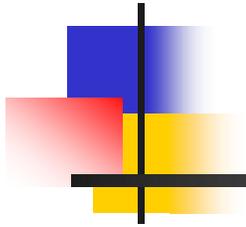
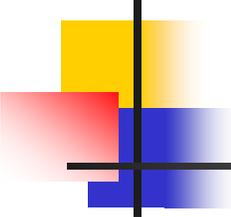


Toward Sustainable Future in Asia

- Background and Future Scope-

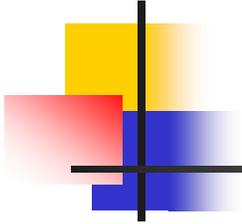


Akimasa Sumi
President,
National Institute of Environmental Studies
Prof. Emeritus
The University of Tokyo



Background

- Paris Agreement(COP21)
 - NIES New Strategy for International collaboration
 - ICSS-Asia Activities of UT/IR3S
 - AIT Activity
- 
- International Forum on Sustainable Future in Asia

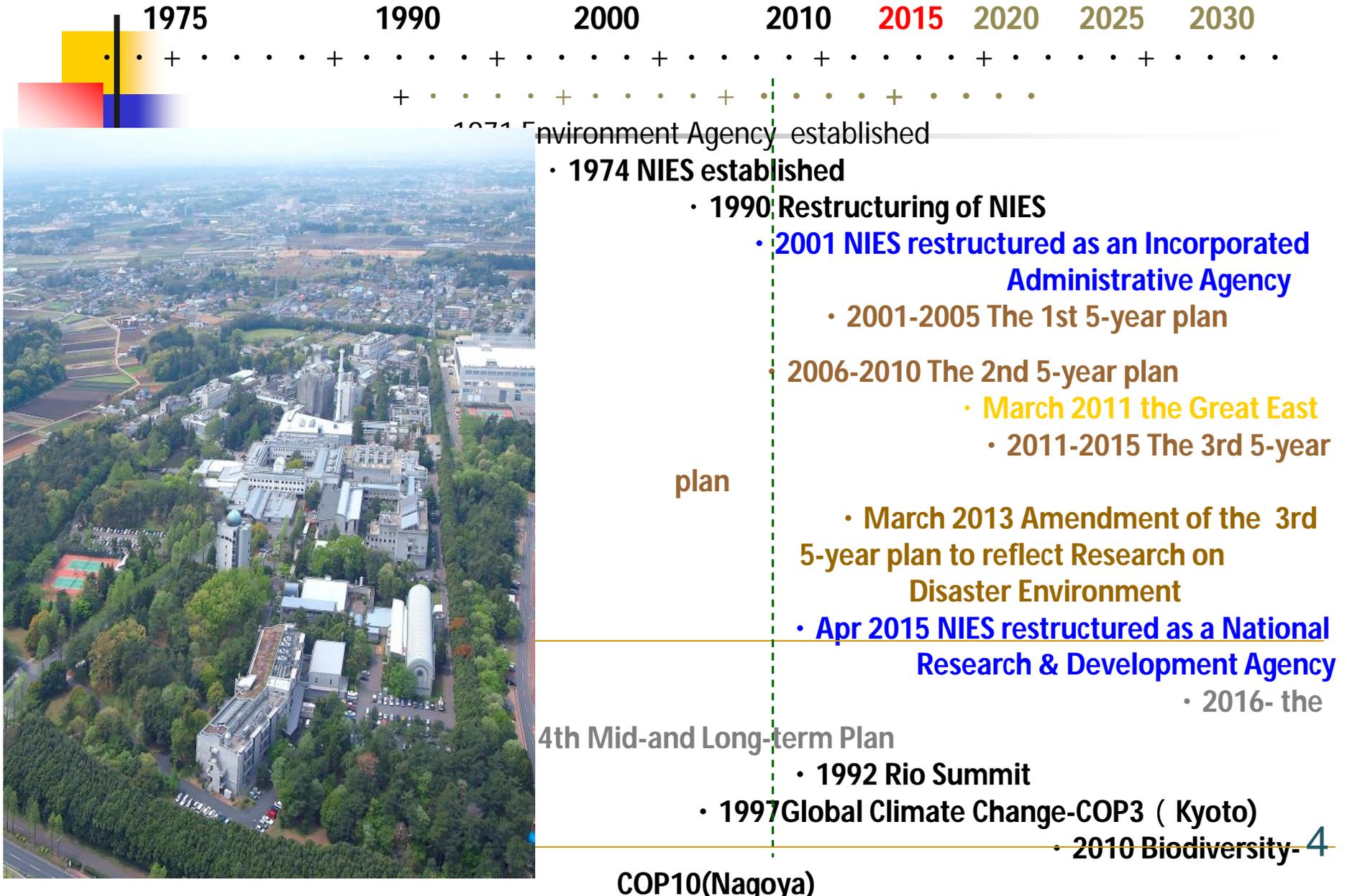


What is NIES?

