UNITED NATIONS GEOGRAPHIC INFORMATION WORKING GROUP

Report of the Ninth Annual Meeting

Vienna, Austria, 5-7 November 2008

Group Photograph of UNGIWG-9 Participants

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RESOLUTION BY THE 9TH PLENARY MEETING OF
THE UNITED NATIONS GEOGRAPHIC INFORMATION WORKING GROUP
IN SUPPORT OF THE DEVELOPMENT OF
A UNITED NATIONS SPATIAL DATA INFRASTRUCTURE (UNSDI)

Introduction

Whereas the United Nations Geographic Information Working Group (UNGIWG) brings together the Geographic Information Systems (GIS) specialists and cartographers of all UN agencies, funds, and programmes; and

Whereas since 2000 UNGIWG has been able to facilitate inter-agency co-operation and co-ordination on specific issues in the fields of cartography and geographic information science and promote the use of geographic information within the United Nations System; and

Reaffirming that at its 7th Plenary Meeting, UNGIWG endorsed a strategic vision for a United Nations Spatial Data Infrastructure (UNSDI) as a comprehensive, decentralized geospatial information framework that facilitates decision-making at various levels by enabling access, retrieval and dissemination of geospatial data and information in a rapid and secure way; and

Emphasizing the decisions of the 8th UNGIWG Plenary Meeting to implement a UNSDI on a project basis, built around deliverables, and allowing for the involvement of non-UN partners and Member States in the achievement of these deliverables; and

Recalling the efforts of the United Nations System to enhance its coherence, effectiveness and efficiency as laid out in its Reform Agenda; and

Welcoming the work which has been done by the UNGIWG Co-chairs and the Secretariat of the United Nations System Chief Executives Board (CEB) to anchor the UNSDI initiative firmly in the UN Reform Agenda and to ensure that UNSDI is complimentary with other initiatives geared at enhancing system coherence and harmonization of business practices; and

Noting with satisfaction the substantive increase in support to UNGIWG and to the UNSDI initiative by a permanent Secretariat maintained by the Co-chairs in 2007 and 2008;

Decisions

- *Agrees* that the Interim Framework Document, with the modifications as contained in the Report of the 9th Plenary Meeting of UNGIWG, is the basis for the first phases of UNGIWG's continued effort to establish a United Nations Spatial Data Infrastructure (UNSDI); and
- *Requests* the Secretariat of UNGIWG to establish a consultation mechanism for its rapid endorsement before the handover of Chairmanship of UNGIWG (2009-2010 biennium); and once the Interim Framework Document is endorsed,

- *Invites* members of the United Nations Geographic Information Working Group to sign the Memorandum of Understanding establishing the UNSDI Project and to work actively towards its implementation; and
- *Requests* the incoming Co-chairs of UNGIWG to work during their tenure of office with all UNGIWG members on the implementation of the first phases of the UNSDI Project; and
- *Recommends* that they mobilize resources to maintain a standing Secretariat during their term as Co-chairs; and
- *Invites* partners of the United Nations Geographic Information Working Group to support the efforts of establishing a UNSDI by joining in the attainment of those deliverables which are of interest and to which they can contribute successfully; and
- *Encourages* interested governments of Member States of the United Nations to support the establishment of a UNSDI actively by providing expertise and advice, as well as human and financial resources; and
- *Calls upon* all members of the United Nations Geographic Information Working Group to take responsibility for establishing a UNSDI by supporting the incoming Co-chairs and by taking over functions within its governance structure; and
- *Proposes* to the incoming UNGIWG Co-chairs to consult with Member States and to seek endorsement of the UNSDI initiative; and
- *Supports* the idea to review the progress of the UNSDI Project annually by members of the United Nations Geographic Information Working Group.

Vienna, 7 November 2008

1. Executive Summary

The United Nations Geographic Information Working Group (UNGIWG) held its 9th annual meeting on 5-7 November 2008 in Vienna, Austria. The meeting was organized by the United Nations Office for the Coordination of Humanitarian Affairs (OCHA), the United Nations High Commissioner for Refugees (UNHCR), the United Nations Office for Outer Space Affairs (UNOOSA) and the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO).

Sixty-three experts attended the meeting, representing UN agencies, government authorities, academia, as well as public and private sector organizations at the local and regional levels involved in geo-information. During the open sessions, the participants heard from the UNGIWG Secretariat and the Task Group Managers who reported on past year's activities and their 2009 plans. The UNGWIG Co-chairs reported on the status of the UN Spatial Data Infrastructure (UNSDI) initiative. Innovative and challenging projects related to Geospatial Information Management and SDIs (Spatial Data Infrastructure) were presented in a number of forms including keynote panels, presentations, lightning talks and a poster session.

During the UNGIWG-9 closed sessions, UNGIWG members deliberated on the Interim UNSDI Framework Document, adopted the Ninth UNGIWG Plenary Resolution, discussed the Terms of Reference of key UNSDI bodies and elected the UNGIWG Co-chairs to serve for the next two years.

The main outcomes of UNGIWG-9 were the following:

- Endorsement of the "Ninth UNGIWG Plenary Resolution" which commits UNGIWG to the development of a UN Spatial Data Infrastructure (UNSDI) (see inset on page 5 above);
- Agreement that the Interim UNSDI Framework Document be revised (per the points listed in Section 8.3) so that it constitutes the basis for the first phase of UNSDI implementation in 2009-10;
- Establishment of *ad hoc* UNGIWG Drafting Teams to finalize the Terms of References of UNSDI bodies (i.e. Steering Committee, Technical Advisory Group, Partners' Group) and to review the roles and responsibilities of the UNGIWG Task Groups to ensure complementarities with UNSDI bodies;
- Election of UNOOSA and UNECA as UNGIWG Co-chairs for 2009-2010;
- Decision to hold UNGIWG-10 in Bonn, Germany.

2. Introduction[1]

The United Nations Geographic Information Working Group (UNGIWG) held its 9th Annual Meeting (UNGIWG-9) on 5-7 November 2008 in Vienna, Austria. UNGIWG-9 was organized by the United Nations Office for the Coordination of Humanitarian Affairs (OCHA), the United Nations High Commissioner for Refugees (UNHCR), the United Nations Office for Outer Space Affairs (UNOOSA) and the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO).

Sixty-three experts attended the meeting, representing UN agencies, government authorities, academia, as well as public and private sector organizations involved

[1] UNGIWG-9 presentations are available on the UNGIWG Web site at: www.ungiwg.org.

in geo-information at the local and regional levels[2].

The morning of the first day of UNGIWG-9 was predominantly devoted to the finalization of the UNGIWG Task Group 2008 Annual Reports and the identification of issues which require further consultation and resolution by the membership. The afternoon of the first day was dedicated to deliberations on the Ninth UNGIWG Plenary Resolution, the Interim UNSDI Framework and the nomination of UNGIWG Chairs for 2009-10.

The second day and the morning of the third day of UNGIWG-9 consisted of open sessions where UNGIWG partners and observers joined the meeting. The participants heard from the UNGIWG Secretariat and the Task Group Managers who reported on past year's activities and shared their 2009 plans. Distinguished representatives from the geospatial industry including the private sector, academia, international standards organizations and the NGO community took part in a keynote panel discussing "Spatial Data Infrastructures vs. Neo-geography." A group of field practitioners, system developers and project managers within and outside the UN participated in a session where they discussed "Open Data and Free and Open Source Software (FOSS)" and its implications for the development of a UNSDI. Innovative and challenging projects related to Geospatial Information Management and Spatial Data Infrastructure (SDI) were presented in a number of forms including a poster session. These two days allowed the UNGIWG partners and observers to be informed of the current state of UNSDI development and the key issues UNGIWG were tackling to move UNSDI forward. The partners took the opportunity to express their interests, concerns or domains of potential partnership with the UNSDI initiative.

The second half of the third and final day of UNGIWG-9 featured a structured decision making process where UNGIWG Members reviewed and proposed amendments to the Interim UNSDI Framework Document, adopted the Ninth UNGIWG Plenary resolution, established *ad hoc* UNGIWG Drafting Teams to further develop the Terms of Reference of the UNSDI constituting bodies and to review the roles and responsibilities of the UNGIWG Task Groups in order to ensure complementarities with other UNSDI bodies. At the last session of UNGIWG-9, UNOOSA and UNECA were elected as UNGIWG Co-chairs for the 2009-10 biennium.

This report summarizes the highlights of UNGIWG-9 more in reference to the outcomes of the meeting rather than the sequence of the presentations and deliberations. Report annexes include meeting handouts, audio Podcasts of open sessions as well as meeting outputs. Additional documents, including keynote presentations, are posted on the UNGIWG-9 page of the UNGIWG Web site at http://www.ungiwg.org/meeting2008.htm.

3. Welcome Statements and UNGIWG-9 Opening Session

On 6 Nov. 2008 at the official opening session of UNGIWG-9, Ms. Mazlan Othman, Director of the Office for Outer Space Affairs (UNOOSA) at the UN Office in Vienna (UNOV), welcomed UNGIWG-9 participants to Vienna. She stated that her organization became a UNGIWG member in 2001, within the year

[2] See list of participants in Annex II.

after UNGIWG was established. She pointed to the synergies between UNGIWG and the two UN programmes UNOOSA oversees, namely the well-established United Nations Programme on Space Applications and the more recently established United Nations Platform for Space-based Information for Disaster Management and Emergency Response - also known as UN-SPIDER - by referring to specific decisions taken and calls made related to UNGIWG and UNSDI in 2008 at meeting of the Committee on Peaceful Uses of Outer Space (COPUOS) and at the Inter-Agency Meeting on Outer Space Activities. She concluded her remarks by thanking her staff for their work in helping the Secretariat to organize UNGIWG-9 and the current Co-chairs for setting the highest levels of standards for all future Co-chairs (see Annex VI for the full text of Ms. Othman's address).

Ms. Alta Haggarty of OCHA, Co-chair of UNGIWG, welcomed the participants and thanked UNOOSA and CTBTO for hosting the Ninth UNGIWG Plenary Meeting. Mr. Luc St-Pierre of UNHCR, standing in for Mr. Karl Steinacker who is the UNGIWG Co-chair from UNHCR, apologized for Mr. Steinacker's absence. He stated that Mr. Steinacker was recently appointed as Coordinator for the East for UNHCR in the Democratic Republic of Congo (DRC) and was kept back in DRC due to the renewed crisis in North Kivu. Under these circumstances Mr. St-Pierre co-chaired the meeting for UNHCR.

After welcoming all, Mr. Suha Ülgen (OCHA), the Coordinator of the UNGIWG Secretariat, introduced the UNGIWG-9 agenda and proposed that a formal decision making process be followed to facilitate deliberations on the Interim UNSDI Framework, the Ninth UNGIWG Plenary Resolution, the election of the UNGIWG Co-chairs for 2009-2010 and for the determination of concrete actions, responsibilities and timelines.

A day prior to UNGIWG-9, three pre-UNGIWG-9 programs relevant to UNGIWG and the UNSDI process were organized. These were:

i) Evaluating SDI Best Practices Workshop;

ii) Google MapMaker Lab; and

iii) Geographic Information Support Team (GIST) annual meeting.

Mr. Roger Longhorn, Co-chair of the Global Spatial Data Infrastructure (GSDI) Association, Legal & Socioeconomic Working Group organized a workshop on "Evaluating SDI Best Practices" where he articulated the importance to assess the readiness of an SDI initiative at different levels: technology, information, policy, cultural; and the initial steps required to build an SDI. Over the last few years the GSDI Association extensively documented SDI best practices from around the world and, as such, the Association's experience and expertise is of the highest value to the UNSDI initiative.

Mr. Lorant Czaran, Head of the UN-SPIDER Office in Bonn, UNOOSA, organized a lab session on Google MapMaker, a collaborative mapping tool developed by Google. The meeting participants recognized the value of such a collaborative mapping platform and raised several points including on-going discussions on signing a UN license agreement, better access to the data, the advisory role that the UN could play (example of UNSDI-T), the customization of Google MapMaker for UN specific datasets and data harvest mechanisms.

The Geographic Information Support Team (GIST) held its annual meeting

concurrently with the UNGIWG-9 Plenary Meeting. The meeting Chair, Mr. Andrew Alspach (OCHA), reported that the meeting was very well attended with nineteen participants including representatives from seven UN agencies, the United States Agency for International Development (UNAID) and NGOs. He indicated that the meeting provided a good visioning exercise for the way forward. The GIST Terms of Reference (ToR) and bylaws were discussed as well as access to the University of Georgia Information Technology Outreach Services (ITOS) geospatial data repository. Mr. Alspach added that GIST participants expressed a strong commitment to supporting UNGIWG and UNSDI.

4. Overview of UNGIWG activities since UNGIWG-8 and objectives of UNGIWG-9

Ms. Haggarty presented a summary of activities and accomplishments carried out since the 2007 UNGIWG Plenary Meeting in Bangkok where the Co-chairs were tasked to further develop the UNSDI Framework. She presented the Interim UNSDI Framework document genesis as the outcome of several rounds of consultations among UNSDI stakeholders and UNGIWG Members:

- In February 2008, World Food Programme hosted the UNSDI Deliverables workshop in Rome with a large number of UNGIWG Members and partners. The participants agreed that concrete UNSDI deliverables were required and supported the definition of core and thematic UNSDI deliverables, but noted that the UNSDI Framework document needed to be strengthened;
- Between February and June 2008, the drafting committee improved the Interim UNSDI Framework document, resolving many issues and concerns, and incorporating suggestions to the document;
- In June 2008, the UNGIWG Secretariat held the UNSDI Stakeholder Meeting in Geneva where UNGIWG Members and stakeholders reconvened with substantive feedback and recommendations. The Interim UNSDI Framework was thus re-structured to meet the needs of the membership;
- In September 2008, the UNGIWG Co-chairs and Secretariat met with UN senior management in New York and received comments on how to better address the complexity of a decentralized project, on the specificities of the UN System context that needed consideration, and on the need to work in phases;
- Final comments of UNGIWG Members were incorporated in October 2008 to produce the version released prior to UNGIWG-9.

4.1. Liaison to build awareness and support

Ms. Haggarty reported on the liaison and awareness raising activities undertaken by the UNGIWG Co-chairs and Secretariat over the last few months:

- Mr. Choi Soon-Hong, Assistant Secretary General, Chief Information Technology Officer of the UN Secretariat (CITO) acknowledged the UNSDI initiative as one of the major components of Knowledge Management activities in the UN Secretariat's ICT Strategy, indicating his appreciation of the Interim UNSDI Framework document and of the process followed. He sees the project as a potential "Centre of Excellence" which could be sponsored by the CITO and expressed his interest in

taking a role on the UNSDI Steering Committee (see Annex for CITO's video address at UNGIWG-9 where he reiterates his position);
- The Chief Executives Board (CEB) recognized that the UNSDI initiative has the potential to become an important component of the harmonization of business practices of the UN and proposed that the UNSDI initiative be on the agenda of the Information and Communication Technology (ICT) Network's October 2008 meeting attended by ICT Directors of the UN System;
- In October 2008 at their meeting in Vienna, the ICT Network endorsed and supported the UNSDI initiative and acknowledged the critical importance of an ICT infrastructure conducive to the development of UNSDI. Mr. Ken Herman, Senior Advisor on Information Management Policy Coordination at the CEB Secretariat played a critical role in the ICT Network's endorsement of the UNSDI initiative (see Section 5.2 for Mr. Herman's UNGIWG-9 brief on the October 2008 ICT Network meeting);
- Mr. Paul Cheung, Director of the UN Statistics Division (UNSD), recognizes the importance of geospatial information as an essential dimension of conducting population and housing censuses. UNSD will organize various meetings in 2009 covering geospatial information issues. Mr. Cheung stressed the important role UNSDI could play in capacity building and expressed his intention to strengthen UNSD's GIS capacity;
- Ms. Susana Malcorra, UN Under Secretary General for Department of Field Support (UNDFS) and the Chair of the ICT Network, supports the UNSDI initiative and agreed to include UNSDI on the agenda of the ICT Network's October 2008 meeting agenda. She reiterated that the UN Cartographic Section (UNCS) will remain an active Member of UNGIWG;
- The Office of The Geographer of the United States Department of State, Mr. Lee Schwartz, was briefed on the UNSDI initiative in Washington DC by the UNGIWG Co-chairs and the Secretariat. Mr. Schwartz acknowledged the challenges of developing SDIs by public institutions and governments. He expressed his continued interest in the UN's SDI process and wanted to be informed of UNGIWG-9 outcomes.

