

I did not expect such Complexity

- 20 years of CODATA PASTD Efforts and future Challenges -

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Webinar Session of CODATA Taskgroup

“Preservation of and Access to Scientific and Technical Data in/for/with Developing Countries (PASTD)”

*The Open Data Publishing and Capacity Building in Developing Countries
for Improving Sustainable Development*

Virtual SciDataCon 2021

2021-10-22

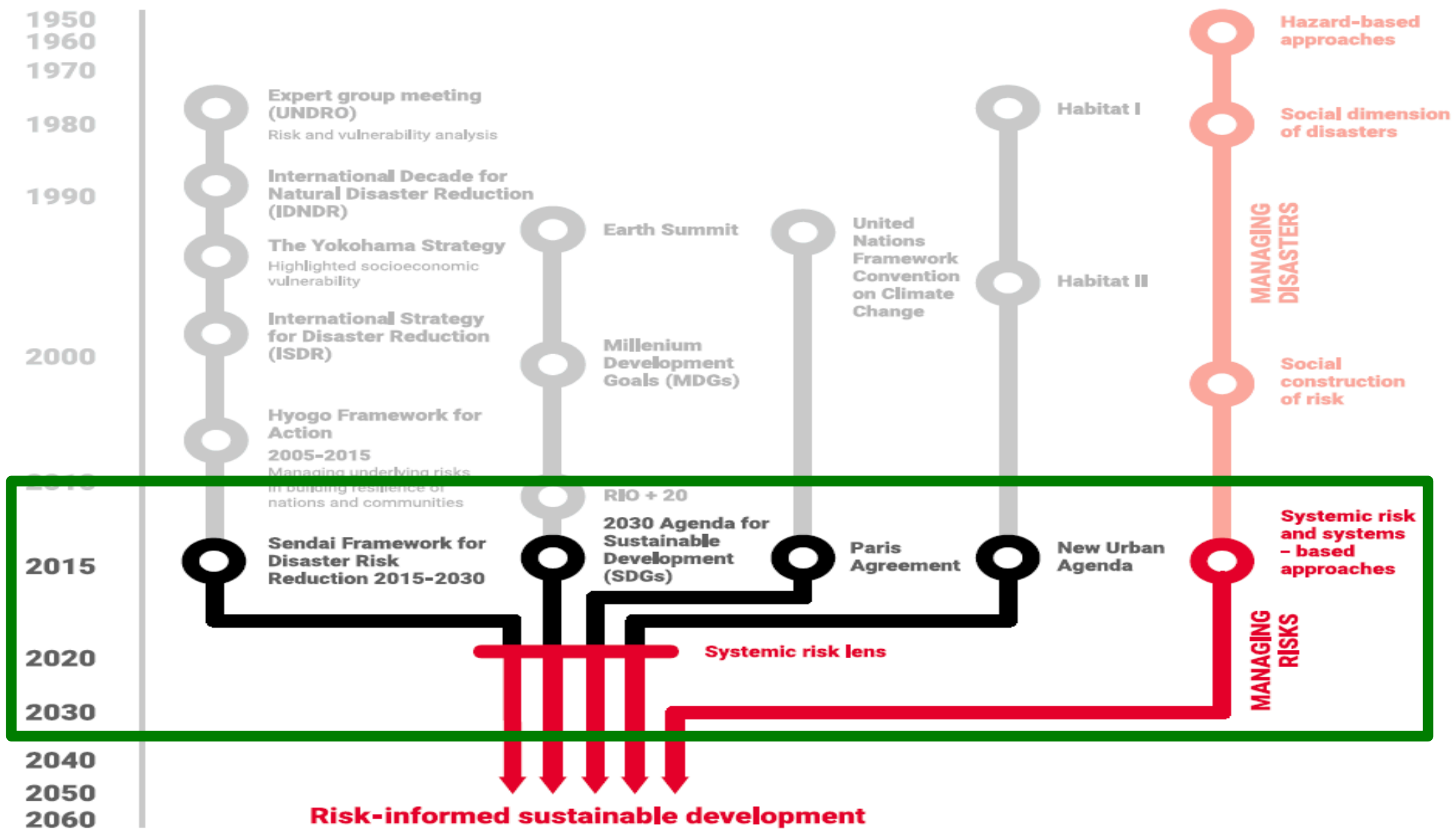
United Nations Instruments

Transnational Declarations, Conventions, Treaties, Frameworks and Directives

UN HABITAT,
UN Sustainable Development Goals SDGs,
UN Disaster Risk Reduction (SENDAI Framework),
UN Framework Convention on Climate Change,
Int. Platform on Biodiversity and Ecosystem Services IPBES,
Universal Declaration of Human Rights,
UN Declaration on the Rights of Indigenous Peoples
UN Convention on the Rights of the Child,
Doha Declaration on Disability and Development
and many others

