



DIAS: Data Integration and Analysis System - A Contribution to UN's SDGs—

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GEO, GEOSS, and DIAS

GROUP ON EARTH OBSERVATIONS

• Sep. 2002
World Summit on Sustainable Development (WSSD) highlighted the need for coordinated observations relating to the state of the Earth.

• June. 2003
The Evian G8 summit adopted an Action Plan to improve international cooperation in the field of Earth observation.

• Feb. 2005
The third Earth Observation Summit in Brussels adopted the GEOSS 10-year implementation plan, and the Group on Earth Observations (GEO) was established as the international framework of GEOSS.

Earth Observation Data Collected and Provided through GEOSS



DIAS is connecting GEOSS's IT infrastructure for sharing EO data globally.

SUSTAINABLE DEVELOPMENT GOALS



The goals of DIAS

The goals of DIAS are:

- to collect and store earth observation data,
- to analyze such data in combination with socio-economic data, and convert data into information, knowledge and wisdom(IKW) useful for sustainable developments and crisis managements with respect to global-scale environmental disasters, and other threats, and
- to make this data-oriented IKW available more globally.

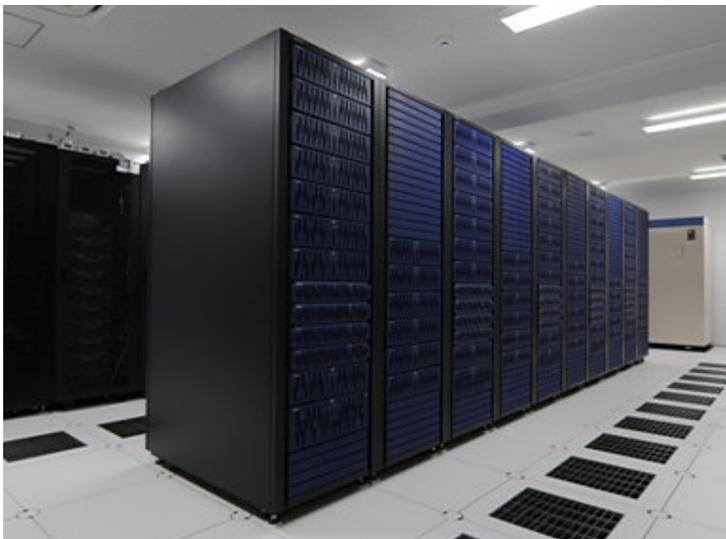


tackling a large increase in **volume** of the Earth observation data.

