



The Electronic Geophysical Year, 2007-2008 (eGY)

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eGY_Team members

International Council for Science (ICSU)

27 Unions

IAU – Intl Astronomical Union

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IGU – Intl Geographical Union

IUGG – Intl Union of Geodesy & Geophysics

IUGS – Intl Union of Geological Sciences

IUSS – Intl Union of Soil Sciences

ISPRS – Intl Society for Photogrammetry and Remote Sensing

....

IUTOX – Intl Union of Toxicology

ICSU Bodies

CODATA, WDC Panel, FAGS,

IGY+50: New International Programs



IPY 2007-2008 (sponsored by ICSU and WMO) to expand understanding of the polar regions in the globally-linked environment.



International Year of Planet Earth (IUGS, sponsored by UN and UNESCO): to interpret Earth history as a basis for forecasting likely future events



IHY 2007: (sponsored by ICSU, NASA support) to foster international cooperation in the study of heliophysical phenomena now and in the future



eGY 2007-2008: (sponsored by IUGG and IAGA, endorsed by ICSU) to promote a revolution in geoscientific data availability and access worldwide

International Geophysical Year 1957 - 1958



- ü allowed scientists to participate in global observations of geoscientific phenomena using common instruments and data processing
- ü gathered data on geoscientific phenomena from around the world
- ü established the World Data Centre system
- ü

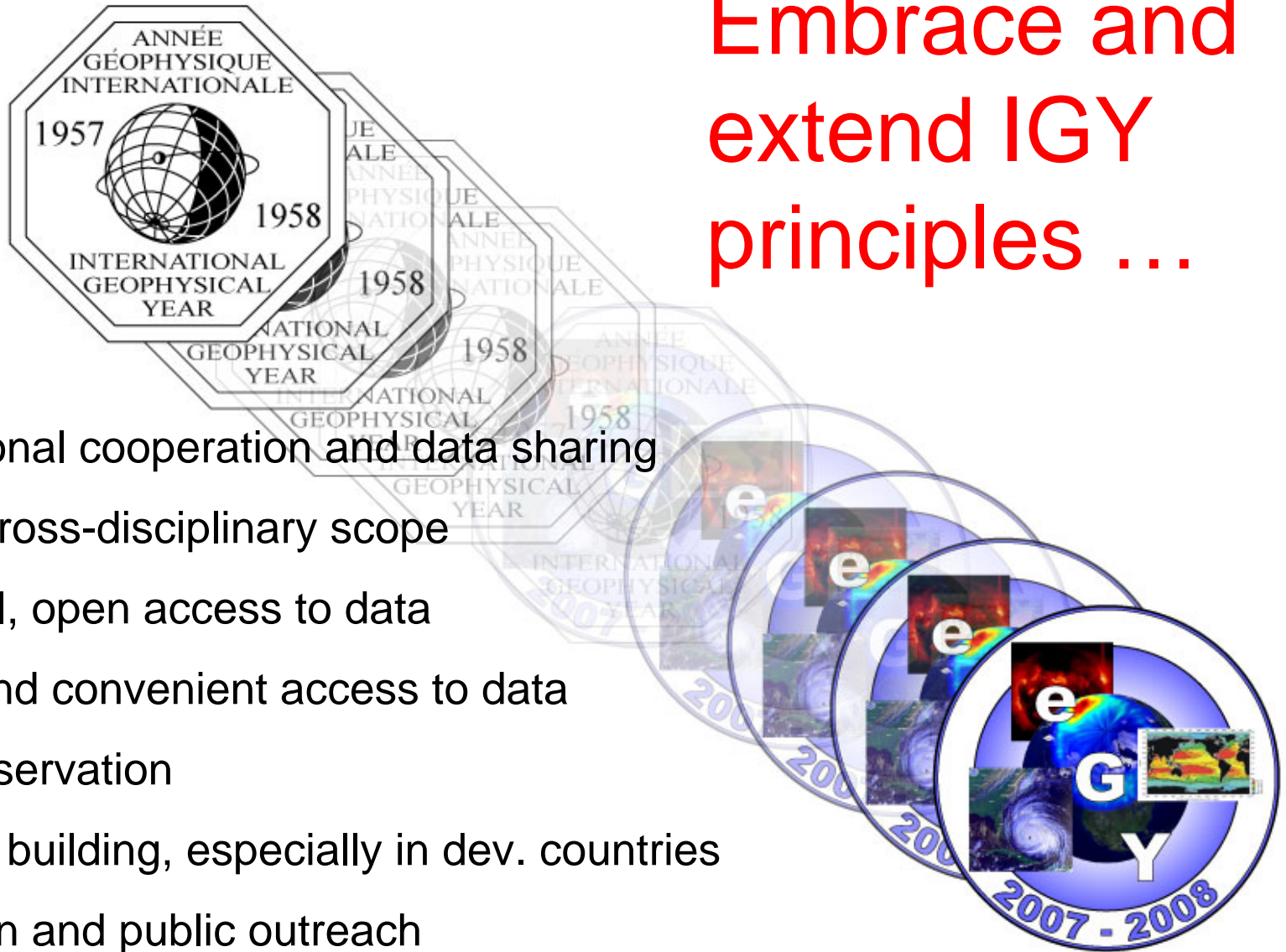
“Knowledge is the common
wealth of humanity.”