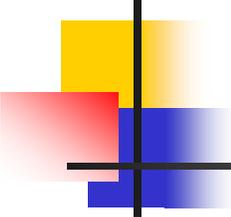
- Research Institute taking care of the whole spectrum of Environmental Issues



History of NIES



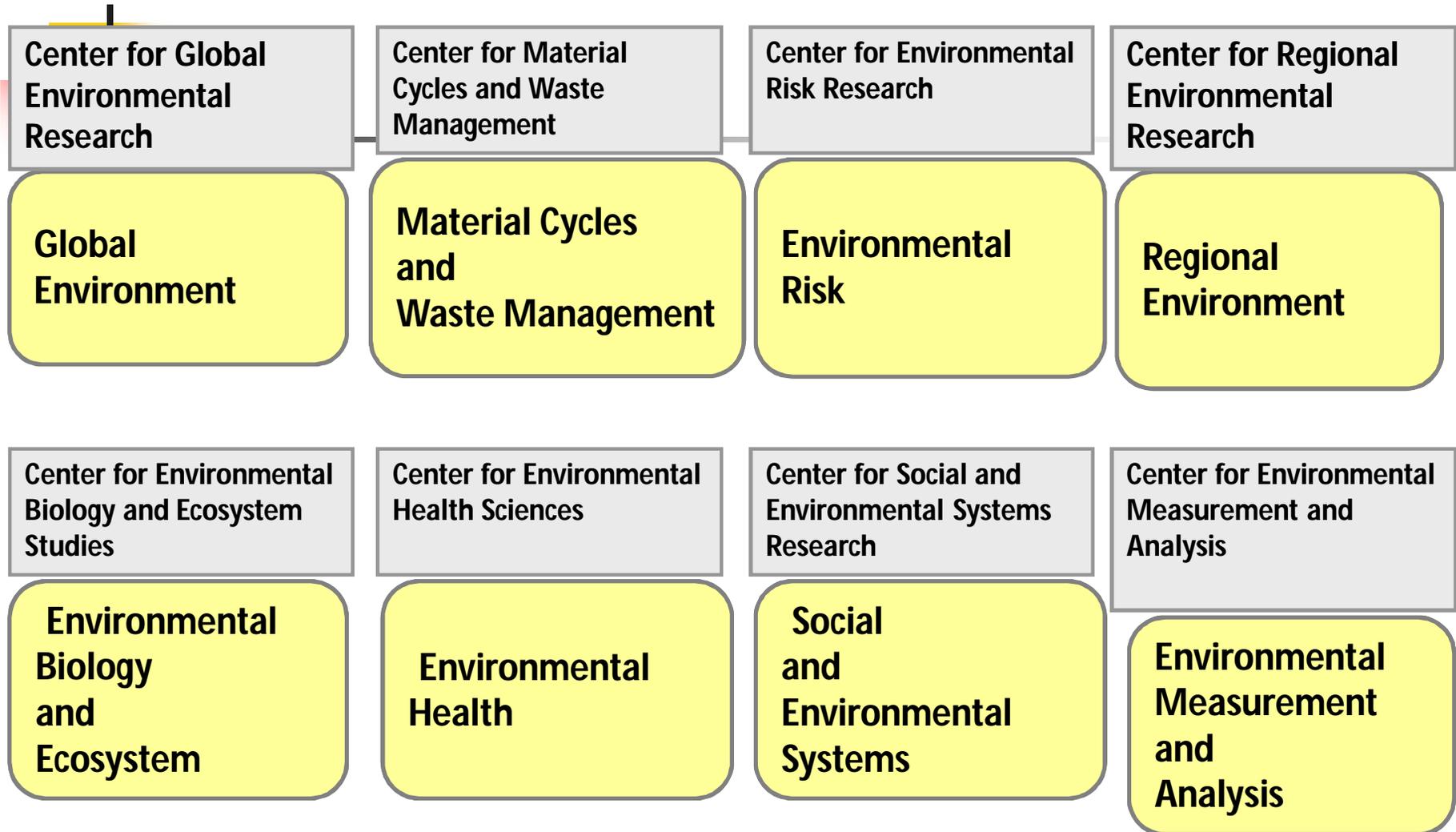
COP10(Nagoya)

