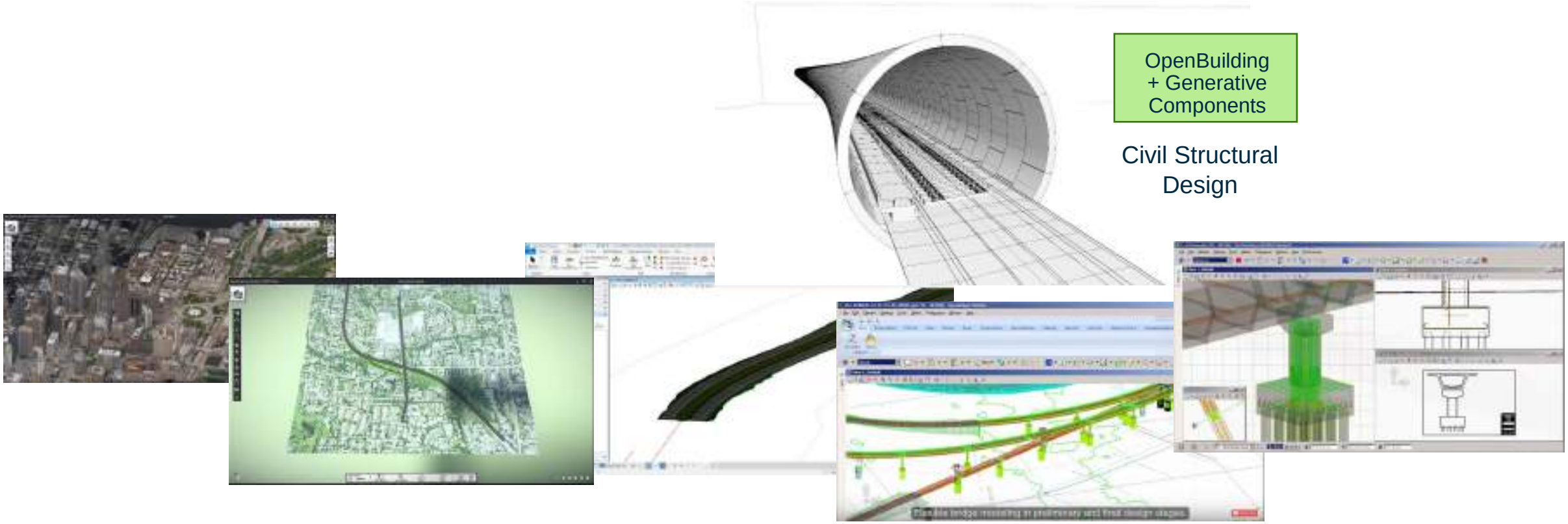
WORKFLOWS



OpenBuilding + Generative Components

Civil Structural Design

Context Capture

Reality Modelling
Point Clouds
Survey

OpenRail ConceptStation

Conceptual Design

OpenRail Designer

Rail Design

OpenBridge Designer

Bridge Design

Pro-Structures

Detailed Design

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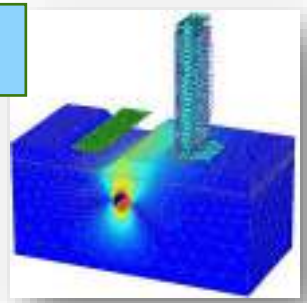
WORKFLOWS

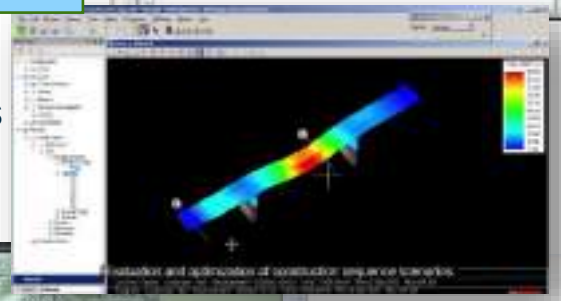
Plaxis

GeoStructural Analysis



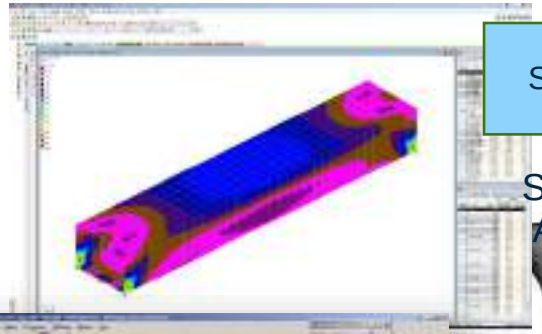
RM Bridge

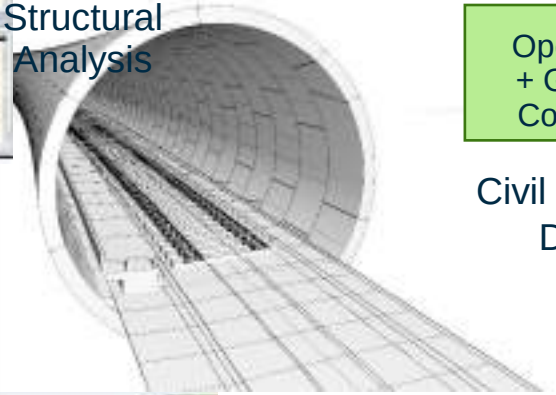
Bridge Analysis



STAAD Pro

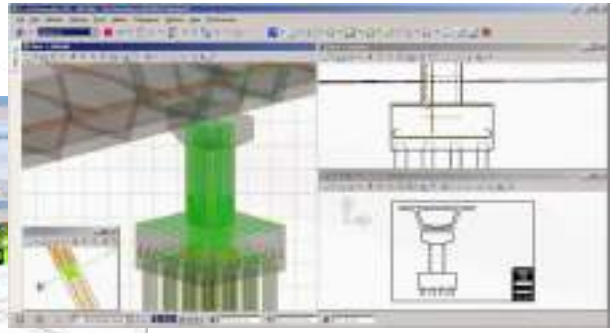
Structural Analysis





OpenBuilding + Generative Components

Civil Structural Design



Context Capture

Reality Modelling
Point Clouds
Survey

OpenRail ConceptStation

Conceptual Design

OpenRail Designer

Rail Design

OpenBridge Modeller

Bridge Design

Pro-Structures

Detailed Design

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REALITY MODELING

North China University of Technology DroneTelemetry Lab
Reality Modeling Technology based ancient architecture protection planning

ContextCapture

CONNECT Edition

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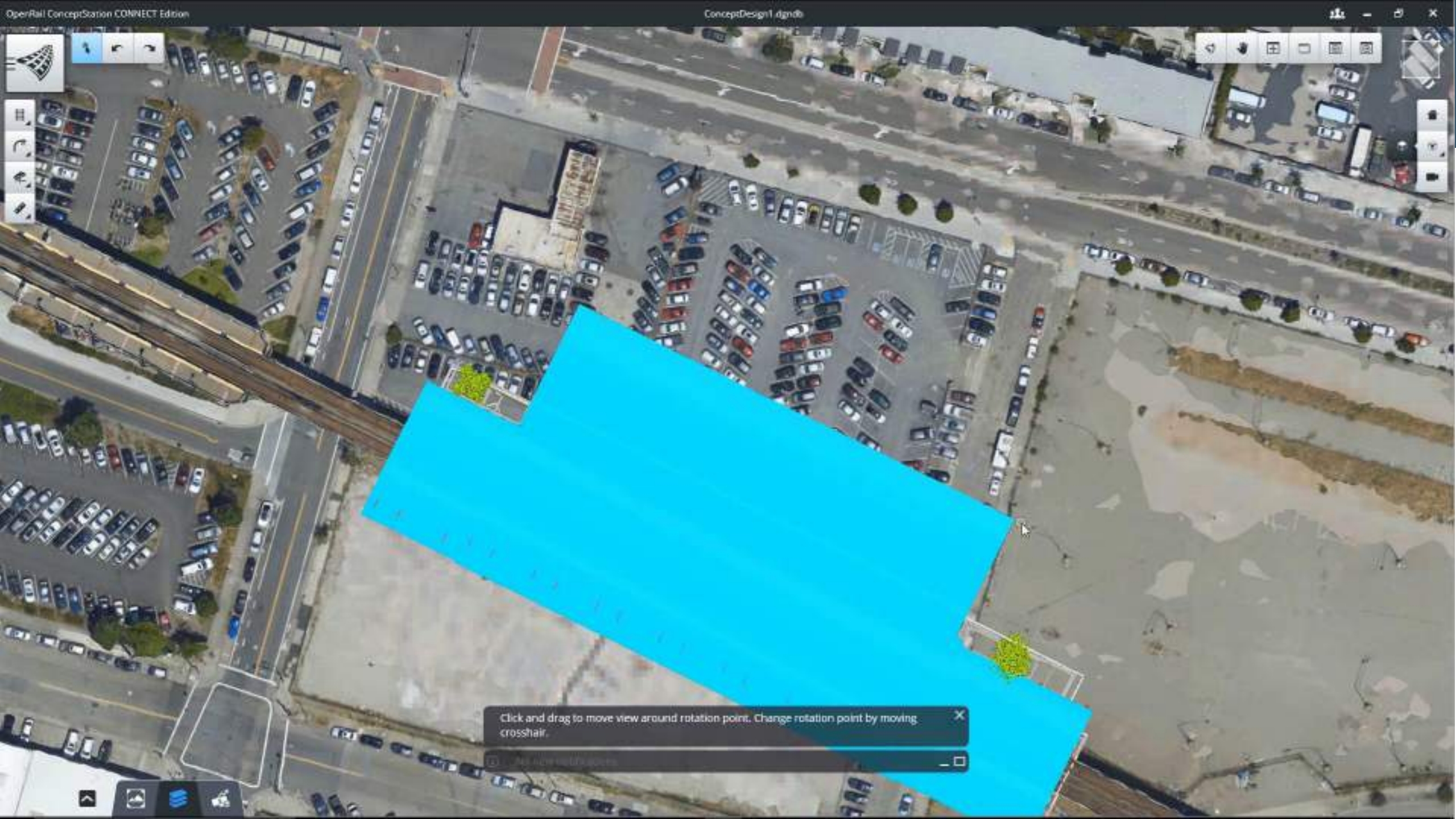
FARO

TOPCON
SIRIUS

OpenRail

ConceptStation

From Planning to Performance


OpenRail ConceptStation CONNECT Edition
ConceptDesign1.dgndb
Click and drag to move view around rotation point. Change rotation point by moving crosshair.

Understand Financial Implications Early

Concept estimated cost: $60,828,651

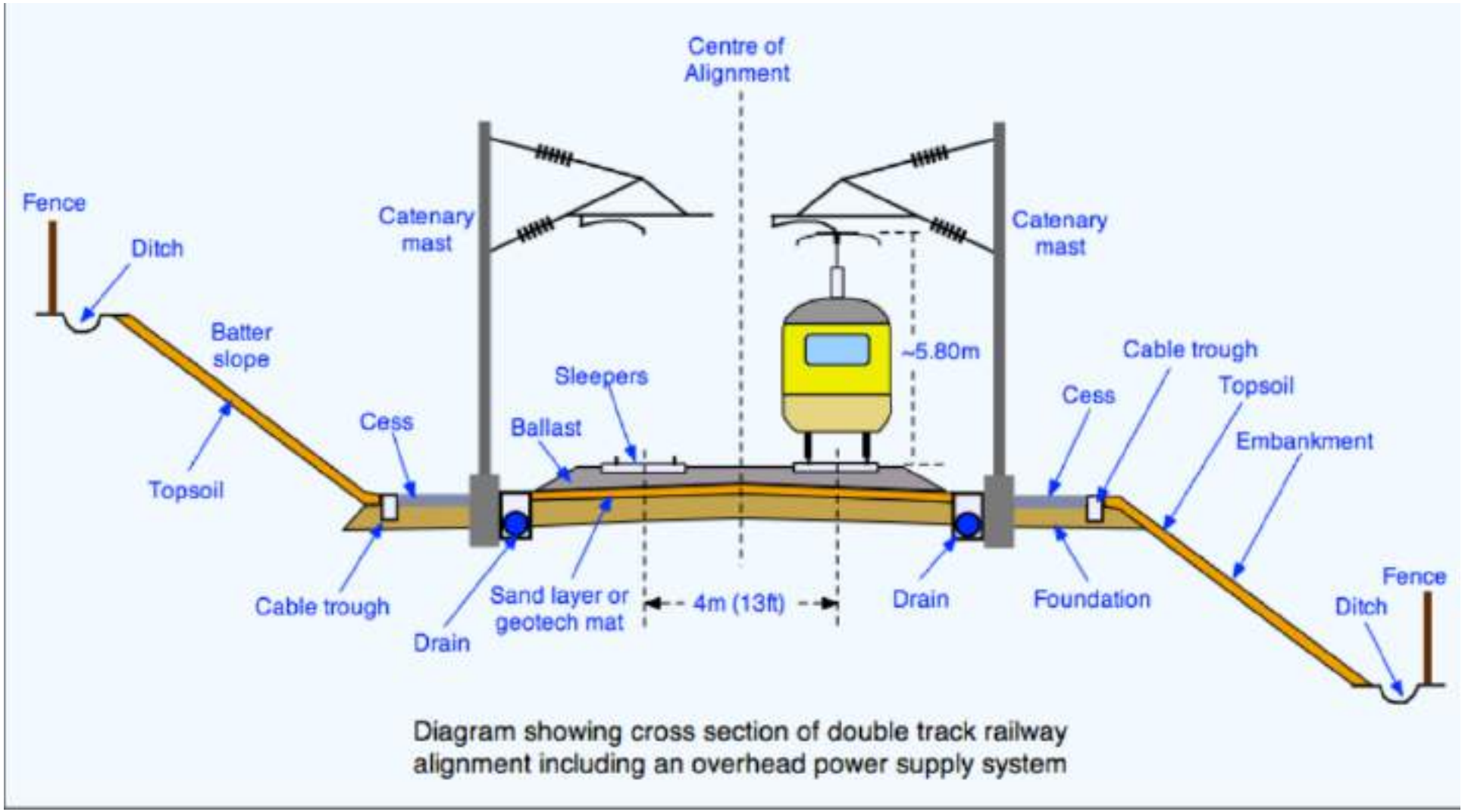
Category	Cost	Source
Electrical	$111,950	Allowance
Incidental Items	$2,294,979	Allowance
Traffic Control	$382,870	Allowance
Environmental	$735,513	Allowance
Signing and Marking	$240,693	Allowance
Rail	$15,596,858	Design

OpenRail

Designer

From Planning to Performance

OpenRail Designer Overview



(source: http://www.railway-technical.com/infrastructure/)

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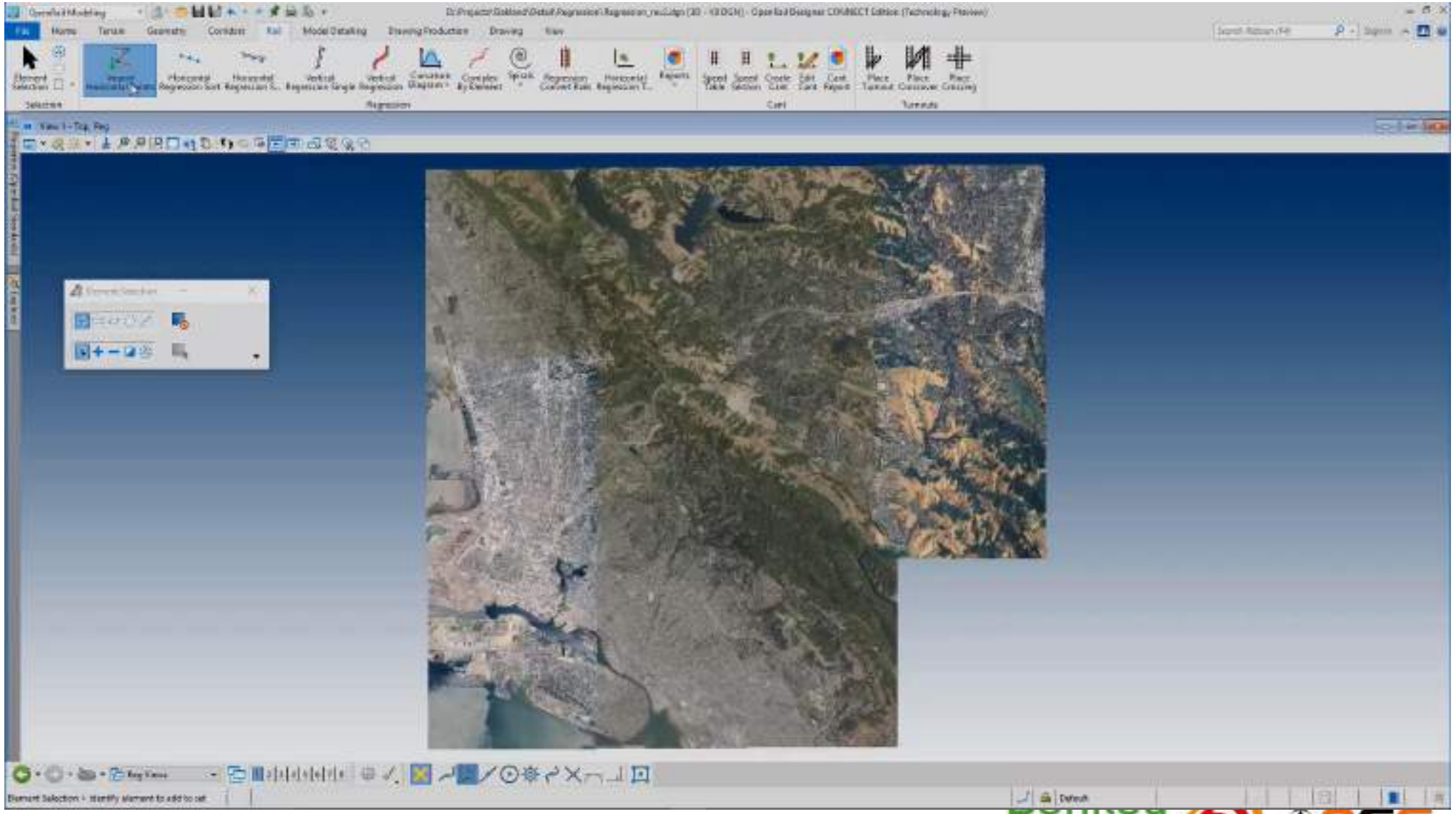
OpenRail Designer Overview



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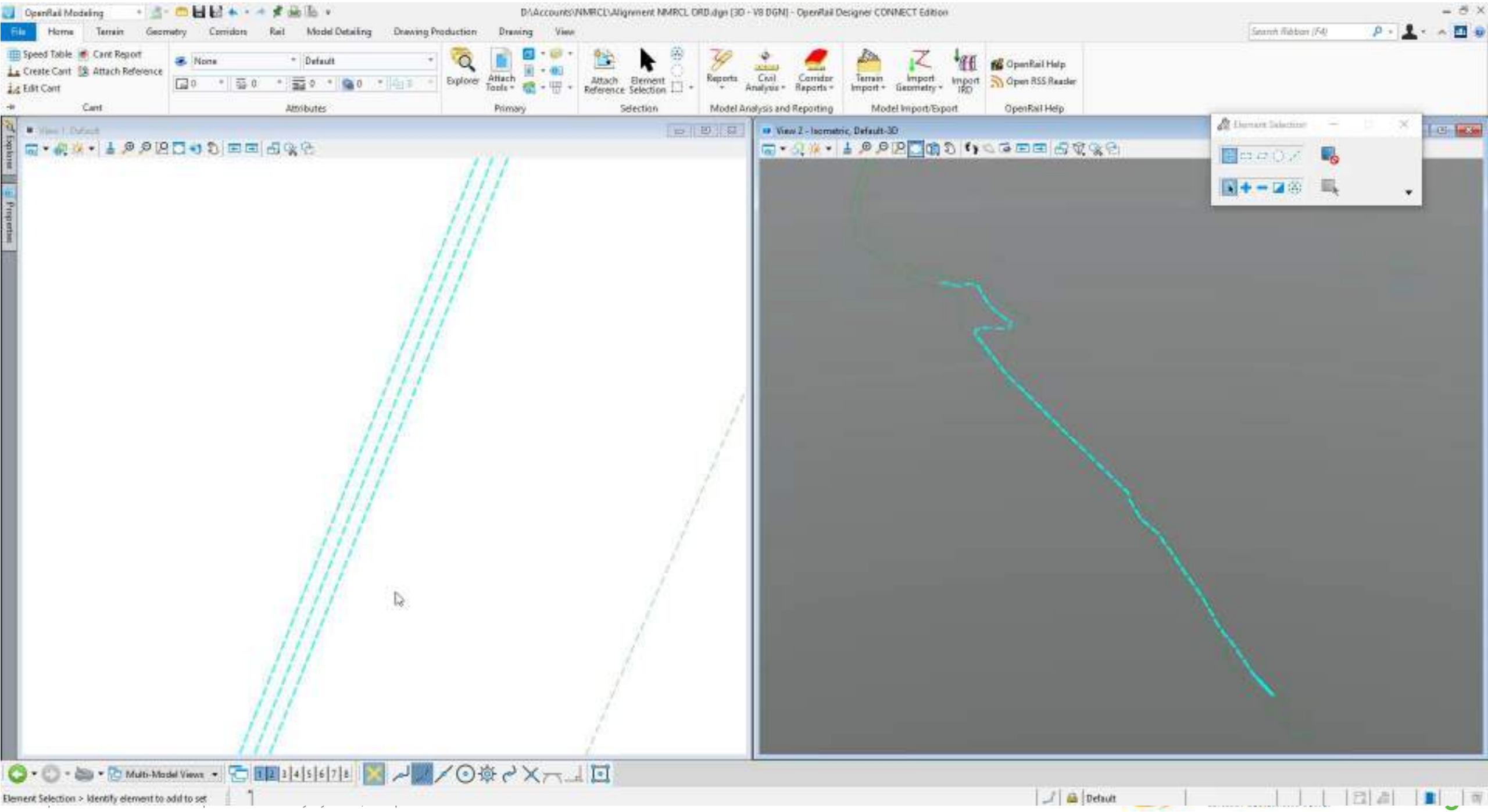

OpenRail Modeling
D:\Accounts\NMRCL\Alignment NMRCL ORD.dgn [3D - V8 DGN] - OpenRail Designer CONNECT Edition
File
Home
Terrain
Geometry
Corridors
Rail
Model Detailing
Drawing Production
Drawing
View
Speed Table
Cant Report
Create Cant
Attach Reference
Edit Cant
Cant
None
Default
Attributes
Explorer
Attach Tools
Primary
Attach Reference
Element Selection
Selection
Reports
Civil Analysis
Corridor Reports
Model Analysis and Reporting
Terrain Import
Import Geometry
Import IRD
Model Import/Export
OpenRail Help
Open RSS Reader
OpenRail Help
View 1, Default
View 2 - Isometric, Default-3D
Element Selection
Multi-Model Views
Element Selection > Identify element to add to set
Default

OpenBridge Designer

CONNECT Edition

OpenBridge Designer Integrated Workflow

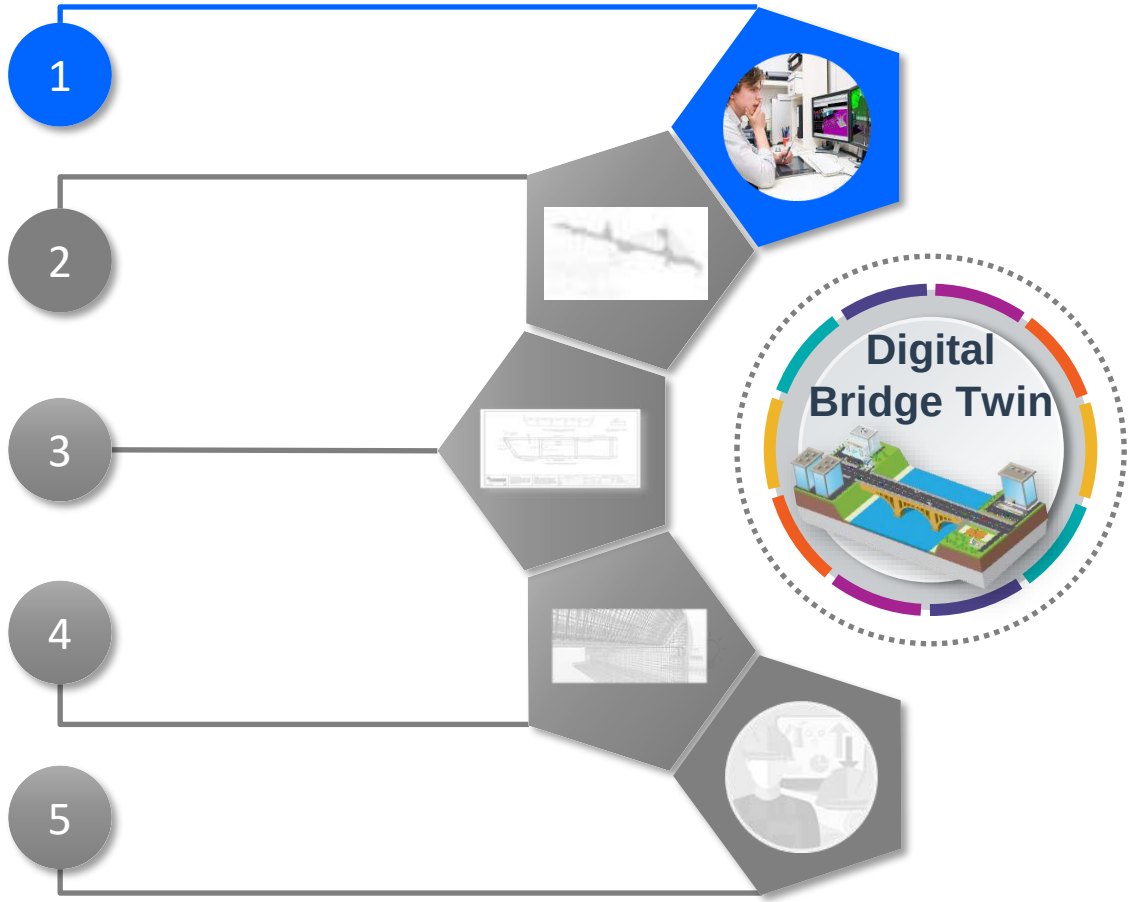
3D Physical Modeling
The 3D model is an exact representation of the bridge as it would be constructed in the field.

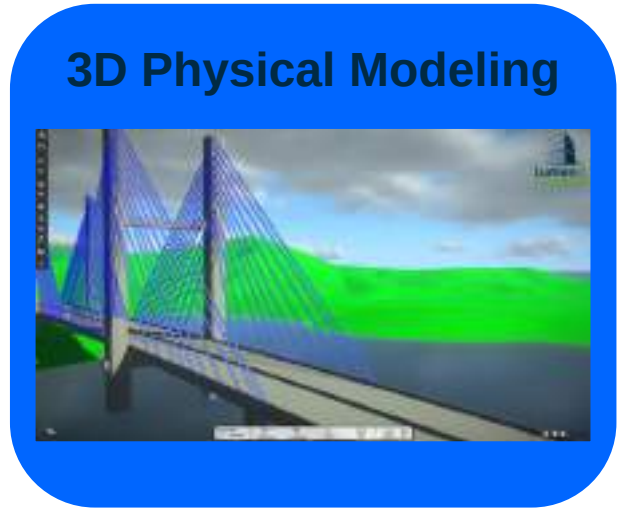
Analysis & Design

Design Documentation

Reinforcing Detailing

Construction & Operations
.





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OpenBridge Designer Integrated Workflow

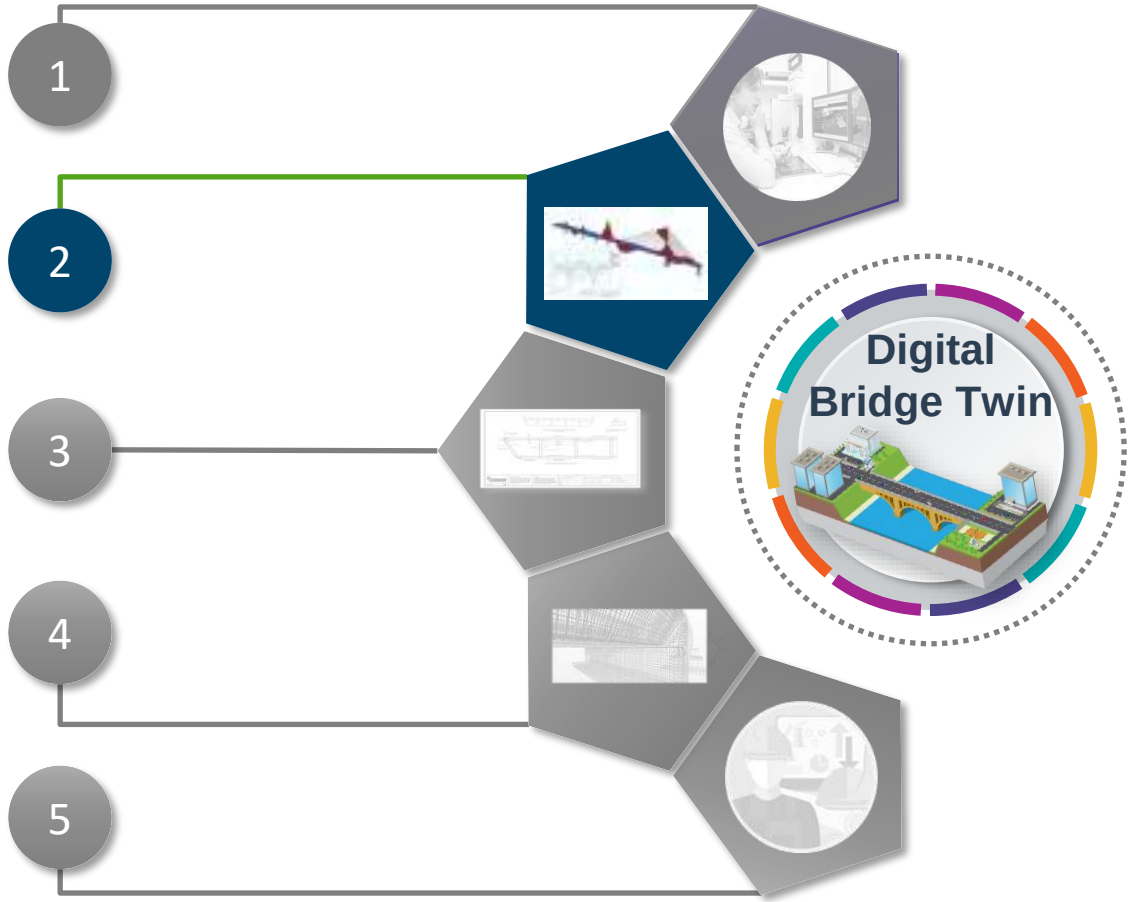
3D Physical Modeling
The 3D model is an exact representation of the bridge as it would be constructed in the field.

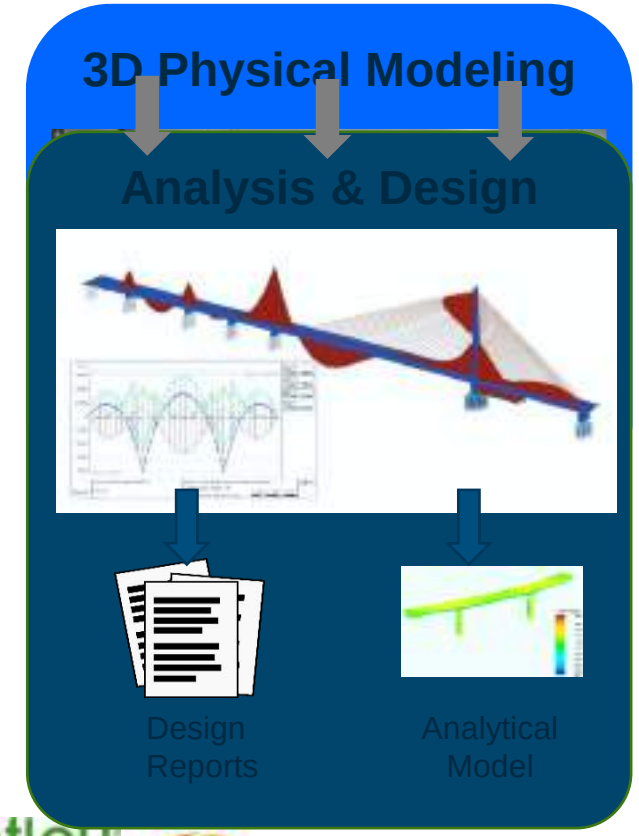
Analysis & Design
The analytical model is automatically extracted from the physical model for analysis and design process.

Design Documentation

Reinforcing Detailing

Construction & Operations
.





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OpenBridge Designer Integrated Workflow

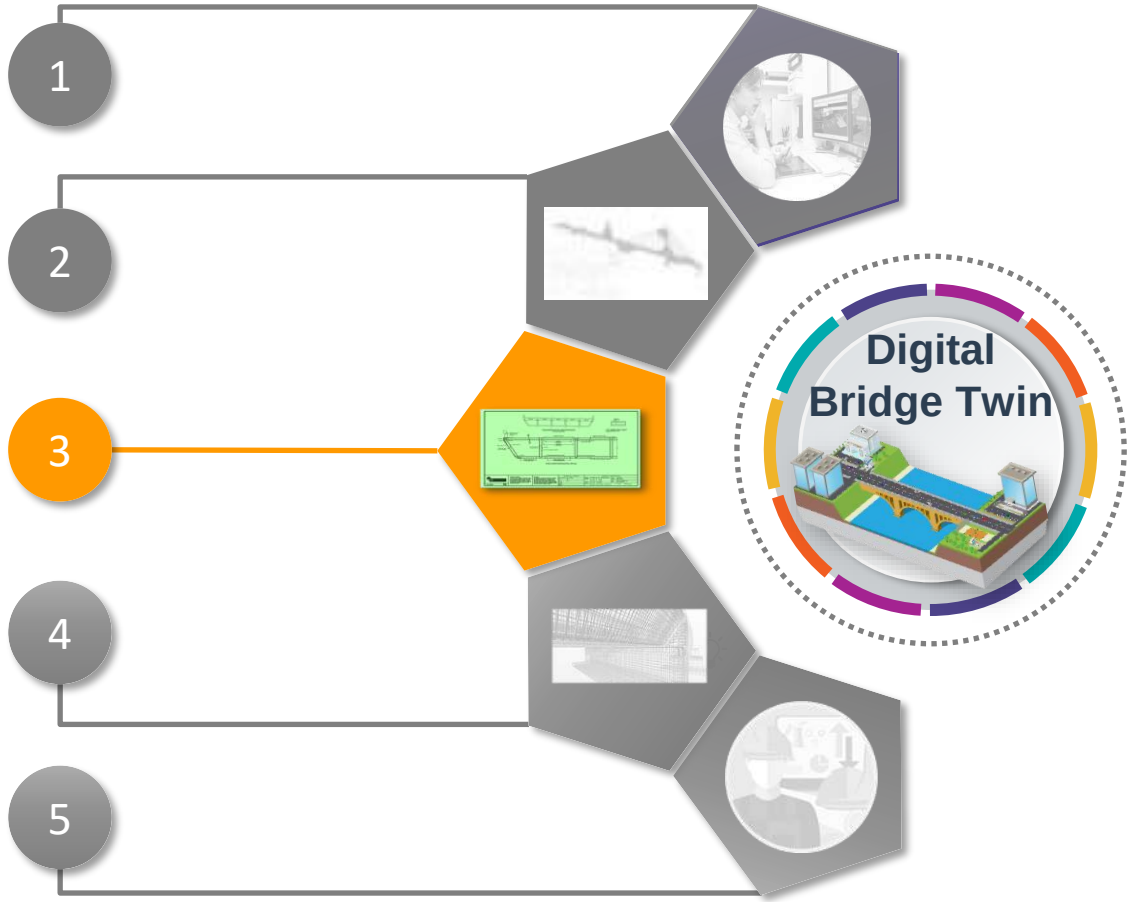
3D Physical Modeling
The 3D model is an exact representation of the bridge as it would be constructed in the field.

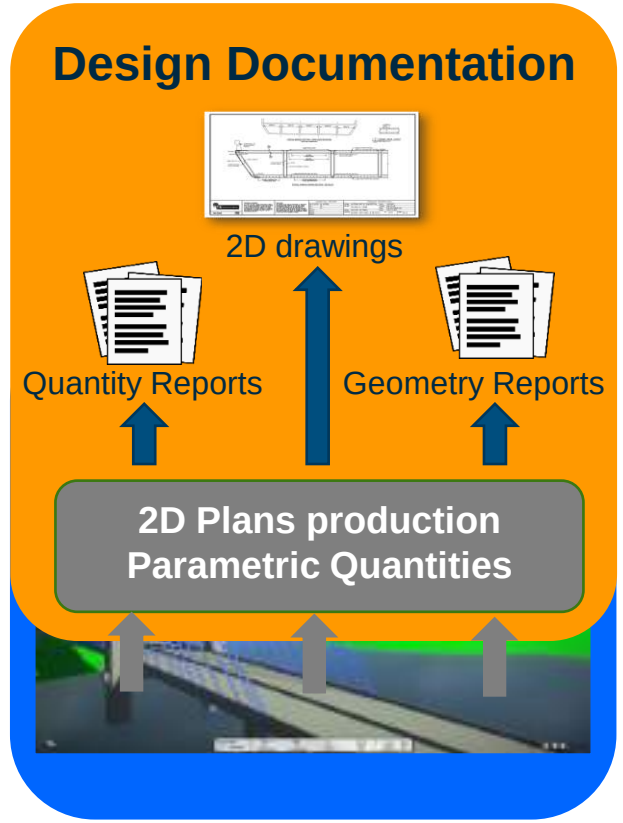
Analysis & Design
The analytical model is automatically extracted from the physical model for analysis and design process.

Design Documentation
Produce all required design documentations such as geometry reports, 3D models, annotated 2D drawings.

Reinforcing Detailing

Construction & Operations
.





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OpenBridge Designer Integrated Workflow

3D Physical Modeling
The 3D model is an exact representation of the bridge as it would be constructed in the field.

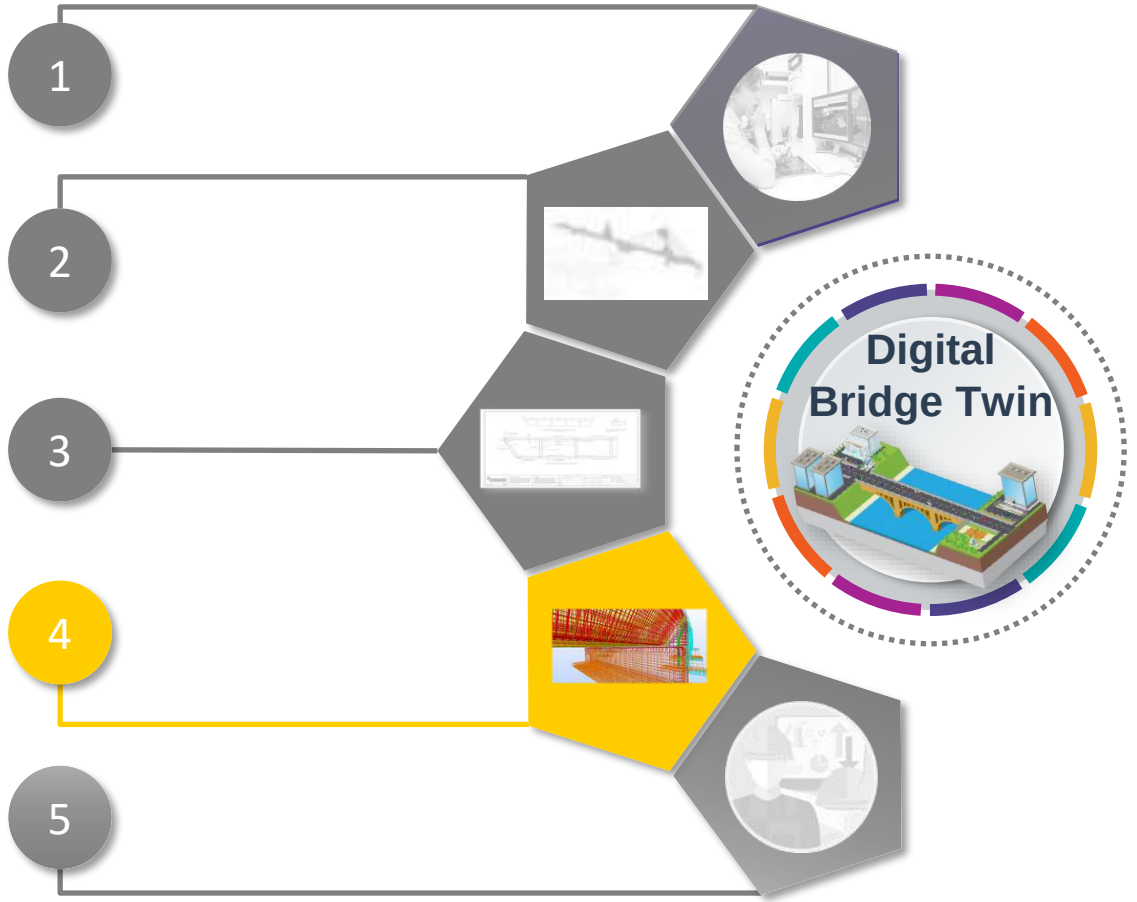
Analysis & Design
The analytical model is automatically extracted from the physical model for analysis and design process.