Adama Samassekou

Convener of the UN World Summit on the Information Society

Embrace and extend IGY principles ...



International cooperation and data sharing

Global, cross-disciplinary scope

Universal, open access to data

Timely and convenient access to data

Data preservation

Capacity building, especially in dev. countries

Education and public outreach

21st century science

Earth (Complex) System science

Higher resolution – space and time

Rapid response

Assimilation of data into models

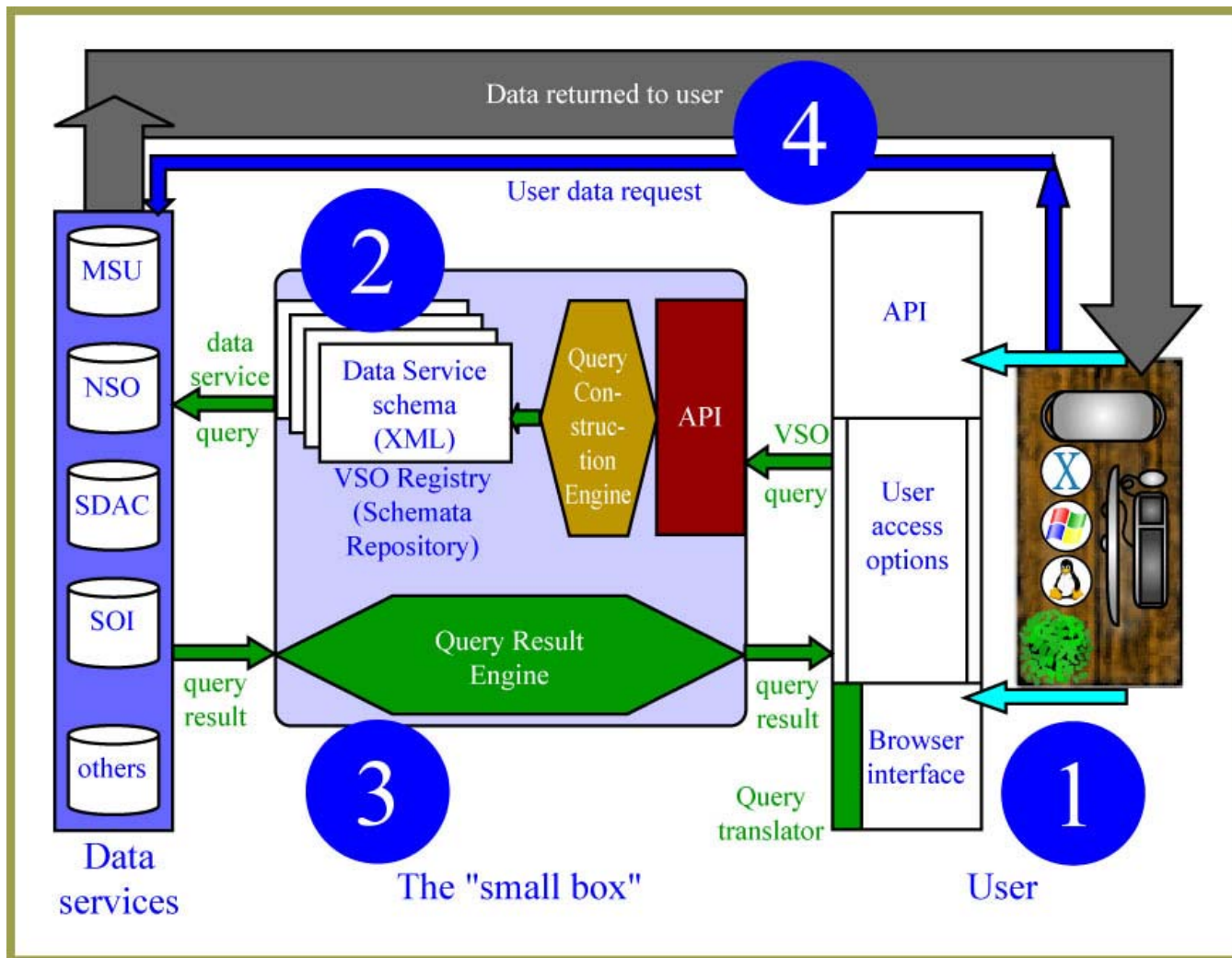
New science opportunities (cross-disciplinary)

