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## CEOS IDN NEWSLETTER

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### Message from the WGISS Chair

By John Faundeen, CEOS WGISS Chair



Pictured in the lobby at the Teofilo Tabanera Space Center from left to right are Mr. John Faundeen, CEOS WGISS Chair; Dr. Conrado Varotto, the incoming CEOS Chair from CONAE, Argentina and host of WGISS-19; and Dr. Steve Ungar, Chair of WGCV.

The upcoming WGISS-20 in Kiev will be my last opportunity to serve as chair of this unique and talented CEOS Working Group. As I reflect on the last two years, I recognize the progress the WGISS Task Teams have made toward meeting their profile objectives.

The IDN Task Team, since its inception, has been a leader in terms of coordinating international organizations, projects, and individual scientists towards providing the world's leading directory service. To me, even the word 'directory' is not sufficient to describe

the many services that the IDN provides. Since before my involvement with CEOS, it has been my pleasure to have worked with the IDN staff as they supported organizations with metadata preparation and keyword development.

It is noteworthy that this issue of the IDN Newsletter details areas of new horizons for the IDN. Their work in GIS, multilingual, and bio-diversity support is truly impressive. As CEOS is poised to support the Group on Earth Observations (GEO) and Global Earth Observation System of Systems (GEOSS) initiatives, it is my firm belief that the IDN will play a critical role in the success of those ventures and continue to provide WGISS with a core service element that is admired globally.

## CONAE Welcomes WGISS and WGCV Participants in Cordoba

By Marcelo Colazo, Manager of Cordoba Ground Station and Ana Medico, CONAE, International Relations



Ana Medico,  
CONAE

On March 7-11, CONAE was pleased to welcome the members of WGISS, as host of the 19th meeting of the Working Group in the Teofilo Tabanera Space Center in Cordoba, Argentina. For the hosts it was a rewarding experience, both in the technical and the human aspects. The agenda of the meeting provided a framework for discussion of relevant items to further the development of WGISS goals, and the human group provided a cordial and friendly atmosphere of work.

Besides the ordinary work of the group, it was also a special opportunity, since WGCV held its 23rd meeting in parallel, which gave the opportunity for a joint plenary session at midweek. This allowed the groups to better coordinate their activities, and included a discussion on the current international panorama under the new light of the Group on Earth Observation (GEO). The groups shared their views and started elaborating possible strategies to provide the necessary support to the role of CEOS in the Global Earth Observation System of Systems (GEOSS).

En la semana del 7 al 11 de marzo la CONAE tuvo el placer de recibir a los miembros del WGISS como anfitriona de la 19a reunion del grupo de trabajo en el Centro Espacial en Cordoba, Argentina. Para nosotros fue una experiencia enriquecedora, tanto en los aspectos técnicos como humanos. La agenda de la reunion fue marco para la discusion de temas relevantes al desarrollo de los objetivos del WGISS, y el grupo humano brindó una cordial y amigable atmósfera de trabajo.

Además del trabajo normal del grupo, ésta fue una oportunidad especial ya que el WGCV tuvo su 23a reunion en paralelo, lo cual dio la oportunidad de realizar una sesion plenaria conjunta en la mitad de la semana. Esto brindó a los grupos una oportunidad para coordinar mejor sus actividades y, además, incluir una discusion sobre el panorama internacional actual a la luz del Grupo de Observacion de la Tierra (GEO). Los grupos compartieron sus puntos de vista y comenzaron a elaborar posibles estrategias para proveer el apoyo necesario al rol del CEOS dentro del Sistema de Sistemas de Observacion Global de la Tierra (GEOSS).

## MD9.4 Software Release Demonstrated at the IDN Session in Cordoba

By Lola M. Olsen, IDN Task Team Leader,  
Chris Gokey, Tom Northcutt, Rosy Cordova, and Janine Pollack

A new free-text search capability, powered by the Jakarta Lucene search engine was introduced at the March meeting. Brief excerpts of the metadata summaries for both DIFs and SERFs are now included with the search results, and highlighted search terms appear in the metadata record displays.

