UAI UICPA UISB UGGI URSI

CENTENAIRE DES UNIONS SCIENTIFIQUES

CNFGG

1919-2019

Cent ans d'essor des observatoires géodésiques et géophysiques français

L'UGGI, éléments important de cet essor

Pierre Briole, CNRS-ENS, Président du Comité national français de géodésie et géophysique (CNFGG)

INSTITUT DE FRANCE
Académie des sciences

Colloque commémoratif du centenaire de l'UAI, UISB, UICPA, UGGI, URSI – Mardi 2 décembre 2019

Des sciences basées sur l'observation

Du fait des échelles spatiales et temporelles des objets étudiés, l'observation est fondamentale dans les sciences géodésiques et géophysiques.

Elle est parfois associée à des expériences de laboratoire et toujours à des modélisations numériques de plus en plus fines

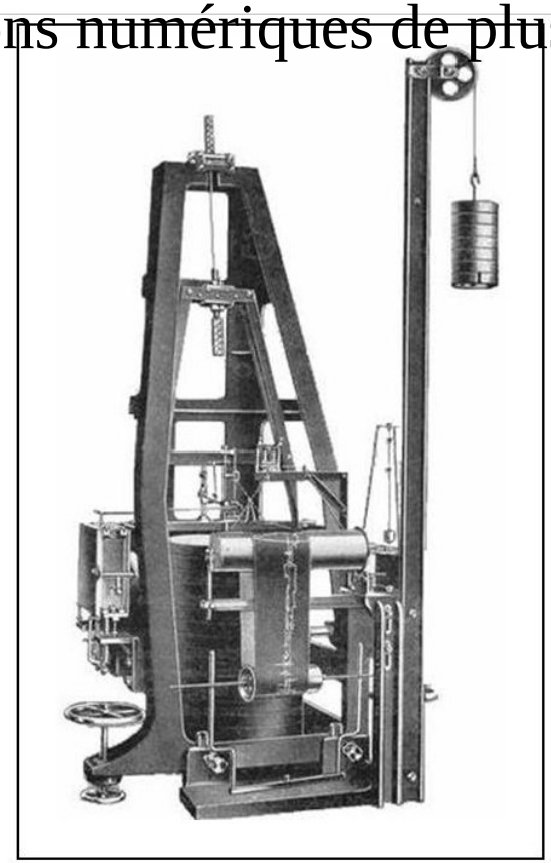


***Figure 4**: Sismomètre Mainka-SOM similaire à celui installé à Bagnères de 1924-25 à 1971. La hauteur totale est de 1.80 m (d'après un document de la Société d'Optique et de Mécanique de Strasbourg (SOM), musée de sismologie et magnétisme terrestre, Strasbourg).*

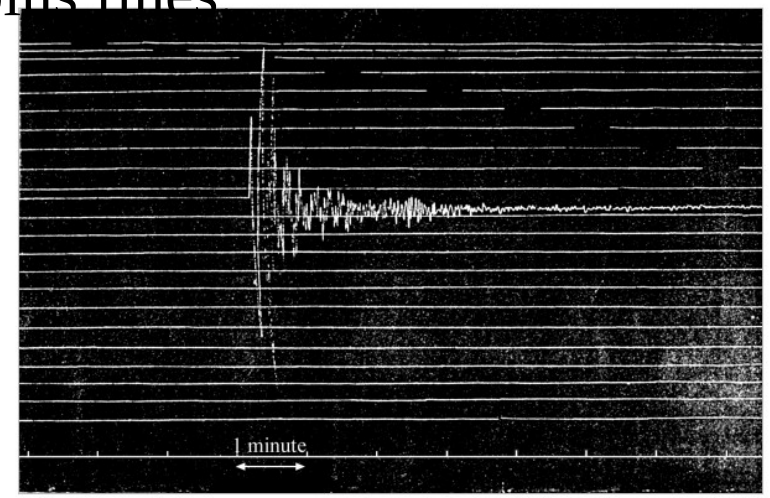
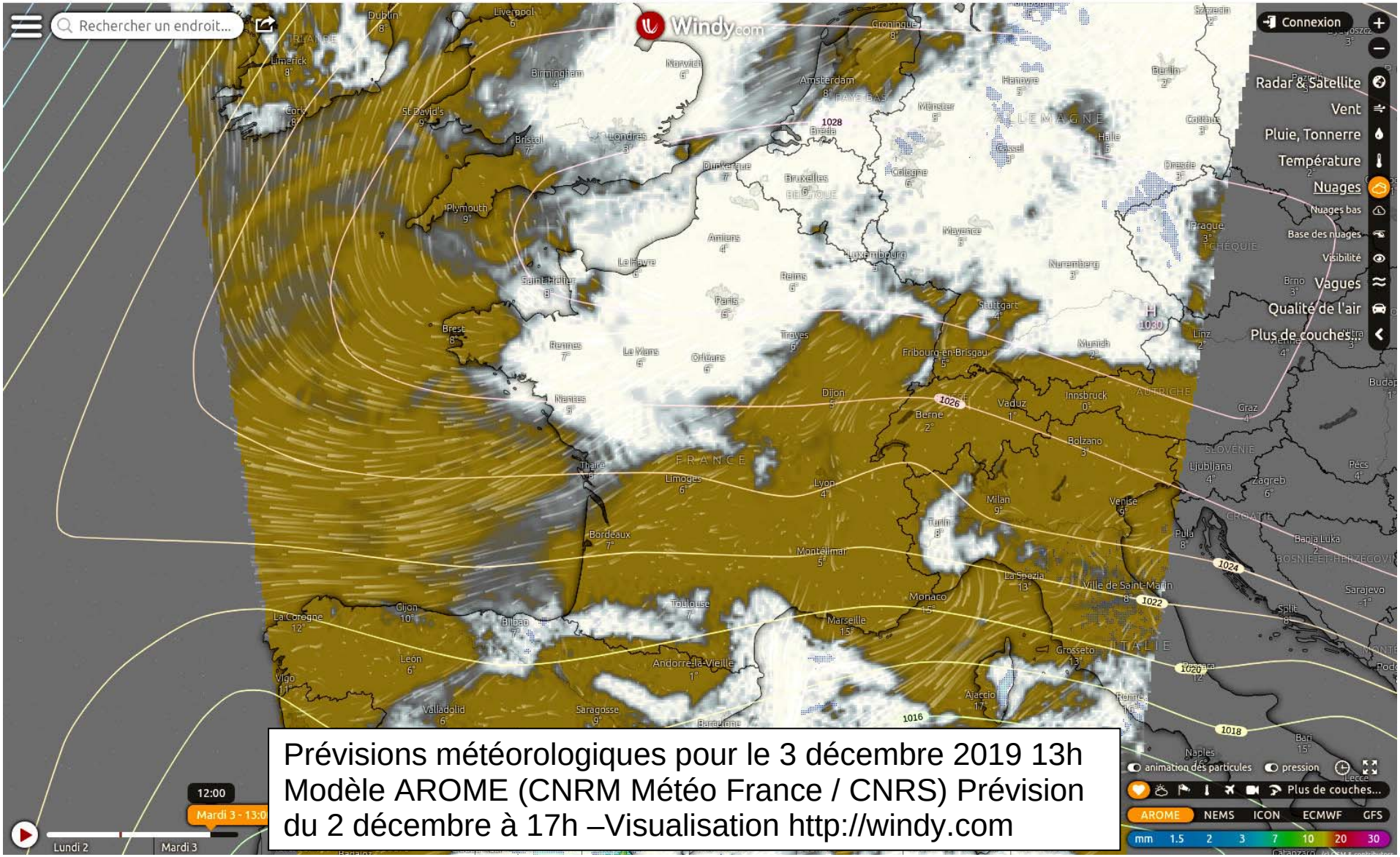


