ICSU Panel on World Data Centers
Boulder, Colorado
March 4-5, 2002
Meeting Summary

Attendance

Panel: Ferris Webster (chair), Alexei Gvishiani (vice-chair), Anne Linn (secretary), Stan Ruttenberg (treasurer), Dave Clark (assistant secretary), Yuri Tyupkin (assistant secretary), Herb Kroehl (WDC representative), Liu Chuang (for Sun Jiulin, WDC representative, and Sun Honglie, WDC China representative)

Guests: Mike Loughridge (National Geophysical Data Center), David Divins (WDC for Marine Geology and Geophysics), Dave Anderson (WDC for Paleolimatology), Allen Hittelman (WDC for Solid Earth Geophysics), Bob Chen (WDC for Human Interactions in the Environment and chair of WDC Modernization Task Team), Roger Barry (WDC for Glaciology), Mike Chinnery (retired), Sue McLean (National Geophysical Data Center), George Sharman (WDC for Marine Geology and Geophysics)

Meeting Overview

The main purpose of the meeting was to review the draft report of the WDC Modernization Task Team, and endorse or modify its recommendations. After the Panel develops a strategy for moving forward, it will approach ICSU for substantial resources. Other agenda items include status reports on 5 proposals to create new WDCs, Panel funding, and future activities.

Towards a New WDC System: Meeting Global Needs

At the last All WDC Conference, a Task Team was created to draft a plan for modernizing the WDC system. Members of the task team were: Bob Chen (chair), Liu Chuang, Matthew Wild, Alex Sterin, Gurbax Lakhina, and Dave Clark (rapporteur). Chen noted that this group has experience with a wide range of data management approaches, from paper records to highly sophisticated storage devises. Their report, entitled *Towards a New WDC System: Meeting Global Needs*, has 4 themes:

(1) expanding the network (e.g., by adding new centers, creating mirror sites, adding partner sites);
(2) modernizing the system (e.g., data centers could collaborate to provide a more uniform interface, provide better interoperability, and adopt inexpensive technologies for archiving data);
(3) data stewardship (e.g., data rescue and meeting the needs of new observing systems/scientific programs); and
(4) improving system-wide communication (e.g., by creating an electronic newsletter and developing clear liaisons with other international groups).

Each of these issues is discussed below.

WDC Partnerships Program

The Modernization Task Team recommended that the Panel set aside a certain amount of seed money and announce a competition to the WDCs. The WDCs would partner with a scientific program in a developing country and would be expected to at least match the seed funds with direct financial contributions and/or in-kind assistance. The paleoclimate mirror sites in Nairobi and Argentina are good examples; the WDC provided equipment, training, etc., for a modest amount of money ($5000). The scientific programs would become WDC partners, not world data centers.

The Panel agreed to establish the partnerships program, although several members thought this was not the top priority of the modernization effort. The program will start small, then build as demonstrated successes help the Panel raise additional funds. The maximum amount of seed money would be $10,000.

A strategy for approaching potential WDC partners will be on the agenda of every Panel meeting. Potential partners are in China, Mongolia, the Phillipines, and Taiwan (Liu Chuang contact), and the International Research Institute for Climate Prediction (Bob Chen contact). Chuang suggested holding a workshop for the potential Asian partners to explore the ideas, then invite them to apply.

WDC Technical Working Group

The Modernization Task Team recommended creating a working group to focus on system-wide issues, such as developing a data catalog, adopting standards, and implementing data rescue approaches. The working group would not solve center-specific problems. Tyupkin suggested that the group also write a report on how the global network is/should be organized from a technical point of view.

The Panel agreed to establish a WDC technical working group. Members would include Matthew Wild (chair) (WDC for Solar Terrestrial Physics, Didcot), Eric Kihn (WDC for Solar-Terrestrial Physics, Boulder), Alexander Besprozvannyh (WDC for Rockets and Satellites, Obninsk), Rubén Soria (Centro Regional de Investigaciones Científicas y Tecnológicas, Argentina), Wang Zhengxing (WDC for Renewable Resources and Environment), and Dave Clark (secretary). The charge to the working group would be the same outlined in the Modernization Task Team report, except that data rescue would be addressed by another working group. Resources would be used for meetings only.

Clark will contact the members of the working group and organize their first meeting. The working group will provide an estimate to the Panel about how many meetings it needs.

WDC Data Stewardship Working Group

The Modernization Task Team recommended creating a working group to discuss acquiring data from new science initiatives, data quality, and data rescue, especially in developing countries. The Panel was concerned that this charge is too broad and decided to focus the working group on

data rescue. The Panel has been very successful in raising funds for data rescue (e.g., a partnership with the Intergovernmental Oceanographic Commission has led to the rescue of a great deal of oceanographic data). However, previous data rescue projects were selected in an ad hoc manner; a more systematic approach would be desirable.

