Global Spatial Data and Information User Workshop:
Development, Dissemination, and Use

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Lamont-Doherty Earth Observatory
Palisades, New York, USA

Workshop Organizers & Co-Sponsors

- ***Organizers:***
  - **Center for International Earth Science Information Network (CIESIN), The Earth Institute, Columbia University**
  - **Food and Agriculture Organization of the United Nations (FAO)**
  - **United Nations Environment Programme (UNEP)**
  - **World Health Organization (WHO)**
  - **Consultative Group on International Agricultural Research (CGIAR)**
- ***Co-Sponsors:***
  - **Committee on Data for Science and Technology (CODATA), International Council for Science (ICSU)**
  - **Soecioeconomic Data and Applications Center (SEDAC), U.S. National Aeronautics and Space Administration (NASA)**

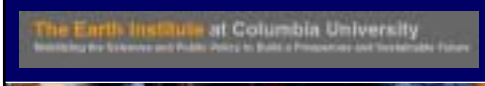
Workshop Participation

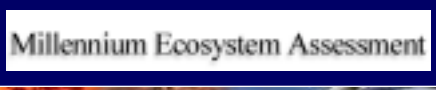
- Global data developers, distributors, and users
- Governmental, intergovernmental, nongovernmental, academic, and commercial institutions
- International data and information networks, research initiatives, and educational activities
- Research and applied users, data managers, standards developers









Workshop Motivations

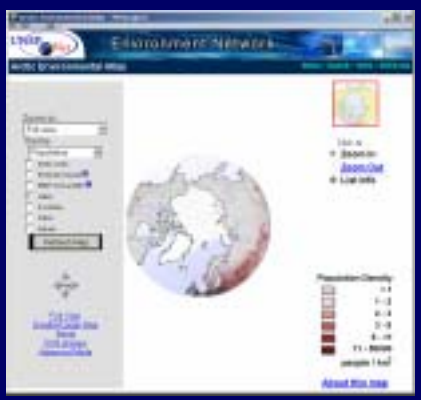
- Proliferation of global datasets on a wide range of topics; greater diversity of data sources in both developed and developing countries, including emerging regional and topical data networks
- Increasing complexity of global databases and more frequent overlap and cross-disciplinary applications
- New tools for providing online visualization of and access to global-scale data – both “centrally” and from distributed data servers
- Increasing concerns about intellectual property rights, data attribution, metrics on data use, data quality and uncertainty, liability
- Greater diversity of users, from scientists to applied users to students and educators
- Need to improve quality and efficiency of data development, maintenance, archiving, dissemination, and user support
- Need for better justification, assessment of benefits, and more resources for global data development

Example Internet Map Portals

- ***World Atlas of Biodiversity*** **hosted by the UNEP World Conservation Monitoring Centre (WCMC)**
- **UNEP.NET, United Nations Environment Program Socioeconomic Thematic Portal**
- **World Resources Institute *EarthTrends***

Regional Data Portals

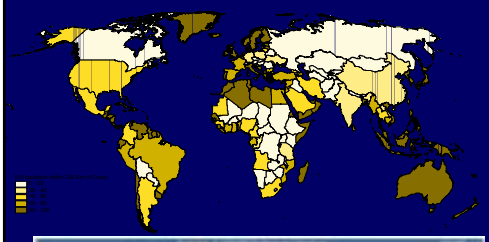
- **UNEP.NET Regional Portals**
  - **Arctic – uses LandScan 2000**
  - **Europe – uses GPW**

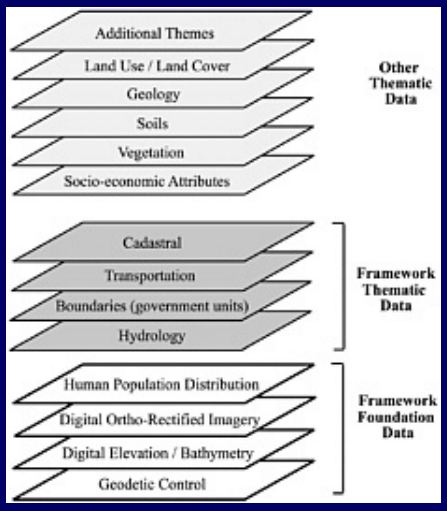


http://maps.grida.no/arctic

http://gridss.grid.unep.ch/europe/

Data Poor to Data Rich





Key Workshop Topics

- ***Stock Taking*** **of global datasets and identification of significant gaps and overlaps**
- ***Standardization and Harmonization*** **of global spatial data and associated information**
- ***Identification of User Needs*** **for online services, education, capacity building, and support**
- ***Improved User Access*** **through increased interoperability, use of open standards in global data search and access**
- ***Better Data Integration*** **across disciplines**