IPCC AR4 (2007): 40TB



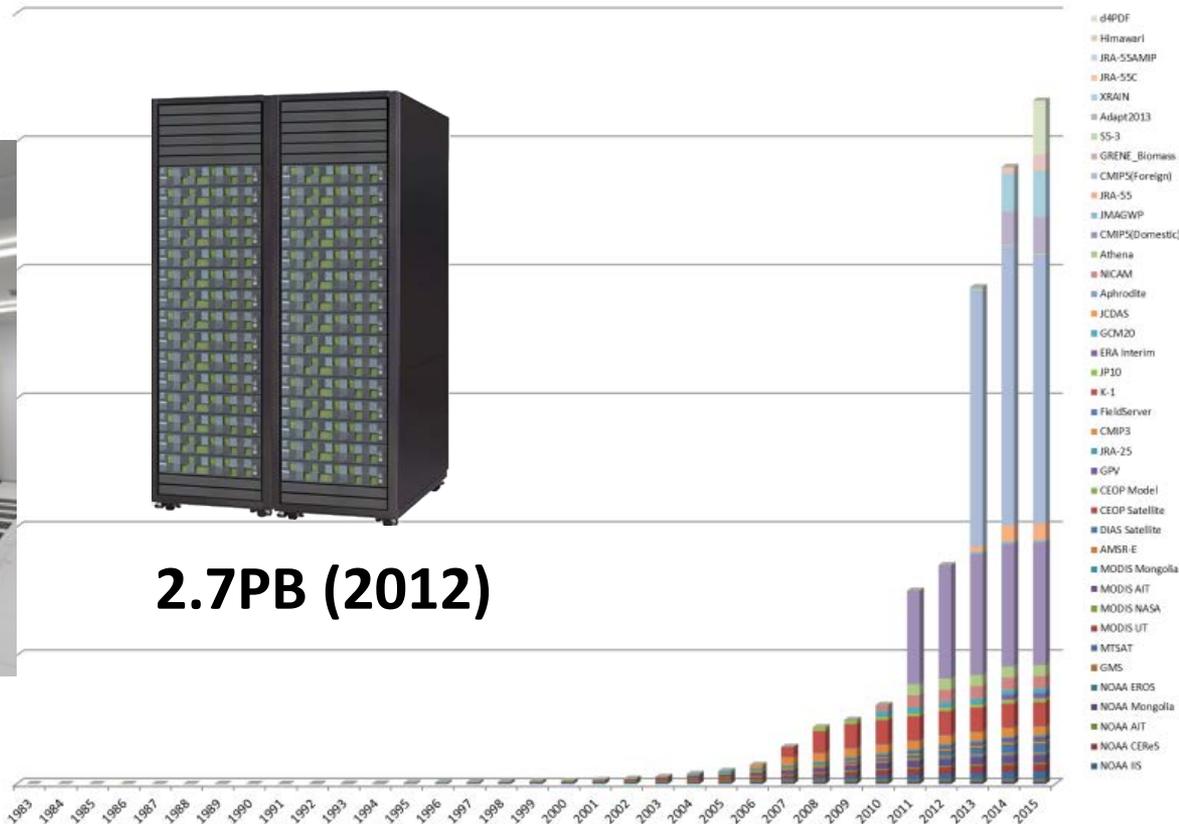
IPCC AR5 (2012): 2.6PB



