

# **Introduction of Digital Asia**

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# Digital Asia

- A project to realize an Asian version of “Digital Earth”.
- It is a three year project started in 2002.
- It is supported by JAXA ( Former NASDA).
- Its secretariat office is located at ACRoRS, AIT.

# Digital Earth (1)

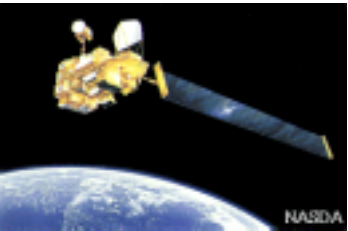
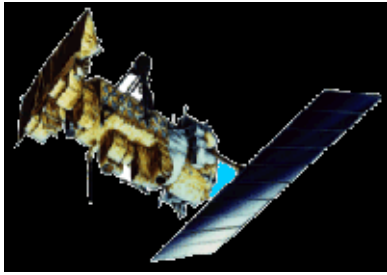
- **Digital Earth:**

Mr. Al Gore proposed a framework of the Internet and Web-based GIS systems to provide digital geo-spatial data .

- **Implementation of Digital Earth:**

By international society including USA, Japan, China, etc, with UNEP.

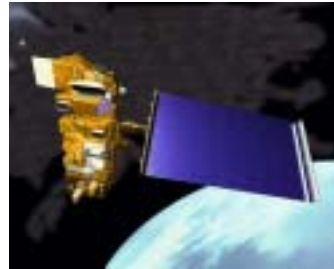
NOAA