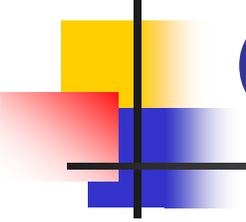


Personel and Budget

- 274 Permanent positions(211 researchers)
- ~600 contracted positions(~400 =post doc.,technicians)
- Budget: ~110MUSD including satellite and Children study

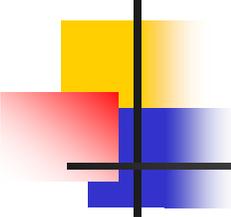
Research Centers and Fields





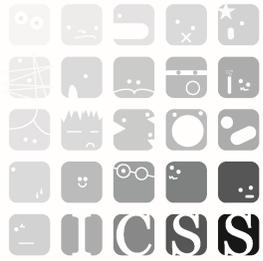
New Strategy of International Collaboration

- Synthesize
- Integrate
- Networking



Activities in University of Tokyo/IR3S

- ICSS 2009 Tokyo
 - Rome, Merseille,
 - Phoenix, Tokyo(planned)
- ICSS-Asia 2009, Bangkok
 - Hanoi
 - Jakarta



International Conference for Sustainability Science

ICSS2009 (February 5-7, 2009), Tokyo, Japan

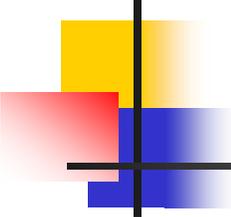
- Invite approx 15 institutional networks around the world related to Sustainability Science
- Statement was submitted to the G8 University Summit at Italy





INTERNATIONAL NETWORK FOR SUSTAINABILITY SCIENCE (INSS)

WWW.INFSS.ORG



About INSS

- International Network for Sustainability Science (INSS) endeavors to be a **platform for sharing knowledge** on present status and approaches for sustainable development, and for linking academic institutions.

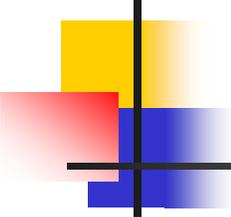


ICSS-Asia 2009 at AIT followed by Hanoi and Jakarta

"Development and sustainability"

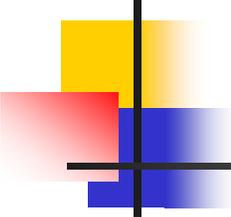
- Focus on social, poverty, gender, energy, urbanization, information, food, mega cities, Urbanization, health, environment (water, air, etc), disaster, climate change, rural





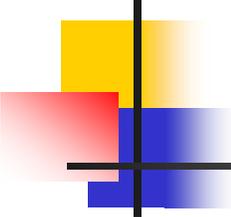
Aim of ICSS-Asia

- Sustainable development
- Participation of funding agency to the meeting
- Introducing good practice of collaboration between academia and practice
 - JICA-JST's Science and Technology Research Partnership for Sustainable Development



Aim of ICSS-Asia2011

- More focus is on demonstration projects
- Various aspects of Climate Change
 - Impacts, Modeling and Monitoring
- Urban-rural relation
- JICA-JST projects-- a link with ODA
- Education
- Innovation