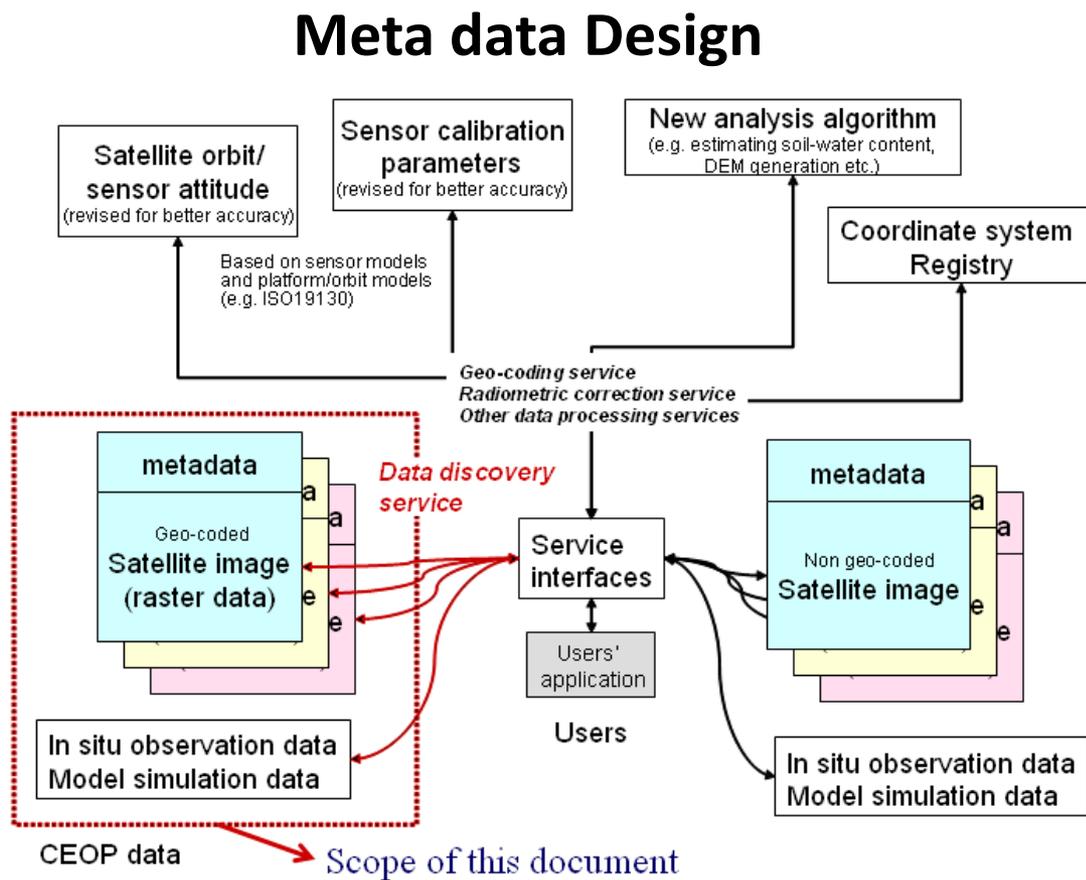
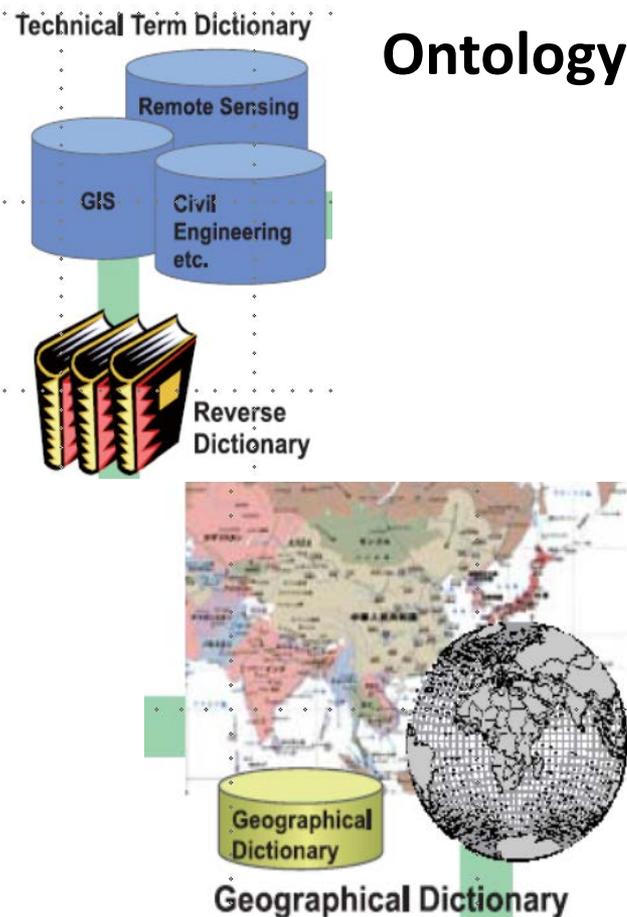
600TB (2007)