Design Documentation
Produce all required design documentations such as geometry reports, 3D models, annotated 2D drawings.

Reinforcing Detailing
Model reinforced concrete as 3D parametric objects and produce drawings, bar bending schedules, and concrete quantity and material reports.

Construction & Operations

.



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OpenBridge Designer Integrated Workflow

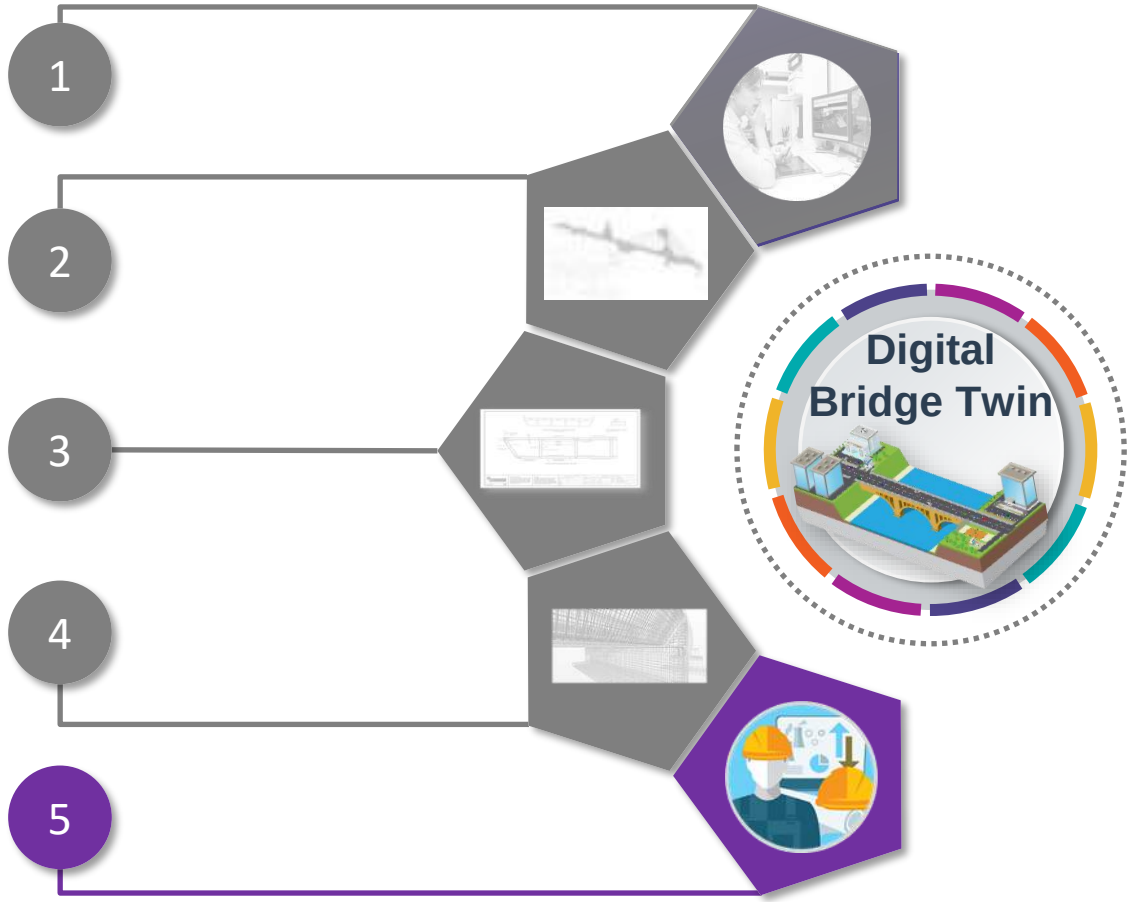
3D Physical Modeling
The 3D model is an exact representation of the bridge as it would be constructed in the field.

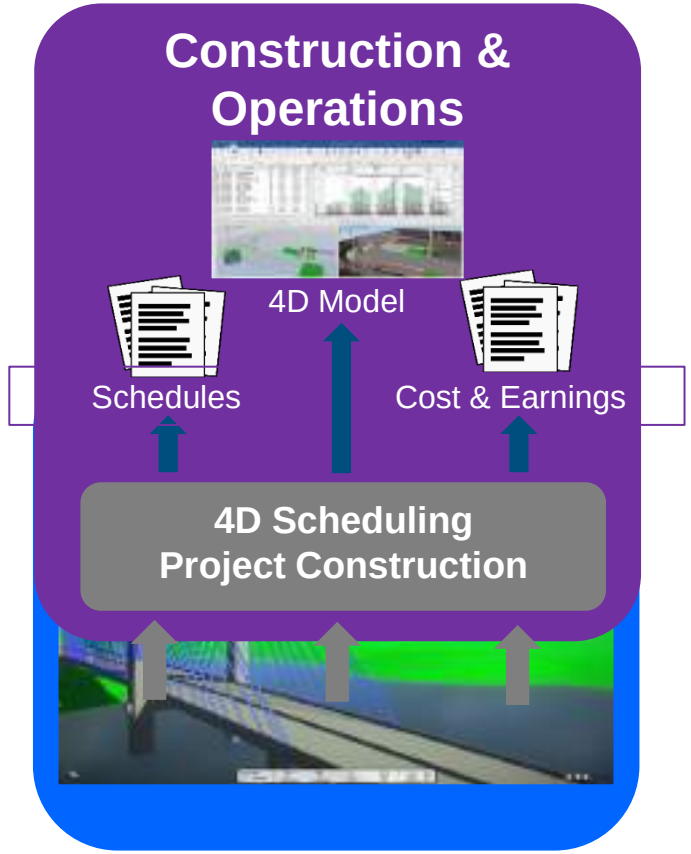
Analysis & Design
The analytical model is automatically extracted from the physical model for analysis and design process.

Design Documentation
Produce all required design documentations such as geometry reports, 3D models, annotated 2D drawings.

Reinforcing Detailing
Model reinforced concrete as 3D parametric objects and produce drawings, bar bending schedules, and concrete quantity and material reports.

Construction & Operations
Plan, Manage, Construct and Track in 4D using the BIM model to schedule and track the bridge construction plan.





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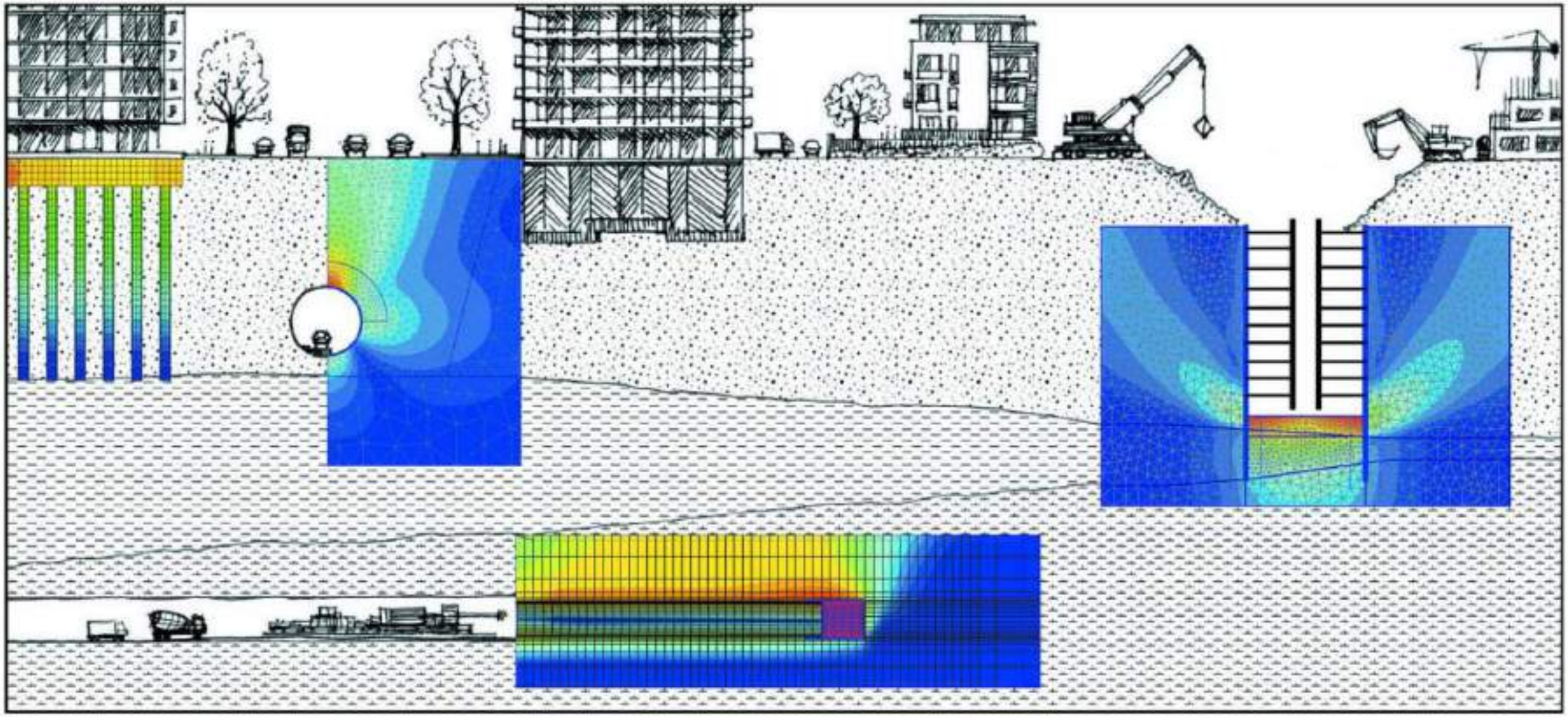
Digital Twin

Don’t Forget about The Geotechnical Aspects



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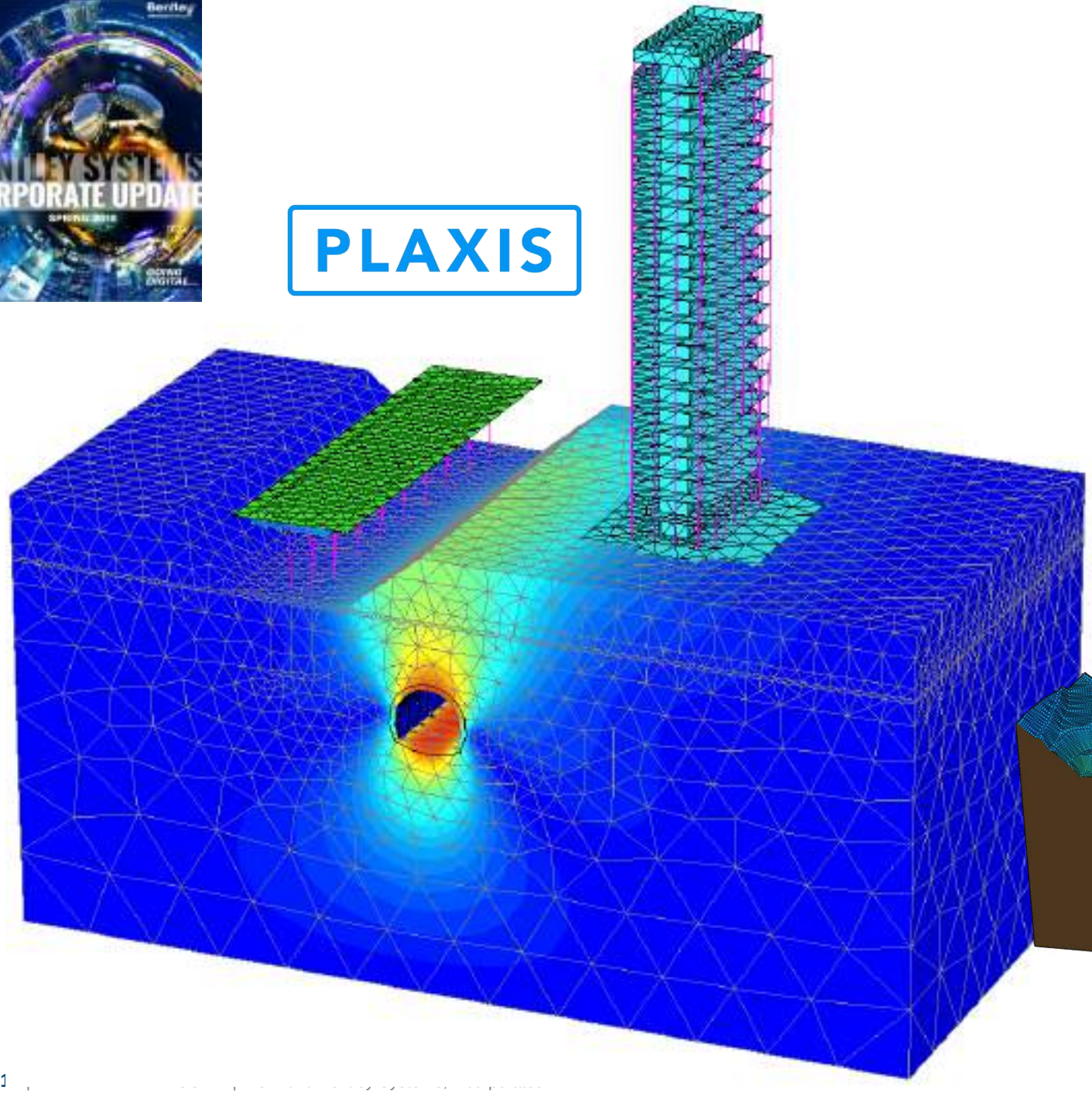
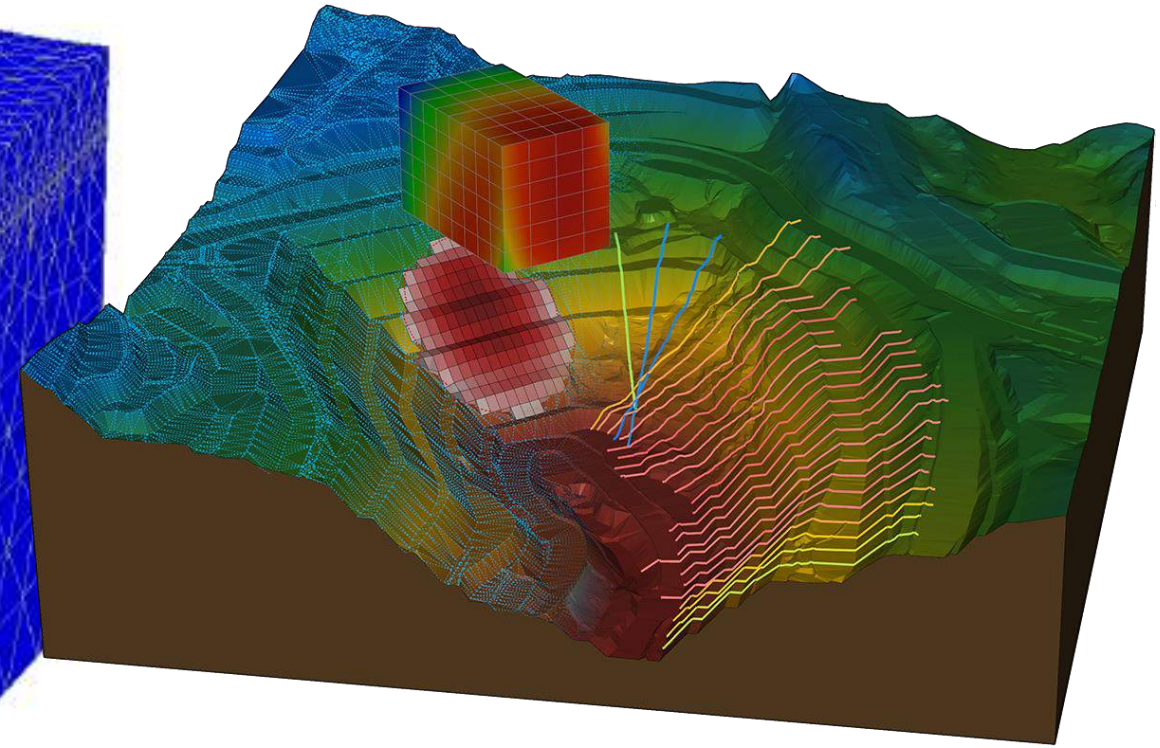
PLAXIS

SOILVISION SYSTEMS LTD.





Bentley Channel Partner

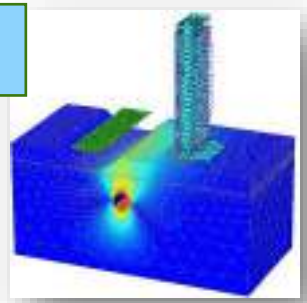
NGC

Bentley

WORKFLOWS

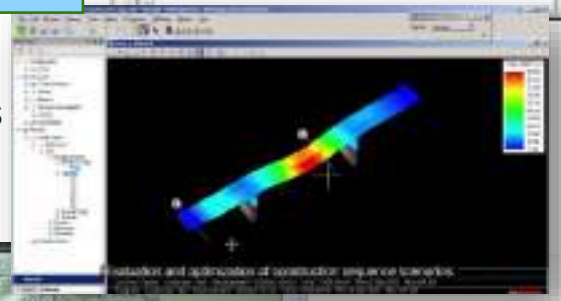
Plaxis

GeoStructural Analysis



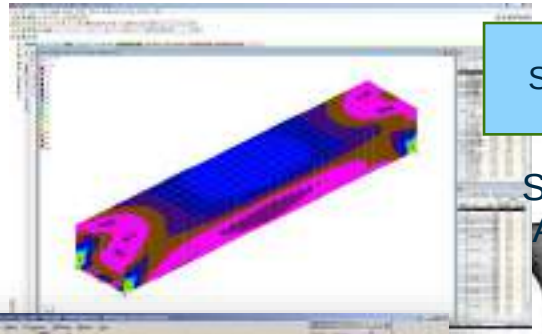
RM Bridge

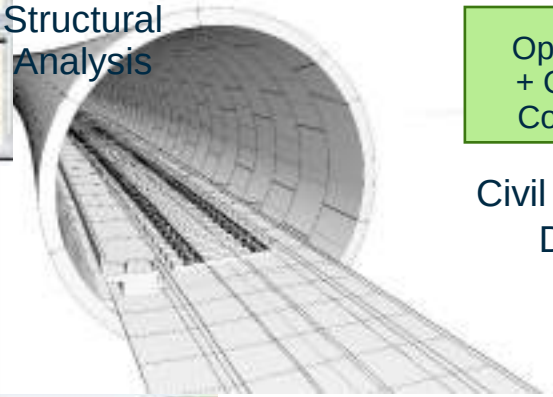
Bridge Analysis



STAAD Pro

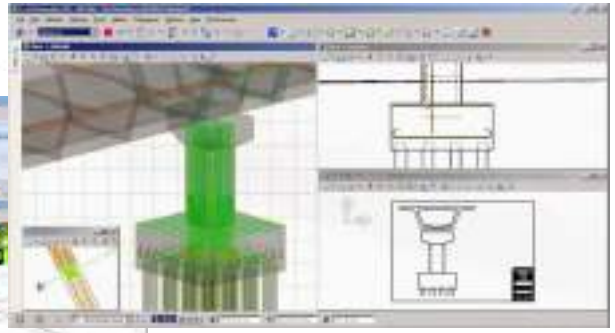
Structural Analysis





OpenBuilding + Generative Components

Civil Structural Design



Context Capture

Reality Modelling
Point Clouds
Survey

OpenRail ConceptStation

Conceptual Design

OpenRail Designer

Rail Design

OpenBridge Modeller

Bridge Design

Pro-Structures

Detailed Design

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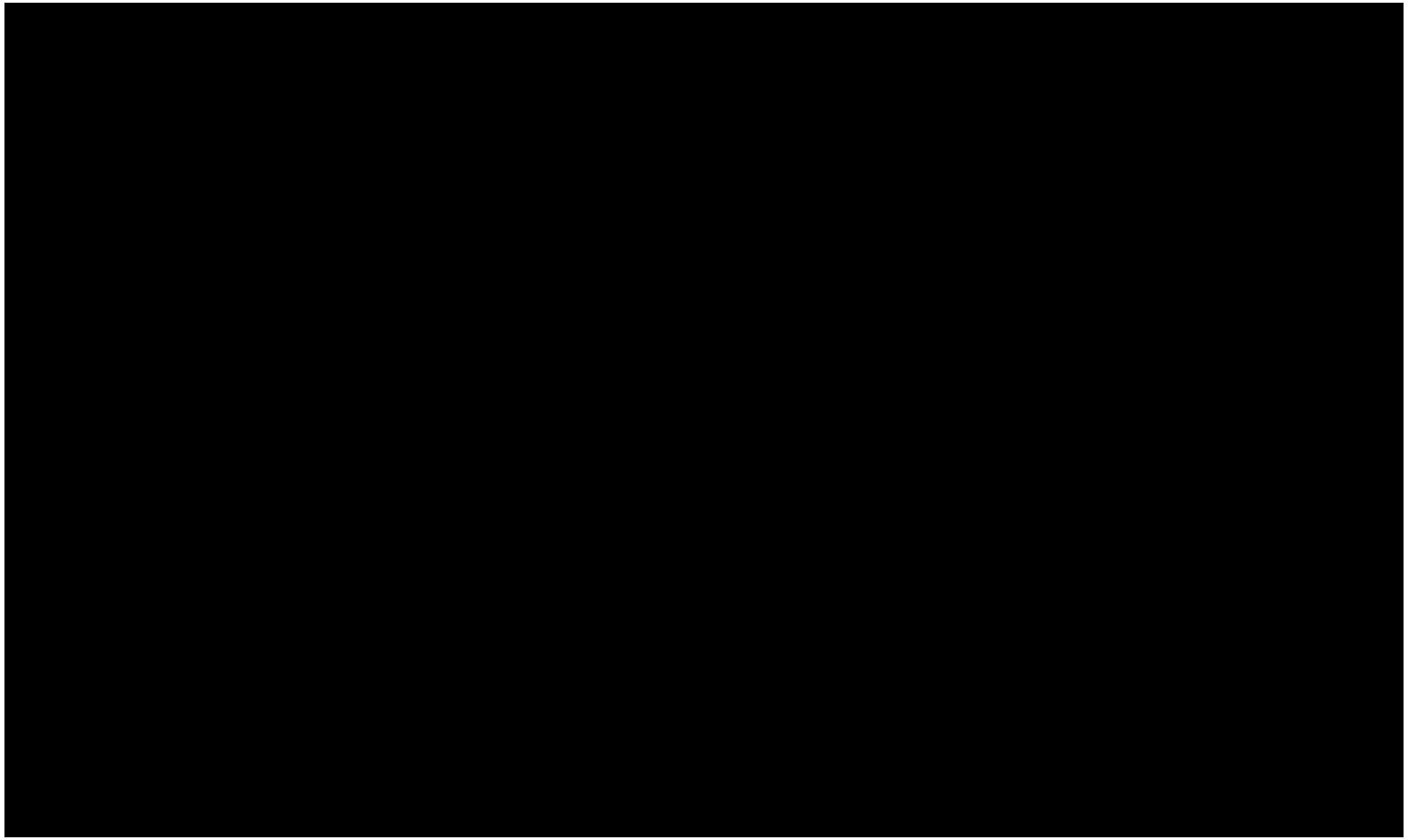
ContextCapture

- Reality Modeling



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ContextCapture

Reality Modeling Software

Reality modeling is the process of capturing the physical reality of an infrastructure asset, creating a representation of it, and maintaining it through continuous surveys. Bentley's reality modeling software, ContextCapture, provides you with real-world digital context in the form of a 3D reality mesh.

A reality mesh is a 3D model of real-world conditions that contains large amounts of triangles and image data. Each digital component can be automatically recognized and/or geospatially referenced, providing you with an intuitive and immersive way to navigate, find, view, and query your asset information. You can use reality meshes in many engineering, maintenance, or GIS workflows to provide precise real-world digital context for design, construction, and operations decisions.

Overlapping photos from drones and ground-level imagery, supplemented by laser scans where needed, ContextCapture enables you to generate spatially-classified and engineering-ready reality meshes at any desired level of accuracy and scale, including an entire city.

Depending on your project and organizational needs, you can choose from ContextCapture, ContextCapture Cloud Processing Service, or ContextCapture Center. If you are working on an individual desktop computer and you have projects that require less than 300 gigapixels of imagery and/or 3 billion points from a laser scanner, ContextCapture or ContextCapture Cloud Processing Service are perfect solutions. If your projects are larger, and you wish to utilize multi-engine parallel processing to speed the production of your reality model, ContextCapture Cloud Processing Service or ContextCapture Center are perfect for your needs. Click below to get more details about these innovative products.

CLOSE

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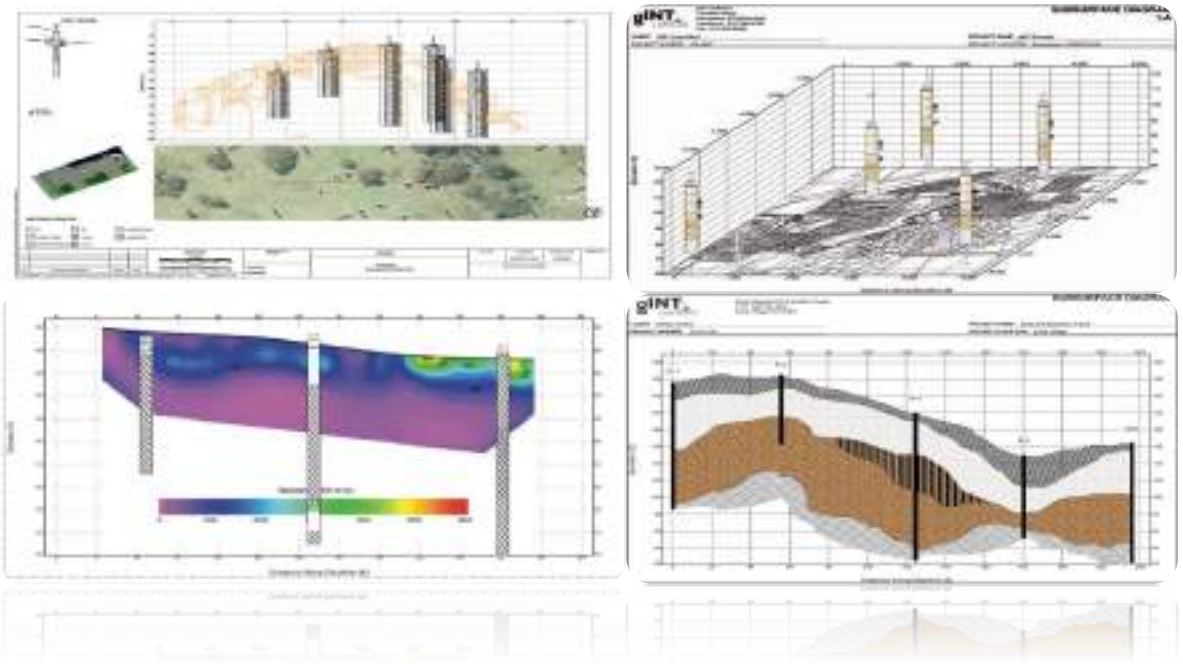
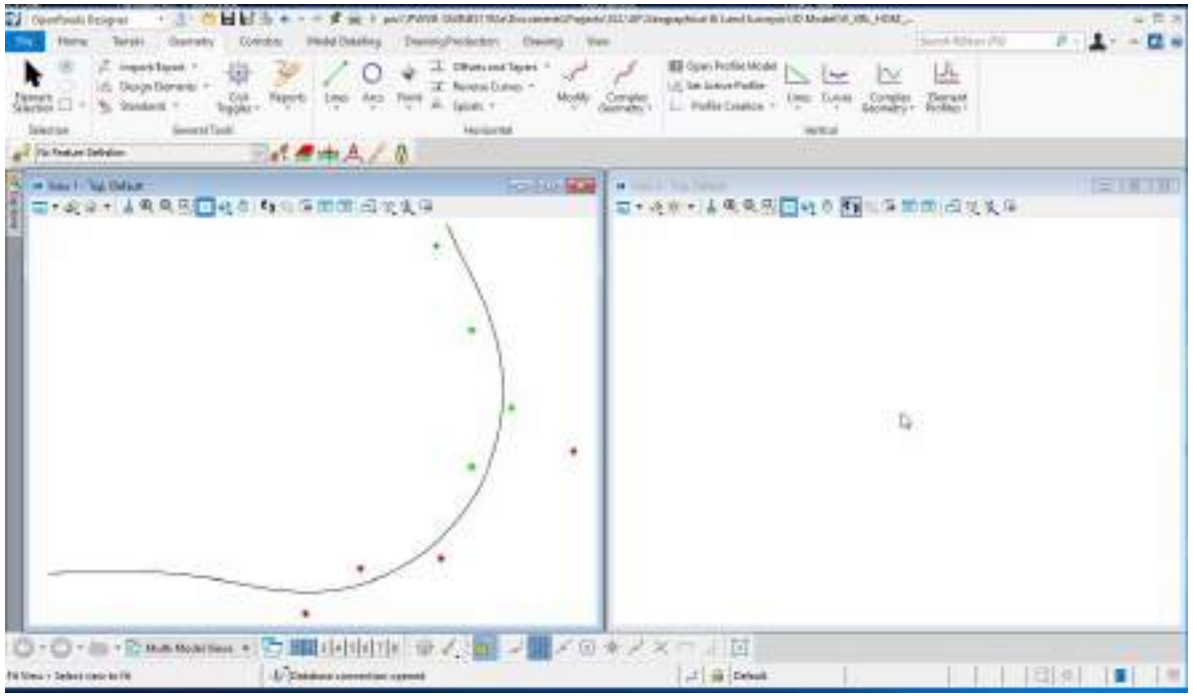
gINT Professional

- Lithology Data Management





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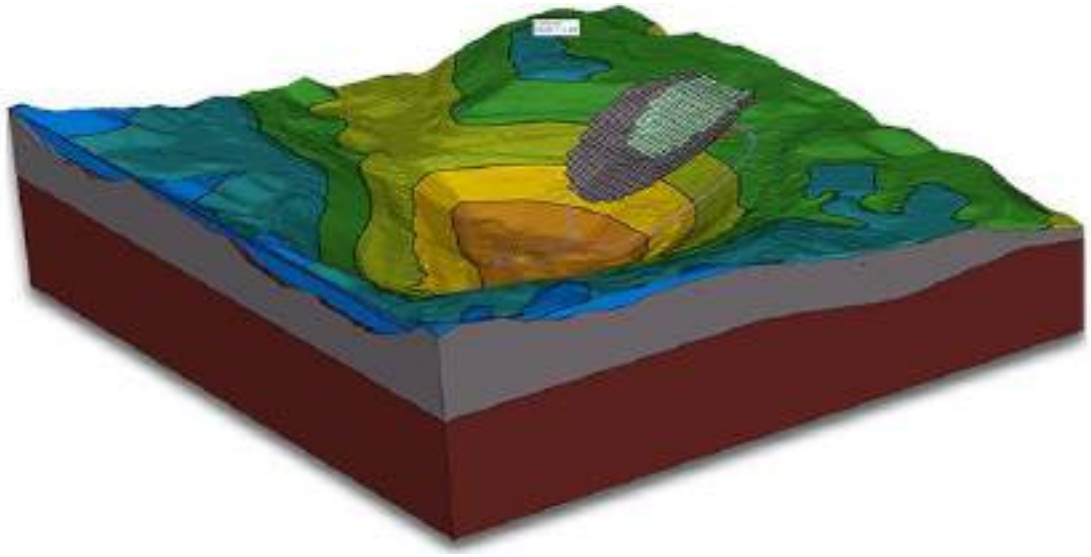
SOILVISION SoilVision

- Stability Analysis



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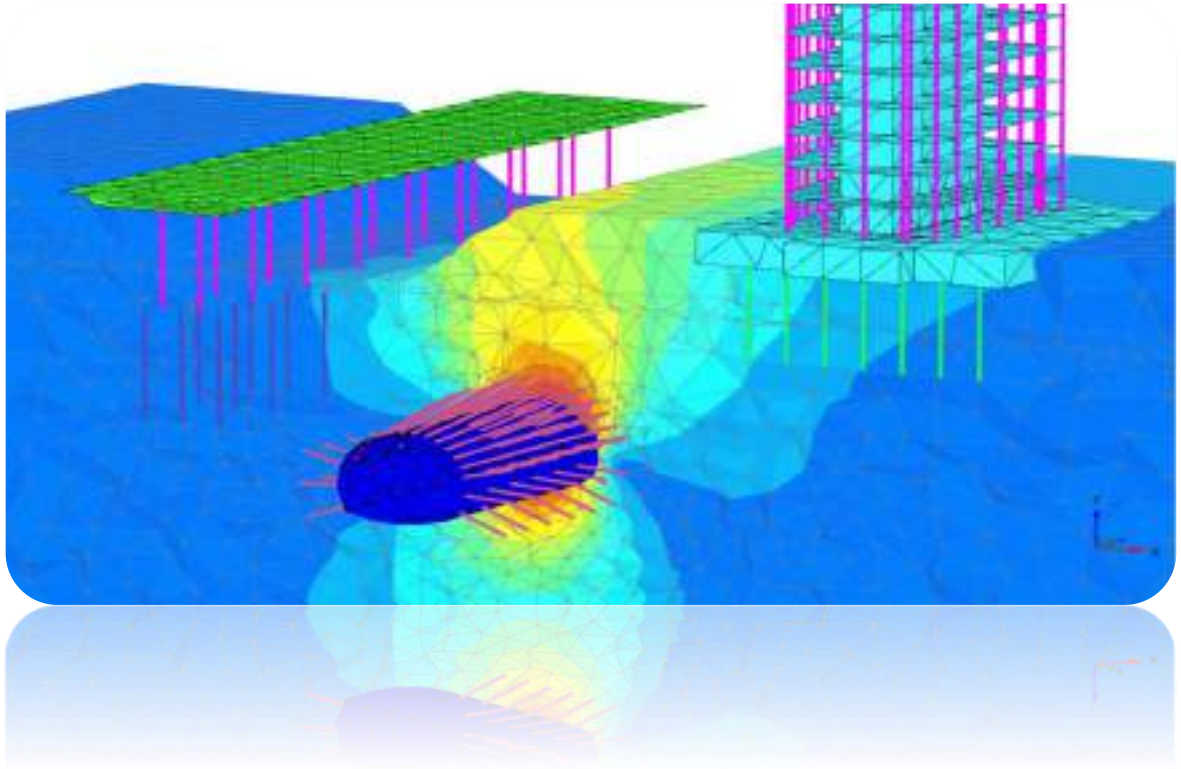
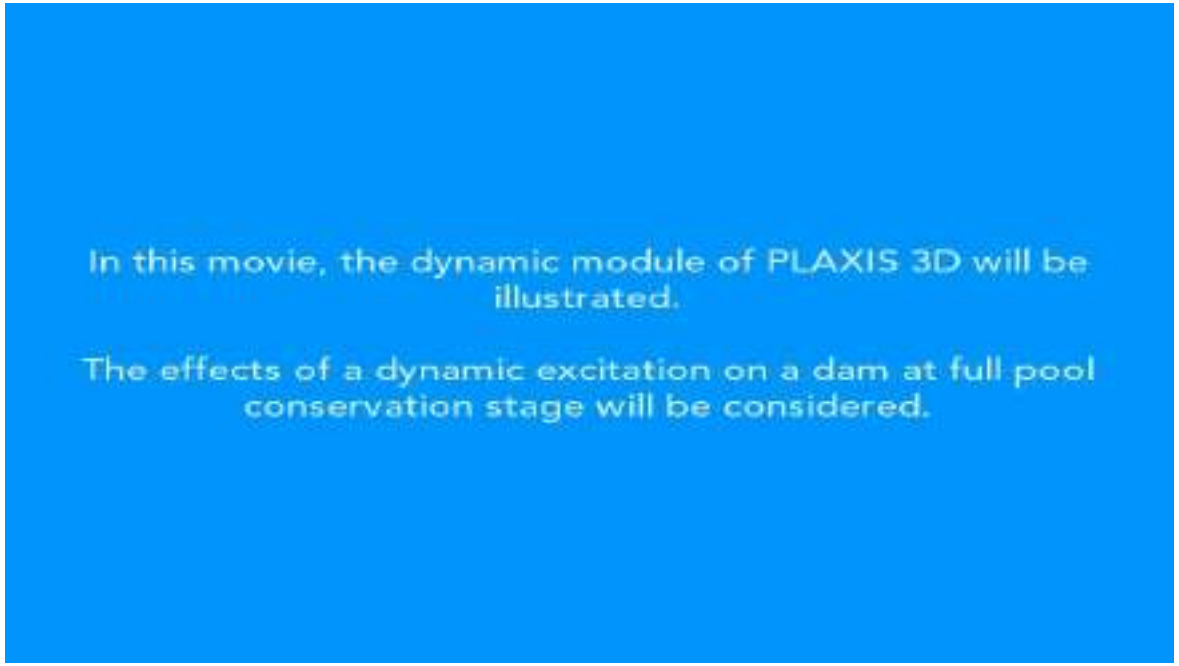
Plaxis

