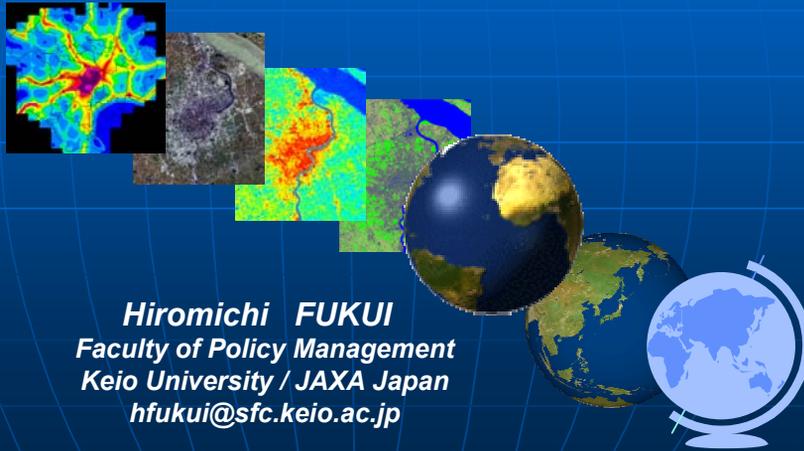


# *Perspectives from Digital Earth and ISPRS WG IV/9 Global Data base Towards Digital Asia Research Center*

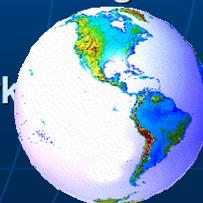


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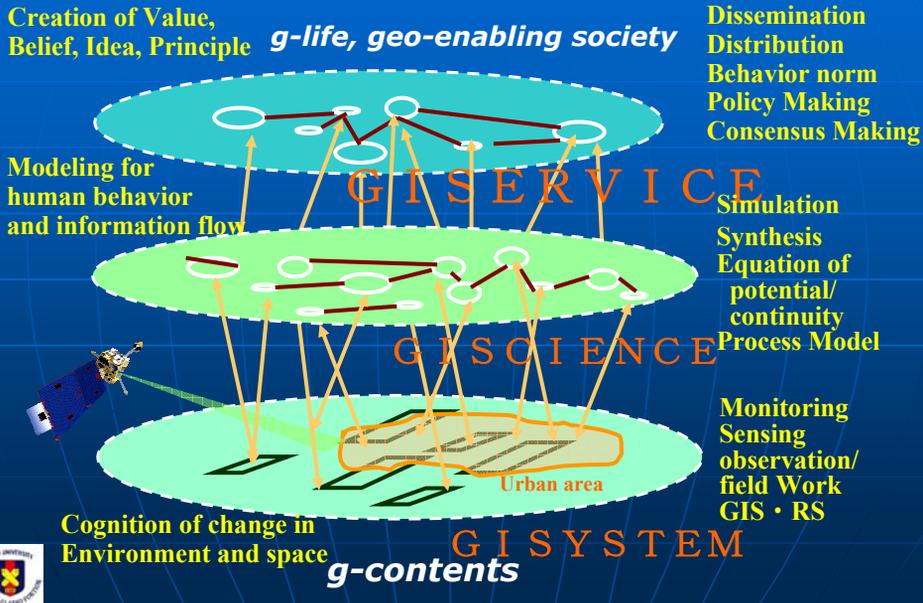


## Overview

- Geo-informatics World
- From Interoperable Internet GIS  
to Digital Earth, Digital Asia
- Digital Asia Research Center
- Future Activities
  - Digital Earth 3-D Geobrowsers
  - 4th International Symposium on Digital Earth
  - Proposed Alliance framework



## Three Layer Model in Geo-Informatics



## The Digital Earth Vision



- “I believe we need a “ Digital Earth,” a multi-resolution, three-dimensional representation of the planet, into which we can embed vast quantities of geo-referenced data.
- a “collaboratory” for research scientists seeking to understand the complex interaction between humanity and our environment.”
- “a ‘user interface’ -- a browsable, 3-D version of the planet available at various levels of resolution, a rapidly growing universe of networked geospatial information, and the mechanisms for integrating and displaying information from multiple sources.”

