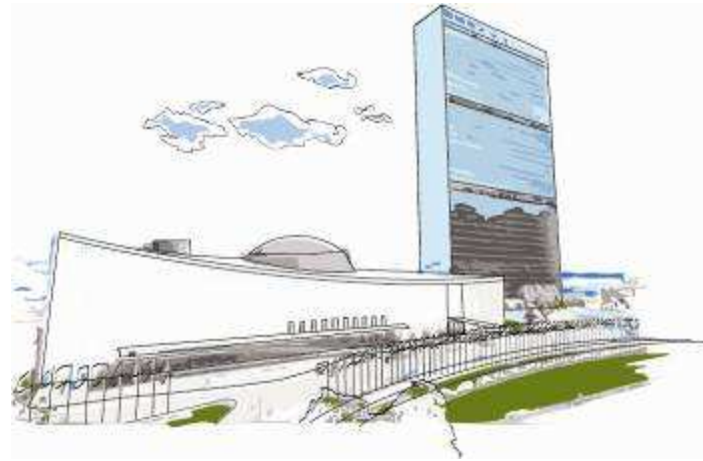




Geospatial Information for United Nations

**28th Session of UN Group of Experts
on Geographical Names**



30 April 2014



UN Cartographic Section

**Cartographic Section/DGITT
Department of Field Support
United Nations**

Page 1





UN Cartographic Section

Cartographic Section provides geospatial information support to the full range of United Nations operations

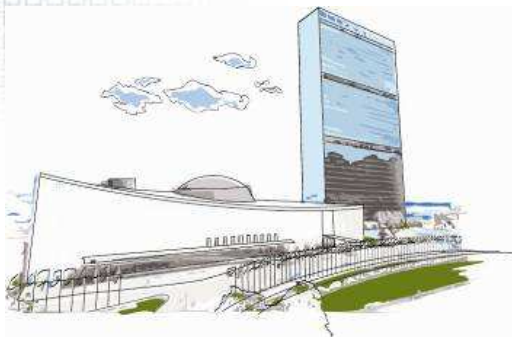
Principal duties include:

1. Provide accurate and timely geospatial information in support of the decision-making and operational needs of
 - . UN Security Council
 - . UN Secretariat
 - . UN Peace Operations (DPKO, DPA, DFS)
 - . UN Operations & Crisis Centre (UNOCC)
2. Programme management of **field mission GIS operations**
3. Provide technical assistance on **International Boundary issues**
4. Co-Secretariat (with SD/DESA) of **UN Committee of Experts on Global Geospatial Information Management (UN-GGIM)**





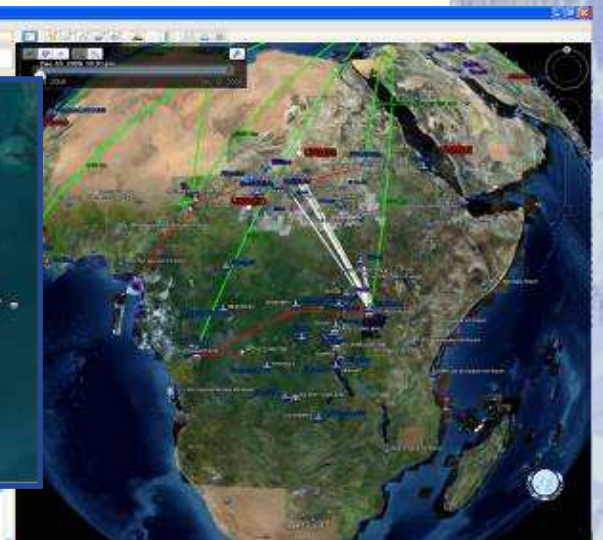
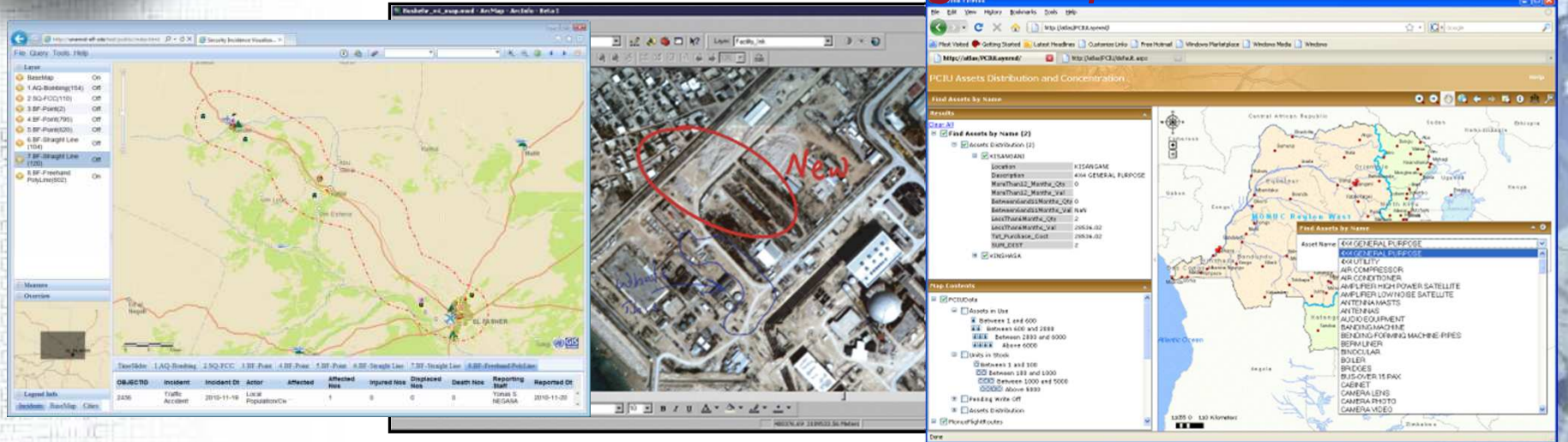
Geospatial information Requirements for UN Operations





Geospatial Visualisation

... Communicating Complex Information.



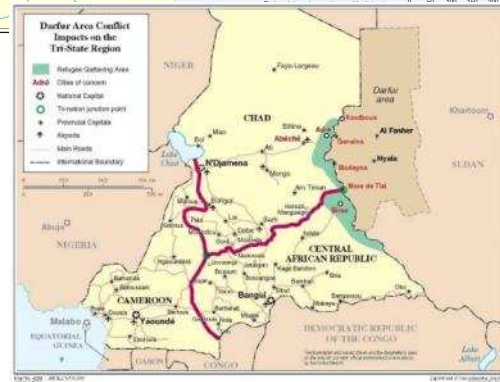
UN Cartographic Section

UNEGN-2014, New York

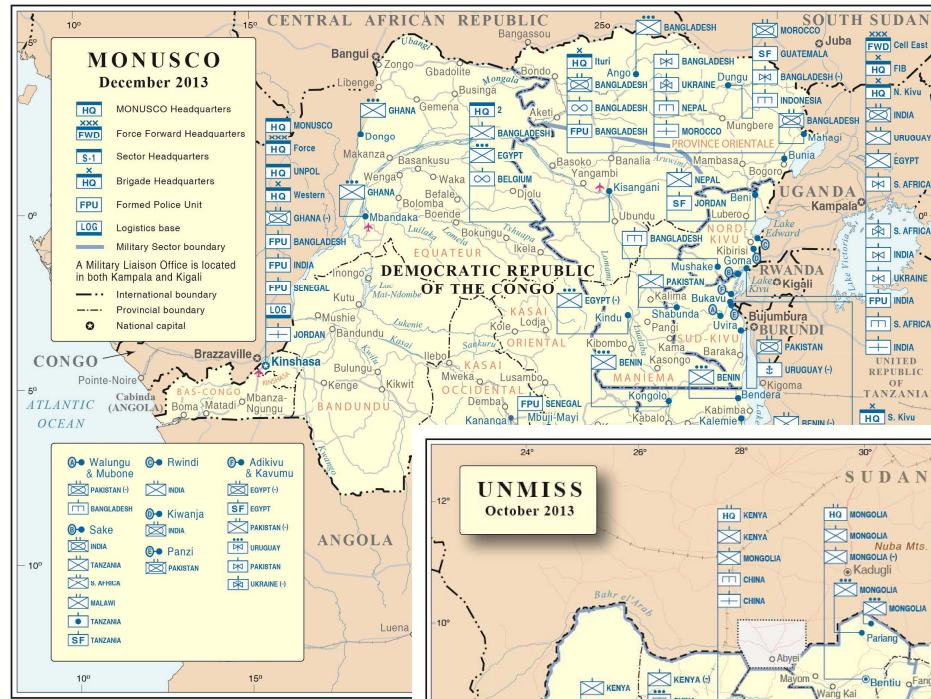
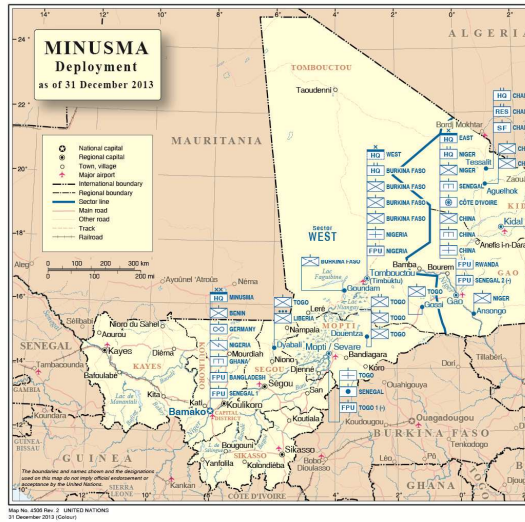


Security Council

- Provide Geo-information during the daily Council's consultations & meetings
- Provide Geo-information & analysis to the Council's Panels of Experts