Workshop Thematic Areas

- **Workshop will focus on 4 thematic areas:**
  1. **Environment**
  2. **Food and Agriculture**
  3. **Population & Poverty**
  4. **Health**
- **Why?**
  - **Four major areas of global data development of primary concern to organizers**
  - **Emerging cross-disciplinary overlaps in research and applications**
  - **Needed to bound the issue to some degree!**

Problems to Avoid!

- **Unnecessary confusion among users about which dataset to use for their application**
- **Inability of users to remember what version of a dataset they used to create a figure or how to cite it**
- **Easy visualization of data that reveals poorly matched coastlines, boundaries, point locations, labels, projections, etc.**
- **Misinterpretation or misuse of data due to use of inconsistent reference data or parameters, confusing terminology, poor documentation**
- **Unnecessary duplication of datasets across many data distributors and extended use of obsolete datasets due to slow updating**
- **Widespread use of relatively poor quality but unrestricted datasets due to unnecessary restrictions, poor documentation, limited awareness, and/or lack of access to higher quality datasets**
- **Lots of extra time spent creating and implementing specific data sharing agreements and gathering user metrics from secondary distributors**
- **Persistent data quality problems on certain key topics, in specific regions, or with respect to spatial and temporal scale and resolution**

Workshop Schedule

- **Tuesday:**
  - Panel 1: User Perspectives
  - Plenary: Key Global Data Initiatives
  - Plenary: Breakout topics
  - Breakout group meetings
  - Dinner and talk by Harlan Onsrud
- **Wednesday :**
  - Presentation on African activities
  - Panel 2: Inventories, Standardization, Search, Portal
  - Breakout group meetings
  - Roundtable: Roles for Global Data Coordination Mechanisms
- **Thursday:**
  - Plenary: Breakout Group Reports
  - Panel 3: Data Documentation, Quality, Preservation, Intellectual Property
  - Concluding Discussion: Outcomes and Actions

Breakout Groups

1. **Principles for Data Sharing and Access**
   - *Chair: Paul Uhlir (US National Research Council)*
   - *Rapporteur: Meredith Golden (CIESIN)*
2. **Gaps in Global Data and Collaboration in Data Development**
   - *Chair: Uwe Deichmann (The World Bank)*
   - *Rapporteur: Adam Storeygard (CIESIN)*
3. **Data Search, Discovery, & Documentation; Role of Portals**
   - *Chair: Ron Weaver (NSIDC)*
   - *Rapporteur: John del Corral (IRI)*
4. **Technical Data Interoperability**
   - *Chair: William Anderson (Praxis101)*
   - *Rapporteur: Greg Yetman (CIESIN)*
5. **Science Data Integration**
   - *Chair: Glenn Hyman (CIAT)*
   - *Rapporteur: Karen Kline (UCSB/ICSGM)*

Possible Coordination Bodies

- UNGIWG
- ISPRS
- GSDI
- ISCGM
- CODATA
- OGC
- SIMAG
- Digital Earth

Desirable Outcomes

1. Draft text for general principles for global data sharing, dissemination, attribution
2. Identification of ideas and opportunities for collaboration in prototyping, developing, and implementing new global datasets, new portals, common architecture, expanded search tools, improved documentation resources, etc.
3. Consensus on (or proposals for) standards, conventions, protocols, approaches to promote harmonization and interoperability in global data
4. Identification of key institutions, networks, user groups, funding sources, etc. not represented at the workshop
5. Identification of potential roles of different international organizations and networks, especially SIMAG
6. New friends and colleagues!

Kudos

- Jelle Hielkema – this workshop was his idea!
- Organizing Committee participants:
  - FAO: Jelle Hielkema, Jeroen Ticheler, France Lamy, Jeff Tschirley
  - WHO: Steeve Ebener
  - UNEP: Ashbindu Singh, Jaap van Woerden, Ron Witt
  - CGIAR: Stan Wood, Robert Zomer
- Alex de Sherbinin – lead organizer within CIESIN
- Jennifer Mulvey – all the logistics!
- CODATA – co-sponsoring the workshop
- NASA/SEDAC – funding local costs
- All participants – attending and contributing!