2.7PB (2012)



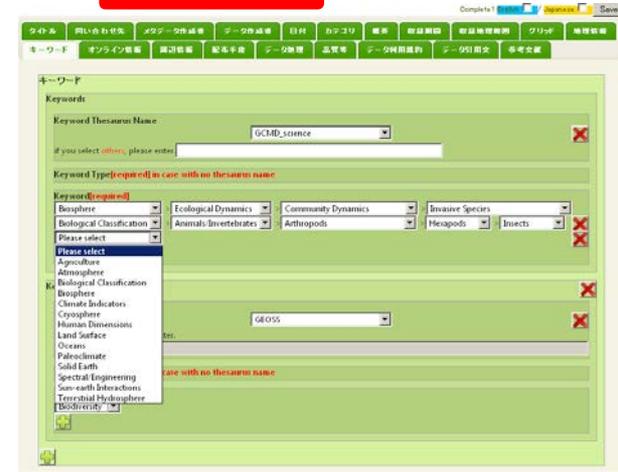
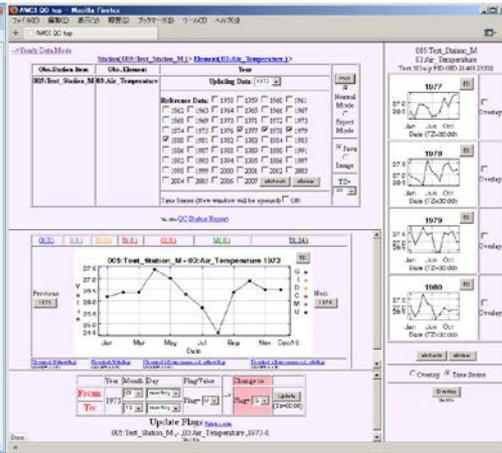
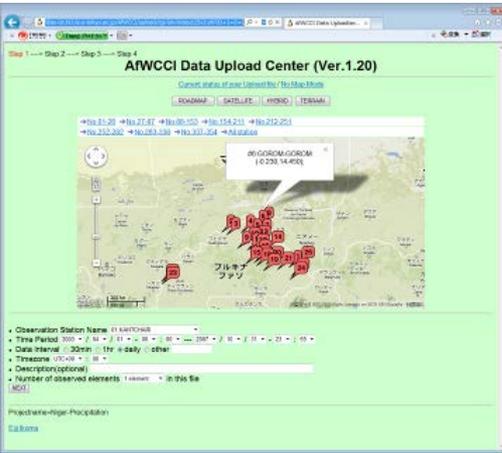
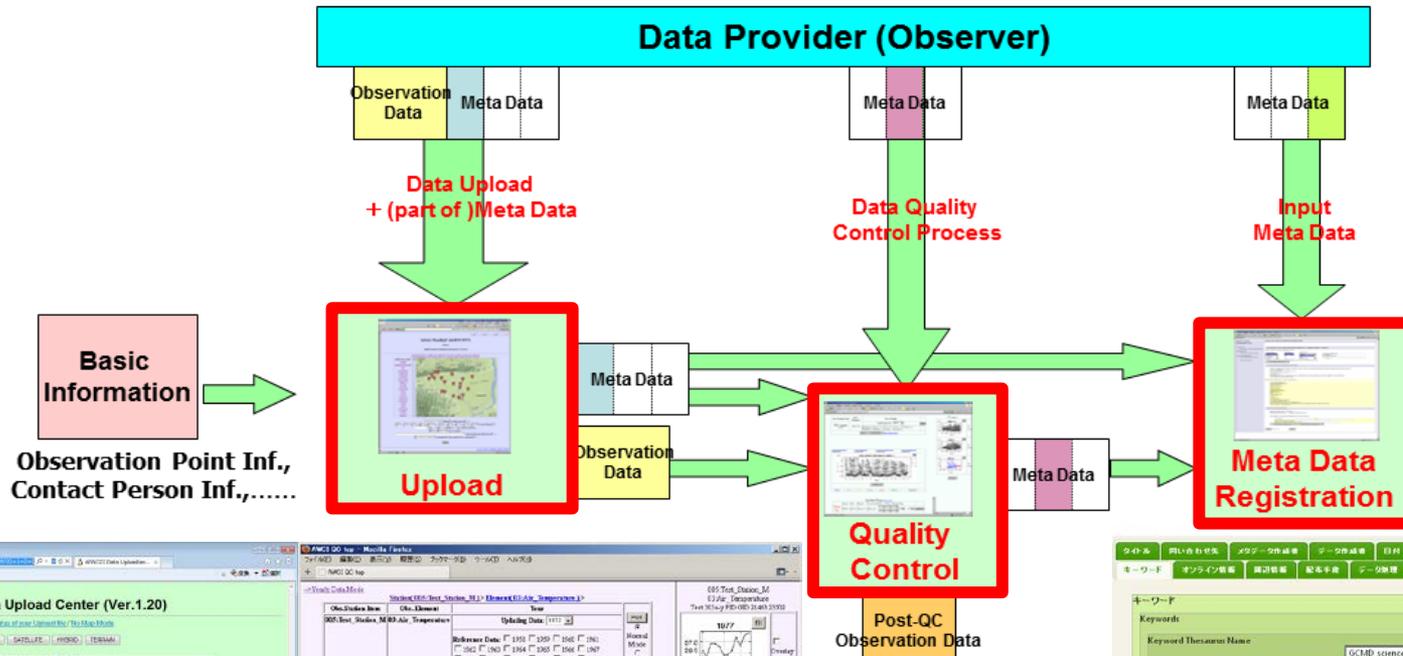
tackling a large increase with **variety** of the Earth observation data.