4.2. UNGIWG-9 objectives and expectations

The UNGIWG Co-chairs presented the following objectives and expectations for the Ninth UNGIWG Plenary Meeting:
- To build and maintain a community of practice and exchange best practices;
- To share information among participants on activities, latest technologies and thinking in geospatial information, including the stakeholders;
- To report on the work of UNGIWG Task Groups;
- To endorse a way forward on implementing a UNSDI via the endorsement of the Ninth UNGIWG Plenary Resolution and the Interim UNSDI Framework;
- To further discuss the UNSDI institutional architecture, especially the Technical Advisory Group (TAG) and Steering Committee;
- To nominate and elect the 2009-10 UNGIWG Co-chairs.

Mr. St-Pierre placed the Interim UNSDI Framework document in its context by inviting the UNGIWG Members to consider the Framework as the basis for a gradual approach and a way to move the UNSDI initiative forward until a

permanent “institutional home” is found.

Finally, Ms. Haggarty invited the UNGIWG Members to review and establish a common understanding of the Interim UNSDI Framework Document during this Ninth UNGIWG Plenary Meeting, characterizing it is a “living document”.

5. Statements of support for UNSDI at UNGIWG-9 by UN Senior Management

5.1. CITO’s video address

On 5 Nov. 2008 during the UNGIWG-9 closed session, Mr. Choi Soon-Hong, Assistant Secretary General and the Chief Information Technology Officer (CITO) of the UN Secretariat, delivered a video address which was recorded in New York the day before. In his address, Mr. Choi acknowledged the widespread appeal of virtual earth platforms for all and expressed his pleasure in hearing ICT Network’s endorsement of the UNSDI initiative. He added that the recently developed UN Secretariat’s ICT Strategy places GIS under the Knowledge Management Programme and that the Secretariat-wide Knowledge Management group will be discussing it in due course.

Mr. Choi offered to collaborate with the UNGIWG community to communicate to all stakeholders the business case for geospatial information management in general and UNSDI in particular so that they are broadly embraced and institutionally established within the UN System. He congratulated the UNGIWG community for its hard work and commitment while recognizing that UNSDI is an example of a bottom up initiative of dedicated professionals.

Finally, Mr. Choi gave assurances that senior management at the Secretariat, including himself as the CITO, will support the UNSDI initiative, expressed his best wishes for a successful UNGIWG Plenary and asked to be informed of its outcomes (see Annex IV for the full text of Mr. Choi’s address)

5.2. ICT Network Secretariat’s conference call

Mr. Ken Herman, Senior Advisor on Information Management Policy Coordination at the CEB Secretariat, in the capacity of the Secretariat of the ICT Network, assists Ms. Susana Malcorra, Chair of the UN ICT Network. Mr. Herman joined the Ninth UNGIWG Plenary Meeting via conference call and reported on the positive feedback received after the UNSDI initiative presentation by Ms. Haggarty and Mr. Ülgen to the UN ICT Network at their meeting that took place in Vienna on October 2008, a week before UNGIWG-9.

Mr. Herman stated that the ICT Network brings together ICT Directors responsible for information and communications technologies across the UN System. It reports to the High Level Committee on Management (HLCM) and meets bi-annually. The Network first met in May 2002 as part of the reorganized sub-machinery of the Chief Executives Board. It is the successor body to the Information Systems Coordination Committee (ISCC), which in 1993 succeeded the Advisory Committee for the Coordination of Information Systems (ACCIS).

The Network provides advice to senior management of the organizations on the long-term strategic development of information systems technology and services.

It also reviews information and telecommunications standards with a view to advancing best practices across the UN System.

Mr. Herman mentioned that about forty managers in charge of ICT in different UN agencies attended the meeting in Vienna. He reminded the participants that the ICT Network is mainly concerned with the harmonization of business ICT practices within the UN and should be considered more as an enabling environment than a simple support tool.

He reported that the UNSDI initiative presented as an effort to give coherence to geospatial information management practices in the UN received the ICT Network's support at their meeting. Although a few questions were raised after the UNSDI presentation, participants recognized the importance of geospatial information in various UN organizations.

In order to mobilize ICT Network's support in facilitating UNGIWG activities and the UNSDI initiative while recognizing the Network's limits to do so, Mr. Herman encouraged UNGIWG to clearly define its ICT needs in reference to the UNSDI work plan and added that he was looking forward to hearing the outcomes of UNGIWG-9.

After Mr. Herman's briefing, UNGIWG-9 participants were invited to ask questions. Discussions covered the following points:

- Ms. Haggarty stated that the objectives of the UNGIWG/UNSDI briefing at the last ICT Network meeting were to seek endorsement for UNSDI as an initiative facilitating harmonization of business practices in alignment with the "One Source" project of the CEB Secretariat and to seek recognition of the need to work together including the need for specific ICT support to implement the UNSDI Project. Mr. Herman responded by saying that the ICT Network fully concurred with these points and underlined that the drive has to come from business owners such as UNGIWG members and that good partnership can be developed with ICT service organizations.
- On the issue of non-standard software and tools often used by the geospatial information community being perceived by ICT managers as an impediment to harmonization of ICT practices, Mr. Herman responded by saying that there are ways to engage individually and collectively to address sensitive issues such as network security or data access and called for all organizations to work together on arriving at common policies.
- The participants underlined the difficulty to quantify the 'ICT parameters' of the UNSDI at this stage. Mr. Herman recognized that further dialogue is required to articulate the way forward and underlined the need to define ICT requirements in collaboration with ICT professionals during the design process and not at the end.
- On using ICT Network's endorsement of the UNSDI initiative by geospatial professionals to advocate for higher levels of ICT support in their own UN agencies, Mr. Herman reminded the participants that each UN organization has its own ICT practice but that he will continue to get feedback from ICT Network meeting participants on an individual basis and will see how the network can be supportive of the UNSDI initiative as a whole, recognizing that the geospatial information community has special needs that must be met by the ICT infrastructure.

6. Task Group Discussions

On the first day of UNGIWG-9 closed to non-UN participants, UNGIWG Task Groups (TG) met separately in parallel to finalize their 2008 Annual Reports and to articulate issues and opportunities to be presented for discussion and resolution at UNGIWG-9.

Prior to the breakout sessions, participants underlined that UNGIWG TG's level of activity relies on voluntary participation and expressed the need to consider transitioning to an alternative mode of operation such as reorganizing the TG as Special Interest Groups (SIG) with concrete, time-bound and clear deliverables. The need to solicit wider participation was advanced as well, considering that the estimated number of GIS practitioners within the UN System is approaching 500.

It was also noted that TGs should be consider in the context of the UNSDI initiative especially in relation to the UNSDI Technical Advisory Group (TAG) with its specific Terms of Reference and composition.

As of its Seventh Plenary Meeting[3], UNGIWG Task Groups and their managers are:

	UNGIWG Task Groups	**Task Group managers**
TG1	Core Geo-database	Mr. John Latham (FAO) Mr. Steeve Ebener (WHO) - left his position in October 2008
TG2	Remote Sensing	Mr. Einar Bjorgo (UNITAR/UNOSAT)
TG3	Interoperable Services	Mr. Mick Wilson (UNEP) Mr. Jeroen Ticheler (FAO) - left his position in April 2008
TG4	GIS Map Production Guidelines	Ms. Carrie Howard (UNOCHA)
TG5	Global Navigation Satellite Systems - *Not active in 2008*	Mr. Menghestab Haile (WFP)

2008 UNGIWG Task Group activities presented by TG Managers and the presentation by the UNGIWG Secretariat are summarized below. 2008 UNGIWG Task Group Reports are presented in Annex III.

6.1. Core Geo-database (TG1)

Mr. Steeve Ebener of WHO, Task Group 1 Co-manager until recently and the one present at UNGIWG-9 with the historical perspective to move the Task Group's agenda forward, invited the participants to read the TG1 progress report for 2008 and summarized several needs identified during the breakout session:

- Defining the ToRs of the UNGIWG Task Groups, recognizing that draft ToRs exist for the Core Geo-database working group;
- Paying particular attention to the issues of compatibility between datasets and data models;
- Providing a forum for coordination on UN datasets;
- Reviewing UNGIWG ToR.

[3] See UNGIWG-7 Plenary Report on http://www.ungiwg.org/documents.htm

6.2. Remote Sensing (TG2)

Mr. Einar Bjorgo of UNITAR-UNOSAT summarized Task Group 2 activities carried out in 2008 underlining that most of the objectives defined in Bangkok were met. He reported the following points discussed during the TG2 breakout session:

- Web-services were tested in collaboration with UNEP, WHO and UNOSAT;
- TG received good input from field actors - an initiative to be encouraged;
- Remote sensing wiki open to all UNGIWG Members is functional though more participation is required;
- Continuing population of the metadata catalogue;
- Online access to footprints of high resolution imagery;
- Availability and full accessibility of the Landsat archive in operation;
- Inputs provided to the board meeting of the *International Charter - Space and Major Disasters* on how the UN can better benefit from it.

Mr. Bjorgo inquired about the continuation of UNGIWG Task Groups and their future management reiterating the more informal option of Special Interest Groups and the potential of merging of Task Groups to widen participation.

Regarding 2008-2009, Mr. Bjorgo reported that focus should be on:

- Improving interoperability and exploiting synergies;
- Addressing institutional issues;
- Conducting a survey of experts and resources within the UN System and to share it with UNGIWG Members;
- Based on survey, conduct awareness raising and training on the use of remote sensing in the UN System;
- Increasing field (in-country) participation of members in remote sensing activities.

Following Mr. Bjorgo's summary, the participants expressed their views and provided inputs on key aspects of TG's activities:

- Mr. Kyoung-Soo Eom of UNDFS/CS reported that a system contract on satellite imagery procurement was established and available to UNGIWG Members. Two million US dollars of satellite imagery (single user or multi-users license) was purchased by the UN Secretariat in order to support UN Peace Keeping operations in Darfur, Somalia, DRC and the Middle East;
- Mr. Sadig Elamin of UNDP-Sudan expressed the need to consider the field perspective and their representation in UNGIWG Task Groups. On satellite imagery resources, he mentioned that though multi-users licenses were available, there is little capacity in the field to extract information. Access to derived satellite imagery data is an important expressed need by field operations.

6.3. Interoperability (TG3)

Mr. Mick Wilson of UNEP, Task Group 3 Co-manager, reported on the discussions that took place during the breakout session and raised issues to be addressed by the UNGIWG Members:

- Mr. Jeroen Ticheler, former FAO employee in charge of GeoNetwork development, and Mr. Nicolas Chavent, former UNSDI-T coordinator in UNJLC, have left their positions. The prospects of these two projects as

part of TG3 activities are uncertain;
- There is a clear need to re-articulate the Interoperability Task Group's activities as part of UNSDI, and to better address interoperability concerns in the Interim UNSDI Framework document by developing use cases to demonstrate UNSDI principles (data sharing, joint catalogues, etc.). Such activities could become the mandate of the Interoperability Task Group;
- In relation to the point above, the need to provide best practices and guidelines to the UNGIWG Members on agency in-house constraints on IT architecture, acceptability of open source software or to install open sources databases, data ownerships, quality and accessibility and, more generally, on UNSDI technical governance issue has been clearly identified. Ms. Haggarty recalled the interest expressed by the ICT Network and CITO to provide support on both institutional and technical governance aspects;

The meeting further discussed the following:
- Importance of maintaining the custodianship of the UNSDI-T data model and the network of partners including those providing content;
- Development of UN agencies' individual SDI capacity (formerly referred to as MySDI) is critical to the overall development of UNSDI;
- Priority to further develop the UN metadata profile;
- Release of the GSDI Cookbook as a wiki within 3 or 4 weeks featuring a new chapter on policy.

6.4. Map Production Guidelines (TG4)

Ms. Carrie Howard of OCHA (Nairobi), recalling TG4's mandate to collect and share standards and best practices on map production, reported the need to extend TG4's participation to other agencies. Stating that resources in the field are limited, she proposed that TG4 leadership is rotated. She echoed others before her recognizing the need to align the Task Group's activities with the Interim UNSDI Framework.

Participants raised the following points:
- Mr. Ülgen indicated that although map production guidelines are not included explicitly in any UNSDI deliverable, core UNSDI Project activities such as the establishment of technical governance standards, particularly those related to data modeling, and the One Source Visualization Facility will require that minimum map production standards are defined for UNSDI;
- Mr. St-Pierre asked for an update on the Inter-Agency Map workshop planned in Nairobi last year. Ms. Howard answered that because the community is still intact and the demand still high, the event will be rescheduled if the security situation gets better;
- Regarding the completion of guidelines and level of diffusion, Ms. Howard stated that work is in progress and broadly shared with members through different channels, lead by the ReliefWeb team;
- Participants discussed the authoritative role that the UNGIWG Map Production Guidelines Working Group could play in proposing standards and guidelines including a UN symbology set to the private and public sector and recognized that mapping activities in these domains are rapidly growing with the business model shifting as well. Ms. Howard reframed the discussion by indicating that TG's activities have focused so far on

good working practices and workable symbols. In this context, Mr. Eom added that the UN Cartographic Section has a broad mandate for map clearance to the UN Secretariat and proposed to distribute their best practices and standards outside the UN.

6.5. UNGWG Secretariat Report

UNGIWG Secretariat activities were summarized as meetings organized and staffed, reports and various other documents finalized, missions accomplished and administrative activities undertaken.

It was reported that staffing levels at the UNGIWG Secretariat over the past year were:

- Oct. ’07 - Mar. ’08: Suha Ülgen (OCHA) and Franck Albinet (UNHCR)
- Apr. - Oct. ‘08: Suha Ülgen
- Sep. ‘08 - present: Suha Ülgen, Franck Albinet (part-time) and an intern since Oct. 16, ’08.

UNITAR/UNOSAT has been hosting the UNGIWG Secretariat since Oct. ’07 in Geneva. Administrative support has been provided by OCHA and UNITAR/UNOSAT.

The meetings organized and staffed by the UNGIWG Secretariat in 2008 include the following:

- Feb. - UNSDI Deliverables Meeting, Rome;
- Jun. - UNSDI Stakeholders’ Meeting, Geneva;
- Sep. - Co-chairs mission to the USA, New York and Washington DC;
- Oct. - UNGIWG-9, Vienna.

In addition, over the past year, the Secretariat organized the following teleconferences:

- UNSDI Deliverables Drafting Team (4);
- UNGIWG “Quarterlies” (2);
- UNGIWG Co-Chairs/Secretariat bi-weeklies (over 15).

Reports and various other documents prepared by the Secretariat include:

- 8th UNGIWG Plenary Meeting Report;
- UNSDI Deliverables Meeting Report;
- UNSDI Stakeholders’ Meeting Report;
- Interim UNSDI Deliverables/Framework Documents (4 versions);
- UNGIWG-8 Participants’ Survey;
- UNGIWG Members & Focal Points Survey;
- Position papers, notes for file, briefing notes, posters, etc.

Missions and outreach activities engaged in are:

- UN Group of Experts on Geographic Names, New York
- UN-SPIDER Meeting & ESRI Day, Geneva
- COPUOS Meeting, Vienna
- ESRI Users’ Conference support
- International Disaster Reduction Conference, Davos
- Free and Open Source Software for Geoinformation (FOSS4G), Cape Town (Opening Plenary Lightning Talk and UNGIWG Booth)
- Meetings with INSPIRE, GEO Secretariat, GSDI Association and US Government staff and many among UNGIWG members including WHO, WMO, ECE, FAO, ITU, CEB, UNOG and others;

The Secretariat staff engaged in ongoing maintenance of the UNGIWG Website as well as the online collaborative editing facility and document repository (www.ungiwgsec.org), the UNGIWG Listserv (members@ungiwg.org) and the Master contact list. There was also a dedicated Web site developed for UNGIWG-9.