Large data sets; data integration & knowledge discovery

Challenges: open access to distributed data, data discovery, data preservation, data rescue, ..

... interoperability ... awareness raising

Virtual Observatories



- Access through a browser or an Application Programming Interface (API)
- “Small box” uses registry of XML data service schema to construct appropriate queries for each relevant data service
- API or browser can refine queries
- Final data transfer is direct to requestor (no middleman)

Virtual Observatories

AVO – Astrophysical Virtual Observatory

NVO – US National Virtual Observatory

VCO – Virtual Carbon Observatory

VGMO – Virtual Geomagnetic Observatory

VHO – Virtual Heliophysical Observatory

ViRBO – Virtual Radiation Belt Observatory

VMO – Virtual Magnetospheric Observatories

VOO - Virtual Ocean Observatory

VSN – Virtual Seismic Network

VSO – Virtual Solar Observatory

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e-Science initiatives

AstroGrid - Astronomy

BIOS – Biological Innovation for Open Society

CHRONOS

CIG – Computational Infrastructure in Geodynamics

DAKS - SDSC Data and Knowledge Systems program

Earthscope

eDiaMoND - Breast Cancer

eMinerals - Molecular simulations of environmental issues

FUSION – Fuel cell Understanding through Semantic Inferencing,
Ontologies and Nanotechnology

G-Civil - Civil Engineering

Geoinformatics

MyGRID - Bioinformatics

UK e-Science Core Program

US ITR Program

Data & Info Networks

AEON – Australian Earth & Ocean Network

CANRI – Community Access to Natural Resource
Information

CDMP – Climate Database Modernisation Program

DLESE – Digital Library for Earth System Education

EDNES – Earth Data Network for Education and
Scientific Exchange

GEON – Global Earth Observing Network

ION – International Ocean Network

ITR – Information Technology Research program

SPIDR – Space Physics Interactive Data Resource

Earth Observation Systems, Partnerships

GEO - Group on Earth Observations

GEOSS - Global Earth Observation System of Systems

GEM – Global Environment Modelling project

GMES – Global Monitoring for Environment and Security

IWGEO – Interagency Working Group on Earth Observation

IGOS – International Global Observing Strategy

IGOS-P - International Global Observing Systems Partners

IGOSS – International Global Observing System of Systems

IGGOS – Integrated Global Geodetic Observing System

GOS - Global Observing Systems

GCOS - Global Climate Observing System

GOOS - Global Ocean Observing System

GTOS - Global Terrestrial Observing System

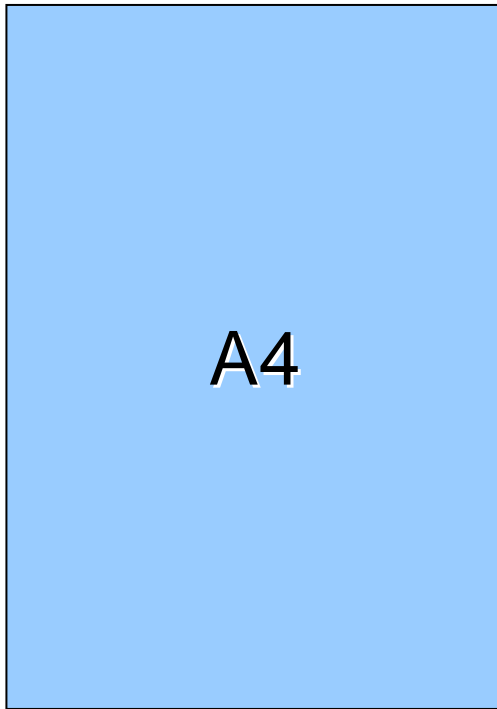
GOSIC - The Global Observing Systems Information Center

GOS/GAW - Global Observing System/ Global Atmosphere Watch (WMO)