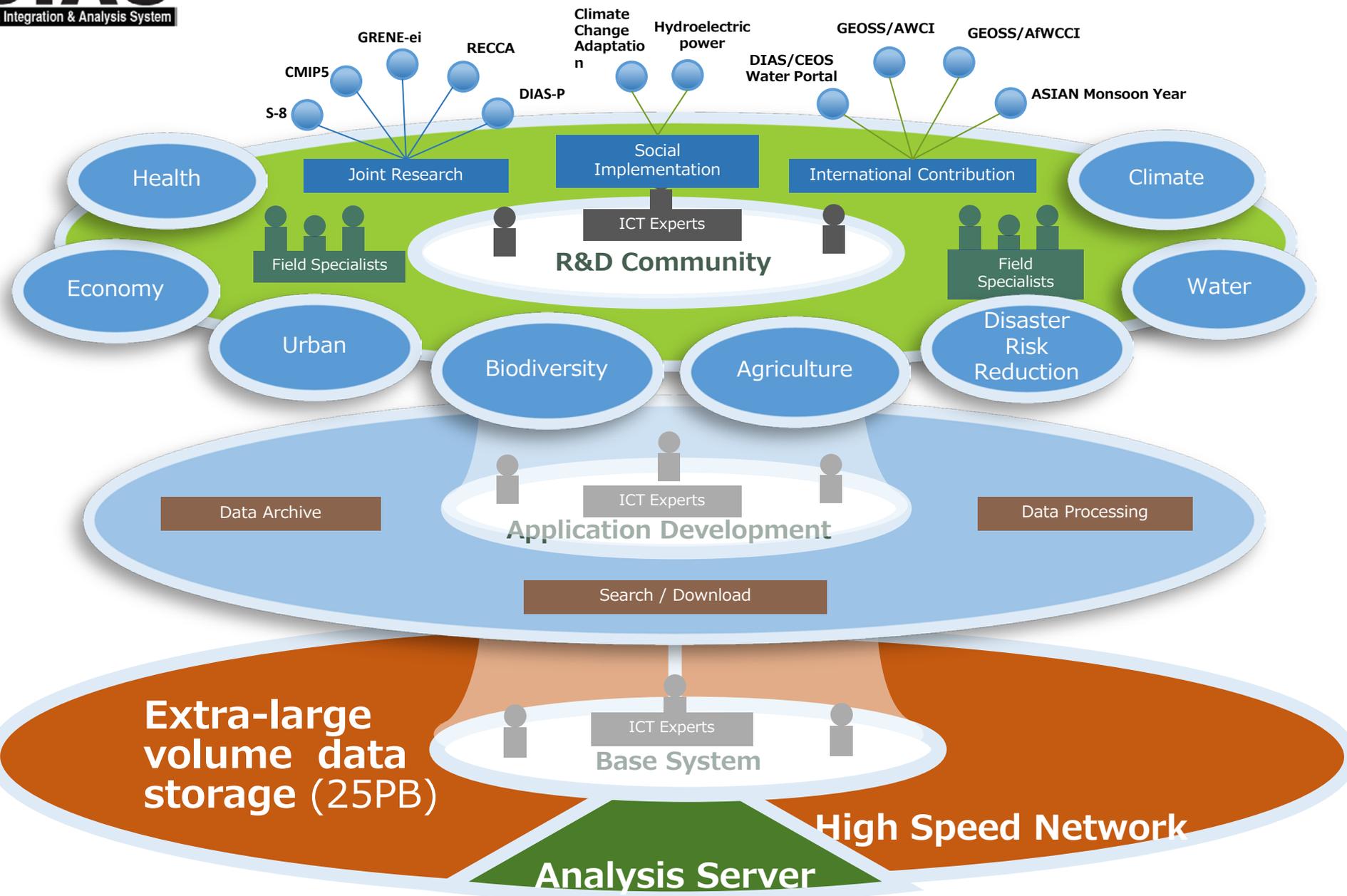
archiving and disseminating data with
very high **velocity**.



maintaining data **veracity**, including data loading, QC and metadata registration



Challenges to variety, volume, velocity and veracity.