(Gore,1998)



## ***Digital Earth (DE) Related Trends***

- 1999 -1<sup>st</sup> Inter. Sympto., CAS, *Beijing*, China, *Towards DE*  
Established "International Steering Committee for ISDE"
- 2001 -2<sup>nd</sup> Inter. Sympto., *New Brunswick*, Canada, *Beyond Inf. Infra.*
- 2003 -3<sup>rd</sup> International Symposium, *Brno*, Czech Rep.  
*DE -- Information Resources for Global Sustainability*  
New ISDE kicked off at Brno  
i.e. from International Symposium on DE  
to International Society for DE
- 2004 -1<sup>st</sup> International Society Board Meeting (tbd)
- 2005 -4<sup>th</sup> International Symposium, March 28-31, Tokyo, Japan  
*DE as the Global Commons*



## ***Implementing Components of the DE Vision***

- Technology

Visualization, high-speed computing, AI, real-time computing, intelligent systems, search engines, data fusion, dynamic modeling, 3D rendering, Grid Computing, et cetera

- Standards and Interoperability Protocols

FGDC, NSDI, GSDI, OGC, ISO, etc.

- Networks

ITC, W3C, Geography.net, UNEP.net, etc.

- Content

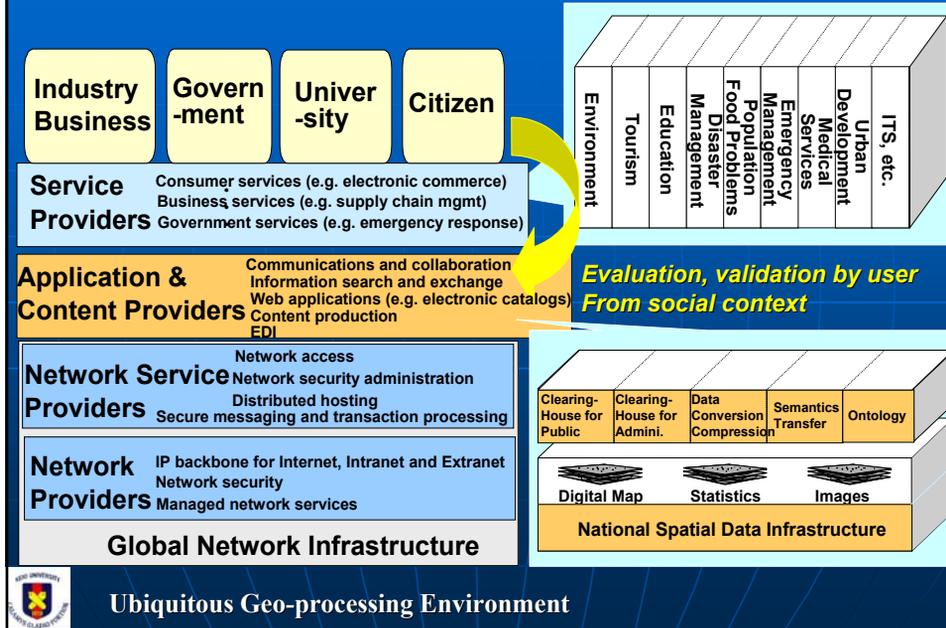
Clearinghouses, Global Databases, Global Map, etc.

- Applications

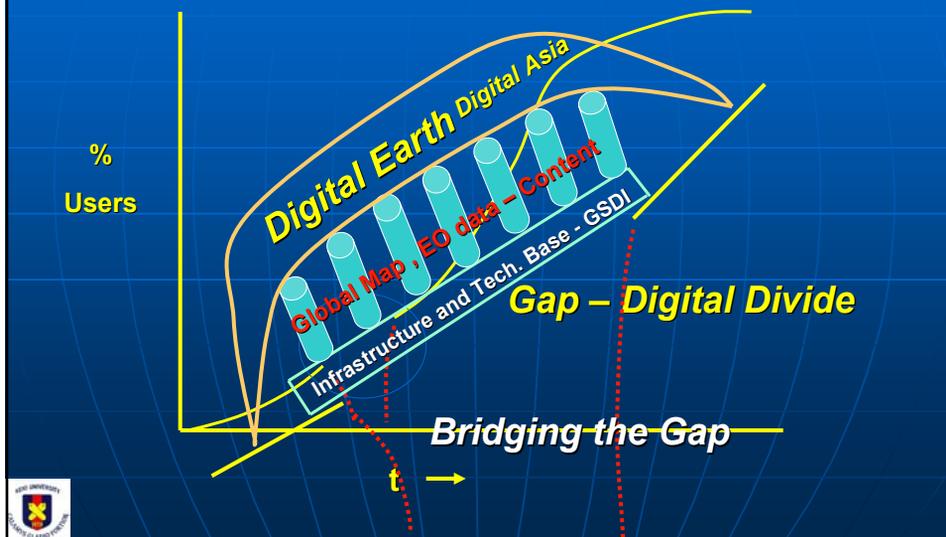
Weather, Land Cover, Health, Urban, Transport, et cetera