Secretary General's Report



Map production for UN official briefing and publication

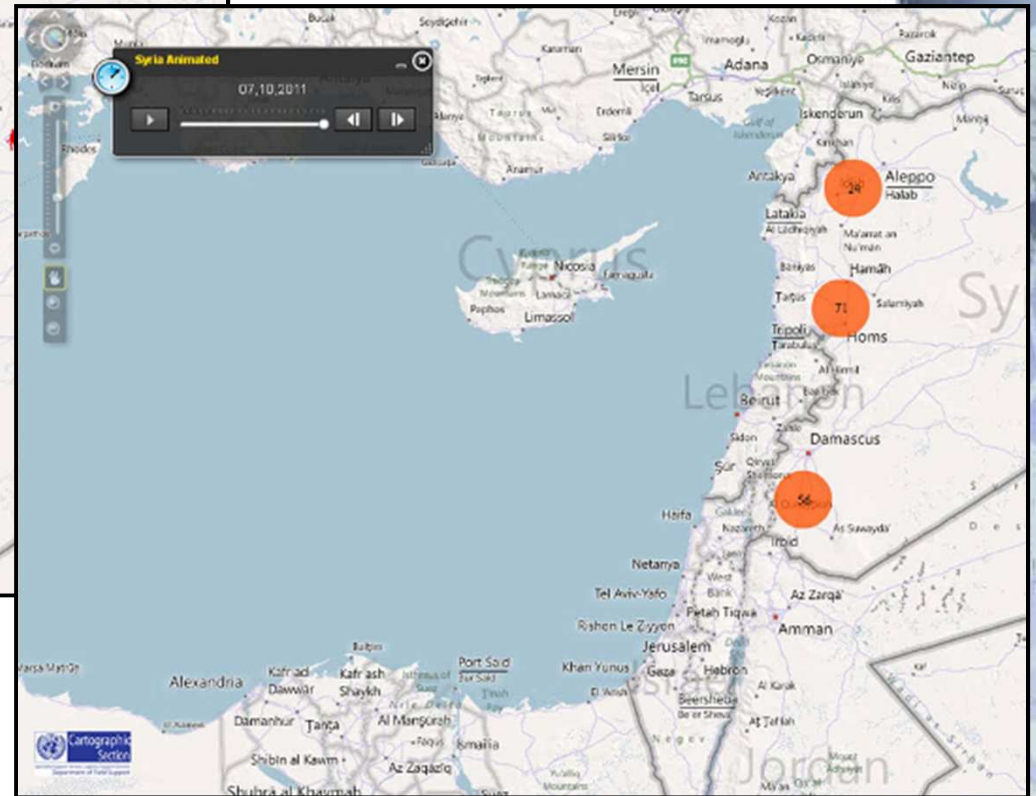
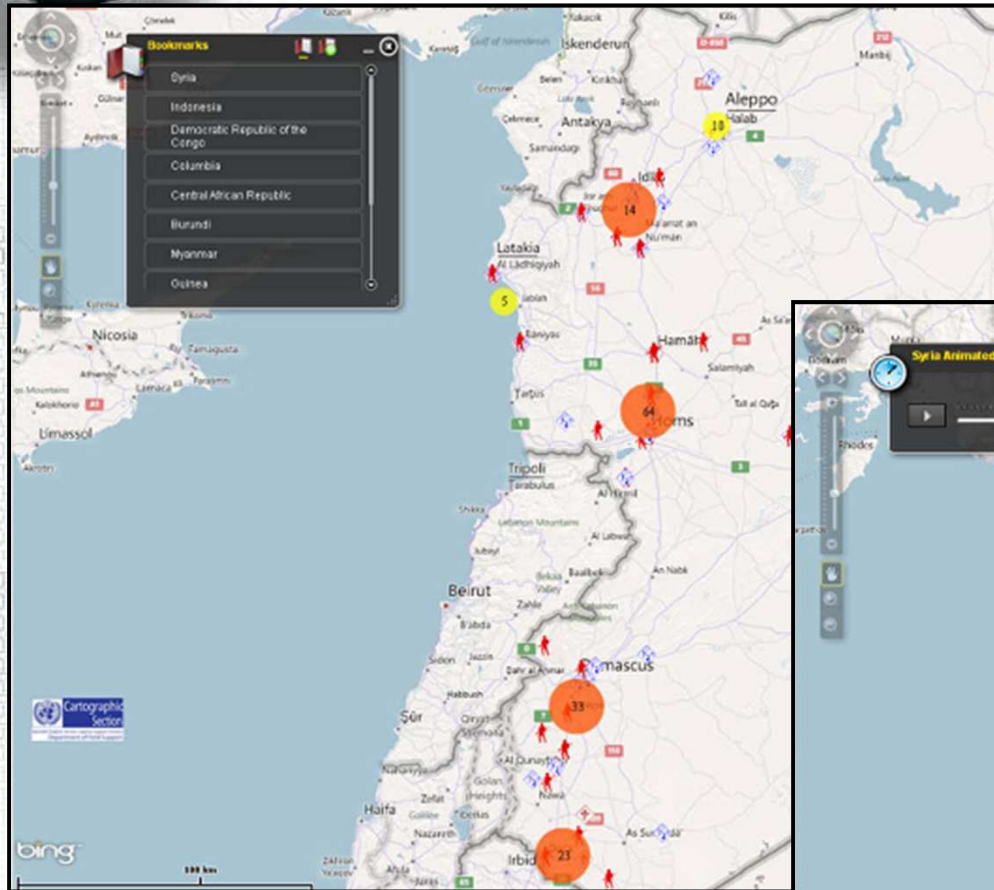


UN Cartographic Section

UNEGN-2014, New York



UN Secretariat



- Web-Map services for pattern analysis, etc



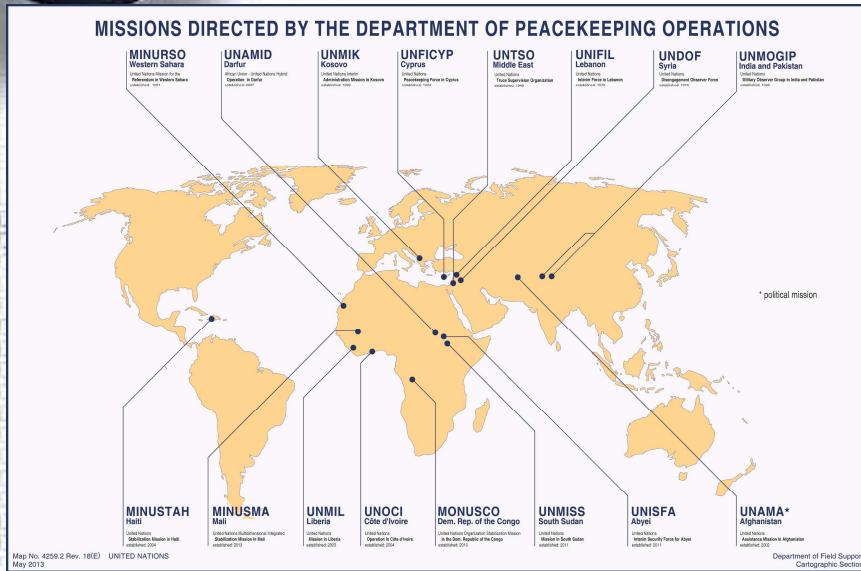
UN Peace Operations



UN Cartographic Section

UNGEGN-2014, New York

UN Peace Operations

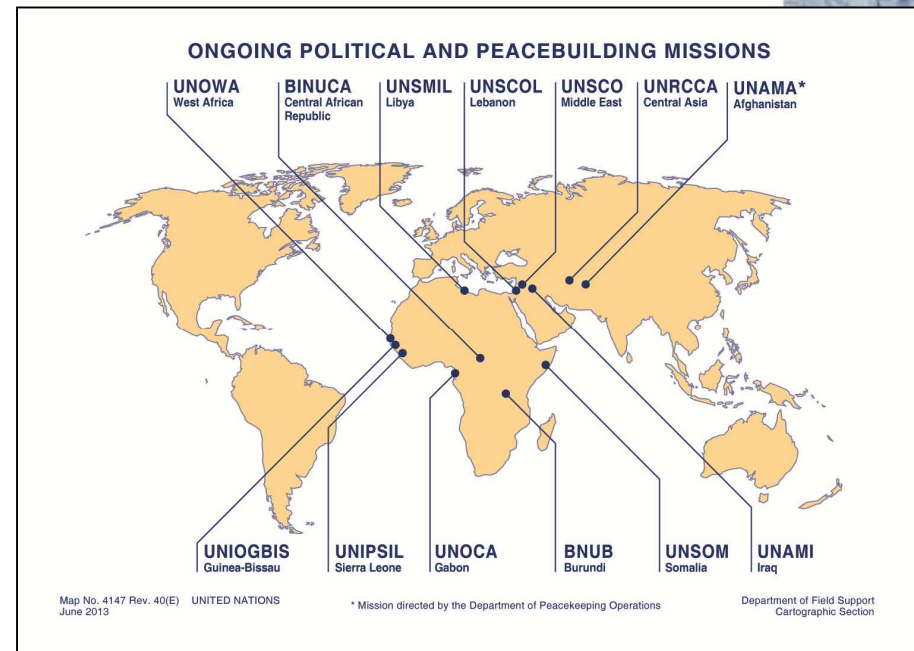


Personnel	PKO	PBO
• Current operations	16	13
• Uniformed personnel	90,241	456
• International civilian	5,084	1,280
• Local civilian	11,730	2,429
• UN Volunteers	2,076	96
• Total:	109,247	4,261

Peacekeeping Budgets

- Jul 2013 - Jun 2014: \$7.2 billions
- Jul 2012 - Jun 2013: \$7.2 billions
- Jul 2011 - Jun 2012: \$7.8 billions