PASTD Objectives

- Promote strategy, policy and institutional guidelines for implementation of open data principles in developing countries, especially in low and middle income countries (LMIC).
- Provide an interdisciplinary forum for enhancing capacity building and sharing best practice in developing countries;
- Advance data publishing in developing countries;
- Enhance data re-use and repositories in support of sustainable development



(Source: UNDRR 2019)

Basic Management Principles

- critical thinking
- gaps and deficits analysis
- decision, action, and control cycle support
- transparent analysis
- compliance to legal and technical regulations and other boundary conditions
- include financial structures, budgets and the use of financial instruments in reporting and control
- constructive goal-reaching and effectivity control
- guidance on human resources (quantity, future competence levels)
- avoidance of malpractice
- extend concepts of FAIR information principles to support transparency goals and accountability
- extensive documentation and reporting obligations
- quality indications on confidence, weaknesses, uncertainties, error propagation, and vulnerabilities

Establishing Cross-Organizational Information Infrastructures

- ❖ Catalog of Information Sources Metainformation
- ❖ Improved Data Access (Time and Cost Savings)
- ❖ Enable and Improve Data Exchange between different Institutions and Application Domains
- ❖ Consistent and Efficient Use of Data
- ❖ More Efficient Development of Services using existing Data and Standards
- ❖ High-Quality Data for Action Alternatives and Decision-Making Support
- ❖ Service-Level-Agreements (Preparatory and Operational)
- ❖ Improvement of Strategic, Tactical and Operational Decisions
- ❖ Possibility of Decision-Making about Policies (Administration, Jurisdiction etc.)
- ❖ Including the Private Sector
- ❖ Facilitating the Development of Knowledge Generation, Communication and Comparison
- ❖ Comprehensive Documentation and holistic Ex-Post Analysis
- ❖ Analysis Across all Phases of Planning, Implementation, Operation and Control of Goal-Reaching Effects

Selected Domains and Organizations of Current Interoperability Best Practice

Environmental Information

(UNEP Digital Transformation towards a Global Data Strategy, EU INSPIRE Directive)

Geoinformation (Open GIS Consortium OGC)

Observational Health Data Sciences and Informatics (OHDSI)

Essential Biodiversity Variables (EBVs)

Group on Earth Observations

Resource Description Framework (W3C)

Process Modeling Standards (BPM)

Data Documentation Initiative (DDI)

W3C Data Activity: Semantic Web

... and many more

Elements of Information Management

The elements of Information Management are not only “pure” data but all facts

values, metainformation, methods, functions, processes, models, measures, principles, expectations, goals, actors and their culture and sociology, documentation, decisions, actions, effects and control

Consequences:

- Enabling Operational Complexity,
- Improvement of Transparency,
- Avoidance of Misinterpretation,
- Essentially speeding-up Alternatives and Decisions,
- Support of Accountability

The Complexity Challenge (1)

- Complexity and Dynamics of Facts
- Complexity and Dynamics of Contexts
- Complexity of Actors
- Complexity of Organizations
- Complexity of Stakeholders – „those that are affected“
- Complexity of Systems Interdependence
- ...

The Complexity Challenge (2)

- Information capturing and data analysis
- Information documentation and permanent access
- Data-driven understanding of our world
- Decision-making support and control
- Thresholds, signals, triggers
- Alerts
- (re-)Action
- Processes, Workflows
- Goals-reaching
- Effects, Consequences

The UN Declarations and other UN Instruments texts increasingly enforce the demands for coherence and mutual synergies

There is special emphasis on

- defining the basic elements of coherence
- consequences for holistic information management across programs and conventions
- rising awareness on the key role of stakeholder driven participative information governance needed to foster of cross-domain and cross-organizational national as well as international implementations.

Timeliness implementations guided by the principles of holistic information management are key prerequisites in societal, natural, technical, humanistic and ethical aspects for the future of people and planet.