# Framework of Digital Earth



# Need to connect to ITC mainstream



Developing Spatial Data Infrastructures:  
**The SDI Cookbook**

Version 1.1  
15 May 2001

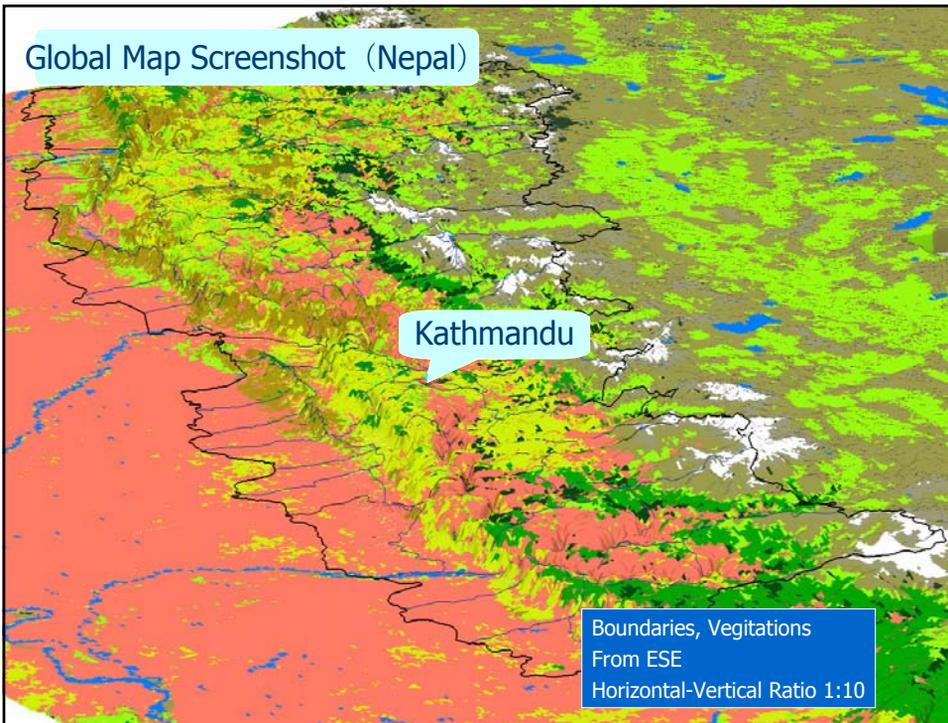


Editor: Douglas D. Nebert, Technical Working Group Chair, GSDI

Document available at:  
<http://www.gsdi.org>



Global Map Screenshot (Nepal)



## ***ISPRS WG IV/9 Global Data base***

There are seven important points for successful global environmental databases;

- **long-term commitment and funding**
- **national-global and local-global issues**
  - understanding of the effort to create global environmental DB as a framework database within which to place local data
  - create a multi-scale
- **user-producer issues**
  - meet user requirements
  - resulting information by target audience
- **standardization/harmonization**
- **validation and ground truth/reference data**
- **data access**
- **cultural bias**



## ***ISPRS WG IV/9 Global Data base***

Terms of References (TBD)

- **Compilation of existing and planned locations and the quality of global databases;**
- **Development of environmental infrastructures for access and use;**
- **Integration and harmonization environmental databases on regional, national and global levels and their promotion;**
- **Development of ontology and semantics for metadata catalogues;**
- **Development the innovative interface for browsing and analysis based of distributed environment e.g. 3D Geo-browser and Grid computing**
- **co-operation with ISCGM, WGISS, ICA, Digital Earth, IGBP, and ISPRS TC VII**