- Geotechnical Analysis





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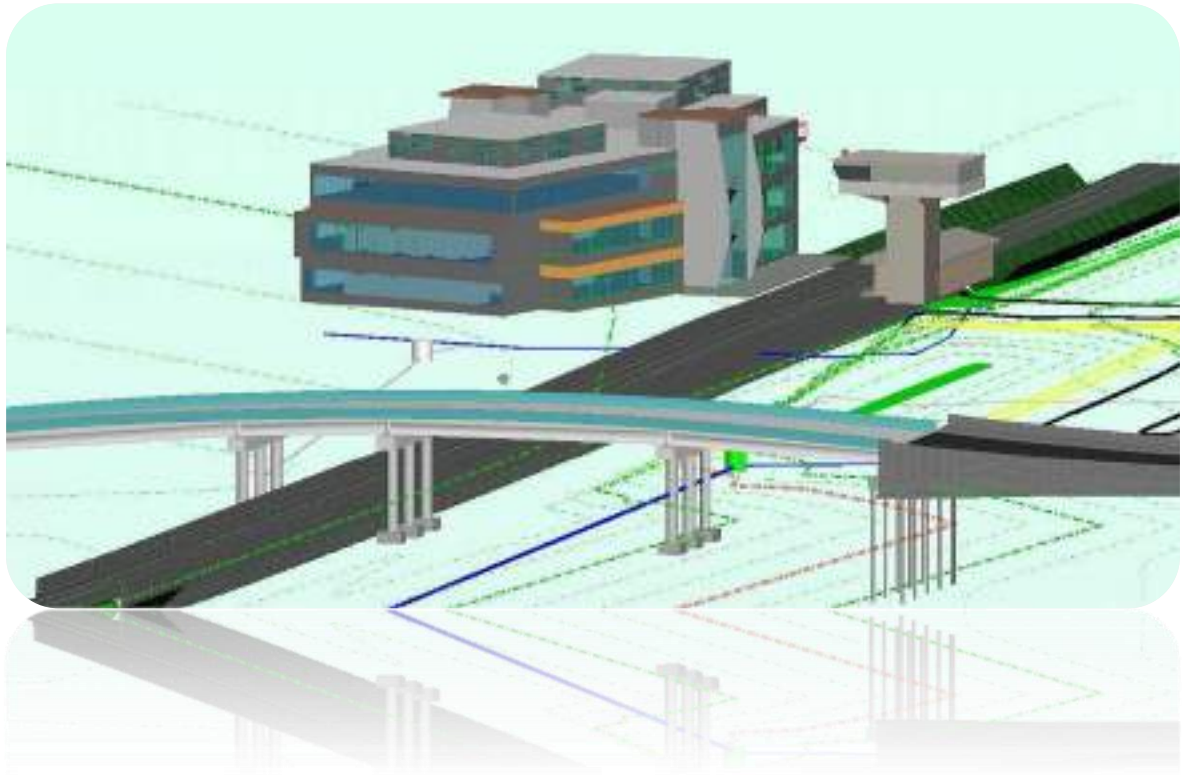
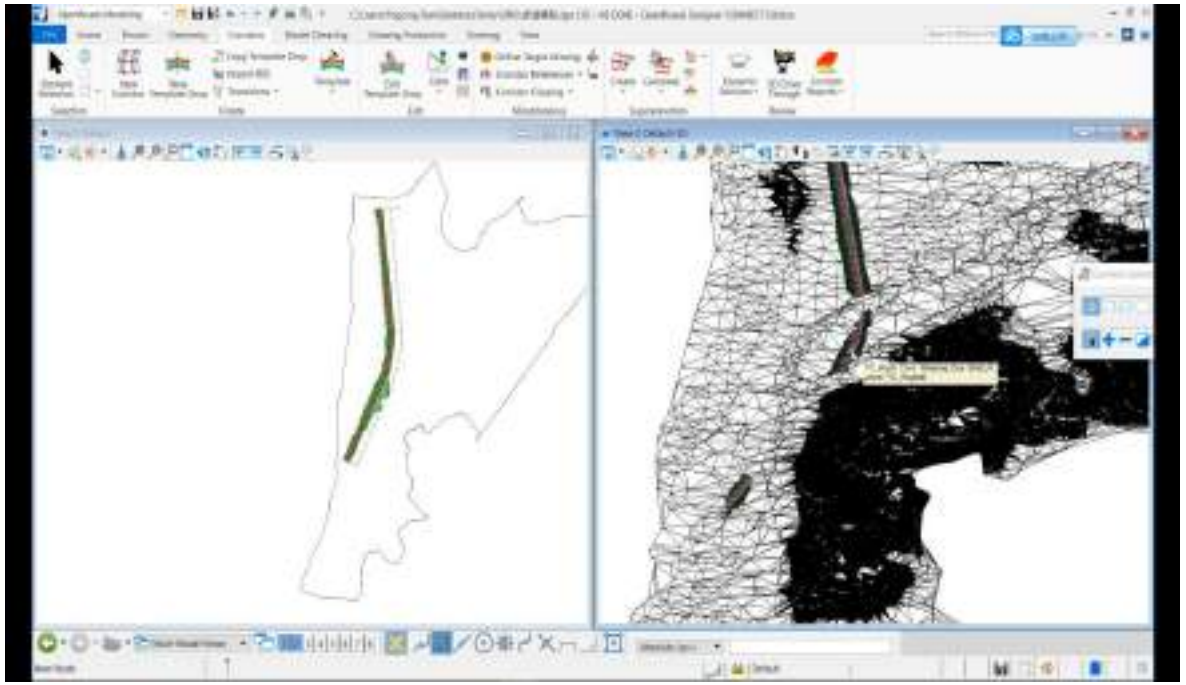
OpenRoads Designer

- Site (Cut & Fill), Road and Subsurface Utilities Modeling





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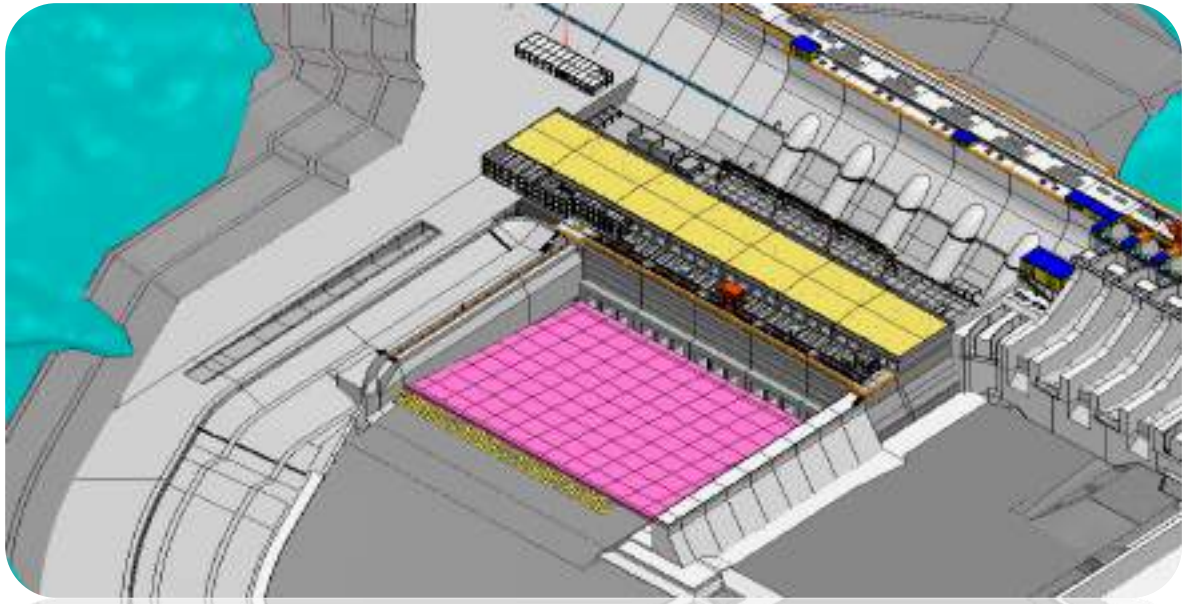
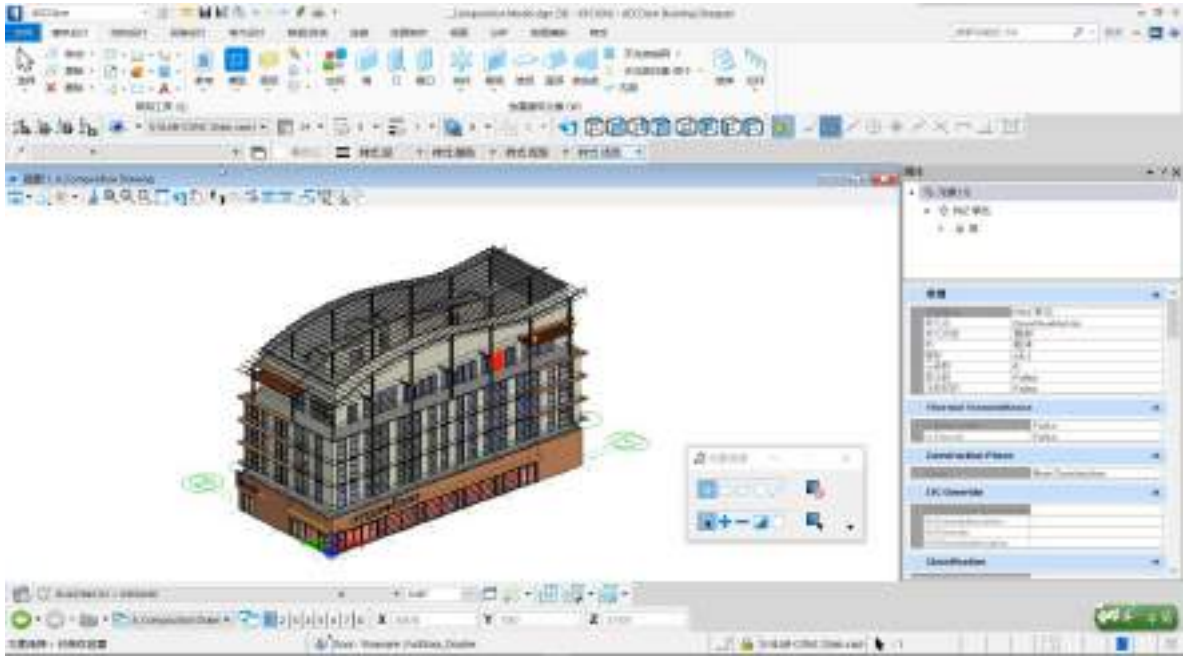
OpenBuilding Designer

- Multidiscplinary Modeling
- Architectural; Structural; HVAC Design





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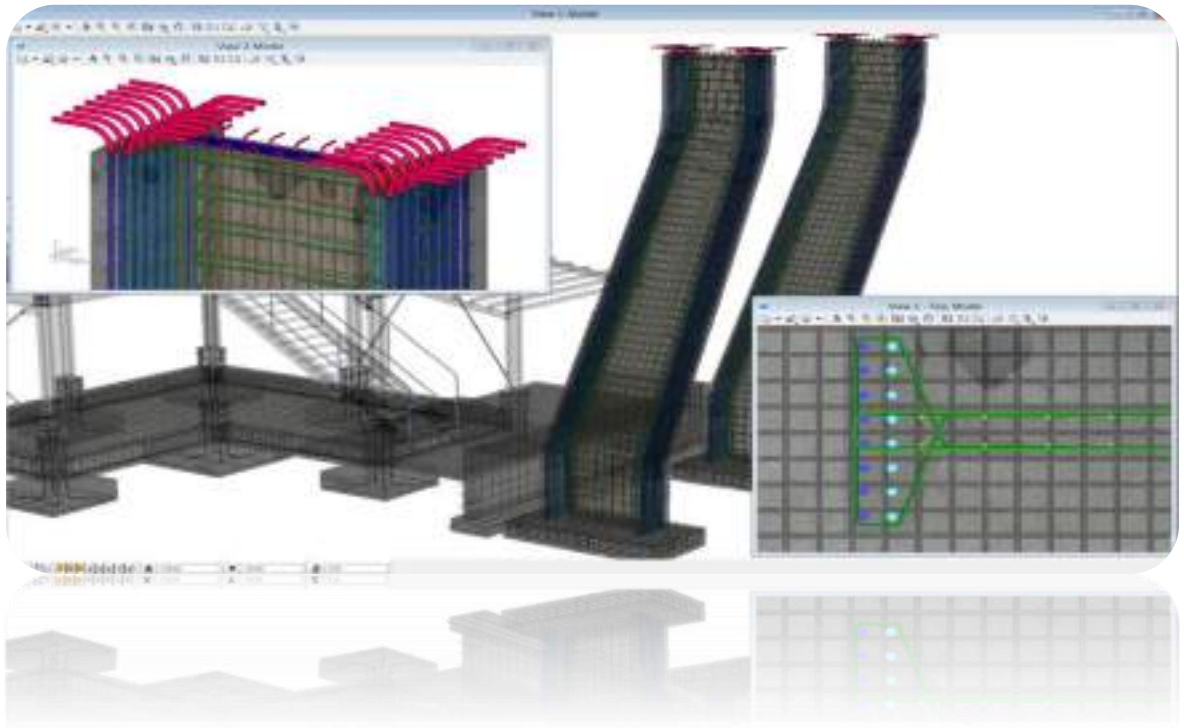
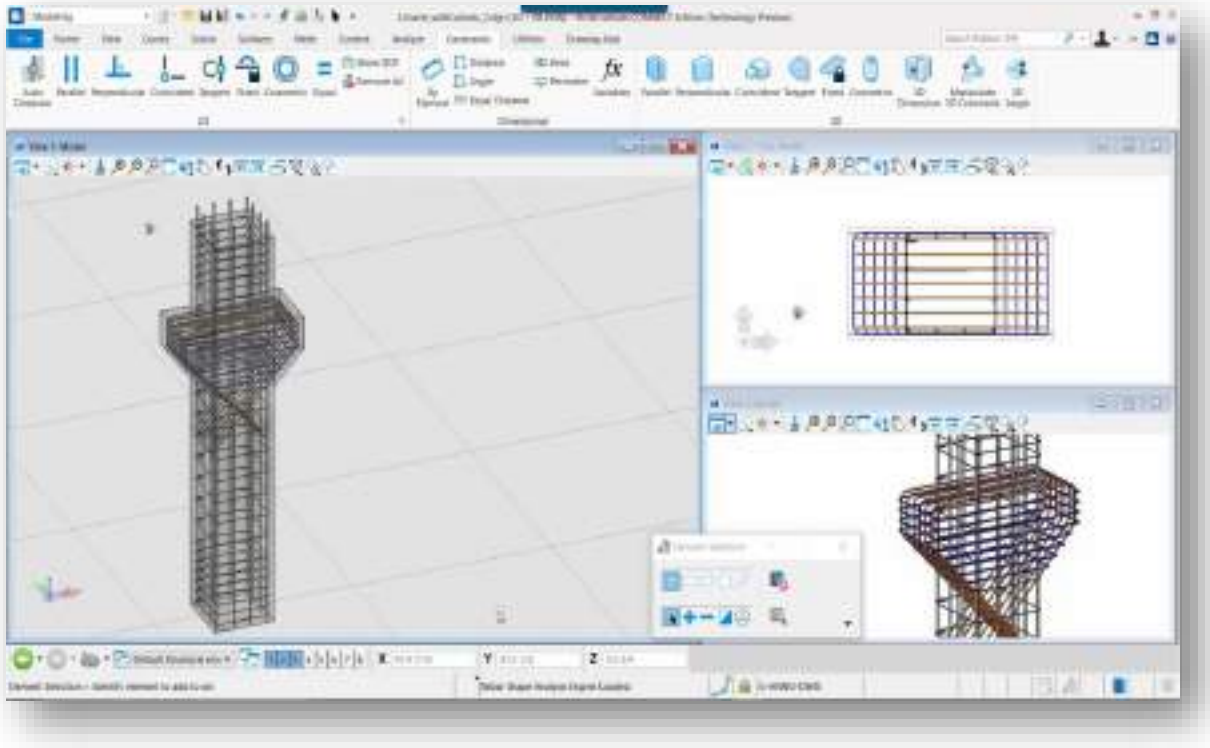
ProStructure

- Steel and Reinforcement Concrete





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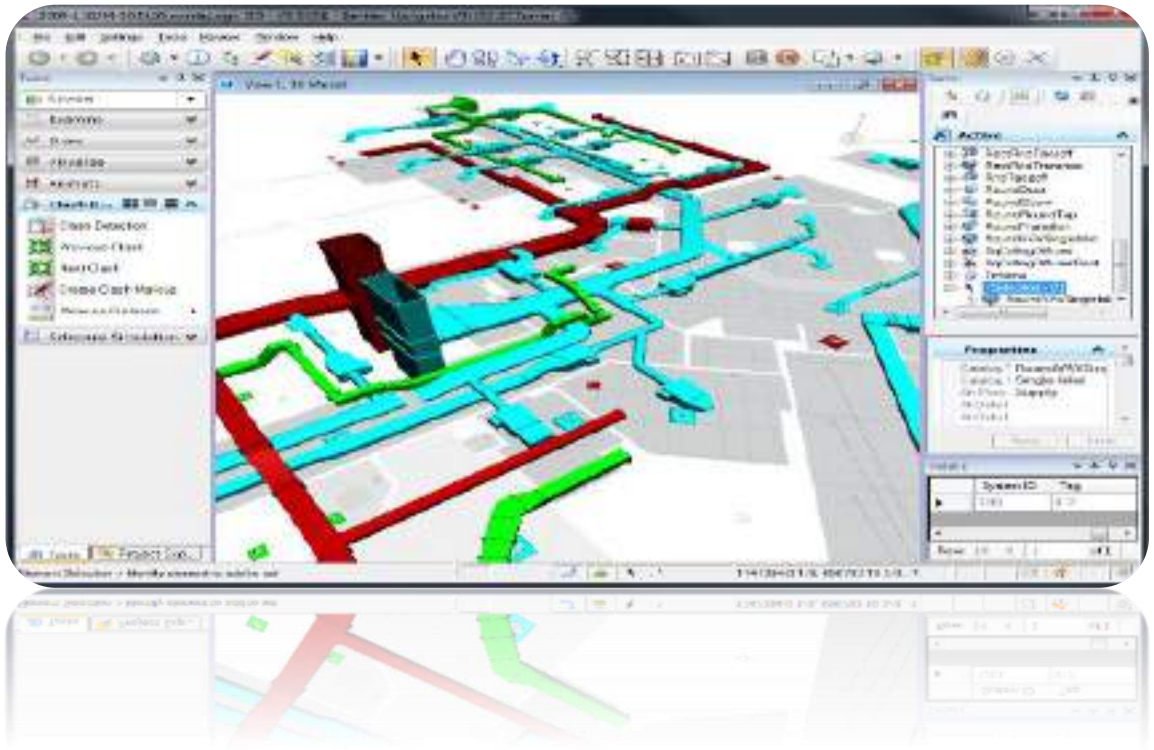
Navigator

- BIM Review



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LumenRT

- Visualization

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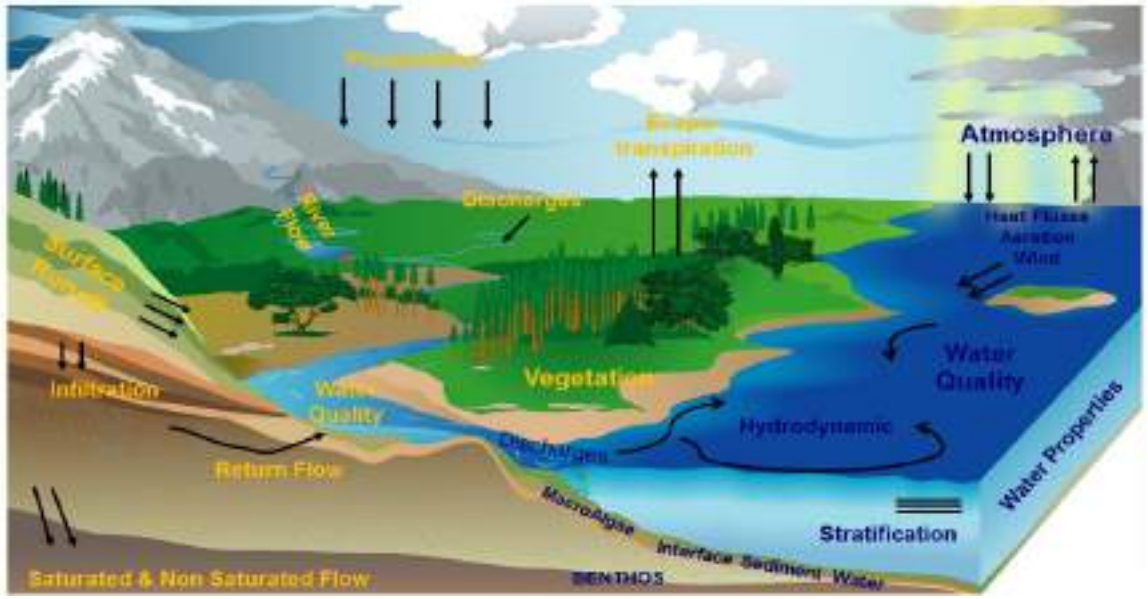
OpenFlow Flood



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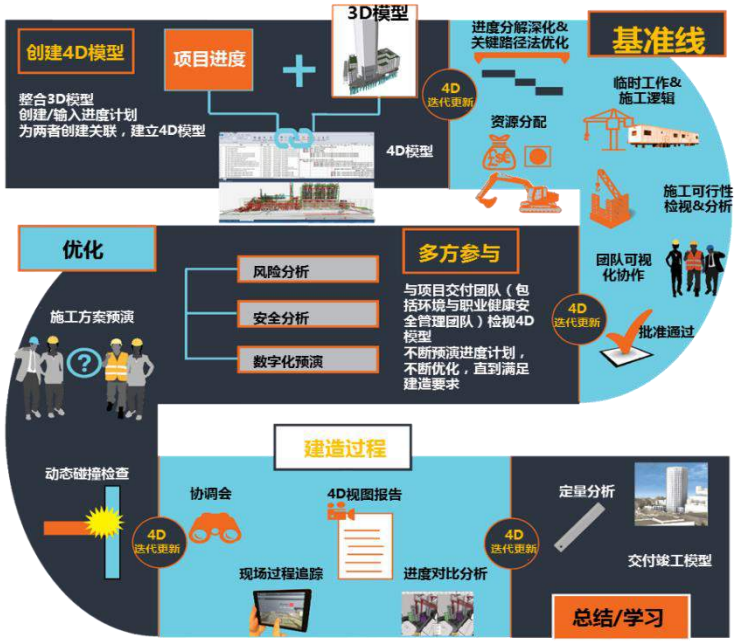
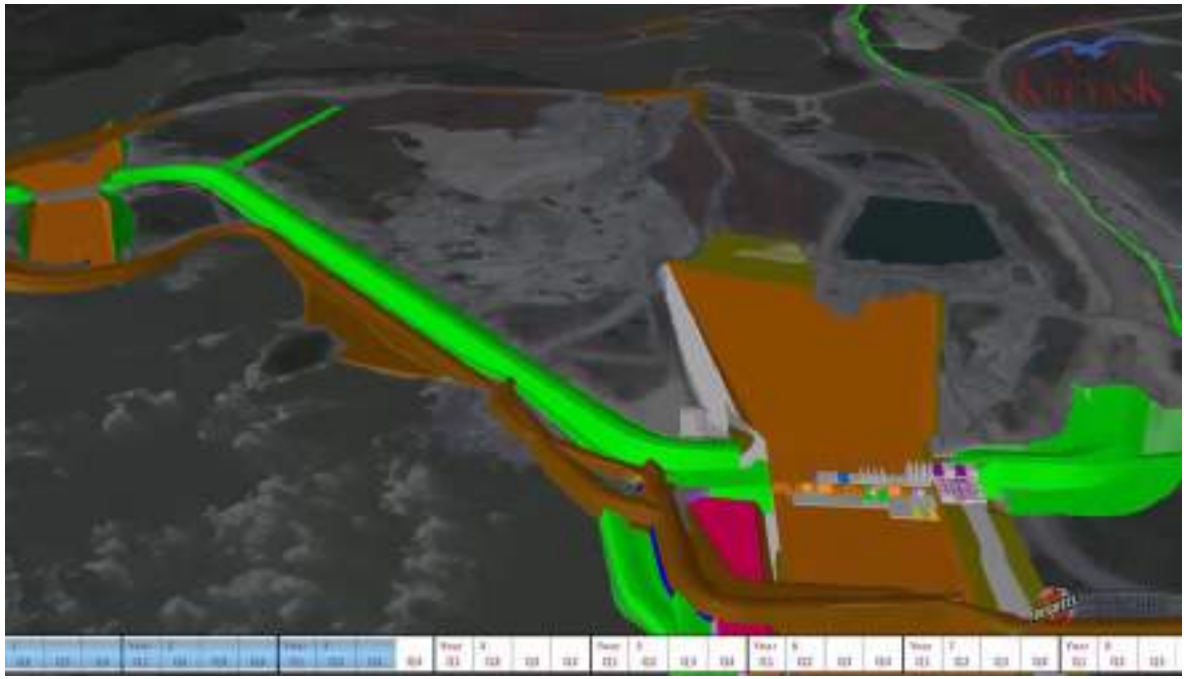
Synchro

- 4D Construction Simulation





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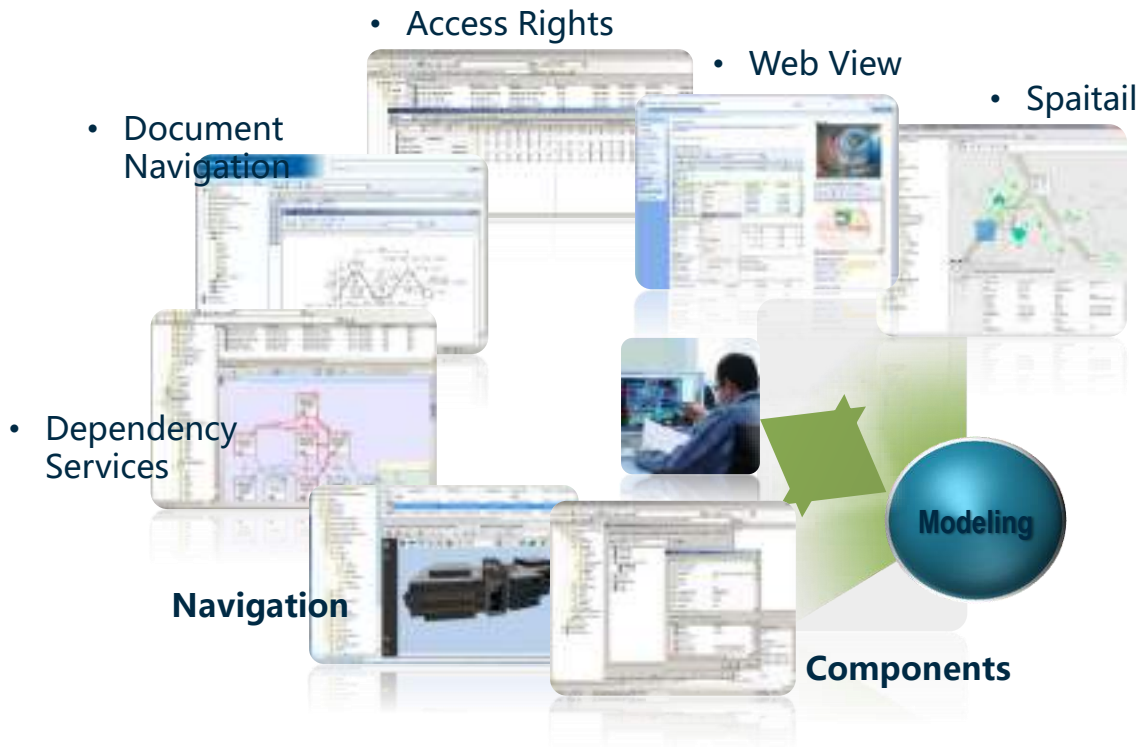
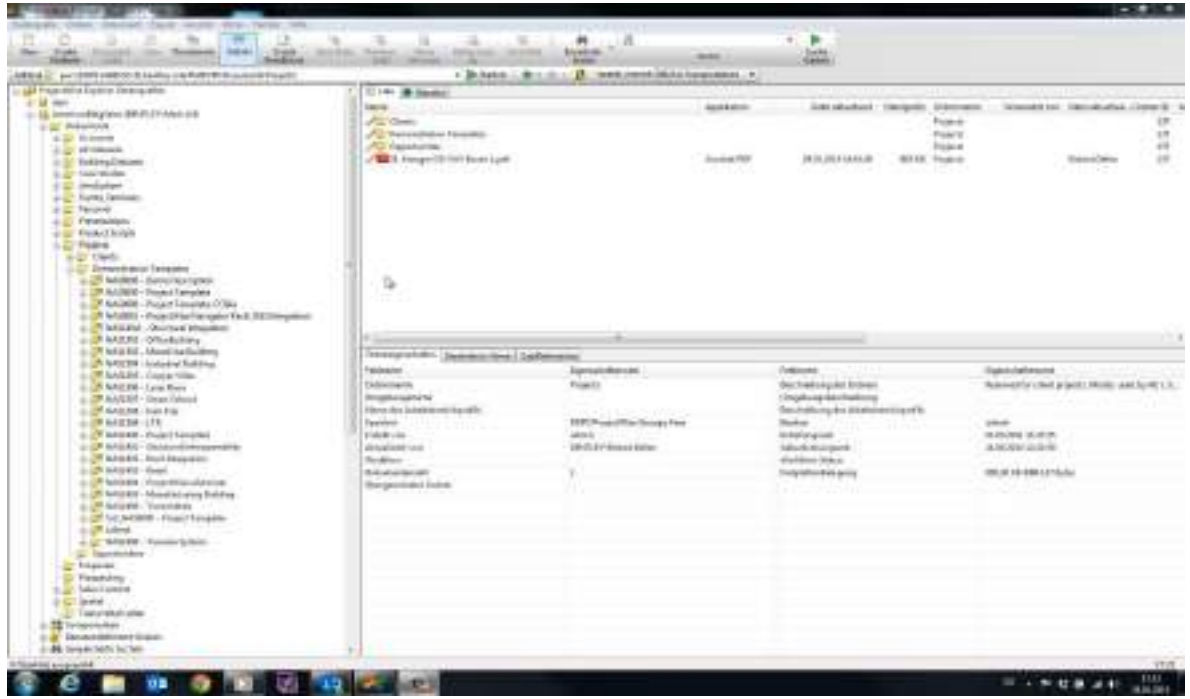
ProjectWise

- Connected Data Environment





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AssetWise

- Asset Information Management

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Thank You

LAMPIRAN 4

CV PEMBICARA

RIWAYAT HIDUP

Nama	:	Widya Suryadini
NIDN	:	0410086903
NIY	:	960401
Tempat/Tanggal Lahir	:	Bandung/ 10 Agustus 1969
Jenis Kelamin	:	Perempuan
Bidang Keahlian	:	Perencanaan dan Perancangan Kota; Sejarah, Teori dan Kritik Arsitektur
Unit Kerja	:	Jurusan Perencanaan Wilayah dan Kota, Institut Teknologi Nasional Bandung
Pengangkatan pertama	:	Asisten Ahli Madya, t.m.t. 1 Juni 1997
Jabatan Akademik	:	Lektor, 261,75 kum, t.m.t 01 Agustus 2006
Golongan	:	Penata III/c
Alamat Rumah	:	Jl. Cisitu Baru 66 Bandung 40135
Telp Rumah	:	022-2504266
Email	:	widya@itenas.ac.id wsuryadini@gmail.com

Pendidikan

No.	Perguruan Tinggi	Kota dan Negara	Tahun Lulus	Bidang Studi
1.	Institut Teknologi Bandung (ITB)	Bandung, Indonesia	2019	Arsitektur (S3)
2.	Institut Teknologi Bandung (ITB)	Bandung, Indonesia	2004	Arsitektur (S2)
3.	Institut Teknologi Bandung (ITB)	Bandung, Indonesia	1994	Planologi (S1)

Pengalaman Kerja

No.	Jabatan	Tahun
1.	Staf Pengajar Tetap Jurusan Perencanaan Wilayah dan Kota Itenas Bandung	1996 – sekarang
2.	Redaksi Pelaksana "Jurnal Itenas"	1997 – 1999
3.	Sekretaris Pusat Studi Sumberdaya Alam dan Lingkungan Itenas	1997 – 2000
4.	Editor "Jurnal Itenas"	1999 – 2000
5.	Wakil Pemimpin Redaksi "Jurnal Itenas"	2000 – 2009
6.	Kepala Laboratorium Analisis Numerik & Keruangan Jurusan Planologi Itenas	2005 – 2008
7.	Auditor pada Tim Penjaminan Mutu Internal Itenas	2006 – 2012
8.	Pejabat Sementara Sekretaris Jurusan Teknik Planologi Itenas	Sept-Nov 2004 Mei-Juli 2007
9.	Ketua Tim Kurikulum Jurusan Teknik Planologi Itenas	2007 – 2012
10.	Anggota Senat Fakultas Teknik Sipil dan Perencanaan Itenas	2007 – 2012
12	*Person-In-Charge* (PIC) Tahun 2008 untuk Kegiatan E.3 Perbaikan Struktur dan Muatan Kurikulum dalam	2008

No.	Jabatan	Tahun
	Program PHK A-2 Jurusan Teknik Planologi Itenas (2007-2009)	
11	Wakil Dekan bidang Akademik dan Kemahasiswaan Fakultas Teknik Sipil dan Perencanaan Itenas	2008 - 2012

Pengalaman Mengajar

No.	Nama Mata Kuliah	Tahun
1.	Metode Analisis Perencanaan	2001 – 2011
2.	Metodologi Penelitian untuk Perencanaan	2001 – 2013
3.	Kolokium	2004 – 2007
4.	Teori Perencanaan	2007 – sekarang
5.	Teknik Presentasi dan Komunikasi	2008 – 2012
6.	Kependudukan	2012
7.	Sejarah Kota	2014 – sekarang
8.	Isu Gender di Perkotaan	2018 – sekarang
9.	Sosiologi Perkotaan	2018

Karya Ilmiah

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Suryadini, W. 2007. *Participatory Action Research in Indonesia's Planning Practice: Possibilities and Fallacies*. Makalah disajikan dalam 2nd International Qualitative Research Convention yang diselenggarakan oleh Qualitative Research Association of Malaysia (QRAM) bekerja sama dengan University of Malaya di Kualalumpur, 3-5 September

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Suryadini, W., I. Sudradjat, I.B. Sugiharto, Y.A. Piliang. 2014. *Suspended Between Heaven and Earth: The Interiority of Airport as Liminal Space*. Makalah dipresentasikan dalam [in]arch International Conference on Interiority and Architecture. Universitas Indonesia, Depok, Indonesia 9-10 September 2014

Suryadini, W., I. Sudradjat, I.B. Sugiharto, Y.A. Piliang. 2015. *Spatial Tolerance, Space of Tolerance, and the Tribute to Differences in the Arena of Liminal Spaces*. Makalah dipresentasikan dalam 13th International Congress of Asian Planning School Association 2015. Johor Bahru, Malaysia, 12-14 Agustus

Suryadini, W., I. Sudradjat, I.B. Sugiharto, Y.A. Piliang. 2018. *Favorable Fluid Future: How Feminine Qualities Define the Future of Cities*. Makalah dipresentasikan dalam 4th Asian Future Conference. Seoul, South Korea, 24-28 Agustus

Suryadini, W. 2019. Fluiditas Irigaray: Gelembung Kecil yang Terambil. Artikel dalam buku *Arsitektur dan Filosofi: Rekaman Diskusi Terbuka STKA Day 2*. Widiastuti, I. (editor). SAPPK Institut Teknologi Bandung.

Pengabdian Kepada Masyarakat

Narasumber/Fasilitator dalam Pelatihan Perencanaan Partisipatif bagi Staf dengan Jabatan Fungsional Perencana di lingkungan Bapeda Propinsi Jawa Barat tahun 2011

Prestasi dan Penghargaan

2011	Penghargaan Masa Kerja 15 tahun Institut Teknologi Nasional Bandung
2012-2015	Beasiswa BPPDN dari Dikti untuk Studi Lanjut Program Doktor di Institut Teknologi Bandung
2015	Hibah Penelitian Disertasi Doktor, Dikti Kemendikbud
2016	Full Travel Grant dari Japan Foundation untuk mengikuti Workshop "*Mapping the Aesthetics of Urban Life in Asia, A dialogue with the Arts*" Kyoto, Japan yang diselenggarakan oleh Kyoto University Centre for Southeast Asian Studies (CSEAS) dan International Institute for Asian Studies (IIAS, Leiden)
2016	Penghargaan Masa Kerja 20 tahun Institut Teknologi Nasional Bandung
2018	AFC Scholarship Award dari Atsumi International Sekiguchi Global Research Association untuk mengikuti 4th Asian Future Conference di Seoul, 24-28 Agt 2018

Demikianlah Riwayat Hidup ini saya buat dengan benar, untuk dipergunakan sebagaimana mestinya

Bandung, 27-Feb-20

Widya Suryadini

PROFILE

Title	:	D.Eng
Name	:	Didin Agustian Permadi
Affiliation	:	Environmental Engineering National Institute of Technology (ITENAS) PHH Mustapa, 23, Bandung, 40124 Bandung, Indonesia
Position	:	Lecturer
Phone	:	+62 82116336962
Email	:	didin.agustian@gmail.com, didin@itenas.ac.id

EDUCATIONAL AND RESEARCH BACKGROUND

1. Dr. Eng. Environmental Technology and Management, Asian Institute of Technology, Bangkok, Thailand; 2013
   Research topic: Assessment of efficacy of black carbon emission reduction measures and co-benefits on climate forcing mitigation and air quality improvement in Southeast Asia (using WRF/CHIMERE modeling system)
2. M. Eng. Environmental Technology and Management, Asian Institute of Technology, Bangkok, Thailand; 2007
   Research topic: Photochemical smog modeling application for ozone air quality management in Jakarta, Indonesia (using MM5/CAMx)
3. Bachelor. Eng. Environmental Engineering, Bandung Institute of Technology (ITB), Bandung, Indonesia; 2003
   Research topic: Detail engineering design of sewerage system and waste water treatment plant of Sukabumi Municipality, West Java

RESEARCH INTERESTS

1. Emission inventory of primary aerosols and ozone precursors
2. Energy and environment (air quality and climate change)
3. Photochemical smog 3D modelling for urban and regional scale
4. 3D aerosol chemical transport model for urban and regional scale
5. Short-lived climate forcing pollutants and co-benefit analysis for emission reduction of black carbon and its impacts on climate radiative forcing and health using modeling tool
6. Environmental Impact Assessment (EIA) study: document arrangement and environmental monitoring plan
7. Detail Engineering Design (DED) of Waste Water Treatment Plant (WWTP) and Water Treatment Plan (WTP)
8. Detail Engineering Design (DED) of Sewerage System and Water Supply

TEACHING EXPERIENCE

1. Lecturer at National Institute of Technology (ITENAS), Bandung, Indonesia (at present)
2. Affiliated faculty for Air Pollution Modeling course work (for post graduate level at the Asian Institute of Technology)
3. Teaching assistant for Air Pollution Engineering and Management (for post graduate level at the Asian Institute of Technology)
4. Teaching assistant for Air Pollution Modeling and Applications (for post graduate level at the Asian Institute of Technology)
5. Teaching assistant for fluid mechanics laboratory experimental course (for under graduate level at the Bandung Institute of Technology (ITB))
6. Teaching assistant for plumbing and pump laboratory experimental course (for under graduate level at the Bandung Institute of Technology (ITB))

PUBLICATIONS

International journal:

1. Narita, D., Kim Oanh, N.T., Sato, K., Huo, M., Permadi, D.A., Ha Chi, N.N., Ratanajaratroj, T., and Pawarmart, I., (2019). Pollution Characteristics and Policy Actions on Fine articulate Matter in a Growing Asian Economy: The Case of Bangkok Metropolitan Region, Atmosphere, 10, 227. doi:10.3390/atmos10050227
2. Kim Oanh, N.T, Huy, L., Permadi, D.A., Zusman, E., Nakano, R., Nugroho, S., Sofyan, S., Lestari, P., (2018). Assessment of urban passenger fleet emissions to quantify climate and air quality co-benefits resulting from potential interventions, Carbon Management, 9(4), 367-381.
3. Kim Oanh, N.T., Permadi, D.A., Hopke, P, H., Smith, K,R., Dong, N.P., Anh, N.D., (2018). Annual emissions of air toxics emitted from crop residue open burning in Southeast Asia over the period of 2010–2015, Atmospheric Environment, 187, 163-173
4. Permadi, D.A., Kim Oanh, N.T., Vautard, R. (2017). Integrated emission inventory and modeling to assess distribution of particulate matter mass and black carbon composition in Southeast Asia. Atmospheric Chemistry and Physics. 18, 2725-2747.
5. Permadi, D.A., Kim Oanh, N.T., Vautard, R. (2017). Assessment of emission scenarios for 2030 and impacts of black carbon emission reduction measures on air quality and radiative forcing in Southeast Asia. Atmospheric Chemistry and Physics. 18, 3321-3334.
6. Permadi, D.A., Sofyan, A., and Kim Oanh, N.T. (2017). Assessment of emissions of greenhouse gases and air pollutants in Indonesia and impacts of national policy for elimination of kerosene use in cooking, Atmospheric Environment, 154, 82-94.
7. Permadi, D.A., Kim Oanh, N.T. (2012). Assessment of biomass open burning emissions in Indonesia and potential climate forcing impact. Atmospheric Environment, 78, 250-258.
8. Kim Oanh, N.T., Phuong, M.T., Permadi, D.A. (2012). Analysis of motorcycle fleet in Hanoi for estimation of air pollution emission and climate mitigation co-benefit of technology implementation, Atmospheric Environment, 59, 438-448.
9. Permadi, D.A., and Kim Oanh, N.T. (2008). Episodic ozone air quality in Jakarta in relation to meteorological conditions. *Atmospheric Environment,* 42, 6806 - 6815.