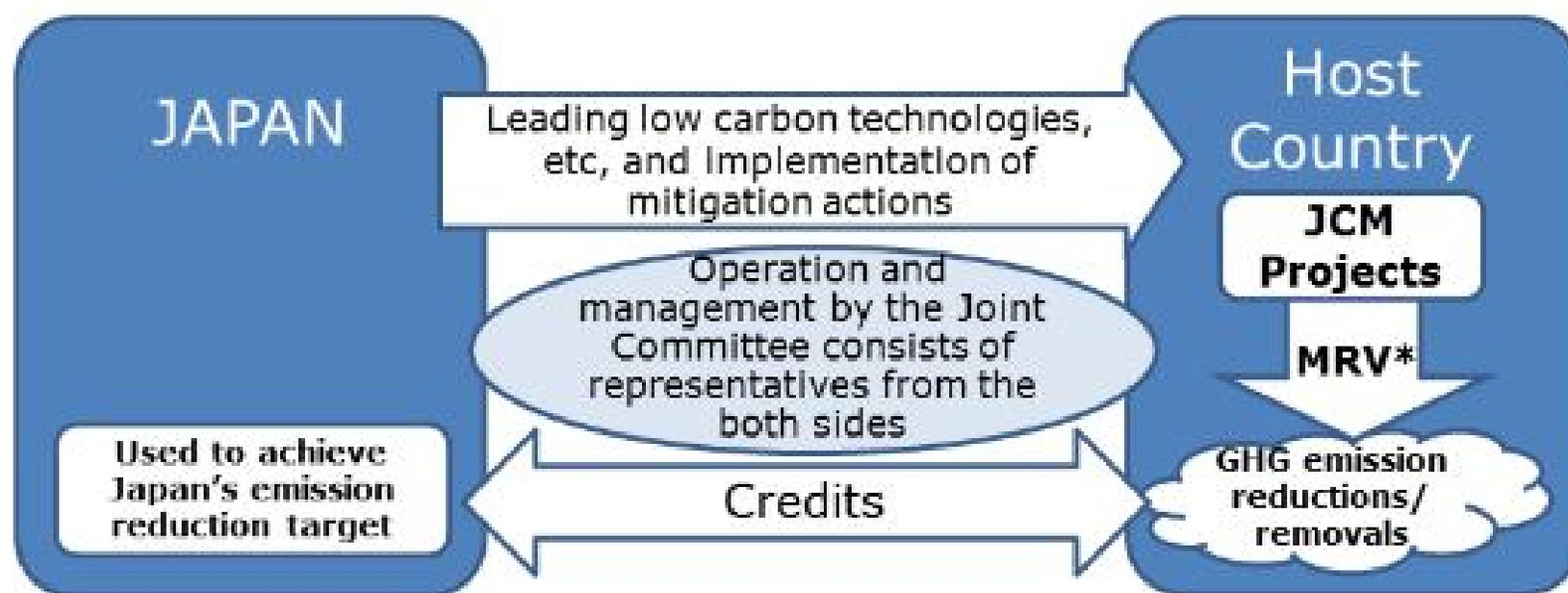
Now is a time for actions!

- Sustainable Development Goals by UN
- Paris Agreement in COP21
- Mitigation and Adaptation for Climate Change
- Global Climate Fund

Sustainable Development Goals



What is JCM?



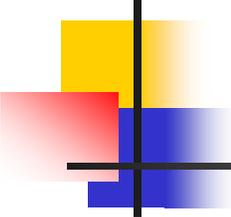
*measurement, reporting and verification

Mitigation tool by using a market mechanism

Countries

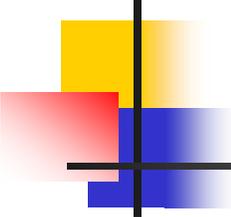


<http://gec.jp/jcm/index.html>



JCM is on-going

- NIES and UT/IR3S JCM-related projects in Indonesia
- Japan-Vietnam Joint University



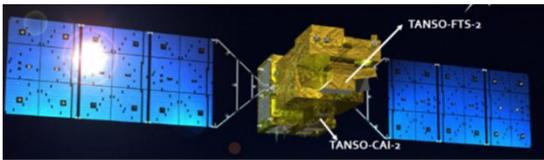
JCM Related Research

- JCM-MRV (Measurement, Reporting, and Validation)
- JCM/Adaptation Capacity Building

GOSAT (Greenhouse gases Observing SATellite) & GOSAT-2



GOSAT



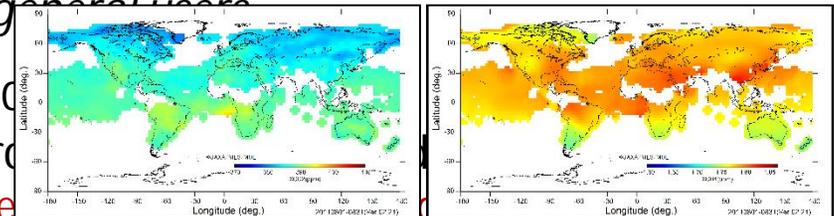
GOSAT-2

- GOSAT was launched on January 23, 2009, and has been in operation for more than six-and-a-half years.
- GOSAT data have been available since April 2009. Almost all of the GOSAT standard data products are open to the public.
- CO₂ and CH₄ column concentrations have been obtained over the world.

