1 st GOFC-GOLD Fire Inter-Regional Network meeting , Sun City, May 9, 2011



• LUCC Phase I

- 1993: Network is established in Manila, Philippines for development of an operational methodology for monitoring LUCC
- 1994: common method and data collection protocols were initiated
 - ▼ Four case studies selected
 - Malaysia : Klang-Langat watershed
 - Philippines : Magat Watershed
 - Thailand : Mae Chaem Watershed
 - Indonesia : Citarum Watershed

- 1994-1997:
 - the internal coordination workshops conducted in rotating locations among participating countries
- <u>• 1998 :</u>
 - all the participating countries have produced their country reports, in hard and soft copies.
 - Individual countries also set their own web page in LUCC project which are linked to SEA START network

• LUCC Phase II

• 1999:

- Develop case studies to determine deforestation dynamics
- Regional network was expanded through involvement of more scientists and case studies

• LUCC Phase II

<u>0</u> 2000:

- The regional network compilation of LUCC dataset for outreach package was also strengthened through
- ▼ Web page on LUCC project for each country
- ▼ Interactive CD ROM developed in coorporation with the IGBP-DIS
- Development of regional integrated metadata system was also initiated (SEA START RC, DIF)

• LUCC Phase III

- 0 2001-2002
 - SEARRIN Science Meeting and Field Training took place from APN funding

• Post LUCC phase I-III

- <mark>0 2004:</mark>
 - × SE-Asia Burnt Area Workshop in Selangor, Malaysia
- - × NASA-LCLUC Science Team Joint Meeting with MAIRS, GOFC-GOLD and SEA START in Khon Kaen Thailand

Situations of Network

- Lack of funding for projects to keep up activities and strength of the network -> scientists work on their own resources
- Network is not recognized by local government
 -> difficult to take further actions on mitigation process

Fire-IT Roles

Assisted Geo-Informatics and Space Technology Development Agency (GISTDA), Thailand for establish a Term of Reference(TOR)
for the new Satellite receiving system
The system was installed and operated on May 2010

Geo-Informatics and Space Technology Development Agency



TERAWEB HOME PAGE

Welcome to our Home Page

Please select from one of the following services:

- HotSpot[™] Fire Detection
- StormTracker^w
- TeraCat[™] Satellite Data Catalog





Usually occurs from land clearing and/ or crop residue burning during dry season
(May-Sep for lower part of region and Nov-Apr for upper part of region)





Last Year Situation: fire map available: 03/12/10 -03/21/10

Statistics for burned area in Thailand



What are the reasons behind the up and down trend?

- Local people got educated that biomass burning is a bad thing?
- •Government put the hard effort on biomass burning prevention?
- •The climate condition play significant role on this situation?

What should the network and/or scientists do for all stakeholders to keep the trend go down?

- Forest Fire Control Department : need the faster fire detection system/information so they could take action as soon as they can.
- Locals who burned need to realize the consequence and drawback of biomass burning activities.

•People who suffering from biomass burning activities should be informed about the burning and air quality situation.

What are all obstacles?

- There are no geostationary satellite that equipped w/ fire detection sensor in the region
- Still need more research in the region for fully understanding the biomass burning and its consequence
- The collaboration between network and/or scientists to all stakeholders.

- The current/ongoing project in SE-Asia on Biomass burning research
 - Thailand : Forest Fire Control Dept: Validation of MODIS Fire product, Universities: Emission factors and inventories from biomass burning, air pollution modeling, aerosols research in Thailand, Laos, Myanmar, Cambodia
 - Philippines: Atmospheric Monitoring and Modeling in the Manila Observatory
 - Singapore: Aerosols analysis(National University of Singapore)
 - Malaysia: Remote and Optical Sensing Research, Universiti Sains Malaysia
 - Indonesia: Measurement of fine and coarse particle in Bundung, Institute of Technology Bandung

• The current/ongoing project in SE-Asia on Biomass burning research

• The 7-SEAS <u>http://7-seas.gsfc.nasa.gov/</u>

GODDARD SPACE FLIGHT CENTER				+ Visit NASA.gov	
7 - S E Seven South	AS East Asian Stu	dies Mission			
+ OVERVIEW	+ INSTRUMENTATION	+ DATA	+ LOGISTICS	+ MEETINGS	
+Home	NASA ROSE	NASA ROSES Call for 7-SEAS Activities via SEAC ⁴ RS (proposals due 1 February 2011)			
Home	Seven SouthEast A	Seven SouthEast Asian Studies (7-SEAS) Mission The Seven SouthEast Asian Studies (7-SEAS) Mission has been established to characterize aerosol- meteorological interactions from Java through the Malay Peninsula and Southeast Asia to Taiwan. The 7-SEAS program was organized through a collaborative effort with the U.S. State Department and governments in Southeast Asia, NCAR Research Applications Laboratory, NASA Aerosol Robotic Network (AERONET) program, and the Office of Naval Research international field offices. The 7-SEAS reission will utilize collaborator assets to develop ground-based instrumentation networks, remotely-sensed and model data sets, and perform intensive in situ measurements by air, land and sea. The 7-SEAS region from the tropics to subtropics has significant gradients in air pollution varying from near pristine to heavily-polluted atmospheric conditions providing a unique natural laboratory for atmospheric measurements. These atmospheric measurements will improve scientific understanding in clouds and precipitation, radiative transfer, calibration/validation, anthropogenic and biomass burning emissions and transport, natural background atmospheric chemistry, tropical and subtropical meteorology, and regional nowc asting, forecasting and inter- annual outlooks.			
+ ABSTRACT	The Seven SouthEas meteorological intera program was organiz				
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+ REPORTS	and perform intensiv subtropics has signif				
7-SEAS Quick Links + Partners + Contacts + Latest White Paper (draft)	conditions providing measurements will in calibration/validation, atmospheric chemist annual outlooks.				
+ Data Repository + Satellite Images					
+ Privacy Policy and Important Notices Curator: David Giles NASA Official: Brent Holben Last Ubriated: November 15, 2010					

• The 7-SEAS <u>http://7-seas.gsfc.nasa.gov/</u>

➤ This project proposed to investigate the impacts of aerosol particles on weather and the total SE Asian environment Areas of this investigation

- •Aerosol lifecycle and air quality
- •Tropical meteorology
- •Radiation and heat balance
- •Clouds and precipitation
- •Land processes and fire
- •Oceanography (phys. and bio.)
- •Analysis and prediction



• The 7-SEAS <u>http://7-seas.gsfc.nasa.gov/</u>

- A NASA airborne field campaign focusing on atmospheric composition, chemistry, and climate over Southeast Asia related to:
 - Asian monsoon circulation impacts on upper troposphere/lower stratosphere composition
 - Biomass burning impacts on atmospheric composition, radiation, and clouds Nominal deployment period: August –September 2012