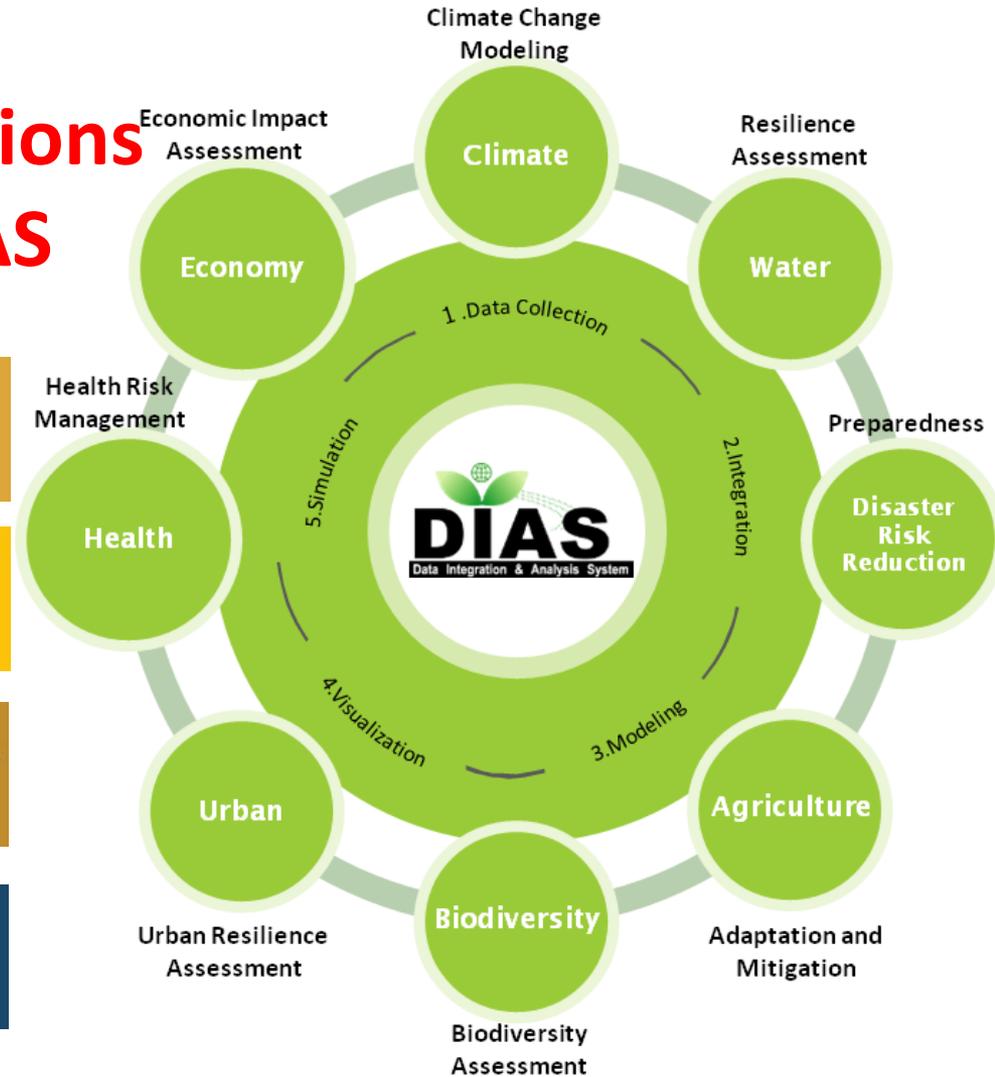


SDGs & DIAS Challenges

Searching

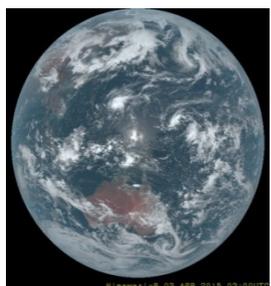
Possible Future Contributions To match SDGs and DIAS