- New release of the GOSAT data products in 2014 -2015:
- GOSAT Level 4A regional monthly CO₂ & CH₄ fluxes, with their uncertainties, and Level 4B model-simulated three-dimensional distributions of them have been extended (Ver.02.03 fro CO₂ up to Oct. 2012, and Ver.01.02 for CH₄ up to May 2012).

- *Spatially Interpolated Level 3 Monthly CO₂ and CH₄ concentration have been distributed to general users*

- GOSAT-2 will be Launched
- CO₂, CH₄, CO, and aerosols
- Much greater data range



compared with GOSAT Level 3AM Monthly map (Left: XCO₂, Right: XCH₄) (August 2011)

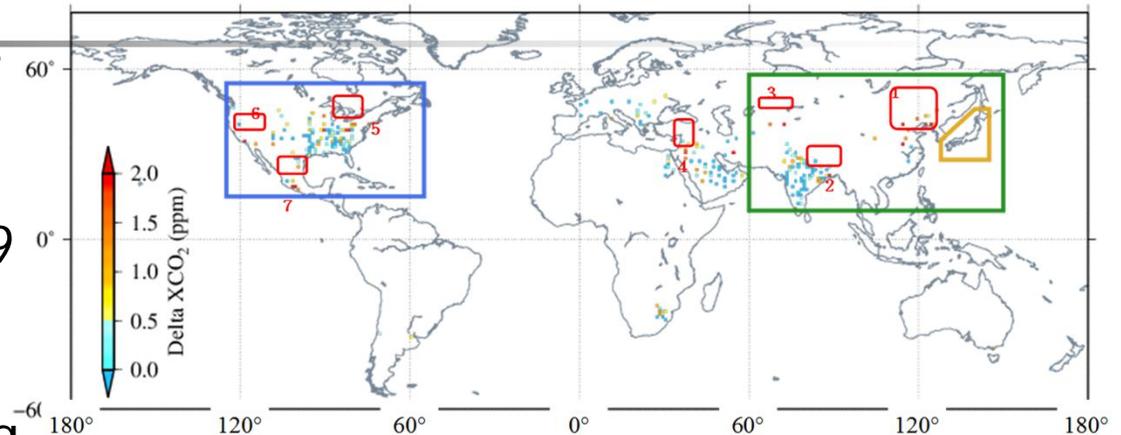
More Info:

- GOSAT Project Website: <http://www.gosat.nies.go.jp/>
- GOSAT-2 Project Website: <http://www.gosat-2.nies.go.jp/>

Unprecedented Observation of Anthropogenic CO₂ Emissions of Mega-City Regions from Space

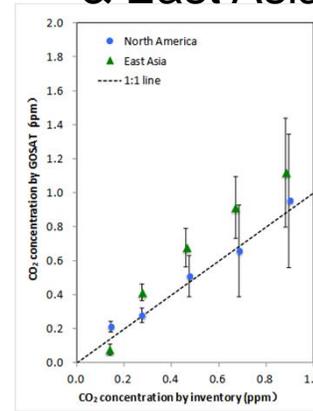
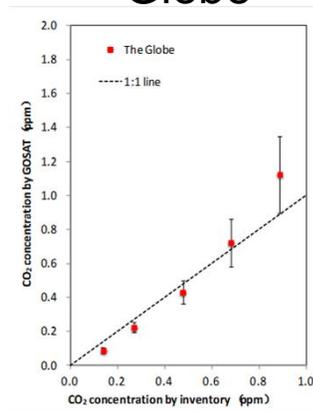
CO₂ concentrations in mega-cities and their surroundings were analyzed for the three and half years from June 2009 to December 2012, based on the observational data acquired by "IBUKI", indicating the tendency for higher CO₂ concentrations in mega-cities than those in their surroundings.

These studies demonstrate the potential utility of satellite observation of CO₂ concentrations as a tool for monitoring green-house gas emissions (inventory) from