***Figure 6**: Enregistrement du séisme d'Arette du 13 août 1967 par l'un des sismomètres Mainka-SOM de Bagnères.*

A. Souriau, Le Pic- du-Midi / Bagnères: un observatoire sismologique

Des sciences appliquées …

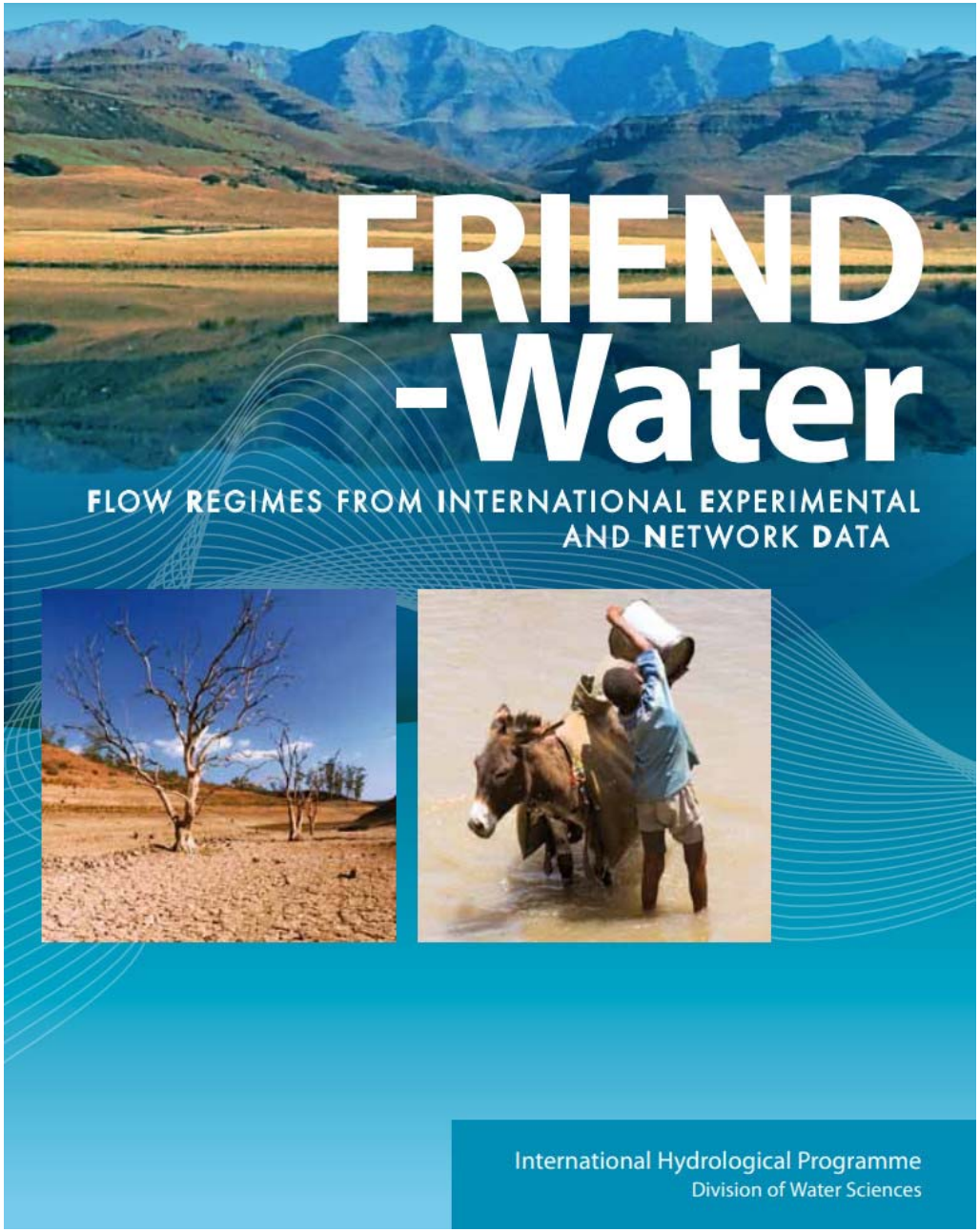
Ces observations et ces modélisations visent à la connaissance fondamentale, ainsi qu'aux applications sociétales de cette connaissance.



Prévisions météorologiques pour le 3 décembre 2019 13h
Modèle AROME (CNRM Météo France / CNRS) Prévision du 2 décembre à 17h –Visualisation http://windy.com

… au service de la société

DISASTER RISKS RESEARCH AND ASSESSMENT TO PROMOTE RISK REDUCTION AND MANAGEMENT



Qui contribuent aux engagements de l'ISC

International Science Council

ABOUT US | WHAT WE DO | OUR MEMBERS | PUBLICATIONS | CURRENT | EVENTS | SIGN UP

Our work at the UN

Disaster Risk Reduction

ISC, and its predecessor ICSU, have a long history of involvement in the coordination of international research on disaster risk.

International Science Council

ABOUT US | WHAT WE DO | OUR MEMBERS | PUBLICATIONS | CURRENT | EVENTS | SIGN UP

Our work at the UN

Climate Change

On December 12, 2015 the world's governments agreed to adopt the Paris Agreement on keeping global warming below 2°C. It is the result of two decades of international negotiations in which the International Council for Science has played a role as a convenor of the scientific community to underscore the importance of evidence-based decision making in the political process.

En particulier pour la prévention des risques

Disaster Risks Research and Assessment to Promote Risk Reduction and Management

Authors:
Irasema Alcántara-Ayala (Mexico), Orhan Altan (Turkey), Daniel Baker (USA), Sálvano Briceño (France/Venezuela), Susan Cutter (USA), Harsh Gupta (India), Ailsa Holloway (South Africa), Alik Ismail-Zadeh (Germany/Russia), Virginia Jiménez Díaz (Venezuela), David Johnston (New Zealand), Gordon McBean (Canada), Yujiro Ogawa (Japan), Douglas Paton (Australia), Emma Porio (Philippines), Rainer Silbereisen (Germany), Kuniyoshi Takeuchi (Japan), Giovanni Valsecchi (Italy), Coleen Vogel (South Africa), Guoxiong Wu (China), and Panmao Zhai (China)

Reviewers:
David Alexander (UK), Reid Basher (New Zealand), Bronwyn Hayward (New Zealand), Ilan Kelman (UK), Allan Lavell (Costa Rica), Alberto Martinelli (Italy), Omar Perez (Venezuela), Roger Pulwarty (USA), and Ester Sztein (USA)

Editors:
Alik Ismail-Zadeh (Germany/Russia) and Susan Cutter (USA)

MARCH 12, 2015
ICSU-ISSC AD-HOC GROUP ON DISASTER RISK ASSESSMENT

Suite à la proposition faite en 2011 par l'UGGI à l'ICSU:
http://iugg.org/policy/Report_RiskReduction_WCDRR_2015.pdf

SUMMARY FOR POLICYMAKERS

Disasters related to natural events continue to grow in number, intensity, and impact. In many regions, natural hazards are becoming direct threats to national security because their impacts are amplified by rapid growth and unsustainable development practices, both of which increase exposure and vulnerabilities of communities and capital assets. Reducing disaster risk then becomes a foundation for sustainable development.

Science-driven approaches to disaster risk reduction (DRR) and disaster risk management (DRM) can help communities and governments become more resilient and reduce the human and economic impacts of disasters. Science plays a significant role in all stages of disaster risk and its management often providing rapid scientific assessment of and usable knowledge to decision-makers (e.g., Ghafory-Ashtiani and Hosseini 2008; Machlis and McNutt 2010; Kumar et al. 2014). Scientists can do more to co-produce and deliver scientific knowledge on disasters and disaster risks for policy makers and society by providing robust, evidence-based frameworks and a variety of knowledge products (e.g., concepts, tools, technology, data, advices, training) for social policy engagement, development, and implementation.

Growing results related to integrated research on disaster risks should be systematically reviewed through periodic assessments at local, national, regional, and global levels. Following earlier proposals on periodic assessments of disaster risks (Burton 2001; UK Natural Hazards Working Group 2005; ENHANS 2011; UNISDR 2013; ICSU 2014),

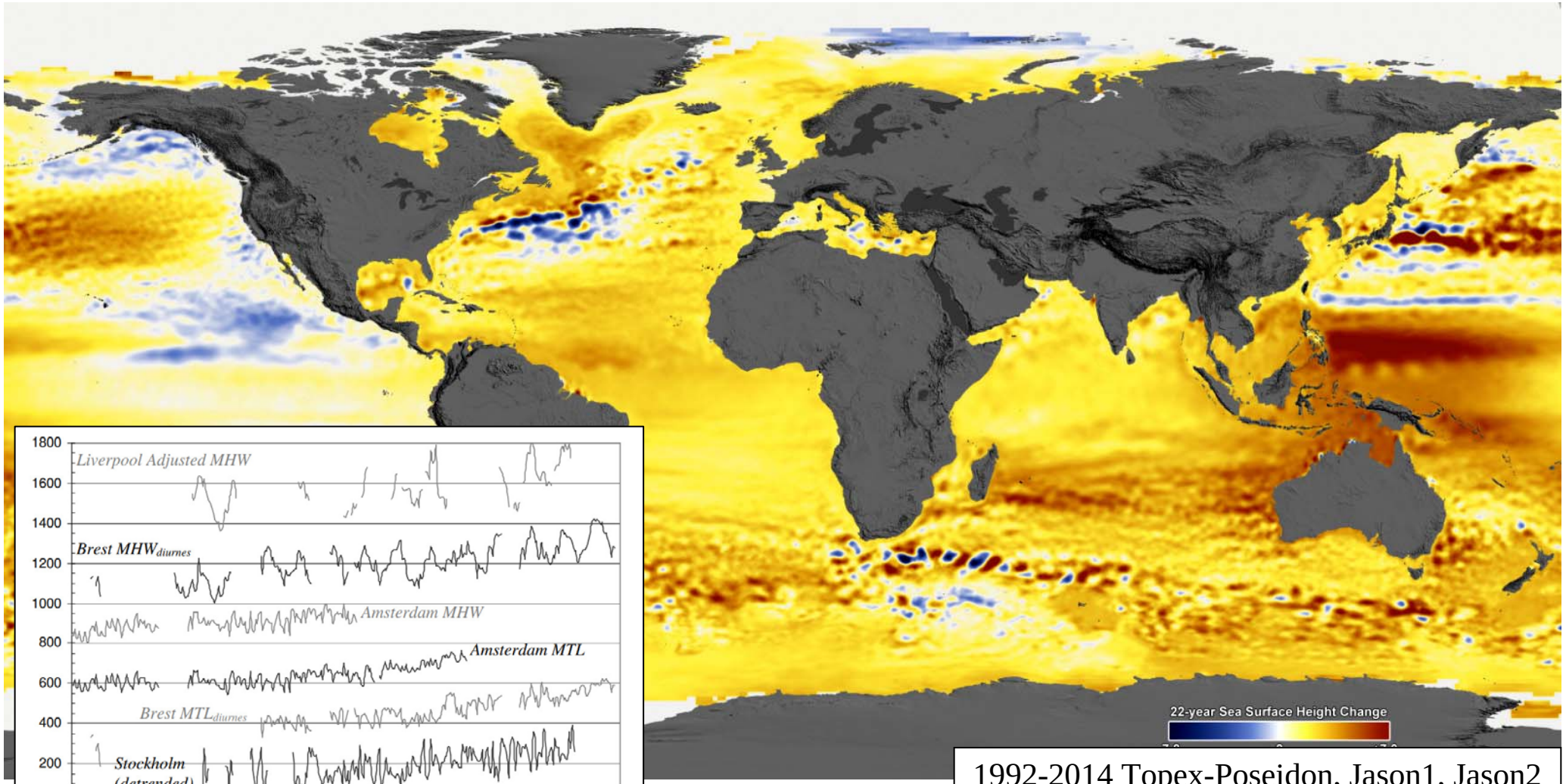
> *we call for significant improvements of existing assessment processes by scientific advice on disaster risks to support and catalyze disaster policy development and management across governments. Comprehensive periodic assessments of disaster risks at local to global levels should be undertaken by a high-level, trans-disciplinary body of experts appointed by national governments together with international and inter-governmental scientific organizations dealing with disaster risks.*