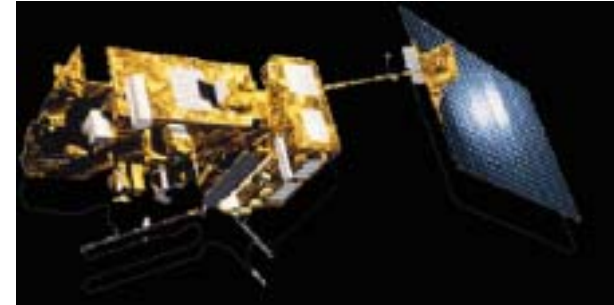
ADEOS-II



AQUA



TERRA



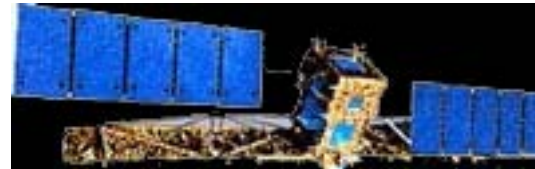
METEOSAT



JERS-1



ALOS



RADARSAT



TRMM



ADEOS



GMS



MOS-1



ERS

# LANDSAT image



**Resolution:30m, Observation Cycle:16days**



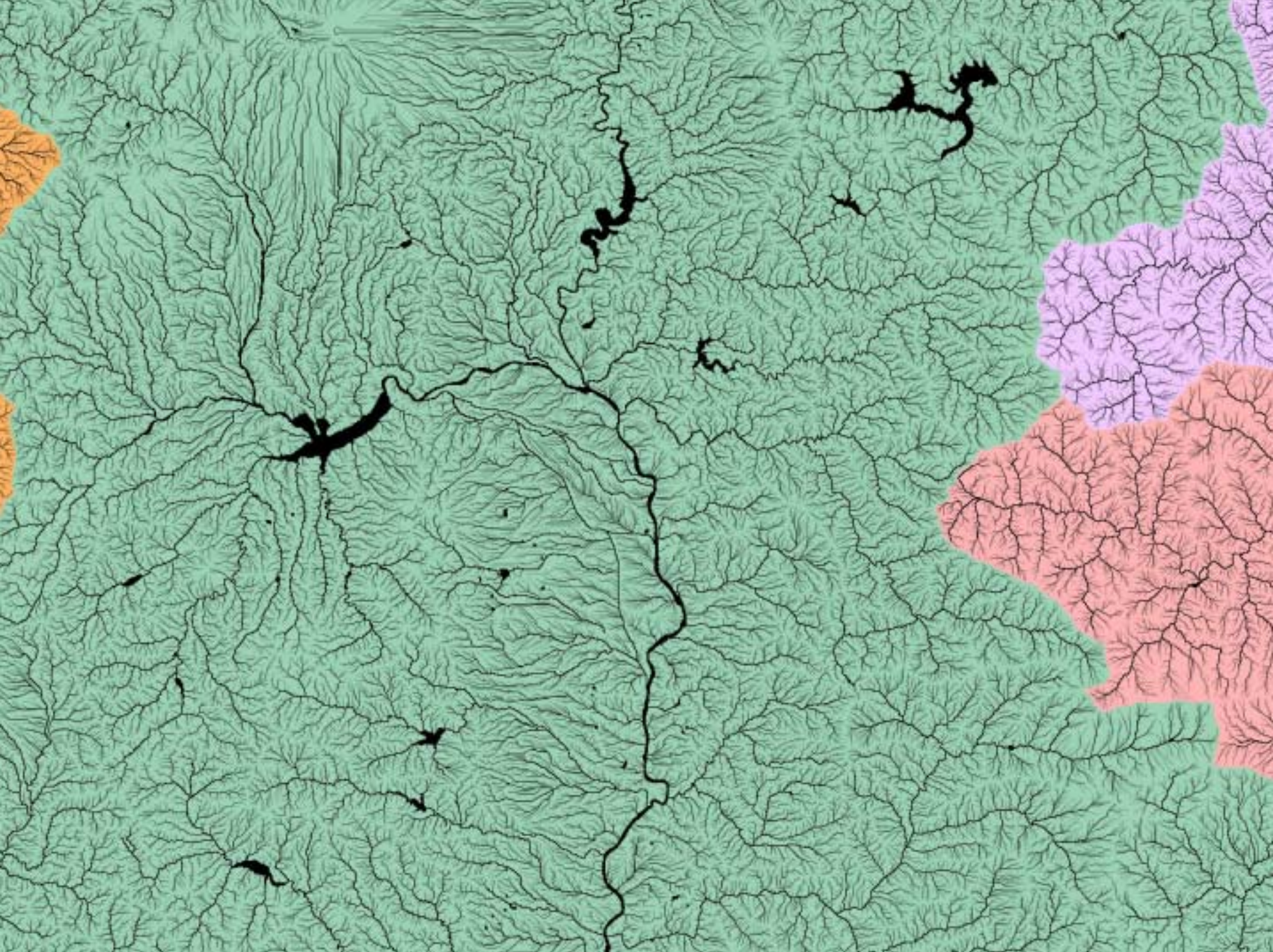
# High Resolution Satellite













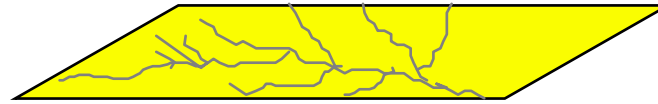
# Data requirement for Model Setup



Topographic Data

*source: 50m grid data*

*+ additional contours of 1m*



River

*source: DEM*



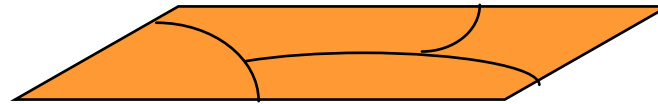
Land cover Data

*source: satellite image*



Soil Data

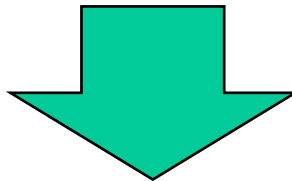
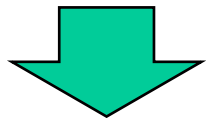
*source: soil maps*