ESONET – European Sea Floor Observatory Network

EOSDIS – Earth Observing System Data and Information System

The danger



International cooperation



A unifying theme

Initiative	A	B	C	D	E
Function					
1	X	X	X		X
2	X			X	X
3		X	X	X	X
Data & Information	X	X	X	X	X
5	X	X	X	X	
6	X	X		X	X

eGY - an international opportunity to

- find out who is doing what?
- share experience and expertise
- coordinate activities
- reduce replication of effort
- promote common standards
- stimulate wider participation
- reduce the digital divide
- raise awareness about the need for data stewardship
- inspire public interest



Role

Provide an international cooperative framework to facilitate, inform, stimulate, encourage, and promote the following.

- Modern data access and services (e-Science)
- Establishment of **virtual observatories** throughout the geosciences
- Cooperation among bodies/initiatives to reduce duplication and proliferation of standards
- Data discovery - who holds, what, where, how?
- Data release - secure access permission; pull not push
- Data preservation; make old data accessible
- Awareness-raising, education, public outreach
- Advancement of science in developing countries



Themes

Data access

Ready and open electronic access to data and services

VIRTUAL OBSERVATORIES

Data discovery

Who holds what data, where, and in what form?

Metadata

Data release

Lift access restrictions

Active rather than passive release of data

Data preservation

Digitize analog data; reformat old digital data

International framework and standards for storage and maintenance

Capacity building and outreach

Boost the scope and output of scientific endeavours

Raise awareness among scientists, decision-makers and the public

Better opportunities for growth of science in countries in need.



Structure

Secretariat (LASP/NOAA-NGDC)

Executive Director - Dan Baker

Secretary - Bill Peterson

Communications Manager - Marissa Rusinek

International eGY Committee

Chair - Charlie Barton

Wide geographical and disciplinary membership

Network of national/regional committees and partners

To liaise, stimulate, and interact with national/regional initiatives

Thematic Working Groups

Data Integration & Knowledge Discovery

Virtual Observatories

Best Practice and Standards

Education and Public Outreach

.... more



Deliverables

- International framework and infrastructure
- Contacts, linkages

- Meetings, workshops, and symposia
- Website: www.egy.org
- eGY News
- Presentations, articles, brochure, press releases

- eGY Charter
- eGY codes of best practice & certification

- Education and public outreach program



Calendar

Feb 2005	Planning meeting, Boulder (with IHY)
May 2005	Joint AGU/SEG/AAS/NABS: “e-Science for Geoscience”
July 2005	IAGA Assembly Toulouse
Nov 2005	WSIS, Tunis
Feb 2006	eGY Workshop
Nov 2006	CODATA Conference
Feb 2006	eGY Workshop
July 2007	IUGG General Assembly, Perugia
Nov 2008	CODATA Conference

All IUGG Association Assemblies, AGU’s, EGU’s, AOGS’s



Participants

ICSU	Thomas Rosswall, C. Smith	IPY	Alan Rodger
IUGG	IGY+50 Cmte	IHY	Barbara Thompson
IUGS/IYPE	Ed de Mulder	IYPE	Ed de Mulder
PAA Data	Roberta Miller, C. Smith	IGBP	Will Steffen
WDC Panel	Ferris Webster	CAWSES	Joe Allen, Y Kamide
CODATA	Bob Chen, Herb Kroehl, ...	NC-IUGG	Priscilla Grew
FAGS	Phil Wilkinson	BGS	David Kerridge
IAGA	Charles Barton	AAS	Australian Acad Sci
IAHS	Mary Hill		
IAPSO	Paola Rizzoli		
IASPEI	Bob Engdahl	LASP	Dan Baker
		NASA	Barbara Thompson
SCOSTEP	Joe Allen, M Candidi	NGDC	Chris Fox, Eric Kihn
SCAR	Maurizio Candidi, A Rodger	NCAR	Roy Jenne
AOGS	Yohsuke Kamide	NSIDC	Mark Parsons
SEG	Ralph Baird, Brian Spies	SWRI	Craig de Forest
		USGS	Jeff Love

Considerations for SEEGrid community

Use eGY

As a target/milestone

To promotion (meetings, website, eGY News)

To expand people networks and international links

For international certification

Participate in eGY meetings

WG for inventory of GEO* data management

WG on best practice

Help others

Report SEEGrid activities to the international community

Contribute to eGY policy, planning, and operations

Advocate and publicise eGY.

Participate in the education and public outreach program

www.egy.org



eGY_Team

eGY_Participants

eGY_Observers