Book/book chapter:

1. Kim Oanh, N.T., Permadi, D.A., Abdul Salam, P., Ha Chi, N.N., Lieu, P.K. et al., (2019). The benefits of using rice straw-derived solid fuel to reduce open burning emissions in the Mekong Region: Development and Climate Change in the Mekong Region. SUMERNET. Stockholm Environment Institute Asia, Bangkok, Thailand.
2. Yamashita, K., Carmichael, G., Permadi, D.A., Agrawal, M., Steiner, A., et al. (2018). Atmospheric Pollution in the Asia Pacific Science Based Solution: Chapter 1 Status of Air Quality Issues in Asia Pacific, UNEP, Nairobi, Kenya, (contributing author).
3. Tao, H., Mars, K., Li W., Espita, D., Dematera, K., Parnell, N.B., Kim Oanh, N.T., Permadi, D.A., et al. (2018). Atmosheric Pollution in the Asia Pacific Science Based Solution: Chapter 3 Closing the Implementation Gap: Bringing Clean Air to Asia, UNEP, Nairobi, Kenya, (Leading Author).
4. Nguyen Thi Kim Oanh, Didin Agustian Permadi, Nguyen Phan Dong, Dang Anh Nguyet. (2017). Emission of toxic air pollutants and greenhouse gases from crop residue open burning in Southeast Asia, Book chapter, Land Atmospheric Interactions in Asia, Springer, Ed. Krishna Prasad Vadrevu, USA.
5. Nguyen Thi Kim Oanh, Didin Agustian Permadi, Le Hoang Nghiem, Zhang Baoning, Nguyen Lu Phuong, Tran Nguyen Quang Huy, Hoang Anh Le, Dam Duy An, Kok Sothea and Nguyen Anh Tuan. (2014). Chapter 16: Air Quality Modeling and Applications for Air Quality Management in

Southeast Asia; Improving air quality in Asian Developing Countries: Compilation of Research Findings, Narenca pub., Hanoi, Vietnam.

6. Yahui Zhuang, Nguyen Thi Kim Oanh, James Simpas, Ligy Philip, Puji Lestari, Hoang Xuan Co, Achim Maas, Hailin Wang, Wei Zhang, Xiaoke Wang, Genevieve Lorenzo, Melliza Templonuevo Cruz, and Didin Agustian Permadi. (2014). Chapter 19: AIRPET country specific policy recommendations; Improving air quality in Asian Developing Countries: Compilation of Research Findings, Narenca pub., Hanoi, Vietnam.
7. Puji Lestari and Didin Agustian Permadi. (2014). Chapter 5: Air quality management in Bandung City, Indonesia; Improving air quality in Asian Developing Countries: Compilation of Research Findings, Narenca pub., Hanoi, Vietnam.
8. Didin Agustian Permadi, Nguyen Thi Kim Oanh, Thongchai Kanabkaew, and Kok Sothea. (2014). Chapter 15: Emission Inventory for Air Quality Modeling; Improving air quality in Asian Developing Countries: Compilation of Research Findings, Narenca pub., Hanoi, Vietnam.
9. Didin Agustian, P., Murray, F., and Kim Oanh, N.T., (2011). Chapter 6: Regional Scale Modeling for Projection of Ozone Air Quality and Potential Effects on Agricultural Crops in Southeast Asia, Integrated Air Quality Management: Asian Case Studies, Taylor and Francis Group, CRC Press, edited by Prof N.T. Kim Oanh.
10. Kim Oanh, N.T., Didin Agustian P., Phuc, N.H., and Zhuang, Y.H., (2011). Chapter 1: Current Status of Air Quality and Management Practices in Asian Developing Countries, Integrated Air Quality Management: Asian Case Studies, Taylor and Francis Group, CRC Press, edited by Prof N.T. Kim Oanh.
11. Kim Oanh, N.T., Didin Agustian P., Zhang, B.N., Huy, T.N.Q, Phuong, N.L., Thongchai, K., and Asif, I., (2011). Chapter 5: Urban Scale Photochemical Modeling Applications in Asian Cities for assessment of Ozone, Particulate Matter air quality and Acid deposition, Integrated Air Quality Management: Asian Case Studies, Taylor and Francis Group, CRC Press, edited by Prof N.T. Kim Oanh.
12. Kim Oanh, N.T., and Didin Agustian P., (2011). IGAC report on megacities and global changes of air quality and climate: Jakarta. Published by World Metorological Organization (WMO) and International Global Atmospheric Chemistry (IGAC).
13. Shrestha R. M., Kim Oanh N.T., Shrestha R., Rupakheti M., Permadi D.A., Kanabkaew T., Salony R., (2011). Atmospheric Brown Cloud (ABC) Emission Inventory Manual (EIM), United Nation Environmental Programme (UNEP), Nairobi, Kenya. Book can be retrieved from http://www.unep.org/delc/Portals/119/atmospheric/ABC_EIM.pdf.
14. Kim Oanh Nguyen Thi and Didin Agustian Permadi. (2009). Chapter 12: Photochemical smog modeling for ozone air quality management; Modelling of Pollutants in Complex Environmental Systems, Volume I, ILM Publications, a trading division of ILM Holdings, Ltd.

International projects/consultancies:

1. Permadi, D.A. (2019). Integrated Programme on Better Air Quality (IBAQ) Project: Clean Air Action Plan for Bogor City, Indonesia. Clean Air Asia.
2. Permadi, D.A., and Amornpon, C. (2015). Air quality impact assessment using AERMOD and Caline4 models from the new ring road project at Nakhonshithamarat. Report prepared for Environ Consultant, Bangkok.
3. Kim Oanh, N.T., Permadi, D.A., Sothea, K., Van, Huynh. (2015). Atmospheric emission inventory for Phnom Penh, Cambodia. A research project funded by GiZ under the program of "ASEAN – Germany Technical Cooperation: Cleaner Air for Smaller Cities".
4. Permadi, D.A., and Amornpon, C. (2014). Air quality and noise impact assessment using AERMOD and Soundplan model from the red-line train line from Rangsit to Ayuthaya. Report prepared for Environ Consultant, Bangkok.
5. Kim Oanh, N.T., Permadi, D.A., Kingkaew, S., Pongprueksa, P., and Chatchupong, T. (2013). PTT-AIT Final Project Report: Study of ground-level ozone in Bangkok Metropolitan Region by Advance Mathemathical Modeling for Air Quality Management, Funded by PTT co Ltd, Bangkok, Thailand.

6. Permadi, D.A., Amornpon, C., and Nares, N. (2012). Air quality impact assessment using AERMOD model from the mining location in Suvanakhet, Lao PDR. Report prepared for Sepon, Co. Ltd.
7. Kim Oanh Nguyen Thi and Didin Agustian Permadi. (2010). Overview of ground-level ozone pollution in the Greater Mekong Subregion (GMS); Chapter IX in Risks and Adaptation to Climate Change in BCI Pilot Sites in PRC, Thailand and Vietnam; Technical Report, Asian Development Bank (ADB) and Murdoch University, 2010.
8. Kim Oanh Nguyen Thi and Didin Agustian Permadi. (2010). Future ground level ozone pollution and acid deposition in GMS region simulated by CMAQ-MM5 modeling system; Chapter XIII in Risks and Adaptation to Climate Change in BCI Pilot Sites in PRC, Thailand and Vietnam; Technical Report, Asian Development Bank (ADB) and Murdoch University, 2010.
9. Kim Oanh, Didin Agustian and Thongchai, K., (2010). Air quality dispersion modeling to assess impacts of VOC emission in Bangkok Metropolitan Region (BMR), project report prepared for Environmental Research Training Center (ERTC), Thailand.
10. Onchang, R., Kim Oanh, N.T., Thongchai, K, Didin Agustian, P., Enduu, B., (2010). Air Quality and Climate Impacts of Switching to Natural Gas-Fueled Public Transportation Vehicles in Bangkok, Project report prepared for Royal Thai Government (RTG) Joint Research Program, AIT - Silpakorn University.
11. Kim Oanh, N.T., Permadi, D.A., Kanabkaew, T. (2010). Air quality impact assessment of a chemical petroleum industry in Qatar using AERMOD dispersion model, Project Report submitted to Environmental Solution Co. Ltd, Bangkok, Thailand.

International Conferences, Workshops and Technical Meetings :

1. Permadi, D.A., Kim Oanh, N.T., Robert Vautard. (2019). Co-benefits of black carbon emission reduction measures on air quality and climate forcing in Southeast Asia. 4th Atmospheric Composition and the Asian Monsoon (ACAM) workshop 26-28 June 2019, Universiti Kebangsaan Malaysia, Bangi, Selangor, Malaysia.
2. Permadi, D.A. (2019). Particulate matter air quality management in Indonesia. Management of PM2.5 Air Quality for Reducing Health Effect International Workshop. AIT, Thailand.
3. Permadi, D.A., Kim Oanh, N.T. (2019). Evaluation of regional simulation of surface ozone over Southeast Asia using ground-based observation at two existing Global Atmospheric Watch stations. International Conference on Improvement of Environmental Quality 27-29 August 2019, Bogor, Indonesia.
4. Permadi, D.A (2018). GHGs and SLCP Research: Source Characterization, Inventory and Modeling. The International Workshop on Global Atmospheric Watch (GAW) 7-8 August 2018, Jakarta, Indonesia
5. Permadi, D.A., Kim Oanh, N.T. (2018). Implementation of national policy for elimination of kerosene use for cooking in Indonesia: co-benefits analysis. Better Air Quality Conference, Sarawak, Malaysia.
6. Permadi, D.A., Kim Oanh, N.T. (2019). Simulation of Black Carbon and Aerosol Optical Depth over Southeast Asian Region. 28 May 2019. 18nd CTWF International Symposium on Aerosol and Climate Change 15-20 July, Beijing Friendhip Hotel, Beijing, China.
7. Permadi, D.A., Kim Oanh, N.T., et al. (2018). Simulation of $PM_{2.5}$ in Bangkok Metropolitan Region for 2015 using 3D photochemical smog modeling tool. JICA-AIT project dissemination workshop AITCC, 25 Jan 2018.
8. Permadi, D.A. (2018). Important contributing sources to surface ozone pollution in Jakarta quantified using integrated emission inventory and modeling tools. The International Conference on Air Quality, February 27-28, 2018, Aula Barat ITB, Indonesia.
9. Nguyen Thi Kim Oanh, Didin Agustian Permadi, Lai Nguyen Huy, Pongsakorn Chaichai, Shang-Gyoo Shim (2017). Performances of two mesoscale meteorological models of WRF and MM5 in simulation of meteorology over Bangkok Metropolitan Region domain. 3rd ACAM Workshop, Guangzhou, China, June 2017.

10. Didin Agustian Permadi, Kim Oanh, N.T (2016). Photochemical smog modeling for ozone air quality management in Bangkok Metropolitan Region, poster presentation at the 2016 International Global Atmospheric Chemistry (IGAC) group at Breckenridge, USA, 26-29 September 2016.
11. Didin Agustian Permadi, Nguyen Thi Kim Oanh, and Robert Vautard (2016). Invited speaker: Assessment of co-benefits of emission reduction measures in Southeast Asia on air quality improvement and climate forcing mitigation. The 13th Asian Conference on Analytical Sciences (ASIANALYSIS XIII) 8-10 December 2016, Chiangmai, Thailand.
12. Didin Agustian, Kim Oanh and Robert Vautard (2015). Simulation of Black Carbon and Aerosol Optical Depth over Southeast Asia Region: abstract accepted for oral presentation at 2nd Workshop on Atmospheric Composition and The Asian Monsoon (ACAM), 8-10 June 2015, Bangkok, Thailand.
13. Didin Agustian, Kim Oanh and Robert Vautard (2015). Impact of black carbon emission reduction measures on climate forcing mitigation in Southeast Asia: oral presentation made at the Regional Forum on Climate Change (RFCC), Low Carbon and Climate Resilient Societies, Bangkok, 1-3 July 2015.
14. Didin Agustian Permadi, Kim Oanh and Robert Vautard (2015). Co-benefit study of black carbon mitigation measures in Southeast Asia: a modeling approach. Invited speaker at the 2015 Symposium on Pollution Safety and Risk, Suranaree University of Technology (SUT), Nakhonratchasima, Thailand.
15. Didin Agustian, Kim Oanh and Robert Vautard (2014). Spatial and temporal distribution of anthropogenic black carbon direct radiative forcing in Southeast Asia, presented at the Workshop on Atmospheric Chemistry and Climate Change in Asia (WACCCA 2014), Kuala Lumpur, Malaysia, 14-15 July 2014.
16. Kim Oanh, N.T., Dong, N.P., Permadi, D.A. (2014). Development of Emission Inventory for Forest Fires in Southeast Asia (SEA) using Satellite Data and GIS Technique, presented at the 107th Air and Waste Management Association (AWMA) Annual Conference, California, USA, 24-27 June 2014.
17. Chatchupong, T., Kingkaew, S., Permadi, D.A., and Kim Oanh, N.T. (2014). Paper: Ozone Air Quality Management in Bangkok Metropolitan Region, Thailand: PTT Scientifically Perspective Strategies and Plans, presented at the 107th Air and Waste Management Association (AWMA) Annual Conference, California, USA, 24-27 June 2014.
18. Didin Agustian and Kim Oanh (2013). Surface ozone pollution in Jakarta: monitoring data analysis and modeling effort, International Workshop on the Global Atmospheric Watch (GAW) Programme in Tropical Regions, Jakarta-Indonesia.
19. Didin Agustian, Kim Oanh and Robert Vautard (2013). Regional Black Carbon Air Quality and Aerosol Optical Depth over Southeast Asia Simulated using WRF/CHIMERE and AODEM, 2013 T&T International Aerosol Conference (T&T IAC), Bangkok-Thailand.
20. Didin Agustian, Kim Oanh and Robert Vautard (2012). Regional simulation of black carbon particulate matter in Southeast Asia, a poster presented at the 105th Air and Waste Management Association (AWMA) Annual Conference, San Antonio, USA, 19-22 June 2012.
21. Didin Agustian and Kim Oanh (2012). Investigation of efficacy on various BC mitigation measures and associated climatic impacts using WRF/Chimere modeling system, presented at Better Air Quality Workshop, 2012, Hong Kong.
22. Didin Agustian and Kim Oanh (2011). Co-control for Air Quality and Climate Benefit: Opportunities for Asia. Invited speaker (in Environmental Technology and Management Conference 4th ETMC , November 2011, Bandung, Indonesia).
23. Didin Agustian and Kim Oanh, (2010). Atmospheric Brown Cloud Emission Inventory Manual (EIM) Development, Invited speaker at *ASEAN – German Technical Cooperation* Emission Inventory Workshop, *Bangkok, Thailand, February 26-27, 2010.*
24. Didin Agustian and Kim Oanh N.T. (2010). Black Carbon Emission Inventory for Indonesia, presented at Better Air Quality Workshop, 2010, Singapore.
25. Didin Agustian and Kim Oanh N.T., (2009). Overview of Ground Level Ozone Pollution in Great Mekong Sub-region, presented at GMS-CEP Capacity Building: Regional Meeting of Technical Experts , 8-9 September 2009, Bangkok, Thailand.

26. Didin Agustian and Kim Oanh N.T. (2008). Surface Ozone Pollution and CAMx-MM5 Modeling Effort for Jakarta. Presented in International Workshop of Numerical Simulation of Disastrous Phenomena. AIT-Tokyo University, January 2007.
27. Didin Agustian and Kim Oanh N.T. (2008). Development of Emission Inventory for Ozone Air Quality Modelling in Jakarta, Indonesia. Poster presentation in Better Air Quality (BAQ) 2008, Bangkok, Thailand.
28. Didin A. Permadi and Kim Oanh N. T., (2007).”Photochemical Smog Pollution in Jakarta and Management Strategy Development Using CAMx-MM5 Modeling System”. Selected as a winner in Air and Waste Management Association (AWMA) Student Paper Contest, Annual Conference of AWMA, Pittsburg, USA.
29. Didin Agustian Permadi and Kim Oanh N. T. (2007). “Surface Ozone Pollution and Modeling Effort for Ozone Air Quality Management in Jakarta, Indonesia”, Paper presented in International Conference of Air Quality Management in Southeast Asia, 21-23 November 2007, Ho Chi Minh city, Vietnam.
30. Didin A. Permadi and Kim Oanh N. T., (2006). “Status and Trend of Photochemical Smog Pollution in Jakarta and Episode Selection for Modeling Purpose”, Paper presented in International Workshop of Better Air Quality (BAQ) 2006, 13-15 December 2006, Yogyakarta, Indonesia.
31. Permadi D.A and Wangsaatmadja S., (2005).”Environmental Audit of Solid Waste Final Disposal Site in Bogor Municipality”. Paper presented in International Conference of Solid Waste Management in South East Asia Countries Paper Proceeding, CIDA – AIT, Siem Reap, Cambodia.

PROFESSIONAL AFFILIATIONS AND INTERNATIONAL RESEARCH PROJECTS

2018- now Lecturer, Environmental Engineering, National Institute of Technology (ITENAS) Bandung

2015-2017 **Affiliated Faculty and Senior Research Specialist at EEM, FoS, AIT**

Project:

1. AIT-IGES-UNDIP (2016-now). Research cooperation on the development of co-benefit action plan in transportation sector for Semarang, Indonesia. Funded by Ministry of Environment of Japan (MoEJ).
2. AIT-IGES-ITB (2015-2016). Research cooperation on the development of co-benefit action plan in transportation sector for Bandung, Indonesia. Funded by Ministry of Environment of Japan (MoEJ).
3. GIZ (2014-2015). This project focused on development of air pollutants emission inventory for Phnom Penh City, Cambodia. Research partner is Royal University of Phnom Penh (RUPP), Cambodia. This project is funded by GiZ.
4. MPME (2016). Arrangement of multi pollutant multi effects approach in Thailand and Indonesia. Project funded by the the International Business Institute Co., ltd, Japan.
5. Toward an Open ResourcesUsing Services (TORUS) (2016-2018). Erasmus Mundus + capacity building project. Funded by European Union. Task: conduct scalability study of WRF model in Ferrara University cluster and design its application under cloud environment.
6. SEA HAZEMON (2016). Haze monitoring project in the Northern part of Thailand. Funded by French government.
7. Sumernet (2015-2016). The project entitles “Turning rice straw into cooking fuel: A study on air quality and climate co-benefit in selected GMS countries” and was conducted under the SUMERNET Phase 3. Research partners are Royal University of Phnom Penh, Cambodia, Hue University, Vietnam, and King Mongkut’s University of Technology, Thailand. This project is funded by Stockholm Environment Institute (SEI) Asia, Bangkok, Thailand.
8. AIT Green Sustainability (2014-2015). The project entitles “Green Sustainability of Cooking Facility at AIT” that is conducted under the AIT Initiative for Green Sustainability. This project is funded by ADEME, France.
9. AIT-JICA RI (2015-2016). The project title is “A Study on Urban Air Pollution Improvement in Asia” that focuses on long term monitoring of $PM_{2.5}$ concentrations in Bangkok, Thailand and its compositions. Project research

partners are JICA-RI and King Mongkut's Institute of Technology Lad-krabang (KMITL, Thailand). This project is funded by Japan International Cooperation Agency Research Institute (JICA-RI).

10. PEER-NSF (2012-2015). Assessment of impacts of the emission reduction measures of short-lived climate forcers on air quality and climate in Southeast Asia (SLCP-SEA). Two countries, Indonesia and Vietnam, were selected for the emission inventory and pilot scale projects. Research partners: Hanoi University of Science (HUS) and Nonglam University (NLU), Vietnam and Bandung Institute of Technology (ITB), Indonesia, and CU, USA. Sponsored by USAID, USA.

2013-2014 **Senior Research Associate at AIT**

Project:

1. AIT-PTT (2012-2014). Study of Ground-level Ozone in Bangkok Metropolitan Region by Advance Mathematical Modeling for Air Quality Management. Emission reduction scenarios is developed and simulated to identify the most appropriate measures to reduce ozone concentration over the domain. Sponsored by PTT Public Company Limited.
2. AIT-SINTEF (2006-2014). Hazardous Chemical Management (AIT-SINTEF cooperation): This project deals mainly obsolete pesticides and stockpile PCB, dioxin contaminated sites. The project aims at capacity building for the region to handle hazardous chemicals. Donor: NORAD, phase 1 (2006-2008) and phase 2 (2012-2014).

2011(June-Oct) **Visiting researcher at Laboratoire des Sciences du Climat et de l'Environnement (LSCE), Institute Pierre – Simon Laplace (IPSL), Orsay, France**

Project:

AIT/SDCC-France (2010-2013). Assessment of co-benefits on air quality and climate resulted from various control strategies in Southeast Asia. This project focuses on black carbon emission in the base year and different control scenarios. Simulation of the impacts on air quality and climate is done using a regional chemical-climate modeling. PI, in cooperation with Royal University of Phnom Penh, Cambodia, Laboratoire des Sciences du Climat et de l'Environnement, Gif/Yvette, France Institut de Combustion, Aérothermique, Réactivité et Environnement (ICARE), France. Sponsored by SDCC / AIT - France Network.

2007-2008 **Research Associate (RA) at Asian Institute of Technology (AIT)**

Projects:

1. Atmospheric Brown Cloud (ABC) Emission Inventory" project, AIT – UNEP RRCAP. This project aims to develop a manual for atmospheric brown clouds precursors emission inventory and conduct case study of national emission inventory for Thailand and Indonesia. This project is funded by Sida.
2. AIT-SIDA, Asian Air Pollution Research Network Project (Airpet). This project aimed to conduct long-term monitoring of particulate matters and compositions in 6 cities in Asia. This project is funded by Sida.

2003-2005 **Environmental Engineer at Pandu Persada Consulting Engineering, Bandung, Indonesia**

Projects:

Environmental Impact Assessment (EIA) study, Environmental Monitoring, Feasibility study (FS) of centralized waste water treatment plant, Detail Engineering Design of Sewerage System and Waste Water Treatment Plant (WWTP)

AWARDS AND HONOURS

1. Winner of 2007 Air and Waste Management Association (AWMA) West Coast Section student paper competition at master level. Photochemical Smog Modeling Application for Jakarta, Indonesia.
2. Winner of 2012 Air and Waste Management Association (AWMA) West Coast Section student paper competition at doctoral level. Regional simulation of black carbon in Southeast Asia.

PROFESSIONAL TRAININGS

As participant:

1. Receptor modeling and trajectory training by Prof Philip Hopke from Clarkson University (USA), 13-17 February 2007, AIT, Bangkok, Thailand
2. 5th Advanced Research Weather Research Forecast model training, 13-19 April 2011, Busan, Korea
3. 7th Chimere chemistry transport model training, 17-20 July 2011, at the Laboratory of Dynamic Meteorology (LMD) IPSL, Ecole Polytechnique, 91128 Palaiseau, Paris, France.
4. APEC Climate Center (APCC) Climate Prediction Training Program, upcoming 19-24 August 2013, Busan, Korea.
5. Workshop on Wireless Sensor Networks for Air Pollution Monitoring, 15-19 December 2014, intERLab AIT.

As trainer:

1. Trainer at "Male Declaration Training: Training on Integrated Assessment Model and Air Quality Dispersion Model.UNEP.RRCAP". Colombo, Srilanka, May 2012.
2. Trainer at "Training on Air Quality Study for North Korean DPRK Lecturer", Bangkok, Thailand, 8-19 July 2013.
3. Trainer at "Annual Review Workshop and Technical Training of PEER-SEA Co-benefit Network, Thailand, 20-24 May 2013" for:
   - Emission inventory using ABC EIM tool
   - 3D meteorological model and chemistry transport model
   - WRF-Chem application for on-line radiative forcing analysis.
4. Trainer at "Cookstove Emission Testing and Air Pollution for Bhutan", Asian Institute of Technology (AIT), June 2015.
5. Trainer for emission inventory and air quality model for the Yangon City Development Committee (YCDC) staffs, Yangon, 12-13 February 2017.

PROGRAMMING SKILLS AND AIR QUALITY/METEOROLOGY MODELS

Programming:

1. Fortran
2. Linux scripting
3. The netcdf operator (NCO)
4. Climate data operators (CDO)
5. NCAR Command Languange (NCL)

Meteorology models:

1. PCRAMMET
2. CALMET/AIRMET
3. The PSU/NCAR mesoscale model (MM5)
4. The Weather Research Forecast Model (WRF)

Air quality models/chemistry transport models:

1. ISC3 (Industrial Source Complex)
2. AERMOD
3. CALINE4
4. MUAIR
5. Comprehensive Air Quality Models with Extensions (CAMx)
6. Community Multi-scale Air Quality Modeling System (CMAQ)
7. CHIMERE chemistry transport model
8. WRF/Chem

9. Aerosol Optical Depth Module (AODEM)

PROFESSIONAL MEMBERSHIP

1. Member of Indonesian Environmental Engineer Association (IATPI)
2. Member of Air and Waste Management Association (AWMA)
3. Young scientist member of The International Global Atmospheric Chemistry (IGAC) of Asian Working Group
4. Young scientist member of the Asian Network on Climate Science and Technology (ANCST).

JEARK ARMINGOL PRINCIPE

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EDUCATION

GRADUATE:	PhD in Civil Engineering (The University of Tokyo, 2019) Major field of study: Remote Sensing and GIS Thesis: *"Assessment of solar PV power potential over Asia Pacific region with remote sensing and GIS"* (under the Hitachi Global Foundation Scholarship)
	MSc. in Remote Sensing (UP Diliman, 2012) Thesis: *"Exploring Climate Change Effects on Watershed Sediment Yield and Land Cover-Based Mitigation Measures Using SWAT Model, RS and GIS: Case of Cagayan River Basin"* (under the DOST-PCASTRD Scholarship)
TERTIARY:	B.S. in Geodetic Engineering (UP Diliman, 2007)
SECONDARY:	Juan Sumulong High School (Salutatorian, 2002)
PRIMARY:	15th Avenue Elementary School (3rd Honorable Mention, 1998)

TRAININGS

- *Capacity Building Workshop of Satellite Remote Sensing for Southeast Asian Scientists*, organized by the Center for Space and Remote Sensing Research, National Central University (CSRSR, NCU) on September 24 to August 02, 2014, Jhongli, Taiwan.
- *2014 Korea Aerospace Research Institute (KARI) International Space Training Program*, June 23 to July 05, 2014, Daejeon, South Korea.
- *Trainor's Training on Imaging SAR Data, Processing and Applications – A Short Course*, Nov. 25-Dec. 5, 2013, University of the Philippines Diliman, Quezon City.
- *Workshop on Remote Sensing and GIS Technologies for Monitoring Climate and Environment*, 9th ISPRS Student Consortium and WG VI/5 Summer School, Oct. 25-30, 2013, Werdhapura Sanur, Bali, Indonesia
- *Short Course on "Build a Small Radar System"*, June 10-14, 2013, MIT Campus, Cambridge, Massachusetts, USA.
- *Workshop on Advance Remote Sensing for Coastal Zone Monitoring and Disaster Management*, 8th ISPRS Student Consortium and WG VI/5 Summer School, Nov 30-Dec 4, 2012, Burapha University (BUU), Chonburi, Thailand
- *Postgraduate Courses on Building Resilience to Climate Change*, Feb-Mar 2012, UNU-ISP, Tokyo, Japan.
- *JAXA-Sentinel Asia Technical Training on RADAR Interferometry,* Sept. 05-07, 2011, PHIVOLCS Auditorium, Quezon City, Philippines
- *Certificate in Java Programming I and II*, UP ITTC (2008).
- *Certificate in Software Engineering and Information Security*, UP ITTC (2008)

AWARDS AND GRANTS

- *Best Paper,* "Supply and Demand Analysis of Solar PV as Off-Grid Option in the Asia Pacific Region with Remote Sensing and GIS". Presented at the 2019 International Symposium on Remote Sensing in Taipei, Taiwan on April 19, 2019.
- *Best Paper,* "Climate Change Impact Assessment on Soil Loss Rate in a Large River Basin Using SWAT Model, RS and GIS". Presented at the 5th AUN/SEED-Net Regional Conference on Global Environment in Bandung, Indonesia on Nov. 21-22, 2012.
- *Professorial Chair Award (Maynilad),* UP College of Engineering, June 2013-Present.
- *Teaching and Research Grant,* UP College of Engineering, June 2012-Present.
- *Travel Grant,* awarded by the ISPRS Foundation to participate in the 22nd ISPRS Congress on Aug. 25-Sept 01, 2012.
- *Partial Fellowship Grant from UNU-ISP (2012)*
- *Geodetic Engineering Licensure Exam Passer* (2007)
- *College Scholar* (as BS GE student in UP Diliman for SY 2003-2004, 2006-2007)

RESEARCH PROJECTS/EXTENSION WORKS

- **Faculty Affiliate**, *Comprehensive Assessment and Conservation of Blue Carbon Ecosystems and their Services in the Coral Triangle (BlueCARES),* covered by a Record of Discussion (RD) between JICA Philippines Office and the University of the Philippines under the SATREPS program, April 2017-March 2022.
- **Project Support Staff**, "Project 4 (Development of the Philippine Hydrologic Dataset for Watersheds) of the Phil-LiDAR 2 Program (National Detailed Resources Assessment using LiDAR)," Funded by the DOST-PCIEERD. 2014-2015.
- **Remote Sensing Specialist**, "Roadmap for Transport Infrastructure Development for Metro Manila and Its Surrounding Areas (Region III and Region IV-A)," Research Project between UP and SRDP Consulting, Inc., 2013.
- **Faculty Researcher** (Philippine Counterpart), *Integrated Costal Ecosystem Conservation and Adaptive Management (CECAM),* Collaborative Research and Development Project between Tokyo Institute of Technology and the University of the Philippines, 2012.
- **Assistant Project Component Leader** of the Project Component IV of the *Research and Development in Support of the Implementation of PRS 92*, Collaborative R&D Project of UP-TCAGP and NAMRIA, March-September 2008
- **Lecturer** during the *Short Course on Basic Geospatial Technology Tools for Climate and Disaster Risk Assessment*. Conducted through the NEC and UP-TCAGP for the Climate Change Commission and consisted of 3 runs for calendar year 2013.
- **Lecturer** during the *Geomatics Training Course for Agricultural Mapping Using High Resolution Satellite Imagery*. Conducted through the NEC and UP-TCAGP for the Department of Agriculture's personnel and consisted of 5 runs on July-Oct 2012.
- **Lecturer** during the *Trainor's Training on Geographic Information System (GIS) Application for Disaster Risk Reduction (DRR) and Climate Change Adaptation*. Conducted through the NEC and UP-TCAGP for the NEDA's technical personnel and consisted of 5 runs on Feb-May 2010.
- **Project Manager** for the *Topographic Survey of the Proposed Acacia and Centennial Dormitories*. As commissioned by the UP Office of the Campus Architect (OCA) on March 2010.

ACADEMIC POSITION

Assistant Professor, Department of Geodetic Engineering, UP Diliman (June 2012-Present)
Instructor, Department of Geodetic Engineering, UP Diliman (June 2007-May 2012)

ADMINISTRATIVE WORK

Assistant Chairman for Academic Affairs, UP DGE (2020-present)
Head, Graduate Programs and Student Committee (2020-present)
Member, DGE Academic Affairs Committee (2012-2016, 2020-present)
Member, DGE Student Affairs Committee (2012-2016, 2020-present)
Member, Training Course Committee (2020-present)
Head, Training Course Committee (2013-2016)
Chair, Geodetic Engineering Scholarship Committee (2013)
Member, DGE External Affairs Committee (2013)
Member, Geodetic Engineering Scholarship Committee (2012)

RESEARCH PAPERS

Peer-reviewed Journal Publications

Principe, J., Takeuchi, W. (2019). "Supply and Demand Assessment of Solar PV as Off-Grid Option in Asia Pacific Region with Remotely Sensed Data," *Remote Sens. 11*, 2255; https://doi.org/10.3390/rs11192255.

Principe, J., Takeuchi, W. (2019). "Assessment of solar PV power potential over Asia Pacific region with remote sensing considering meteorological factors," *Journal of Renewable and Sustainable Energy 11;* https://doi.org/10.1063/1.5059335.

Principe, J., Blanco, A. (2014). "SWAT Model for Assessment of Climate Change and Land Use/Land Cover Change Impact on Philippine Soil Loss and Exploration of Land Cover-Based Mitigation Measures: Case of Cagayan River Basin," *ASEAN Engineering Journal Part C,* 3(2), ISSN 2286-8150. JICA Project for AUN/SEED-Net.

Conference Papers

Principe, J. A. and Takeuchi, W.: ASSESSMENT OF SOLAR PV POWER POTENTIAL IN THE ASIA PACIFIC REGION WITH REMOTE SENSING CONSIDERING THE EFFECTS OF HIGH TEMPERATURE, DUST AND SNOW, Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci., XLII-4/W19, 339–346, https://doi.org/10.5194/isprs-archives-XLII-4-W19-339-2019, 2019.

Principe, J., Takeuchi, W. (2019). "Supply and Demand Analysis of Solar PV as Off-Grid Option in the Asia Pacific Region with Remote Sensing and GIS". *The 2019 International Symposium on Remote Sensing*. Taipei: CSPRS, KSRS, RSSJ.

Principe, J., Takeuchi, W. (2018). "Dust Analysis and its Effects On Solar PV Power Potential in the Asia Pacific Region Using Modis Time-Series from 2001-2017". *The 39th Asian Conference on Remote Sensing.* Kuala Lumpur: AARS.

Principe, J., Takeuchi, W. (2018). "Assessment of Solar PV Power Potential Over Asia Pacific Region with AHI8". *The 2018 International Symposium on Remote Sensing*. Pyeongchang: CSPRS, KSRS, RSSJ.

Principe, J., Blanco, A. (2015). "SWAT Model, Remote Sensing and GIS for Quantitative Risk Assessment of Rice Yield Reduction Due to Soil Loss," *The International SWAT-Asia Conference IV (SWAT-Asia IV).* Tsukuba: NIAES, JIRCAS & JICA.

Blanco, A., **Principe, J.,** Ignacio, M.E. (2015). "UPTCAGP Training Courses: Supporting Institutions through Geomatics Training," *1st Colleges and Universities Public Service Conference (CUPSCon1)*. Los Banos: University of the Philippines. (*Presentation Only).*

Principe, J. (2014). "Modeling the Effects of Land Use/Land Cover (LULC) Change to River Discharge Using Remote Sensing, GIS and SWAT Model." *The 2014 Professorial Chair Colloquium*. UP Diliman.

Principe, J., Blanco, A., Yamamoto, T., Nadaoka, K. (2013). "Improved Classification of Moderate Resolution Satellite Image Using Band Ratio, NBAI and PC Transform". *The 34rd Asian Conference on Remote Sensing.* Bali: AARS.

Principe, J., & Blanco, A. (2012). "Integrated Use of Remote Sensing, GIS and SWAT Model to Explore Climate Change Effects on River Discharge in the Cagayan River Basin and Land Cover-Based Adaptation Measures". *The 33rd Asian Conference on Remote Sensing.* Pattaya: AARS.

Principe, J., & Blanco, A. (2012). "Climate Change Impact Assessment on Soil Loss Rate in a Large River Basin Using SWAT Model, RS and GIS". *The 5th AUN/SEED-Net Regional Conference on Global Environment.* Bandung: AUN/SEED-Net.

Principe, J. (2012). "Exploring Climate Change Effects on Watershed Sediment Yield and Land Cover-Based Mitigation Measures Using SWAT Model, RS and GIS: Case of Cagayan River Basin, Philippines". *22nd ISPRS Congress* . Melbourne: ISPRS.

Caparas, A., Galeon, F., Cruz, A. M., **Principe, J.**, & Dela Cruz, V. (2009). "Data Build up and Transformation of Cadastral Data from Different Local Plane Coordinate System to PPCS-TM/PRS92". *7th FIG Regional Conference.* Hanoi: FIG.

RESEARCH INTERESTS

- Assessment of solar PV power potential using Remote Sensing and GIS
- Use of Geomatics Engineering to model processes in the natural environment.
- Climate change mitigation, adaptation and impact assessment studies in different strategic sectors.
- Integrated use of Remote Sensing and GIS for watershed modeling and simulation.