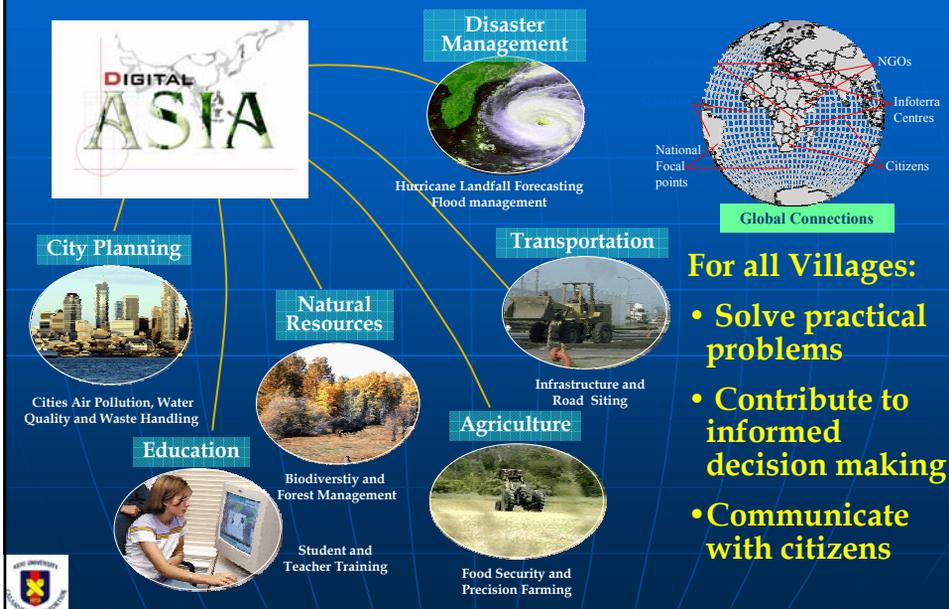


# Digital ASIA Network

- An initiative to provide people and community with easy access to geo-spatial information over the Internet at multi-scale
- by establishing a scheme to integrate and share the GIS and Remote Sensing data among all the countries of Asia,
- for practical application, global change studies, sustainable development, and global environmental protection, etc.

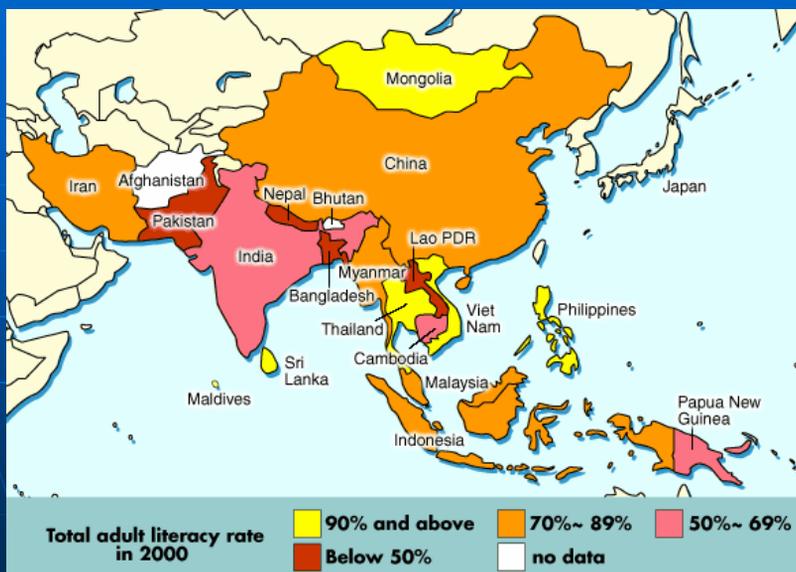


## Cascading Benefits from Common Vision and Approach for Digital Asia Network and Digital Earth



# Development of GLOBAL LITERACY e-MAP(LIT e-MAP)

- 1 Comprehensive GIS based information platform to show literacy situation and progress at global, regional, and national levels
- 2 e-MAP will consist of two databases, i.e., (1) a web-based GIS database which contain global literacy situation and leading literacy programmes and (2) a standalone GIS database which contains literacy profile and monitor the progress at country level (Data/information to be filled in and updated on regular basis by countries and connected to Component 1 above)





## *What is MANGO?*

- **M**ap-base
  - **A**nalysis for
  - **N**on-formal Education
  - **G**oals and
  - **O**utcomes
- ✓ Computer software for community data base to support monitoring non-formal learning activities at the community level and the project level.
  - ✓ Handbook on making and using community data base (with and without use of **MANGO** software).
  - ✓ UNESCO & ACCU project