SUSTAINABLE DEVELOPMENT GOALS

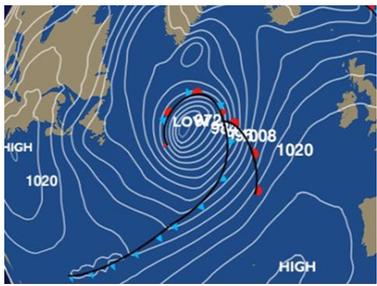


DIAS Applications and Tools

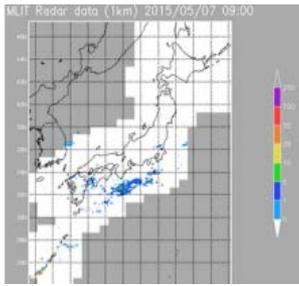
Data Dissemination



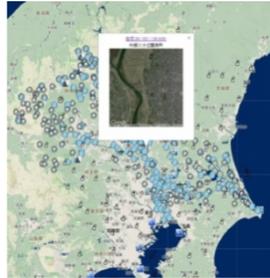
Himawari-8 data



Grid Point Values (GPV) data



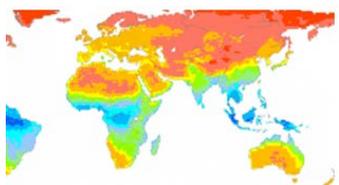
C-Band
Realtime Precipitation Data



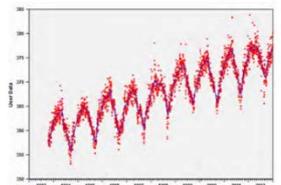
River Telemetry

Data Utilization

① Climate Change



CMIP5 Data
Analysis System



Global Environmental
Data Analysis Support

② Water resource management



Tone River Management
support system



DIAS/CEOS Water Portal

③ Agriculture

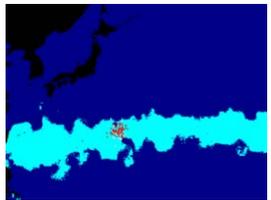


Simulation Model
for RICE-Weather relations

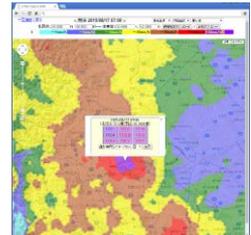
④ Biodiversity



Ikimoni



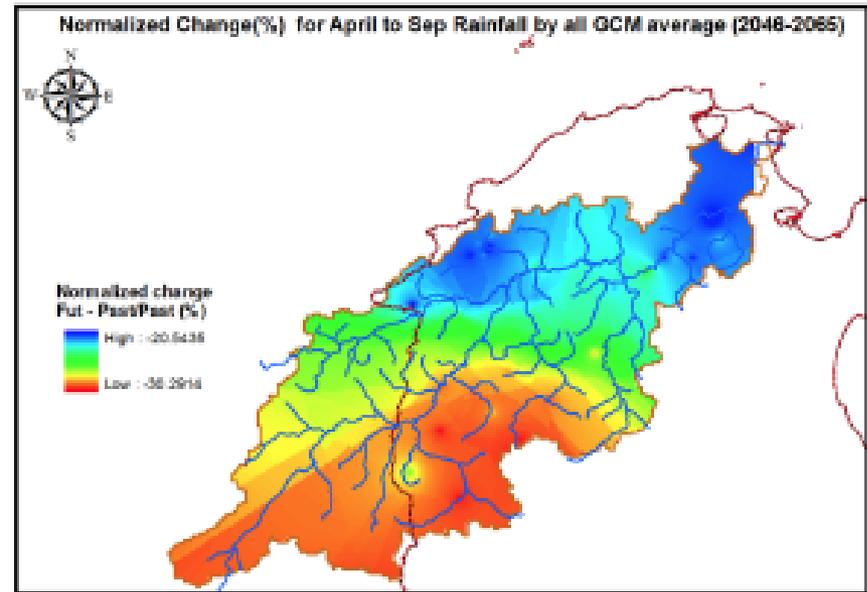
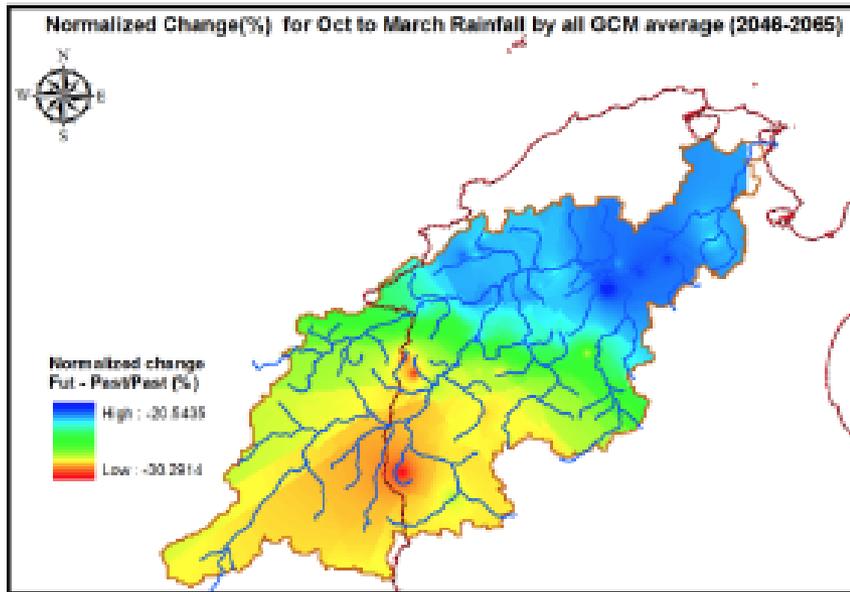
Particle Tracking
Simulation System



XRAIN data

**International Contribution
to Climate Change Analysis
and
Disaster Risk Reduction**

Contribution to flood control measures in Tunisia through data analysis with DIAS



https://www.jica.go.jp/english/news/press/2014/140718_02.html

Mejerda River Flood Control Project

amount (million yen)	10,398
project period	July. 2014 ~ Sep. 2023
expected benefits	-Reduce flooded area from 9,000 ha by a half
	-Reduce flooded houses from 10,000 by zero

contribution to the Global Earth Observation System of Systems (GEOSS)



A screenshot of the GEOSS Portal search results page. The search term 'flood' is entered in the search bar. The results show 7750 items. Two results are visible: 'Malawi National Riverine Flood' and 'Rwanda Kanzeze Nyabarongo Flood Depth'. Each result includes a thumbnail image, the title, organization, a brief description, and a '0 recent views' indicator. The page also features a sidebar with filters for keyword, format, source, protocol, and organisation. At the bottom, it says 'Visible 1-10 of 7750' and 'next >'. The background of the page is a satellite map of the world with a yellow box highlighting the region of East Africa.