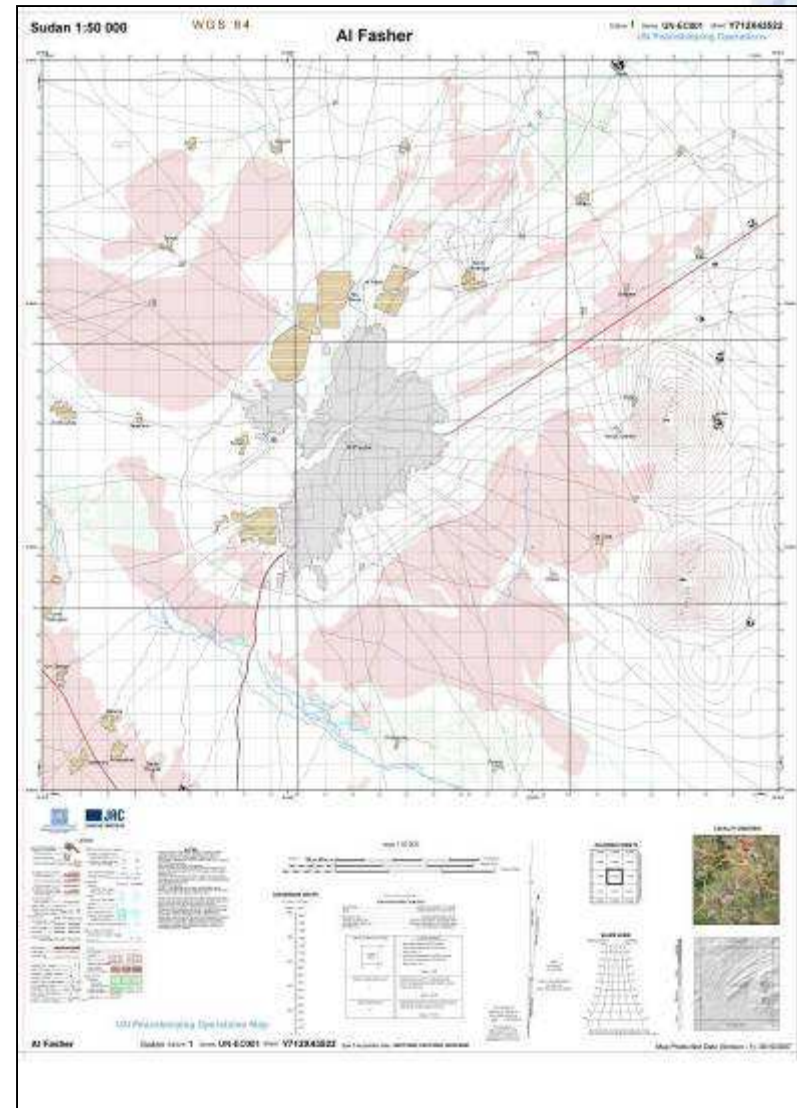
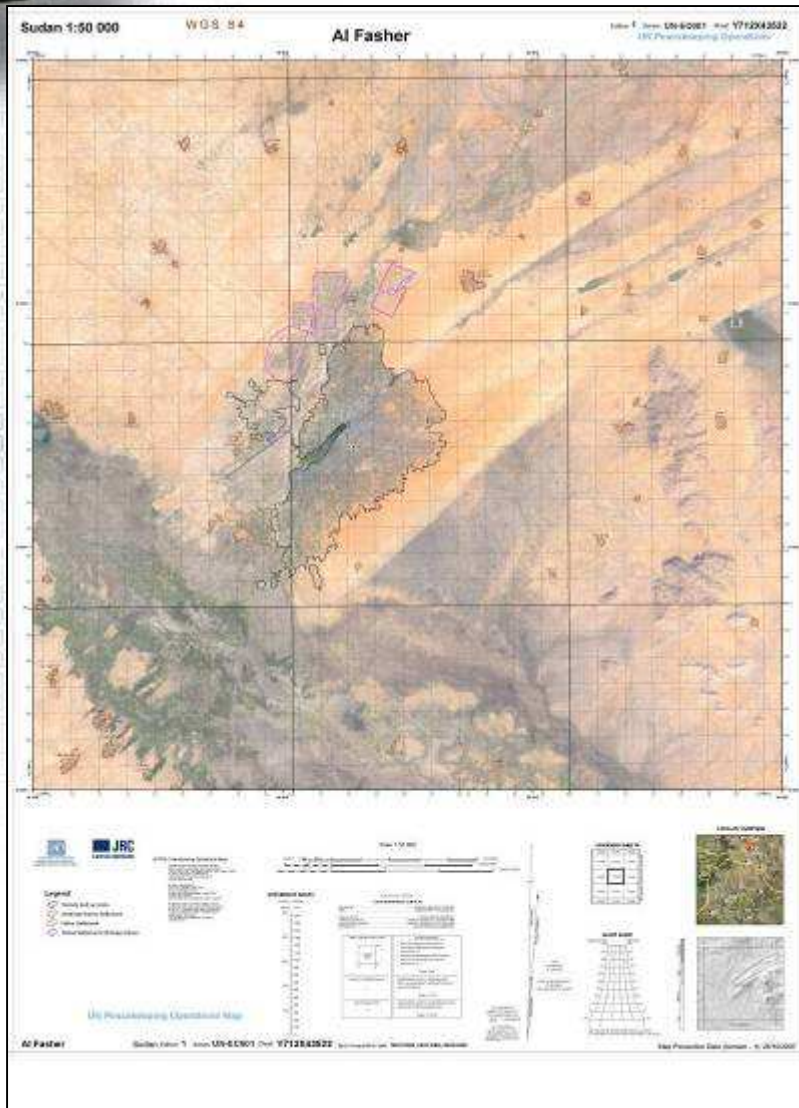
(source: UN fact sheets)





UN Field Operations

Mapping & Geo-Databases





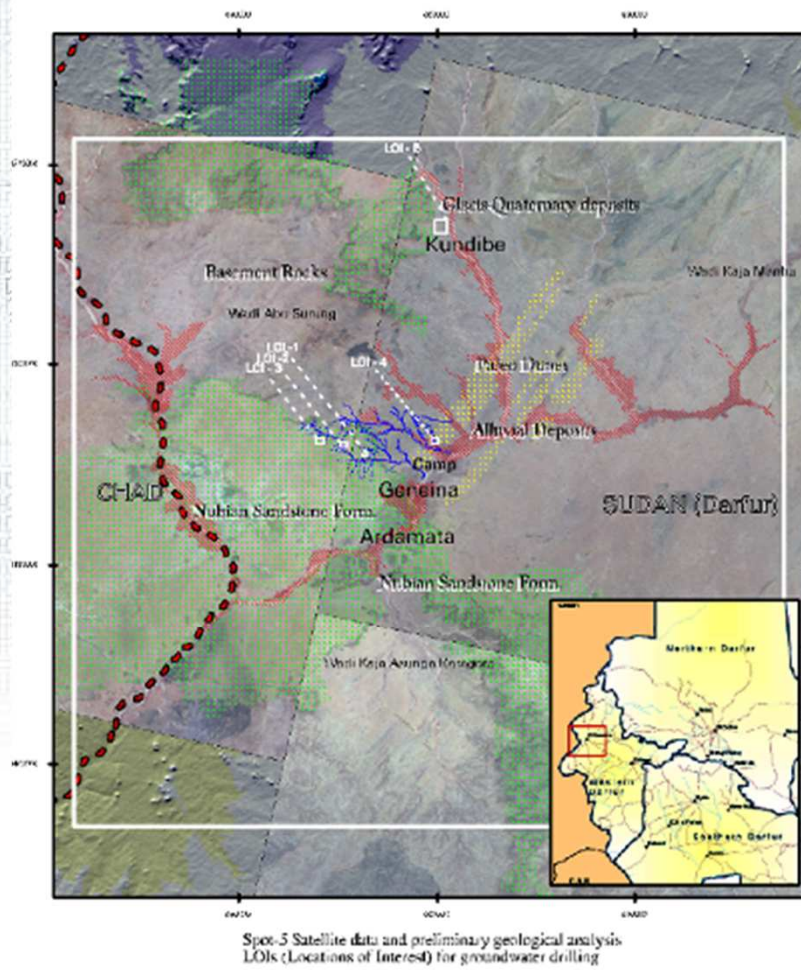
UN Field Operations

Underground Water Exploration in Darfur

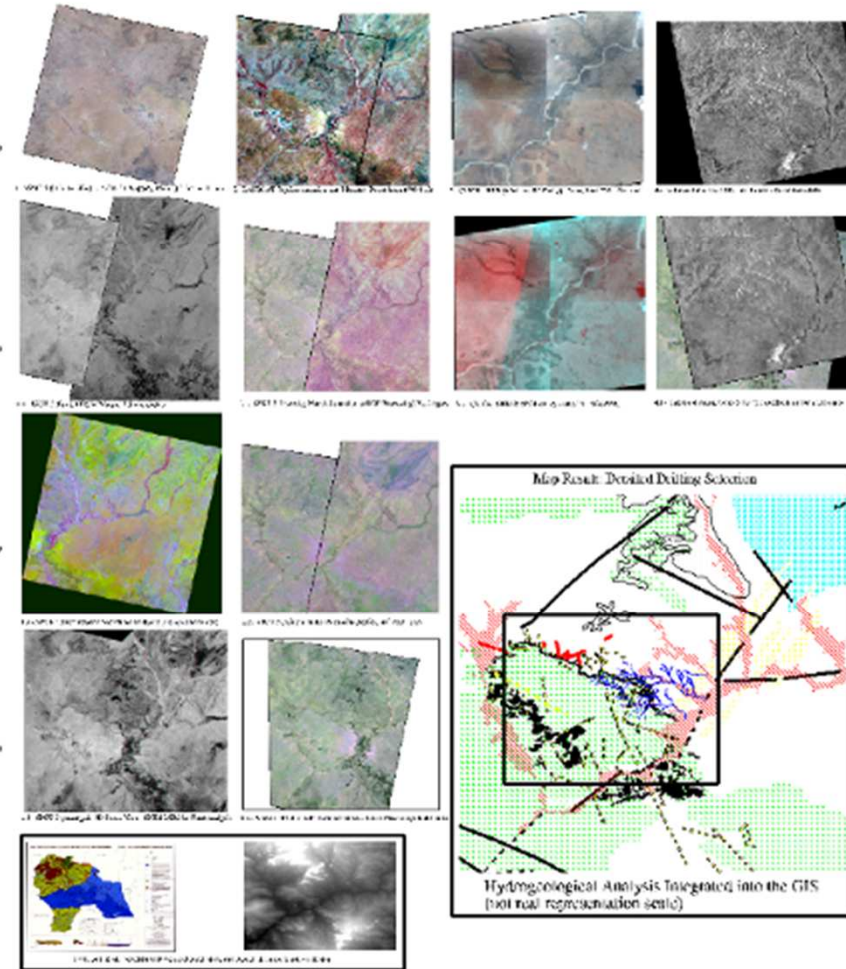
GROUNDWATER STUDY: SELECTION OF LOI's FOR SURVEYS & DRILLING

Document: FSGW-0701-CN/DPK1
 13 March - 19 February 2007
 UN Field Operations Section