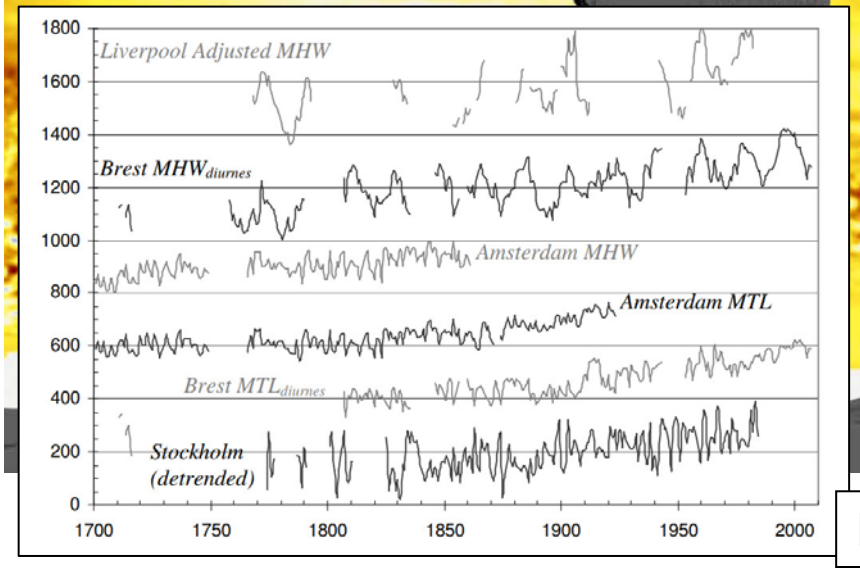
Through a participatory process of working with civil society and relevant stakeholders, this international body will produce a clear and unambiguous scientific view on the current state of knowledge in disaster risk, the potential socio-economic impacts of natural hazards, and the ways to reduce (if not prevent) significant human and economic losses. The development of assessment process will facilitate the inclusion of cultural and cross-cultural perspectives. It will also produce the robust unambiguous evidence of economic, operational, and strategic benefits of using scientific knowledge and information, to address hazard prevention, mitigation, and response actions. Potential disasters triggered by natural hazard events will be evaluated in the light of the political, economical, social, and cultural barriers to suggest the ways for applications and implementations of remedies.

The United Nations Office for Disaster Risk Reduction (UNISDR) produces Global Assessment Reports on Disaster Risk Reduction (GARs) providing global overviews and more thematically-based assessments of disaster risk (e.g., UNISDR 2013), but not an explicit assessment of the state of scientific knowledge. We believe that the proposed body would strengthen existing UN structures by periodic assessment of disaster risks and could enhance the scientific input (e.g., peer-reviewed science) into the existing assessment process to elevate its impact (e.g., Tokyo Statement and Action Agenda 2015).

Nécessité d'observations longues et de qualité

- La continuité des observations sur des temps qui peuvent être très longs est le plus souvent essentielle pour la bonne compréhension et donc la bonne modélisation des processus, et donc pour le calcul de leur évolution future.





Pouvreau, 2008

1992-2014 Topex-Poseidon, Jason1, Jason2

http://legos.pobs-mip.fr

Un besoin pris en compte par l'ISC

Committee on Data (CODATA)

The mission of CODATA is to strengthen international science for the benefit of society by promoting improved scientific and technical data management and use.

The Committee on Data (CODATA), previously known as the Committee on Data for Science and Technology (CODATA), was set up by the 11th General Assembly of the International Council for Science (ICSU) held in Bombay, January 1966. The Committee held its first meeting in Paris in June 1966.

CODATA is concerned with all types of quantitative data resulting from experimental measurements or observations in the physical, biological, geological and astronomical sciences. Particular emphasis is given to data management problems common to different scientific disciplines and to data used outside the field in which they were generated.

The general objectives are the improvement of the quality and accessibility of data, as well as the methods by which data are acquired, managed and analysed; the facilitation of international cooperation among those collecting, organizing and using data; and the promotion of an increased awareness in the scientific and technical community of the importance of these activities.

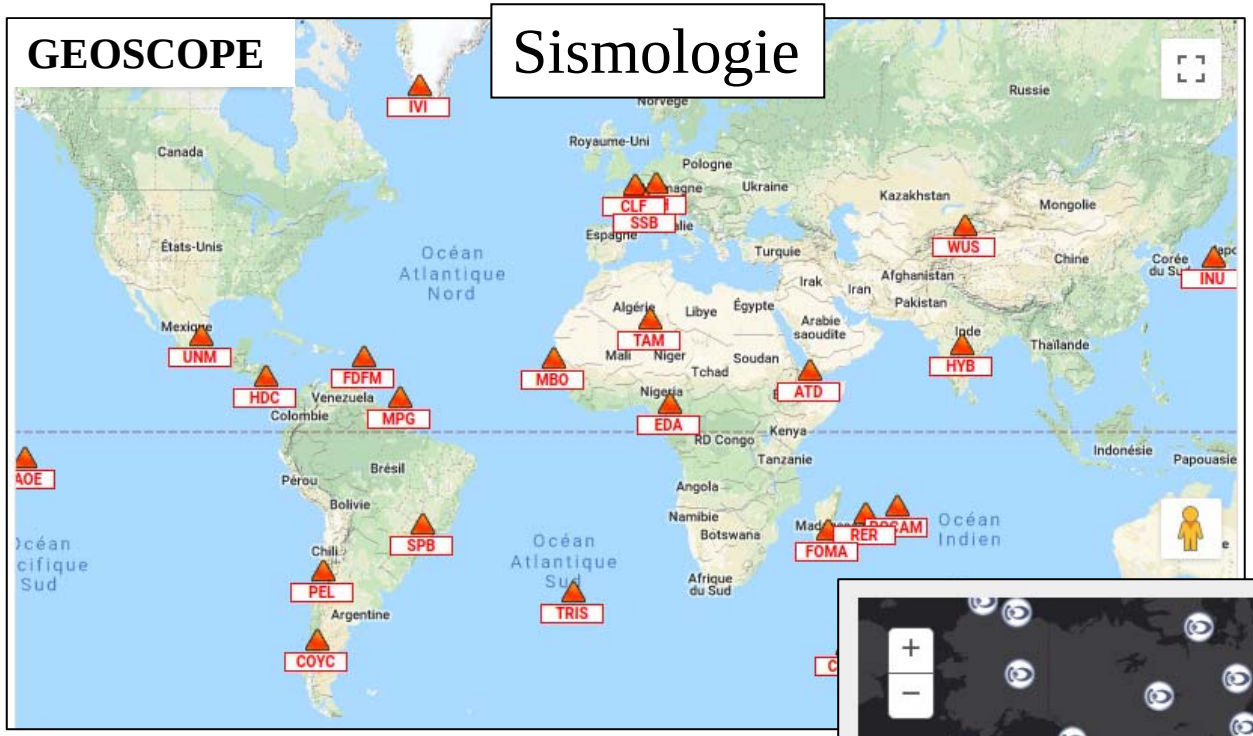
World Data System (WDS)

The mission of WDS is to promote long-term stewardship of, and universal and equitable access to, quality-assured scientific data and data services, products, and information across all disciplines in the Natural and Social Sciences, and the Humanities.

WDS was created in 2008 at the 29th General Assembly of the International Council for Science (ICSU) in Maputo, with the aim of facilitating scientific research by coordinating and supporting trusted scientific data services for the provision, use, and preservation of relevant datasets, while strengthening their links with the research community. It builds on the potential offered by advanced interconnections between data management components to foster disciplinary and multidisciplinary applications for the benefit of the international scientific community and other stakeholders.

