Better Support for UN Operations
UNRCC for the Americas

Agenda

• UN Secretariat and its Missions
• Cartographic Section
  - Area of Responsibility
  - Geo Operational Concept
  - Field Mission Geo Operations
• Major developments
  - Capacity Building
  - New GIS Capacity in missions
  - Partnerships
• International Boundary Issues
• Questions & Answers
UN Secretariat & its Missions

Note: Department of Field Support (DFS) has established on 1 July 2007

Typical UN Mission Structure

Peace Operations 2009
UN Peace Operations statistics

**Personnel**

- Peacekeeping operations since 1948: 63
- Current Operations: 16
  - (Peace-building administered by DPKO): 3
- Uniform personnel: 87,957
- Countries contributing troops/polices: 119
- International civilian staff: 5,177
- Local civilian staff: 12,461
- UN Volunteers: 1,908
- Total (16 peacekeeping): 107,503
- Total 19 operations: 109,571

**Peacekeeping Financial Aspects**

- Approved resources (Jul 2008 - Jun 2009): $7.1 billions
- Approved resources (Jul 2007 - Jun 2008): $5.3 billions
- Total cost of operations since 1948: $54.0 billions

UN Cartographic Section

**Objective:**

Cartographic Section provides geographic support to the full range of United Nations Operations

**Principal duties to provide:**

- Accurate and timely geospatial information in support of the decision-making and operational needs of the Security Council and the UN Management
- Direct support to UN Peace Operations (DPKO, DPA & DFS)
- Coordination & support of Field Mission GIS operations
- Technical assistance on International Boundary issues
- **HQ Geo Support**
  - Country profile maps, Peacekeeping force deployment maps
  - Map production for SG report, briefing, publication, etc.
  - Map clearance, including geographical names & boundary depiction, for UN publication
  - Maintain geo-database
  - Timely exchange of geo-information between the field and UNHQ

- **Coordinate/collaborate with UN agencies & strategic partners for geo-data sharing**

- **International Boundary issues research & technical support**
  - Maintain/update International boundaries database

- **Mission Geo Support**
  - Coordinate and support mission geo operations
  - Provide mission planning map & geo analysis
  - Manage global GIS assets
  - Establish mission GIS units & deploy start-up team
  - Produce base maps & geo-database, terrain analysis
  - Provide global geo-database & backup, GIS training

**Areas of Responsibilities**

**Cartographic Section**

**Mission Geo Support**

- Coordinate and support mission geo operations
- Provide mission planning map & geo analysis
- Manage global GIS assets
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**UN Geo Experts**

*2009: 170–190 staff*

*2010: 200–220 staff*
**Field Mission GIS Section**

**Typical UN Mission Structure**

- **SRSG**: Special Representative of the Secretary-General
- **Substantive**: Political & Civil Affairs, Human Rights, etc.
- **UNPOL**: UN Civilian Police
- **UNMIL**: UN Military Observers
- **CAS**: Chief Administrative Services
- **CISS**: Chief Integrated Support Services

**Joint GIS**

**UNDOF**: 3 staff
**UNMIS (Sudan)**: 24 staff
**UNAMID (Darfur)**: 42 staff
**MONUC (DRC)**: 30 staff

**Unit size varies according to mission mandate, strength, size of area of operation, etc.**

**Concept of Geo Operations**

- **Security Council**
- **UNSC/LogOps**
- **UNPOL**
- **UNMIL**
- **BGI, IDGS, NATO**
- **UNGIW**
- **UNHCR**
- **UNICEF**
- **UNICEF**
- **UNHCR**
- **USAID**
- **ECHO**
- **OCHA**
- **GIS**
- **HIC**
- **Humanitarian Information Center**
- **HIC**
- **SitCentre**
- **SitCentre**
- **UNLB**
- **UNLB**
- **UNLB**
- **The Secretariat**
- **Departments**
- **OO/LogOps**
- **ONU/UNPol**

**Mission’s Area of Operations**

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- **ECHO/JRC**
- **USAID**
- **UNGIW**
- **UNHCR**
- **UNICEF**
- **UNHCR**
- **USAID**
- **ECHO**
- **OCHA**
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Major Developments

