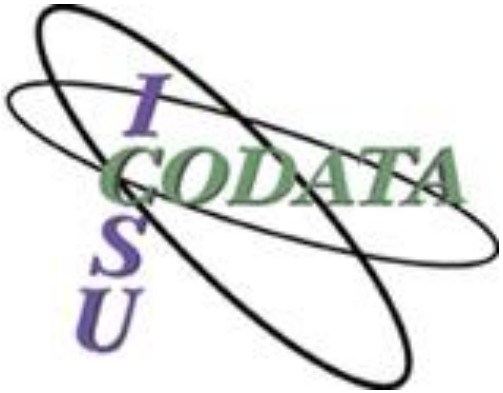

Services and Infrastructutre

John Broome

CODATA-International

Typical Data Services and Services

- Acquisition
- Cataloguing and discovery
- Visualization
- Life-cycle management (stewardship)
- Access and integration.
- Extraction

Models for Services and Infrastructure

- Internal - single organization, single unit
- Internal - single organization, central
- Internal – multiple organizations
- Collaborative – national
- Collaborative – international
- Collaborative – discipline
- Collaborative – targeted multidisciplinary

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Collaborative - Discipline & Initiative

CODATA Task Groups

1. Advancing Informatics for Microbiology
2. **Anthropometric Data and Engineering**
3. Data at Risk
4. Data Citation Standards and Practices
5. **Earth and Space Science Data Interoperability**
6. Exchangeable Materials Data Representation to Support Scientific Research and Education
7. Fundamental Physical Constants
8. Global Information Commons for Science Initiative
9. **Linked Open Data for Global Disaster Risk Research**
10. **Octopus: Mining Space and Terr2€ ial Data for Improved Weather, Climate and Agriculture Predictions**
11. Global Roads Data Development
12. Preservation of and Access to Scientific and Technical Data in/for/with Developing Countries (PASTD)

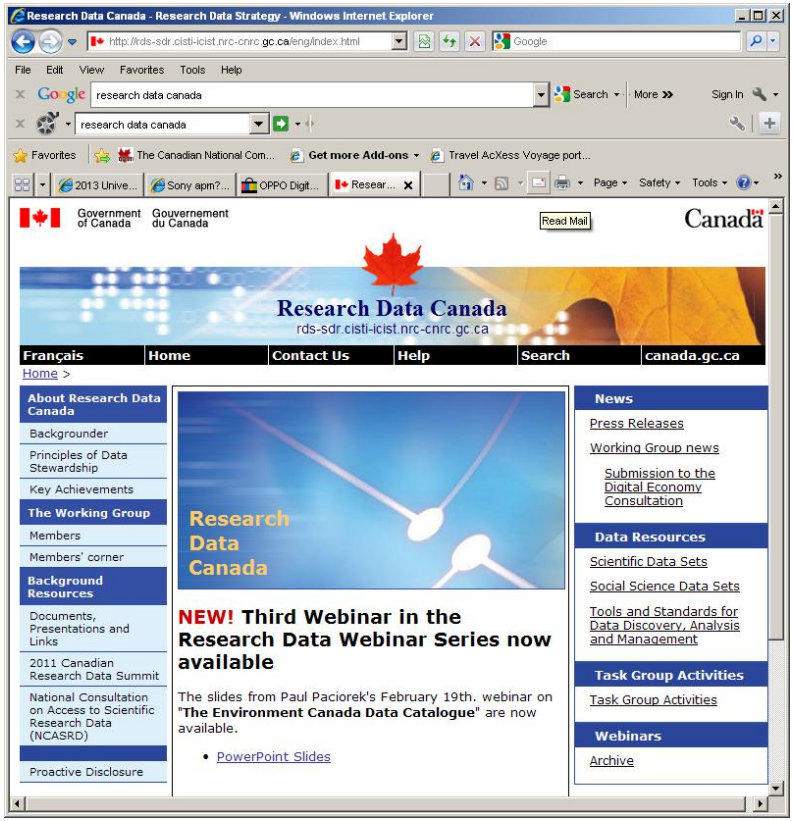
World Data System (WDS)

- **CODATA works closely with WDS.**
- **WDS created at the ICSU 29th General Assembly based on the 50-year legacy of the ICSU World Data Centres (WDCs).**
- **<u>Objectives:</u>**
  - **Transition from existing stand-alone data centres/services to a common, globally interoperable, distributed data system.**
  - **Foster disciplinary and multidisciplinary applications for the benefit of the international scientific community.**
  - **Develop a broader disciplinary and geographic base and become a world-wide 'community of excellence' for data stewardship and delivery.**
- **WDS has 49 Member organizations in Oct. 2012.**