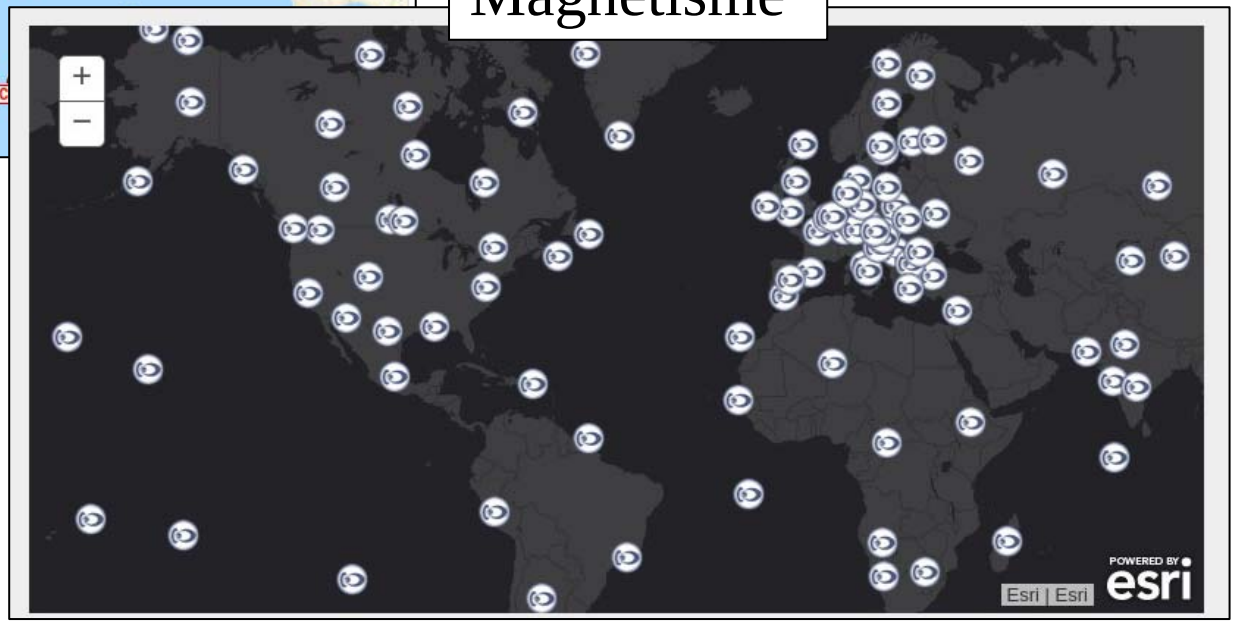
L’essor des observatoires depuis 1919

- Dans la période 1919-2019 les observatoires géodésiques et géophysiques ont connu un grand essor dans le monde et tout particulièrement en France.



Ils peuvent être globaux ou locaux (*e.g.* observatoires volcanologiques)

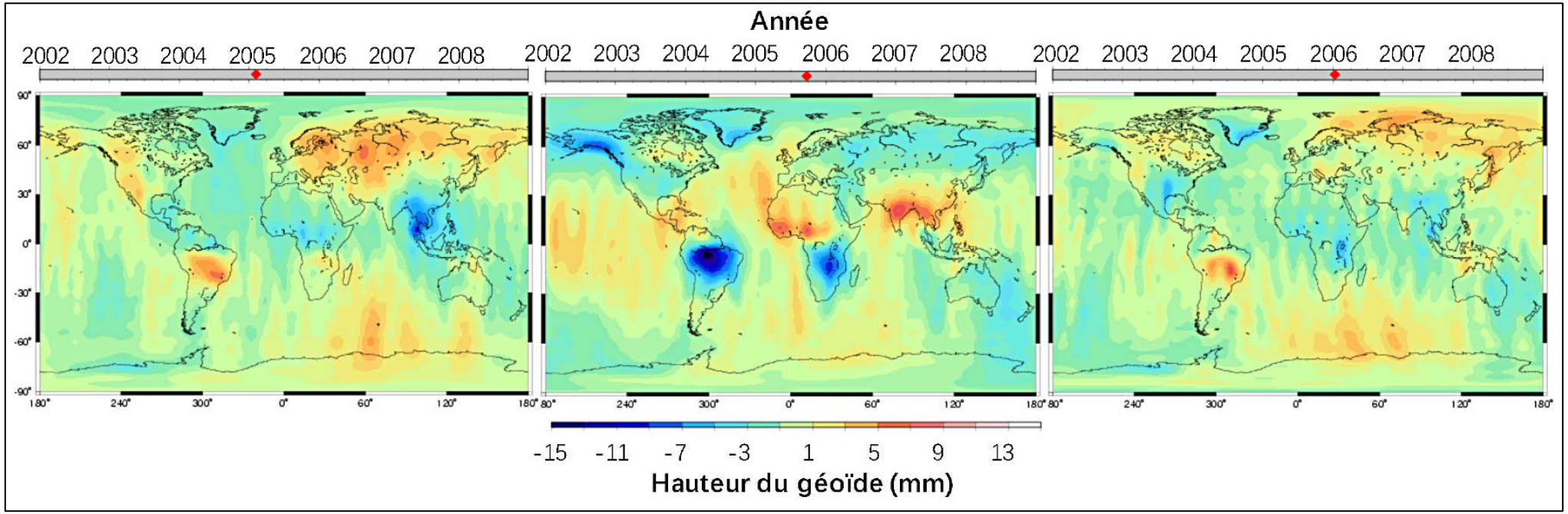
Géoscope – création 1982
http://geoscope.ipgp.fr



Intermagnet – création 1987
https://www.intermagnet.org/

L’observation spatiale de plus en plus importante

- Le spatial y joue un rôle désormais très important. Il apporte une vision globale et un accès de plus en plus fin à toutes les surfaces



Géoïde calculé à partir de données des missions LAGEOS et GRACE de 2002 à 2008

Cependant il ne remplace pas de nombreuses observations qui ne peuvent être réalisées qu’au sol, en sous-sol, en mer ou en fond de mer.

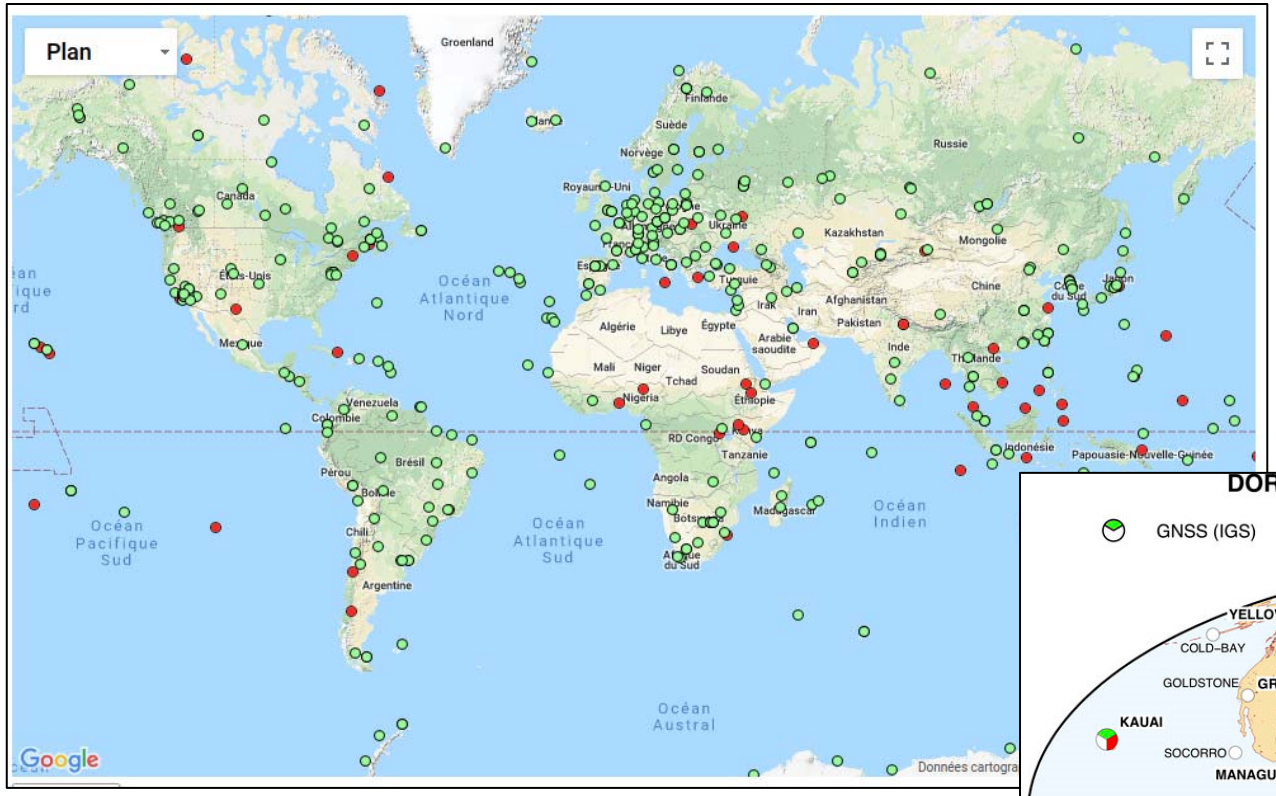
Les moyens massifs d’archivage et les outils de partage et distribution de données sont des éléments très importants des observatoires géodésiques et géophysiques actuels.