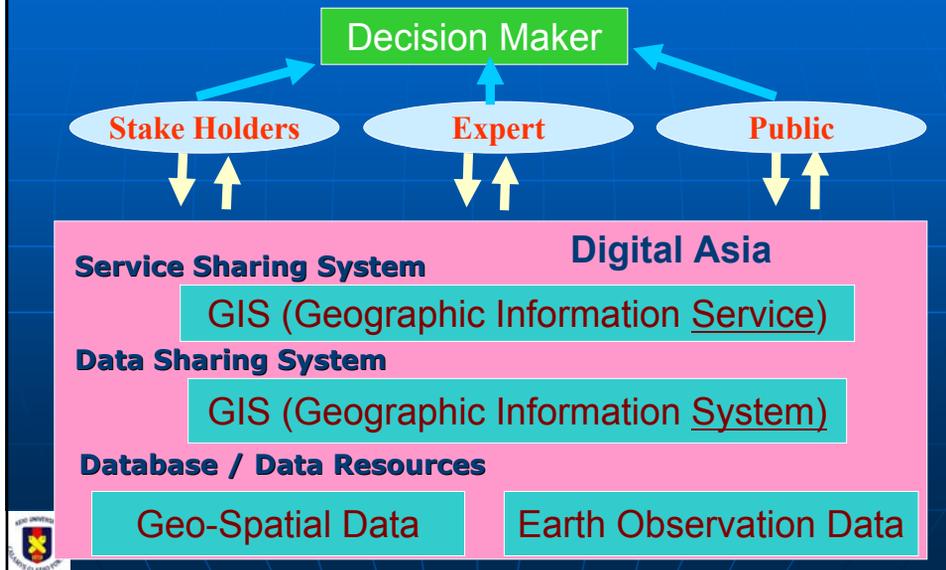


## *Objectives*

- To develop **participatory** monitoring tools for literacy and continuing education projects at community and project/district levels.
- To devise a model for using ICT to facilitate the work of NFE personnel.
- To improve skills of NFE personnel on monitoring cycle (information collection, input, output, analysis, application)
- To contribute to better documentation and advocacy of NFE projects.



# Concept of Digital Asia --Easy Access to Geo Spatial Information



## Our future Plan... testbed study and training

- Cyber education
  - Distance learning
  - Virtual University
- Real training
  - Field work, labo. work
  - Case method, Discussion
- Action Plan**, Combining, Follow up

**Digital Asia Research Center for Geo – Strategy**  
Keio University at SFC

*Strategy for Asian Future*



# NHK Special TV Documentary Series "Precious Earth: Mapping the Human Condition"

- Focusing of life and surrounding environments of 6.3 billion people
- Embarks upon a journey to closely look at the current world by "data map" created using GIS and RS, such as "Map of life", "Map of Wealth", "Map of Social Security and Safety", "Map of families"
- Introduce maps of the present, past and future
- 9 programs, focusing "Life Expectancy", "Infectious Diseases", "Decaying Cities", "Empty Ocean", "Crime in City", "Unemployment", "Economic Growth", "China's Dragons", "Endangered Species"



NHKスペシャル「63億人の地球」データマップ - Microsoft Internet Explorer

## データマップ

63億人の地球 夜の地球  
そこから、新たな世界を知る旅がはじまる

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【第1回】【第2回】【第3回】【第4回】【第5回】【第6回】【第7回】【第8回】【第9回】 ヘルプ ご案内はこちら

表示テーマ: 中国一人当たり貯蓄額 データの見方

地図のクリックで [中心に移動] [情報を見る]