Collaborative - National

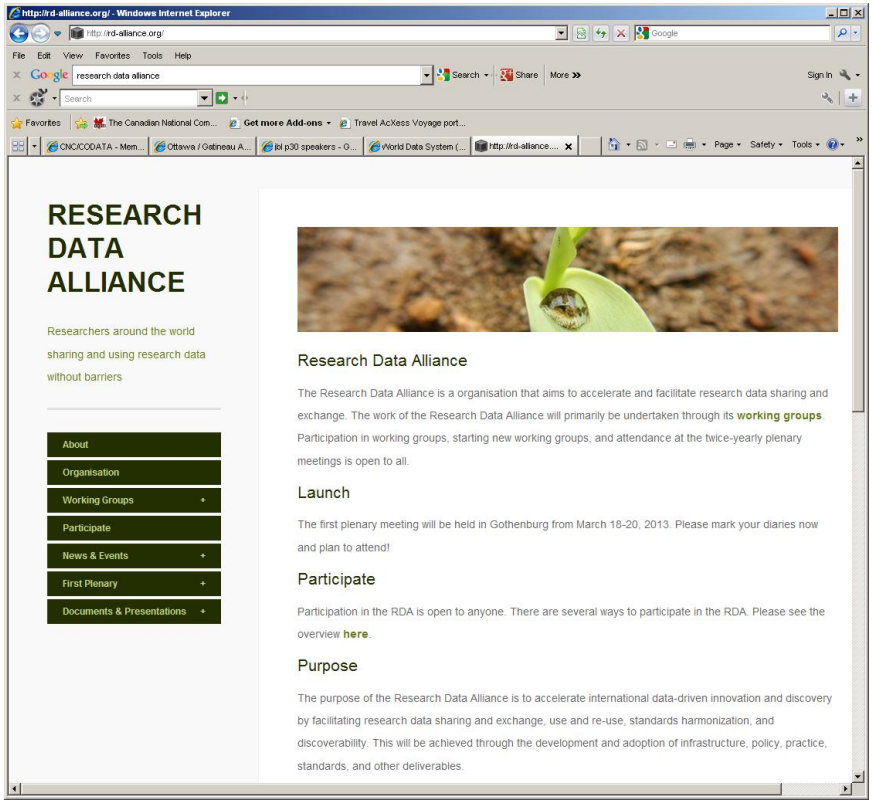
Research Data Canada

- **Evolution from Research Data Strategy Working Group (RDSWG) roots.**
- **Canadian Research Data Summit (2012) outcome.**
- **Looking for increased federal government support.**



Research Data Alliance (RDA)

- **The <u>"Research Data Alliance"</u> is an emerging international organization whose goal is to accelerate data-driven innovation through the sharing and exchange of research data.**
- **The official launch of RDA will take place in March in Sweden.**
- **CODATA is collaborating with RDA in preparation of a Working Group proposal on: "*Legal Interoperability of Data*".**
- **CODATA will be represented at the launch.**



http://rd-alliance.org/

OneGeology

- “Making Geological Maps of the world Accessible”
- Initiative of international geological surveys
- 120 countries since 2007
- Provides access through a distributed network of data sources
- Content is the responsibility of the source.
- Utilizes OGC and other standards.
- Promotes a discipline standard (GeoSciML)
- Becoming a registered non-profit.

http://onegeology.org/

Collaborative – Multidisciplinary Initiative:

Future Earth - DM

- **Future Earth is a ICSU 10-year international research initiative for responding to the risks and opportunities of global environmental change and for supporting transformation towards global sustainability.**
- **CODATA & WDS co-chaired a "Data Management Break-out Session" at the "*Future Earth: Global Earth Change Community"* Workshop (Paris, Nov. 2012)**
- **CODATA and WDS have submitted a nomination for a member of the *Future Earth Scientific Committee.***

http://www.icsu.org/future-earth

Data System and Repository Trends

1. Moving beyond the locked data repository – data you cannot access and use has no value.
2. Accessible data helps shrink the digital divide.
3. Data publication linked to paper publication – data citation required.
4. Data services supporting integration of external data.
5. Cloud-based collaboration is growing – organizations whose data are locked behind their firewall are at a disadvantage.
6. Virtualized open data supports work as an “activity”, rather than a “place”.
7. “ “Big data” driving IT changes as well as “Data-driven science” to complementing existing theory and experiment-driven science