Exemples d'actions de l'UGGI -et de ses acteurs français- au service de l'essor d'observations géophysiques innovantes, rigoureuses et durables

- Association internationale de géodésie (IAG)
- Association internationale de sismologie et de physique de l'intérieur de la Terre (IASPEI)
- Association internationale de volcanologie et de chimie de l'intérieur de la Terre (IAVCEI)
- Association internationale de géomagnétisme et d'aéronomie (IAGA)
- Association internationale des sciences hydrologiques (IAHS)
- Association internationale de météorologie et des sciences de l'atmosphère (IAMAS)
- Association internationale des sciences physiques des océans (IAPSO)
- Association internationale des sciences cryosphériques (IACS)

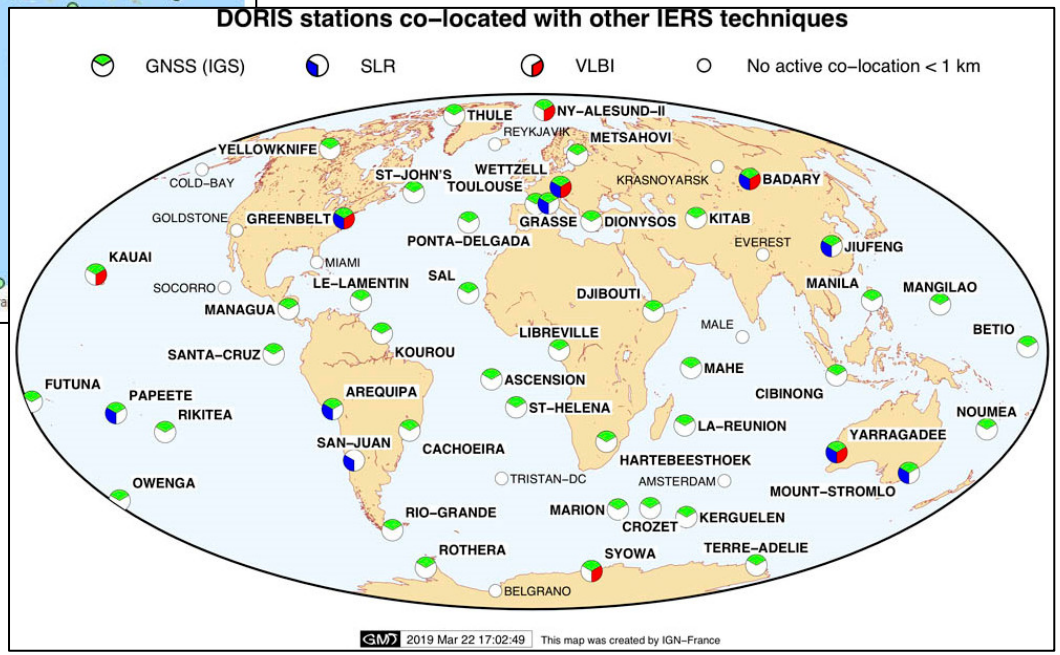
Association internationale de géodésie (IAG)

Réseau GNSS IGS
(International GNSS service)



A welcome message from the IAG President

Conventions IERS



Réseau DORIS

Association internationale de géodésie (IAG)

United Nations

Global Geospatial Information Management (UN-GGIM)

Subcommittee on Geodesy

https://www.unggrf.org/

Nations Unies

Assemblée générale

Soixante-neuvième session
Point 9 de l'ordre du jour

Résolution adoptée par l'Assemblée générale le 26 février 2015

[*sans renvoi à une grande commission (A/69/L.53 et Add.1)*]

Repère de référence géodésique mondial pour le développement durable **A/RES/69/266**

comme la Fédération internationale des géomètres, en faisant fond sur les initiatives de l'Association internationale de géodésie, qui représente la communauté géodésique mondiale, pour ce qui est d'évaluer et de suivre au mieux les changements du système terrestre, notamment la mise au point du Repère de référence terrestre international, qui a été adopté,

United Nations Subcommittee on Geodesy was inaugurated

"This is certainly a good day for geodesy", says Gary Johnston, one of the two co-chairs of the subcommittee.

"The new subcommittee is now established and this is an important step for improving global geodesy. We must work for the benefit of all member states," says Alexey Trifonov, who is the newly elected co-chair from the Russian Federation.

The inaugural meeting for the Subcommittee on Geodesy was convened on November 26th and 27th, and was hosted by INEGI in Mexico City in the margins of the 2017 UN-GGIM High Level Forum. 19 Member States and organisations participated in the meeting.

Association internationale de sismologie et de physique de l'intérieur de la Terre (IASPEI)

network code	network name	network operator	operator country	deployment country/region	DOI
1A (2007-2008)	NCISP6	Institute of Geology and Geophysics, CAS (CAS-Transect6)	CN: China	China	DOI
1A (2009-2012)	Arlita	Reseau sismologique et géodésique français (RESIF)	FR: France	France	DOI
1A (2013-2013)	Waste Isolation Pilot Plant Noise Analysis	New Mexico Tech	US: United States of America	United State of America	
1A (2014-2015)	Mining-induced seismicity network at mine Prosper-Haniel, Bottrop	Ruhr Universitaet Bochum (RUB Germany)	DE: Germany	Germany	
1A (2016-2017)	Sri Lanka temporary broadband network	GEOLOGICAL SURVEY AND MINES BUREAU (GSMB)	LK: Sri Lanka	Sri Lanka	

1711 réseaux (au 3/12/19)

FDSN Historical Publications

The following historical references cover information about the background of the FDSN.

Berry, M. (1988). *The Federation of Digital Seismographic Networks*, in Proceedings of a workshop on Downhole Seismometers in the Deep Ocean at Woods Hole Oceanographic Institution. (pdf)

Romanowicz, B. and A.M. Dziewonski (1987). *Global digital seismographic network: research opportunities and recent initiatives*, in Composition, Structure and Dynamics of the Lithosphere-asthenosphere system, C. Fuchs , C. Froidevaux Eds., A.G.U., Public., Geodynamics series, VOl. 16, 99-110. (pdf)

Romanowicz, B. (1990). *The Federation of Digital Broad Band Seismic Networks*. (pdf)

Association internationale de sismologie et de physique de l'intérieur de la Terre (IASPEI)

International Association of Seismology and Physics of the Earth's Interior

Resolutions adopted during the 26th IUGG General Assembly in Prague on 1 July 2015

Resolution 1a

Recognizing the outstanding value of the New Manual of Seismological Observatory Practice (NMSOP), and the efforts of Peter Bormann and GFZ in the development of the Manual

IASPEI

is grateful to GFZ German Research Centre for Geosciences, Potsdam for providing continued support and overseeing further development of the NMSOP.

Resolution 1b

Recognizing the great value of the homogeneous global instrumental (ISC-GEM) and Global historical (GHEC) earthquake catalogues, sponsored by GEM, for scientific and societal purposes,

IASPEI

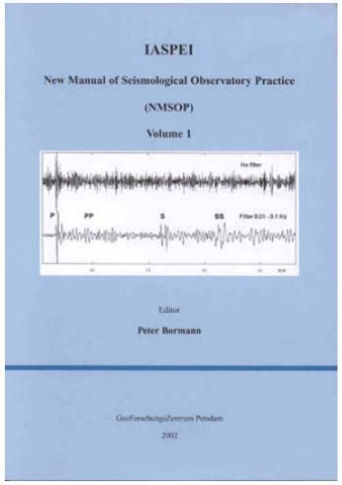
strongly urges the community to continue to support these efforts.

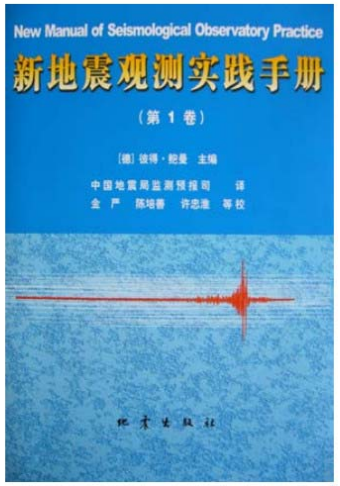
Resolution 1c

Recognizing the importance of standards in seismological observational practice,

IASPEI

encourages wider implementation and use of the ISF2.0 and QuakeML formats by seismological data centres and observatories.