CURRICULUM VITAE

Personal Details:

Full Name	:	Indra Noer Hamdhan
Place of Birth	:	Bandung
Date of Birth	:	August 22, 1973
Gender	:	Male
Contact Address	:	Jl. Sari Asih No. 63 Sarijadi Bandung 40151
Telp/HP	:	Home:022-82025256, HP: 08122334533
Email	:	indranh@itenas.ac.id indranh@yahoo.com indranoer.hamdhan@gmail.com
ID Number	:	KTP: 3273012208730001

Health:

Height	:	169 cm
Weight	:	69 kg

Formal Education:

- 2008-2012 *S3* – Doctor Program of Geotechnical Engineering, Graz University of Technology (TU Graz), Austria
- 1997-2000 *S2* – Master Program of Civil Engineering, Bandung Institute of Technology (ITB) specialization in Geotechnical Engineering
- 1991-1996 *S1* – Department of Civil Engineering ITB, Bandung Institute of Technology (ITB) specialization in Geotechnical Engineering
- 1988-1991 Senior High School, SMAN 3 Bandung
- 1985-1988 Junior High School, SMPN 5 Bandung
- 1980-1985 Elementary School, SDN PPSP IKIP Bandung

Certification:

G2 (Ahli Utama) – Himpunan Ahli Teknik Tanah Indonesia (HATTI)

Training/Courses/Seminar:

Name	Place	Year
Course: Computational Geotechnics Course (2D Plaxis Course)	Bali	2019
Konferensi Geoteknik Indonesia ke XI (KOGEI XI) & PIT HATTI XXIII 2019 "Geotechnical Engineering Role in Mega Structure Construction : Welcoming 4.0 Industrial Revolution"	Jakarta	2019
Course: Computational Geotechnics Course (2D Plaxis Course)	Bali	2018
20th South East Asia Geotechnical Conference (SEAGC2018) & PIT HATTI XXII tahun 2018 "Geotechnical Challenge for Mega Infrastructures"	Jakarta	2018
Course: Computational Geotechnics Course (2D Plaxis Course)	Bandung	2017
PIT HATTI XXI tahun 2017 "Geotechnical Challenges in Respondings to Rapid Development of Mega Infrastructure in Indonesia"	Jakarta	2017
PIT HATTI XX tahun 2016 "Geotechnical Role to Accelerate Infrastructure Construction in Indonesia"	Jakarta	2016
Course: Computational Geotechnics Course (2D Plaxis Course)	Bali	2016

Name	Place	Year
PIT HATTI XIX “Geotechnical Role in Mega Structure Construction”	Jakarta	2015
Course: Computational Geotechnics Course (2D Plaxis Course)	Bandung	2015
International Conference: Slope 2015	Bali	2015
PIT HATTI XVIII “Geotechnical Engineering for Future Infrastructure Development in Indonesia”	Jakarta	2014
Course: Computational Geotechnics Course (2D Plaxis Course)	Bali	2014
Course: Computational Geotechnics Course (2D Plaxis Course)	Bandung	2013
Course: Workshop on Slope	Bandung	2012
Computational Geotechnics Course (2D and 3D Plaxis Course)	Bali	2011
Course: International Course on Computational Geotechnics	Bandung	2010
Course : Advanced Geotechnical Laboratory	Newcastle University, UK	2006
Course : Environmental Geotechnical	Bandung	2004
Seminar : Environmental Geotechnical	Bandung	2004
Course: Sea Survival Course by JOTC (Jakarta Offshore Training Center)	Jakarta	2000
Seminar: “Geoteknik di Indonesia Menjelang Milenium ke-3” by Geotechnical ITB	Bandung	1999

Professional Organization Experiences:

Organization	Dates From-To	Position	Responsibilities
HATTI	2004 – present	Member	-

University Activity:

Dates From-To	Position
2016 – 2020	Head of Civil Engineering Department of Itenas
2015 - 2016	Head of Magister Program, Civil Engineering Department of Itenas
2012 - present	Head of Geotechnical Laboratory, Civil Engineering Department of Itenas
2003 - present	Lecturer of Civil Engineering Departement of Itenas
1997-1998	Assistant of Port Engineering Course at ITB
1994-1995	Assistant of Soil Mechanics and Foundation Engineering Course at ITB
1993-1994	Assistant of Soil Mechanics Laboratorium at ITB

Curriculum Vitae

Identitas

1.	Nama lengkap	Dr. Soni Darmawan, ST., MT.
2.	Jenis kelamin	Laki-laki
3.	Jabatan akademik	Lektor
4.	NIP	130201
5.	NIDN	0412017610
6.	Tempat tgl lahir	Bandung, 12 Januari 1976
7.	Alamat email	Soni_darmawan@itenas.ac.id
8.	Tlp	0822 1660 2544
9.	Alamat kantor	Jl. PHH Mustapha 23 Bandung 40123
10.	No tlp fax	022-7272215/7202892
11.	Lulusan yang Telah Dihasilkan	S-1 = ± 15 orang; S-2 = 2 orang; s-3 = -- orang
12	Matakuliah yang diampu	Penginderaan jauh 3 Studio Geospasial
13.	H indeks	4

Riwayat pendidikan

	S-1	S-2	S-3
Nama Universitas	ITB	ITB	ITB
Bidang Ilmu	Teknik Geodesi	Teknik Geodesi	Teknik Geodesi & Geomatika
Tahun Masuk-Lulus	1994-1999	2002-2004	2006-2011
Judul Skripsi/Thesis/ Dissertation	Basis data jaring kerangka dasar nasional	Penentuan nilai komponen hidrologi menggunakan data spasial	Model klasifikasi tutupan lahan berbasis karakteristik spektral dan pohon keputusan menggunakan citra multispektral
Pembimbing	Ir. Deni Suwardhi, MT. Ir. Hadwi Soendjojo	Dr. Ir, Irawan Soemarto, MSc. Dr. Ir. Agung Budi Harto, MEng.	Prof. Dr. Ir. Ishak H. Ismullah, DEA; Prof. Dr. Ir. Ketut Wikantika, MEng. dan Dr. Ir. Agung Budi Harto, MEng.

Pengalaman riset selama 5 tahun

No.	Tahun	Judul Penelitian	Pendanaan	
			Sumber	Jml
1.	2019	Pengembangan implementasi sistem monitoring biomassa hutan mangrove berbasis satelit pengindraan jauh dan pesawat tanpa awak sebagai upaya mitigasi bencana perubahan iklim **(ketua)**	Ristekdikti Skema PTUPT	Rp. 219.007.500
2.	2019	Pengembangan model estimasi biomassa mangrove berbasis teknologi geospasial untuk pemetaan dan manajemen hutan mangrove berkelanjutan sebagai upaya mitigasi perubahan iklim di Indonesia **(ketua)**	Ristekdikti Skema PDUPT	Rp. 98.490.000
3.	2018	Pengembangan Model Klasifikasi Lahan Kelapa Sawit Berbasis Data Penginderaan Jauh Resolusi Menengah Optik dan SAR **(anggota)**	Ristekdikti Insinas	Rp. 220.000.000
4.	2016	Rancang bangun geodatabase dan sistem informasi kebencanaan **(anggota)**	Ristekdikti SkemaPUPT	Rp. 140.000.000
5.	2015	*Efficient oil palm management prototyping using 3D GIS for replanting* **(anggota)**	Dana lain luar negeri	-
7.	2015	*The assessment of Mangrove Forest Carbon Stock Monitoring of Indonesia using Remote Sensing Approach***(anggota)**	Dana lain luar negeri	-

8.	2014	*Monitoring of Agricultural Land Abandonment Using Remote Sensing***(anggota)**	Dana lain luar negeri	-

Pengalaman Pengabdian Kepada Masyarakat dalam 5 Tahun Terakhir

No.	Tahun	Judul Pengabdian Pada Masyarakat	Pendanaan	
			Sumber	Jml
1.	2019	Percepatan Penyediaan Peta Dasar Skala Besar 1:5000 dan 1:1000	Sumber dana lain	-
2	2019	FGD WRI dan LAPAN, Pendekatan Pemetaan Komoditas Perkebunan Strategis dengan Topik "Teknik Pemetaan Komoditi Perkebunan Berbasis Objek dengan Menggunakan Data Resolusi Tinggi"	Sumber dana lain	-
3.	2018	Pelatihan SDM guna percepatan pendaftaran tanah	Sumber dana lain	-
4.	2018	Training Digitasi Dan Interpretasi Dan Survei Kelengkapan Lapangan Kegiatan Pemutakhiran Pada Pusat Rupabumi dan Toponim BIG	Sumber dana lain	-
5.	2018	Pembuatan Atlas Jalur Mudik Pulau Jawa-Bali 2018	Sumber dana lain	-
6.	2017	Pembuatan Peta Mudik Pulau Jawa-Bali 2017	Sumber dana lain	-
7.	2017	Pelatihan aplikasi remote sensing untuk identifikasi umur kelapa sawit	Sumber dana lain	-
8.	2016	Pelatihan guru SMA Geomatika se Bandung Raya	Sumber dana lain	-

Publikasi Artikel Ilmiah Dalam Jurnal dalam 5 Tahun Terakhir

No.	Judul Artikel Ilmiah	Nama Jurnal	Volume/Nomor/ Tahun
1.	Development of aboveground mangrove forests' biomass dataset for Southeast Asia based on ALOS-PALSAR 25-m mosaic	Journal of Applied Remote Sensing	13 (4), 044519 tahun 2019
2.	Kajian Kerentanan Pesisir Terhadap Kenaikan Muka Air Laut di Kabupaten Subang-Jawa Barat	Jurnal Kelautan Nasional	14 (3), 145-154 tahun 2019
3	Comparison of Optic Landsat-8 and SAR Sentinel-1 in Oil Palm Monitoring, Case Study: Asahan, North Sumatera, Indonesia	Earth and Environmental Science	280 (1), 012015 tahun 2019
4.	*Pemanfaatan Unmanned Aerial Vehicle (UAV) Jenis Quadcopter untuk*	*Rekageomatika*	Vol.1 tahun 2018

	Percepatan Pemetaan Bidang Tanah (Studi Kasus: Desa Solokan Jeruk Kabupaten Bandung)		
5.	*Identifikasi Perubahan Garis Pantai dan Ekosistem Pesisir di Kabupaten Subang*	*Rekageomatika*	Vol.2 tahun 2017
6.	*Phenology and classification of abandoned agricultural land based on ALOS-1 and 2 PALSAR multi-temporal measurements.*	*International Journal of Digital Earth*	DOI: 10.1080/17538947.2016 .1216615 Agustus 2016
7.	*An Investigation of Age and Yield of Fresh Fruit Bunches of Oil Palm Based on ALOS PALSAR 2*	*Malaysian Journal of Remote Sensing and GIS*	Vol. 5, Num. 2 Year 2016 ISSN: 1511-7049
8.	*Impact of topography and tidal height on characteristics of ALOS PALSAR measurements to estimate above ground biomass of mangrove forest in Indonesia*	*Journal of Sensor*	Article ID 641798 http://dx.doi.org/10.115 5/2015/641798
9.	*Increasing accuracy value in the estimates of carbon stock by using vegetation index from alos avnir 2 satellite imagery*	*Journal of Geomatic and planning*	Vol 3, No 1, 2016, 1-14
10.	*Characterization of mangrove forest types based on ALOS-PALSAR in overall Indonesian archipelago*	*Earth and Environmental Science*	Vol. 20 (2014) 012051
11.	*Seasonal analysis of precipitation, drought and vegetation index in Indonesian paddy field based on remote sensing data*	*Earth and Environmental Science*	Vol. 20 (2014) 012049
12.	*Indonesian drought monitoring from space. A report of SAFE activity: Assessment of drought impact on rice production in Indonesia by satellite remote sensing and dissemination with web-GIS*	*Malaysian Journal of Remote Sensing and GIS*	Vol. 3, Num. 2 Year 2014 ISSN: 1511-7049

Pemakalah Seminar Ilmiah (*Oral Presentation*) dalam 5 Tahun Terakhir

No.	Nama Pertemuan Ilmiah/Seminar	Judul Artikel Ilmiah	Waktu dan Tempat
1.	*The Fifth International Conferences of Indonesian Society for Remote Sensing (ICOIRS)*	*Geodatabase Masterplan of Mangrove Forests in Indonesia Based on the Indonesian Geographical Element Catalog*	17-20 September 2019, Bandung, Indonesia
2.	*International Conference on Green Technology and Design*	*Accuracy Analysis of Aerial Photography Using PhotoModeler UAS and Agisoft*	4-5 Desember 2019, Bandung, Indonesia

3.	*International Conference on Green Technology and Design*	*Estimation of Mangrove Biomass Parameters Using Aerial Photography*	4-5 Desember 2019, Bandung, Indonesia
4.	*Asian conference of Remote sensing*	*Development of homecoming map in Indonesia*	15-19 Oct. 2018 Kualalumpur Malaysia
5.	*Asian conference of Remote sensing*	*State of the art remote sensing for oil palm management*	15-19 Oct. 2018 Kualalumpur Malaysia
6.	*Institute of Industrial Forum University of Tokyo*	*Spatial distribution of aboveground biomass of mangrove forest types in over Southeast Asia based on ALOS-PALSAR mosaic 25m*	Tokyo, 2-3 Maret 2017
7.	Seminar nasional Itenas	Identifikasi Fase Pertumbuhan Tanaman Tebu Menggunakan Pesawat UAV-Remote Sensing	Bandung, 1-2 Desember 2016
8.	*Asian conference on remote sensing (ACRS)*	*Characterization of mangrove forest types based on ALOS-PALSAR mosaic for estimating above ground biomass in Southeast Asia*	Manila, Philippine, Oct. 19-23, 2015
9.	*Asian conference on remote sensing (ACRS)*	*Near-real time meteorological drought monitoring and early warning system for croplands in Asia*	Manila, Philippine, Oct. 19-23, 2015
10.	*International Symposium on Remote Sensing (ISRS)*	*Investigation of scattering mechanisms on agricultural land abandonment based on decomposition of ALOS PALSAR data*	Tainan, Taiwan, April 22, 2015
11.	*American geophysical union fall meeting (AGU)*	*Drought monitoring and warning system of rice paddy field in Asia by MTSAT and GSMaP*	San Francisco, USA. Dec. 18, 2014
12.	*International conference of land reclamation.*	*Remote Sensing Technology on L-band for Monitoring and Estimating Biomass of Mangrove Forest in Banyuasin South Sumatera Indonesia*	6-7 November 2014 Universitas Jambi, Indoensia.
13.	*ICSANE (International Conference on Space, Aeronautical and Navigational Electronics)*	*Impact of topography and tidal height on ALOS PALSAR polarimetric measurements to estimate above ground biomass of mangrove forest in Indonesia*	22-24 Oktober 2014, Melaka Malaysia.
14.	*Asian conference on remote sensing (ACRS)*	*Impact of tidal height on characteristics of ALOS PALSAR measurements to estimate above*	Nay Phi Taw, Myanmar, Oct. 27, 2014

		ground biomass of mangrove forest in Indonesia	
15.	*Asian conference on remote sensing (ACRS)*	*Assessment of fire vulnerability through human activity by using road distribution in peat land of Indonesia*	Nay Phi Taw, Myanmar, Oct. 27, 2014
16.	*International Federation of Surveyor (FIG*	*Estimation of Wetland in Indonesia with multitemporal satellite Imagery Extraction Model-Based Neural Network (NN), Genetic Algorithm (GA) and Fuzzy Logic*	Kuala Lumpur, Malaysia, 16 – 21 June 2014
17.	*ISRS (International symposium on remote sensing)*	*Mapping of mangrove forest on overall Indonesian archipelago by alos-palsar mosaic and elevation data*	16 - 18 April *2014.* Busan, Korea.
18.	*ISRS (International symposium on remote sensing)*	*Investigation of relationships among precipitations, drought and vegetation index in indonesian paddy field based on remote sensing data*	16 - 18 April *2014.* Busan, Korea.
19.	*Institution of Geospatial and Remote Sensing Malaysia*	*Characterization of mangrove forest types based on ALOS-PALSAR in overall Indonesian archipelago*	21 - 22 April *2014.* Kualalumpur Malaysia.
20.	*Institution of Geospatial and Remote Sensing Malaysia*	*Seasonal analysis of precipitation, drought and vegetation index in Indonesian paddy field based on remote sensing data*	21 - 22 April *2014.* Kualalumpur Malaysia.
21.	*ACRS (Asian Conference on Remote Sensing)*	*Object based approaches for identification of land use/land cover changes using multitemporal Landsat imagery in Bandung, West Java, Indonesia*	20-24 Oktober 2013, Bali Indonesia.
22.	*ACRS (Asian Conference on Remote Sensing)*	*Estimation of rice production and forecasting of agricultural drought in Indonesia based on modis data (case study in Indonesia)*	20-24 Oktober 2013, Bali Indonesia.
23.	*ACRS (Asian Conference on Remote Sensing)*	*Capacity building - The case study from experiences of SAFE Initiatives on the Lao PDR and Vietnam*	20-24 Oktober 2013, Bali Indonesia.

Karya Buku dalam 5 Tahun Terakhir

No.	Judul Buku	Tahun	Jml Hal	Penerbit
1	Aplikasi remote sensing untuk identifikasi mangrove (buku chapter)	2015	15	LAPAN

Penghargaan dalam 10 tahun Terakhir (dari pemerintah, asosiasi atau institusi lainnya)

No.	Jenis Penghargaan	Institusi Pemberi Penghargaan	Tahun
1	*Postdoctoral on Space Application For Environmental (SAFE).*	*Tokyo University*	2013
2	*Instructure on GIS technology for sustainable management of natural resources and agricultural production*	*International Coorperation Center for Agricultural Education (ICCAE), Nagoya University*	2008
3	*Researcher on development of a spatiotemporal agricultural land use monitoring systems in Southeast Asia using remote sensing and GIS technology*	*Japan International Research Centre for Agricultural Sciences (JIRCAS), Tsukuba – Japan*	2007

Demikian biodata ini saya buat dengan sebenarnya untuk digunakan sebagaimana mestinya.

Bandung, Februari 2020

(Dr. Soni Darmawan S.T., M.T.)

Prakhar Misra

Researcher,
Research Institute of Humanity and Nature

457-4, Kamigamo Motoyama,
Kita-ku, Kyoto 603-8047, Japan
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mprakhar@chikyu.ac.jp
https://mprakhar.github.io/

Keywords: Remote sensing applications, Land-use change, Urbanization and emission inventory, Biomass burning, Urban air pollution, Social sensing, Low-cost portable sensors, Deep learning, Google Earth Engine, Open data

Experience

2020/3 - present **Research Institute of Humanity and Nature**, *Researcher*.
Interdisciplinary study towards clean air, public health and sustainable agriculutre: case of crop residue burning in India

2019/10 - 2020/3 **Institute of Industrial Science, The University of Tokyo**, *Project Assistant Professor*.

2018/08 - 2019/10 **Institute of Industrial Science, The University of Tokyo**, *Project Researcher*.
Researching agromet cross comparison and validation for rice crop outlook in Thailand

2015/10 - 2016/12 **Sony Computer Science Laboratories**, Tokyo, Japan, *Research Assistant*.
Analyzed energy exchange efficiency in *'Open Energy System'* for decentralized PV grid

2013/09 - 2015/02 **Inductis**, New Delhi, India, *Consultant*.
Predictive modelling of unsecuritized credit risk using financial Big Data for Barclays Bank. Awarded 'Best Team'and 'Star Performer'

2011/05 - 2011/06 **Bharat Petroleum Corporation Limited**, Mumbai, India, *Technical Assistant*.
Performed energy audit and feasibility study for solar-wind powered renewable energy plant

Education

2015–2018 **PhD in Civil Engineering (Remote Sensing), The University of Tokyo, Japan**,
Title: Analyzing Impact of Socio-economic Growth and Land-use Change on Urban Air quality in India, GPA 3.7/4. Advisor: Dr. Wataru Takeuchi.

2008–2013 **B.Tech.-M.Tech (Dual degree) in Civil Engineering, Indian Institute of Technology, Kanpur (IIT Kanpur), India**,
Title: Multi-resolution Segmentation Based Classification of Polarimetric SAR Imagery,
MTech CPI 8.8/10, BTech CPI 6.7/10. Advisor: Dr. Onkar Dikshit.

Peer-reviewed publications

- Rahman M., Avtar R., Yunus A.P., Dou J., Misra P., Takeuchi W., ... & Kharrazi A.Misra P, Takeuchi W; Assessing Population Sensitivity to Urban Air Pollution Using Google Trends and Remote Sensing Datasets. *Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci.*, XLII-3/W11, 2020.
- Misra P., Takeuchi W.; Assessing Population Sensitivity to Urban Air Pollution Using Google Trends and Remote Sensing Datasets. *Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci.*, XLII-3/W11, 2020.
- Misra P., Imasu R., Takeuchi W.; Impact of Urban Growth on Air Quality in Indian Cities Using Hierarchical Bayesian Approach. *Atmosphere*, Vol 10(9), 2019.
- Minh H.V.T., Avtar R., Mohan G., Misra P, Kurasaki M.; Monitoring and Mapping of Rice Cropping Pattern in Flooding Area in the Vietnamese Mekong Delta Using Sentinel-1A Data: A Case of An Giang Province. *ISPRS International Journal of Geo-Information*, Vol 8(5), 2019.
- Misra P., Avtar R., Takeuchi W.; Comparison of digital building height models extracted from AW3D, TanDEM-X, ASTER and SRTM digital surface model over Yangon city. *Remote Sensing*, Vol 10(12), 2018.
- Misra P., Fujikawa A., Takeuchi W.; Novel Decomposition Scheme for Characterizing Urban Air Quality with MODIS. *Remote Sensing*, Vol 9(8), 2017.
- Misra P., Takeuchi W.; Air Quality Analysis Using Nighttime Light for Indian Urban Regions. *Malaysian Journal*

of Remote Sensing and GIS, Vol 5(2), 2016.

Conference publications

- Misra P., Takeuchi W., Imasu R.; Brick Kiln Detection in North India with Sentinel imagery using Deep Learning of Small Datasets. *40th Asian Conference of Remote Sensing*, Daejeon, South Korea, 2019.
- Misra P., Takeuchi W.; Assessing population sensitivity to urban air pollution using Google Trends and remote sensing datasets. *40th Pecora21/ISRSE38*, Baltimore, Maryland, USA, 2019.
- Sovisoth E., Thakur V.B., Nagai K., Misra P., Takeuchi W.; Estimation of the bridge construction year in Cambodia by the analysis of LANDSAT satellite data. *3rd ACF Symposium*, Sapporo, Japan, 2019.
- Misra P., Takeuchi W.; Use of Google Trends for Assessing Sensitivity of Population to Urban Air Pollution. *26th International Symposium on Remote Sensing*, Taipei, Taiwan, 2019.
- Arbain A., Imasu R., Misra P., Takeuchi W.; Estimating $PM_{2.5}$ Emission from Brick Kiln Industry over Northern India with Numerical Model and Remote Sensing Observation. *EGU General Assembly*, Vienna, Austria, 2019.
- Misra P., Takeuchi W.; Analyzing perception of urban air pollution using Google Trends and satellite datasets. *27th Institute of Industrial Science Forum Proceedings*, Tokyo, Japan, 2019.
- Misra P., Takeuchi W.; A Novel Technique For Estimating Expansion Of Residential, Commercial And Industrial Regions In Indian Megacities. *17th International Symposium on Urban Safety Of Mega Cities In Asia*, Hyderabad, India, 2018.
- Misra P., Imasu R., Takeuchi W.; Land-use Change Impacts on Urban Air Quality in India using Hierarchical Bayesian Approach. *39th Asian Conference of Remote Sensing*, Kuala Lumpur, Malaysia, 2018. **Best Paper Award Finalist**
- Ochi S., Misra P., Takeuchi W.; Spatiotemporal Distribution Of Hotspot / Wildfire In Southeast Asia Using Remote Sensing Data. *39th Asian Conference of Remote Sensing*, Kuala Lumpur, Malaysia, 2018.
- Misra P., Takeuchi W.; Hierarchical Bayesian approach to estimate land-use change impacts on urban air pollution in India. *26th Institute of Industrial Science Forum Proceedings*, Tokyo, Japan, 2018. **Best student Award**.
- Misra P., Takeuchi W.; Digital Surface Model (DSM) datasets for built-height estimation over Indian cities. *24th International Symposium on Remote Sensing*, Nagoya, Japan, 2017.
- Misra P., Takeuchi W.; Comparison of ASTER and AW3D derived Digital Surface Model datasets for built structure height estimation over Yangon city, Myanmar. *25th Institute of Industrial Science Forum Proceedings*, Tokyo, Japan, 2017.
- Misra P., Takeuchi W.; Assessing Impact of Economic Activities on Urban Air Quality in India by Nightlight and Atmospheric Measurement Datasets. *37th Asian Conference of Remote Sensing*, Colombo, Sri Lanka, 2016.
- Misra P., Takeuchi W.; Air Quality Analysis Using Nighttime Light for Indian Urban Regions. *8th IGRSM International Conference and Exhibition on Geospatial & Remote Sensing* , Kuala Lumpur, Malaysia, 2016.
- Misra P., Takeuchi W.; Analysis Of Air Quality In Indian Cities Using Remote Sensing And Economic Growth Parameters. *36th Asian Conference on Remote Sensing*, Manila, Philippines, 2015.

Report

- Misra P.; Clean Air and Imagined Sustainability: The case of India. *Aakash Newsletter*, Vol. 1(1) 2020.
- Misra P., Sharma R.; India's GAGAN (GPS-aided GEO augmented navigation) adds a new dimension to navigation. *GIM International*, Vol. 27(2) 2013.

Presentation and seminars

- Misra P, Takeuchi W.; Public interest in air quality and its impact varies with baseline exposure: Google Trends and Remote Sensing based analysis *22nd CEReS Symposium on Environment Remote Sensing, Chiba University*, Chiba, Japan. (2020/02/20)
- Misra P; Remote Sensing for Urban Studies Mapping Land-use for Emission Inventories in Developing Countries (invited) *Young Sustainability Symposium, Hokkaido University*, Sapporo, Japan. (2020/02/03)
- Misra P, Takeuchi W; Mapping Drivers of Urban Air-pollution in Indian Cities using Remote Sensing (invited) *Sakura Science Exchange Program, Shibaura Institute of Technology*, Tokyo, Japan. (2019/11/20)
- Misra P, Takeuchi W; Monitoring Land-use Drivers of Urban Air Pollution and its Response using Remote Sensing and Social Sensing *Data-based Society Creation Symposium 2019*, Tokyo, Japan. (2019/09/01)

- Misra P, Takeuchi W; Brick kiln detection around New Delhi using Sentinel 2 with Deep Learning: Distribution and Drivers *NASA LCLUC SARI International Regional Science Meeting*, Johor Bahru, Malaysia. (2019/07/24)
- Misra P, Takeuchi W; Comparison of Remote Sensing derived KBDI with in-site Soil-moisture in Thailand. *JAXA-GISTDA mini workshop on drought monitoring*, Bangkok, Thailand. (2019/05/17)
- Misra P; Observations from Mapping PM2.5 in Indian Cities using Low-cost sensor. *1st IITK-UTokyo Workshop on PM2.5 Mapping using Low-cost Sensors*, Kanpur, India. (2019/02/06)
- Misra P, Takeuchi W; Role of satellite for monitoring urban air quality. *1st IITK-UTokyo Workshop on PM2.5 Mapping using Low-cost Sensors*, Kanpur, India. (2019/02/07)
- Misra P; GEE as educational tool in Civil Engineering. *Google Earth Engine Year-end Meetup in Tokyo*, Tokyo, Japan. (2018/12/26)
- Misra P, Takeuchi W; Impact assessment of socio economic development on urban air quality in Indian megacities *NASA LCLUC SARI International Regional Science Meeting*, Chiang Mai,Thailand. (2017/07/17)

Workshops and training organized

2019 **NASA SARI Remote Sensing Land Use change and Climate Impacts in Coastal Zone Regional Science Training, Phuket, Thailand** Blue Carbon Mapping and Coastal Zone studies using GEE (12/17)

2019 **5th International Conferences of Indonesian Society for Remote Sensing (ICOIRS), Bandung, Indonesia** Cloud based satellite image processing: Introduction to GEE (09/17)

2019 **Suranaree University of Technology, Nakhon Ratchaseema, Thailand** Air quality monitoring and mapping with portable devices (05/15)

2019 **4th Open Science Meeting, Global Land Program, Bern, Switzerland** Hands-on-training session on evaluating three-dimensional urban expansion in mega cities in Asia (04/27)

2019 **26th International Symposium on Remote Sensing - ISPRS TC-W/8 Tutorial, Taipei, Taiwan** Remote Sensing Applications using Google Earth Engine (04/18)

2019 **1st IITK-UTokyo Workshop on PM$_{2.5}$ Mapping using Low-cost Sensors, IIT Kanpur, India** Citizen science workshop for mapping geolocated individual exposure to PM 2.5 using low-cost devices. (02/05–02/07)

2019 **27th IIS Forum, The University of Tokyo, Tokyo, Japan** Classifying Landsat8 imagery using Google Earth Engine (03/07–03/08)

2018 **Indian Institute of Technology-BHU, Varanasi, India** Classifying Landsat8 imagery using Google Earth Engine and demonstration of portable PM$_{2.5}$ sensors (06/04)

2018 **26th IIS Forum, The University of Tokyo, Tokyo, Japan** Google Earth Engine for Landsat imagery classification (03/07–03/08)

Teaching

(*team-teaching, $^{+}$teaching-assistant)

2019, '18, '17 **Remote sensing (3713-089)***, *The University of Tokyo*.

2019/01 **Satellite Image Processing for Remote Sensing Applications***, *Seoul National University*.

2013/01 **Precision Remote Sensing (CE676)**$^{+}$, *IIT Kanpur*.

2012/08 **Environmental Quality and Pollution (CE361)**$^{+}$, *IIT Kanpur*.

Fellowship and grants

2020 Asia Pacific Grant for Young Researcher, Finalist

2019 Tateishi Science and Technology Foundation, JPY 397,000

2019 International research meeting dispatch grant (IIS), JPY 365,000; (Declined)

2015 Japanese Government (MEXT) Scholarship; tuition and stipend

2009 Incentive Scheme for Meritorious Children by State Bank of India; stipend

2006 National Talent Search (NTSE) Scholarship by Government of India; stipend

Technical skills

Programming	Python, R, JS, C, SQL, VBA, SAS
Tools	Google Earth Engine, QGIS, SNAP, ArcGIS, ENVI, TerraScan, GDAL

Professional service

Reviewer	MDPI Remote Sensing; MDPI Atmosphere; T&FInternational Journal of Remote Sensing, Elsevier Resources Conservation and Recycling; Springer Sustainability Science

Social service

2016-'17	Vice-president, University of Tokyo Indian Students' Association
2016/07	Global Health Entrepreneurship Program for improving health in Onagawa, Miyagi
2015/05	Student volunteer, Empowerment Program Ibaraki High School, Mito City
2014–'15	SPOC, NGO for underprivileged Udayan Care, Gurgaon, India
2009-'10	Student guide, Institute Counselling Service, IIT Kanpur

References

Prof. Wataru TAKEUCHI
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The University of Tokyo
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Prof. Onkar DIKSHIT
Department of Civil Engineering
Indian Institute of Technology Kanpur
Kanpur, India
email: onkar@iitk.ac.in

Assoc. Prof. Ram AVTAR
Faculty of Environmental Earth Science
Hokkaido University
Sapporo, Japan
email: ram@ees.hokudai.ac.jp

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Lecturer (Geoinformatics)
School of Geoinformatics, Institute of Science, Suranaree U
Technology
Address: 111, Maha Witthayalai Road, Suranari, Mueang, Nakhon Ratchasima 30000
Tel: +66-4422-4594 (Office)
Tel: +66-9-5257-6995 (Mobile)
E-mail: tanakorn.s@sut.ac.th

EXPERIENCE:

Lecturer (Geoinformatics) **2018-Present**
Suranaree University of Technology

• Teach modern Geoinformatics (Remote sensing, GIS, GNSS) for Master and PhD courses;

- Machine learning
- Neural network and deep learning
- Computer programming
- Web mapping
- Geospatial database management
- Field surveying

• develop desktop and web applications based on image processing, machine learning, deep learning;

- Human harm detections using Video from UAV
- Land cover classification for economic crops using LANDSAT8
- Inspected objects using high resolution image from UAV

- Fingerprint characteristic classification
- Voice quality assessment

Researcher (Remote sensing and Image processing)

2011 - 2014

Geo-Informatics and Space Technology Development Agency (GISTDA)

• Analyzed large remote sensing and image data for urban expansion monitoring, crop monitoring, drought detection, cloud detection etc. by using Machine learning tools.

• Implemented image processing algorithms which are used in fundamental image processing tools and image fusion for THEOS satellite

• Collaborated with the business and academic organizations to find the problem, gather the several data and explore the solution

• Organized and conducted training for operational staffs on programming applications for Remote sensing and Geographic Information Systems

Software developer

2009 - 2011

The center for promoting research and development of satellite image applications in agriculture

Kasetsart University

• Developed image processing software for remote sensing applications; image fusion for SMMS and fundamental image processing tools as ENVI software

SKILL:

Background: Machine learning, Programming, Remote sensing, Image processing, GIS

Algorithm: Machine Learning, Statistical modeling, Predictive Modeling, Classification, Feature Extraction, Data Analysis, Spatial information analysis, Geospatial database

Programming: Python, C, C++, MATLAB, IDL, SQL, FLASK, HTML, CSS

Library programming: Tensorflow, Keras, Skit-Learn, GDAL, OpenCV
Software: ENVI, ArcGIS, QGIS, Geomatica, ERDAS, Ecognition, PhotoScan
Language: Thai (Native), English (Fluent), Japanese (Basic)

EDUCATION:

Doctor of Philosophy in Civil Engineering (Ph.D.)
The University of Tokyo
2014 - 2017
Faculty of Engineering
GPA: 3.93

Master of Engineering in Electrical Engineering (M.E.)
Kasetsart University
2008 - 2011
Faculty of Engineering
GPA: 4.00

Bachelor of Engineering in Electrical Engineering (B.E.)
Kasetsart University
2004 - 2008
Faculty of Engineering
GPA: 3.10

Academic Activities:

- Assistant Editor of REMOTE SENSING AND GIS ASSOCIATION OF THAILAND (RESGAT) (2019-present)
- Committee member of Lower North East region GISTDA Center (2019-present)
- Guest lecturer at Sirindhorn Center for Geo-Informatics (SCGI) (2019-present)
- Guest lecturer at Computer Science Olympiad (2020)
- Guest lecturer at Aero engineering, Biology at SUT (2019-present)
- Ph.D. student with MEXT Scholarship of the Japanese Government (Monbukagakusho) (2014-2017)

JOURNAL PUBLICATION

Sritarapipat, T., Takeuchi, W., 2018. Land Cover Change Simulations in Yangon Under Several Scenarios of Flood and Earthquake Vulnerabilities with Master Plan. Journal of Disaster Research, Vol.13 (1), pp. 50-61

Sritarapipat, T., Takeuchi, W., 2017. Urban growth modeling based on the multi-centers of the urban areas and land cover change in Yangon, Myanmar. Journal of Remote Sensing Society of Japan, Vol. 37 (3), pp. 248-260.

Sritarapipat, T., Takeuchi, W., 2017. Building classification in Yangon City, Myanmar using Stereo GeoEye images, Landsat image and night-time light data. Remote Sensing Applications: Society and Environment, Vol. 6, pp. 46-51.

Sritarapipat, T., Rakwatin, P., Kasetkasem, T., 2014. Automatic rice crop height measurement using a field server and digital image processing, Sensors, Vol. 14 (1), pp. 900-926.

Sritarapipat, T., Kasetkasem, T., Rakwatin, P., 2014. Fusion and registration of THEOS multispectral and panchromatic images, International Journal of Remote Sensing, Vol. 35 (13), pp. 5120-5147.

CONFERENCE PUBLICATION

Sritarapipat, T., Lawawirojwong, S., Srestasathiern, P., 2019. Land cover classification for economic crops in Thailand using convolutional neuron networks. Asian conference on remote sensing (ACRS) 2019, Daejeon, Korea, Oct.

Saputra, N. D., Sritarapipat, T., Dasananda, S., 2019. Classification of Economic Characteristics based on Klassen Typology using Multilayer Perceptron Neural Network. Asian conference on remote sensing (ACRS) 2019, Daejeon, Korea, Oct.

Saputra, N. D., Sritarapipat, T., 2019. The Peri-urbanization Process of A Secondary City using Spatial Metrics: The case of Surakarta, Indonesia. International Symposium on Remote Sensing (ISRS) 2019, Taipei, Taiwan, April.

Panuruk, K., Sritarapipat, T., Plaiklang, S., 2018. The Development of Best Practice for Surveillance Prevention and Control for rabies in Thapra Subdistrict, Mueang Khon Kaen. The First International

Conference on Healthcare, Science and Technology (ICHST) 2018 Nakhonrachasima, Thailand, Dec.

Sritarapipat, T., Lawawirojwong, S., Srestasathiern, P., 2018. Comparison of land cover classification methods for economic crops in Thailand. Asian conference on remote sensing (ACRS) 2018, Kuala Lumpur, Malaysia, Oct.

Sritarapipat, T., Takeuchi, W., 2017. Estimation of land price in Yangon, Myanmar based on the empirical model using remotely sensed data. International Symposium on Remote Sensing (ISRS) 2017, Nagoya, Japan, May

Sritarapipat, T., Takeuchi, W., 2016. Urban growth modeling based on multi-centers of the urban areas and land cover change in Yangon City, Myanmar. The 60th Spring Conference of the Remote Sensing Society of Japan. Chiba, Japan, May

Sritarapipat, T., Takeuchi, W., 2016. Modeling Urban Expansion With Regard To Disaster Vulnerability In Yangon. Asian conference on remote sensing (ACRS) 2016, Colombo, Sri Lanka, Oct.

Sritarapipat, T., Takeuchi, W., 2016. Modeling Urban Expansion in Yangon, Myanmar Using Landsat Time-Series and Stereo Geoeye Images. International Conference and Exhibition on Geospetial & RemoteSensing (IGRSM) 2016, Kuala Lumpur, Malaysia, April

Sritarapipat, T., Takeuchi, W., 2015. Estimating Land Value and Disaster Risk in Urban Area in Yangon, Myanmar using Stereo High-resolution

Images and Multi-temporal Landsat Images. Asian conference on remote sensing (ACRS) 2016, Manila, Philippines, October

Sritarapipat, T., Takeuchi, W., 2015. Building Classification in Urban Area in Yangon, Myanmar using Stereo High Resolution Images and Night Time Light Data. The joint student seminar in Civil Engineering, Bangkok, Thailand, August

Sritarapipat, T., Takeuchi, W., 2015. Assessment of disaster risk and land value in Yangon, Myanmar. International Symposium on Remote Sensing (ISRS) 2015, Tainan, Taiwan, April

Sritarapipat, T., Rakwatin, P., Pechprasarn, T., 2014. Assessment of Cloud Area using Field Server and Image Processing. Asian Conference on Remote Sensing (ACRS) 2014, Nay Pyi Taw, Myanmar, October

Sritarapipat, T., Rakwatin, P., Kasetkasem, T., Hewson, A., 2013. Urban Expansion Monitoring using MODIS NDVI Time-series. Asian Conference on Remote Sensing (ACRS) 2013, Bali, Indonesia, October

Sritarapipat, T.; Rakwatin, P., 2012. Rice Crop Height Monitoring using Field server and Digital Image Analysis. Asian Conference on Remote Sensing (ACRS) 2012, Pattaya, Thailand, November

Rakwatin, P., Prakobya, A., Sritarapipat, T., Khobkhun, B., Pannangpetch, K. Sobue, S., Oyoshi, K., Okumura, T., Tomiyama, N., 2012. Rice crop monitoring in Thailand using field server and satellite remote sensing. 33rd Asian Conference on Remote Sensing (ACRS) 2012, Pattaya, Thailand, November

Sritarapipat, T.; Kasetkasem, T., 2011. Fusion of Hyperspectral and Multispectral Images using MAP Estimator and Huber-MRF. International Conference on Information and Communication Technology for Embedded Systems (ICICTES) 2011, Pattaya, Thailand, January

Rungruangbangchan, N.; Sritarapipat, T.; Sreecholpech, C.; Jirachaweng, S.; Thainimit, S. 2009. Iris Texture Segmentation using Neural Network. The 12th National Graduate Research Conference, Khon Kaen, Thailand, February

REFERENCES TO CONTACT:

Dr. Wataru Takeuchi, Professor
Institute of Industrial Science, The University of Tokyo
Tel: +81-3-5452-6409 Fax: +81-3-5452-6410
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Dr. Teerasit Kasetkasem, Assistant Professor
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Tel: +66-2-797-0999 ext 1536 Fax: +66-2-579-4940
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Digital Economy Promotion Agency
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[5. Jun. 2020]

HAEMI PARK

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Email : park.haemi@jaxa.jp
ORCID iD: https://orcid.org/0000-0002-4289-0713

Appointments

2020 – present	Researcher in EORC of JAXA
2019 – 2020	Postdoc in Institute of Industrial Science (The University of Tokyo)
2019 – 2019	Guest Editor, *Remote Sensing*, Special issue "*Remote Sensing for Environment and Disaster*"
2017 – 2019	Guest Editor, *Remote Sensing, Special issue "Advances in remote sensing-based Disaster Monitoring"*
2015 – 2018	Postdoc in Ulsan National Institute of Science and Technology (UNIST), *Republic of Korea*
2013 – 2014	Research Assistant at the Department of Civil Engineering in the University of Tokyo(UT), *Japan*
2012 – 2014	Teaching Assistant for "Remote sensing" class in UT, *Japan*

Education

Ph.D. of Engineering (Civil Engineering) – The University of Tokyo, Japan
Institute of Industrial Science (IIS)
Department of Civil Engineering, School of Engineering
March 2015

Master of Science (Earth Science) – Chiba University, Japan
Japan government supported Master Student
Center for Environmental Remote Sensing (CEReS)
Department of Earth Science, School of Science
March 2012

Bachelor of Science (Earth Science) – Chiba University, Japan
Center for Environmental Remote Sensing (CEReS)
Department of Earth Science, School of Science
March 2010

Research interests

- Remote sensing of environment
- Climate change effects
- Anthropogenic disturbances
- Satellite-based modeling for carbon, water, and heat fluxes
- Machine learning

Publications (The first authorship is marked by *)

1. Haemi Park*, Wataru Takeuchi, and Kazuhito Ichii (2020). **Satellite-based Estimation of Carbon Dioxide Budget in Tropical Peatland Ecosystems**. *Remote sensing*, 12(2), 250.
2. Jungho Im, Haemi Park, and Wataru Takeuchi (2019). **Advances in Remote Sensing-Based Disaster Monitoring and Assessment**. *Remote Sensing*, 11(18), 2181.
3. Sumin Park*, Haemi Park*, Jungho Im, Cheolhee Yoo, Jinyoung Rhee, Byungdoo Lee, and ChunGeun Kwon (2019). **Delineation of high resolution climate regions over the Korean Peninsula using machine learning approaches**. *PLoS ONE* 14(10): e0223362.
4. Haemi Park*, Jungho Im, and Miae Kim (2019). **Improvement of satellite-based estimation of gross primary production through optimization of meteorological parameters and high resolution land cover information at regional scale over East Asia**. *Agricultural and Forest Meteorology*, 271, 180-192.
5. Seongmun Sim, Jungho Im, Sumin Park, Haemi Park, Myoung Hwan Ahn, and Pak-wai Chan (2018). **Icing Detection over East Asia from Geostationary Satellite Data Using Machine Learning Approaches**. *Remote Sensing*, 10(4), 631.
6. Miae Kim, Jungho Im, Haemi Park, Seonyoung Park, Myong-In Lee, and Myoung-Hwan Ahn (2017). **Detection of Tropical Overshooting Cloud Tops Using Himawari-8 Imagery**. *Remote Sensing*, 9(7), 685.