Groundwater aquifer

*source: borehole data*

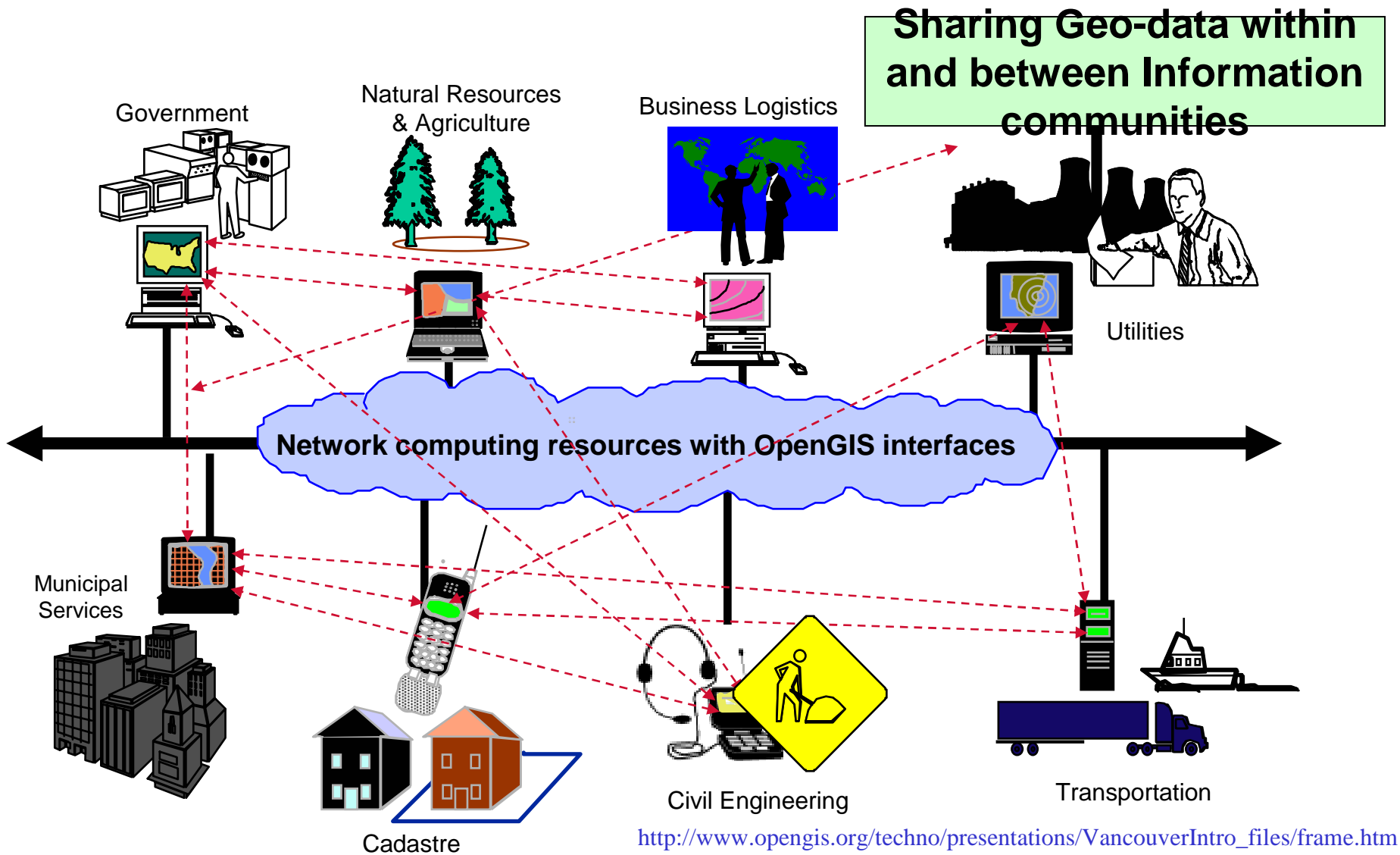
Meteorological  
Input



**DISTRIBUTED MODEL**



# Open and interoperable geo-processing





# Digital Earth (2)

- **Open GIS Consortium (OGC):**

Established in the USA to develop Web-based GIS and implement test bed systems.