International Association of Seismology and Physics of the Earth's Interior

IASPEI Resolutions

2013 Scientific Assembly, Gothenburg, Sweden

Resolution 1: **Magnitude Standards**

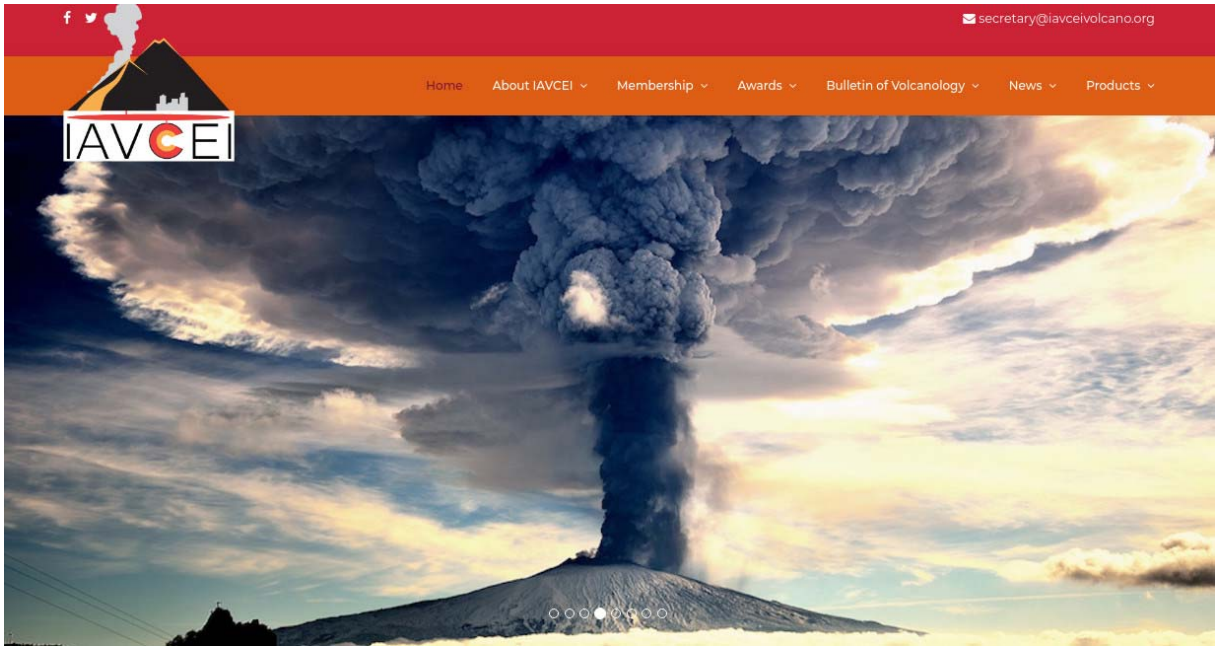
RECOGNISING the importance of the magnitude standards proposed by the Working group on Magnitude measurements of the Commission on Seismological Observation and Interpretation and published in the New Manual of Seismological Observatory Practice (second edition),

IASPEI

RECOMMENDS the station and network operators and data centres to adopt these standards in day to day operations, and

ENCOURAGES the developers of waveform processing programmes to incorporate these standards within their software packages.

volcanol ogie et de chimie de l'intérie



President

Dr. Patrick Allard

Institut de Physique du Globe de Paris, France

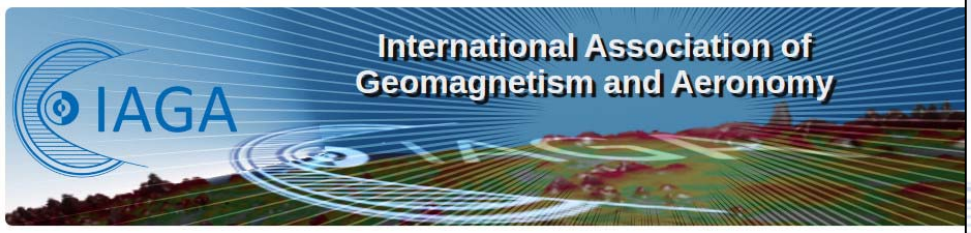
IAVCEI

TOWARD IAVCEI GUIDELINES ON THE ROLES AND RESPONSIBILITIES OF SCIENTISTS' INVOLVED IN VOLCANIC HAZARD EVALUATION, RISK MITIGATION AND CRISIS RESPONSE

by the IAVCEI Task Group on Crisis Protocols[1]

6th May, 2015

Association internationale de géomagnétisme et d'aéronomie (IAGA)



President

Mioara Mandea

Centre National D'Etudes Spatiales
2, Place Maurice Quentin
75001 Paris
France

IAGA is concerned with the understanding and knowledge that result from studies of the properties of:

- the Earth's core, mantle and crust
- the middle and upper atmosphere
- the ionosphere and the magnetosphere
- the Sun, the solar wind, the planets and interplanetary bodies

IAGA encourages free exchange of scientific information, facilitates international collabo through the Scientific Assemblies it organises and the meetings and workshops it spons for discussion and publication of the research results.

Resolution No.4 (2009): Geomagnetic Observatories

IAGA, **recognising**

- the importance of long time series of high quality geomagnetic observatory observations in characterizing the geomagnetic field,
- the combination of a global geomagnetic observatory network and modern satellite missions in optimizing progress in geomagnetism science, including greater understanding of the 'Earth system' and more accurate mapping and prediction of geomagnetic field changes and space weather conditions,

notes that many geomagnetic observatories continue to have uncertain futures, and therefore **urges** national agencies to ensure the continued operation of magnetic observatories during the lifetime of the ESA Swarm satellite mission and beyond.

Resolution No. 1 (2013): Paleo- and rock magnetic databases

IAGA, **recognising** the importance of large palaeomagnetic, rock magnetic and related data sets for addressing problems in global geomagnetism, stratigraphy and tectonics, **noting** the major effort that has gone into generating such databases **appreciates** the ongoing effort in maintaining and developing the databases by IAGA and MAGIC volunteers, and **urges** the continuation, further development and updating of the databases.

Resolution No.1 (2017): Magnetic satellite mission constellation

The International Association of Geomagnetism and Aeronomy (IAGA)

Considering

- the interests of the scientific community in observing with the highest accuracy and resolution the numerous components of the Earth's magnetic field to investigate the fundamental processes and hazards affecting the Earth system, from the deep Earth to space
- that the Earth's magnetic field is one of the fundamental global change variables of our planet

Acknowledging

- the extensive expertise acquired within the international scientific community in analysing data from dedicated Low Earth Orbiting magnetic satellite missions like Oersted, CHAMP and Swarm continuously over the last 20 years, and the considerable success of these missions

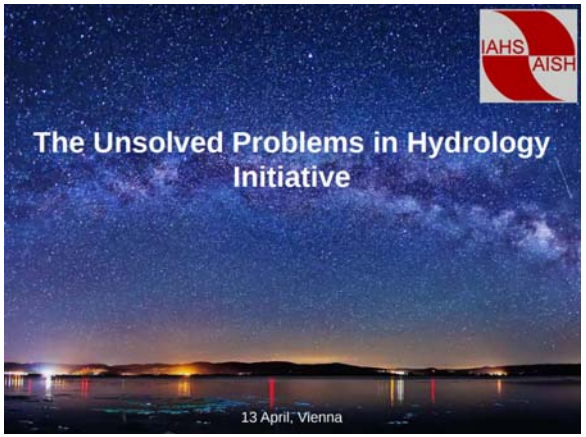
Stressing

- the need for permanent long-term measurement of the magnetic field for understanding its generation, forecasting its evolution, and for space weather applications
- the possibility of further enhancing the science return and the technological applications of the on-going Swarm constellation by considering the addition of new satellites, such as nanosatellites

Urges

- international and national institutions, agencies and governmental bodies in charge of supporting Earth and space science research to make all efforts to extend support for current missions and to catalyse and implement new magnetic field satellite missions that would respond to the aforementioned need for continued and improved observation.

Association internationale des sciences hydrologiques (IAHS)



Twenty-three unsolved problems in hydrology (UPH) – a community perspective

Günter Blöschl, Marc F.P. Bierkens, Antonio Chambel, Christophe Cudennec, Georgia Destouni, Aldo Fiori, ...show all

Pages 1141-1158 | Received 28 Mar 2019, Accepted 14 May 2019, Accepted author version posted online: 10 Jun 2019, Published online: 02 Jul 2019

Download citation https://doi.org/10.1080/02626667.2019.1620507 Check for updates

Full Article | Figures & data | References | Supplemental | Citations | Metrics | © Lic

ABSTRACT

This paper is the outcome of a community initiative to identify major unsolved scientific problem hydrology motivated by a need for stronger harmonisation of research efforts. The procedure i public consultation through online media, followed by two workshops through which a large nu potential science questions were collated, prioritised, and synthesised. In spite of the diversity o participants (230 scientists in total), the process revealed much about community priorities and our science: a preference for continuity in research questions rather than radical departures or from past and current work. Questions remain focused on the process-based understanding of variability and causality at all space and time scales. Increased attention to environmental chan new emphasis on understanding how change propagates across interfaces within the hydrologi and across disciplinary boundaries. In particular, the expansion of the human footprint raises a questions related to human interactions with nature and water cycle feedbacks in the context o water management problems. We hope that this reflection and synthesis of the 23 unsolved pr hydrology will help guide research efforts for some years to come.

List of UPH as of 16:13 on 13 April 2018

Floods and droughts
Can we improve the estimation of extreme flood peak discharges ?
How to reconstruct paleohydrological phenomena during the Holocene and why did they happen?
Is vulnerability reduction masking a climate change signal in temporal flood risk trends?
Do we understand scour and erosion processes occurring during extreme floods?
Can we improve the estimation of extreme flood peak discharges ?
How can we evaluate the performance of Flood Early Warning Systems, in terms of losses avoided as a result of a warning?
How do we improve drought (or flood) risk assessments?
How to use nature-based solutions to reduce flood risk and drought risks and increase the resilience of water resources?
How do droughts and floods shape hydrological risk awareness?
How are changes in vulnerability influencing trends in flood risk?
How to assess water scarcity by considering both water quantity and quality
Do flood rich-poor periods exist? If so why?
Where and when do flood wave superpositions occur and what are the atmospheric, catchment and river network controls on this process?
Water scarcity assessment
Floods and droughts: how can we improve forecasting skill or predictability at different lead time lengths?