contribution to GEOSS Asian Water Cycle Initiative (AWCI)



In-situ data
submission to DIAS



Integration and
integrated services

Demonstration
Projects

Operational Systems

Climate change
impact assessment
studies

AWCI Objectives:

- To develop Integrated Water Resources Management approaches.
- To share water quantity and quality and their variation as a basis for sound decision making.
- To construct a comprehensive, coordinated and sustained observational system of systems.
- To develop capacity building for making maximum use of globally integrated data and information.

DIAS, as the core source for Society

Data
Infrastructure
Applications
Researchers
Experience

- Reliable and Various Data
- Contribute to Global Issues

Value of
Data
sets

- Enhancing the operation
- Storage and CPU resources
- Developing API/Data clipping tools

Reliable
System

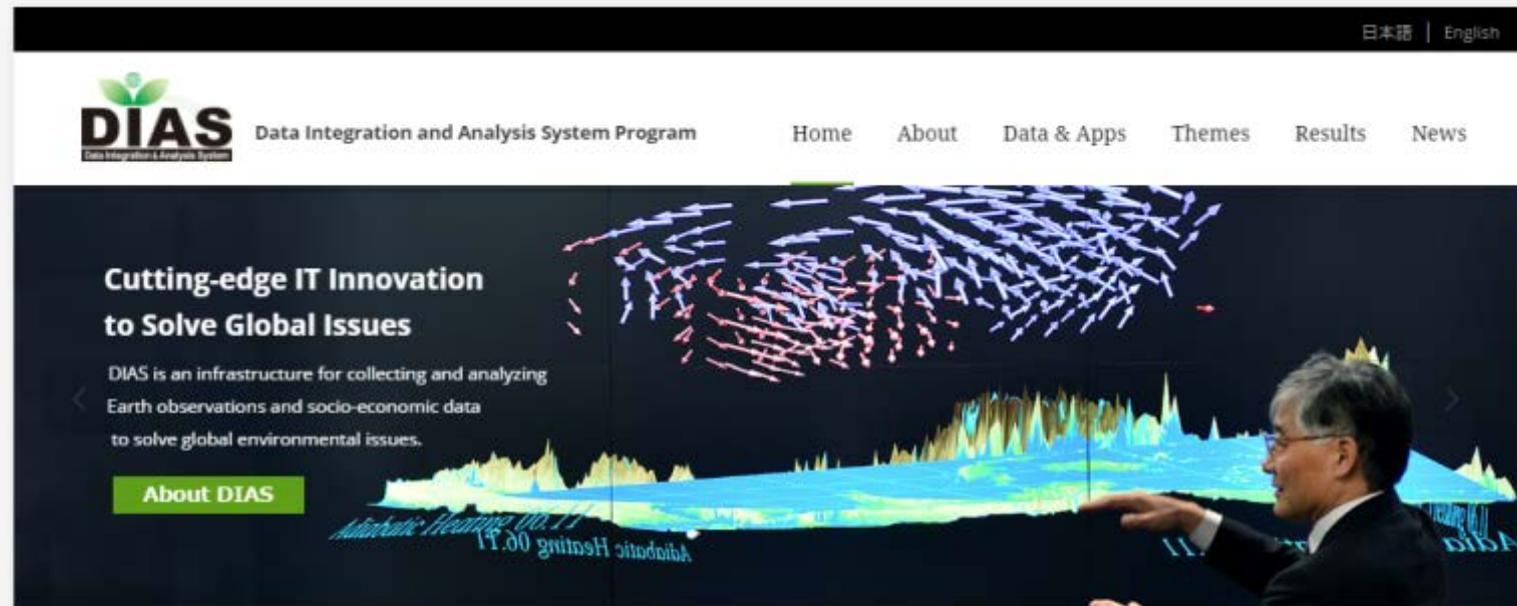
- Top Scientist
- Committing to Social beneficial issues
- Networking with international community

Relation
to
Academia

International
Contribution

- interdisciplinary research
- transdisciplinary cooperation
- scientific and technical data infrastructures

Visit our Website!



<http://www.diasjp.net/en/>

Themes



Climate/Weather



Water



Urban



Disaster Risk
Management



Agriculture



Biodiversity



Health



Energy