- **Web Map Technology (WMT):**

A standard for Web-based GIS developed by OGC. .

# Digital Earth (3)

- **Earth observation data:**

Powerful tools for various socio-economic and Earth environmental topics.

- **Potential type-II activity for World Summit for Sustainable Development (WSSD):**

Japan is following up the program.



# Digital Asia (1)

Background of Asia :

- A lot of useful regional data and information are available in Asia by using Earth observation satellites and in-situ observation.
- Weak economic potential.
- Lack of social infrastructure for network.
- Lack of trans-boundary data and information sharing.

# Digital Asia (2)

- **Proposal of Digital Asia:**

To provide easy and effective sharing of digital geo-spatial data among Asian countries for environmental studies of sustainable development.

- **Digital Asia Network (DAN) :**

An open forum to implement the Digital Asia concept.



# Structure of DA (1)

- DAN is a self-funding best-effort forum, each participant has the responsibility to develop and operate their own data sharing system.
- Participants:  
agencies, universities, commercial companies,  
experts of IT and GIS.

# Structure of DAN (2)

- **Steering Committee**

- Propose and coordinate the Digital Asia concept and future direction.

- **Technical Support Team**

- Collect and maintain freeware GIS and IT tools.
- Develop software as a shared tool on a voluntary basis.
- Support the implementation of demonstration systems through provision of technical training courses and consulting services.

# Structure of DA (3)

- **The Secretariat office**
  - Support overall management of DA and its activities.
  - Coordinate with the Steering Committee
  - Host workshop or special session at various international conferences.
  - Located at ACRoRS/AIT.



# Digital Asia Activities (1)

Workshops/sessions: To promote Digital Asia concept.

- DAN 1<sup>st</sup> preparation meeting at GISTDA, August, 2002
- DAN special session at ACRS in Nepal 11/27, 2002
- Joint session of DAN at APAN in Fukuoka, 1/25-28, 2003.
- DAN special session at GMSARN (Great Mekong Sub region Academia and Research Network) workshop at AIT, February 27, 2003
- 3<sup>rd</sup> Water Forum at Osaka, March, 2003

# Digital Asia Activities (2)

## Workshops/sessions

- DAN special session at Global Map Forum at Okinawa,  
July 12-14, 2003
- APAN EM session at Pusan, Korea, August, 2003
- CEOS WGISS at Chiang Mai, Thailand, September, 2003
- Digital Earth 3<sup>rd</sup> workshop at Brno, Czecho Republic,  
September, 2003
- ACRS at Pusan, Korea, November, 2003

# Digital Asia Activities (3)

Development of Web-based GIS demonstration systems:

- Prototypes Development for the Digital Earth  
by H. Fukui (Keio Univ.)
- Application of OGC services to Digital Asia  
by K. Hiraishi (NEC Aerospace Systems, Ltd.)
- Forest monitoring prototype system using WEB mapping  
technology,  
by S. Kawahito (JAXA/RESTEC)
- Implementation of WMS test-bed using free and open  
source software,  
by V. Raghavan (Osaka City Univ.)



# **Digital Asia Activities (4)**

OGC training course:

At GAC/AAIT, 11/11-15, 2002

Publication:

“Digital Asia Special Issue” on Asian Journal of  
Geo-informatics, Oct. 2003.

# Digital Asia Activities (5)

- DAN Home page:

[http://www.acrors.ait.ac.th/digital\\_asia](http://www.acrors.ait.ac.th/digital_asia)

- Mailing list for all DAN participants

# Next Step

- *Call for Participation*
  - Request to co-host training course
  - Request to co-host Digital Asia Special Session in international symposium
  - Promotion (Outreach)
  - Distribute brochure, WMS cookbook CD-ROM, WMS text
  - Collaborate to list up potential sharing data and information
  - Join to test-bed activity (use case)

# URL

**Please visit the DAN homepage.**

**Thank you**

**[http://www.acrors.ait.ac.th/digital\\_asia](http://www.acrors.ait.ac.th/digital_asia)**