MAP 地図を別画面で大きく表示 東経 101.9144 度 北緯 35.5449 度

縮小 1 2 3 4 5 6 7 8 9 拡大

基本データ

地名表示  首都  大都市  中都市  小都市

背景画像

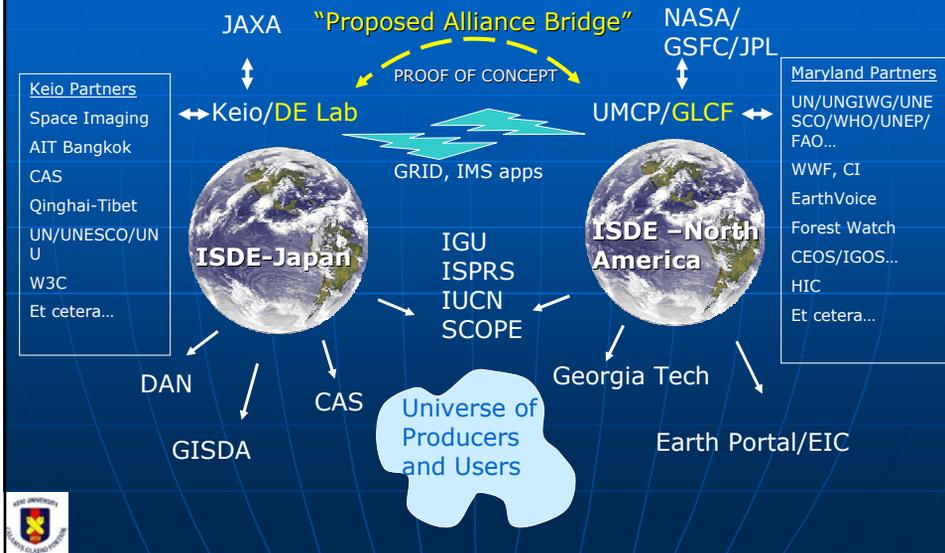
星の地球  夜の地球  標高

Prototype  
Geo-Browser for NHK

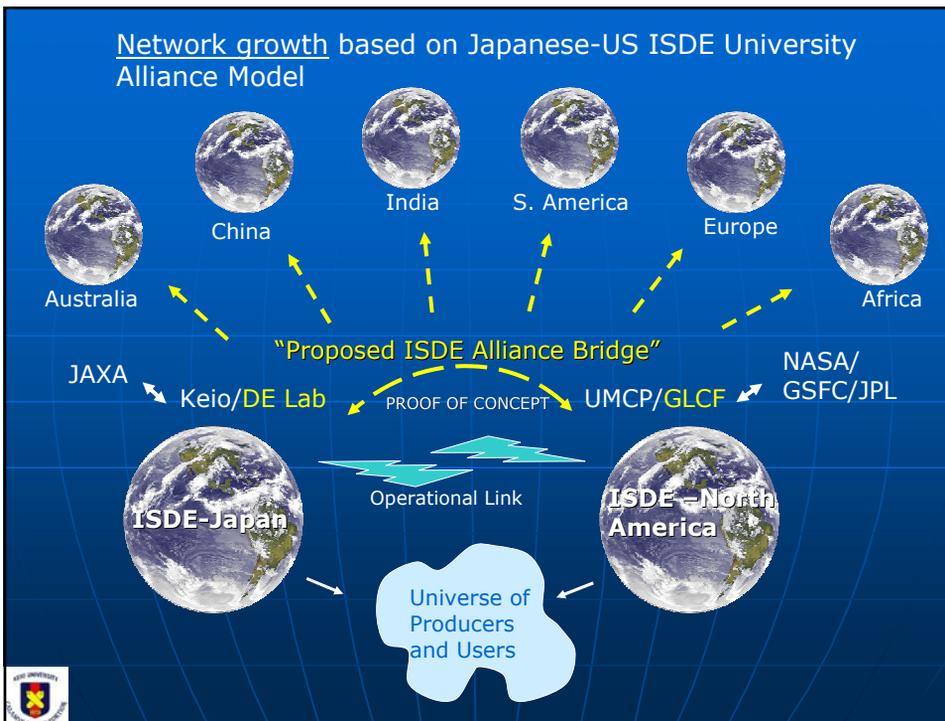
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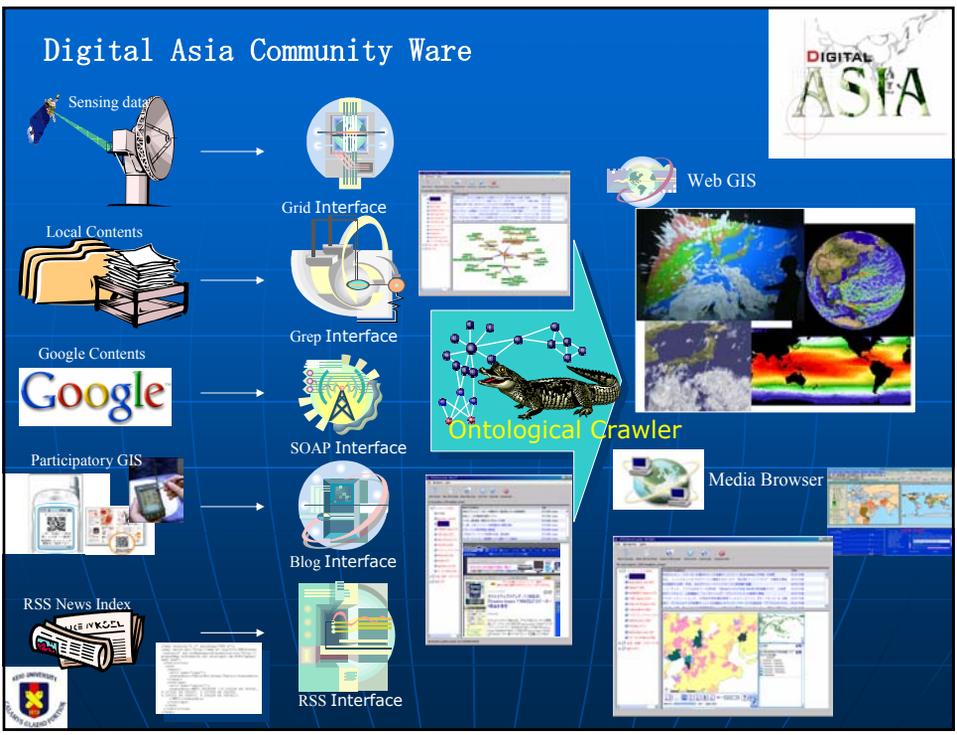