The Panel decided to create a Data Rescue Working Group, which will identify (1) a list of holdings at risk of being lost and (2) organizations that might provide matching funds for data rescue. The initial focus will be on data that already exist within the WDC System. The Panel will then work with international science programs to set priorities on what to rescue. Priority setting will take place discipline by discipline.

The working group should have geographic and discipline diversity. Care will have to be taken in identifying members who will be balanced and unconflicted. The working group will be created after the Modernization Task Team modifies the terms of reference.

The Modernization Task Team will modify the terms of reference of the data stewardship working group and report back to the Panel.

Electronic Newsletter

The Modernization Task Team recommended creating an electronic newsletter to promote communication among the WDCs. Such a newsletter could be used to inform WDC directors about the outcome of proposals, changes in Panel membership, creation of new centers or WDC partners, development of new data sets, and requests/results from the working groups. One or two data centers could be profiled in each newsletter.

The Panel decided to create a quarterly electronic newsletter. A printed newsletter would reach a broader audience, but would be more expensive to produce. All of the WDCs have access to the Internet. A single editor is needed to pull the entire effort together.

Panel members will send ideas for a newsletter editor by the end of March. Webster will then contact prospective editors.

Liaison with International Programs

Many international science programs understand the importance of archiving data, but an effective mechanism for involving the WDC system hasn't been found. Prior to 1995, the Panel had a large number of formal liaisons to ICSU programs, but the liaisons identified by these programs didn't come to Panel meetings, didn't respond to email, and sometimes even asked to be left alone. The formal liaison system was abolished at the Wageningen All-WDC Conference.

The Panel decided to continue to represent the WDC system at international meetings. When appropriate, the Panel will ask WDC directors already attending these meetings to act on their behalf. WDC directors representing the system could report back to the Panel via the newsletter.

Funding for Modernization

Chen recommended that each working group have a sufficient budget to meet 3-4 times. It would be nice to have a few hundred thousand dollars to support the development of new WDCs. Webster thought that the money will come; the problem will be getting volunteers to do the tasks outlined in the Modernization Task Team's report.

Webster said he talked with Larry Kohler (ICSU Executive Secretary) last summer, and Kohler said he could help raise the funds from other organizations if the Panel develops a good proposal. Webster hoped that Kohler's replacement, Thomas Rosswall, will have the same views. Webster would like to raise several hundred thousand dollars for the modernization effort. Hittelman said that non-financial support (e.g., Hewlett Packard for computers, ESRI for GIS tools) would also be useful. The technical working groups could articulate the needs. Chen thought that foundations are more likely to support specific projects than the entire modernization effort.

Webster will visit ICSU, perhaps in June, to discuss plans for seeking foundation money to support the WDC modernization effort.

Other Issues Related to the Report

Linn suggested that the focus on sustainability science be removed because it is too political and too narrow to encompass everything the WDC system is doing.

Panel members will send specific comments on the Modernization Task Team report to Chen.

Webster has prepared an article for *Science International*, based on the Modernization Task Team report, but it may have to be revised to reflect the Panel decisions above.

Webster will revise his article on WDC modernization and submit it to ICSU when Science International resumes publication.

The Panel thanked the Modernization Task Team for its hard work and good ideas.

Chen will modify the Modernization Task Team report and send it to the Panel and other members of the task team. After final revisions are made, Linn will send the report to the WDC directors.

Treasurer's Report

Ruttenberg gave a financial overview and noted that the Panel spends $300/year to help support the Russian mirror site. The Panel currently has $113,000 in the bank, $50,000 of which is uncommitted. $50,000 is enough to support 2 meetings of the technical working group and one substantial WDC partners project.

A possible source of funds is WDC members, which might be willing to contribute money to help support an All WDC Conference or WDC partners program. Classes of membership could

be created, ranging from $100 to $2000 per year. This would give the Panel a regular operating budget. However, failure to pay should not result in disestablishment of the WDC. The idea was supported by Liu Chuang, but Tyupkin was concerned about raising funds for multiple ICSU programs. The Russians already pay for membership in ICSU, SCOSTEP, CODATA, and other programs. Webster noted that it may be difficult to give the WDCs something tangible (e.g., votes) in return for membership fees.

The Panel decided to raise this issue with the WDCs themselves, after the working groups and partners program get started.

Webster and Chinnery will develop a draft plan for raising funds from the WDCs and report back to the Panel.

WDC Website

The WDC website is being reorganized to make it easier for users to find data. As a first step, the WDC directors agreed to provide a simple html list of holdings. However, only 38% of the WDCs have done so. Possible reasons for the low response rate are (1) the example template provided by the National Snow and Ice Data Center was too complex, (2) insufficient technical staff or resources to do the task, (3) lack of experience in putting data or metadata online, (4) poor network accessibility, or (5) absence of a multi-national technical group commissioned to talk with the technical people at the centers.

McLean noted that the centers that responded provided very different information, ranging from links to the home page, which isn't sufficient, to a DIF (directory interchange format), which is more than is needed. The Panel decided that the listing prepared by WDC for Solid Earth Geophysics, Boulder, provides a good template.