As the directory expands, additional search refinement capabilities – newly offered through follow-on queries of “keywords” or “free-text” are increasingly welcome. These refinements were demonstrated, along with revised data center and location hierarchies. In addition, the availability of new customized portal interfaces with additional navigation features was announced.

New keywords were also reported. At the session, usage of the topic, Radiance/Imagery, renamed to Spectral/Engineering, was reported to have significantly decreased. However, the usage statistics were found to be in error, and the interest in data within this topic remains strong. A new subscription service for keywords is scheduled for the next release. An upgraded subscription service was also announced that will permit users to subscribe to new data services of interest (in addition to subscribing to new data sets) by service keyword.

Behind the scenes, users may now create longer titles and longer Related\_URLs. The docBUILDER tool now permits DIF authors to enter temporal and spatial resolutions for their data and select a resolution range for user searching. [The search by resolution range is not yet available through the user interface.]

The Open Archives Initiative for Metadata Harvesting Protocol (OAI-PMH) is on tap to replace the software within the Local Database Agents (LDA) as part of the distributed input of IDN records. Interest was expressed in the OAI protocol by the nodes.

Node reports were shared by the agencies, with JAXA’s “Localization of the IDN” a highlight (see article on page 4), along with new DIFs created by JAXA and their partners. The IDN maintains a close connection with the Canada Center for Remote Sensing’s “GeoConnections” staff. Inspired by their focus on “user-centric” design methodologies, usability tests are now being performed in making IDN design decisions.

## IDN Task Team Action Items from WGISS 19, in Argentina Completed

By Lola Olsen, IDN Task Team Leader,  
Gene Major, Monica Holland, Heather Weir, and Scott Ritz

The primary action items assigned to the IDN Task Team at the meeting in Cordoba have been completed. Two of these relate to contributions for the Global Earth Observation System of Systems (GEOSS). They are: (1) to set up an IDN GEOSS portal for WGISS to review. and (2) to prepare related service/tool (SERF) descriptions for GEOSS-related services. The dataset portal can be found at: <http://gcmd.gsfc.nasa.gov/portals/geoss/>. The Services Portal can be found at: [http://gcmd.nasa.gov/portals/geoss\\_svcs/](http://gcmd.nasa.gov/portals/geoss_svcs/)

A third action was to send the URL to all of WGISS for the Conference Calendar.

The calendar is available at: <http://gcmd.nasa.gov/ConferenceCalendar/calendar.html>. It is also available from the IDN website at <http://idn.ceos.org> (See calendar link.)

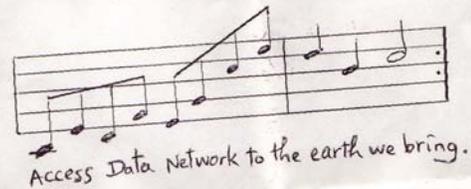
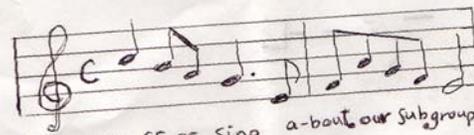
The most challenging action item from Rita Tornow's list read: "IDN TT, with assistance as needed, to update lyrics of 'We WGISS' and to strategize how to capture into an audio file. The first challenge is to incorporate the new subgroup names into the song. Original songwriters, Richard desJardins, Network Subgroup, and Lola Olsen wrote the words to the song in Stresa, Italy in September of 1997. We found the subgroup names easier to capture at that time - simply "Access, Data, and Network".

The proposed new song will be presented as an audio file during the IDN session.



Relaxing at the Hipocampus Hotel after the IDN Meeting in Cordoba, Argentina (from left to right) are Allan Doyle of Earth Observations; Lola Olsen, IDN Task Team Lead; and Lorant Czarán, United Nations, New York, NY. [Photo Credit: Viktor Pusztai, EOGEO, Hungary]

We CEOS Sing  
(CEOS Subgroups Round)  
v. SG 3 (Stresa)



Interim Second Verse:

Oh don't we know that/we can get it right.  
That is why we work in meetings/day and night.