By the time the UNGIWG chairmanship is handed over in Jan. '09, the Secretariat plans to:

- Finalize the Interim UNSDI Framework Document;
- Prepare the UNGIWG-9 Plenary Report;
- Conduct the UNGIWG-9 Participants' Survey and issue the report;
- Compile the document archive;
- Prepare the Secretariat handover notes.

7. Overview of UNGIWG-9 Open Sessions[4]

UNGIWG plenary meetings offer a forum where geospatial technology experts from the UN System, academia, private sector, NGOs, and Member State representatives are given the opportunity to meet, share best practices and present innovative and challenging projects related to geospatial information management and SDIs in a number of forms including keynote panels, presentations, lightning talks and a poster session.

7.1. Keynote panel on "SDIs vs Neogeography"

Distinguished representatives from the geospatial industry including the private sector, academia, international standards organizations and the NGO community took part in a keynote panel discussing "Spatial Data Infrastructures vs. Neo-geography" deliberating on the opportunities to achieve synergies between the two.

The keynote panel was composed of:

- Mr. Roger Longhorn (GSDI Association)
- Mr. Ed Parsons (Google)
- Mr. Sam Bacharach (OGC)
- Mr. Schuyler Erle (Entropyfree)
- Mr. Michael Gould (Universitat Jaume I) (via conference call)

Mr. Longhorn opened the discussion by asking the following questions: "Is there really 'antagonism' between neogeography and formal SDI approaches to geospatial data usage as the word 'versus' might indicate, or is integration the key to success? If latter, how do we achieve this?" He proposed the following definitions for SDI and neogeography.

Spatial Data Infrastructure (SDI) encompasses the following components:

- *Data* – the heart of the system – any data that has a location tag;
- *Metadata* - so you can find data and use it more effectively;
- *Services* (data and network services);
- *Technologies* to deliver those services;
- *Policies* - acquisition, ownership, pricing, access, sharing, dissemination, custodianship, preservation, governance;

[4] Podcasts of all open session presentations are available on the UNGIWG Web site at: www.ungiwg.org/documents

- *Agreements* - relating to policies and technologies, including standards;
- *Institutional arrangements* - including leadership, coordination, enforcing agreements, etc.;
- *Financial implications* - resource requirements, cost-benefit;
- Monitoring and reporting.

Neogeography means 'new geography'

A set of techniques and tools that fall outside the realm of traditional GIS. A Neogeographer uses a mapping API like Google Maps, talks about GPX versus KML, and geotags his photos to make maps of interest to him/her. Neogeography is about people using and creating their own maps, on their own terms, by combining elements of existing toolsets. Neogeography is about sharing location information with friends and visitors, helping shape context, and conveying understanding through knowledge of place.

Andrew Turner, Introduction to Neogeography

In order to better explore the linkages between SDIs and Neogography, Mr. Longhorn shared with the participants common views on the dichotomy between SDI and Neogeography.

	SDI	**Neogeography**
Framework data	Specific underpinning and (multiple) thematic datasets, quality standards, provenance information typical (sometimes mandated)	Special datasets only; per project basis; quality standards vary by project basis (even within project)
Metadata	Formal metadata standards (typically ISO) usually required; may be required to take account of other initiatives, e.g. e-government standards, etc.	Variable metadata provision, not necessarily to any standard (depends on the project/service); but no reason that it could not be made 'standard'.
Standards	Adoption of ISO, OGC standards is (now) typical, sometimes legally mandated (i.e. required).	Could use (some) formal standards, but typically there is no policy framework to ensure that this is the case, nor any perception or agreement from users that it is necessary.
Policy Framework(s)	Formal and (often) legally mandated; sometimes quite complex; covers whole range of issues, from data to services, technology to Intellectual Property Rights, etc.	Variable – often non-existent – and usually not legally mandated in any way.
Coordination and governance	Administrative and institutional arrangements are typical (sometimes – not always - legally mandated); links to other initiatives, e.g. e-government, often recognized	By project only, if at all; often has limited or no formal coordination with other 'neo' projects or other information initiatives
What about functionality?	▪ Access to wide range of data ▪ Sharing of data governed by	▪ Access to limited range of data ▪ Sharing typically only for the

	SDI	Neogeography
	policy framework ▪ Free access to data: not necessarily/usually depends on policy framework, government 'cost recovery' goals, ...	(limited) range of data available in a project ▪ Free use in most systems, but not always, and no policy framework to govern this framework.

Invited to present their views, the Panel Members and many UNGIWG-9 participants in the audience highlighted various aspects of the potential synergy between SDIs and neogeography under four main areas:

Integration

- Issue of SDI and neogeography is about integration not antagonism. There is a need to find a way to integrate neogeography outputs into SDIs. SDIs do not solve all problems as they are not flexible enough. There is a need for a more bottom-up, flexible, user-driven initiative. For instance, with SDI it is difficult to plug-in real-time sensors and input from cell phones. There is a need to work harder on synchronization of clients and servers when there is poor connectivity in remote areas. Periodic connection for synchronization is not enough. Better networks are needed for instant download of changes in datasets.

Standards

- Public participation is huge on many initiatives such as preservation (storage to preserve data). Standards and infrastructure are important even for informal data of neogeography;
- Neogeography will become more organized in the near future and SDI will become more service based - a rapprochement will be possible;
- Policies and non-technical framework can limit the technology (example of GIF vs. JPG on payment of royalties);
- There are standards and policies for neogeography, for instance the “kml” data format and Internet protocols. GeoRSS web feed format is, for example, not all approved, but a de facto standard. These standards are much lighter to develop and implement;
- Standardization is also happening on data, for instance “Google Earth” is an important input to the imagery itself. Neogeography recognizes the importance of focusing on data and producing free basic datasets, which can be used more interactively.

Participatory approach

- Recognition of the value of field-sourced data is not debatable anymore in both quality and accuracy. For instance in Myanmar during the response to typhoon Nergiz, GIS Corps used staff with various GIS skills to test the use of GPS cameras with good results;
- Quantity compensates for quality in the long run;
- Amount of excitement and motivation within the neogeography community presents a huge advantage for the geospatial information management professionals to tap into.

Expert, non-expert dichotomy

- There is a need to find out how much data needs to be collected by experts and to recognize there are different levels of users for different

levels of complexity;

- GIS, remote sensing technologies and others are just views of geography and democratize access to geography, which allow for updates to our understanding of our environment (physical, social, etc.) and as such need to be part of education/training and capacity building efforts;
- Traditional GIS is not only about location but about specialized information coming from other disciplines. Neogeography communities will have to participate in a mid-way alternative more adapted to the UN context (i.e. sensitive, confidential, security, etc. concerns);
- Not all spatial analyses require a high level of complexity. If neogeography is simple and SDIs are complicated, we need both. Situations can require the use of what communities have available for very specific problems, as soon as the data is available, to build a low level architecture, to use available software and then populate datasets to produce useful information very quickly;
- Voluntary Geographic Information (VGI) and crowd sourcing are already used by UN agencies and can impact on operations. However, in some cases, a formal platform to sort and screen information quality will be required to guarantee reliable decision making.

7.2. Special Session on UN Organizations Headquartered in Vienna

The venue of UNGIWG-9 presented the opportunity for UNGIWG members headquartered in Vienna to present their work at an open session. The session was chaired by Mr. David Stevens of UNOOSA. Abstracts of the presentations follow:

- *UNGIWG/UNSDI-relevant activities of UNOOSA -COPUOS and the United Nations Inter-Agency Meeting on Outer Space Activities*, Mr. Werner Balogh, United Nations Office for Outer Space Affairs (UNOOSA)

  Mr. Balogh introduced UNOOSA and summarized its activities as they relate to UNGIWG and the UNSDI initiative. He then proceeded to explain the work of the Committee on the Peaceful Uses of Outer Space (COPUOS) and the Inter-Agency Meeting on Outer Space Activities. He suggested that UNGIWG consider showcasing the UN Spatial Data Infrastructure initiative at the 52nd COPUOS Session on 3-12 June 2009 and at the 29th Inter-Agency Meeting on Outer Space Activities on 4-6 March 2009. UNOOSA will be preparing reports for both meetings and invites UNGIWG members' to provide input and to take part in the said meetings. He concluded his presentation suggesting that the UNSDI initiative be fully cognizant of the INSPIRE Directive of the European Union since the latter is a legally binding set of guidelines European members states have to abide by.

- *CTBTO & the use of Geo-Information*, Mr. John Anderson, Comprehensive Nuclear Test Ban Treaty Organization (CTBTO)

  Presenting for Mr. Asraf Abusahdy of CTBTO, Mr. Anderson began his remarks stating that the Comprehensive Nuclear Test Ban Treaty (CTBT) is a cornerstone of the international regime on the non-proliferation of nuclear weapons and an essential foundation for the pursuit of nuclear disarmament. CTBT was adopted by the United Nations General Assembly and opened for signature in New York on 24 September 1996. It has achieved strong

worldwide support with 179 signatory and 144 ratifying member states as of November 2008. The Treaty Verification Regime calls for the establishment of 321 international monitoring stations and 16 laboratories. The data collected is public domain and supports many civil and scientific applications including seismic activity monitoring and tsunami early warning. Mr. Anderson concluded his presentation stating that the ratification of CTBT by the remaining signatory states is awaited for the completion of the verification system. Successful detection of the recent North Korean nuclear test has demonstrated the effectiveness of the system.

- *Commercial Satellite Imagery as a Verification Tool at the IAEA*, Mr. Jacques Baute, International Atomic Energy Agency (IAEA)

  Mr. Baute began his presentation summarizing IAEA's work as it relates to UNGIWG's focus on space-derived information and GIS. He gave examples of IAEA's developing capacity to use very-high-resolution satellite imagery and radar sensors for structural analysis in reference to the Tuwaitha Nuclear Research Center in Iraq and other sites around the world. He added that IAEA welcomes inter-agency cooperation in developing a common platform for geospatial analysis advancing IAEA capacity to take advantage of this technology. He concluded his remarks by observing that commercial remote sensing products and services are fundamental components of a modern verification systems. However, their effective utilization requires significant resources in terms data, high-end equipment, qualified analysts and application developers.

- *The use of geo information to monitor illicit crop cultivation*, Mr. Coen Bussink, United Nations Office on Drugs and Crime (UNODC)

  Mr. Bussink introduced the activities of UNODC with emphasis on the responsibilities of his section, Survey and Statistics, which collects national and sub-national drug and crime statistics and processes geographic data through surveys of illicit crop cultivation. He gave an example of an information product from Afghanistan and added that UNODC works in 7 countries. He proceeded to say that remote sensing is a principal data source for crop identification as well as the establishment of sampling frames. He provided statistics from Afghanistan for 2008 and listed the variables used for GIS analysis. He added that UNODC produces annual reports which contain standardized maps. These reports are now accessible via a Web mapping facility. Mr. Bussink concluded his presentation exploring what his organization would consider contributing to the UNGIWG community listing land cover maps, village locations, administrative boundaries, GPS points and high resolution imagery as likely candidates.

In follow-up discussions, the importance of verifiable information for UN's global reporting requirements, the need to capitalize on the availability of increasing number of publicly available online resources, the necessity to collaborate in developing common capacities and the establishment of data sharing agreements and facilities were addressed by the participants.

7.3. "Open Data and FOSS (Free and Open Source Software)"

At UNGIWG-9 a session was dedicated to highlight how emerging Free and

Open Source Geospatial Technologies can serve UN operations at both HQ and the field levels. This session gathered geospatial information professionals from the UN, NGO and neogeography communities and the academia.

Four innovative UN case studies presented were:

- The UNHCR GeoPortal: "Mainstreaming mapping initiatives of transitional settlements for refugees and IDPs via the UNHCR WebGIS." Mr. St-Pierre briefly presented the open source software stack used for the UNHCR Web-GIS, focusing on data handling, offline editing/synchronization and the use of the GeoNetwork metadata catalogue;
- The Sudan Information Management Working Group (IMWG): "From personal initiatives to institutional commitment" was presented by Mr. Sadig Elamin of UNDP/Sudan. The Working Group is now much more structured and this consolidation is around a solid data exchange mechanism and on the concept of open data for standardized use and re-use;
- "UNJLC GIS deployment supported by Open Street Map (OSM) in Haiti" was presented by Mr. Nicolas Chavent and Mr. Mikel Maron. The model of the UNSDI-T was used to showcase one open data approach for a collective and validated data flow process.
- Ms. Sandra Sudhoff and Mr. Yann Rebois of CartONG, building on the example of UNJLC, proposed that the GeoNG NGO initiative take on the responsibility of using the UNHCR Web-GIS platform to maintain a refugee camp maps collective.

The six presenters of this forum emphasized that existing initiatives could be replicated as partnership models highlighting the benefits of an SDI approach in data collection, analysis and dissemination.

Ms. Daniele Nascimento, researcher at Osaka City University, Japan[5], articulated the trends and forecasts of free and open source geospatial technologies. She highlighted the characteristics of the changing trends of Web 2.0 that allowed initiatives such as the UNHCR GeoPortal, Sudan IMWG or UNJLC UNSDI-T deployment and finally presented the challenges for the future, identifying areas in which the GIS community will need to adapt.

Ms. Nascimento presented Web 2.0 as a platform for building applications that harness collective intelligence and enhance creative information sharing & collaboration among users. As regards to Web 2.0 and maps, she mentioned the following points:

- Web 2.0 helped the creation and publishing of online maps, making the process easier and more accessible to average users;
- Web Mapping is a growing field that goes beyond collecting and analyzing GIS data; and
- The importance of combining free and open geographic data, GPS, and data management tools into one resource for mapping information.

Mr. St-Pierre underlined that by using collaborative facilities empowered by Web 2.0 technologies it is possible to bring geospatial information management systems to field practitioners and gain the information provided from the field to sharing platform at other levels thus extending collaboration even further.

[5] For further information on Ms. Daniele Nascimento research activities, see: http://gisws.media.osaka-cu.ac.jp/gistrends/

7.4. UNSDI Stakeholders' Statements and Lightning Talks

The UNGIWG Co-chairs invited UNSDI stakeholders to introduce themselves and to highlight potential fields of partnership recalling there are many ways to collaborate such as:

- Partnership through UNSDI deliverables rather than UNGIWG (associate with project teams);
- The UNSDI Technical Advisory Group needs non-UN expertise;
- Partners can be a window to country level practices.

The following summarizes the statements made by various stakeholders:

- *The Hungarian SDI* thanked the Co-chairs for the invitation and indicated its capability and willingness to participate in the UNSDI as a group representing the government, the private sector, research and academia communities and underlined that they could become a good partner for capacity building, awareness raising and testing of applications;
- *The GEO Secretariat* presented GEO activities, highlighted opportunities for synergies and invited the UNGIWG Secretariat to the Geo-V Plenary Session in November 2008, in Bucharest, Romania;
- *The Open Street Map (OSM) Foundation* board expressed its keen interest in UNGIWG and UNSDI as wholly complementary to OSM;
- *The Open Source Geospatial (OSGEO) Foundation* applauded the efforts by the Co-chairs and UNGIWG to bring FOSS into the UNSDI. OSGEO expressed its keen interest to cooperate and support future endeavors;
- *GeoNG,* as a forum on geospatial information management for Humanitarian Services for/from NGOs, is looking forward to cooperation;
- *The CODATA Working Group* expressed its interest for a road dataset open and connected to UNSDI-T, and expressed its interest to further exploit synergies with UNGIWG;
- *ESRI* mentioned its interest to be part of the TAG; and
- *The International Cartographic Association* presented its activities and invited UNGIWG Members to the June 19-22, 2009 Conference "Cartography and Geoinformatics for Early Warning and Emergency Management: Towards Better Solutions" to be held in Prague, Czech Republic.

