

World Data System Scientific Committee

Draft Report of the 14th Committee Meeting

04–05 April 2016

NICT Kōjimachi Office, Tokyo

Goals of the Meeting

The primary expected outcome of the 14th Meeting was some concrete plans for the future. To this end, a brainstorming session was scheduled on the second day of the Meeting to plan how the International Council for Science – World Data System (ICSU-WDS) might evolve over the coming years: how additional funds might be raised for WDS activities; what the WDS Scientific Committee (WDS-SC) thinks are the priorities for ICSU-WDS; interactions with WDS Members and how they can become more involved—basically, how ICSU-WDS can be taken forward.

Working Groups

- The Data Seal of Approval (DSA)–WDS Partnership Working Group (WG) has finished its term and delivered: (1) a set of Common Requirements based on the DSA and WDS certification catalogues; (2) the first step of the Common Procedures that will be used by DSA and WDS to manage the certifications; and (3) a testbed using six organizations, who experienced the new Common Requirements and Procedures ‘in reality’.
- The Research Data Alliance (RDA)–WDS IG on Certification of Digital Repositories had a breakout session at the 7th RDA Plenary to explore new themes that might lead to other WGs under this ongoing Certification umbrella: (1) certification of data services beyond the repository function, (2) software sustainability, and (3) developing data stamps that indicate the quality of a dataset. The last one proved popular and may lead to a Birds of a Feather session at the 8th Plenary.
- The RDA–WDS Data Publishing Interest Group (IG) oversaw three WGs and one IG. The WGs delivered their final outputs at the 7th RDA Plenary, with ICSU-WDS co-organizing a side-event before the Plenary to demonstrate current adoption and implementation of the deliverables, and to discuss the next steps. The Services WG, which has produced a prototype Data–Literature Interlinking Service, is looking to start a new WG to further improve the prototype and develop a sustainability plan.
- The Knowledge Network (KN) and Metadata Catalogue (MC) WGs have been merged and a new Charter written. The original WGs implemented the KN and MC, whereas the new WG will ‘monitor’ these efforts and provide oversight and liaison with associated initiatives. The scope of activities includes ‘to document and disseminate specifications to WDS Members’, an important point missing previously: the prior WGs did not provide guidance to the WDS Members on how to integrate with the KN/MC, and this is critical since organizations will not automatically have something in place that works well for ICSU-WDS. In particular, WDS Members must be able to provide searchable and interoperable metadata endpoints, and this might be made into a stronger WDS accreditation requirement in the future.

- ICSU-WDS and the ICSU Committee on Data for Science and Technology (ICSU-CODATA) have launched two 18-month studies under the Global Science Forum of the Organization for Economic Cooperation and Development:
 1. Business Models for Data Infrastructure. Follows up on the report produced by the RDA–WDS IG on Income Streams for Digital Repositories. Will generate a number of concrete recommendations and raise awareness of problems among policy makers.
 2. International Coordination of Data Infrastructure. A new study to look at the successes, weakness, and challenges of programmes where international coordination is attempted and derive lessons learnt.
- Current Data Management Plan (DMP) software tools are completely narrative; the resulting DMPs cannot be processed by machine, and to monitor or translate them necessitates human intervention. WDS Members have lots of experience in helping scientists develop DMPs, and ICSU-WDS will explore the potential for a joint activity with RDA to influence the set of requirements and standardize the schema for at least some of the choices. Funding agencies and scientist who generate data must be involved to make it mainstream.

Conferences & Meetings

SciDataCon 2016

- ICSU-WDS and ICSU-CODATA are collaborating with Ubiquity Press to build a conference submission system that maintains the corporate memory and legacy of SciDataCon. The first iteration of the system is based on workflows developed by Ubiquity Press whereby submission of conference abstracts/papers is synchronized with publication in the Data Science Journal. Hence, an added value of SciDataCon is that the papers of those participating are already in the pipeline for a peer-reviewed publication. Researchers in some countries have to publish in a Thompson Reuters listed journal to get a rating from their funders, however, and so CODATA and Ubiquity Press will be asked to list the Data Science Journal in the web-of-science;
- There may be six or eight parallel sessions at SciDataCon 2016 according to the abstracts received. Two rooms are presently on hold, and the WDS-SC recommended that the additional cost be calculated so that the extra rooms could be booked whilst the option is still available.
- The WDS-SC suggested to develop a separate sponsorship package for exhibitors at SciDataCon 2016 and to give more visibility to the currently available customized packages. There are potential sponsorship opportunities for exhibitors during a banquet, reception, or even a coffee break.