McLean will send out the new template for the html listing to all WDCs who have either not responded or responded with insufficient information.

The Panel decided that meeting presentations, annual reports, and other WDC business would be posted on the web site under a link marked "for internal use". The internal site does not have to be secure, and could be hosted by a different organization. In the future, the website could host virtual meetings, although this is labor-intensive. Other possibilities are to post issues of the electronic newsletter.

The Panel also noted that simple text, rather than complex graphics, is important for users in many countries. The goal is to have everything fit on 1 page, which can upload quickly. McLean showed a draft revision to the website, which would achieve these goals. A list of holdings will be added.

McLean will send the address of the test website to the Panel. Panel members will send comments on the new website design to McLean.

Panel Membership

After 26 years on the Panel, Stan Ruttenberg is stepping down as treasurer. Those panel members present were unanimously in favor of the replacement of Stan Ruttenberg with Mike Chinnery, who was recently treasurer of CODATA. The Panel thanked Ruttenberg for his long and effective service on the Panel.

Webster will inform ICSU and Linn will write a letter to Bank One informing them of the change in Treasurer.

Linn will send Chinnery copies of previous WDC proposals.

Linn will modify the WDC letterhead to reflect the new Panel membership.

Because of funding cuts, Linn is stepping down by the end of the year. A replacement should have access to good communications. Webster will also step down sometime in the next few years. Ideally, he will be replaced by a non-American, non-data center director.

Panel members will suggest ideas for a new Secretary to Webster.

Gvishiani noted that the position for European representative is still vacant; perhaps someone from the German Research Council should be asked to fill the position. Webster noted that the German Research Council did a good job organizing the 2 German WDC reviews.

Webster will seek a European representative to serve on the Panel.

Applications for New Centers

Proposals to create WDCs are evaluated by the ICSU national member of the country hosting the WDC. A Panel member serves on every review team. The Panel also reviews the proposal unless the country has a WDC Coordination Office.

Remote Sensing Atmospheric Data (Oberpfaffenhofen, Germany). The Panel approved the proposal by email and the German Research Council held a review in November. The review was chaired by Guy Brasseur, and Webster represented the Panel. Although the Germans have not yet made their formal recommendation, it is expected to be positive.

Land cover data (Sioux Falls, USA). This center would be created to meet the needs of IGBP. The U.S. Academy of Sciences has approved the proposal and scheduled a site visit in April. Representatives of the Panel (Webster and Linn) and IGBP will participate in the site visit.

Biodiversity (Denver, USA). The proposal to create this virtual data center was approved by the U.S. Academy of Sciences. A site visit, with participation from the Panel (Linn and Webster or Ruttenberg) and the only other virtual WDC (Roberta Miller, WDC for Human Interactions in the Environment), will be held in June.

Climate (Hamburg, Germany). The Panel approved the proposal by email and the German Research Council is scheduling the site visit. Webster is expected to represent the Panel.

Ecosystems of Mountains and Plateaus (Lanzhou, China). The proposed center has been invited to send a formal proposal to the Panel. Review of the proposal is the responsibility of the WDC (China) Coordination Office.

Linn will inform WDC (China) coordination office about the potential WDC for Ecosystems of Mountains and Plateaus and offer the help of the Panel in organizing and carrying out a review.

The WDC for Recent Crustal Movements underwent a reorganization in 1995, but has since dropped out of telephone, email, and fax contact.

Linn will send a letter to the Czech Academy asking about the status of the WDC for Recent Crustal Movements. If they don't respond positively, the center will be closed.

The U.S. Academy of Sciences has developed criteria for creating centers, reviewing existing centers, and shutting down centers. However, the criteria may not apply to all WDCs in the System.

Chinnery, Gvishiani, Sun Jiulin, and Araki will review the U.S. procedures and measures of success, modify them for the WDC system, and report back to the Panel by June 1.

The revised procedures and measures of success will be put in the Guide. All of the centers will be asked to provide a self-evaluation. As encouragement to respond, the responses will be shared with all the directors. The Panel will follow up with non-respondents.

WDC Guide

The last WDC Guide was published in 1996. Subsequent updates will be published electronically on the WDC website. The updated Guide will not include historical information, which can be found in the 1996 Guide. Major changes include updating the procedures for creating WDCs, eliminating redundancy in the text, and trimming unnecessary detail.

Ruttenberg and Clark will revise the Guide to the WDC System.

Other Business

The Panel decided that an All WDC conference should be held after progress on WDC modernization can be evaluated. The conference will be held no earlier than 2 years from now. Liu Chuang invited the Panel to hold the meeting in China and said that China would help support it.

A potential meeting of opportunity for the Panel is the CODATA conference, which will be held September 29 - October 4 in Montreal. At least half of the Panel is planning to be at the conference. The meeting will be held if there is substantial WDC business to conduct.

Ruttenberg suggested that the WDC for Paleoclimate use Panel funds for the Spanish translation at the Mendoza mirror site. The Panel agreed to this use of funds.