The UNGIWG-9 Lightning Talks session was organized to give the opportunity to UNGIWG associates to present their activities. The Table 1 below gives a quick overview of their domains of activity as regards to specific UNSDI components.

8. UNSDI implementation: Endorsement of the proposed way forward

During Wednesday and Friday's afternoon sessions, UNGIWG Members debated relevant aspects of the UNSDI implementation process: the Interim UNSDI Framework document, the Ninth UNGIWG Plenary Resolution and the Terms of Reference of UNSDI bodies such as the Steering Committee, the Technical Advisory Group (TAG) and the Partners Groups.

Through various phases of deliberation and consultation, UNGIWG Members:

- Identified actions with clear responsibilities and timelines to further consolidate the Interim UNSDI Framework document to address concerns raised;

Organization and representative	Architecture reference model	Data	Data modeling	Tools and platforms	Standards	Capacity building	Administrative services
East View Cartographic, Paul Verhaere		√					
International Cartographic Association, Milan Konecny		√			√	√	
CODATA, Nicolas Chavent		√	√			√	
Mapufacture, Mikel Maron		√		√		√	
ENSAPLV, Algis Kucinskas						√	
RapidEye, Frank Claassen		√					
ESRI, Carmelle Terborgh	√	√	√	√		√	
OpenStreetMap (OSM), Mikel Maron		√		√		√	
Haiti - GIS deployment supported by UNSDI-T, Christophe Bois	√	√	√			√	
OSGeo, Schuyler Earl	√	√	√	√		√	
iMMAP, Charles Conley		√		√			
ITHACA, Andrea Ajmar	√		√	√		√	
UNOPS, Katrin Lichtenberg							√

Table 1. Lightning Talk presenters and their UNSDI focus areas.

- Adopted the Ninth UNGIWG Plenary Resolution;
- Identified drafting teams to further develop the Terms of Reference for the UNSDI Steering Committee, the Technical Advisory Group and the Partners Group.

8.1. Re-introduction of the Interim UNSDI Framework and the endorsement of the Ninth UNGIWG Plenary Resolution

In order to prepare the UNGIWG Members' deliberations and to brief UNSDI partners and stakeholders, the UNGIWG Co-chairs and Secretariat re-introduced in both open and closed session the overall UNSDI Institutional Framework and its constituting bodies as defined and endorsed during the Eighth UNGIWG Plenary meeting in Bangkok. The diagram depicting the Institutional Framework is available in Annex IX.

The UNGIWG Co-chairs outlined the UNSDI implementation strategy along the following lines:

1. To anchor UNSDI within the larger UN Reform process through a time-bound project approach with concrete deliverables that contribute to the overall objective of UN Reform: "Delivering as One";

2. To anchor UNSDI in the UN Secretariat's newly endorsed ICT Master Plan as a distinct Knowledge and Information Management activity and to engage the Chief Information Technology Officer in the UNSDI process as a member of the Steering Committee;
3. To solicit long-term political endorsement by UN Member States through a wider institutional and political recognition to be sought by UN main bodies (GA, ECOSOC, etc.).

In this context, the Interim UNSDI Framework document was presented as an outline of the required components or "deliverables" necessary to implement a UNSDI in 2009-10, the first phase of UNSDI implementation.

8.2. Voting procedure

In order to ensure a transparent voting procedure and a decision making process based on majority rule, prior to UNGIWG-9, the Secretariat conducted a survey to confirm UNGIWG membership and to update the list of UNGIWG focal points at each member organization. Thirty (30) out of thirty-three (33) UN organizations surveyed identified UNGIWG focal points. Seventeen UNGIWG members participated and voted at UNGIWG-9 via their focal points of their designees. The list of UNGIWG member organizations, names of their focal points and each organization's vote on decision taken on 7 Nov. 2008 are provided in Annex VII.

8.3. Interim UNSDI Framework amendments and steps forward

The synthesis presented below reflects the recognition by UNGIWG Members, UNGIWG Co-chairs and Secretariat that an agreement on principles has been reached, but that issues of concern still need to be addressed and the final endorsement relies on further consolidations of the Interim UNSDI Framework.

The Table 2 below is the consolidation of comments, amendments and proposed actions agreed to by UNGIWG-9 participants during sessions 6 and 18 at UNGIWG-9.

Point & Action	Amendment and suggested action	Expressed & to be followed up by
1	Need to have a set of deliverables that will provide a real UNSDI: • Establish a Project Team; • Assess needs and requirements of UN Agencies (at agency level); • Assess the gaps in existing technologies and solutions; • Identify the best adapted solutions to fill gaps; • Identify the trends in technological and best practices; • Assess resources available based on previous assessments; • Prioritize and identify key partnerships to fill the gaps.	WFP, UNDFS/CS
Action 1.1	Need to set establishment of Project Team as first priority and add to their ToR: needs assessment, gap analysis and identification of most appropriate solutions/data set requirements (including from existing assessments of UNGIWG or others) for core deliverables (interoperable services, core data sets), before implementing those secondary core deliverables. A thorough mapping and consultative process for defining needs related to the selection and definition of thematic deliverables is required to be undertaken by the Project Team (with deliverable	Secretariat and Co-chairs request WFP, WHO, UNDFS/CS and UNDP to recommend language

Point & Action	Amendment and suggested action	Expressed & to be followed up by
	leads and TAG, among others).	
2	Need to clarify the processes to be put in place for the implementation of the deliverables ▪ Who will access the outputs? ▪ How will sensitive data be handled?	CTBTO, UNDSS
Action 2.1	The UNGIWG Co-chairs reminded the participants that only data useful to others or authoritative data are to be shared in SDIs and that the purpose is not to share everything. The UNSDI initiative could benefit from many use cases already documented by the GSDI Association. To determine the best place to insert this, ask for language from commenting agencies.	Above focal points
3	Need to add piloting at country level as an intermediate step of deliverables (e.g. in cluster system context).	UNDP UNEP UNDFS/CS
Action 3.1	To be referred to in the use cases annex and to also consider where use cases can be used elsewhere in the document.	
4	To clarify deliverables in terms of mechanisms for users to interact with activities and benefit from synergies.	UNITAR, UNSDI-T
Action 4.1	To be clarified, perhaps more discussion on how users should be represented in the document (possible requirement to develop user personas in an annex which may be a future role of the project team).	Secretariat to clarify
5	Need to provide for flexibility in leadership of deliverables as it can come from various sources depending on context and capabilities (e.g. cluster system).	UNDP
Action 5.1	Good suggestion, especially given field context and access to data at a national level. To find appropriate place to insert language.	
6	Need to indicate an understanding of the resource scarcity and have realistic objectives.	UNDSS/WFP/WHO
Action 6.1	To remove cost estimates from the deliverables. To insert language in appropriate place; To refer to the UNSDI Implementation Strategy Document;	
7	To avoid an over regulating approach.	UNDSS
Action 7.1	To insert more language in appropriate place to reflect flexibility so as not to alienate innovative approaches, or quickly evolving technologies (i.e. “Neo-geographers” - use term with care in UNGIWG documents). Inclusivity and managing innovation — may in future decide to add as a principle (among others).	
8	The document must highlight outcomes, benefits and impacts for Donors, Member States and other stakeholders.	WHO
Action 8.1	To incorporate suggested language and appropriate entry points, also refers to users and clients (refer to points 3 and 4 above).	WHO, UNEP
9	The Technical Advisory Group (TAG) membership needs to be clarified and possibly to include external partners.	WHO
Action 9.1	To further develop the draft ToRs of UNSDI Institutional architecture bodies: Steering Committee, TAG, Partner Advisory Group.	Ref to paragraph

Point & Action	Amendment and suggested action	Expressed & to be followed up by
10	Need to provide targeted information to donors and allow them to monitor the impacts.	UNICEF
Action 10.1	Need to clarify. Are we talking about project documents with milestones and indicators per donor's usual reporting expectations?	Ask UNICEF and the membership
11	Institutional framework (Figure 1 and associated text) is overly complex; needs to be simplified and broken down in components.	UNEP
Action 11.1	To improve the second version of the UNSDI Institutional architecture diagram.	UNEP UNHCR or other info-graphics experts in UNGIWG
12	Need to better reflect development of synergies with other on-going initiatives (e.g. GeoPortal).	Co-chairs
Action 12.1	To include statements at Stakeholders Conference June 08 and UNGIWG-9.	
13	Need to include the eight use cases developed prior to the ICT Network meeting to the Interim UNSDI Framework Document.	WHO
Action 13.1	To incorporate the use cases mentioned above in the document.	
14	Need to plan a communication strategy.	Co-chairs
Action 14.1	This is a role of the Secretariat and Project Team. Ensure that this requirement is represented on the ToR. Need to consider as well some short-term one pagers to communicate results of this meeting to senior managers of UNGIWG Members, among other target audiences.	
15	Need to review wording referring to implementers of project.	
Action 15.1	Framework Document (v1.4), section 1.4, page 8; and seek expert for language.	Secretariat

Table 2. List of comments and agreed revisions to the Interim UNSDI Framework

8.4. Ninth UNGIWG Plenary Resolution[6]

In order to allow the UNGIWG Members to make a collective statement on the UNSDI initiative, the Interim UNSDI Framework Document and their expectations of each other and and their partners, one important UNGIWG-9 agenda item was the adoption of the "Ninth UNGIWG Plenary Resolution".

The initial draft of the Ninth UNGIWG Plenary Resolution was extensively discussed by UNGIWG-9 Participants. Concerns were raised on the need to first develop a consensus on the Interim Framework Document's content and shape. The Resolution thus calls for the inclusion of the last set of changes (presented in Section 8.3 above) while agreeing that said document is the basis for the first phases of the establishment of the UNSDI. In addition to the above concerns, the UNGIWG Co-chairs addressed minor issues summarized below:

- Related to the authority to make decisions on behalf of their respective UN agency, the Co-chairs clarified that UNGIWG Plenary meetings are

[6] Please refer to the full version of the Ninth UNGIWG Plenary Resolution on page 5 of this report.

constituted by experts recognized by their respective UN agency and that as such can make recommendations and adopt a meeting resolution such as the "Ninth UNGIWG Plenary Resolution";
- In response to the suggestion that the Resolution contain an explicit disclaimer stating that its endorsement does not imply any financial commitment by the endorsees, UNGIWG Co-chairs clarified that there was no need for such a disclaimer as long as the nature, purpose and origin of such a resolution are clearly stated and incorporated in the text of the "Ninth UNGIWG Plenary Resolution";
- So as not to confuse the "Ninth UNGIWG Plenary Resolution" with the UNSDI Memorandum of Understanding (MoU), UNGIWG Co-chairs stated that the UNSDI MoU will be signed by at least one UN agency at senior management level to authorize the establishment of the UNSDI Project by the entity to administer the Project. In this context the potential role of UNOPS as the administrator of the UNSDI Project was also clarified.

The UNGIWG Members, having recognized that a consensus was found on the concerns mentioned above and that the necessary amendment was incorporated in the draft resolution, unanimously adopted the "Ninth UNGIWG Plenary Resolution".

8.5. Discussion on UNGIWG Task Group ToRs in Reference to the UNSDI Project

The UNGIWG Co-chairs, Secretariat and Members recognized that in the context of the UNSDI Project implementation, the UNGIWG Task Groups' roles and responsibilities should be reviewed in order to ensure they are complementary with other UNSDI bodies and mechanisms like the Technical Advisory Group and the specifics of the UNSDI deliverables.

During this deliberation, UNGIWG Members commented and put forward various recommendations, requirements and alternative options to UNGIWG Task Groups. They were, among others:
- The need to recognize the limited or irregular participation in UNGIWG Task Groups;
- UNGIWG Task Groups need to deliver clear results through time-bound activities;
- UNGIWG Task Groups could be more focused, *inter alia*, on awareness raising;
- The need to recognize the critical advisory technical role of UNGIWG Task Groups in providing and identifying clear priorities to the UNSDI Steering Committee;
- UNGIWG could remain a UN-specific forum to share best practices and to raise awareness; and
- The need to consider institutional endorsement when an individual contributes to the UNGIWG Task Groups or the UNSDI Technical Advisory Group.

Beyond these initial remarks and ideas, a shared view to replace UNGIWG Task Groups with Special Interest Groups arose. This point of view recognizes that UNGIWG is a central point for geospatial information in the UN, UNGIWG Task Groups moving towards the dictates of the UNSDI Project but that Special Interest Groups could continue to serve a purpose as a community of practices

outside the UNSDI Project proper.

A drafting team constituted by Mr. David Stevens (UNOOSA), Mr. Kyoung-Soo Eom (UNDFS/CS) and Mr. Steeve Ebener (WHO) proposed to draft Terms of Reference for the Special Interest Group (SIG) and further develop the concept of the UNSDI Technical Advisory Group (TAG) within four weeks after UNGIWG-9.

UNGIWG Members agreed that UNGIWG Task Groups will continue until the ToRs mentioned above are defined and endorsed.

8.6. Deliberations on UNSDI Project Bodies

8.6.1. Steering Committee

During the Eighth UNGIWG Plenary meeting in Bangkok, UNGIWG Members adopted a UNSDI Institutional Framework that foresaw the establishment of the UNSDI Steering Committee. Mr. Ülgen, based on the Institutional Framework defined and approved the year before in Bangkok, made a proposal for the composition of the UNSDI Steering Committee along with a decision-making process to fill the positions identified. It was proposed that the Steering Committee is composed of the following members: At least one outgoing and one incoming UNGIWG Co-chair, two members representing UN Secretariat departments and three representatives from UN agencies totaling 7 seats.

UNGIWG Members present at UNGIWG-9, while agreeing in general with the proposal to have a stratified Steering Committee composition, recognized the following priorities and requirements:

- There needs to be a clear Steering Committee (SC) ToR with special care given to flexibility of the SC composition before SC members are nominated and a vote is taken on their election to have a seat on the SC;
- An effective communication plan must be executed to solicit nominations for SC membership, followed by preliminary and later bilateral consultations.

Incoming and outgoing UNGIWG Co-chairs proposed to review the draft UNSDI Steering Committee Terms of Reference within four weeks with the support of the UNGIWG Secretariat and any other interested UNGIWG Members. Ms. Katrin Lichtenberg proposed to share material she has access to which UNOPS considers ToR best practices.

Ms. Haggarty suggested to establish the UNSDI Steering Committee by 1 January 2009.

8.6.2. Partners' Group

Recognizing the key role UNSDI Partners will play as UNSDI implementing partners, donors or technical advisors, it was recommended that an attempt be made to define the terms under which partners will participation in UNSDI. These terms should cover the need to:

- Consider different levels of liaison;
- Clarify donors' roles within the UNSDI Institutional Framework as donors, as UNSDI users, and as implementation strategy advisers; and
- Define an effective decision making process.

The participants agreed that the above requirements are not exhaustive and will require further analysis.

9. Nomination and Election of Chairs for 2009-2010

On Wednesday afternoon, the first day of UNGIWG-9, Ms. Haggarty invited UNGIWG Members to nominate agencies as UNGWG Co-chairs, reminding the Participants of the custom of having a two-headed chairmanship.

Mr. Stevens (UNOOSA), put forward his agency's candidacy and informed the plenary that the UN Economic Commission for Africa (UNECA) expressed their availability to co-chair UNGIWG for the period 2009-2010.

Mr. Stevens reported that the current context of UNOOSA's work is favorable to the goals of UNGIWG. There are more resources in various relevant initiatives like UN-SPIDER, the International Space Charter, UNOOSA's mandate on space-based solutions and many other activities to contribute to the UNSDI (GMES, GNSS and others); the recent appointment of Mr. Lorant Czaran as Head of UN-SPIDER Bonn Office, who has always been actively involved with UNGIWG activities since its inception. Moreover, the partnership with UNECA as the other UNGIWG Co-chair can lead to positive outcomes considering the existing relationships and experiences UNECA has with SDIs at the national level.