AL -GENEINA, Darfur (SUDAN): AREA OVERVIEW



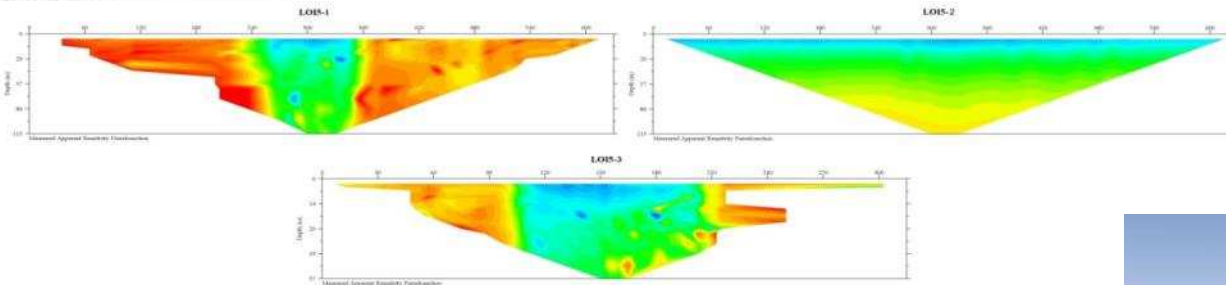
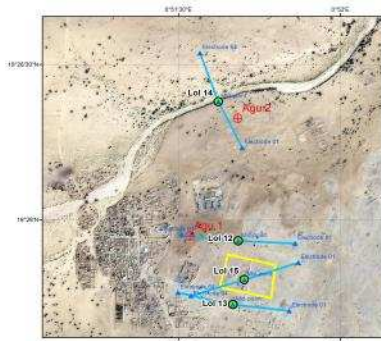
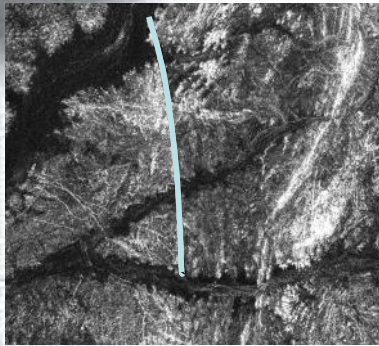
GIS and SATELLITE DATA : Data Sources and Processing Workflows





UN Field Operations

Underground Water Exploration in Mali



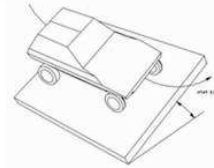
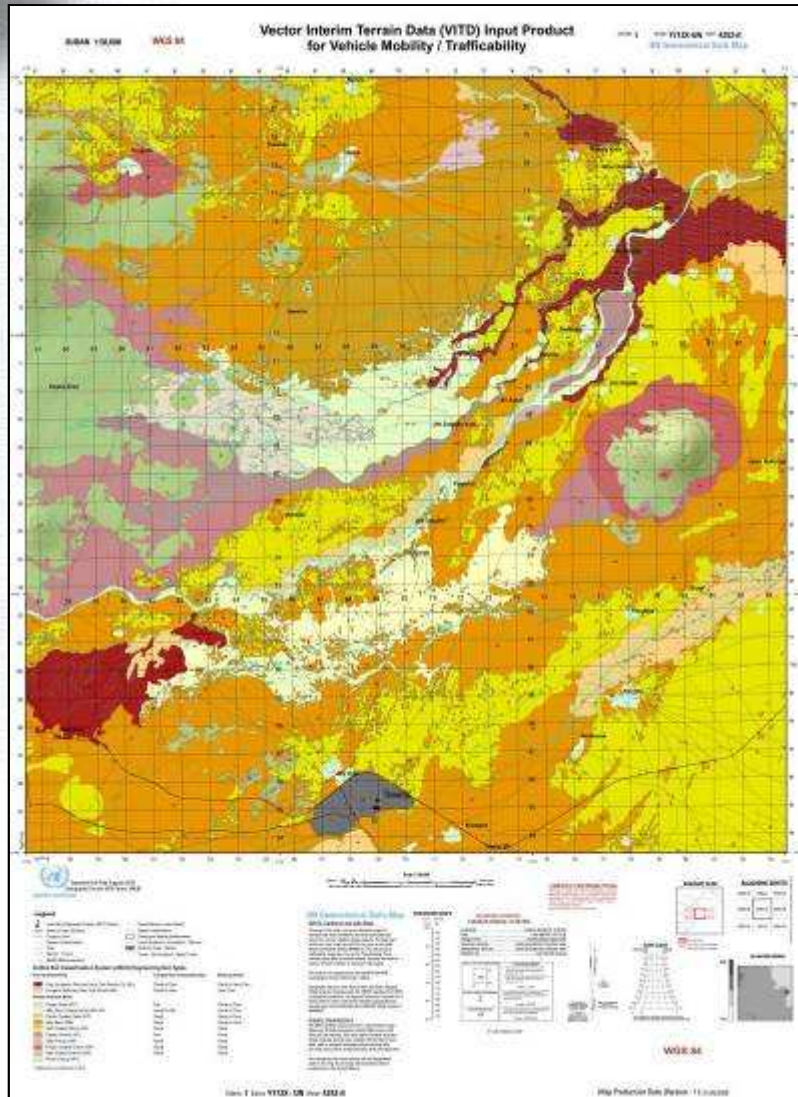
- High success rate using modern geospatial technology
- Water found in 6 towns (Tombouctou, Gao, Kidal, Almoustarat, Aguelhoc, Tessalit)





UN Field Operations

Terrain Analysis for Trafficability



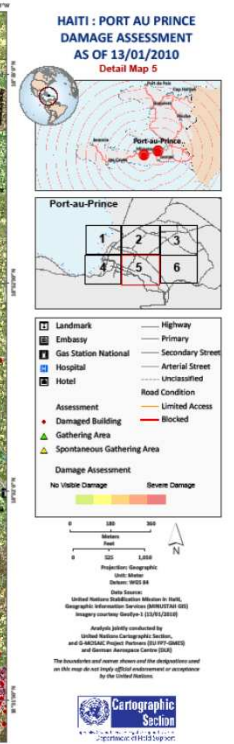
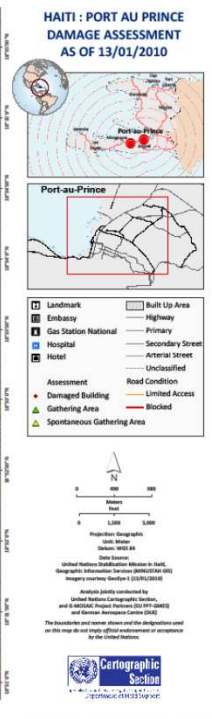
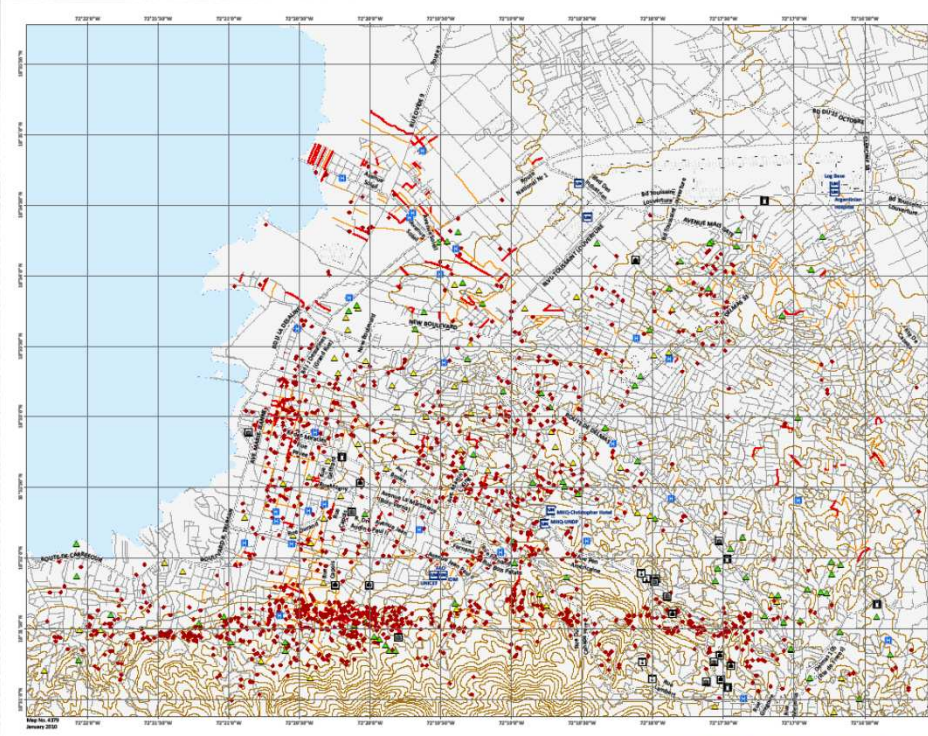
Field movement challenges