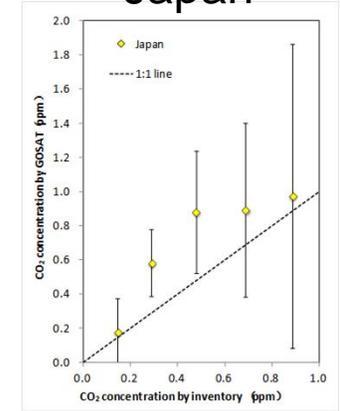


North America & East Asia

Globe



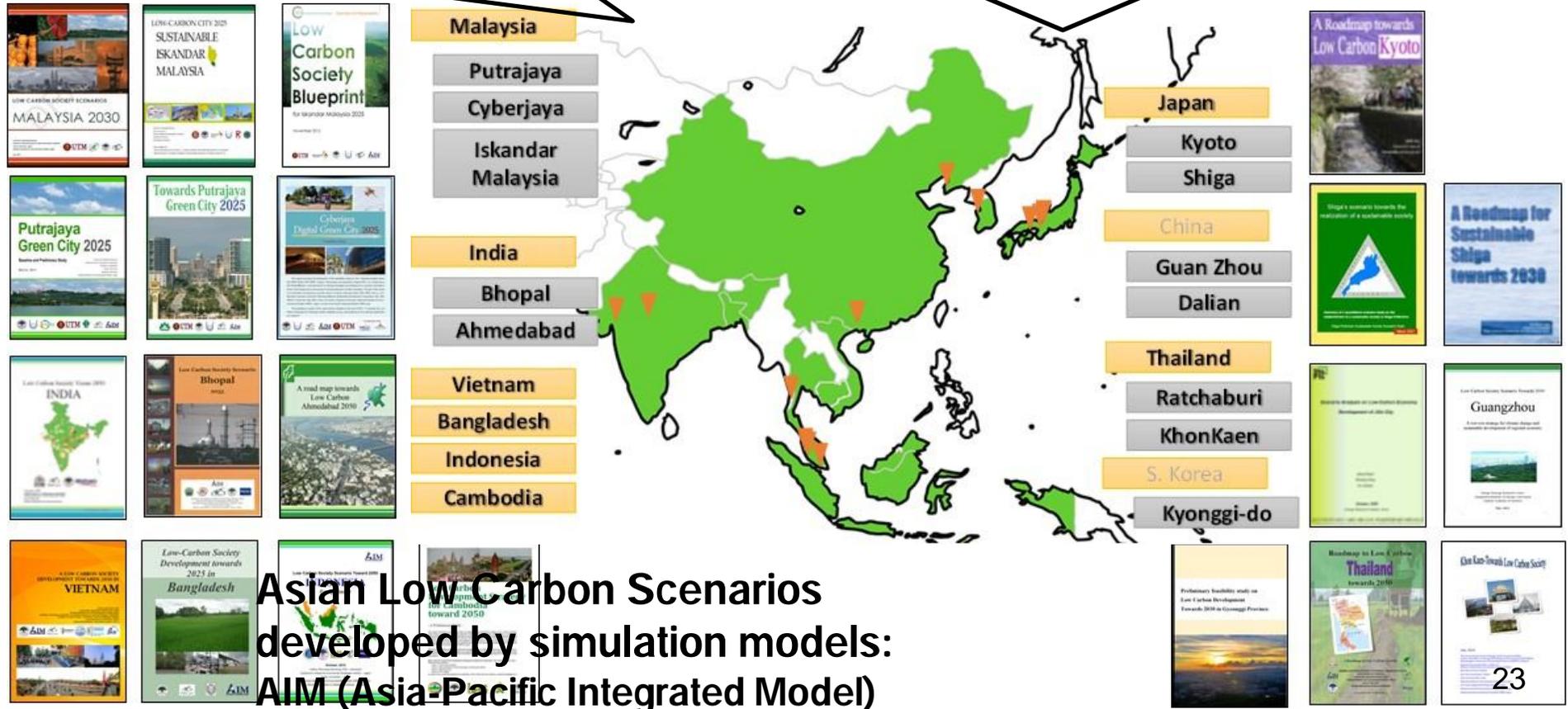
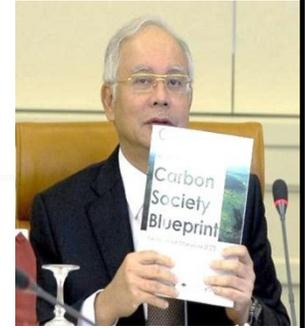
Japan

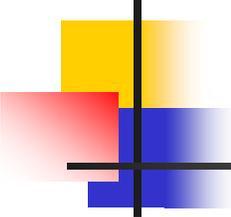


Relationships for anthropogenic CO₂ concentrations derived from emission inventory

International Cooperation toward Low Carbon Society

Adopted as Iskandar Malaysia Low Carbon Society Blueprint by Prime Minister, and move forward





Role of International Forum

- Now is a time of actions!
- A lot of possibilities
- **Action-oriented** Research



- Promote Further collaboration
- **Platform** for Sustainable Society in Asia