2016 Members' Forum

- Logistical issues meant there was little opportunity for interaction during the Poster session at the 2014 Members' Forum. The 2016 Forum will thus have an extended Poster Presentation and Help Desk session. All WDS Regular and Network Members will be allocated a board and asked to fill it with a poster containing information on an SC-supplied area of interest. The poster theme will be kept open and positive, and space will be kept to advertise each organization.
- An agenda item on adoption of WDS-WG outputs will be quite general and will be concerned with giving information on aspects on publishing data, the MC and KN, and certification. The publishing data work, in particular, will be condensed to avoid it being overwhelming. Discussions will take place at the

Poster and a Helpdesk session, although a group discussion on the new certification is useful as it has the most direct impact.

- WDS Members will be given an opportunity to suggest topics for general discussion. It is important to identify burning topics as well as ones that will come up in the future, and not to focus on known problems unless there are solutions. Examples might be found where data services have developed best practices that can be shared, and speakers either have to be identified or the issues circulated prior to the Forum and volunteers requested.

Future Workshops

- WDS Japan and WDS China are exploring the possibility of a joint workshop or symposium, and would like to expand this to other Asian countries. Southeast Asian countries are especially a priority since they are highly important for Future Earth. However, there are many links to data in Southeast Asia where one is merely take to a document or to an external data portal. ICSU-WDS would like to form an Asian Network with a goal to open up data using a countries' own portals, and the workshop/symposium would be related to forming this Network.
- The WDS-SC explored workshop ideas for 2017 similar to the two International Polar Data Fora and the SCOSTEP Workshop, in which ICSU-WDS was a cosponsor or co-organizer for a community-led event bringing together data managers and scientists to examine and resolve some of the data issues. The WDS-SC targeted workshops on domains presently deemed most important: the Health Sciences, the Carbon Cycle, and the Water Cycle.

Membership & Certification

- WDS criteria not covered by the DSA–WDS Common Requirements have been listed for addition as WDS membership requirements.
- WDS Members have been allocated into priority groups for reaccreditation, according to the latest date for periodic review and the points raised in their Biennial Reports and original accreditations. When under periodic review, each Member will be given a précis of the raised points as guidance on where additional information might be needed.
- Where possible, all comments received from the WDS-SC and WDS Members on the previous Biennial Report template have been incorporated into a new Activity Report. A significant change is that the periodic review and reporting cycles will be the same: when a Member is reaccredited they will additionally update their Activity Report.
- Some WDS Members are already involved in the review of applications, but taking on this role topic will be encouraged more at the Members' Forum, highlighting the added value that reviews offer the opportunity to look 'behind the scenes' of a peer, and in doing so, to learn more about one's own organization. It will be made clear that reviewers will be given applications in domains in which they already work, and they will be offered proper training—partially via Webinars—to help ensure consistency.
- WDS Japan will urge former Japanese World Data Centres not part of ICSU-WDS to go through the formal accreditation process and become active WDS Members.