# Localization of the IDN

By Mr. Kengo Aizawa and Dr. Hiromichi Fukui



JAXA and Keio University developed a local (Japanese) version of the GCMD/IDN as a multilingual IDN prototype. This is a server application that dynamically translates English from NASA's GCMD web page to a local language in real-time. Users feel as if they are using a local version of the GCMD/IDN.

Through our testing, we determined that the quality of the dynamic web translation service may be improved in accuracy using the following ideas: (1) creating a dictionary and narrowing down its translation area; (2) replacing keywords statically to the local language; and (3) not translating fields that contain long sentences. Therefore, only keywords and a limited number of other words are translated. The remaining description is returned in English, because of the long sentences.

We understand that the multilingual version is not a complete system; however, we believe that under the current technical conditions, this is one of the best solutions to assist users. The advantages of the method we have chosen are: (1) removal of the primary language barrier, as most of the home page will convert to a local language; (2) the easy applicability to another language; and (3) the establishment of low-cost system processes and maintenance.

We will continue to make efforts to study and upgrade the multilingual GCMD/IDN prototype. The prototype system URL can be found at <http://geoinfo1.sfc.keio.ac.jp/gcmd>



Mr. Kengo Aizawa, JAXA, capturing the discussions in Cordoba.

## Profiles From WGISS/WGCV



At the barbeque are Rob Scott (standing) (UK), and profiles of Ivan Petiteville (ESA), Jeff Morisette (NASA), Wyn Cudlip (UK), Yonsook Enloe (USA), and Jan-Peter Muller (UCL, UK).



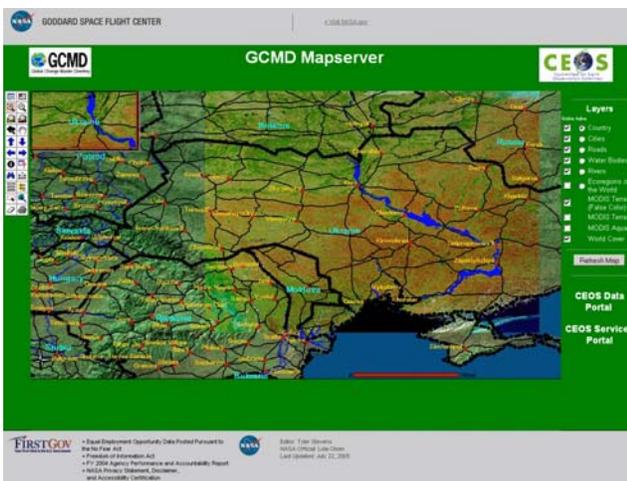
At the helm are Liu Dingsheng (NRSCC), Ivan Petiteville (ESA), John Faundeen (USGS), Conrado Varotto (CONAE), Steve Ungar (NASA), Osamu Ochai (JAXA), Paul Kopp (CNES), Stu Doescher (USGS), and Rita Tornow (USGS).

## The Ukraine/CEOS Mapserver

By Tyler Stevens, IDN, GIS Coordinator

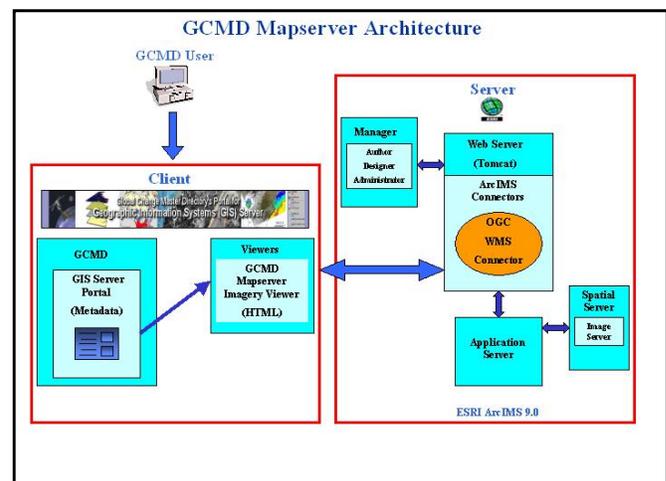
The American Coordinating Node continues to experiment with its prototype mapserver by incorporating new geospatial data sets and interoperable components into the interface. Currently, the mapserver is showcasing data of the Ukraine region for the upcoming CEOS meeting. This will demonstrate the integration of various forms of raster and vector data.