Conference papers

1. Haemi Park, and Wataru Takeuchi. Impact assessment of surface dryness and snow cover on wildfires in Far East Russia. *40th Asian Conference on Remote Sensing*, October 2019, Daejeon, Republic of Korea.
2. Haemi Park. Relationship between surface dry conditions and carbon dioxide emission of forest fire in Far East Russia. *AsiaFlux 2019 20th Anniversary Workshop*, October 2019, Gifu, Japan.
3. Haemi Park, and Wataru Takeuchi. Effects of surface dryness to fire occurrences and the CO2 emission considering land cover types. *Land Use/Cover Changes, Environment and Emissions in South/Southeast Asia – An International Regional Science Meeting*, July 22-27th, 2019, Johor Bahru, Malaysia.
4. Haemi Park, Wataru Takeuchi, Effects of dry condition and land cover types to the wildfire in Far East Russia, *Remote Sensing Society of Japan*, June 2019.
5. Haemi Park, Wataru Takeuchi, Assessment of carbon sink response to temperature and precipitation with ENSO events in Indonesia, *International Symposium on Remote Sensing 2019*, April 2019.
6. Haemi Park, Jungho Im, and Miae Kim, Parameter Optimization for Improvement of

MODIS GPP over East Asia, *Asia Oceania Geosciences Society 15th Annual Meeting*, June 2018.

7. Haemi Park, Jungho Im, Miae Kim, and Juhyun Lee, Detection of Overshooting Tops over East Asia Using Himawari-8, *Asia Oceania Geosciences Society 15th Annual Meeting*, June 2018.
8. Haemi Park, Jungho Im, Cheolhee Yoo, Junghee Lee, and Seongmun Sim, Estimation of near-surface relative humidity using machine learning approaches, *International Symposium on Remote Sensing 2018*, May 2018.
9. Haemi Park, Miae Kim, and Jungho Im, Relationship between Himawari-8-derived overshooting tops and extreme weather events in southern Asia, *Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci., XLI-B7, 325-327, 2016 ISPRS Congress*.
10. Haemi Park, Miae Kim, and Jungho Im, Improvement of satellite-based gross primary production by applying input data of higher resolution in East Asia region, *2016 EGU General Assembly*, April 2016.
11. Haemi Park, Sonidarmawan, and Wataru Takeuchi, Assessment of fire vulnerability through human activity by using road distribution in peat land of Indonesia, *35th Asian Conference on Remote Sensing*, October 2014.
12. Haemi Park, Wataru Takeuchi, CO_2 budget estimation with considering human effects of tropical peat lands in Indonesia, *International Geoscience and Remote Sensing Symposium 2014*, July 2014.
13. Haemi Park, Wataru Takeuchi, Drainage canal detection on peat lands in Indonesia by ALOS PALSAR mosaic dataset, *International Symposium on Remote Sensing 2014*, April 2014.
14. Haemi Park, Wataru Takeuchi, and Kazuhito Ichii, Improvement of CO_2 emission model by modification of soil respiration in tropical peatlands in Indonesia, *34th Asian Conference on Remote Sensing*, October 2013.
15. Haemi Park, Wataru Takeuchi, Estimation of CO_2 budget on peatlands in Indonesia by using satellite based data, *International Geoscience and Remote Sensing Symposium 2013*, July 2013.
16. Haemi Park, Wataru Takeuchi, Quantifying CO_2 budget from tropical peatlands in Indonesia by using remote sensing and bio-geophysical modeling, *International Symposium on Remote Sensing 2013*, May 2013.
17. Haemi Park, Wataru Takeuchi, Relationships between ground water level and CO_2 emission tropical peatland in Indonesia, *33rd Asian Conference on Remote Sensing*, November 2012.

Tutorial sessions in international conferences

1. Haemi Park, and Wataru Takeuchi. Forest Monitoring (Session 5), *ISPRS SC Summer School 2019*. New Remote Sensing Technology for Smart Future. October 22, 2019, Seoul, Republic of Korea.
2. Ramona Pelich, Marco Chini, Wataru Takeuchi, Haemi Park, Young-Joo Kwak, and

Vitaliy Yurchenko. Natural disasters and hazards monitoring using Earth Observation data (FD-6), *Full-Day Tutorials in IGARSS 2019*, July 28, 2019, Yokohama, Japan.

CURRICULUM VITAE AND PUBLICATIONS
PART 1

1a. Personal details				
Full name	*Title* Dr.	*First name* Aditya	*Second name(s)* Riadi	*Family name* Gusman
Present position	Tsunami Scientist			
Organisation/Employer	GNS Science			
Contact Address	PO Box 30368, Lower Hutt			
			Post code	5040
Work telephone	04 570 4881	**Mobile**	021 131 1630	
Email	a.gusman@gns.cri.nz			
Personal website (if applicable)	https://adityagusman.wordpress.com/			

1b. Academic qualifications

2010 PhD (Geophysics), Hokkaido University, Japan
2006 Master of Engineering (Coastal Engineering), Bandung Institute of Technology, Indonesia
2003 BSc (Oceanography), Bandung Institute of Technology, Indonesia

1c. Professional positions held

2018 - present Tsunami Scientist, GNS Science, New Zealand
2014 - 2018 Project Researcher, The University of Tokyo, Japan
2010 - 2014 Post doctoral researcher, Hokkaido University, Japan

1d. Present research/professional speciality

1) Developed a numerical model for tsunami sediment transportation. This model is a tool to study paleo-tsunami events from tsunami sand deposits.
2) Studies on tsunamigenic earthquake mechanisms using tsunami (tsunami waveforms), seismological (body wave, W-phase) and geodetic data (GNSS, InSAR).
3) Developed a methodology for near-field tsunami inundation forecasting for early warning purposes.
4) Exploring the possibility of using dense array network of tsunami meter with data assimilation method for early warning system.

1e. Total years research experience	15 years

1f. Professional distinctions and memberships (including honours, prizes, scholarships, boards or governance roles, etc)

2014 - 2018 Seismological Society of Japan: Member
2009 - present American Geophysical Union Seismology: Member
2008 - present Asia Oceania Geosciences Society: Member
2008 - 2018 Japan Geoscience Union: Member
2003 - present Indonesian Association of Geophysicist (HAGI): Member

1g. Total number of *peer reviewed* publications and patents	Journal articles	Books	Book chapters, books edited	Conference proceedings	Patents
	51	0	1	-	0

PART 2

2a. Research publications and dissemination (selected)

Peer-reviewed journal articles

Goto, T.; Satake, K.; Sugai, T.; Ishibe, T.; Harada, T.; **Gusman, A.R.** 2019. Tsunami history over the past 2000 years on the Sanriku coast, Japan, determined using gravel deposits to estimate tsunami inundation behavior. *Sedimentary Geology, 382:* 85-102; doi: 10.1016/j.sedgeo.2019.01.001

Gusman, A.R.; Goto, T.; Satake, K.; Takahashi, T.; Ishibe, T. 2018. Sediment transport modeling of multiple grain sizes for the 2011 Tohoku tsunami on a steep coastal valley of Numanohama, northeast Japan. *Marine Geology, 405:* 77-91; doi: 10.1016/j.margeo.2018.08.003

Gusman, A.R.; Mulia, I.E.; Satake, K. 2018. Optimum sea surface displacement and fault slip distribution of the 2017 Tehuantepec earthquake (M_W 8.2) in Mexico estimated from tsunami waveforms. *Geophysical Research Letters, 45(2):* 646-653; doi: 10.1002/2017GL076070

Gusman, A.R.; Satake, K.; Gunawan, E.; Hamling, I.J.; Power, W.L. 2018. Contribution from multiple fault ruptures to tsunami generation during the 2016 Kaikoura earthquake. *Pure and Applied Geophysics, 175(8):* 2557-2574; doi: 10.1007/s00024-018-1949-z

Hossen, M.J.; **Gusman, A.R.**; Satake, K.; Cummins, P.R. 2018. An adjoint sensitivity method applied to time reverse imaging of tsunami source for the 2009 Samoa earthquake. *Geophysical Research Letters, 45(2):* 627-636; doi: 10.1002/2017GL076031

Tanioka, Y.; **Gusman, A.R.** 2018. Near-field tsunami inundation forecast method assimilating ocean bottom pressure data : a synthetic test for the 2011 Tohoku-oki tsunami. *Physics of the Earth and Planetary Interiors, 283:* 82-91; doi: 10.1016/j.pepi.2018.08.006

Wang, Y.; Satake, K.; Maeda, T.; **Gusman, A.R.** 2018. Data assimilation with dispersive tsunami model: a test for the Nankai Trough. *Earth, Planets and Space, 70(1):* article 131; doi: 10.1186/s40623-018-0905-6

Goto, T.; Satake, K.; Sugai, T.; Ishibe, T.; Harada, T.; **Gusman, A.R.** 2017. Effects of topography on particle composition of 2011 tsunami deposits on the ria-type Sanriku coast, Japan. *Quaternary international, 456:* 17-27

Gusman, A.R.; Nugraha, A.D.; Shiddiqi, H.A. 2017. Hypocenter relocations and tsunami simulation for the 15 November 2014 Northern Molucca Sea earthquake in Indonesia. *Jurnal Gefisika, 15(1):* 1-9

Gusman, A.R.; Satake, K.; Harada, T. 2017. Rupture process of the 2016 Wharton Basin strike-slip faulting earthquake estimated from joint inversion of teleseismic and tsunami waveforms. *Geophysical Research Letters, 44(9):* 4082-4089; doi: 10.1002/2017GL073611

Gusman, A.R.; Satake, K.; Shinohara, M.; Sakai, S.; Tanioka, Y. 2017. Fault slip distribution of the 2016 Fukushima earthquake estimated from tsunami waveforms. *Pure and Applied Geophysics, 174:* 2925-2943; doi: 10.1007/s00024-017-1590-2

Mulia, I.E.; **Gusman, A.R.**; Satake, K. 2017. Optimal design for placements of tsunami observing systems to accurately characterize the inducing earthquake. *Geophysical Research Letters, 44(24):* 12,106-12,115; doi: 10.1002/2017GL075791

Mulia, I.E.; Inazu, D.; Waseda, T.; **Gusman, A.R.** 2017. Preparing for the future Nankai Trough tsunami : a data assimilation and inversion analysis from various observational systems. *Journal of Geophysical Research. Oceans, 122(10):* 7924-7937; doi: 10.1002/2017JC012695

Tanioka, Y.; Miranda, G.J.A.; **Gusman, A.R.**; Fujii, Y. 2017. Method to determine appropriate source models of large earthquakes including tsunami earthquakes for tsunami early warning in Central America. *Pure and Applied Geophysics, 174:* 3237-3248; doi: 10.1007/s00024-017-1630-y

Tsuzuki, M.; Koyama, J.; **Gusman, A.R.**; Yomogida, K. 2017. Re-evaluation of earthquake and tsunami magnitudes of the 1906 great Ecuador-Colombia earthquake (in Japanese). *Zisin : Journal of the Seismological Society of Japan, 69:* 87-98; doi: 10.4294/zisin.69.87

Wang, Y.; Satake, K.; Maeda, T.; **Gusman, A.R.** 2017. Green's function-based tsunami data assimilation : a fast data assimilation approach toward tsunami early warning. *Journal of Geophysical Research. Oceans, 44(20):* 10,282-10,289; doi: 10.1002/2017GL075307

Gusman, A.R.; Sheehan, A.F.; Satake, K.; Heidarzadeh, M.; Mulia, I.E. 2016. Tsunami data assimilation of Cascadia seafloor pressure gauge records from the 2012 Haida Gwaii earthquake. *Geophysical Research Letters, 43(9):* 4189-4196; doi: 10.1002/2016GL068368

Heidarzadeh, M.; Murotani, S.; Satake, K.; Ishibe, T.; **Gusman, A.R.** 2016. Source model of the 16 September 2015 Illapel, Chile,M_w 8.4 earthquake based on teleseismic and tsunami data. *Geophysical Research Letters, 43(2):* 643-650; doi: 10.1002/2015GL067297

Kamogawa, M.; Orihara, Y.; Tsurudome, C.; Tomida, Y.; Kanaya, T.; Ikeda, D.; **Gusman, A.R.**; Kakinami, Y.; Liu, J.Y.; Toyoda, A. 2016. A possible space-based tsunami early warning system using observations of the tsunami ionospheric hole. *Scientific Reports, 6:* article 37989; doi: 10.1038/srep37989

Gusman, A.R.; Murotani, S.; Satake, K.; Heidarzadeh, M.; Gunawan, E.; Watada, S.; Schurr, B. 2015. Fault slip distribution of the 2014 Iquique, Chile, earthquake estimated from ocean-wide tsunami waveforms and GPS data. *Geophysical Research Letters, 42(4):* 1053-1060; doi: 10.1002/2014GL062604

Heidarzadeh, M.; **Gusman, A.R.**; Harada, T.; Satake, K. 2015. Tsunamis from the 29 March and 5 May 2015 Papua New Guinea earthquake doublet (M_w 7.5) and tsunamigenic potential of the New Britain trench. *Geophysical Research Letters, 42(14):* 5958-5965; doi: 10.1002/2015GL064770

Sheehan, A.F.; **Gusman, A.R.**; Heidarzadeh, M.; Satake, K. 2015. Array observations of the 2012 Haida Gwaii tsunami using Cascadia Initiative absolute and differential seafloor pressure gauges. *Seismological Research Letters, 86(5):* 1278-1286; doi: 10.1785/0220150108

Gusman, A.R.; Tanioka, Y. 2014. W phase inversion and tsunami inundation modeling for tsunami early warning : case study for the 2011 Tohoku event. *Pure and Applied Geophysics, 171(7):* 1409-1422; doi: 10.1007/s00024-013-0680-z

Gusman, A.R.; Tanioka, Y.; MacInnes, B.T.; Tsushima, H. 2014. A methodology for near-field tsunami inundation forecasting : application to the 2011 Tohoku tsunami. *Journal of Geophysical Research. Solid Earth, 119(11):* 8186-8206; doi: 10.1002/2014JB010958

MacInnes, B.T.; **Gusman, A.R.**; LeVeque, R.J.; Tanioka, Y. 2013. Comparison of earthquake source models for the 2011 Tohoku event using tsunami simulations and near-field observations. *Bulletin of the Seismological Society of America, 103(2B):* 1256-1274; doi: 10.1785/0120120121

Satake, K.; Nishimura, Y.; Putra, P.S.; **Gusman, A.R.**; Sunendar, H.; Fujii, Y. 2013. Tsunami source of the 2010 Mentawai, Indonesia earthquake inferred from tsunami field survey and waveform modeling. *Pure and Applied Geophysics, 170(9-10):* 1567-1582; doi: 10.1007/s00024-012-0536-y

Gusman, A.R.; Tanioka, Y.; Sakai, S.; Tsushima, H. 2012. Source model of the great 2011 Tohoku earthquake estimated from tsunami waveforms and crustal deformation data. *Earth and Planetary Science Letters, 341-344:* 234-344; doi: 10.1016/j.epsl.2012.06.006

Gusman, A.R.; Tanioka, Y.; Takahashi, T. 2012. Numerical experiment and a case study of sediment transport simulation of the 2004 Indian Ocean tsunami in Lhok Nga, Banda Aceh, Indonesia. *Earth, Planets and Space, 64(3):* 817-827; doi: 10.5047/eps.2011.10.009

Kakinami, Y.; Kamogawa, M.; Tanioka, Y.; Watanabe, S.; **Gusman, A.R.**; Liu, J.-Y.; Watanabe, Y.; Mogi, T. 2012. Tsunamigenic ionospheric hole. *Geophysical Research Letters, 39(13):* L00G27; doi: 10.1029/2011GL050159

Mori, N.M.; Takahashi, T.; 2011 Tohoku Earthquake Tsunami Joint Survey Group 2012. Nationwide post event survey and analysis of the 2011 Tohoku earthquake tsunami. *Coastal Engineering Journal, 54(1):* 1250001; doi: 10.1142/S0578563412500015

Moore, A.; Goff, J.; McAdoo, B.G.; Fritz, H.M.; **Gusman, A.R.**; Kalligeris, N.; Kalsum, K.; Susanto, A.; Suteja, D.; Synolakis, C.E. 2011. Sedimentary deposits from the 17 July 2006 Western Java tsunami, Indonesia : use of grain size analyses to assess tsunami flow depth, speed, and traction carpet characteristics. *Pure and Applied Geophysics, 168(11):* 1951-1961; doi: 10.1007/s00024-011-0280-8

Gusman, A.R.; Tanioka, Y.; Kobayashi, Y.; Latief, H.; Pandoe, W. 2010. Slip distribution of the 2007 Bengkulu earthquake inferred from tsunami waveforms and InSAR data. *Journal of Geophysical Research. Solid Earth, 115(B12):* B12316; doi: 10.1029/2010JB007565

Gusman, A.R.; Tanioka, Y.; Matsumoto, H.; Iwasaki, S.-I. 2009. Analysis of the tsunami generated by the great 1977 Sumba earthquake that occurred in Indonesia. *Bulletin of the Seismological Society of America, 99(4):* 2169-2179; doi: 10.1785/0120080324

Tanioka, Y.; Nishimura, Y.; Nakamura, Y.; Hirakawa, K.; Pinegin, T.K.; ekaterina, K.A.; Ponomareva, V.V.; **Gusman, A.R.** 2009. Tsunami deposit studies in north Kurile Islands (Paramushir and Shumshu Islands) to understand a pattern off the occurrence of great earthquakes (in Japanese). *Earth Monthly, 31:* 321-333

Fritz, H.M.; Kongko, W.; Moore, A.; McAdoo, B.; Goff, J.; Harbitz, C.; Uslu, B.; Kalligeris, N.; Suteja, D.; Kalsum, K.; Titov, V.; **Gusman, A.R.**; Latief, H.; Santoso, E.; Sujoko, S.; Sjulkarnaen, D.; Sunendar, H.; Synolakis, C. 2007. Extreme runup from the 17 July 2006 Java tsunami. *Geophysical Research Letters, 34:* L12602; doi: 10.1029/2007GL029404

Peer reviewed books

Peer reviewed book chapters, books edited

Gusman, A.R.; Tanioka,Y. 2015. Effectiveness of real-time near-field tsunami inundation forecasts for tsunami evacuation in Kushiro City, Hokkaido, Japan. p. 157-177; doi: 10.1007/978-3-319-10202-3_11 In: Santiago-Fandiño, V.; Kontar, Y.; Kaneda, Y. (eds) *Post-tsunami hazard : reconstruction and restoration.* Cham, Switzerland: Springer. Advances in natural and technological hazards research 44

Refereed conference proceedings

Patents

Other forms of dissemination (reports for clients, technical reports, popular press, etc)

Power, W.L.; Fry, B.; **Gusman, A.R.**; Burbidge, D.R.; Brewer, M.; Wang, X. 2018. DART buoys network design. *GNS Science consultancy report 2018/147.* 53 p.

Curriculum vitae

1	**Family name**	Sururi		
2	**First name**	Mohamad Rangga		
3	**Date of birth**	3 April, 1978		
4	**Nationality**	Indonesia		
5	**Civil status**	Marriage		
6		**Education / Professional studies**		
	Dates (from-to)	Institution	Degree/diploma	
	2015-2019	Institut Teknologi Bandung	Dr, Doctor	
	2006-2008	Institut Teknologi Bandung	MT, Master of Technique	
	1996-2001	Institut Teknologi Nasional	Bsc, Bachelor of Environmental Engineering	
7	**Membership of professional bodies**			
	IATPI (Association of Indonesia Environmental Engineers)			
8	**Name of organisation currently working for and Present position in the organisation**	Insitut Teknologi Nasional, lecturer staff		
9	**Years with the organisation**	15		
10	**Key Qualifications**			
	Environmental Engineering	Indii Sewerage DED, Cimahi domestic wastewater collection system, INdII		
	Environmental Engineering	Regional Space Planning in Sipirok North Sumatra, Dinas PU SUMUT		
	Environmental Engineering	Master Plan of Water Supply System in Majalengka-West Java		
	Environmental Engineering	Feasibility Study (FS) Optimization of spring water Bantar Kambing for service area zone 2, PDAM Kota Bogor		
	Environmental Engineering	Feasibility Study of domestic Wastewater collection system in Tegal Gundil,Bogor, UPTD PAL Kota Bogor		
	Environmental Engineering	Standardize of waste water collection system in Jakarta		
	Environmental Engineering	Environmental condition report of Cimahi City-West Java, Kantor LH Cimahi		
	Environmental Engineering	Green Growth Report of West Java Province,BPLHD Jabar		
11		**Professional experience record** (mainly in one of the Areas of Activity)		
11.a	Location	Date	Organisation	
	Bandung, West Java	2004 - now	ITENAS	
	Position	Lecturer		
	Responsibilities	Deliver lectures, conduct researches, initiate community development programs		
11.b	Location	Date	Organisation	
	Bandung, West Java	2001-2003	PT. ARCENDE	

	Position	Engineering	
	Responsibilities	Made report, conduct survey and design.	
12	**Publications**		
	Publisher	Date	Title
	Jets ITB	Vol 52 (2), 2020	An Investigation of a Conventional Water Treatment Plant in Reducing Dissolved Organic Matter and Trihalomethane Formation Potential from a Tropical River Water Source
	International Journal of Geomate	Oct., 2019 Vol.17, Issue 62, pp. 203 - 211	AQUATIC Organic Matter CHARACTERISTICS and THMFP Occurrence in a Tropical River
	MATEC Web of Conferences	154, 02002 (2018) ICET4SD 2017	Chromophoric and liability quantification of organic matters in the polluted rivers of Bandung watershed, Indonesia
	Proceeding The 1st International Conference on Sustainable Infrastucture and Built Environment in Developing Countries, ITB, Bandung-Indonesia	November, 2009	The Influence of pH to LMW Organic formation :Aldehydes, in disinfection process by ozonation
	Journal Purifikasi Department of Environmental Engineering Institut Teknologi Sepuluh Nopember (ITS)	December, 2009	The influence of pH and water characteristics to Low Molecular Weight Organic Formation: Aldhyde, In Pre-disinfection process by ozonation
	Book of water supply management system and social capital volume 2 Department of Environmental Engineering Institut Teknologi	February, 2011	Comparation Ozone Residual Concentration in Conventional Ozonization and Advanced Oxidation Process (Ozone and Ultraviolet) at Groundwater and Spring water

	Sepuluh Nopember (ITS)-Kyoto University		
	International Conference Brawijaya University-Kyoto University	February, 2011	The Effect of Water Characteristic on Disinfection Process by Ozone
	Journal Reaktor Vol. 15 No. 1, Pages. 20-26	April 2014,	Leachate treatment with advance oxidation process based ozone
	Journal Journal Reaktor Vol. 15 No. 4, Pages. 213-217	Oktober, 2015	Organic-Fe Removal in Ground water by advance oxidation process
	Proceeding The 5th Environmental Technology and Management Conference, ITB, Bandung-Indonesia	November, 2015	Leachate Treatment using Conventional Ozonation Process and Advanced Oxidation Process at Old Cell of Landfill in Indonesia
	Proceeding, International Postgraduate Conference on Biotechnology (IPCB), ITS, Surabaya-Indonesia	August, 2016	Leachate Treatment using Advanced Oxidation Process with Zeolite as a Catalyst

CV

Name : Dr. Henri Kuncoro

Born : Kudus, 09 December 1990

Expertise : Plate kinematic modeling and crustal deformation, GPS Processing

Unit : Lecturer
Teknik Geodesi
Institut Teknologi Nasional Bandung, Indonesia

Address : Jl. PHH. Mustopha No.23, Bandung, 40132
Email : henrikuncoro@itenas.ac.id
henrikuncoro08@gmail.com
HP : 0812-1896-4882

Education :

- 2012 Bachelor (ST) in Geodetic Engineering, Institute of Technology Bandung, Indonesia
- 2013 Master (MT) in Geodetic Engineering, Institute of Technology Bandung, Indonesia
- 2018 Doctor of Science (Dr.) in Geophysics, Tohoku University, Japan

Scientific Journal:

- Kriswati, E., Henri Kuncoro, and Irwan Meilano. Low rate of Sinabung deformation inferred by GPS measurement. Conference paper at International Symposium on Earthquake and Disaster Mitigation. doi: 10.1063/1.4915046, 2015.
- Meilano, I., S. Susilo, Henri Kuncoro, and Sri Widiyantoro. Interplate coupling along the Java trench from CGPS observation. Conference paper at AGU Fall Meeting. 2014.
- Kuncoro, H., I. Meilano, and D. A. Sarsito. Analysis of GPS Kinematic Method Based on RTKLIB, Indonesia Journal of Geospatial, Vol.1, No.2, ISSN 2089-5054. 2013.
- Kuncoro, H. Methodology of Euler Rotation Parameter Estimation Using GPS Observation Data, Indonesian Journal of Geospatial, Vol. 2, No. 2, ISSN 2089-5054. 2013.
- Kuncoro, H. and M. Maharani. Identifikasi Mekanisme Sesar di Bagian Timur Pulau Jawa dengan Menggunakan Data GNSS Kontinyu 2010-2016, Indonesian Journal of Geospatial, Vol. 5, No. 2, ISSN 2089-5054. 2018.

- Kuncoro, H., I. Meilano, and S. Susilo. Sunda and Sumatra Block Motion in ITRF2008, E3S Web of Conferences 94, 04006. 2019.

Languages :
Indonesia: Native
English: Fluent

Bandung, January 2020

(Henri Kuncoro)

LAMPIRAN 5

LINK KEGIATAN

Meeting Room, Password Meeting, dan Link URL Zoom Meeting

a. Webinar Series 1

   Link Registrasi: https://bit.ly/FTSP-WebinarSeries-1

   Meeting ID: 893 4150 5265

   Meeting Password: **407531**

   https://bit.ly/InvitationWebinar-1

b. Webinar Series 2

   Link Registrasi: https://bit.ly/FTSP-WebinarSeries-2

   Meeting ID: 827 2518 0850

   Meeting Password: 120899

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   Link: https://bit.ly/InvitationWebinar-2

c. Webinar Series 3

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   Meeting ID: 838 4465 5025

   Meeting Password: 213583

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d. Webinar Series 4

   Link Registrasi: https://bit.ly/FTSP-WebinarSeries-4

   Meeting ID: 813 0211 6608

   Meeting Password: 532572

   https://us02web.zoom.us/w/81302116608?tk=LNntoapZJ4B0AuDdVm5XHDvr2eoDimh-QPwDa0pjWVU.DQIAAAAS7fvZABZCUWdVYXJFZ1FJLUpQcUQzQXoxVHBnAAAAAAAAAAAAAAAAAAAAAAAAAAAA&pwd=eWp2MHZYcElHT1AyY2ttaDc4SlVBQT09

e. Webinar Series 5

   Link Registration: https://bit.ly/FTSP-WebinarSeries-5

Meeting ID: 879 2652 1771

Meeting Password: 404199

https://us02web.zoom.us/w/87926521771?tk=cCYycQtqsAxL6KiUz8YUPiMBXtKOrPhJVt9MWasXF7E.DQIAAAAUeNQ_qxZjYzBEZXppTVFlLXh0dTNCQ0hndEJBAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA&pwd=UU9mMUpNdkkxNGNjMjRrcHBWSDVsUT09

https://bit.ly/InvitationWebinar-5

f. Webinar Series 6

Link Registration: https://bit.ly/FTSP-WebinarSeries-6

Meeting ID: 829 9097 7362

Meeting Password: 146049

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https://bit.ly/InvitationWebinar-6

Webinar BKM

https://bit.ly/WebinarBKM

Meeting ID
883 5835 7760

Meeting Password
120360

LAMPIRAN 6

DOKUMENTASI KEGIATAN

Dokumentasi

Webinar FTSP

Series 1

Fakultas Teknik Sipil dan Perencanaan

Institut Teknologi Nasional Bandung

Kamis, 11 Juni 2020

Bintang Putra Damaryani

Sesi Zoom

Presentasi dari Teknik Sipil Itenas

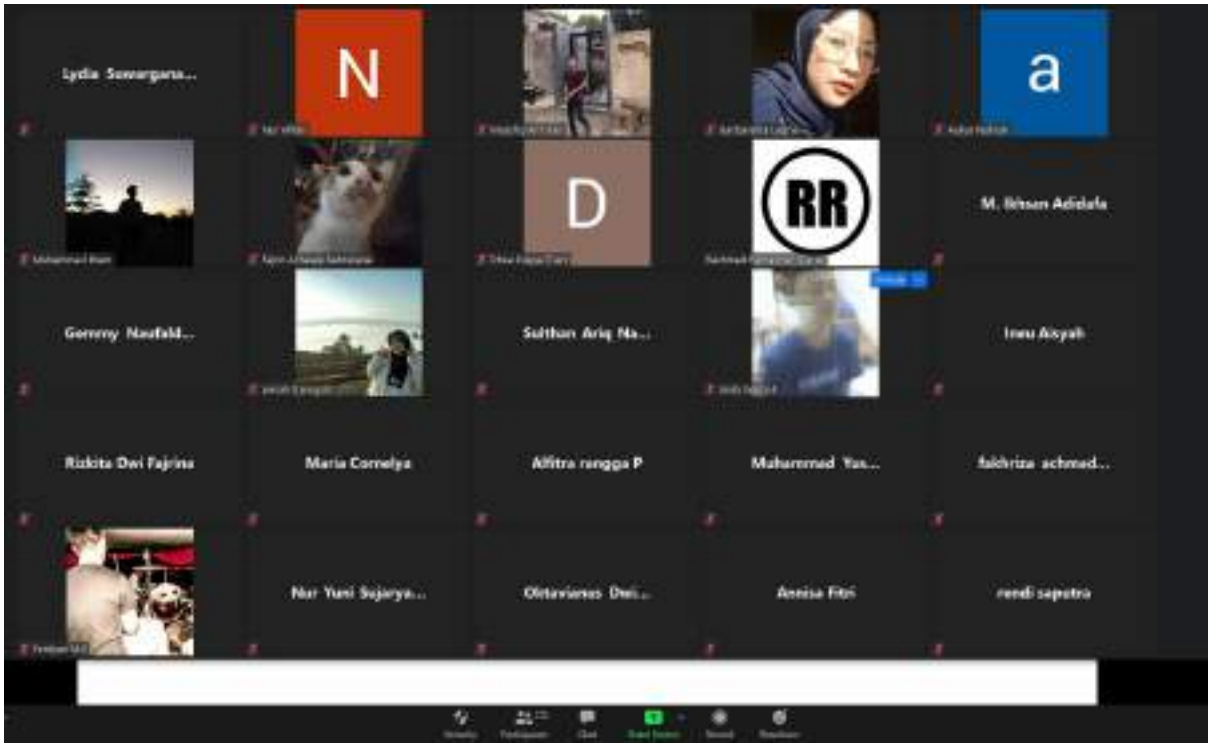
Presentasi dari Teknik Geodesi Itenas

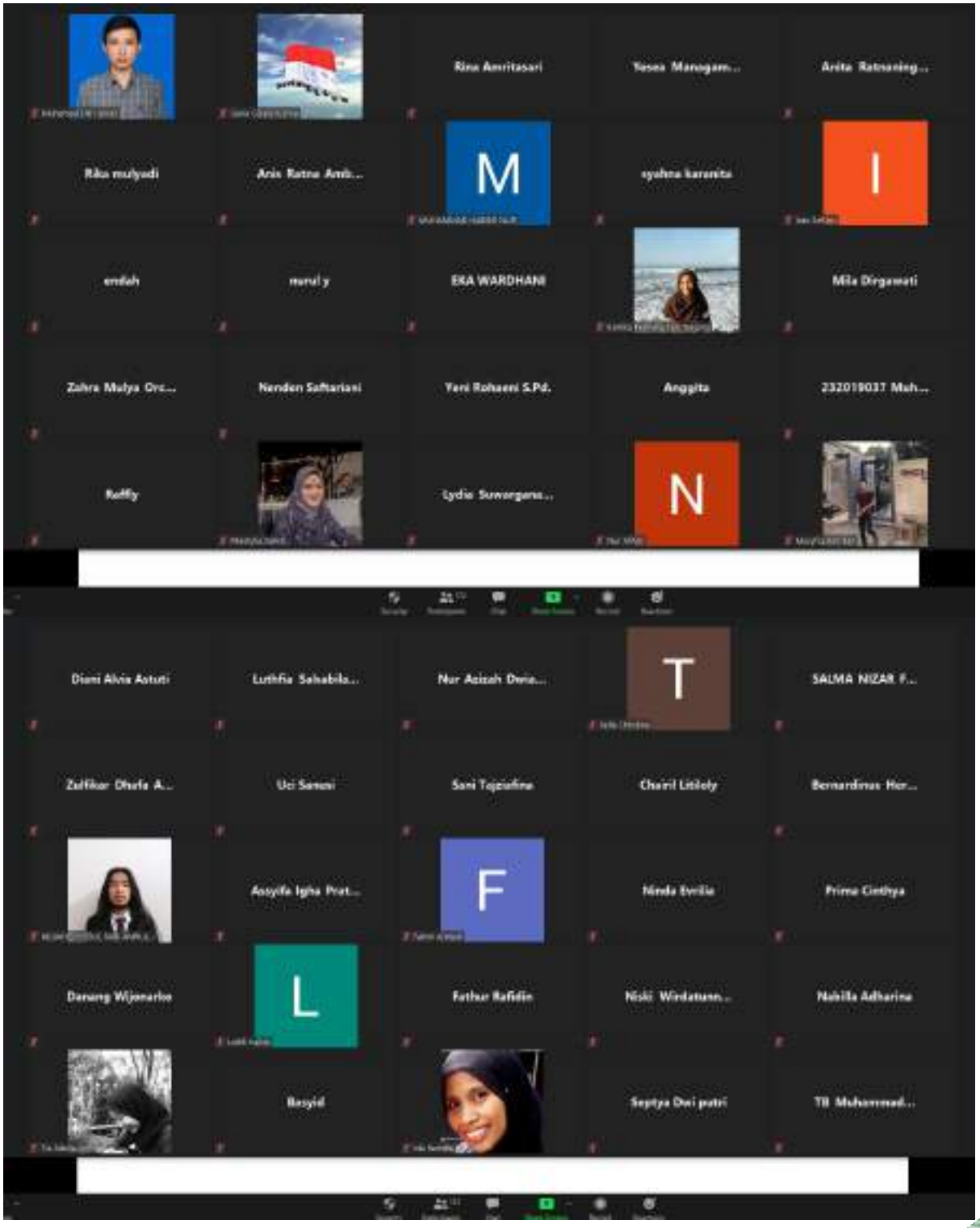
Presentasi dari Perencanaan Wilayah dan Kota Itenas