UN Field Operations

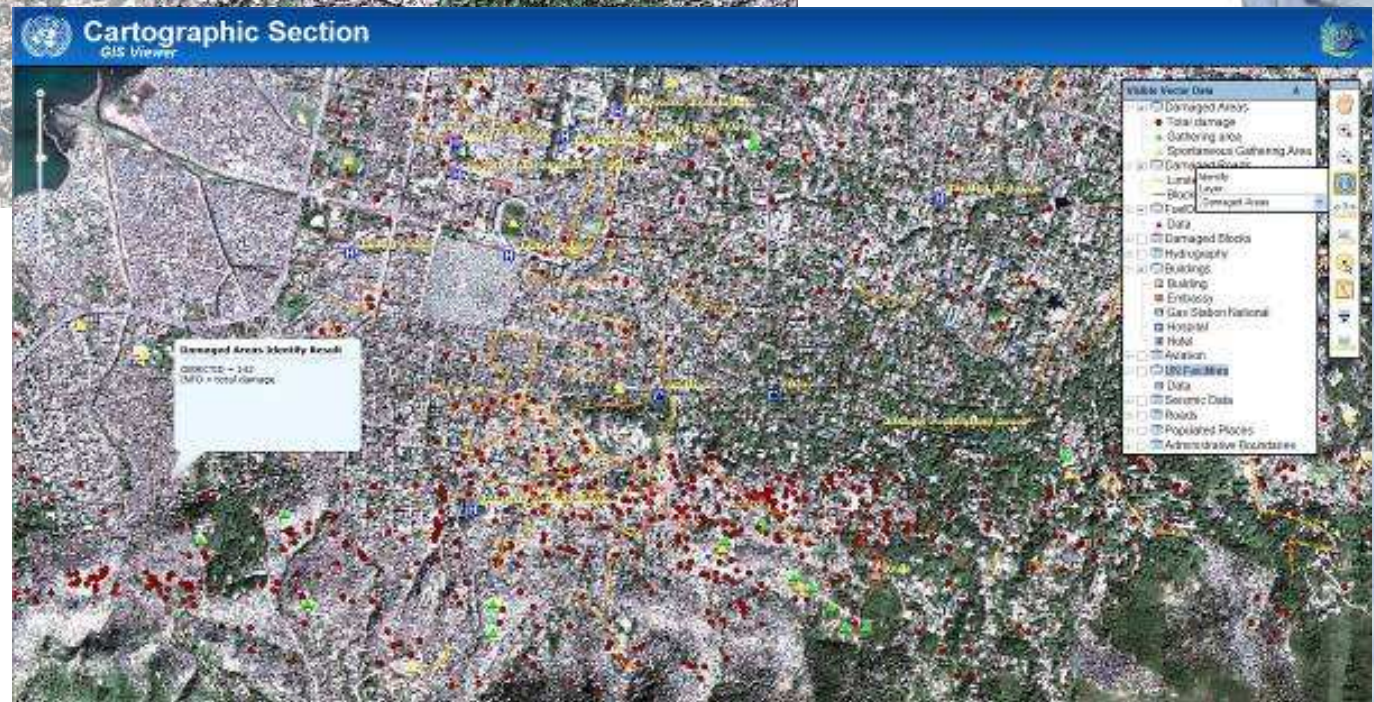
Geo Analysis for Damage Assessment in Haiti





UN Field Operations

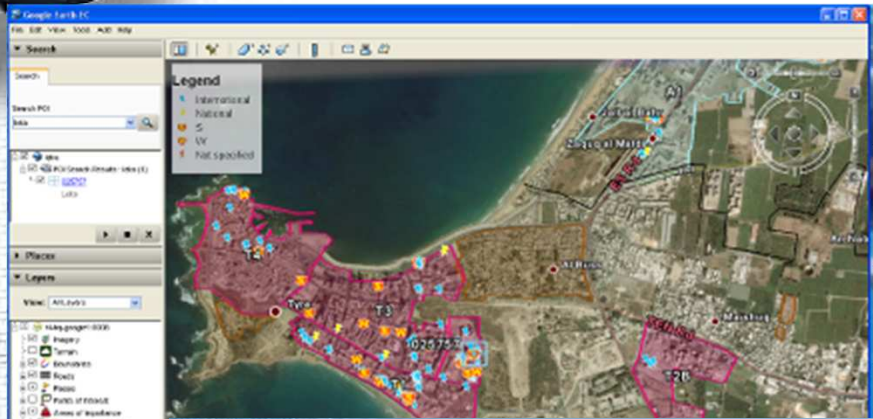
Web-mapping for Haiti Earthquake










UN Field Operations

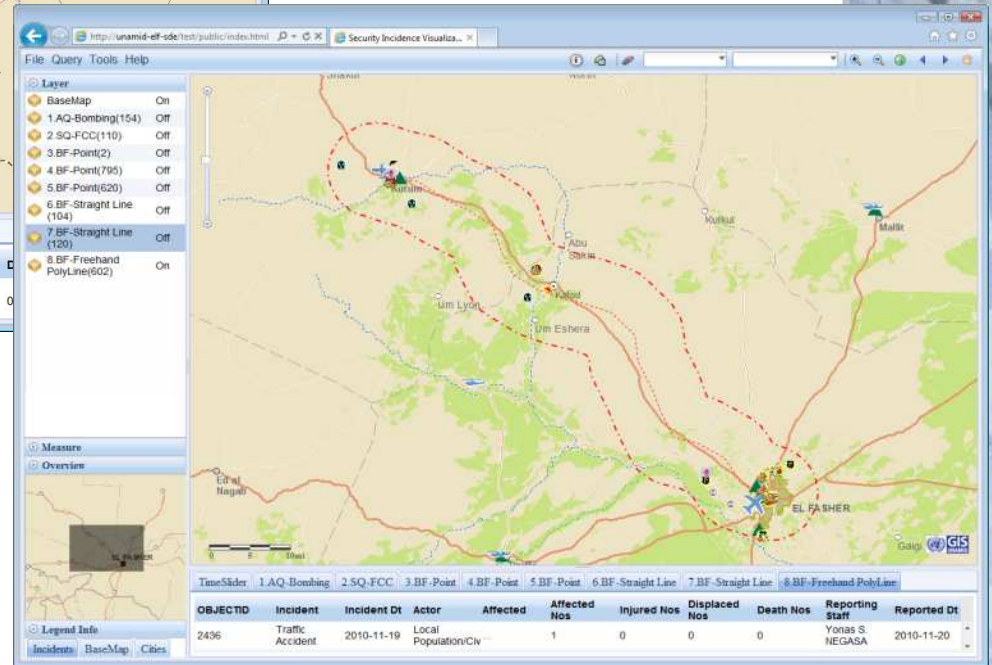
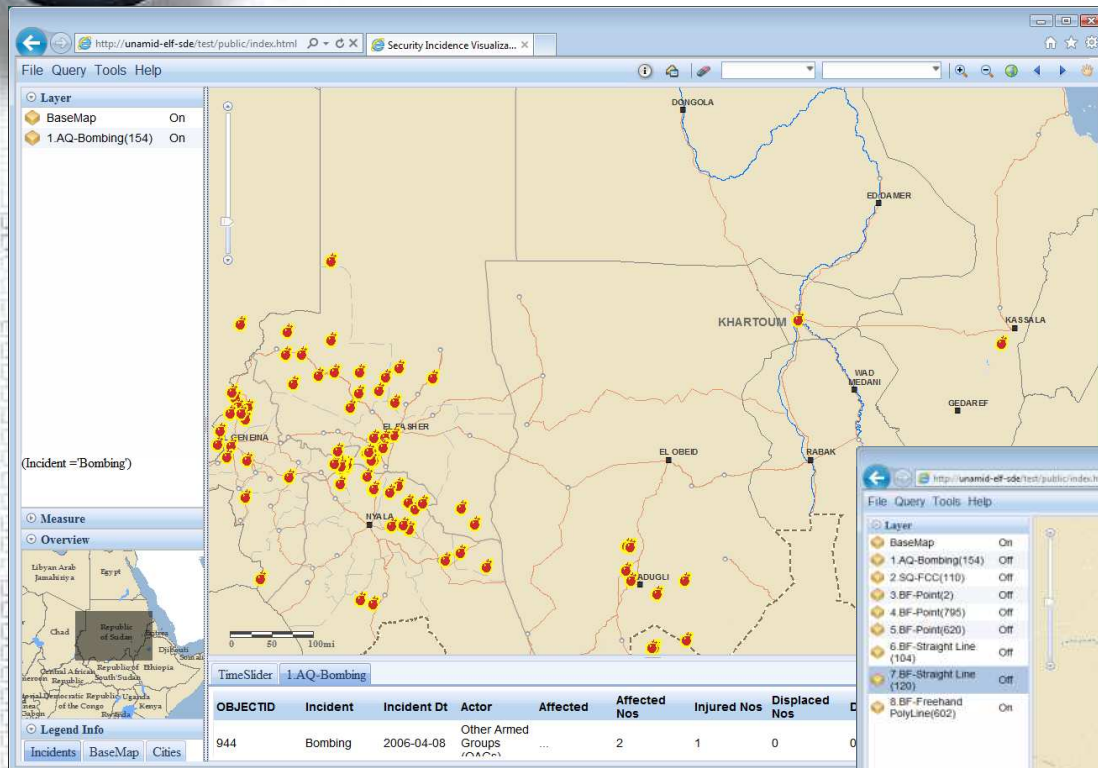
Web-mapping for Security Warden (UNIFIL)



Address	Guesthouse ID	Mobile	Call Sign	Location	Section	Warden	Recruit	Blood	Warden Name	Type	Photo	Emergency	GlobalID
13st Wazir Akbar Khan, next to UNHCR Guesthouse	NA	700882734	WQ 41	Kabul	SRSG Political	*	?	A+	Zulfiqar Bhat	I			{EE694A3C-E5B9-4C6B-A9A0-384EF982E71}
13st Wazir Akbar Khan, next to UNHCR Guesthouse	NA	700093884	WQ 211	Kabul	Field Support	Amir	?	A+	Zulfiqar Bhat	I			{7663B5EA-425E-4B17-B0AB-F33A2F99AF5A}
13st Wazir Akbar Khan, next to UNHCR	NA	799722577	WQ 211	Kabul	Human	*	?	G+	Zulfiqar Bhat	I			{E9C2545B-AS84-43CF-A36E-D14ARB669E44}
								G+	Zulfiqar Bhat	I			{2F1F9D70-59B1-4C32-8534-6DDCF92D3DCB}
								A6+	Zulfiqar Bhat	I			{E855989C-4661-4930-BCE6-22CC40E7CF67}