The Ukraine map service integrates data from NASA's MODIS Rapid Response System, the National Oceanic & Atmospheric Administration (NOAA), and Environmental Systems Research Institute (ESRI). The combination of these data sets will help users become familiar with the physical landscape and topography of the Ukraine region. Thematic layers, such as city names and political boundaries, provide additional information for users to overlay.



A new interoperable feature within the mapserver is the installation of ESRI's Open Geospatial Consortium's (OGC) connector, which allows users to access data as a Web Map Service (WMS). Users need an OGC WMS client to access the data held within the mapserver. Previously, users of non-ESRI clients were restricted from directly accessing the data through the IMS.

Future work on the prototype mapserver includes collaborating with IDN partners to make small geospatial data sets available to the public through the mapserver, continued integration of the mapserver into the existing IDN interface by providing direct access to the mapserver through the meta-data, and integrating additional OGC interoperable components.



See the prototype Ukraine map service at:

<http://mapserver.gsfc.nasa.gov/website/CEOS/viewer.htm>

## Putting IDN Data on the Map

By Mark Harwood, InPerspective Technology Ltd

In the August 2004 issue of the IDN Newsletter, we contributed an article on new search capabilities for the IDN. In the article, we discuss an advanced search facility, which allows users to filter search results by location. Since that time, we have been seeking a good mapping solution - both to help define the user's area of interest and to display the coverage areas of search results.

Fortunately, Google, Microsoft, Yahoo and ESRI have all recently released free mapping services. Google Maps, in particular, offers a highly interactive map that can be dragged and zoomed within a web page and yet works in the majority of modern browsers. Perhaps the most exciting new mapping service is Google Earth. This is a freely downloadable application, which offers incredibly detailed 3D views of the planet using mixtures of satellite imagery, maps and data loaded from the web.

The InPerspective website hosts a demonstration application which uses Google Maps to help search and display data. There is also an option to download search results into Google Earth, where one can fly through search results in glorious 3D. We are currently hoping to work together to build similar features into a new version within the IDN website.

## PART II

# IABIN: The Inter-American Biodiversity Information Network

By Alvaro Espinel, I.A.B.I.N consultant,  
Richard Huber, Principal Environmental Specialist, Sustainable Development and Environment, (OAS);  
Cheryl Solomon, USGS/BRD Biological and Ecosystems Coordinator



Part Two of the article continues here.

The last CEOS IDN Newsletter introduced the Inter-American Biodiversity Information Network (IABIN), an Internet-based forum for technical and scientific cooperation that seeks to promote greater coordination among Western Hemisphere countries in the collection, sharing, and use of biodiversity information relevant to decision-making and education.

The IABIN Secretariat will manage day-to-day activities of IABIN. The IEC has chosen the City of Knowledge in Panama City, an NGO, as the Host organization for the IABIN Secretariat.

The IABIN Gateway, found at <http://www.iabin.net/>, is becoming a gateway to biodiversity information in the Americas, as well as a mechanism for facilitating interconnection of data from different institutions and agencies concerned with biodiversity conservation. The Gateway provides simple user interfaces for sharing knowledge. IABIN is also developing a searchable catalog of biodiversity data and information resources that allows users to identify and locate content available through the network: biodiversity datasets, publications, museum collections, value added information (such as hotspots, ecoregions, invasive species), and other biodiversity related databases. Additional value-added tools are expected from Secretariat and network activities.