In terms of vision and challenges, UNOOSA, being in agreement with the implementation process defined in the Interim UNSDI Framework document, declared its intention to move the UNSDI Project forward; to make efforts at establishing a permanent structure for the UNGIWG Secretariat; to further develop the option of UNGIWG Special Interest Groups and to work closer with the UN Cartographic Section to benefit from its leadership.

The UNGIWG Co-chairs welcomed the joint candidacy of UNOOSA and UNECA.

Mr. Wilson of UNEP-Nairobi welcomed the proposal of UNOOSA and UNECA and informed UNGIWG Members that the candidacy of UNEP as UNGIWG Co-chair was considered at senior management level but that on-going restructuring of the environmental programme would have not provided a favorable context. However, UNEP repeats its commitment to UNGIWG and UNSDI and will continue to work closely on the necessary UNSDI mechanisms and is looking forward to seeing the outcomes from UNOOSA and UNECA's collaboration.

On Friday's afternoon closed sessions, the UNGIWG Members elected UNOOSA and UNECA as the next UNGIWG Co-chairs for the period 2009-2010 (see Annex VII for election results).

10. Venue for UNGIWG-10 and closure of UNGIWG-9

UNOOSA, as one of the next UNGIWG Co-chairs for 2009-10, proposed to host the next UNGIWG Plenary in Bonn, Germany considering the facilities offered by this venue. UNGIWG Members and Co-chairs welcomed and accepted the offer.

The Co-chairs thanked UNGIWG-9 participants for their contributions and expressed their appreciation to UNOOSA, CTBTO and the UNGIWG Secretariat staff for organizing UNGIWG-9.

ANNEXES

Annex I. Agenda

TUESDAY, 4 NOVEMBER 2008 [Pre-UNGIWG-9 Workshop and Meeting]

09.30	**"Evaluating SDI Best Practices"**, GSDI Association (Only 25 seats available)	Roger Longhorn, Co-chair, GSDI Association Legal & Socioeconomic Working Group
12.30	**Luncheon**	
14.00	**G**eospatial **I**nformation **S**upport **T**eam (**GIST) Annual Meeting**	GIST Secretariat (OCHA)

WEDNESDAY, 5 NOVEMBER 2008 [CLOSED Day – UNGIWG Members Only]

08.00	**UNGIWG Members Registration** (Vienna International Center, Vienna, Austria)	Local Organizing Committee
09.00	**Session 1: UNGIWG Co-chairs' Welcome to Task Groups (TG) and UNGIWG Members and Agenda Review**	UNGIWG Co-chairs & Secretariat
09.30	**Session 2: Short overview of UNGIWG activities since UNGIWG-8 in Bangkok, UNGIWG-9 objectives and expectations**	UNGIWG Co-chairs & Secretariat
10.00	**Session 3: Task Group Breakout**	Task Groups
10.45	**Break**	
11.00	**Session 3: Task Group Breakout (Continued)**	Task Groups
11.30	**Session 4: Task Group Plenary**	All
12.30	**Luncheon**	
13.30	**Session 5: Re-introduction of the Interim UNSDI Framework**	UNGIWG Co-chairs & Secretariat
15.00	**Break**	
15.30	**Session 6: Deliberations on the Interim UNSDI Framework**	All
17.00	**Session 7: Nomination of UNGIWG Chairs and Summary of Day 1**	Participants & Co-chairs
17.30	**End of Day 1**	

THURSDAY, 6 NOVEMBER 2008 [OPEN Day]

08.00	**UNGIWG-9 Registration** (Vienna International Center, Vienna, Austria)	Local Assistance
09.00	**The Hosts' Opening Statement**	Ms. Mazlan Othman Director, UNOOSA
09.15	**Session 8: Welcome and Adoption of the Meeting Agenda**	Co-chairs
09.30	**Session 9: Keynote Panel on "SDI vs. Neogeography"** ● Roger Longhorn (GSDI Association) ● Ed Parsons (Google) ● Sam Bacharach (OGC) ● Schuyler Erle (Entropyfree) ● Michael Gould (Universitat Jaume I)	Keynote Panel
11.00	**Break**	
11.30	**Session 10: Secretariat and Task Group Reports**	Task Group Managers & Secretariat
12.30	**Luncheon**	
13.30	**Session 11: Report on the Status of the UNSDI Initiative**	Co-chairs
14.30	**Session 12: "Open Data and FOSS (Free and Open Source Software)"** ● "The UNHCR Web GIS Platform" (UNHCR/Camptocamp) ● “The Sudan Information Management Working Group “ (UNDP) ● "FOSS and the future of Geospatial Information Technologies" (University of Osaka) ● "Open Data on FOSS Platform: the UNSDI-T model for refugee/IDP sites mapping" (UNHCR/CartOng) ● Q & A and Discussion	
16.00	**Break**	
16.30	**Session 13: Summary of the day, UNGIWG-9 Social logistics and announcements**	Co-chairs, LOC & Secretariat
17.00	**End of Day 2**	
20.00	**UNGIWG-9 Social** (Venue to be announced)	All

FRIDAY, 7 NOVEMBER 2008 [Morning OPEN Session]

08.30	**Session 14: Welcome and review of the day's agenda**	Co-chairs, Secretariat, & LOC
08.45	**Session 15: Case Studies from UN in Vienna: Geo-information for Security and Safety** ● "UNGIWG/UNSDI-relevant activities of UNOOSA, COPUOS and the UN-Inter-Agency Meeting on Outer Space Activities" Werner Balogh, UNOOSA ● "CTBTO & the use of Geo-Information" John Anderson, CTBTO ● "Vision 2020 of the IAEA's safeguards systems", Jacques Baute, IAEA ● "The use of geographic data to estimate illicit crop production" Coen Bussink, UNODC ● Q & A and Discussion	UN Organizations in Vienna
10.15	**Break**	
10.45	**Session 16: Lightning Talks (5-10 min. presentations by partners)** ● EastView ● ICA ● CODATA ● Mapufacture ● ENSAPLV ● RapidEye ● ESRI ● OpenStreetMap ● Haiti - GIS deployment supported by UNSDI-T ● OSGeo ● iMMAP ● ITHACA ● UNOPS	UN & Partner Organizations
12.15	**Session 17: Co-chairs' closing remarks and Group Photo**	All
12.30	**Luncheon**	

FRIDAY, 7 NOVEMBER 2008 [Afternoon CLOSED Session: UNGIWG Members Only]

13.30	**Session 18: Provisional amendments to UNSDI Framework and Resolution**	Co-chairs, Secretariat and Participants
14.45	**Break**	
15.00	**Session 19: Nominations for UNSDI bodies and Election of UNGIWG Co-chairs**	Incoming & Outgoing Co-chairs
16.00	**Session 20: UNGIWG-10 and Closing Session**	Co-chairs, Secretariat and Participants
16.30	**End of Day 3 - UNGIWG-9 Closes**	

Annex II. List of participants

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Annex III. UNGIWG Task Group 2008 Annual Reports

A.III.1 Task Group 1

UNGIWG Core Geo-Database Task Group
Report to the 9th UNGIWG plenary meeting

1. Introduction

This document reports on the progresses made by TG1 on the general actions agreed for the 2008 workplan at the most recent UNGIWG plenary in Bangkok, 2007. Below each objective follows a summary of the status as of October 2008.

In order to comply with the revision of the Terms of Reference (TOR) for the Task Group, the report then summaries the activities conducted over the past year by the UNGIWG members when it comes to the 7 themes defined by UNGIWG during the UNSDI deliverable workshop which took place in Rome earlier this year (5-6 February).

Objective of the task group: To identify and prepare a global framework core data layers for the UN systems

2. Task Group 1 activity report

2.1 General actions

2.1.1 Further develop Task Group TORs and integrate other elements in line with UNSDI development;

This development is directly linked to the revision of the draft UNSDI Framework Document Output 2.1 to better address the issue of data standards and data sharing practices governed by well-articulated data policies and capacity building components.

It is therefore suggested to wait this revision to be finalized to see which impact this might have on the TG1 TOR.

2.1.2 Further develop criteria for selection of Core Geodatabase candidates building on the already existing material (FAO data standards, publications)

The TOR for TG1 is currently being revised to:
- include an annex that would be containing a first set of criteria to be discussed during the coming UNGIWG meeting.
- procedures on the TG1 governing body
- criteria to select and approve candidate layers including validation and acceptance
- a list of candidate Core Geodatabase layers. The list shall serve as the first pre-selection of the layers.
- publication of core geodatabase layers
- reporting and monitoring of activities

2.2 Activities on candidate geo-database layers

2.2.1 International and Administrative boundaries

2.2.1.1 International Boundaries

2.2.1.1.1 Start the development of a boundary evidence datasets (from various sources of information including treaty Series from UN, International Court of Justice statements, International boundary studies encyclopedia, SALB);

a. Methodology of the project
- Data model and work flows defined
- Key partnerships and information sources have been contacted to collaborate on the project (UN Treaty Section, UN Map Library, SALB WHO…)

b. Workload
- Research on Treaty maps at UN Treaty Section, UN League Of Nations, ICJ, National archives…
- Attribution of boundary segments in the database (source, status, date...)

- More treaty maps to be processed (digitization, georeferencing, extraction and interpretation)

c. Resources on the project
- 1 UN Cartographic Section staff (at 40%)
- 1 APW Consultant (funded by SALB WHO, 9 months)
- 3 interns (for a total of 1personn for 9 months)

d. Status
- Schema and GIS tools developed
- 700 Treaty maps georeferenced worldwide
- 300 supporting evidence maps georeferenced worldwide
- 7,000 treaty coordinates worldwide
- 70 international boundary worldwide

2.2.1.1.2 Generalization of these evidences to 1 million scale in order to implement and integrate in the international boundary layer.

a. Generalization mechanisms for the international boundary evidence database to 1million dataset will be finalized along with the decisions on the adoption of a consistent global coastline dataset.

b. Distribution of geodatabase to the UN community will remain on UNGIWG website and will be updated yearly.

2.2.1.1.3 Integration of the references of correction made on each boundary segment in its related attribute (source, date, status, signing countries…);

This objective has been identified to be incorporated fully to objective 2.2.1.1.1 (under Methodology of the project 2.2.1.1.1.a.)

2.2.1.2 SALB

2.2.1.2.1 Continue on the same line than the one followed this past year trying to have the SALB data completed as soon as possible;

The priorities during this past year of activities have been to:
- work on institutionalizing the project,
- make an important step forward with the improvement of the international boundary and coastline layer,
- start the development of the new SALB portal to facilitate the sharing of the information/data and the management of the project,
- strengthen the capacity of some of the regional nodes.

Discussions have been taking place with the UN Statistic Division and more recently the UN Cartographic Section regarding the possible transfer of the SALB project under the UN Secretariat umbrella. These discussions will continue in the months to come hoping for a decision to be taken during 2009. A new proposal has been submitted to USAID to extend the funding of the project.

Founds to cover the salary of a GIS technician over a period of 9 months have been provided to the UN Cartographic Section to progress on the integration of the UN treaties into the UN international boundaries template (see section 2).

The development of the new SALB portal/online project management system has started. The new version is expected to be online within 6 months.

The capacities of the Asian node has been strengthen through the provision of one year of salary to the Asian Institute of Technology (AIT) which will continue to play the role of the technical component of this node.

Apart from that, since the UNGIWG meeting in Bangkok, the following progresses have been made:
- contact information update for 65 countries,
- new January 2000 table for one country: Palau,
- update of the historic changes tables for 35 countries,
- representativity of validated map extended for 29 countries (to be implemented soon)
- new validated map for one country: Democratic Republic of Congo (to be posted soon)

2.2.1.4 Global Administrative Unit Layers (GAUL)

GAUL 2008 has been released and distributed through GeoNetwork The 2008 version includes updates

on the following countries: Cambodia, Central African Republic, Chad, Guatemala, Jordan, Kazakhstan, Malawi, Nepal, Nigeria, Philippines, Senegal, Togo, Venezuela, Zambia, Zimbabwe, Ilemi triangle. The GAUL team is currently working on GAUL 2009. The activities foreseen for the next period include:

- the integration of data received from various sources,
- increasing the number of countries with administrative units below the second level (e.g. communes)
- exploring options to replace the coastline with a more accurate data source

2.2.2 Human Health: boundaries and facilities

2.2.3 Human Population: centres and distribution

2.2.3.1 Human Population

UN Populated Place and Agglomeration (Africa): The database includes 54 African countries, we have collected data for cities over 100,000 residents for 38 countries; for the other 16 countries we have chosen to collect data for cities over 50,000 residents. We have collected data on the following variables:

- Country code (according to GAUL 2006/2007)
- ISO3 code
- Country name (according to GAUL 2006/2007)
- City code (ISO3 code + progressive number by alphabetical order)
- City name
- Latitude and longitude
- Calculated population for the year 2008
- Last Census available
- Last Census year
- Alternative city name (alternate spellings or anglicized or local names according GNS)

The data have been collected from the following sources (click here for the websites):

- UN Statistics Division, that provides population for cities and agglomerations of over 100,000 and capital cities
- UN Department of Economic and Social Affairs, Population Division, that provides population figures of largest agglomeration in each country
- National Geospatial-Intelligence Agency (NGA) with GEOnet Names Server (GNS), that provides the location (latitude and longitude) and the alternative names of the cities
- World Gazetteer, that provides population figures for 23 countries and 2008 population calculation for all the cities of all the countries.
- City Population, that provides population figures for 30 countries.

Update of the rural population database ***:***A database of the UN figure of total, urban, and rural population for the year 2005 is compiled. The source of the data is the UN Department of Economic and Social Affairs, Population Division and the database includes all countries of the world. The Global Administrative Unit Layer (GAUL) is the reference GIS database for the boundaries, so in the database above the adm0 code (unique numeric code for each country) was added, and any discrepancies in the country names was reconciled according to the official name of the country in GAUL 2005.

Adjusted LandScan Population 2005***:*** The latest version of LandScan (2005) was requested to ORNL and downloaded. From an evaluation of this database an adjustment was required to reconcile it to the GAUL coastline and UN population figures at country level. The process is completed and the database is available.

Compatible Nighttime Light of the World: The latest version of the stable lights database (2003), which contains the lights from cities, towns, and other sites with persistent lighting, was downloaded from the National Geophysical Data Center (NOAA) website. The data were analysed and an evaluation of consistency with the GAUL was carried out. The process is completed and the database is available. It should be noted that the extent of database is 65 degree North and South.

2.2.4 Infrastructure: roads, railways, airports, harbors and navigation

2.2.4.1 Roads / Accessibility

Database of accessibility (Africa): Evaluated road database. This item is still under investigation. The source available are:

1. VMap0 (all the countries of Africa are included, but there are not attributes that allow to evaluate the status of the roads);
2. VMap1 (only Afghanistan is available and it was used to test the database even if not one African country)
3. UNJLC developed a methodology for the inventory of the data, with specific information on the classification of the roads, status, and eventual seasonality. Test in South Sudan for evaluating if

the methodology is exhaustive: location and slope identified by GPS.

4. Road-for-Africa is a new potential product containing complete information on the roads, rivers, boundaries for African countries. Under evaluation of the United Nation Geospatial Information Working Group (UNGIWG) for acquiring the license to use the database and eventually evaluate the criteria for the validation. Mozambique and partially Malawi is the test dataset received for evaluation.

2.2.5 Bathymetry, Topography and Digital Elevation Model

2.2.5.1 Coastlines

Various UN agencies (FAO,WHO, UNCS) have already started preliminary activities for the compilation of the coastline. Data sources are in the process of being reviewed and data available for individual countries hare being collected

FAO has started including some of the coastline data into the new release of GAUL (GAUL 2009); moreover the new global mangrove atlas is currently being finalized. This product is expected to contribute to the delivery of the improved coastline layer.