UN Field Operations

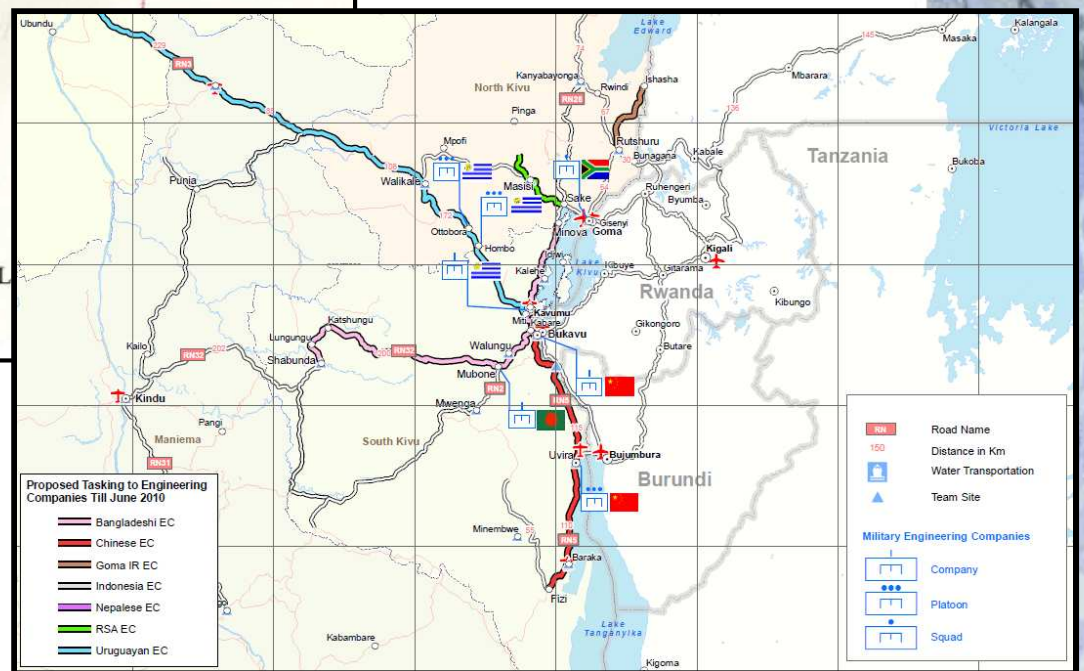
Security Incident Report (UNAMID)



Security incidents Analysis and Reporting information System (SARS)

UN Field Operations

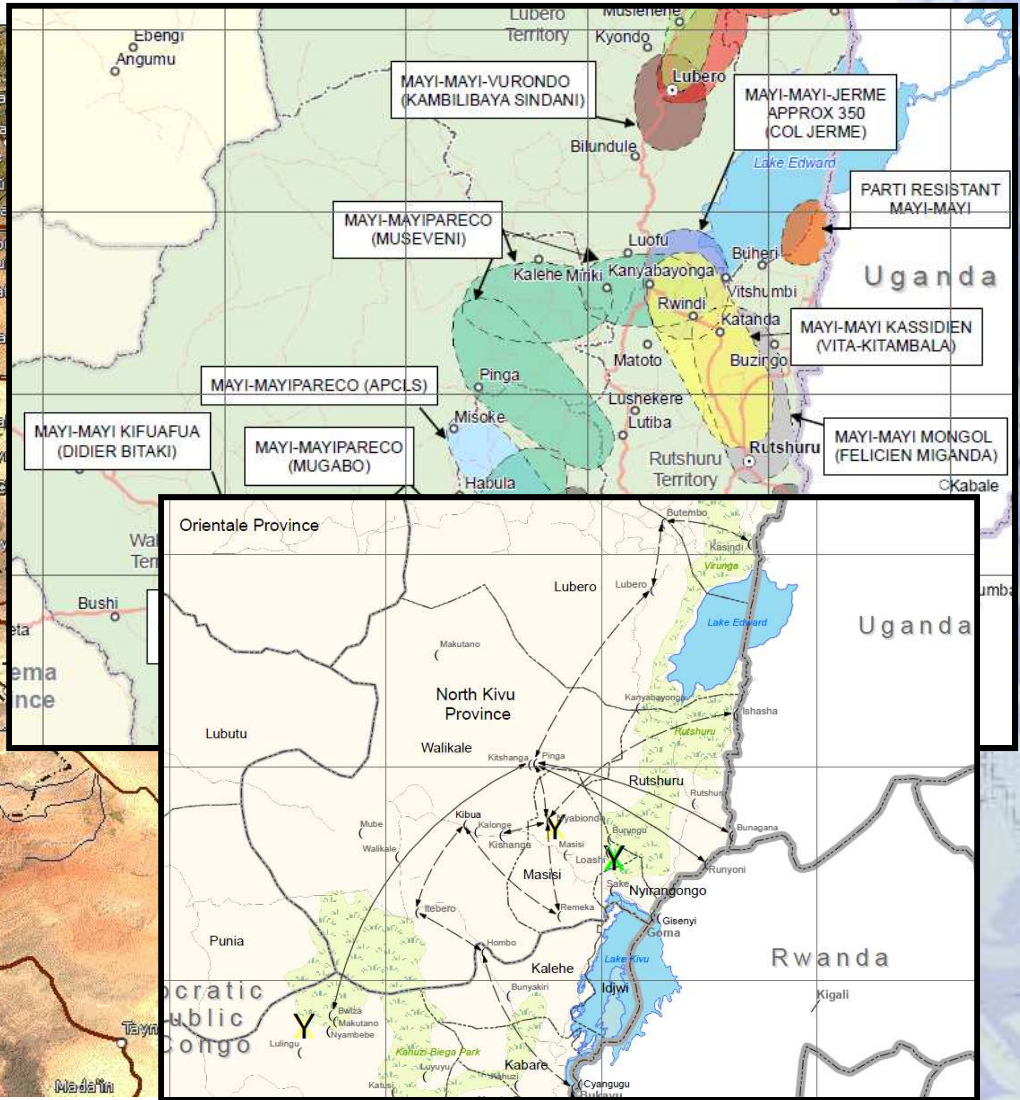
Security Incident Report (UNIFIL) & Tasking Plan (MONUSCO)





UN Field Operations

Dashboard (UNHQ) & Situational Awareness (MONUSCO)



UN Field Operations

ERP – Resource Management (MONUSCO)

PCIU Assets Distribution and Concentration

Find Assets by Name

Results

- Find Assets by Name (2)
- Assets Distribution (2)
- KISANGAME
 - Location: KISANGAME
 - Description: 404 GENERAL PURPOSE
 - Marathon2_Months_Oct: 0
 - Marathon2_Months_Vol: 0
 - BetweenGand1Month_Oct: 0
 - BetweenGand1Month_Vol: 0
 - BetweenGand2Month_Oct: 2
 - BetweenGand2Month_Vol: 25526.02
 - Tot_PurOkata_Cost: 25526.02
 - BUNDGEST: Z
- KINGWAGA

Map Constraints

- Assets in Use
 - Between 1 and 600
 - Between 600 and 2000
 - Between 2000 and 5000
 - Above 5000
- Units in Stock
 - Between 1 and 100
 - Between 100 and 1000
 - Between 1000 and 5000
 - Above 5000
- Feeding Write Off
- Assets Distribution
- Place of Flight routes

Asset Name: 404 GENERAL PURPOSE

- 404 UTILITY
- AIR COMPRESSOR
- AIR CONDITIONER
- AMPLIFIER HIGH POWER SATELLITE
- AMPLIFIER LOW NOISE SATELLITE
- ANTENNA MASTS
- ANTENNAS
- AUDIO EQUIPMENT
- BANDING MACHINE
- BENDING FORMING MACHINE-PIPES
- BERMULNER
- BINOCLULAR
- BOILER
- BRIDGES
- BUS-OVER 15 PAX
- CABINET
- CAMERA LENS
- CAMERA PHOTO
- CAMERA VIDEO

Windows Marketplace | Windows Media | Windows

Map Constraints

- Assets in Use
- Units in Stock
- Feeding Write Off
- Assets Distribution
- Place of Flight routes

Search Results

Location	Description	QTY	Year(Qty)	Year(Val)	Max
BENE	BINOCLULAR	22	\$1,738.78	2	
BURAKAU	BINOCLULAR	1	\$74.85	8	
BURGA	BINOCLULAR	37	\$4,293.36	2	
GOMA	BINOCLULAR	13	\$4,206.78	8	
KALEMIE	BINOCLULAR	7	\$1,263.06	8	
KANANGA	BINOCLULAR	10	\$1,399.83	8	
KEMBA	BINOCLULAR	2	\$31.43	8	
KISANGAME	BINOCLULAR	24	\$1,779.78	3	
KINGWAGA	BINOCLULAR	45	\$41,445.23	1	
LEBUMBASHI	BINOCLULAR	42	\$2,753.46	8	
MBANDAKA	BINOCLULAR	3	\$1,268.06	8	
MBUJI MARI	BINOCLULAR	3	\$4,389.88	8	
NTOU	BINOCLULAR	18	\$2,023.06	8	
SANDUMU	BINOCLULAR	3	\$1,660.06	1	
ENTEBBE	BINOCLULAR	1	\$45.70	1	



International Boundaries

- Border demarcation

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

- Technical assistance

- . AU Border Programme
- . N-S Sudan Border demarcation

- Capacity building

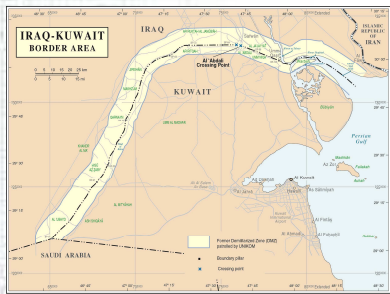
- . Boundary Information System
- . Cooperation with major players