### Proposed IABIN Thematic Networks include:

- Basic biodiversity infrastructure projects: Specimens, Species, Ecosystems - Crosscutting projects: Invasive Species, Pollinators, and Protected Areas.

Each Thematic Network will be facilitated by a Coordinating Institution (CI), which in most cases will be competitively chosen during project implementation and which in some cases will have been pre-designated. Based on the Thematic Network priorities of the project, a competitive bidding process will be undertaken to choose the CI. The Request for Proposals (RFP) will include a letter of invitation, terms of reference, and the proposed contract based on World Bank and OAS guideline. Proposed CIs must bring significant co-financing resources to implement the TN. These technical and financial resources will be presented with each proposal that will also be evaluated on methodology, quality of key staff proposed, and relevant experience for the assignment. The contracted Coordinating Institution CI would

agree to provide detailed quarterly co-financing information according to cost guidelines established by the Secretariat. The co-financing information should be documented and should be open to potential audits. The CIs have a special role in the coordination and promotion of key technical aspects of IABIN such as the development of functioning networks and development of thematic information resources.

The thematic network of Protected Areas (PA) recently received financial support from the Gordon and Betty Moore Foundation to organize and update the information of Protected Areas of the countries in the Amazon basin. This initiative will allow the implementation of standard variables to describe, evaluate and predict the status of protected areas in the hemisphere.



Barro Colorado Island, Panama

Delegates from the National authorities of Natural Protected Areas of the Amazon basin (Venezuela, Colombia, Ecuador, Peru, Bolivia and Brazil) participated in a workshop to establish a network of information sharing. This workshop, organized by the Office of Sustainable Development and Environment of the Organization of American States (OAS) and the Gordon and Betty Moore Foundation (GBMF) was held in Gamboa (Panama) 22-25 June 2005.

A delegate of CIRAD-France, University of Brasilia, Dr. Richard Pasquis presented the situation of the protected areas of Suriname, Guyana, and French Guyana, as well as some comments on behalf of the Amazon Cooperation Treaty Organization (ACTO). Delegates from Parks-Watch Foundation and the World Wildlife Foundation (WWF) were also participating.

A comprehensive database was developed as a collaborative effort to gather basic variables about the situation of the PA in the Amazon Region. This information system will be developed as a tool for decision makers and potential donors. The participants were very enthusiastic about the Protected Areas Archive (PAA) initiative by JPL-NASA, submitted by Gary Geller. The network of PA in the Amazon region will have the financial support of the GBMF under the OAS administration, for the next three years, in order to consolidate the network and improve the information and standards among the countries involved, facilitating the communication and sharing experiences processes.

Alvaro Espinel ([aespinel@ecosynapsis.net](mailto:aespinel@ecosynapsis.net))  
Richard Huber ([rhbuer@oas.org](mailto:rhbuer@oas.org)).  
Cheryl Solomon ([solomon@gcmd.nasa.gov](mailto:solomon@gcmd.nasa.gov))

## **Upcoming CEOS/WGISS Meeting in Kiev**

**By Paul Kopp, Technology and Services Subgroup Chair**

The next CEOS/WGISS meeting will take place in Kiev, the capital city of Ukraine, at the invitation of the National Space Agency of Ukraine (NSAU). I personally discovered Ukraine when I was a student. At that time "cold war" prevailed, and Ukraine was still part of the Union of Soviet Socialist Republics (U.S.S.R.).