Presentasi dari Teknik Lingkungan Itenas

Live Streaming via Youtube Itenas Official

Participant via Zoom

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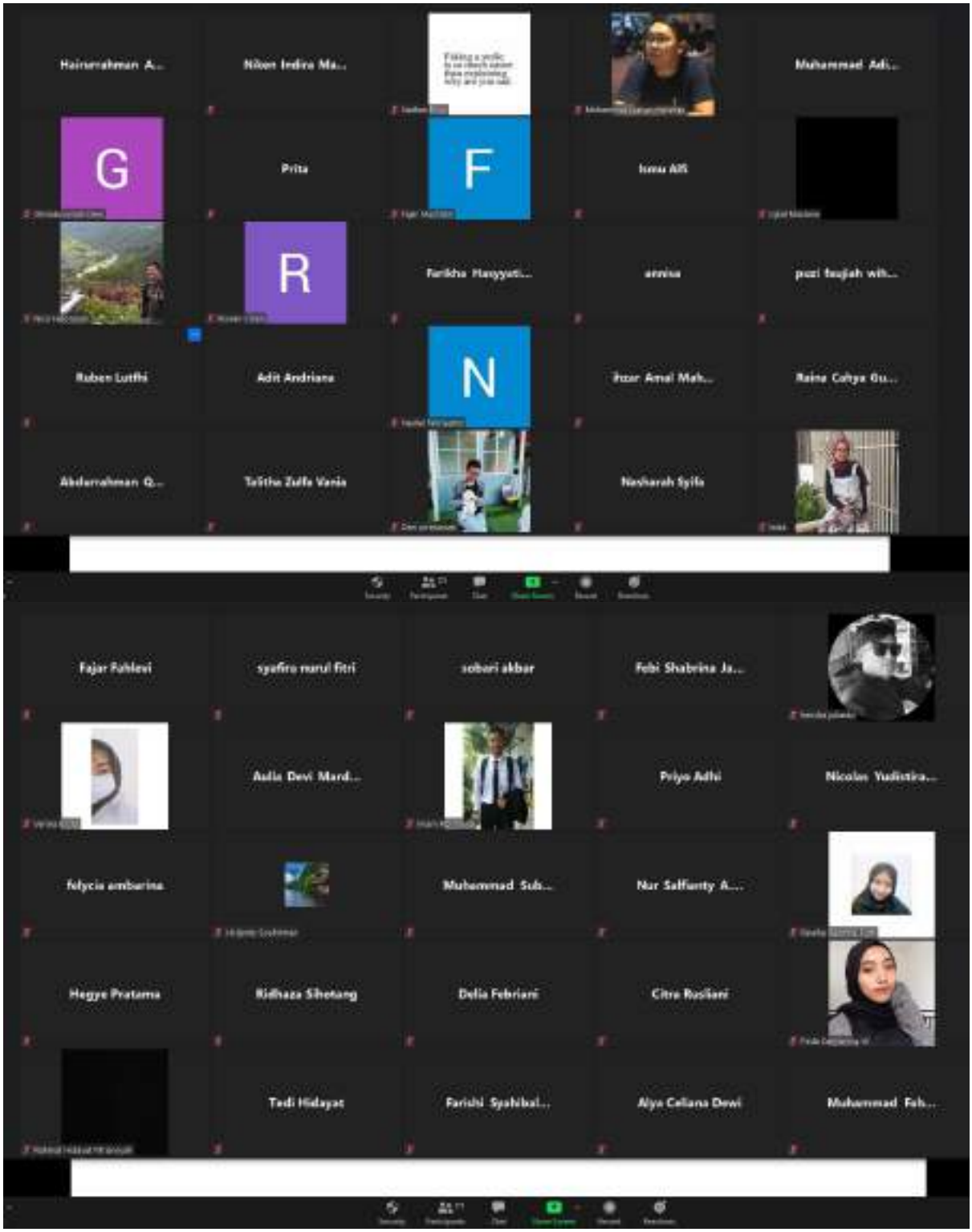
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Raina Cahya Gu...
Abdurrahman Q...
Talitha Zulfa Vania
Nasharah Syifa
Fajar Fahlevi
syafiro nurul fitri
soburi akbar
febi Shabrina Ja...
Aulia Devi Mard...
Priyo Adhi
Nicolas Yudistira...
felycia amburina
Muhammad Sub...
Nur Salfianty A...
Hegye Pratama
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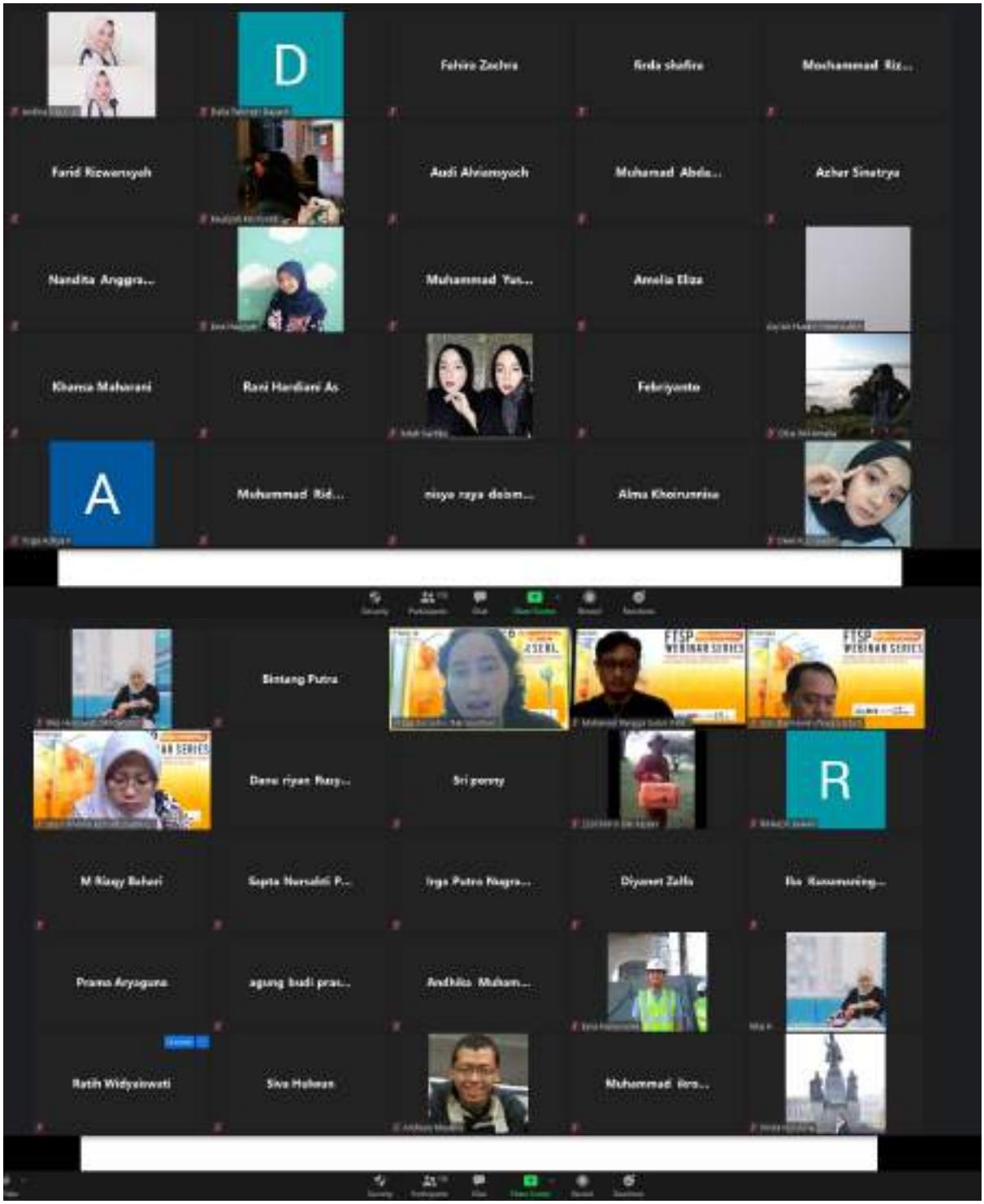
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Farid Rizwansyah
Audi Alvionsyah
Muhamad Abdu...
Azher Sinatrya
Nandita Anggra...
Muhammad Yus...
Amelia Eliza
Khansa Maharani
Rani Hardiani As
Febriyanto
Muhammad Rid...
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Alma Khoirunnisa
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Septa Nursalsti P...
Iryga Putra Nugra...
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Pramu Aryaguna
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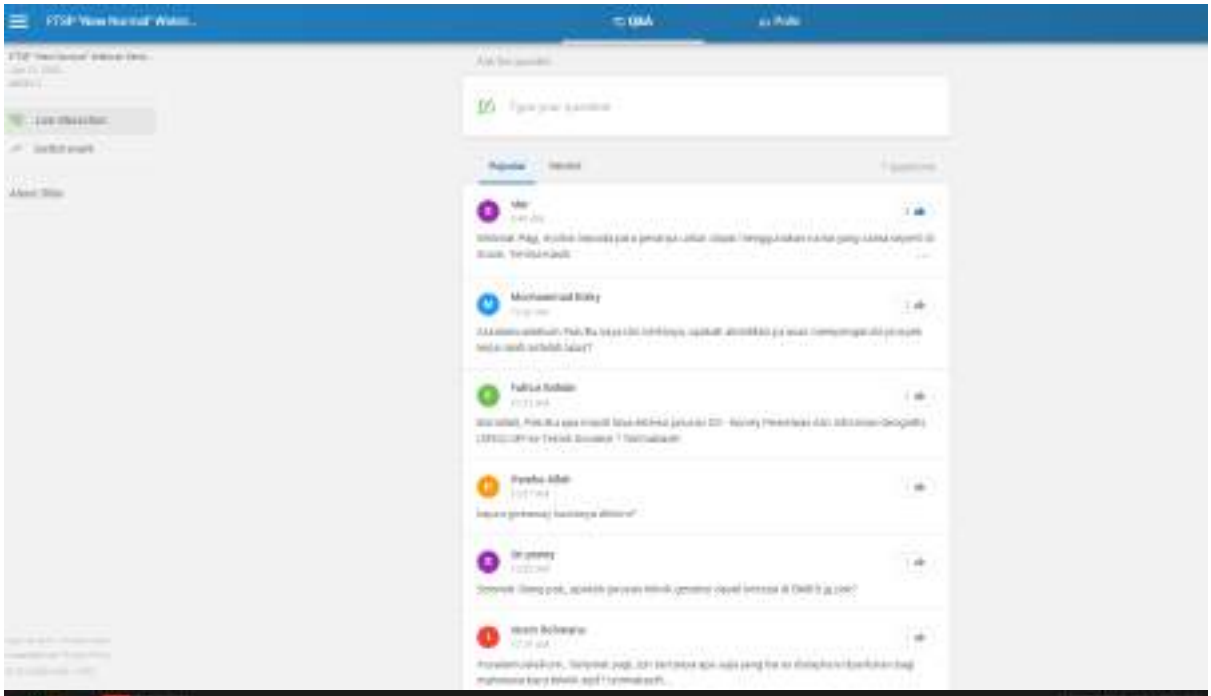
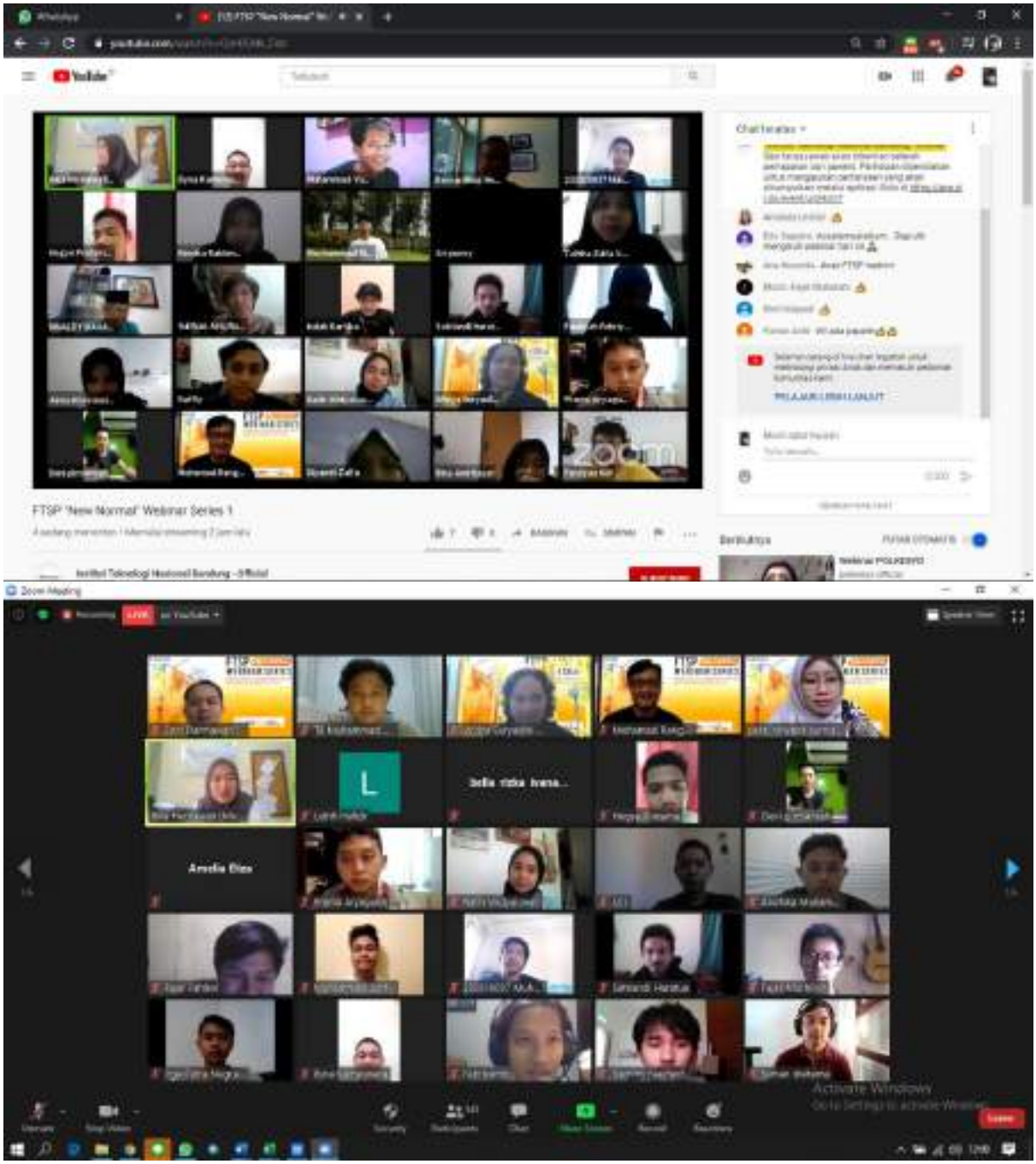
Andhika Muham...
Ratih Widyaiwati
Siva Hulwan
Muhammad Iqro...

Sesi Tanya Jawab via Slido



Penutupan



Zoom Meeting
Asbar Nuatrya
Muhammad Yus...
farhan dwitama
Lydia Suwargan...
Activate Windows
Go to Settings to activate Windows.

Dokumentasi

Webinar FTSP

Series 2

"Remote Sensing Technology For Estimating Carbon Emission, Biomass, and Phenology".

Pembicara:
1. Dr. Haemi Park (University of Tokyo).
2. Dr. Soni Darmawan (Teknik Geodesi @geodesiitenas Itenas).

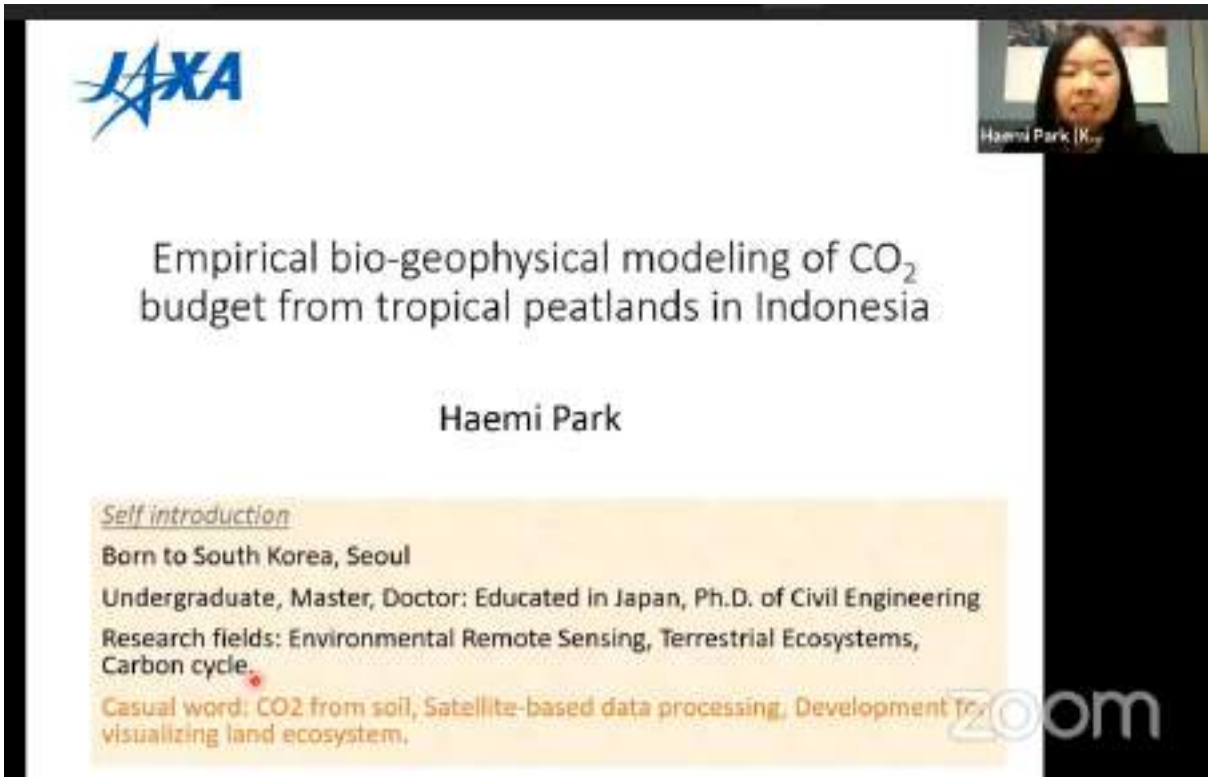
Fakultas Teknik Sipil dan Perencanaan

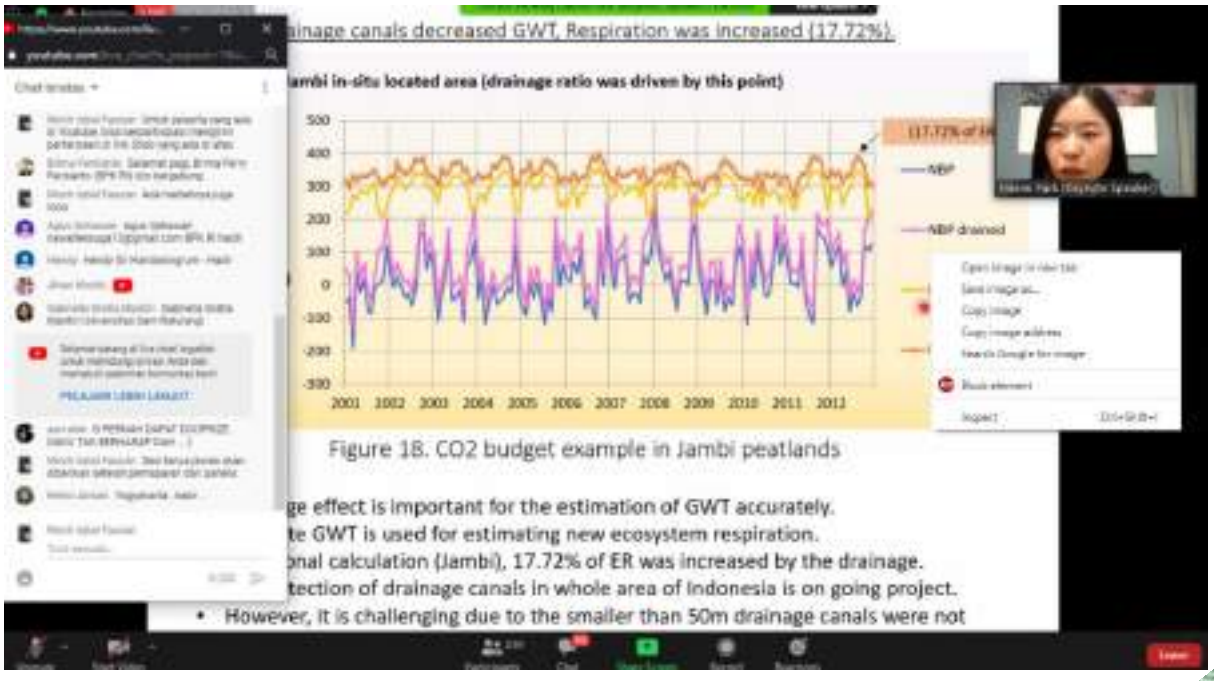
Institut Teknologi Nasional Bandung

Kamis, 18 Juni 2020

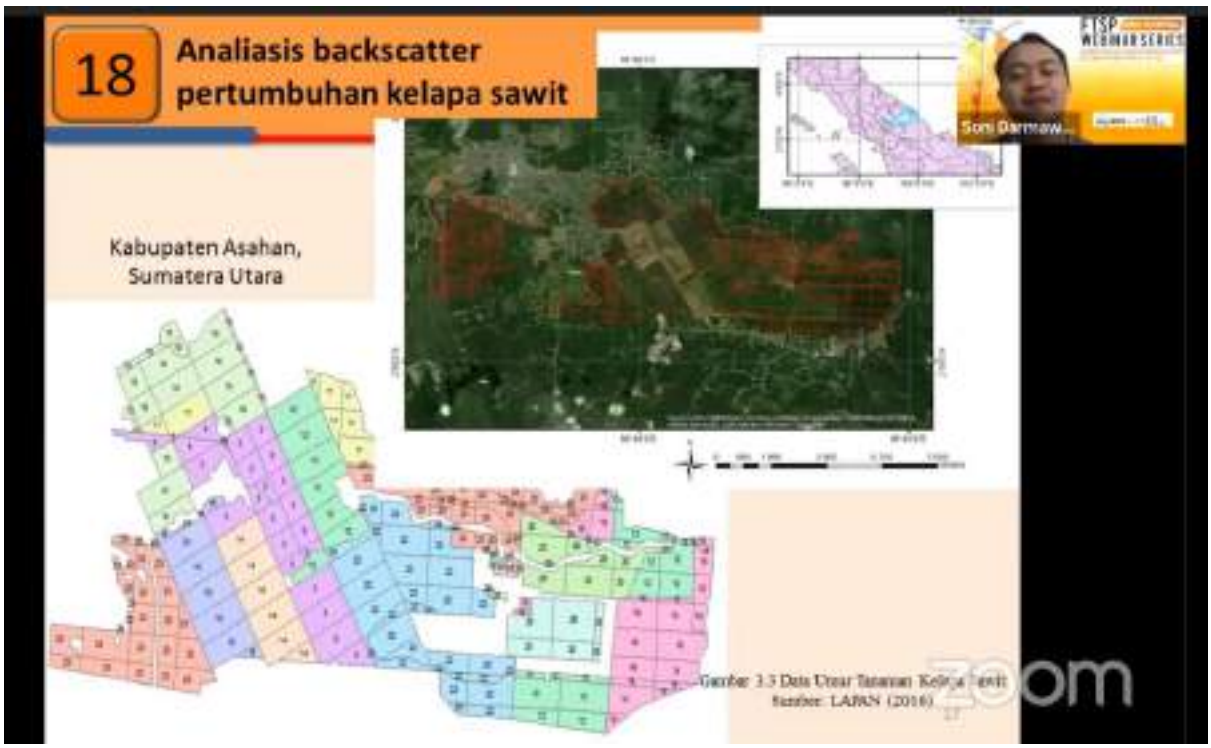
Bintang Putra Damaryani

Pemaparan Materi dari Dr. Haemi Park



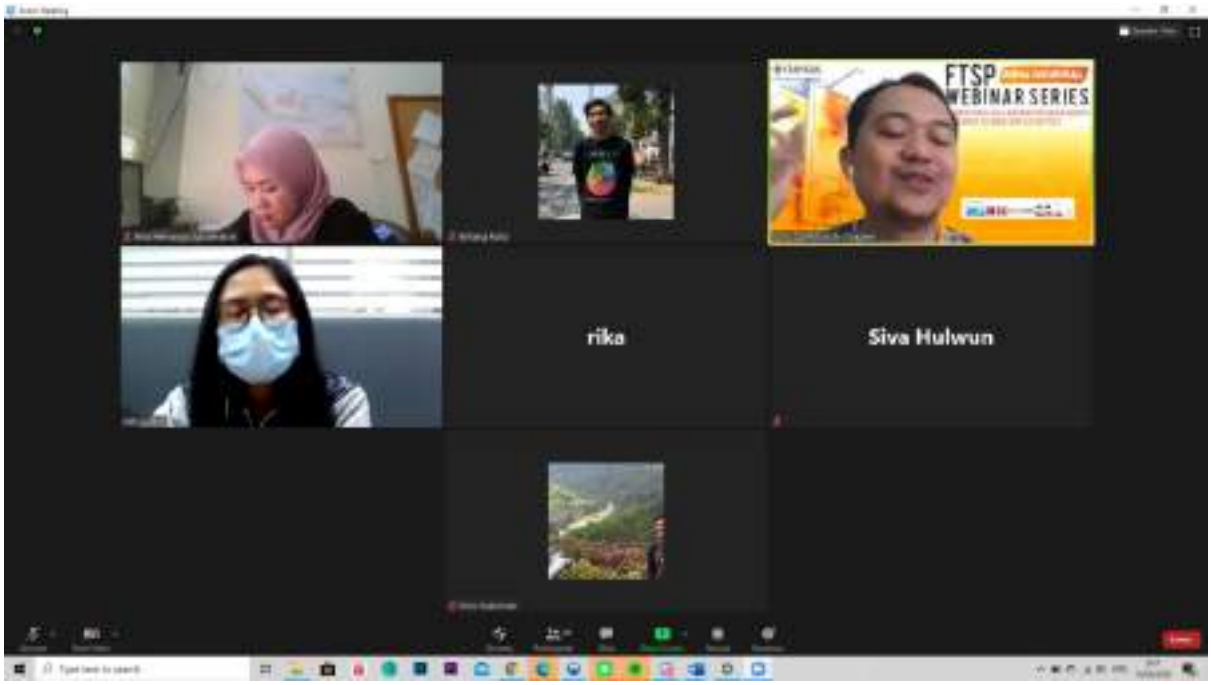


Pemaparan Materi dari Dr. Soni Darmawan

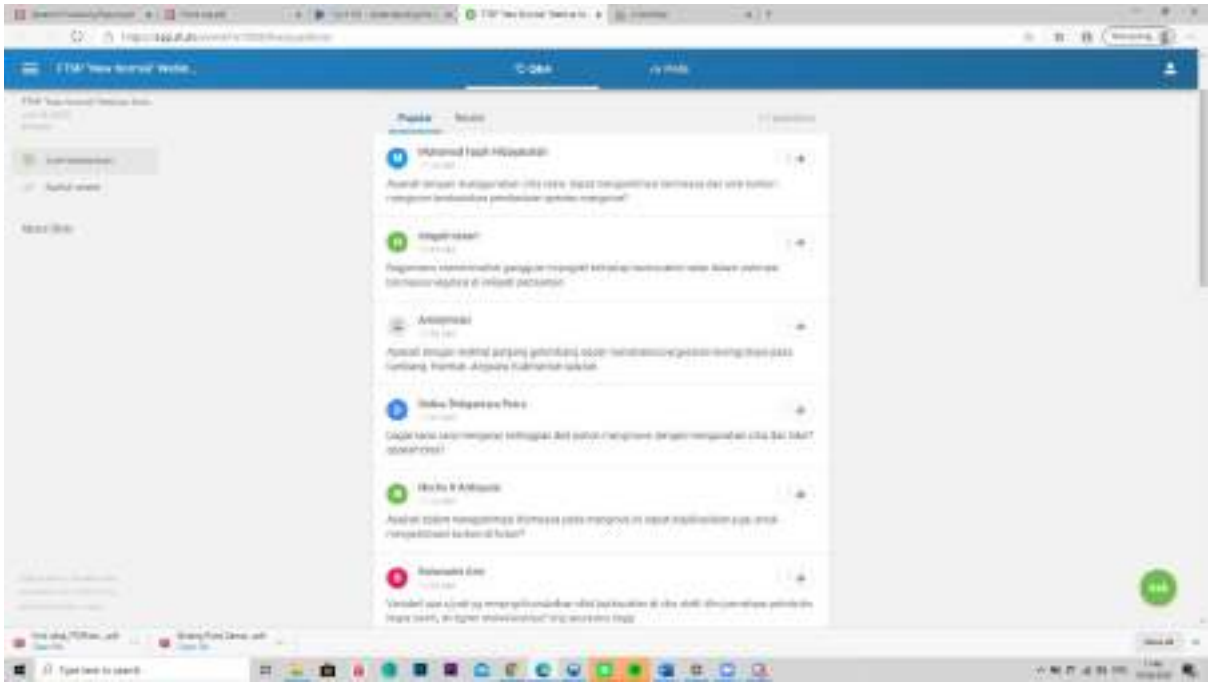


Giveaway dari PT. ASABA

PT. ASABA
SURVEYING DIVISION
IKUTI DAN DAPATKAN HADIAH MENARIK DARI KAMI !!!
it's a good start
itenas
FTSP NEW NORMAL
WEBINAR SERIES : PROMOTION & COLLABORATION ON ACADEMIC RESEARCH TO INDUSTRY ACTIVITIES
Seri 2 : Remote Sensing Technology for Estimating Carbon Emissions, Biomass and Phenology.
Hari Kamis, 18 Juni 2020. Pukul 10:00 - 11:30 WIB.
NARASUMBER :
10:00-10:45
Dr. Haemi Park
JAXA EORC (Japan Aerospace Exploration Agency Earth Observation Research Center)
10:45-11:30
Dr. Soni Darmawan
Teknik Geodesi Itenas
MODERATOR
Rika Hermawati, S.T., M.T.
asaba.surveying • Ikuti
asaba.surveying Yuk ikutan, dan dapetkan hadiah menarik dari kami! Aturan GiveAway akan ada di dalam Webinar, jadi jangan sampai ketinggalan.
Salam Survey!!!!!
FTSP "New Normal" Webinar Series ke-2, akan mengangkat tema "Remote Sensing Technology For Estimating Carbon Emission, Biomass, and Phenology".
Pembicara:
1. Dr. Haemi Park (University of Tokyo),
Disukai oleh adityamunajat dan 57 lainnya
Tambahkan komentar...

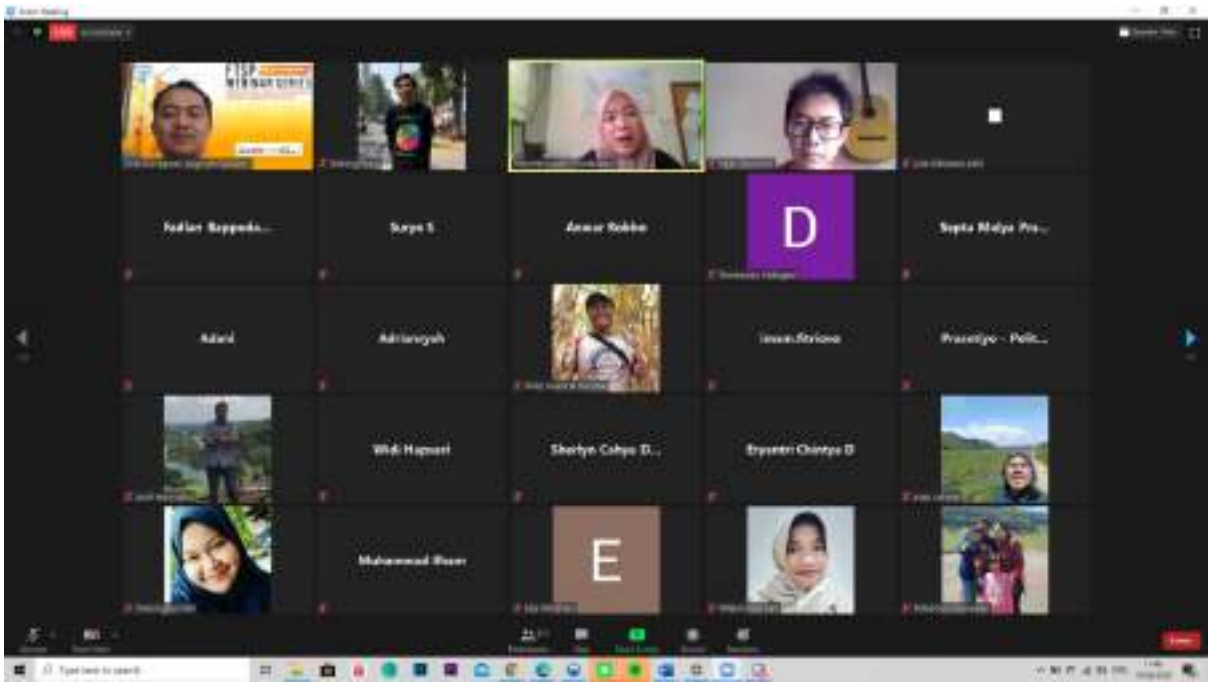

FTSP WEBINAR SERIES
rika
Siva Hulwun

Sesi Q & A



tenas
FTSP NEW NORMAL
WEBINAR SERIES
PROMOTION & COLLABORATION ON ACADEMIC
RESEARCH TO INDUSTRY ACTIVITIES
zoom

Penutupan


Sarpa S
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Shahya Cahya D...
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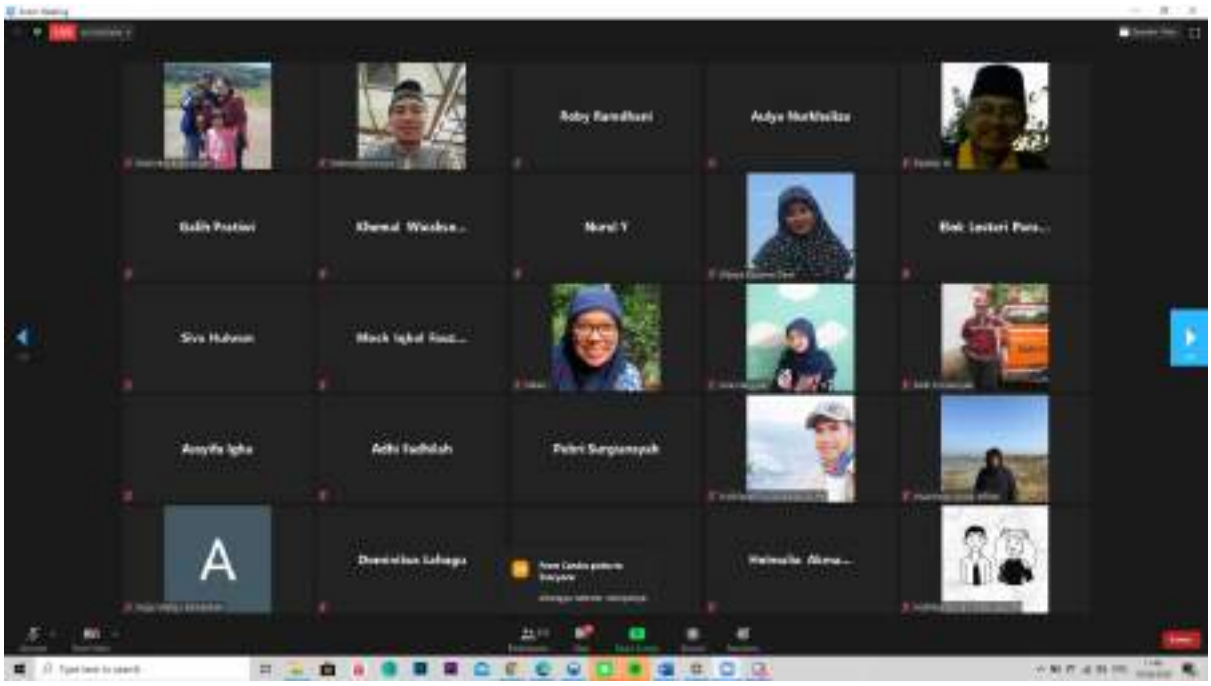
Roby Ramdhani
Aulya Nurkholiza
Nurul Y
Siva Huhron
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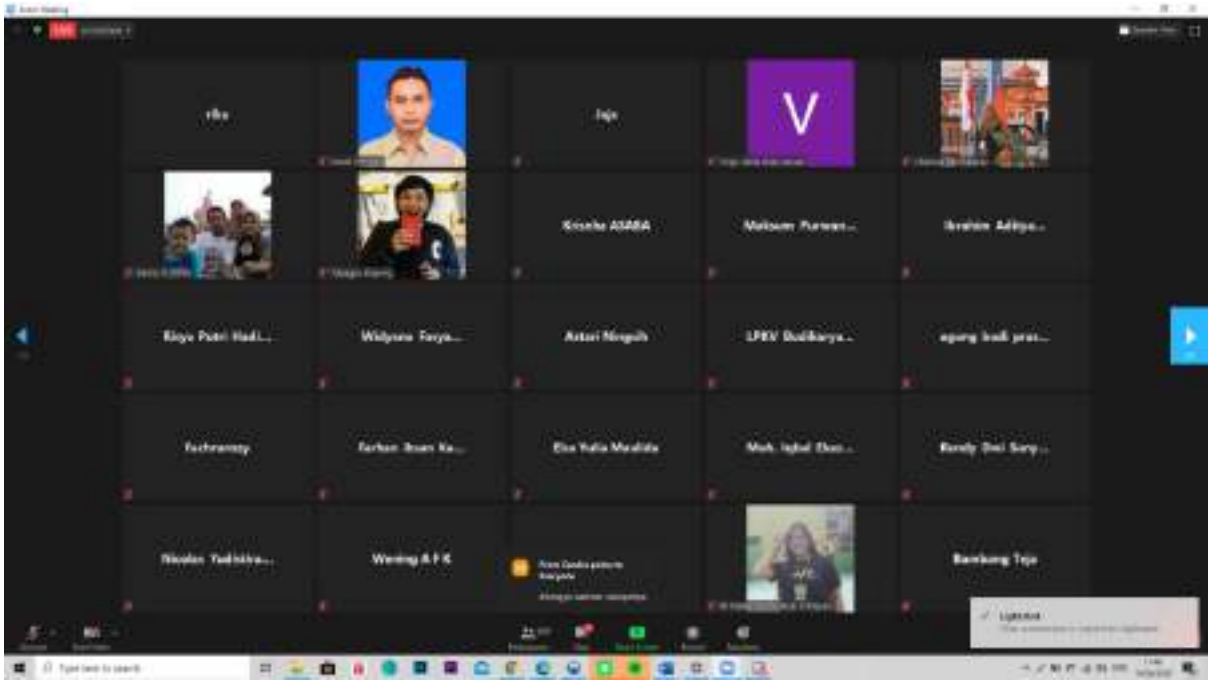
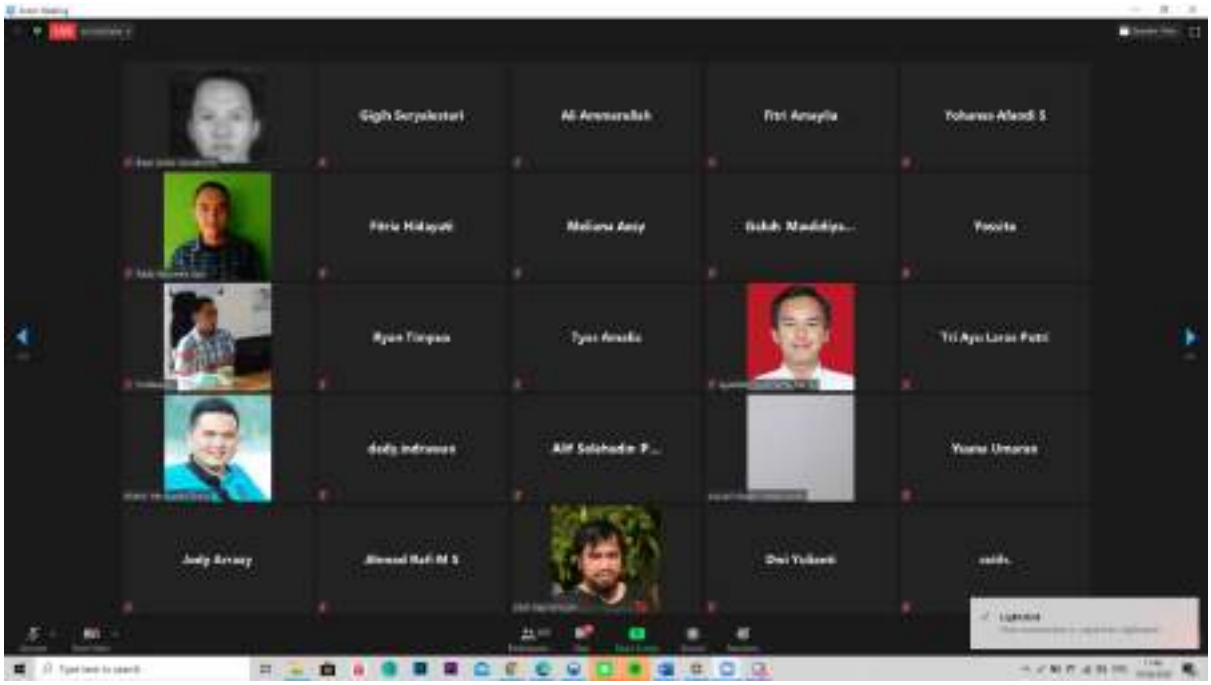
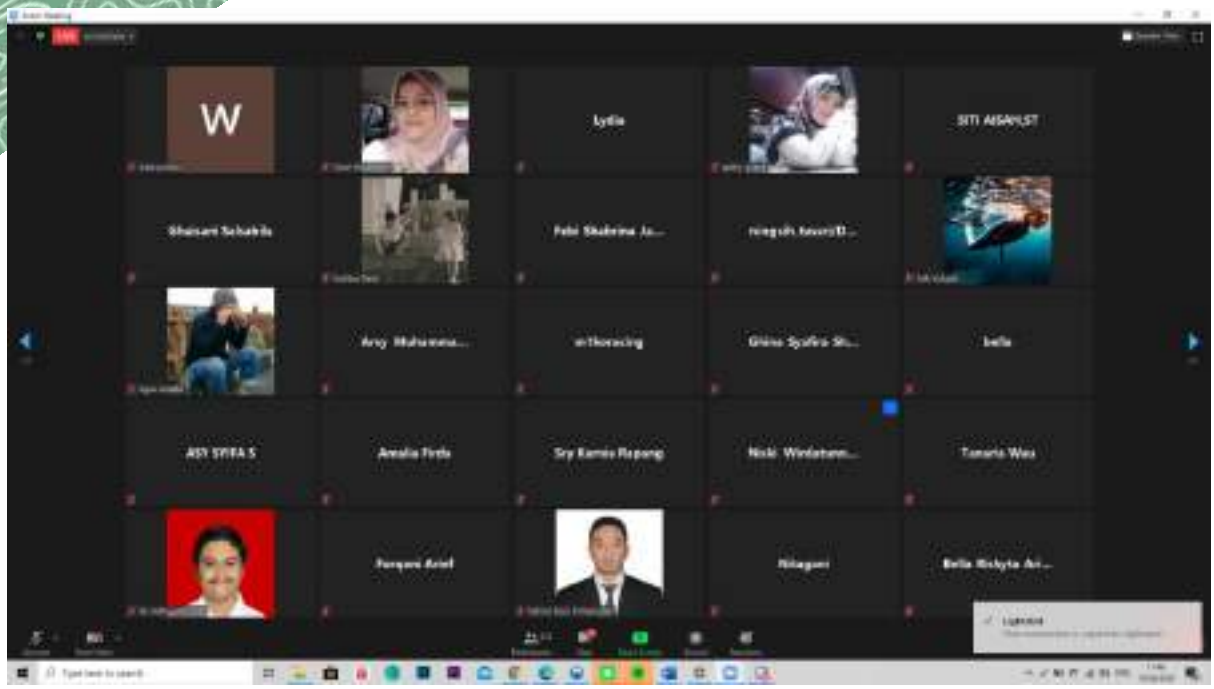

