

Science for public good: new World Data System International Technology Office opens at University of Victoria

Submitted by Katie Shoemaker Thu, 2019-02-07 14:42

Leveraging science and data for public good is at the heart of Ocean Networks Canada's (ONC) work. ONC's vision to provide knowledge and leadership that deliver solutions for science, society and industry took a big leap forward with a recent announcement to host the World Data System International Technology Office (WDS-ITO) at Queenswood, ONC's new home at the University of Victoria's Ocean-Climate Building.



Figure 1. The World Data System aims to facilitate scientific research by coordinating and supporting trusted scientific data services for the provision, use and preservation of relevant datasets.

The World Data System is a global consortium of science partners committed to making high quality scientific data available for the public good. Under the umbrella of the new International Science Council (formerly ICSU) one of the oldest non-governmental organizations in the world the World Data System was developed in response to the needs of storing and analyzing big data for scientific research and reuse across disciplines (Figure 1).

The World Data System's 116 worldwide members are primarily data service providers and data archiving facilities, both large and small such as the NASA Distributed Active Archive Centers and the Taiwan Fish Database. The organization works with its members to ensure long-term stewardship, curation, archiving, open access and dissemination of scientific research data, with a focus on translating data to influence policy-making and socio-economic development.

"As host, ONC will be leading international efforts by offering experience and expertise to World Data System members seeking technical solutions to common data management problems," says Karen Payne, the newly appointed WDS-ITO Associate Director. "I am grateful to help make the connections between Canadian data managers and their counterparts around the world; nothing is more important to international, collaborative scientific research."

Karen's varied international career has evolved alongside the advances of modern computing, giving her a unique understanding of turning big data into knowledge and value for society (Figure 2). "I see myself as a broker, working with information technology teams to develop data products and services that benefit a variety of end-users," says Karen.



Figure 2. WDS-ITO Associate Director Karen Payne providing training on operational data management to UN employees in Egypt (left); and advising the national government of Mongolia on the effective use of remote sensing products for disaster relief (right).

With an undergraduate degree in anthropology and physics, and a PhD in geography and engineering, Karen's work is grounded in geographical information systems (GIS), a discipline that relies heavily on data analysis and visualization. Her experience includes everything from humanitarian aid, disaster response, coastal zone management, fisheries development, land use planning, and archaeology. Karen comes to the University of Victoria from the University of Georgia, where her work included building data services for the international humanitarian community involved in disaster relief and recovery activities.

"When I was working with the UN High Commission for Refugees in Kenya, we created a database tool that automated the time-consuming process of manually updating a map to track internally displaced people in Somalia. This made it easier for the UN to quickly and efficiently allocate resources on the ground."

Karen's first role as WDS-ITO Associate Director was to attend International Data Week in Botswana in November 2018. She is currently reaching out to all World Data System

members asking about their data technology needs and expectations with regard to digital research infrastructure, storage solutions, and software development.

Karen is also a remote Fellow at the University of Georgia's School of Public and International Affairs where she lectures on the societal impact and appropriate uses of technology.

Facts about the World Data System

- The World Data System seeks to promote the long-term stewardship of, and universal and equitable access to, quality assured scientific data and data services, products, and information across a range of disciplines in the natural and social sciences, and the humanities.
- The World Data System International Program Office is in Tokyo.
- Seed funding for the WDS-ITO is provided by the University of Victoria and Ocean Networks Canada.
- There are three Canadian World Data System members: the Canadian Astronomy Data Centre, the Canadian Cryospheric Information Network's Polar Data Catalogue and Ocean Networks Canada.
- The role of the WDS-ITO is to operate and manage elements of the Global Research Data infrastructure. Specifically the WDS-ITO mandate is to:
 - o become a centre of expertise in research data management best practices;
 - o organize open, public presentations on different aspects of data management to foster improvements in data management proficiency;
 - o improve the overall quality of data management by providing advocacy and by supporting World Data System membership applications;
 - o advise governments and Research Councils on the implementation of their open data mandate, and provide tools to support their mandates; and offer support to research and academic libraries who are faced with digital data challenges, and;
 - o support the implementation of Canada's Tri-Council recommendations related to the management and curation of research data.

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