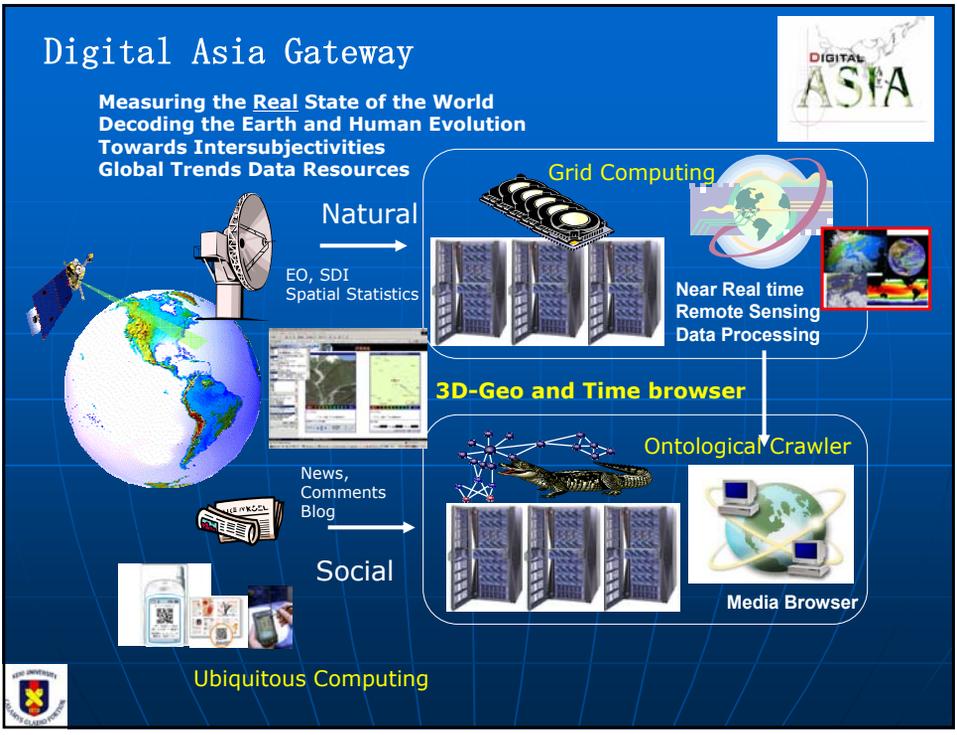
スタート 受信トレイ - Outlook Exp. NHKスペシャル「63億人の... NHKスペシャル「63億... Adobe Acrobat - Broch... T303 Draft Agenda\_V1.0...

## Conceptual diagram for the network and delivery of global remote sensing data via a Japanese-US ISDE University Alliance