- A number of potential Members have been targeted by the WDS-SC. These candidates are outward facing organizations that provide scientific data and services and that are charged with making them public. Such organizations will highly beneficial to WDS Members most and, in turn, will gain the most benefit from WDS membership.
- There are national WDS factions in Japan and China, and this model should be copied and expanded in other parts of the world, since it would strengthen ties among Members in the same region and enable them to more easily exchange information. It would additionally create a channel for the WDS International Programme Office (WDS-IPO) to supply specific information to these groups.
- ICSU-WDS will look to become a key reference point for other initiatives by raising awareness of its activities and making sure these activities are valuable. WDS Members are highly important for other ICSU research programmes, and will be promoted to these communities. Moreover, ICSU-WDS wants expand into science communities where it is not well presented, and will reach out at scientific conferences and other meetings, and highlight its certification activities and so on. The WDS-SC will prioritize targeted domains, and seek opportunities to publicize WDS activities in these fields.
- The Group on Earth Observations (GEO) issued a call to solicit contributions to its new work plan. ICSU-WDS has submitted the proposal that the data providers of GEO's Global Earth Observation System of Systems (GEOSS) undergo the Data Seal of Approval (DSA)–WDS Common Certification. The GEOSS Secretariat supports this and wishes to formally recognize it as part of the GEOSS Global Common Infrastructure Data Management Guidelines, and link it with the implementation of the GEOSS Data Principles Guidelines. The GEOSS Secretariat and ICSU-WDS will develop data-provider outreach activities over the next two years.
- ICSU-WDS does not have a clear strategy in terms of the Global Observing Systems since it has traditionally looked towards connections with the Global Change Programmes, and a clear message will be sent out to them to better communicate what ICSU-WDS is doing.
- Many of the nascent Research Infrastructures (RIs) in Europe have no links with ICSU-WDS. These RIs are now setting up their data systems, and although WDS Member Organizations within Europe inherently comply with the data requirements of the RI communities, there are bodies involved in the construction/implementation of the RIs that did not know about ICSU-WDS. It is thus important for ICSU-WDS to form linkages with these European RIs and to encourage them to become Network Members. The Social Sciences and Humanities RIs have primarily looked towards DSA for certification, and with WDS and DSA creating a partnership through the Common Certification Standard, there is the potential to form ties with all of the RIs.

Training & Education

- The Chinese Academy of Science (CAS) has independent funding to hold an international training school for a specific community. ICSU-WDS will cooperate with The World Academy of Sciences to explore the possibility of having an international expert provide a WDS-labelled training course focussing on data issues at a CAS-supported Summer School.
- The notion of education and training as an explicit WDS role within its mission will be investigated. The WDS-SC has an implicit scope in this area for moving disciplines from informal data collections to accredited formal databases, as well as in helping develop the next generations of scientists. For the

latter, the WDS Data Stewardship Award can be built on to create a WDS Young Scientist Network, with the previous winners asked to form part of this community.

- The WDS-SC wants to generate a knowledge base—documentation, guidelines, and good practices—for the WDS community and beyond. The main task is to decide how to tag content that ICSU-WDS generates to ensure others can find it in context, since it typically involves all levels of detail for all types of different materials. The high-level details will be in the form of paragraphs in a database. The more detailed levels entail domain-specific guidance that must come from the community, and WDS Members will be asked to contribute their knowledge (suggestions, text, or otherwise) possibly through pages in a wiki— something is only ‘best practice’ if it has had community validation, and so having topics that WDS Members have commented on and amended (and can continue to do so) gives legitimacy as best practice. ICSU-WDS will also look towards other initiatives working in this area to help consolidate the information using a consortium approach.

WDS Administrative Matters

- The planned WDS-IPO budget for FY 2016 takes into consideration a generous increase in base budget by the National Institute of Information and Communications Technology (NICT), its host institute. The WDS-SC sincerely thanked NICT for its generous increase in funding and for its continued support of the WDS-IPO.
- Promotion by the WDS-IPO takes a lot of dedicated time and resources, and it cannot attend many science-only meetings. This might be improved through distributing WDS promotional packs or by asking WDS Members to take the message out to communities. One strategy is to put together symposia ideas for dissemination to the Scientific Unions that could be used as a generic model.
- The WDS Implementation Plan is now a comprehensive document with the five Strategic Targets laid out with their objectives, background, required resources, and actions. Specific tasks, who is leading and supporting them, and their current statuses have been added to the WDS Issue Tracker to more easily monitor them. Completion of all tasks will imply that significant progress has been made, and the next step will be for the WDS-SC to reflect back on the Implementation Plan and generate a new list of tasks.
- ICSU is accredited to the United Nation’s (UN’s) Economic and Social Council as a voice for science. One of ICSU’s actions is to contribute scientific input to the Global Sustainable Development Report, which it did so for the 2015 edition by supplying many different types of information and references, as well as participating in the Expert Group. ICSU asked WDS to explore how it can help support future Reports so that it can take a formal role in this UN process and raise awareness of data topics of importance.