International Boundary Projects

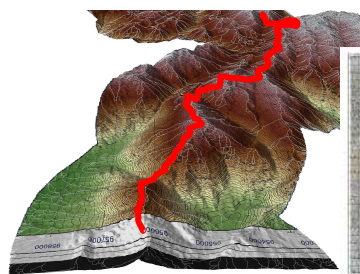
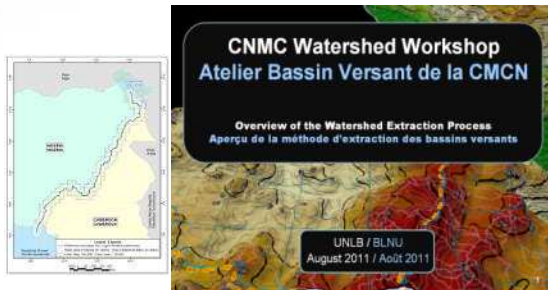
- Iraq-Kuwait Boundary Maintenance Project (IKBMP)

- . IKBDC recommendation and Security Council Resolution 833 (1993)
- . Initiated in September 2005 – entrenchment in October 2008
- . Reactivation in May 2012, followed by Quick field assessment in June 2012
- . IKBMP boundary maintenance completed in March 2013



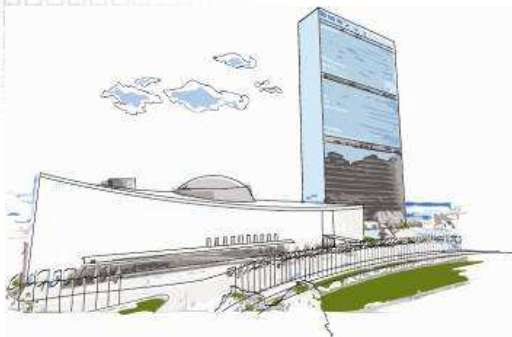
- Cameroon-Nigeria Mixed Commission (CNMC)

- . International Court of Justice's (ICJ) judgment on the boundary in 2002
- . Initiated in 2003
- . Watershed workshop in August 2011
- . Final mapping request in 2013 → Workshop session in June 2013





Challenges to effectively support UN Operations





Challenges and Constraints

- **Critical shortfall of Map & Geo-data for**
 - Relevant briefing to support the Security Council decision making process
 - Effective mission planning
 - Supporting UN field operations
 - . No base map
 - . Outdated and/or inappropriate scale
 - . Digitization of paper maps required
 - . Ad-hoc solutions not satisfactory
- **Constraints**
 - Urgency: limited time between authorization and deployment
 - Insufficient resources to respond to urgent demand
- **Observations**
 - Needs further cooperation/collaboration with Member States on base map productions (i.e., MGCP)
 - Geospatial technology underutilized due to lack of appropriate Geo-data



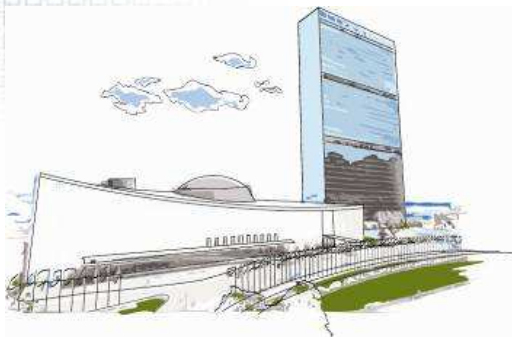
Typical Challenges

Gap analysis

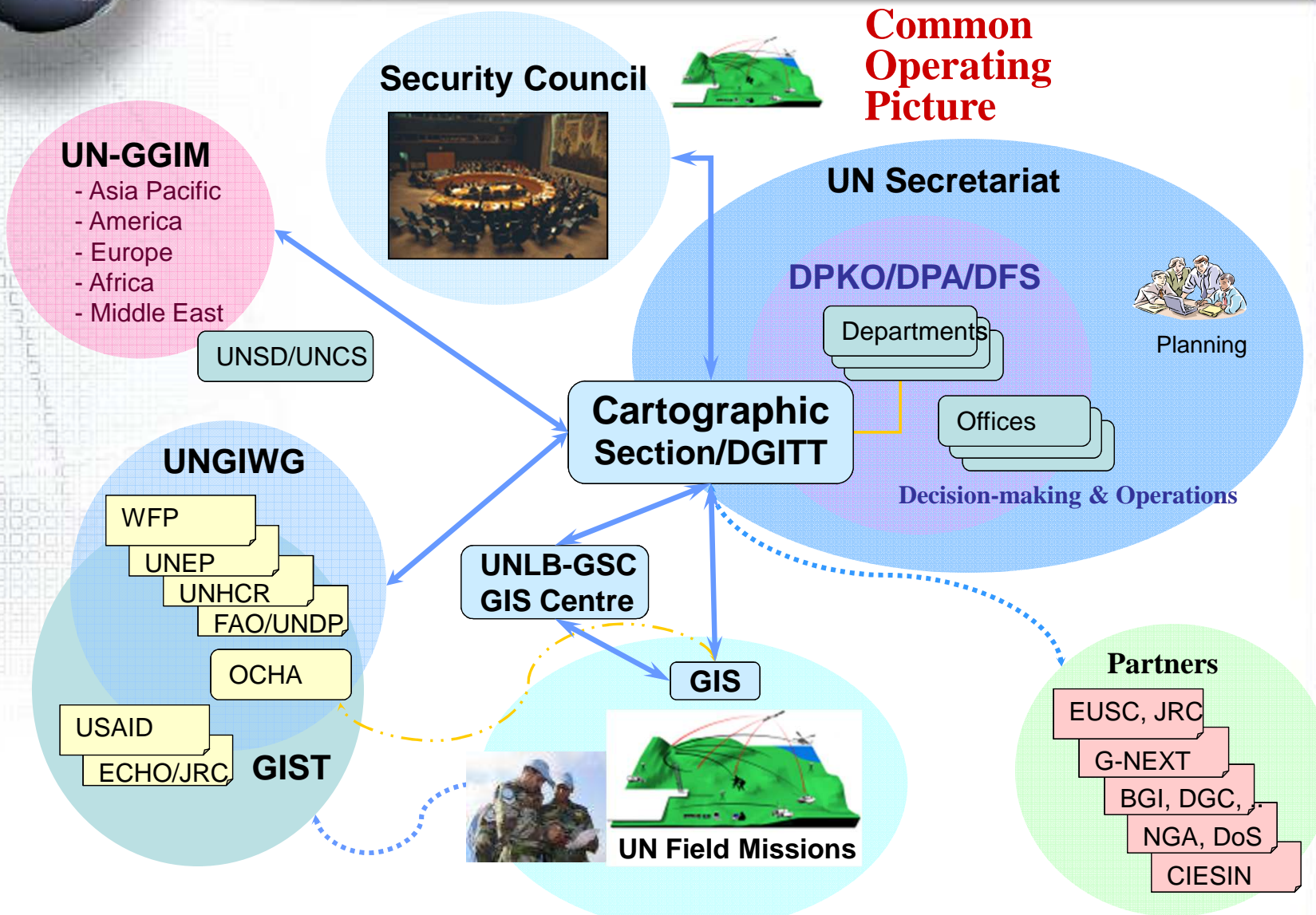
Requirement	Map scale	Data Availability			
		Paper maps	Vector data	Digital elevation	Satellite imagery
Overview Strategic plan	1:1,000,000	ONC available - outdated	Vmap-0 avail, outdated	DEM/DTED-0 available	LandSat NaturalVue
Strategic & operational	1:500,000	TPC & Russian maps – outdated	Not available.	DEM/DTED-1 available	
Operational	1:200,000 1:250,000	JOG & Russian maps - outdated.	Vmap-1 partially available		DEM 30-90 meter
Tactical	1:100,000	US & Russian maps partially avail, outdated.	Vmap-2 Not available		
MilObs/CivPol	1:50,000	Not existence.	MGCP data Not available	Not available	EROS, etc
City & Street	1:20,000	Not existence.			QuickBird IKONOS, etc