Aims

Coherence and Accountability Improvements according to Expectations of Information Society

Adopted 5th December 2017

Seventy-second session

Agenda item 77 (a)

Oceans and the law of the sea



Preambular Part

Recalling also the cross-cutting role of ocean science in Sustainable Development Goal 14 of the 2030 Agenda for Sustainable Development, and taking note that, at its twenty-ninth session, the Assembly of the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization endorsed the proposal for an international decade of ocean science for sustainable development, to be established for the period 2021–2030,

292. Decides to proclaim the United Nations Decade of Ocean Science for Sustainable Development for the 10-year period beginning on 1 January 2021, within existing structures and available resources, and calls upon the Intergovernmental Oceanographic Commission to prepare an implementation plan for the Decade in consultation with Member States, specialized agencies, funds, programmes and bodies of the United Nations, as well as other intergovernmental organizations, non-governmental organizations and relevant stakeholders;

https://www.oceandecade.org/documents/oceandecade_unomnibusresolution_extract_en_final.pdf

<https://www.oceandecade.org/>

<https://iho.int/en/gebco> IHO-IOC Guiding Committee for the General Bathymetric Chart of the Oceans

The United Nations General Assembly has endorsed seven outcomes for the Decade of Ocean Science for Sustainable Development leading to 2030:

1. A clean ocean where sources of pollution are identified and reduced or removed,
2. A healthy and resilient ocean where marine ecosystems are understood, protected, restored and managed,
3. A productive ocean supporting sustainable food supply and a sustainable ocean economy,
4. A predicted ocean where society understands and can respond to changing ocean conditions,
5. A safe ocean where life and livelihoods are protected from ocean-related hazards,
6. An accessible ocean with open and equitable access to data, information and technology and innovation,
7. An inspiring and engaging ocean where society understands and values the ocean in relation to human wellbeing and sustainable development.

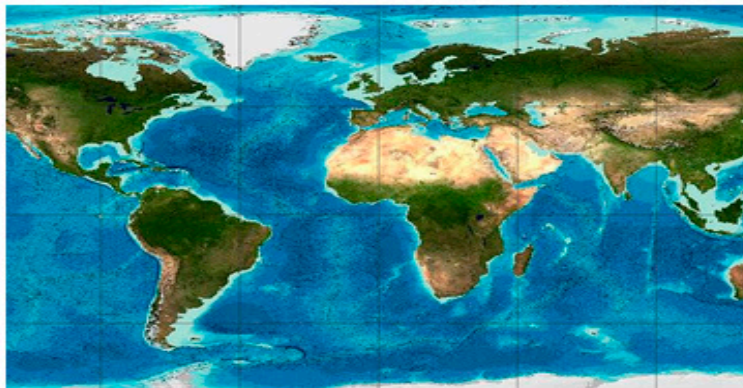


GEBCO aims to provide the most authoritative, publicly available bathymetry data sets for the world's oceans.

[Download GEBCO's global grid](#)[Download polar grids](#)[Contribute data](#)

<https://www.gebco.net/>

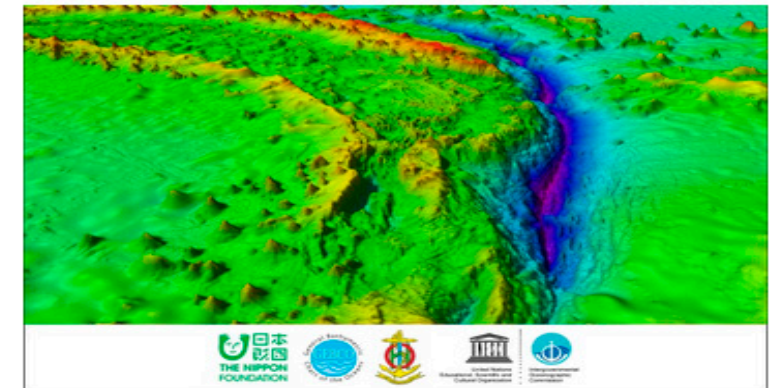
Gridded Bathymetry Data



Data & Products



Seabed 2030



Recommendations for Action

- Make Data Management Plans mandatory to grant correctness dynamically in the course of system availability and modifications, possibly to be supported by Data Lifecycle Management tools.
- Find flagship actors in Private Sector, Administration, R&D and current implementations with considerable potential to strive for advanced methods, techniques and solutions, including national/CEN/ISO and administrative standards development and applications
- Match with national and International strategies supporting Digitalization, Digital Transformation, Interoperability Frameworks and Cross-Border information exchange
- Realize the considerable information use overlap and expected synergy from joint strategies from UN Instruments
- Find adequate ways for closing the R&D / Practitioners gaps by making technical best practice mandatory for routine procedures in operational actors groups and organizations