After the dissolution of the U.S.S.R., Ukraine proclaimed its independence in 1991. Ukraine - the name probably means "our country" - lies between East and West. This may explain some of the political upheavals which have affected it recently. Ukraine is actually a very ancient country. Its history goes back as early as the 2<sup>nd</sup> century, when Slavon tribes began settling down between the Dniestr and the Don Rivers. Later, Varangians, a branch of the Vikings, opened commercial fluvial roads between the Baltic Sea (the Varangian Sea, for the Russians) and the Black Sea. They became very active and prominent merchants in this broad area. Varangians were called "Rus" by the Slavon inhabitants. The origin of this name is unclear. It refers to the possible reddish-brown hair of the Varangians or, more likely, to the "Rodslagen" land in Sweden from which they may originate. Before merging with the Slavon population, they founded several principalities which finally united in a single kingdom, with Kiev as the capital city in 882. The "Rus" (or Ruthenian) kingdom was born and a brilliant civilization began with King Vladimir, who adopted the Christian religion (Byzantine ritual) in 988, and reached its apogee with King Iaroslav "the Wise" (1019 - 1054), when his daughter, Ann, married the French King Henri I in 1051. Unfortunately, weakened by internal discord, the kingdom could not resist the Mongolian attacks and collapsed in 1240.

The Ruthenian Kingdom was famous for its law, literature and monuments. The "Russkaya pravda" is the codex written under King Iaroslav's reign. It was very advanced for its time. Queen Ann brought to France a Gospel written in Ruthenian language which can still be seen at the French National Library. From its medieval splendor, Kiev, founded in the 4<sup>th</sup> century on the Dniepr River, still encompasses many architectural treasures: among them, the Monastery of the Caves and the Cathedral of St. Sophia. I am eager to admire Kiev again, thanks to the NSAU, who kindly hosts the meeting. The National Space Agency of Ukraine (NSAU) is the Ukrainian government agency responsible for space policy and procedures. The agency oversees launch vehicle and satellite programs, cooperative programs with the Russian Aviation Space Agency, the European Space Agency, NASA, and commercial ventures. Both the Ukraine and the US are interested in using Ukrainian rockets for launching US satellites into lunar orbits. NSAU is known for their efficient and cost effective range of launchers (Cyclone, Zenit), but there are many other facets to discover, including Earth observation by satellite, which is the concern shared by all CEOS/WGISS agencies.

## **JCADM-9, Buenos Aires, 12-16 September 2005**

**By Melanie F. Meaux, IDN, Antarctic Coordinator**  
**Taco de Bruin, JCADM**

The 9<sup>th</sup> meeting of the Joint Committee on Antarctic Data Management (JCADM) will be held in Buenos Aires, Argentina during the same week of the upcoming WGISS meeting. JCADM participants now follow the journey of the CEOS WGISS members through Buenos Aires in March of this year for WGISS-19.

Representatives from many nations new to Antarctic data management - Malaysia, India, South Africa, Uruguay, Brazil, Ecuador, Peru, Czech Republic, along with those nations already active in Antarctic data management during the last few years are planning to attend. The meeting will begin with a capacity-building workshop on all aspects of Antarctic data management. The workshop will include demonstrations of the latest on-line and new stand-alone versions of the docBuilder tool for metadata submission.

In preparation for the meeting, the IDN staff has begun working with the British Oceanographic Data Center (BODC) to expand the content of the Antarctic Master Directory (AMD), with information obtained from the European Directory of Marine Environmental Datasets (EDMED). In addition, the Institut Polaire Francais Paul Emile Victor (IPEV) recently requested customized AMD and Arctic portals, leading to a revitalization of the IDN Arctic portal (<http://qcmd.nasa.gov/portals/arctic/>).

## Preparing for your Travel to Ukraine

By Christina Chiddo



The Ukraine is located in the southeastern part of Central Europe with a total area of about 603,700 sq km. It is the second largest country in Europe after Russia and is a vast flat plain with elevations generally below 300 m. Located here are the Crimean Mountains that are covered by mixed forests of pine and fir-tree, beeches, limes, oaks, and elms. The main Ukrainian river is the Dnieper, which is one of the longest European rivers and the main source of hydroelectric power.

With a moderate climate, the winter is mild with no severe frosts. Summer is hot and dry, although occasional thunderstorms and showers may occur. Ukraine has a clearly recognizable change of the four seasons. You can expect a crisp and sunny autumn this September. Traditionally an agricultural area because of the favorable climatic conditions, Ukraine grows wheat, maize, corn, red and green vegetables, fruit, and berries. It is one of the world's main centers of sugar production and is very rich in natural resources. The Ukraine's population was over 51 million in 1995 but has now dropped to about 47 million. Mr. Victor Yushchenko was elected president of Ukraine in a runoff election in January of 2005 with 52% of the vote.