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sciences
hydrolo
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http://www.icsw.bham.ac.uk

International Commission on Surface Water

ICSW President, Eric Servat,

- ICSW Home
- Vision
- Officers
- Activities
- Links

ICSW is responsible for promoting research in surface water hydrology and its interaction with other aspects of the hydrological cycle. The primary focus of activities will be to advance knowledge of the dynamics and statistics of surface water hydrology and to encourage the transfer of this knowledge to the international scientific hydrological community and the water industry to improve the design and operation of hydrological systems. Core activities including flood and drought prediction, mitigation and forecasting will continue within **ICSW**, however a higher priority will be given to interdisciplinary research including socio-economic aspects. This will include instream ecology, wetland ecology, poverty reduction, hydrology and health and knowledge building to reduce international conflict in water.

This will be achieved through joint activities with other commissions and agencies outside of **IAHS**. The Commission will maintain close links with **UNESCO, IHP** and **WMO** programmes for example in supporting the global **FRIEND** (Flow Regimes from International Experimental and Network Data), and Policy) and **WHYCOS** (World Hydrological Cycle Observing avour to support capacity building in developing countries by

FRIEND-Water: Some major research questions

HOW DOES FRIEND-Water COMMUNICATE AND DISSEMINATE THE RESULTS

A key feature of FRIEND-Water is the summary reports, published every four years, which provide an overview of the major research topics studied and results obtained in each regional group, and give information on future research direction of FRIEND-Water. The achievements are presented and discussed at an international conference with a four-year cycle, hosted by one of the regional FRIEND-Water groups. Lessons learned from original research are made available openly through various websites, newsletters, and scientific journals. FRIEND-Water researchers have won several international prizes such as the Tison Award and the International Hydrology Prize.

CELEBRATING 25 YEARS OF FRIEND-Water

In 25 years (1985-2010), FRIEND-Water has transformed from a group of four European countries to representing the interests of over 162 countries divided into eight regions of the world. Over this time, researchers associated with FRIEND-Water have contributed to more than 2000 publications in well recognised journals covering a wide range of water-related disciplines. Other accomplishments include the establishment of regional hydrological databases, which has encouraged and facilitated data sharing between nations and made a lasting contribution to international cooperation, study material, and impacted regional policy-making, e.g. the European Water Framework Directive through the European Drought Centre (www.geo.uio.no/edc/).

THE FUTURE OF FRIEND-Water

FRIEND-Water will further strengthen its research on hydrological processes and variability in the context of global change; promote education by capacity building and exchange of hydrological knowledge; and it will continue to provide important guidance for the sustainable use of water to safeguard this precious resource.

AMIGO:
- How can better meteorological and climatological information enhance our understanding of drought evolution in Latin America?

AOC:
- How can eco-hydrological approaches inform and improve pollution control and ecosystem health in tropical environments?

SA:
- How do groundwater bodies interact with ephemeral streams to manage conjunctive use of water resources?
- How do we train a future generation of decision makers for water resources management in Africa?

NILE:
- How can mapping of erosion risk further foster understanding of sedimentation processes?
- How can eco-hydrology be integrated in Integrated Water Resources Management (IWRM)?

EURO FRIEND / MED FRIEND | HKH FRIEND / AP FRIEND | FRIEND NILE / SA FRIEND

WHY ARE HYDROLOGICAL DATABASES IMPORTANT?

To better understand the processes controlling the hydrological cycle it is necessary to have quality-controlled, regularly updated hydrological data with adequate geographical coverage, as well as metadata and auxiliary information (e.g. climate, land use etc.).

A hydrological database is one of the cornerstones for the research activities of each of the eight regional FRIEND-Water groups. Notable achievements include the EURO FRIEND European Water Archive (EWA) and AP FRIEND's five volumes Catalogue of Rivers for Southeast Asia and the Pacific. Additionally, the advantage of having an international network is evident in the collaboration between MED FRIEND, AMIGO FRIEND and AOC FRIEND in creating a central database that shares common data and information architecture.

Association internationale de météorologie et des sciences de l'atmosphère (IAMAS)

ASSOCIATIONS >

International Association of Meteorology and Atmospheric Sciences (IAMAS)

IUGG

IAMAS
International Association of Meteorology and Atmospheric Sciences

At the First IUGG General Assembly (Rome, 1922), the *Section de Météorologie* became one of the constituent *sections* of the Union. At the IV IUGG General Assembly (Stockholm, 1930) it became the International Association of Meteorology. It took the name of International Association of Meteorology and Atmospheric Physics at the XI IUGG General Assembly (Toronto, 1957), which later became the *International Association of Meteorology and Atmospheric Sciences*, (Association Internationale de Météorologie et des Sciences Atmosphériques) in 1993.

IAMAS promotes research in all atmospheric sciences, especially programmes requiring international co-operation. IAMAS leads the Alliance for Capacity Transfer (ACT) - a joint activity of IUGG, the World Meteorological Organisation (WMO), and the U.S. University Corporation for Atmospheric Research (UCAR). IAMAS is composed of 10 International Commissions on the following topics:

- Atmospheric Chemistry and Global Pollution (ICACGP)
- Atmospheric Electricity (ICAE)
- Climate (ICCL)
- Clouds and Precipitation (ICCP)
- Dynamic Meteorology (ICDM)
- Middle Atmosphere (ICMA)
- Planetary Atmospheres and their Evolution (ICPAE)
- Polar Meteorology (ICPM)
- Ozone (IOC)
- Radiation (IRC)

Commission Officers

Current Officers of the International Commissions

Int. Commission on Atmospheric Chemistry and Global Pollution (ICACGP)
Dr. Melita Keywood, President ICACGP (2019-2023)
Dr. Mary Barth, Vice President ICACGP (2019-2023)
Dr. Christian George, Vice President ICACGP (2019-2023)
Prof. Stuart Piketh, Vice President ICACGP (2019-2023)
Prof. Tong Zhu, Vice President ICACGP (2019-2023)

Int. Commission on Atmospheric Electricity (ICAE)
Dr. Xiushu Qie, President ICAE (2019-2023)
Dr. Weitao Lyu, Secretary ICAE (2019-2023)

Int. Commission on Climate (ICCL)
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Dr. Jianping Li, Secretary ICCL (2019-2023)
Dr. Quizhen Yin, Secretary ICCL (2019-2023)

Int. Commission on Clouds and Precipitation (ICCP)
Prof. Andrea Flossmann, President ICCP (2012-2020)
Prof. Greg McFarquhar, Vice-President ICCP (2016-2020)
Dr. Darrel Baumgardner, Secretary ICCP (2012-2020)

Committee on Nucleation and Atmospheric Aerosols (CNAA)
Dr. Markku Kulmala, Chair ICCP-CNAA

Int. Commission on Dynamic Meteorology (ICDM)
Prof. Thomas Spengler, President ICDM (2019-2023)
Dr. Craig Bishop, Secretary ICDM (2019-2023)

Int. Commission on Meteorology of the Middle Atmosphere (ICMA)
Dr. Bernd Funke, President ICMA (2019-2023)
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Liens entre IAMAS et l'OMM

WORLD METEOROLOGICAL ORGANIZATION
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What we do

Tags: Observations Research

As a specialized agency of the United Nations, WMO is dedicated to international cooperation and coordination on the state and behaviour of the Earth's atmosphere, its interaction with the land and oceans, the weather and climate it produces, and the resulting distribution of water resources.

National Meteorological and Hydrological Services work around the clock to provide vital weather and climate information worldwide. Their early and reliable warnings of severe weather and fluctuations in air quality as well as of climate variability and change allow decision-makers, communities and individuals to be better prepared for weather and climate events. Their warnings help save life and property, protect resources and the environment and support socio-economic growth. WMO supports National Meteorological and Hydrological Services with this work and in meeting their international commitments in the areas of disaster risk reduction, climate change mitigation and adaptation, and sustainable development.

WMO programmes facilitate and promote:

- the establishment of networks of observational stations to provide weather, climate and water-related data;
- the establishment and maintenance of data management centres and telecommunication systems for the provision and rapid exchange of weather, climate and water-related data;
- the creation of standards for observation and monitoring in order to ensure adequate uniformity in the practices and procedures employed worldwide and, thereby, ascertain the homogeneity of data and statistics;
- the application of science and technology in operational meteorology and hydrology to aviation, transport (air, land and maritime), water resource management, agriculture and other focus areas;

Association internationale de météorologie et des sciences de l'atmosphère (IAMAS)

IUGG IAMAS

http://www.io3c.org

International Ozone Commission

Officers:

- Sophie Godin-Beekmann (France) - President
- Paul Newman (USA) - Vice-President
- Irina Petropavloskikh (USA) - Secretary

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The International Ozone Commission was established in 1948 as one of the special commissions of the International Union of Geodesy and Geophysics, who represent the entire community of geophysical scientists around the world. The purpose of the IO3C is to help organize the study of ozone around the world, including ground-based and satellite measurement programs and analyses of the atmospheric chemistry and dynamical processes affecting ozone.