In this respect, WHO has conducted a preliminary analysis on 4 different data sources (reports can be requested to SALB@un.org) and a number of consultations were held with potential partners as described below:

- NGA confirmed that they were not developing any new coastline data set for the moment but MDA Federal Inc. is going to provide us with the timeline planed for the finalization of the 1:100'000 scale Global shoreline dataset they are preparing for NGA.
- The discussion with Google indicated that they were not developing any data set but were using the one from Europa Technology (Global insight database).
- A meeting with Europa Technologies therefore took place on June 2008, focused on identification of potential areas of collaboration for the creation of the new 1:1'000'000 scale coastline dataset to be integrated in the UN international boundary template. The outcomes of this discussion have been that:
    - there could be a good opportunity for collaboration between Europa Technologies and the UN regarding the creation of a 1:1'000'000 scale coastline layer by generalizing the 1:100'000 scale product they are currently developing. This subject should therefore be further discussed especially as their product will be used in Google Earth and probably in Virtual Earth as well.
    - in the meantime, it would be of benefit to the UN if it would be possible to have access to the improvements Europa Technologies have made in some areas of the world (i.e. Maldives) compare to the original DCW which is currently used in the UN international border template
    - Europa Technologies is also ready to priorities its work based on the needs that the UN could have in terms of improvements of the current DCW.
- the analysis conducted by the UN Cartographic Section confirmed the results previously obtained by SALB regarding the 1:250'000 NOAA and 1:100'000 NGA Global Shoreline datasets. Using 56 points of observation evenly distributed over the globe, the mean horizontal error with NGA dataset compare to the Landsat imagery is +- 40 m (max error: 164 m). For NOAA dataset the mean horizontal error reach +- 270 m (max error: 1500 meters).

2.2.5.2 DEM

Digital Elevation Model at 3arc-second: Complete

Digital Elevation Model at 30arc-second: The product is completed

Slope database at 30 arc-second: The product is completed by aggregating SRTM images (300mt) with the criteria of median.

2.2.6 Hydrology: drainage, water bodies, watersheds

Continue the development of standard encoded global and continental hydrologic spatial databases:
The hydrologic databases consist of spatial layers with the major river basins of the world including their sub basins, rivers, and open water bodies. The river basins and rivers are derived from, and compatible to the HydroSHEDS database developed by the World Wildlife Fund from the high-resolution elevation data obtained during a Space Shuttle flight for NASA's Shuttle Radar Topography Mission (SRTM). The items linked to the spatial database consist of names of rivers, river basins and their sub-basins, and a coding scheme indicating the direction of flow and flow hierarchy. First versions of continental databases are almost completed for Latin America and South East Asia. Work is in progress for the continent of Africa.

2.2.7 Land Cover, Land Use

2.2.7.1 GLOBCOVER

The GlobCover Land Cover product v2.1 released to the public in late September 2008 is the highest resolution (300 meters) Global Land Cover product ever produced. The GlobCover Land Cover product is based on ENVISAT MERIS data at full resolution from January 2005 to June 2006. The GlobCover Land Cover product is labelled according to the Land Cover Classification System (LCCS). An international network of partners worked with ESA on the two-year GLOBCOVER project. Participants included the United Nations Environment Programme (UNEP), the Food and Agriculture Organisation (FAO), the European Commission's Joint Research Centre (JRC), the International Geosphere-Biosphere Programme (IGBP) and the Global Observations of Forest Cover and Global Observations of Land Dynamics (GOFC-GOLD) Implementation Team Project Office.

2.2.7.2 Global Land User Systems

Global Land Use System database: has been established by the LADA project on-line in GeoNetwork drawing from information on livestock (GLIPHA), crops (AgroMAPS and IFPRI) and land cover (GLC-2000). Ecosystem (climate, soil, slope, land cover) and socio-economic (population density, poverty, crop input level) information is imbedded.

2.2.7.3 Harmonized World Soil Database

A new Harmonized World Soil Database: has been released by FAO, IIASA,ISRIC, JRC(EU) and the Chinese Academy of Sciences. Resolution is 1km by 1km and 15 soil properties in top- and subsoil are available.

3.0 Others

Division for Ocean Affairs and the Law of the Sea, Office of Legal Affairs (OLA/DOALOS) is also ready to collaborate in the future in building a common core boundary database which would include land, maritime and administrative boundaries with the coast as backbone for the geodatabase.

A.III.2 Task Group 2

UNGIWG Remote Sensing Task Group (RS TG) Report 2008

The following objectives were agreed for the 2008 workplan at UNGIWG 8 in Bangkok, 2007.

1. Focus on facilitating access to information and RS data, including derived data, to field actors through interoperable systems
2. Further increase involvement of UN field actors in RS TG as recent positive developments have indicated a strong interest for this. It is proposed that this becomes a specific priority for the RS TG in 2008
3. Active use of wiki by RS TG members, including new forums and topics as needed
4. Populate database on available very high resolution imagery using GeoNetwork standard and then converting to Google Earth files for easy access of information
5. Continue to put forward areas of common interest for populating Google Earth with very high resolution imagery
6. Responses to sudden onset disasters have seen a strong increase in terms of remote sensing within the UN (Space Charter and other mechanisms). Specific discussion forum on Wiki to put forward common UN needs and positions. Continued awareness raising of opportunities from the International Charter "Space and Major Disasters." Charter and mechanisms in place to ensure imagery derived maps are disseminated on a timely basis to UN agencies

Main activities within the RS TG during 2008 have focused on data sharing, interoperability and improving responses to sudden onset disasters. This work has also been undertaken in order to gain experiences and support the development of a Spatial Data Infrastructure (SDI) for United Nations organizations.

With 35-years of Landsat data becoming freely available through USGS, common baseline satellite imagery will be even more widely available. This important milestone was shared and discussed among the RS TG members. Similarly, information on timely access to up-to-date very high resolution satellite imagery during humanitarian emergencies was facilitated for the benefit of the TG members.

The RS TG was represented at the ESRI User Conference in San Diego and the TG presented a poster in the UN Showcase as part of awareness raising illustrating benefits of remote sensing to the United Nations agencies and its partners. At the same event, the RS TG co-organized with ESRI a meeting with representatives from the Bill and Melinda Gates Foundation and its Geo-ICT initiative to explore potential paths of collaboration.

During the last year, work among the TG members on technical standards and solutions have been ongoing. UNEP, WHO, FAO and UNITAR-UNOSAT have run several data exchanges using WMS/WFS solutions. Test cases so far have included Mozambique, Namibia and Myanmar. UNEP visited UNITAR-UNOSAT for a technical meeting on setting up systems and applying standards in the context of the RS TG. These trials have yielded positive results and demonstrated that the technical solutions are suitable and are now at a level of maturity for more extensive use.

The involvement from RS TG members in the field has kept its momentum, especially with strong support and useful input from agencies based in Nairobi and Bangkok. Remote sensing derived data have been shared among members further developing

applications among field-based UN entities.

The RS TG Wiki was actively used. It includes an archive of various RS TG relevant reports and related topics, including GEO and discussions on sudden onset disasters, especially for the input to the Space Charter board meeting in Canada.

The work towards making metadata available of the various remote sensing data housed by TG members is slowly progressing, however more work is needed. Lately, metadata on imagery available during specific events, for example over Myanmar and Haiti have been shared as kml-files, which has assisted towards an improved overview of data availability and geographic information management during these operations.

RS TG members have communicated areas of interest for populating on Google Earth to the Geo3D discussion group, who in turn has facilitated this information to Google.

The RS TG submitted recommendations to the Space Charter board on requirements to better meet the needs of the UN. This report was highly appreciated by the Space Charter board who has taken it onboard as most useful input in their current review of how to improve the Space Charter. A written reply was communicated to the RS TG members on e-mail from the Space Charter Executive Secretariat in September, also recommending that such technical input as provided by the TG continues. See attached report, which was prepared based on discussions using the RS TG Wiki.

The RS TG manager would like to thank the valuable contributions to the work of the RS TG, especially that from UNEP, UNHCR, WHO, UNJLC, WFP, FAO and OCHA.

Recommendations to better meet the requirements of the United Nations to Board of International Charter "Space and Major Disasters"

by

United Nations Geographic Information Working Group (UNGIWG)
Remote Sensing Task Group

The United Nations Geographical Information Working Group (UNGIWG) is a network of professionals working in the fields of cartography and geographic information science to building the UN Spatial Data Infrastructure needed to achieve sustainable development.
UNGIWG was formed in 2000 to address common geospatial issues - maps, boundaries, data exchange, standards - that affect the work of UN Organizations and Member States. UNGIWG also works directly with non-governmental organizations, research institutions and industry to develop and maintain common geographic databases and geospatial technologies to enhance normative and operational capabilities. UNGIWG reports periodically to the UN Chief Executive Board (CEB) on progress made and priority issues.
Specifically UNGIWG aims to:

- improve the efficient use of geographic information for better decision-making;
- promote standards and norms for maps and other geospatial information;
- develop core maps to avoid duplication;
- build mechanisms for sharing, maintaining and assuring the quality of geographic information;
- provide a forum for discussing common issues and emerging technological changes.

UNGIWG consists of the following Task Groups:

1. Core Geo-Database
2. Remote Sensing
3. Interoperable Services
4. GIS Map Production Guidelines
5. Global Navigation Satellite Systems

As part of the UNGIWG Remote Sensing Task Group (RS TG) agreed activities for 2008, recommendations on how to expand the range and objectives for the International Space Charter to better comply with UN requirements have been discussed. The following recommendations have been provided based on input by members of the UNGIWG Remote Sensing Task Group in online discussion forum and during UNGIWG meetings and teleconferences, in particular by entities working in disaster response, management and coordination, such as WHO, UNJLC, FAO, WFP, OCHA and UNHCR.

The common recommendations are:

1. All UN entities should be allowed to request the Space Charter to be triggered.
2. The Space Charter must be more user-driven to ensure operations are carried out more efficiently.
3. Satellite raw data need to be provided even more timely than today, as data frequently arrive too late to have considerable impact. The Space Charter should therefore revise all parts of the chain, including triggering mechanisms, scenarios and project manager procedures.
4. Triggering-mechanisms of the Space Charter should be designed in the most efficient manner.
5. The Space Charter should accept activations prior to a disaster hits. This is possible according to the Space Charter, but is not always practiced.

6. The Space Charter should equally have simple mechanisms for cancelling a request so as to rather trigger immediately, and then cancel if the event is not major or did not take place.
7. The Space Charter should accept activations in the event of a significant public health risk /emergency of international concern (infectious disease epidemic, industrial hazard etc).
8. The Space Charter should accept activations related to complex emergencies, i.e. situations involving conflict situations and/or possibly refugee or IDP (Internally Displaced Persons) situations.
9. When the Space Charter provides value added products, more than raw data, GIS data (vectors, raster) derived from the imagery should also be provided to the users, preferably using standards adopted by the UN and ISO and allowing for such data access via Web Feature Services (WFS) and Web Map Services (WMS).

Geneva, 14 April 2008

Einar Bjorgo
Chair, UNGIWG Remote Sensing Task Group

United Nations Institute for Training and Research (UNITAR)
Operational Satellite Applications Programme (UNOSAT)

A.III.3 Task Group 3

UNGIWG Task Group 3
Interoperable Services
November 2008 Progress Report

Objectives

The Interoperability Services Task Group works on improving access to and interactive use of spatial data to enhance data sharing and support decision-making through international standards and specifications.

Task Group Membership

FAO and UNEP where nominated to manage what was then Task Group 4 at the 5th Plenary Meeting in Geneva. TG-4 became TG-3 after the 8th Plenary in which the previous TG's 1 and 2 were merged. The FAO co-chair resigned during 2008 and a replacement is yet to be designated. The year has also seen a number of other departures from the group as member moved onto to employment outside the UN system.

Currently the TG membership, as known to the mailing list, stands as:

Mick Wilson (UNEP) –TG Manager
TBD (FAO) – TG Manager
Nicolas Chavent (WFP) departed
Michelle Anthony (USGS)
Paul Bellanger (UN-ECA)
Thomas Gurtner (Centre for Development and Environment, Uni. Of Bern)
Ian May (UNEP/World Conservation Monitoring Centre) (departed)
Katherine O'Neill (WHO)
Jean-Pierre Pacquette (IAEA)

Activity of the formal members has been low. However, as was highlighted at UNGIWG-8, significant activity occurred and progress made through collaboration with interested parties outside TG-3.

List of Tasks

1. Geonetwork opensource
2. UNSDI-Transport
3. SDI-East Africa
4. ISO 19115 UN Profile Formalization
5. Components Registry
6. SDI-in-a-Box
7. SDI Standards Guidelines
8. Support to UNGIWG Task Groups

Task 7 was an ad hoc activity not planned at UNGIWG-7 that has arisen through discussion between UNEP and Microsoft in 2007. The rapid pace of technological development plus high levels of activity in various open-source groups that now allows "SDI-on-a-dongle" and virtualized GIS makes this task moot. It is considered closed.

GeoNetwork Opensource & GeoServer

Background

GeoNetwork opensource is a standard based and decentralized spatial information management system, designed to enable access to geo-referenced databases and cartographic products from a variety of data providers through descriptive metadata, enhancing the spatial information exchange and sharing between organizations and their audience, using the capacities and the power of the Internet. The system provides a broad community of users with easy and timely access to available spatial data and thematic maps from multidisciplinary sources, that may in the end support informed decision making. The main goal of the software is to increase collaboration within and between organizations for reducing duplication and enhancing information consistency and quality and to improve the accessibility of a wide variety of geographic information along with the associated information, organized and documented in a standard and consistent way.
Over the last year, the GeoNetwork opensource project has made significant progress resulting in the release of a new version (2.2.0) of the software in April 2008.
The progress has taken place in three main areas:

1. Developer and user community
2. New software release
3. Uptake and extension

Some highlights from the developer and user community

The GeoNetwork opensource software concluded the process of incubation to become part of the independent Open Source Geospatial Foundation (OSGeo.org). OSGeo is a foundation that brings together first class geospatial open source software and promotes its use and sustainable development. Each software product is required to undergo an incubation process designed to ensure that there is sufficient common interest and momentum to ensure sustainability. Geonetwork Opensource has passed this milestone, meaning that a full code review on Intellectual Property right and proper license references in the code was done as well as a review to ensure all incorporated Libraries use a compliant open source license to the one used by GeoNetwork (GNU-GPL).

Some of the highlights of the new GeoNetwork opensource release

The GeoNetwork team has made substantial improvements to the application during the past year. The latest release of GeoNetwork opensource is supported by FAO, the UN Office for the Coordination of Humanitarian Affairs (UNOCHA), the Consultative Group on International Agricultural Research (CSI-CGIAR), UNEP and other donors. Support for the final metadata standard ISO19115:2003 has been enabled by using the ISO19139:2007 implementation specification schema published in May 2007. The release also serves as the open source reference implementation of the OGC Catalog Service for the Web (CSW 2.0.1) specification.
Improvements to give users a more responsive and interactive experience have been substantial and include a new Web map viewer and a complete revision of the search interface.
The main features of GeoNetwork Opensource include

- Instant search on local and distributed geospatial catalogues
- Uploading and downloading of data, documents, PDF's and any other content

- An interactive Web map viewer that combines Web Map Services from distributed servers around the world
- Online map layout generation and export in PDF format
- Online editing of metadata with a powerful template system
- Scheduled harvesting and synchronization of metadata between distributed catalogues
- Groups and users management
- Fine grained access control

A full list of improvements can be found at http://geonetwork-opensource.org . The core GeoNetwork development continues at FAO where version 3.0 of the software is already in use. FAO is maintaining the services and is currently upgrading and expanding the server storage and backup capacity and targeting GeoNetwork content management as a strategic goal and is currently reviewing the keywords and thesaurus to be used. It is developing and using GeoNetwork services in applications, such as Forest Resource Assessment RSS Information Gateway and adding advanced tools for query, search, visualization and reporting tools, and is continuing to promote GeoNetwork providing technical assistance and capacity building to countries upon request.