- **Capacity building**
  - Established GIS Centre (Oct 2007)
  - Mapping (Vmap2) projects (UNDOF, UNIFIL and Darfur)
  - Terrain Analysis and Groundwater Assessment
  - UN-EC Gazetteer system
  - UN Geo-database
  - UNmap (1:1, 5, 10 millions)
  - UN Earth (Google Earth enterprise system)
  - UN Image Library
  - Map portal (UN Internet & Intranet)
  - Field Reporting Tool (for data collection & verification)
  - UN World Map
  - SOPs & Guidelines
  - Established Systems Contracts – ESRI, MDA Geo, SPOT
  - Operational & System architecture
  - GIS start-up: Strategic deployment stocks (SDS) & GIS Rapid Deployable Module (containerized)
Mission GIS start-up
- UNAMID (Darfur)
- MINURCAT (Chad/CAR)
- UNAMA (Afghanistan) … June 2009
  - Staffing: P3+UNV (2009), additional 2 staff (2010)
  - Chief GIS: Ms. Oluyemisi Olugbile
  - Start-up team deploy: 27 July
  - Will be operational in mid August (election)
- UNSOA (Somalia) … July 2009
  - Staffing: P4+2NPO, to be expanded under UN operations
  - Chief GIS: Mr. Rob Gray
  - Start-up team deploy: end August
- UNAMI (Iraq) … Nov 2009
  - Staffing: 3 staff, ad hoc start-up in 2009
  - One GIS Unit support UNAMI operations
  - Start-up plan is under development

- Partnerships
  - EU Satellite Centre
  - EC Joint Research Centre
  - NATO Geo Section
  - France (BGI)
  - EUFOR- Chad/CAR
  - US State Dept (Office of Geographer & Global Issue)
  - Italy (DGS - Geospatial Section)
  - G-MOSAIC (EU funded GMES initiative)

- Collaboration
  - Multinational Geospatial Co-production Program (MGCP)
  - Belgium, Netherlands, Spain, USA
  - Canada, Germany, …

- Ad hoc support
  - Netherlands (Eastern DRC mapping)
  - Romania (Vmap2)
Furthering Partnership

To meet the Operational needs effectively & timely fashion within the given resource/capacity.

“Avoid duplications, enhance synergy by cooperation”

- Sharing geo-data, knowledge & experience
- Geo-data co-production (Darfur, Somalia, etc)
- Joint Task Force
- Joint Projects (e.g., evacuation, water source)
- Cross-training & education
- Technology exchange
- Staff exchange
- Other areas

Country Profile Maps
**Mapping & GeoDB (Vmap2) - Darfur**

**Duration:** 3 years (2008-10)

**Scope:** 11-16 cells

**Source:** SPOT-5 & Reference 3D

Image map → TLM → GeoDB

*Legend*

- TLM completed with Q/C: 52 maps
- TLM completed without Q/C: 47 maps

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**Mapping & GeoDB (Vmap2) - Darfur**

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UN Cartographic Section
UNHQ, New York
Mapping & GeoDB (Vmap2) - Golan Heights

Ground Water Analysis

GOLDWATER STUDY: SELECTION OF LOCS FOR SURVEYS & DRILLING

AL-CHIWA, Darfur (SUDAN) AREA OVERVIEW

GIS and SATELLITE DATA: Data Sources and Processing Workflows
**UN Earth (GE Enterprise)**

![UN Earth (GE Enterprise)](image1)

**UNmap (1:10, 5 & 1 millions)**

![UNmap (1:10, 5 & 1 millions)](image2)
**Property Management**

**International Boundaries**

- **Border demarcation**
  - EEBC (Eritrea-Ethiopia)
  - CNMC (Cameroon-Nigeria)
  - IKBMP (Iraq-Kuwait)
  - Blue Line (Lebanon-Israel)
  - Green Line (Cyprus)

- **Technical assistance**
  - AU Border Program

- **Capacity building**
  - Border knowledge base
  - Cooperation with major players
• Gather authoritative source information and evidence on international treaties such as treaty maps, coordinates, boundary text description, satellite imagery...

• Compile the information in a seamless and comprehensive geo-database on international boundaries

• Provide a user friendly interface to key players to access the compiled geo-database on boundaries

• Serve as knowledge base for delimitation process
Problem of accuracy between map and image

Landsat Image (WGS 84):
Accuracy ≈ 100 meters

Map (Clarke 1880):
Accuracy to WGS84
∆X ≈ -180 meters
∆Y ≈ -45 meters

Geo-referenced maps
Extracted boundary

Treaty map (Clarke 1880)

Thank you

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