Recommendations for Action

- Holistic Management, including all resources needed for permanent service provision, must be the goal principle of efforts.
- Allow a more efficient strategy for reaching Sustainable Development Goals; the importance of sharing knowledge and experience is identified as being crucial for developing countries.
- The ethical issues are part of this complex process and must not be forgotten.
- Digital public “environmental observatories” used as virtual public arenas and communication channels open a new, broad field of action, interaction, and social construction. Arenas supporting the collective definition and observation of environmental problems are urgently needed.
- A comparative content analysis of available information, participation tools, and interaction showed how these aspects are expressed.

Indigenous Peoples at the United Nations

- In November 2020, the fifth anniversary of the SWAP-Indigenous Peoples <https://www.un.org/development/desa/indigenouspeoples/about-us/system-wide-action-plan.html>
the UN System Chief Executives Board for Coordination (CEB) took the opportunity to revitalize the System-Wide Action Plan SWAP and strengthen collective and coherent UN system efforts by endorsing a call to action on building an inclusive, sustainable and resilient future with indigenous peoples.
- The call to action was developed through the Inter-Agency Support Group on Indigenous Issues and approved by the High-level Committee on Programmes. The call to action affirms the Executive Heads' commitment to supporting Member States in the promotion, protection and realization of the rights of indigenous peoples and redoubling efforts to ensure collaborative and coherent United Nations system action to support the rights and well-being of indigenous peoples.

UN Declaration on the Rights of Indigenous Peoples <https://humanrights.gov.au/our-work/un-declaration-rights-indigenous-peoples-1>



DEFINING THE DATA REVOLUTION

Since the phrase was coined in May 2013 in the report of the High-Level Panel of Eminent Persons on the post-2015 Development Agenda, the “data revolution” has come to mean many things to many people. Here, we take it to mean the following:

The data revolution is:

- » An explosion in the volume of data, the speed with which data are produced, the number of producers of data, the dissemination of data, and the range of things on which there is data, coming from new technologies such as mobile phones and the “internet of things”, and from other sources, such as qualitative data, citizen-generated data and perceptions data;
- » A growing demand for data from all parts of society.

The data revolution for sustainable development is:

- » The integration of these new data with traditional data to produce high-quality information that is more detailed, timely and relevant for many purposes and users, especially to foster and monitor sustainable development;
- » The increase in the usefulness of data through a much greater degree of openness and transparency, avoiding invasion of privacy and abuse of human rights from misuse of data on individuals and groups, and minimising inequality in production, access to and use of data;
- » Ultimately, more empowered people, better policies, better decisions and greater participation and accountability, leading to better outcomes for people and the planet.

Sustainable Development Information Management

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Sustainable Development Information according to the adopted UN 2030 Agenda for Sustainable Development and other related UN Instruments

The 2030 Agenda for Sustainable Development provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. The 17 Sustainable Development Goals (SDGs) have to be guided by strategies that improve health and education, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve our oceans and forests.

Thank You for Your Attention !

For further information, communication and cooperation
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-----End-of-Presentation-----

additional material for your information

WSIS2020 High-Level Policy Session 10 : Ethical Dimensions of Information and Knowledge Societies

Tuesday, 28 July 2020 High-Level Policy Session

"The Information Society should respect peace and uphold the fundamental values of freedom, equality, solidarity, tolerance, shared responsibility, and respect for nature."

We acknowledge the importance of ethics for the Information Society, which should foster justice, and the dignity and worth of the human person.

The widest possible protection should be accorded to the family and to enable it to play its crucial role in society. The use of ICTs and content creation should respect human rights and fundamental freedoms of others, including personal privacy, and the right to freedom of thought, conscience, and religion in conformity with relevant international instruments.

All actors in the Information Society should take appropriate actions and preventive measures, as determined by law, against abusive uses of ICTs, such as illegal and other acts motivated by racism, racial discrimination, xenophobia, and related intolerance, hatred, violence, all forms of child abuse, including paedophilia and child pornography, and trafficking in, and exploitation of, human beings."

Geneva Declaration of Principles, WSIS 2003, <https://www.itu.int/net/wsis/docs/geneva/official/dop.html>

Digital Transformation towards a Global Environmental Data Strategy

People, Places and Planet



Report to CPR 10 December 2019



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