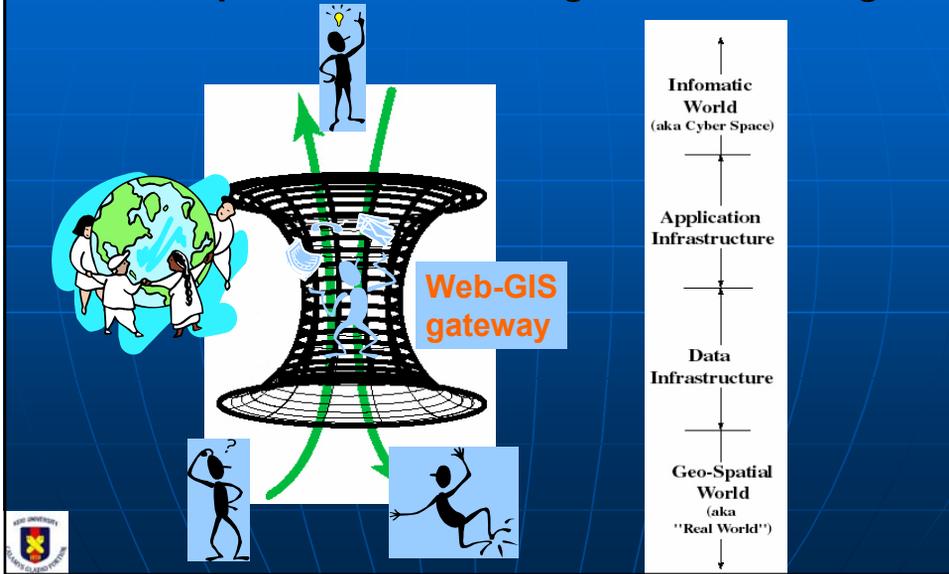


## Network growth based on Japanese-US ISDE University Alliance Model

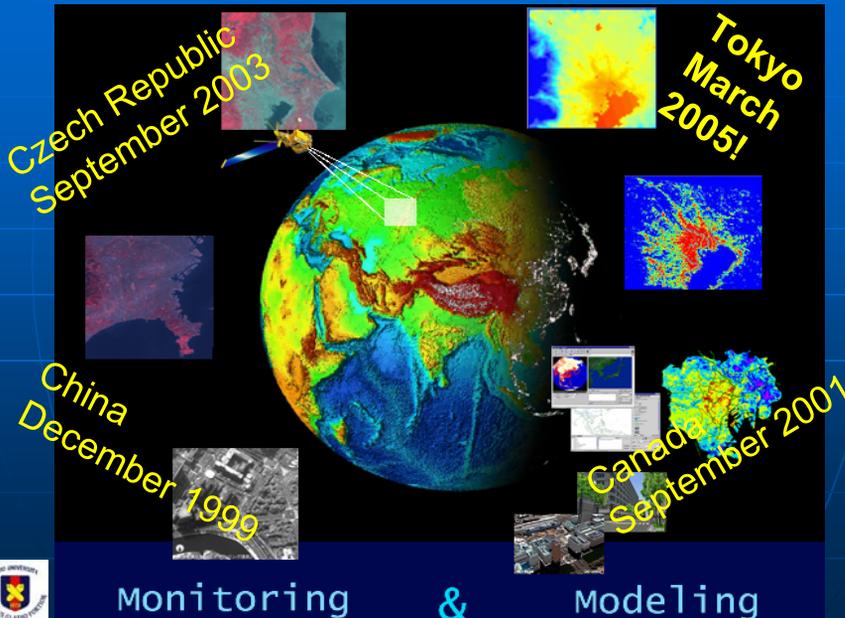




**Digital Earth, Asia... and Participatory Web GIS**  
 are a Gateway to link real world and Cyber space  
 and to **capture local knowledge and combining it**



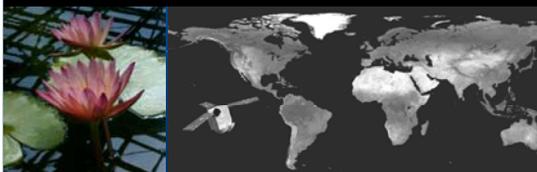
## Digital Earth



[www.isde-j.com](http://www.isde-j.com)



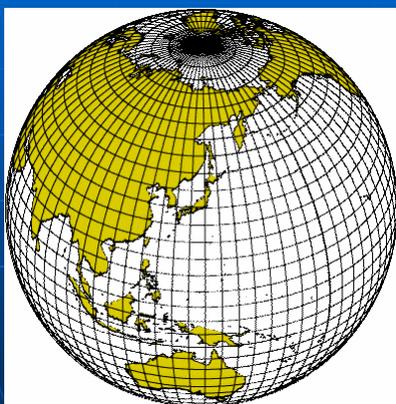
**4<sup>th</sup> International Symposium on  
Digital Earth**  
28-31 March 2005  
Tokyo  
JAPAN



Digital Earth as the Global Commons



-- Please Contact at; [hfukui@sfc.keio.ac.jp](mailto:hfukui@sfc.keio.ac.jp)



See you  
on 4<sup>th</sup> Digital Earth!