Some of the highlights on uptake and extension

Geonetwork is deployed at many hundr3eds of sites worldwide – the precise number is unknown and unknowable since the software is freely available under public license (a partial list can be found at http://geonetwork-opensource.org/geonetwork-nodes). What are known, however, are the numerous external adaptations of geonetwork to support other systems and services. A few amongst these are:

- Australian Spatial Data Directory (http://asdd.ga.gov.au/asdi/) Infrastructure Pilot
- UNEP Ecomundus (http://www.ecomundus.net) for improving access to reliable environmental data and information while catalyzing networking among data and information providers
- GEF IW:learn (http://www.iwlearn.net/abt_iwlearn), the Global Environment Facility's (GEF) International Waters Learning Exchange and Resource Network
- ESA Global Monitoring for Food Security (http://gmfsgeonetwork.gim.eu/) providing earth observation based services and encourage partnerships in monitoring Global Food Security and related environmental processes,
- GEOSS Common Infrastructure (http://www.geoportal.org/) which provides an entry point to access Earth Observation information and services, connecting a system of existing portals, addressing the GEO Societal Benefit Areas globally and provide national to regional perspective to achieve synergy and leverage.

UN Spatial Data Infrastructure – Transport

Background

UNGIWG 6th annual plenary (Addis Ababa in October 2005) agreed that UNGIWG member organizations work towards developing a UN Spatial Data

Infrastructure (UNSDI) comprising data and metadata standards, data-sharing mechanisms and inter-operable geographic data repositories. In the context of this wider effort, the United Nations Joint Logistical Centre (UNJLC), a Humanitarian Common Services aimed at facilitating logistics coordination in complex emergencies, was tasked with developing a spatial data model for transport-related datasets.
The project, baptised UNSDI-T, aimed to develop and implement a global transport and logistics geo-database schema tailored to humanitarian requirements along wit h a data collection and processing methodology.. Three broad strategies were addressed towards these objectives:

1. 1.Semantics and terminology -information requirements of humanitarian logistics
2. Technical implementation -database modelling of transport and logistical features
3. Institutional adoption -generation of a critical mass of users and implementers

The UNSDI-T was implemented with ITHACA (Information Technology for Humanitarian Assistance, Cooperation and Action - www.ithaca.polito.i). Real-time feedback was acquired through field implementation in South Sudan and from a number of partner agencies, such as FAO- SWALIM who have adopted early UNSDI-T v.0 standards in their infrastructure mapping work.

Some Highlights in 2008

The UNSDI-T Version 2.0 was released in June 2008, encompassing both “Light” and “Comprehensive” UNSDIT packages, each with the following elements:

- XML schema;
- schema documentation (XML, MS Visio, HTML, PDF and MS Excel);
- blank template databases in ESRI Personal Geodatabase (PGDB) and Shapefile (SHP); and
- a set of emergency assessment forms (for the Light UNSDIT package only).

In July 2008: UNJLC passed operational geo data and global transportation layers (G. Disc and ADC Roads) integrated in the UNSDIT version 2.0 and hosted on the ITHACA web platform (Transportation component of the WFP SDI). ORACLE/SDE + PostGRES/Q.GIS + associated web services under test and are about to be launched.

Uptake and Extension

The current community of applications partners in UNSDI-T includes

Logistics Cluster/UNJLC and partners in operations
CILT (UK) – aligning their work on humanitarian logistics standards with UNSDI-T
WFP SDI
UNOSAT
FAO SDI (GIEWS Workstation and NRCE)?
UNOCHA – Humanitarian SDI
UNHCR (HQ)/ Camp to Camp – WebGIS
UNHCR (Darfur)/ INTERSOS – WebGIS
WHO and FAO – Web services hosting UNSDIT DBs
FAO SWALIM (Somalia) - Road mapping project

UNECA/ Transport Infrastructure database (TIDB).
CartONG (Uganda) – road mapping project
MapAction
IMMAP
Keyobs
Netherlands Environmental Assessment Agency (PBL) - Global Road Information Project (GRIP) -
CODATA Working Group "Global Road Dataset " - Global Roads Layer (scale 1/200K and infra)
OpenStreetMap

SDI-East Africa

SDI-East Africa was an ad hoc coordination effort amongst UN agencies and offices based in Nairobi and their partners in the region.
No activity during this reporting period due to changes of staff and responsibilities. The report of SDI-EA, co-authored by FAO/SWALIM, OCHA and UNEP and presented to GSDI-10 in Trinidad, has been accepted for peer-reviewed publication in the International Journal of Spatial Data Infrastructure Research.

ISO 19115 UN Profile Formalization

UNGIWG-7 agreed that TG-3 should proceed to develop a formal model the existing UN profile for ISO 19115 metadata standard. This work has not proceeded. However, UNOOSA/SPIDER and UNOCHA have both requested that TG-3 move this issue forward, especially now that the ISO 19115 profile for remotely-sensed data is in final draft. The formalized specification would then be made available for implementation by software developers as a visible and identifiable "UN" metadata standard. The Task group will consider how best to achieve this in 2009.

Components Registry

This item is superseded by developments of the GEOSS Common Infrastructure.

SDI-in-a-box

This task arose as an *ad hoc* opportunity arising from discussions between UNEP and Microsoft in 2007. Since then the pace of technological development that has yielded "GIS on a dongle" and "Virtualized GIS" makes this task moot.

SDI Standards Guidelines

At UNGIWG-8, in light of the discussions regarding technical governance of a UN SDI, the group was tasked with developing guidelines specifying current standards and protocols for data and metadata content, service interfaces etc. to be used to guide UN agencies in implementing interoperable geo-information services. This task was informally taken up in parallel with equivalent developments in the Global Spatial Data Infrastructure Association. The convergence is complete and TG-3 recommends that, for purposes of development if UNSDI and UN-base geo-information services, that UNGIWG endorse the GSDI recommendations.

Support to UNGIWG Task Groups

TG-3 continues to operate wikis as requests from other UNGIWG task groups, namely TG-2 (Remote Sensing) and TG-5 (Map Production Guidelines). These use similar look and feel to the main UNGIWG website are operational at http://www.ungiwg.org/tg2 and http://www.ungiwg.org/tg4 respectively. Shells of wikis are setup but not operational for other TGs should they be wanted.
TG-3 is working with UNDP/ Open Streetmaps to prototype the community network applications for use by UNGIWG as well as individual agencies.

Outreach and Support

- UNOSAT WFS (geoserver) buildup
- UNGIWG wikis for TGs-2 and 4

Presentations and Outreach:

- CGIAR-CSI conference Nairobi April 22-24 2008
- UNECA CODI V 230 Apr - 4 May 2008
- Spatially-enabled Government Symposium, Canberra, Australia, 21-24 July 2008
- International Committee of the Red Cross - Global GIS Workshop, Nairobi, Kenya 21 August 2008
- Governing Council of the Regional Centre for Mapping for Resource

A.III.4 Task Group 4

UNGIWG Map Production Task Team
2008 activities – report to the 9th plenary

This years main activities within the working group were to convene an Inter-Agency Map workshop to support development of a beta version of a humanitarian symbol set as a working inter-agency standard.

The beta version of the symbol set library was developed in 2008, through a consultative process from the efforts of UN Office for the Coordination of Humanitarian Affairs (OCHA). OCHA Field Offices and the IASC Information Management Sub-working Group have been consulted for review and feedback on the humanitarian symbols set with now includes symbols ranging from security incidents to health facilities, IDP camps and transport infrastructure, pulling from working field standards and cartographic standards *(see symbols below).*

This initiative was considered a best practice in map standards and was to be the base for the beta version of the humanitarian symbol library which is hosted on the working group site in vector format or true type font (TTF) format. This symbol set will be launch officially along with the OCHA map guideline end of 2008. Focal point for these activities is ReliefWeb, (Akiko Harayama harayama@un.org).

The Inter-Agency Map Workshop continues to collect interest from partners however was postponed due to security and conflict in Nairobi, delay in OCHA Map Guidelines and extensive budget cuts.

Other activities
The leadership of the working group will be rotated to OCHA/ReliefWeb, based on level of engagement, headquarters location and ability to continue activities within the current project work plan. The manager of ReliefWeb has agreed to this in principal within the 2009 task team work plan, *see below*. There is currently no co-chair for this task team.

A mailing list was activated to support interagency activities and is monitored by ReliefWeb.

The Map Guidelines website is maintained with updates of UN symbols and guidelines.

The Work Plan for 2009:

- Seek formal endorsement of the working symbol standards *beta Symbol set* through partnership and guidance of the UN Cartographic Section;
- Identify a focal point in each agency for updates of Cartographic or Mapping standards, if possible join the working group;
- Reschedule Inter-Agency Map Workshop – midyear 2009
- Continue to update website with standards and “best practices” tips for mapping (e.g. how to create proportional circle, which color to use, etc)

- Explore how working group activities fit in the evolving UN SDI
- Act as advocate for standards in support of UN SDI and Humanitarian Best Practices

See below: Beta Humanitarian Symbol Set library


1. Cluster/Sector
Agriculture
Camp Coordination/Management
Early Recovery
Education
Emergency Shelter
Health
Logistics
Nutrition
Emergency Telecommunications
Protection
Water Sanitation Hygiene
Food Security
Coordination
2. Disasters
Cold Wave
Heat Wave
Cyclone, Hurricane, Typhoon
Drought
Earthquake
Epidemic
Fire
Flood
Flash Flood
Insect Infestation
Landslide/Mudslide
Volcanic Eruption
Snow Avalanche
Storm
Storm Surge
Tornado
Tsunami
3. Affected Population
Affected Population
Missing
Dead
Injured
Children
4. Damage
Damage
Affected
Partially Destroyed
Destroyed
5. General Infrastructure
Infrastructure
Helipad
Government Office
Community Building
Police Station
Tunnel
Bridge
Airport
Airport Civil
Airport Military
Church
Mosque
Hindu Temple
Buddhism temple
Seaport
Road
School
Food Warehouse/Storage
6. Health Facilities
Health Facilities
Hospital
Clinic
Health Post
Psychological Support
7. Camp
IDP/Refugee Camp
Temporary
Fixed
Transition Sites
Refugee Registration
8. Security
Security
Arrest/Detention/Abduction
Assault
Attack
Forced Entry/Office Occupation
Harassment and Intimidation
Hijacking
Murder
Robbery
Threat
9. Physical Closure
Physical Closure
Checkpoint
Road Gate
Observation Tower
Earthmound
Road Block
Road Barrier
Trench
Military Gate
Cross Border
10. Armed Troop
Armed Troop
National Army
Rebel Army
Child Combatant
11. Mine/UXO Presence
Mine/UXO Presence
UXO Spots
Dangerous Areas
Mined Areas

Annex IV. Transcript of the CITO's Video Address

Mr. Choi Soon-Hong, Assistant Secretary General,
Chief Information Technology Officer (CITO) of the UN Secretariat

Good morning,

Thank you for the opportunity to address this important event today. I had hoped to join your meeting but the General Assembly is considering a major ICT report. At the moment it is difficult to travel as my presence is required here in New York.

We know that GIS is a broad field and can be embraced by many people around the world. Many people are aware of Google Maps for example; my children are fascinated with what we can do with the map and how the information is integrated.

First of all I am glad to hear of the endorsement of the UNSDI initiative by the ICT Network Meeting in Vienna last week. This is a very welcome development. I fully support your initiative as the Chief Information Technology Officer of UN Secretariat. We have developed a UN Secretariat wide ICT Strategy and in it we have included GIS as one of the major components in the Knowledge Management Programme. GIS will also be covered in the discussions of the newly formed working group on Knowledge Management, a Secretariat-wide group which is coordinating various knowledge management activities.

All of these efforts further demonstrate the importance of your initiative. However, there are challenges ahead especially to ensure that the SDI concept is broadly embraced and institutionally established within the UN System. We should work together to clearly communicate the concept of GIS to all stakeholders involved. I am pretty sure we can find a way to progress if we are united and working together.

You have worked effectively in an open and constructive way to ensure the active involvement of members and partners. This is one of the key aspects of success of the UNSDI framework. I believe that this is an example of a bottom up initiative of dedicated professionals like you.

In this regard, I would like to congratulate you on your excellent work and commitment to this important cause. I hope that you will further engage in pragmatic next steps to move UNSDI forward. It will be an incremental process that will require perseverance and best effort.

Finally, please be assured that you will have senior management support from the Secretariat, especially myself as Chief Information Technology Officer.

Good luck with your deliberations. I look forward to working with you and hearing the outcomes from your meeting.

Thank you very much.

Annex V. GSDI Association presentation

The Global Spatial Data Infrastructure (GSDI) Association is an inclusive organization of organizations, agencies, firms, and individuals from around the world. The purpose of the organization is to promote international cooperation and collaboration in support of local, national and international spatial data infrastructure developments that will allow nations to better address social, economic, and environmental issues of pressing importance.

The GSDI Association offers lessons learnt and best practices on:

1- Assess readiness for an agency or thematic SDI

- 1a- Readiness/preparedness index
- 1b- Success criteria
- 1c- Progress Indicators

2- Initial steps

- 2a- Technology ready for interoperability
- 2b- Construct of datasets conform for sharing and dissemination

3- recommendations for success

- 3a- the SDI needs to fit the existing information policies for the agency or group of agencies
- 3b- the objectives will define the SDI parameters: is it for sharing, services, both

4- SDI needs to have:

- 4a- understanding of info requirements
- 4b- Expressing a vision, strategy, expected outputs, outcomes and impacts
- 4c- Policy readiness (data and info policy)
- 4d- technology readiness (ITC skills, resources, infrastructure, std)
- 4e- data readiness (availability, capture readiness, processing capacity, etc)
- 4f- resources readiness (people, budget, skills, capacity, etc)
- 4g-customer readiness (training, awareness, network)
- 4h- cultural readiness (info culture, governance, leadership, etc)

Annex VI. Hosts' Opening Statement

Statement by Mrs. Mazlan Othman

Director, Office for Outer Space Affairs (OOSA)/ UN Office in Vienna (UNOV)

at UNGIWG-9,Vienna, 5-7 November 2008

Dear UN Colleagues and Colleagues from Partner Institutions,

I would like to warmly welcome all of you to Vienna and to this 9th Meeting of the United Nations Geographic Information Working Group. We are especially delighted to welcome the current UNGIWG Co-chairs, Ms. Alta Haggarty from OCHA and Mr. Luc St. Pierre from UNHCR here representing Mr. Karl Steinacker. We are pleased that OCHA and UNITAR accepted OOSA and CTBTO's offer to host this meeting.

Our Office has been contributing to UNGIWG since the second meeting which took place in Rome in 2001. Although our activities focus on the peaceful uses of outer space almost all them in one way or another have a direct link to the discussions and activities carried out within the UNGIWG process.

The United Nations Office for Outer Space Affairs implements the decisions of the General Assembly and of the Committee on the Peaceful Uses of Outer Space – COPUOS - and its two Subcommittees, the Scientific and Technical Subcommittee and the Legal Subcommittee. The Office is responsible for promoting international cooperation in the peaceful uses of outer space, and assisting developing countries in using space science and technology. We assist developing countries as well as regional and international organizations through two UN programmes: the well-established United Nations Programme on Space Applications and the more recently established United Nations Platform for Space-based Information for Disaster Management and Emergency Response – also known as UN-SPIDER.

UN-SPIDER is the first programme of its kind to focus on the need to ensure access to and use of space-based solutions during all phases of the disaster management cycle, including the risk reduction phase which will significantly contribute to the reduction in the loss of lives and property.

There are obvious synergies between UNGIWG and the work carried out by COPUOS within the agenda item "International cooperation in promoting the use of space-derived geospatial data for sustainable development". As you will recall, in 2008 COPUOS took note of the UNGIWG/UNSDI activities and welcomed the continued development of UNSDI and invited UNGIWG to report to it at its session in 2009. At this forthcoming session the Committee would also evaluate the activities undertaken within the UN that were directly related to the use of space-derived geospatial information for sustainable development and consider ways and means of highlighting the links existing among those activities and giving them stronger international recognition.