Kisaku ASABA
Widyana Fenya...
Astori Ningsih
Bambang Teja


Gigih Suryalestari
Ali Annasrullah
Fitri Ameylia
Yohanes Afandi S
Fitria Hidayati
Meliana Amiy
Yosita
Ryan Tiarpan
Tyas Amelia
Tri Ayu Lorao Putri
Yuana Umaroa
Judy Arvacy
Dwi Yulianti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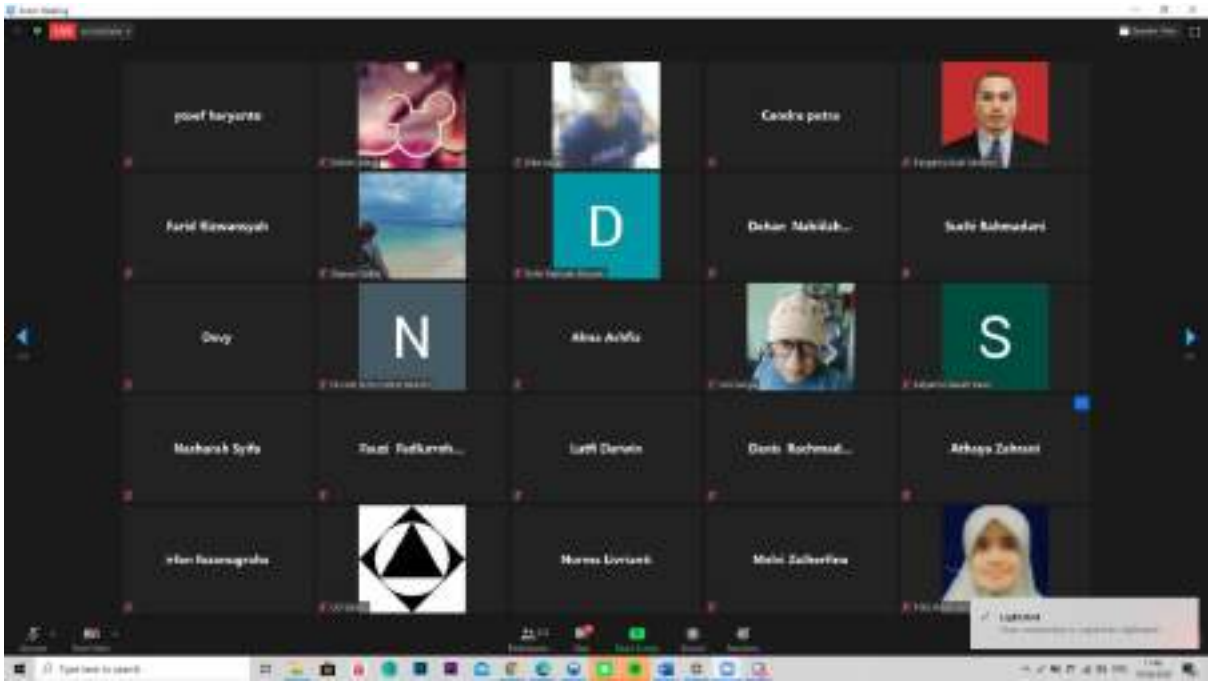
SITI ASSAYLST
Ghaisani Sukakila
Febi Shakrina Ju...
Arsy Muharama...
erlhorsing
Ghina Syafira Sh...
bella
ASY SYIFA S
Amalia Firda
Sry Kamia Rapang
Nicki Winlatama...
Tamaria Wau
Furqana Arief
Rinaguni
Bella Rizkyta Ari...


yosef haryanto
Candra putra
Farid Rianansyah
D
Dekan Nakilah...
Sachi Rahmadani
Devy
N
Alina Achfia
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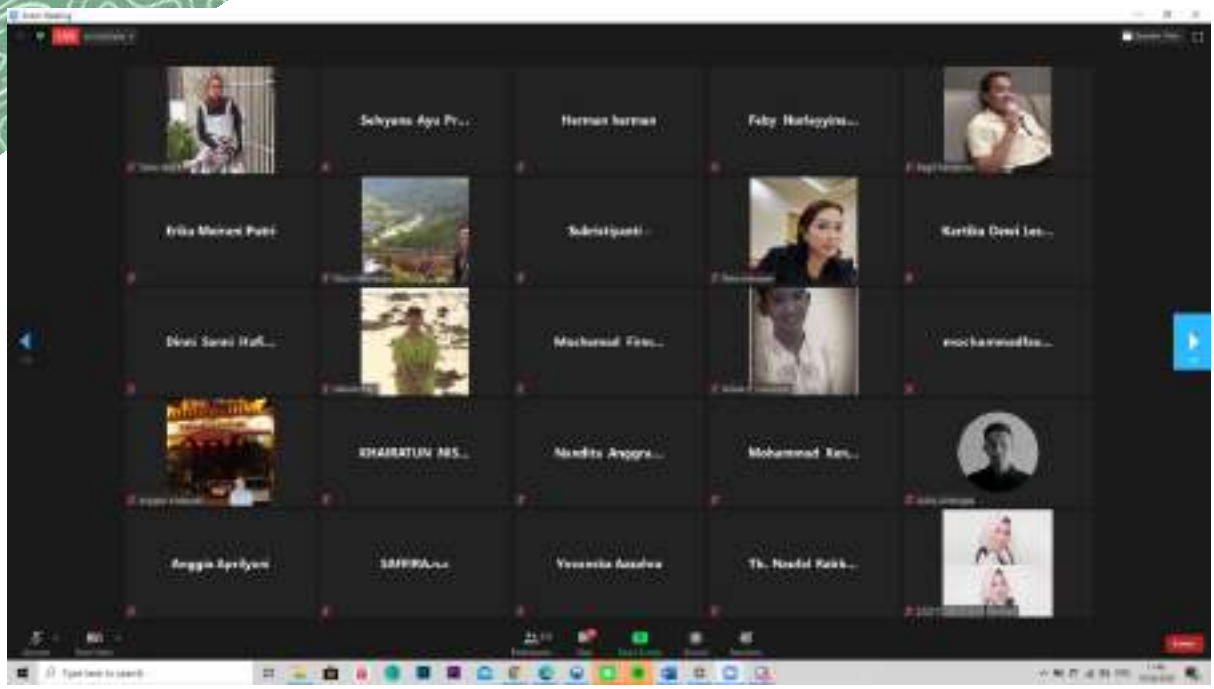
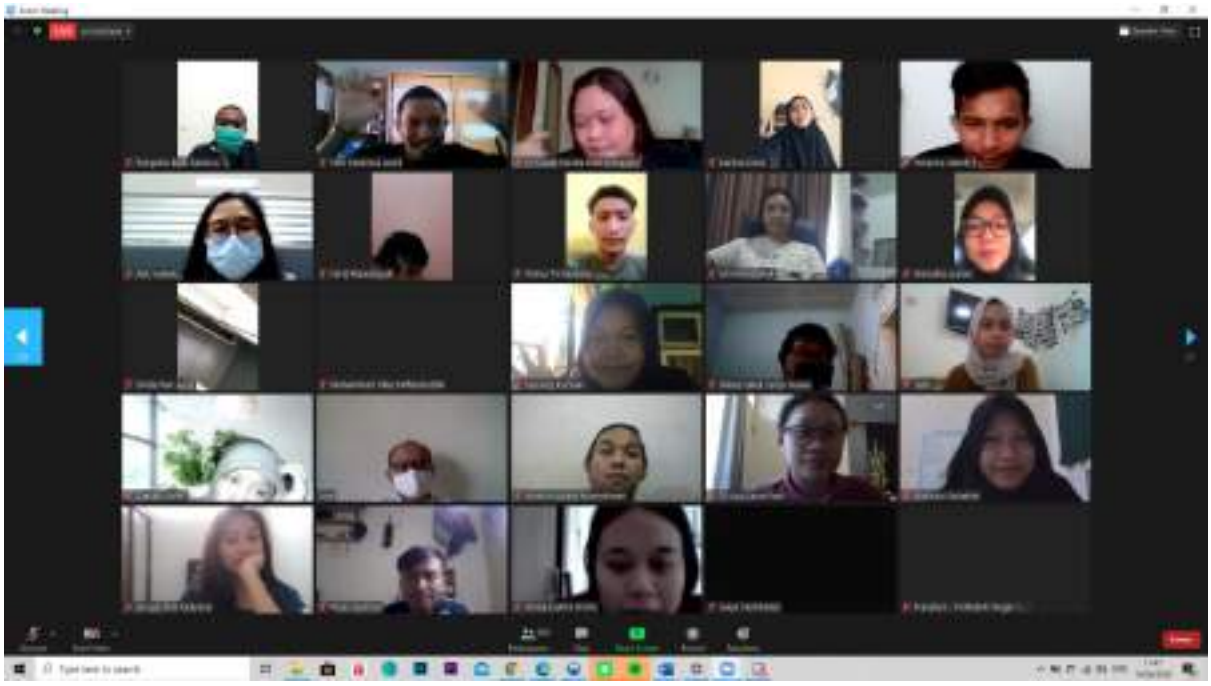
Marharah Syifa
Fauzi Fadhurrah...
Lutfi Darwin
Dinda Rachmadi...
Athaya Zahrani
Mona Liviyanti
Meisi Zulhelfina


Selvyana Ayu Pr...
Herman herman
Feby Nurleyyins...
Erika Marsari Putri
Kartika Dewi Les...
Dewi Sanni Hafi...
Muhamad Firm...
mochammadfau...
KHAIRATUN NIS...
Nandita Anggra...
Mohammad Ken...
Anggia Apriliyani
Yovanesia Anselma
Th. Noufal Fakih...

Rendy Dwi Sany...



Dokumentasi

Webinar FTSP

Series 3

"State of The Art and Breaktrough of Air Pollution Monitoring".

Pembicara:
1. Dr. Prakhar Misra (RIHN Kyoto)

2. Dr. Eng. Didin Agustian (Teknik Lingkungan Itenas).

Fakultas Teknik Sipil dan Perencanaan

Institut Teknologi Nasional Bandung

Kamis, 25 Juni 2020

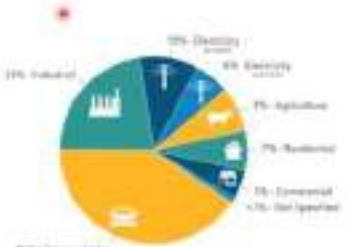
Prakhar Misra
zoom

FTSP New Normal Web
Prakhar Misra
Impact of Urban Growth on Air Quality
in Indian cities using Remote Sensing
Prakhar Misra, PhD.
Researcher, RIHN
ITENAS (Zoom), 25 June 2020
zoom
Research Institute for Humanity and Nature

Challenge: Lack of PM2.5 concentration data updated emission inventory

Lack of PM2.5 monitors mean lack of time-series data for assessing impact of policy

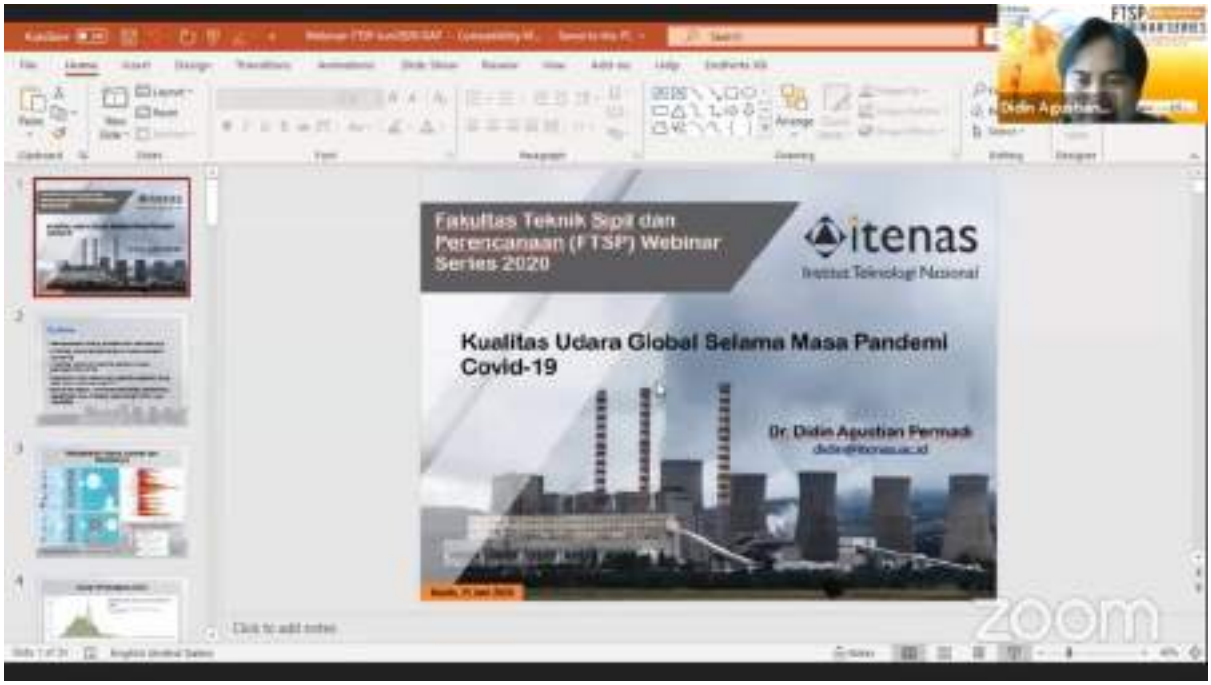
An **emissions inventory** is a database that lists, by source, the amount of air pollutants discharged into the atmosphere during a year or other time period

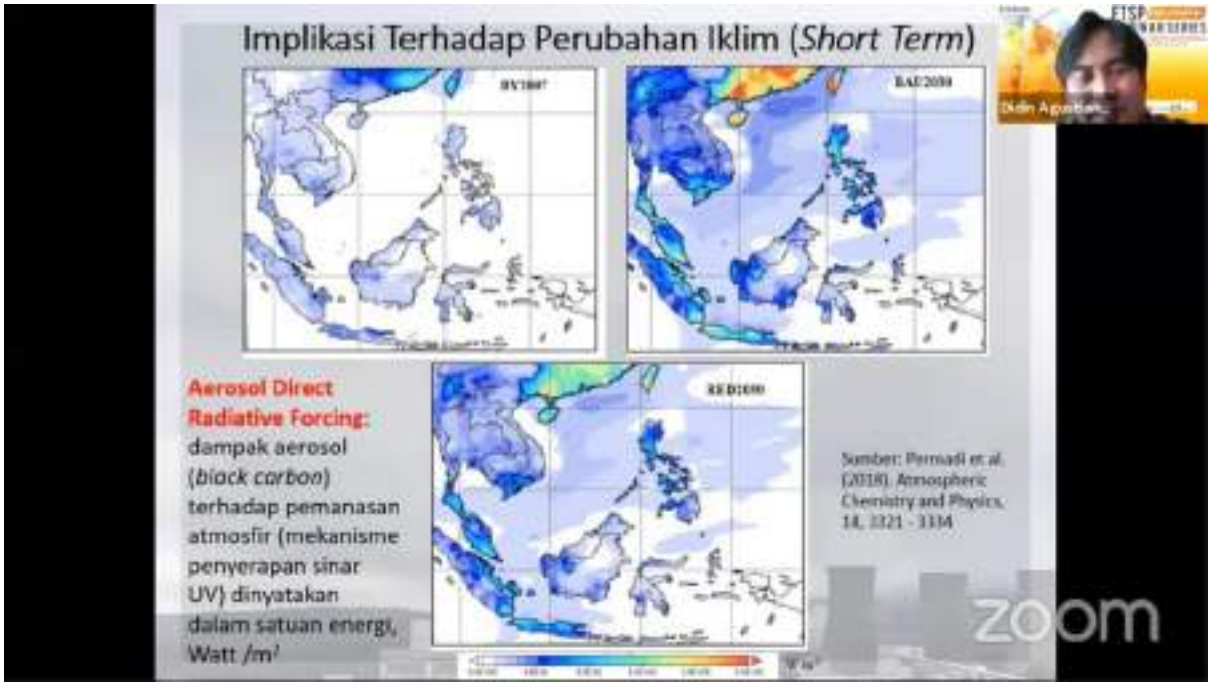


Tier-1 inventory

versus

Tier-3 inventory


Fakultas Teknik Sipil dan Perencanaan (FTSP) Webinar Series 2020
itenas
Institut Teknologi Nasional
Kualitas Udara Global Selama Masa Pandemi Covid-19
Dr. Didin Agustian Permadi
zoom


Implikasi Terhadap Perubahan Iklim (Short Term)
Aerosol Direct Radiative Forcing: dampak aerosol (black carbon) terhadap pemanasan atmosfir (mekanisme penyerapan sinar UV) dinyatakan dalam satuan energi, Watt /m²
Sumber: Permadi et al. (2018). Atmospheric Chemistry and Physics, 18, 3321 - 3334
zoom

itenas
FTSP
NEW NORMAL
EBINAR SERIES
OTION & COLLABORATION ON ACADEMIC
RCH TO INDUSTRY ACTIVITIES
Dyah Ari H. Taroepratjeka (Moderator)
zoom

FTSP
WEBINAR SERIES
Dyah Ari H. Taroepratjeka...
Ernawati Yulani K.
Rika Hernawati
Dede Agustian Permadi [Ke...
Soni Damayan
zoom

Andrean Maula
Kartika Dewi L...
Faldy Aprianto ...
Ibrahim Aditya ...
Fuad Muhamad
Fauzi Fadlurroh...
Wiwik Ayesha
252015045-Ha...
Sarah Nirina
Dyah Asri H. Ta...
Ernawati Yulias...
Khemal Wicaks...
Fitri Amayla
Uci Sanusi
Hagi Nagel T...
Verisa Bivia
Rifqi AT
Fihira Zachra...
Nanda Rizkyan...
Rika Hernawati
Ittaila wulanda...
Upa Nur Mulya...
Amelia
Didin Agustian...

Andrean Maula
Ibrahim Aditya ...
Fuad Muhamad
252015045-Ha...
Sarah Nirina
Dyah Asri H. Ta...
Ernawati Yulias...
Fitri Amayla
Uci Sanusi
Rika Hernawati
Upa Nur Mulya...
Amelia
Didin Agustian...
Muhammad Ha...
Muhammad Riz...
Soni Darmawa...
Haneda
Firmansyah Nur...
Grace Alexand...
Siti Rohmah
yessirikwans
A. Arifin Itsnan...
hamdan fadilla...
252017092-Ayu...
Muhammad Har...

Dokumentasi

Webinar FTSP

Series 4

"State of The Art Technology for Hazard Mitigation".

Pembicara:
1. Dr. Aditya Gusman (GNS Science New Zealand).

2. Dr. Henri Kuncoro (Teknik Geodesi, Itenas).

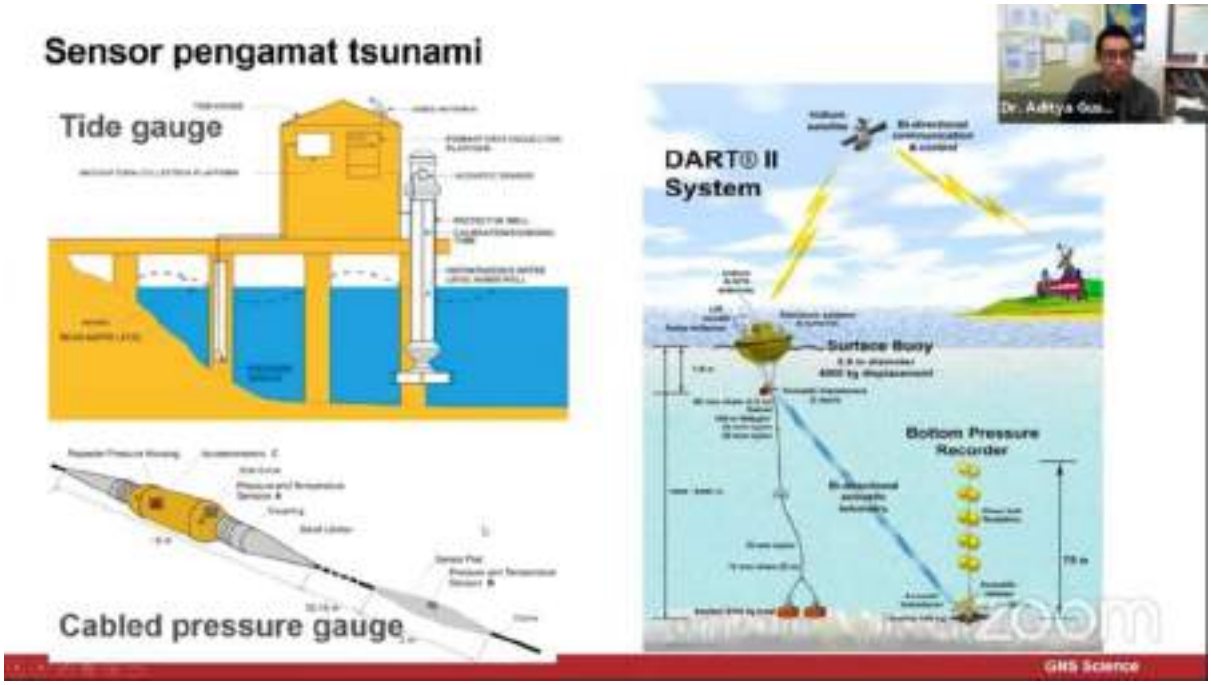
Fakultas Teknik Sipil dan Perencanaan

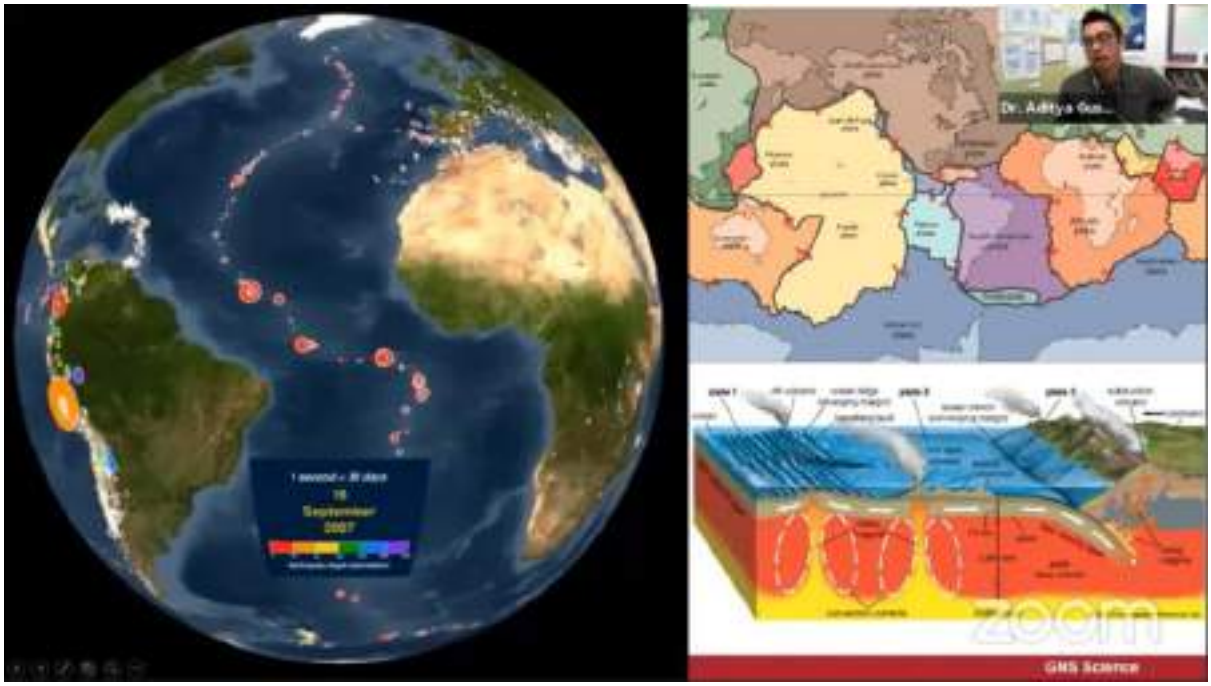
Institut Teknologi Nasional Bandung

Kamis, 2 Juli 2020

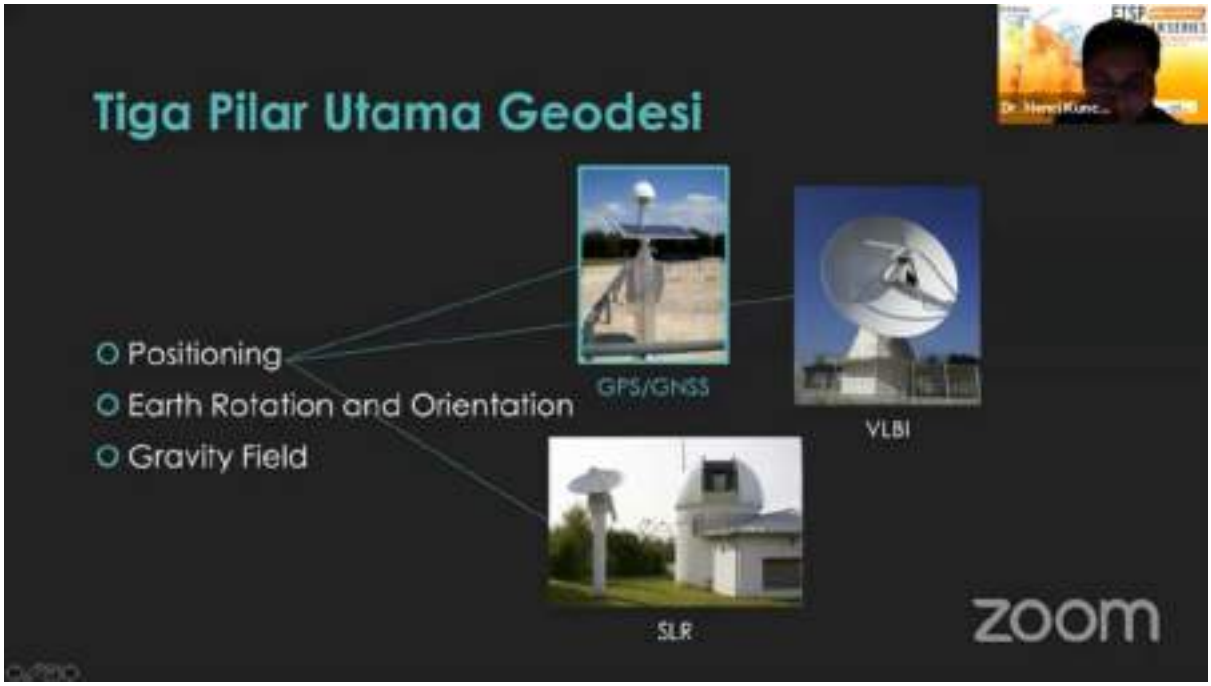
Dr. Aditya Gus...
Teknologi dan Metodologi
Peringatan Dini Tsunami
Aditya Riadi Gusman
GNS
zoom

Dr. Aditya Gusman (Keynote Speaker)
zoom


Sensor pengamat tsunami
Tide gauge
Cabled pressure gauge
DART® II System
Surface Buoy
Bottom Pressure Recorder
Dr. Aditya Gus...
GNS Science


Dr. Aditya Gus...
GNS Science

itenas
FTSP
NEW
WEBINAR SERIES
PROMOTION & COLLABORATION ON ACADEMIC RESEARCH TO INDUSTRY ACTIVITIES
Henri Kuncoro
Teknik Geodesi Itenas
zoom


Tiga Pilar Utama Geodesi
Positioning
Earth Rotation and Orientation
Gravity Field
GPS/GNSS
VLBI
SLR
zoom

itenas
FTSP NEW NORMAL
WEBINAR SERIES
Rika Hermawati
Dr. Henri Kuncoro (Keynote Speaker)
Ayu Jessy Kartini (Moderator)
Soni Darmawan
zoom

Rika Hermawati
Dr. Henri Kuncoro
Reza Ardian
Ayu Jessy Kart...
Rizkia Mulyani S...
Andy Wahyu
Dr. Aditya Gus...
M. Sukhan
Fahd M
Fajar Muhtadi
Feny Valentine
Rifqi AT
232019018
muhammad Gil...
Adelya Zena...
Ilamet Supriya...
Feri Naldi
Soni Darmawa...
zoom

Dr. Henri Kuncoro...
Rosa Ardian
M Ainul Fauza...
Ayu Jessy Kurn...
Vivina Elvira
Rizqi Muhamma...
Andy Rachmat
Dr. Aditya Gun...
M. Sukhan
Raden mocha...
Rukid N
Raditya R
Fauzi 17
Fitri Amaylia
Nazriatun Nisa
Fajar Muchsin
Feny Valentine

Dokumentasi

Webinar FTSP

Series 5

"State of The Art Research on Geomatic and Planning".

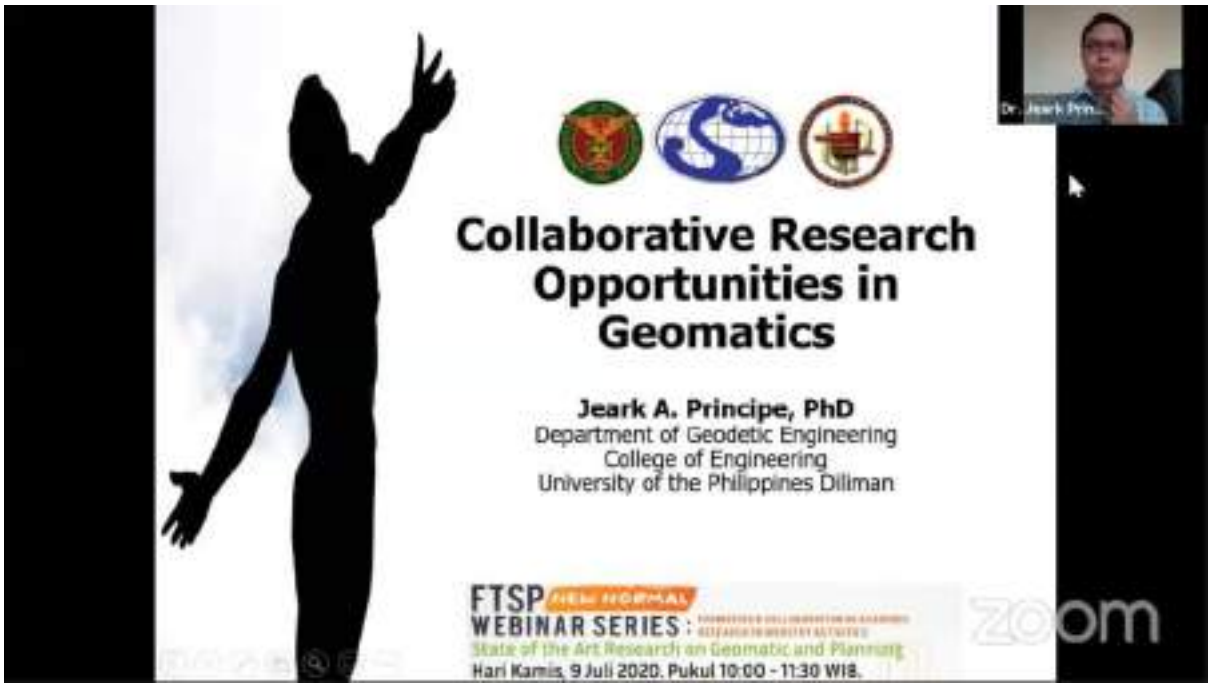
Pembicara:
1. Dr. Jeark A. Principe (University of The Philippines Diliman)

2. Dr. Widya Suryadini (Perencanaan Wilayah dan Kota, Itenas).

Fakultas Teknik Sipil dan Perencanaan

Institut Teknologi Nasional Bandung

Kamis, 9 Juli 2020


Collaborative Research Opportunities in Geomatics
Jeark A. Principe, PhD
Department of Geodetic Engineering
College of Engineering
University of the Philippines Diliman
FTSP NEW NORMAL
WEBINAR SERIES :
State of the Art Research on Geomatic and Planning
Hari Kamis, 9 Juli 2020. Pukul 10:00 - 11:30 WIB.
zoom

zoom
Dr. Jeark Principe (Keynote Speaker)

Training Center for Applied Geodesy and Photogrammetry (TCAGP)

Established in June 1964

- research and extension arm of the UP Department of Geodetic Engineering
- center of excellence for education, training and research in the field of geomatics in the Philippines

Introduction

Institut Teknologi Nasional

BACHELOR PROGRAM IN URBAN AND REGIONAL PLANNING

OUR RESEARCH: WHERE WE ARE NOW, AND WHERE WE ARE GOING NEXT

Dr. Widya Suryadini, S.T., M.T.

zoom
Dr. Widya Suryadini(Keynote Speaker)

Issues in Mobility & Infras
Strategies for Sustainable Mobility And Infrastructure
Green Transportation
Intelligent Transport System
Transport Demand Management
Improving Access To Infrastructure
Road
Airport and City
Toll Road
Pedestrian
Social Network Analysis
Spatial Modelling
Apps Development
Developing the Approach, Method, and Analytical Techniques
Game Theory
Value Capture
Advancing the Ability of Institutions and Finance System in Infrastructure Development
zoom

Nur Affah
FTSP
Farenza Fadli N...
Fajar Nuchlisin
Latif Taoqik
Syarief
Farhan Ihsan K...
KEMAL GUMIN...
Angram Fitri Ri...
zoom

Nur Affah
FTSP
Farenza Fadli N...
La Talib
Farhan
Syarief
Farhan Ihsan K...
KEMAL GUMIN...
Angram Fitri Ri...
zoom

Dokumentasi

Webinar FTSP

Series 6

"State of The Art Earth Observation and Advancing Infrastructures".

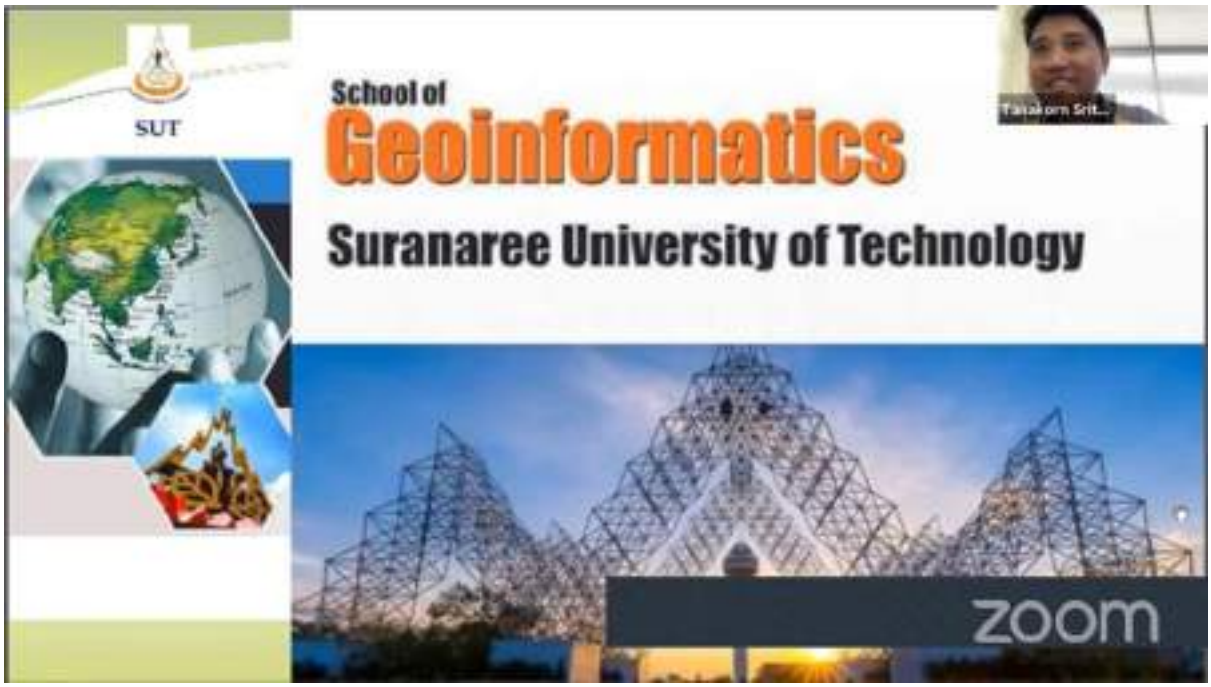
Pembicara:
1. Dr. Tanakorn Sritarapipat (Suranaree University Thailand)

2. Dr. Indra N. Hamdan (Teknik Sipil, Itenas).

Fakultas Teknik Sipil dan Perencanaan

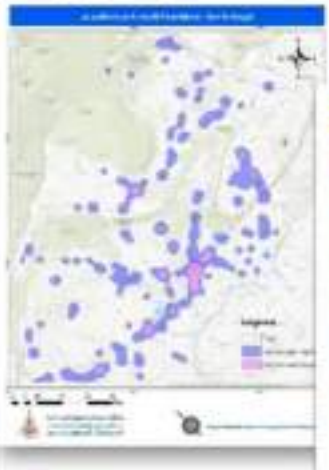
Institut Teknologi Nasional Bandung

Kamis, 16 Juli 2020


SUT
School of
Geoinformatics
Suranaree University of Technology
Tanakorn Srit...
zoom

Tanakorn Sritarapipat
zoom

Research collaborations and assistances: Accid… mapping



We analyse Accident incidents in Chaiyapum province for police department of Thailand

Reduce death tolls in 10-15 April 201

TECHNICAL SUPPORT FOR SATELLITE APPLICATIONS-THEOS-2

Digital Solutions for Advancing Infrastructures
Dr.techn. Indra Noer Hamdhan
Bentley
NGC
Bentley
zoom

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NEW NORMAL
zoom

The classic engineering lifecycle, now called "BIM"...
BIM
Pinterest.com

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NEW NORMAL
NAR SERIES
COLLABORATION ON ACADEMIC
NDUSTRY ACTIVITIES
zoom
Yessi Nirwana, PhD (Moderator)

Rika Hernawati
Geodesi Benar
Dr. techn. Indra Noer Hamdi...
Yessi Nirwana, PhD (Moder...
zoom

Rika Hernawati
Irfan fazanagraha
Yessi Nirwana, PhD ...
Andhyfa Bagus K (2...
Muhammad Zakiyy ...
Asyraf Fakhrisa ...
Yati Nuhati
Aliffan Nugraha Pas...
zoom
22-2019-163 Aris G...

Rika Hermawati
Tanakorn Srita...
Irfan Fazanugra...
Randy Hukam...
22-2016-129 Ta...
Steven Rolland
Vanni Alfarig...
Geodesa Rimas
Yessi Irwana, ...
Andrefa Bagus ...
Ridwan Aristia...
Muhammad Za...
Asyraf Fakhriz...
Yati Mulati
Bijan Dwi Putra
Alza Aditya ...
Alfian Nugraha...
22-2019-163 Ar...