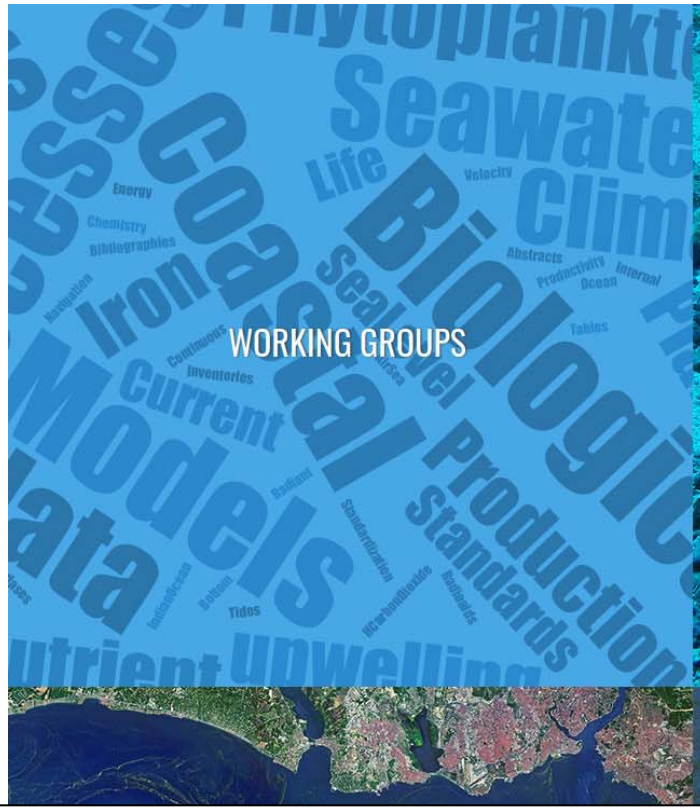
Association internationale de météorologie et des sciences de l'atmosphère (IAMAS)

La communauté scientifique de IAMAS nourrit l'IPCC en données et modèles

Association internationale des sciences physiques des océans (IAPSO)

IAPSO is one of eight associations of the International Union of Geodesy and Geophysics (IUGG), which is constituted within the International Council for Science (ICSU)

The International Association for the Physical Sciences of the Oceans (IAPSO)



International Science Council
SCOR
Scientific Committee on Oceanic Research

UPCOMING SCOR MEETING

19-23 October 2020
Guayaquil, Ecuador

Past Annual Meetings

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The International Council for Science (ICSU) formed the Special Committee on Oceanic Research (SCOR) in 1957 to help address interdisciplinary science questions related to the ocean. SCOR was the first interdisciplinary body formed by ICSU. SCOR's name was later changed to "Scientific Committee on Oceanic Research" to reflect its more permanent status.

Association internationale des sciences cryosphériques (IACS)

GLIMS: Global Land Ice Measurements from Space

Monitoring the World's Changing Glaciers

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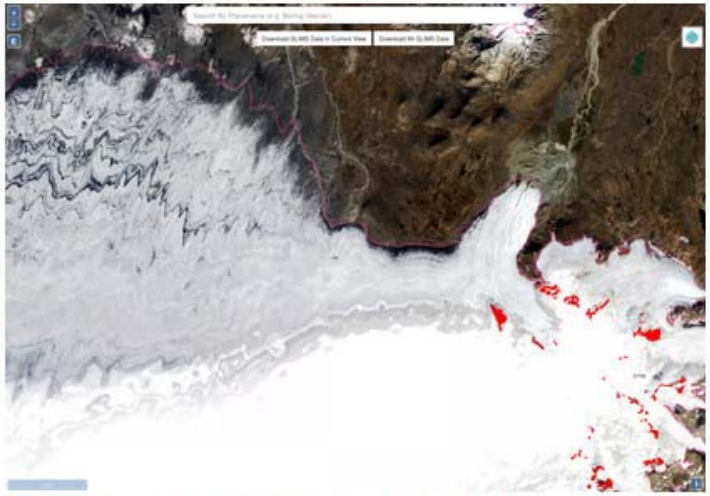
GLIMS *(Global Land Ice Measurements from Space)* is a project designed to monitor the world's glaciers primarily using data from optical satellite instruments. **Read about** the main features of the GLIMS Glacier Database.

The **Randolph Glacier Inventory** (RGI) is a global inventory of glacier outlines. It is supplemental to the GLIMS database, and is a map of glaciers for one time and a collection of useful attributes.



http://www.glims.org

We continue to develop tools to aid in glacier mapping and for transfer of analysis results to NSIDC. An older software package is **GLIMSView**; other resources include documented procedures for GLIMS analysis, and **web-based tools** for data formatting and quality control. In practice, we have recently developed more tools for use here at NSIDC to ingest glacier data from a variety of sources, so a variety of tools may be used by analysts contributing data to GLIMS.

Over 60 institutions across the globe are involved in GLIMS. Until early 2015 the project was coordinated by Principal Investigator Jeffrey S. Kargel of the **University of Arizona Department of Hydrology and Water Resources**. General coordination, technical development, and data management are done at **NSIDC** in Boulder, Colorado, USA. The research team at NSIDC currently includes Richard Armstrong (former Principal Investigator and current advisor), Bruce Raup (General Coordinator and Technical Lead), and Siri Jodha Singh Khalsa (Remote Sensing Specialist).

Unions sœurs et cousines

International Science Council

- IUGS : International Union of Geological Sciences

- ISPRS : International Society for Photogrammetry and Remote Sensing (SFPT en France)
- IAU : International Astronomical Union
- INQUA : International Union for Quaternary Research

- ICA : International Cartographic Association
- IUCr : International Union of Cristallography (Association Française de Cristallographie)
- IUPAP : International Union of Pure and Applied Physics (Comité Français de Physique)

International Union of Geological Sciences (IUGS)

IUGS
Earth Science for the Global Community

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About the IUGS

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With 121 national members, the Union aims to promote development of the Earth sciences through the support of broad-based scientific studies relevant to the entire Earth system; to apply the results of these and other studies to preserving Earth's natural environment, using all natural resources wisely and improving the prosperity of nations and the quality of human life; and to strengthen public awareness of geology and advance geological education in the widest sense.

Contact Secretary General

Contact Secretariat

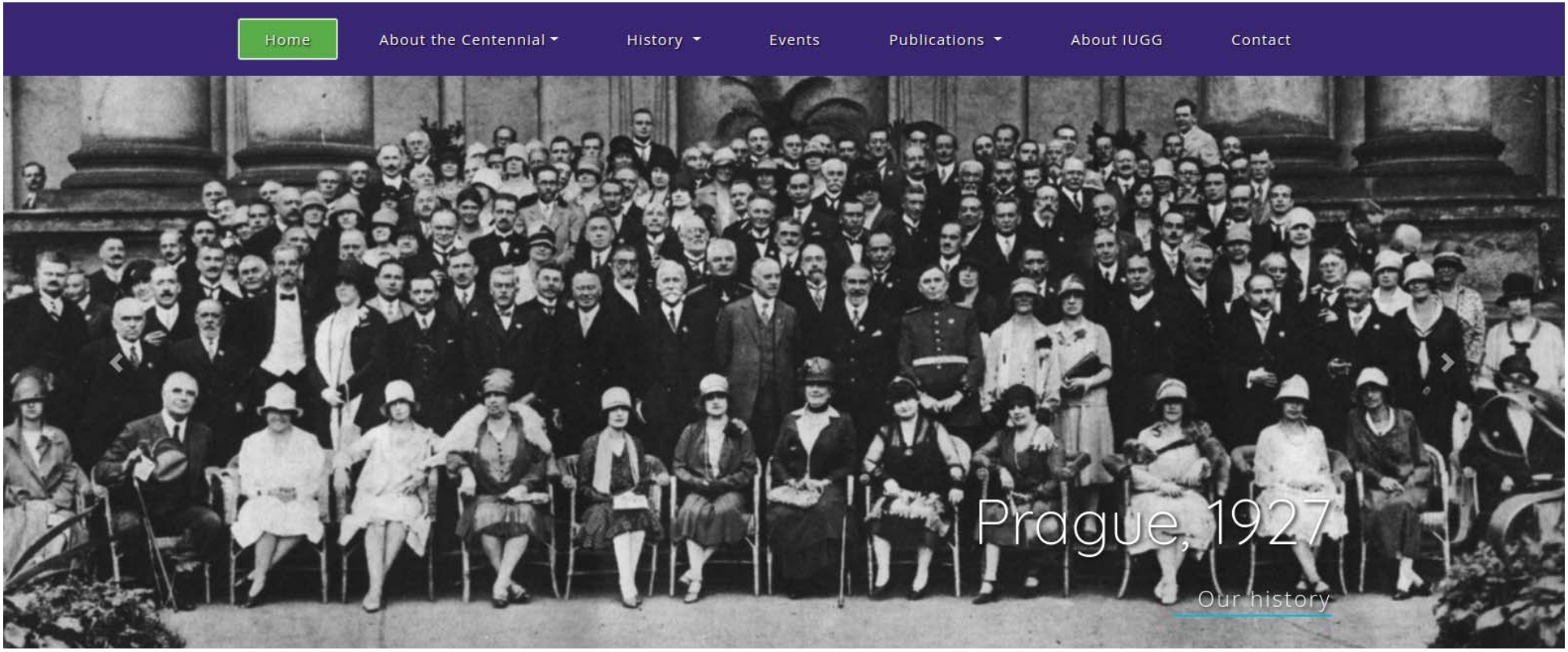
Union internationale de géodésie et géophysique

http://iugg.org

International Union of Geodesy and Geophysics
100 Years Anniversary

IUGG UGGI

Union Géodésique et Géophysique Internationale
100 ans anniversaire



About IUGG and its 100th Anniversary

The International Union of Geodesy and Geophysics (IUGG) was established on 28 July 1919 in Brussels, Belgium at the Inaugural General Assembly of the International Research Council (now the International Science Council) to promote activities of already-existing international scientific societies dealing with geodesy, terrestrial magnetism and electricity, meteorology, physical oceanography, seismology, and volcanology.