After arriving at the Boryspil State International Airport, the largest airport in Ukraine, and traveling by bus to Kiev, you will be within a scenic city of close to 3 million people. This bustling capital of Ukraine holds treasured art and architecture. The Cathedral of St. Sophia has outstanding mosaics and frescoes dating back to the 11<sup>th</sup> century, in addition to its world-famous catacombs, bell tower, and museum collections. You can find Ukrainian pottery, embroidery, and handicrafts available throughout the city.

Activities planned during the trip include tours of the Great Patriotic War History Museum, Museum of Water, St. Sophia Cathedral, Andreevsky Spusk, and Mariyjn'skiy Palace, which is used for ceremonial receptions of presidents and high-ranking government officials, in addition to plenty of other great opportunities to explore the beautiful city!

The conference will take place at the President-Hotel "Kyivsky," which is situated downtown in a quiet green location.



## IDN TASK TEAM MEETING AGENDA SEPTEMBER 12-16, 2005

### Monday Morning, 12 September 2005

#### IDN Task Team Agenda

##### 10:00 Introduction

Mr. Ken McDonald has kindly agreed to lead the IDN session for this meeting. Thank you, Ken. I (Lola) had previously agreed to give an invited presentation at the Computing in Atmospheric Sciences Conference in Annecy, France on the same day at the same hour.

##### 10:05 Review of Minutes from Cordoba

##### 10:10 Newsletter and Action Items

See "Action Item" article on page 3 of this newsletter.  
Play proposed new version of the WGISS song with audio file.  
Show new IDN map.

**10:25 Status of Interop: "model" issues, other proposals?**  
Changes for platform and instrument keyword hierarchy  
Space science keywords.

##### 10:30 Node Reports: CCRS, JAXA, ESA, JCADM, and others.

##### 10:50 Demonstrate Mapserver for Ukraine.

Specifically demonstrate the mapserver interoperability with OGC WMS. (i.e., allowing for WMS client access to geospatial data sets within the mapserver.)

**11:00 Update on Keywords; URL\_Content Types; DIF and SERF Content; Usage, and Portals: All statistics.**

##### 11:20 Update on current software.

- MD9.4 Highlights: Released in April 2005
  - New Free-Text Search Capability Powered by Lucene.
  - New secondary refinement capabilities by keywords or free-text for data sets.
  - New Data Center and Location hierarchies.

- New brief excerpt of record summary display with results and search term highlighting within the record.
- New customized portal interfaces with additional navigation features.
- New spatial and temporal resolution range keywords within the data resolution fields now available for population (but not for search until a majority of records contain this information).
- docBUILDER 2.0 Release Highlight - August 2005
- New HTML version of docBUILDER (for data sets and services) now available with:
  - Personalized templates.
  - Automatic population of Data Center URLs.
  - Color support to indicate required, recommended, and optional fields.
  - Editable XML records in window.
  - Improved performance and presentation.
- New offline, standalone version of docBUILDER for download with same features.
  - Contains all features as noted above in HTML version.
  - In addition, offers "spell-check" feature.
- MD9.5 Projected Release: December 2005
  - New refinement capabilities for services by keywords or free-text.
  - Keyword subscription service.
  - Relative Time Capability for data sets.
  - Automated update reminders
  - Platform/Instrument Upgrade and Clean-up
  - Open Archive Initiative (OAI) - Protocol for Metadata Harvesting (PMH) substitution for Local Data base Agents (LDA)
  - Central Repository for very small data sets.
  - Reliable new spatial search.
  - Server software upgrade to handle search on temporal/spatial resolution. This will be dependent on adequate population of the resolution field by authors.

\* Services will be presented during Services Task Team session.\*