Furthermore, a report containing recommendations on ways and means of fostering international cooperation with a view to building up national infrastructure to use space-derived geospatial data would be drafted. The Committee also requested the Secretariat (UNOOSA) to prepare a summary of

the discussions in 2007 and 2008 on this agenda item and to include information on activities undertaken within the UN System that were directly related to the use of space-derived geospatial information for sustainable development.

In our role as Secretariat to the Inter-Agency Meeting on Outer Space Activities (IAM), we are also ensuring that UNGIWG/UNSDI decisions are brought to the attention of this meeting. UNSDI was identified as key issue for coordination at the last Session of the Inter-agency Meeting. We will be informing UNGIWG Members in our presentation tomorrow about the activities under these two headings and also discuss arrangements for contributions and input from UNGIWG in preparing the mentioned reports and in discussing possible approaches for promoting UNGIWG/UNSDI in the framework of COPUOS and the IAM.

Finally, I would like to express my thanks to my colleagues in the Office, led by Martin Raithelhuber, who have worked hard in helping the UNGIWG Secretariat to organize this meeting. I would also like to express our recognition of the leadership and hard work of the current Co-chairs who have certainly set the highest levels of standards for all future Co-chairs.

We do hope that you will have a successful meeting and that you will take advantage of this spell of unusually warm weather to visit other parts of the city.

Thank-you.

Annex VII. Current list of UNGIWG Members, Focal Points and UNGIWG-9 voting results

	UN Organization	Focal Point	Surveyed	Confirmed Membership	Represented and Voted at UNGIWG-9
1	CTBTO	Ashraf Abushady	✓	✓	✓
2	FAO	John Latham	✓	✓	✓
3	IAEA	Erik Van Schijndel	✓	✓	✓
4	OCHA	Andrew Alspach	✓	✓	✓
5	UNDFS/UNCS	Kyoung-Soo Eom	✓	✓	✓
6	UNDSS	Helene Bray	✓	✓	✓
7	UNEP	Mick Wilson	✓	✓	✓
8	UNHCR	Luc St. Pierre	✓	✓	✓
9	UNICEF	Nicolas Pron	✓	✓	✓
10	UNITAR	Francesco Pisano	✓	✓	✓
11	UNODC	Coen Bussink	✓	✓	✓
12	UNOOSA	David Stevens	✓	✓	✓
13	UNOPS	Katrin Lichtenberg	✓	✓	✓
14	UNWFP	Carlos Veloso	✓	✓	✓
15	WHO	Kathy O'neill	✓	✓	✓
16	UNHABITAT	Jan Turkstra	✓	✓	✓
17	IFAD	Sophie De Vos	✓	✓	✓
18	DPI	Brenda Brookes	✓	✓	
19	ECA	Paul Belinger	✓	✓	
20	ECE	Michael Stanley-Jones	✓	✓	
21	ECLAC	Alejandra Silva	✓	✓	
22	ESCAP	Guoxiang Wu	✓	✓	
23	ICAO	David Lewtas	✓	✓	
24	ITU	Attila Matas	✓	✓	
25	UNDP	Alain Retiere	✓	✓	
26	UNOG	Jason Bellone	✓	✓	
27	UNOLA/DOALOS	Robert Sandev	✓	✓	
28	WB	Reza Firuzbadi	✓	✓	
29	WMO	Avinash Tyagi	✓	✓	
30	UNDPA	Nikolai Galkin (observer)	✓		
31	UNDESA		✓		
32	UNESCO		✓		
33	UNFPA		✓		
34	UNU		✓		

Table 1. List of UN organizations surveyed, membership confirmed, represented and voted at UNGIWG-9.

		UNSDI Resolution			UNOOSA and UNECA as UNGIWG Co-chairs		
	Organization	Yes	No	Abstain	Yes	No	Abstain
1	CTBTO	✓			✓		
2	FAO	✓			✓		
3	IAEA	✓			✓		

4	OCHA	✓			✓		
5	UNDFS/UNCS	✓			✓		
6	UNDSS	✓			✓		
7	UNEP	✓			✓		
8	UNHCR	✓			✓		
9	UNICEF	✓			✓		
10	UNITAR	✓					✓
11	UNODC	✓			✓		
12	UNOOSA	✓			✓		
13	UNOPS	✓			✓		
14	UNWFP	✓			✓		
15	WHO	✓			✓		
16	UNHABITAT	✓			✓		
17	IFAD	✓			✓		
	Results	58.6% of UNGIWG members & 100 % of those in attendance voted “yes.”			55.2% of UNGIWG members & 94.1 % of those in attandance voted “yes.”		

Table 2. Voting results on the UNGIWG-9 Resolution and the election of UNOOSA and UNECA as UNGIWG Co-chairs for 2009-10

Annex VIII. UNSDI Institutional Framework approved at UNGIWG-8

At the Eighth UNGIWG Plenary meeting in November 2007, the UNGIWG Members adopted the following UNSDI Institutional Governance Framework:

1. UNSDI Status

1.1 The UNSDI Initiative should be organized as a Project.

1.2 The Co-chairs should explore furthering the "Project" option as soon as possible.

2. Project Execution

2.1 The Co-chairs should explore a project execution option among UNGIWG Members and submit a proposal to the UNGIWG Members for consideration.

2.2 If by the end of January 2008 no other option materializes, the Co-chairs should negotiate an execution arrangement with UNOPS.

3. Partnerships

3.1 UNGIWG welcomes the establishment of a UNSDI Partners Group and tasks the UNSDI Board to establish a menu of engagement modes with UNSDI Partners.

3.2 In principle, UNSDI Deliverables should be developed jointly by UNGIWG Members and interested partners where applicable.

4. Partners Accreditation

4.1 Partners need to be accredited by the UNSDI Board.

4.2 There are three (3) groups of partners: Member States are accredited by default. Profit and non-profit prospective partners must be accredited by the UNSDI Board.

5. UNSDI Board / Steering Committee

5.1 A UNSDI Board is to be set up consisting of up to 9 members.

5.2 The UNGIWG (co-) chair will also lead the Board

5.3 The UNSDI Board will represent the four pillars of the UN System: political, peace/security, developmental, and humanitarian.

5.4 The main function of the UNSDI Board is to develop policies and strategies, the supervision/coordination of implementation activities (deliverables/outputs), and the supervision of UNSDI Project Team.

5.5 The UNSDI Board approves the work plans and budgets of the various deliverables of the UNSDI Project and accredits partners.

5.6 The Co-chairs will organize the election of an Interim Board during the first quarter of 2008. The first regular UNSDI Board will be elected by UNGIWG-9 (to be explored further by the Co-chairs who will safeguard the continuity of the Project).

5.7 The Board decides all usages of the name "UNSDI" and that of its logo.

5.8 The Board is the sole body to issue statements or to delegate responsibility in the name of UNSDI and to conduct external relations, in particular with regard to resource mobilization.

6. UNSDI Management/Staff

6.1 The staff employed under UNSDI acts also as secretariat to UNGIWG.

7. UNSDI Technical Advisory Group

7.1 The UNSDI Board sets-up a Technical Advisory Group (TAG). The Board issues the ToR for the TAG and oversees implementation.

7.2 The TAG is elected among volunteers and/or by the UNGIWG Members for a period of 2 years. It reports to the UNSDI Board. A Task Group Manager is a "natural" candidate for the TAG.

8. UNSDI Deliverables

8.1 UNSDI Project will be organized around deliverables/outputs.

8.2 A deliverable requires a work/business plan, a financial plan/budget, a UNGIWG member as responsible lead, and the approval by the UNSDI Board.

8.3 A deliverable needs either a sponsoring agency or external funding (or both). Deliverables which can neither mobilize agency nor donor support will be “de-prioritized”.

9. UNGIWG Task Groups

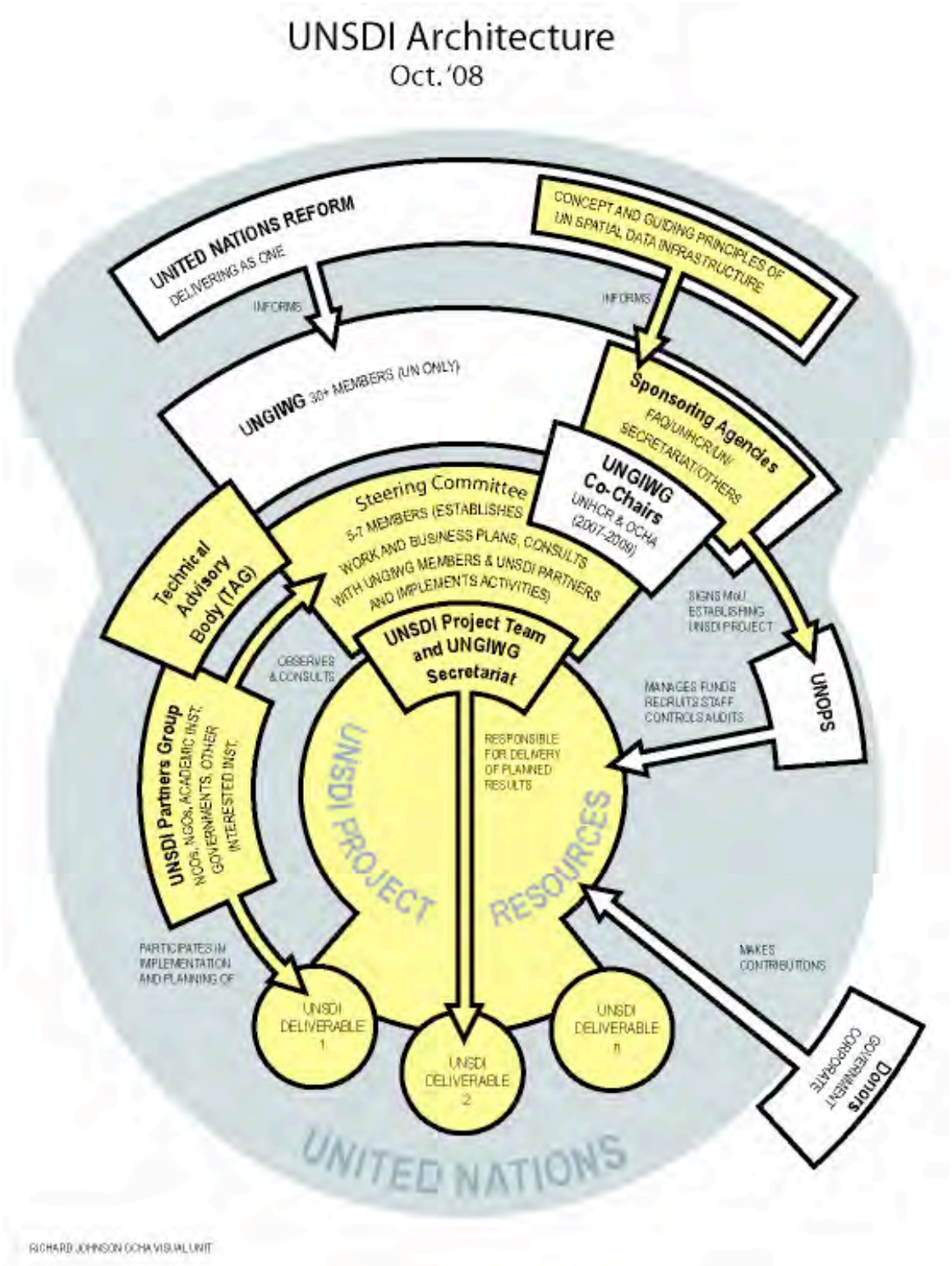
9.1 As a matter of principle, UNGIWG Task Groups and UNSDI Deliverables should co-exist.

9.2 When ever possible, UNGIWG Task Groups and UNSDI Deliverables should be merged.

10. Evaluation

10.1 Two years after its inception, the UNSDI Project will be evaluated. The evaluation report will be shared with UNGIWG Members well before the Annual Meeting to follow.

Annex IX. UNSDI Institutional Architecture



Annex X. List of acronyms

ACCIS	Advisory Committee for the Coordination of Information Systems
API	Application Programming Interface
CAVA	Centre for Advanced Visual Analytics
CCSS	Czech Centrum for Science and Society
CEB	UN System Chief Executives Board
CITO	Chief Information Technology Officer
CODATA	Committee on Data for Science and Technology
COPUOS	Committee on the Peaceful Uses of Outer Space
CTBTO	Comprehensive Nuclear-Test-Ban Treaty Organization
DPKO	Department of Peacekeeping Operations
DRC	Democratic Republic of Congo
ECE	UN Economic Commission for Europe
ECOSOC	United Nations Economic and Social Council
ENSAPLV	Ecole Nationals Supérieure d'Architecture de Paris la Villette
ESRI	Environmental Systems Research Institute
FAO	Food and Agriculture Organization of the UN
FOSS4G	Free and Open Source Software for Geoinformatics
GA	General Assembly
GAUL	Global Administrative Unit Layers
GEO	Group on Earth Observations
GIS	Geographical Information System
GIST	Geospatial Information Support Team
GMES	Global Monitoring for Environment and Security
GNSS	Global Navigation Satellite System
GPS	Global Positioning System
GSDI	Global Spatial Infrastructure Association
HLCM	High Level Committee on Management
IAEA	The International Atomic Energy Agency
IAM	Inter-Agency Meeting
ICA	International Cartographic Association
ICT	Information and Communication Technologies
IDP	Internal Displaced People
IFAD	International Fund for Agricultural Development
iMMAP	Information Management & Mine Action Programs
IMWG	Information Management Working Group
ISCC	Information Systems Coordination Committee
IT	Information & Technology
ITOS	Integrated Test and Operations System
ITU	International Telecommunication Union
ISO	International Organization for Standardization
ITHACA	Information Technology for Humanitarian Assistance Cooperation and Action
KML	Keyhole Markup Language
MoU	Memorandum of Understanding
NGO	Non Governmental Organization
OFDA	The Office of U.S. Foreign Disaster Assistance
OGC	Open Geospatial Consortium
OSGeo	Open Source Geospatial Foundation
OSM	Open Street Map

PBL	The Netherlands Environmental Assessment Agency
RS	Remote Sensing
SALB	Second Administrative Level Boundaries
SDI	Spatial Data Infrastructure
SIG	Special Interest Group
TAG	UNSDI Technical Advisory Group
TG	Task Group
TOR	Terms Of Reference
TRMA	UNDP
UN	United Nations
UNDFS/CS	United Nations Department of Field Support/ Cartographic Section
UNDP	United Nations Development Programme
UNECA	United Nations Economic Commission for Africa
UNECE	United Nations Economic Commission for Europe
UNEP	United Nations Environment Programme
UNGEGN	United Nations Group of Experts on Geographic Names
UNGIWG	United Nations Geospatial Information Working Group
UNHCR	United Nations High Commission for Refugees
UNICEF	The United Nations Children's Fund
UNIDO	United Nations Industrial Development Organization
UNITAR	United Nations Institute for Training and Research
UNJLC	United Nations Joint Logistics Centre
UNOCHA	United Nations Office for Coordination of Humanitarian Affairs
UNODC	United Nations Office on Drugs and Crime
UNOG	United Nations Office in Geneva
UNOOSA	United Nations Office for Outer Space Affairs
UNOPS	United Nations Office for Project Services
UNOSAT	UNITAR Operational Satellite Applications Programme
UNOV	United Nations Office at Vienna
USAID	United States Agency for International Development
UNSD	United Nations Statistics Division
UNSDI	United Nations Spatial Data Infrastructure
UNSDI-T	United Nations Spatial Data Infrastructure on Transportation
UNSDI-NCO	UNSDI National Coordination Offices
UN-SPIDER	United Nations Platform for Space-based Information for Disaster Management
VHR	Very High Resolution
WFP	United Nations World Food Programme
WHO	United Nations World Heath Organization
WMO	World Meteorological Organization