Support Framework and Capacity Building



GIS Operational Concept



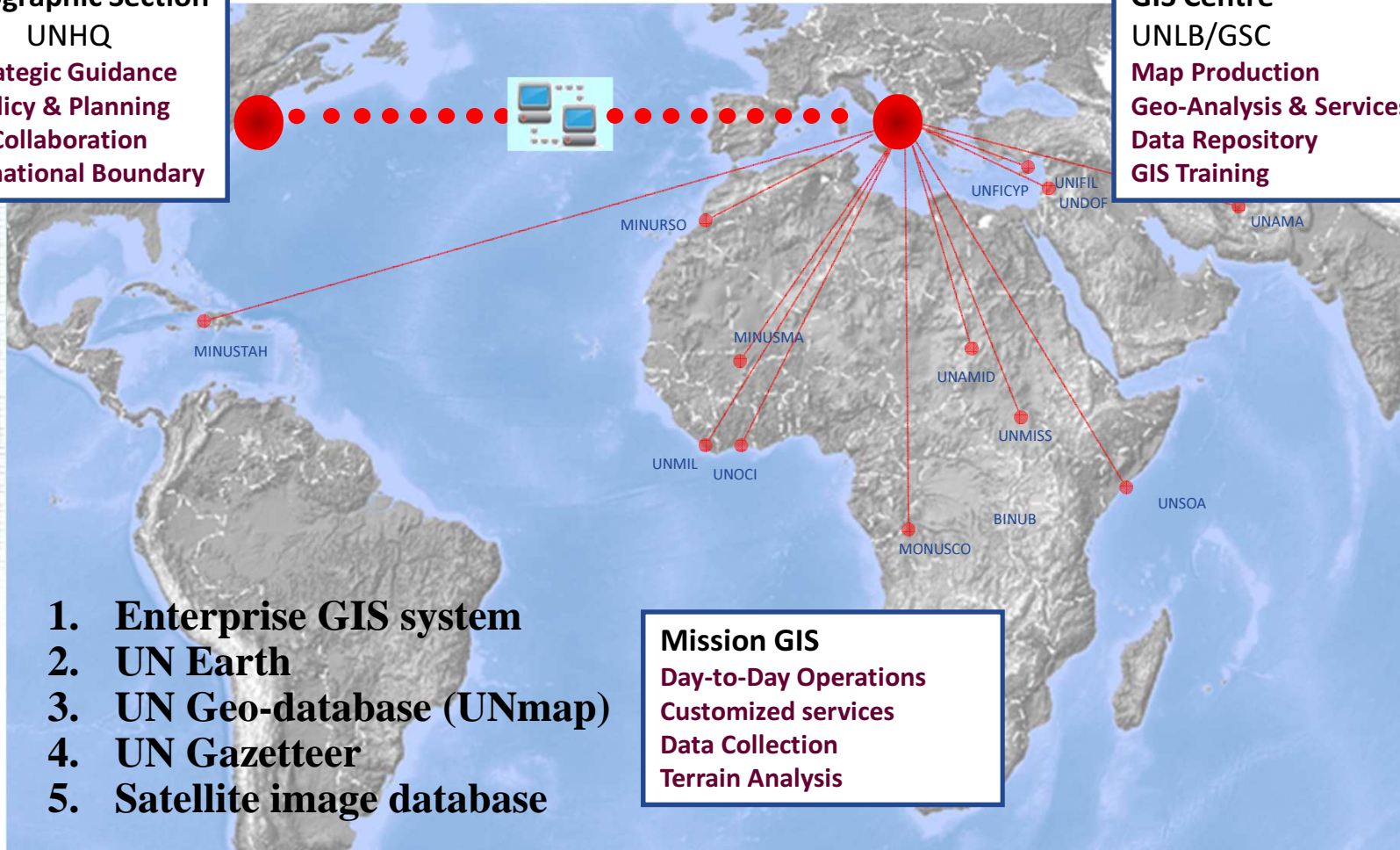


Global GIS infrastructure

3-tier: UNHQ–UNLB/GSC–Missions

Cartographic Section
 UNHQ
 Strategic Guidance
 Policy & Planning
 Collaboration
 International Boundary

GIS Centre
 UNLB/GSC
 Map Production
 Geo-Analysis & Services
 Data Repository
 GIS Training



1. Enterprise GIS system
2. UN Earth
3. UN Geo-database (UNmap)
4. UN Gazetteer
5. Satellite image database

Mission GIS
 Day-to-Day Operations
 Customized services
 Data Collection
 Terrain Analysis



UNmap is the institutional backbone of our daily cartographic and geographic operations

- **Vector Geo-Database**
- **Developed by UNCS & UN Peace Operations GIS community**
- **Various Scales to meet the operational needs**

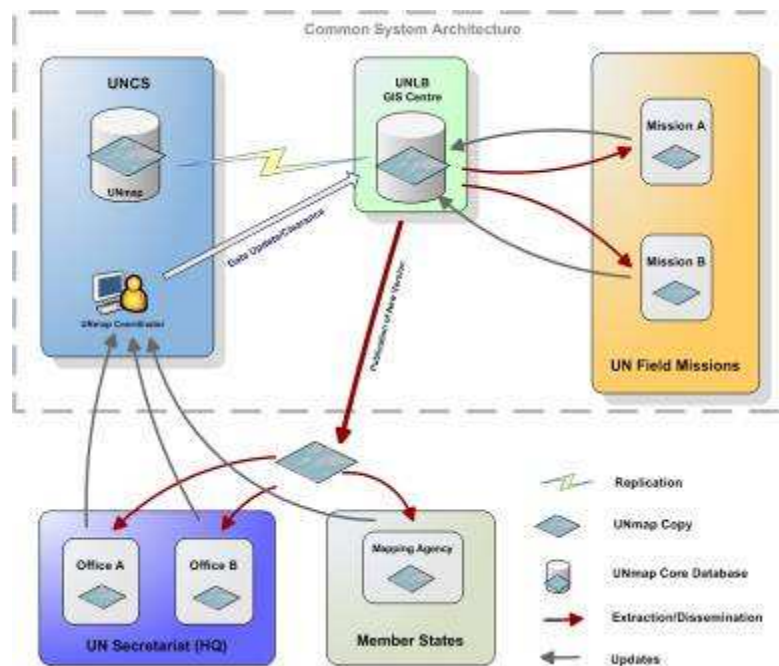
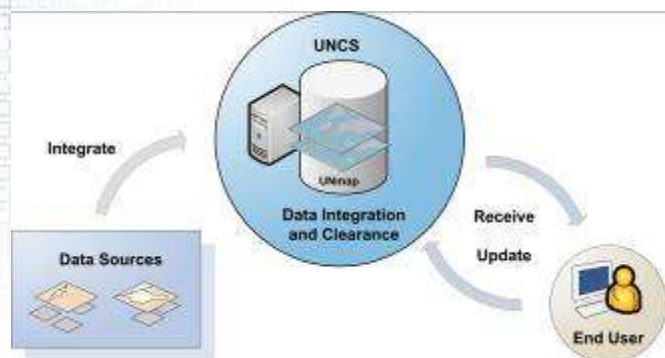
Name	Scale
UNmap-X	1:10,000,000
UNmap-V	1:5,000,000
UNmap-0	1:1,000,000
UNmap-1	1:250,000
UNmap-2	1:50,000
UNmap-3	1:25,000
UNmap-4	1:12,500
UNmap-5	1:5,000





Where we want to go?

- Base for various scale mapping
- Web applications
- Serve UN specific needs
- Dissemination within UN-System
- Updated by UN users



International Boundary Information System

International Boundaries
Administrative Boundaries

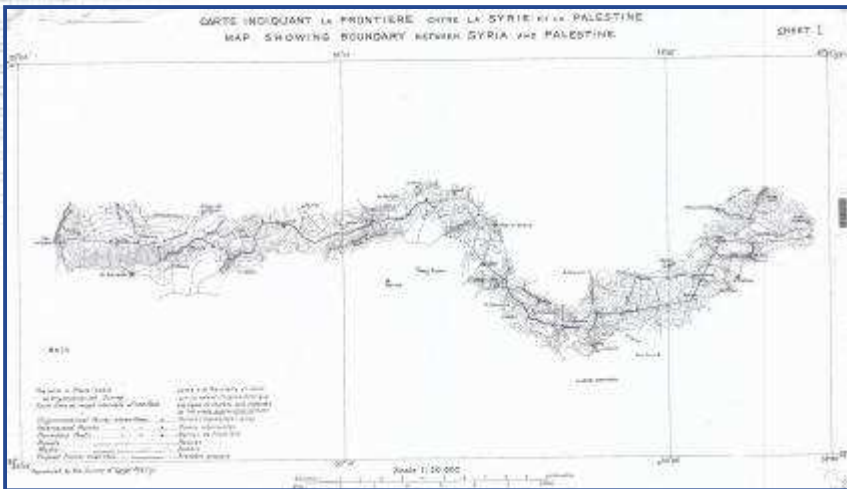
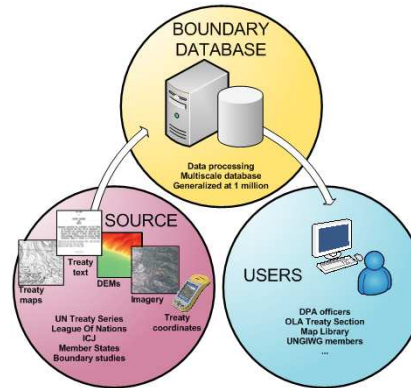
Welcome to the United Nations International and Administrative Boundaries Resources

UNGIWG UNGIWG Home Page

UNCS United Nations Cartographic Section : International Boundaries

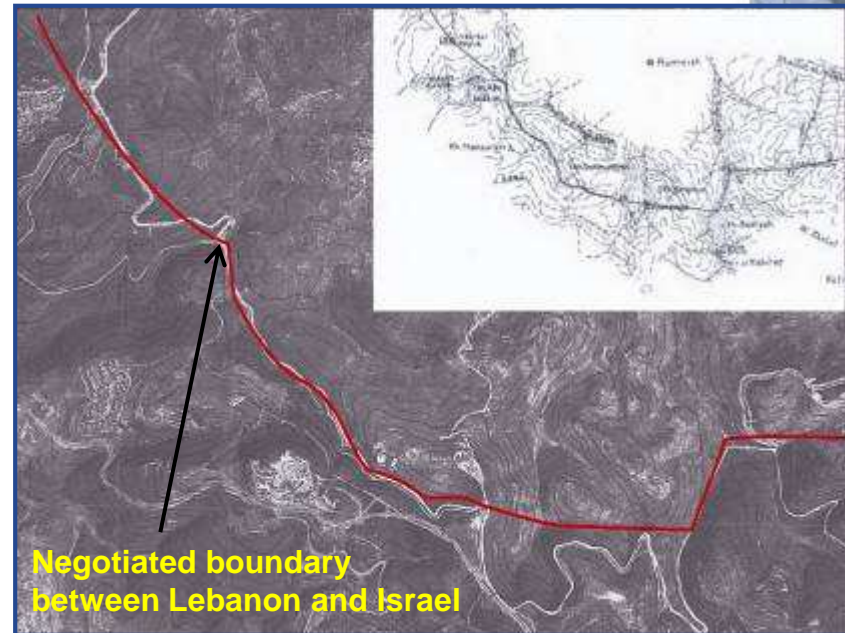
- Guidelines
- International Boundary datasets

SALB Second Administrative Level Boundaries



Historical map

UN Cartographic Section



Ortho-imagery (QuickBird)

UNEGN-2014, New York

International Boundary Information System



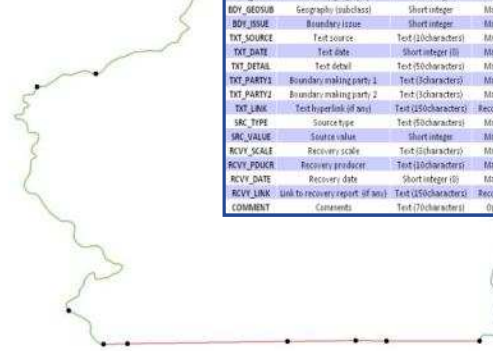
Satellite Imagery



Treaty Text

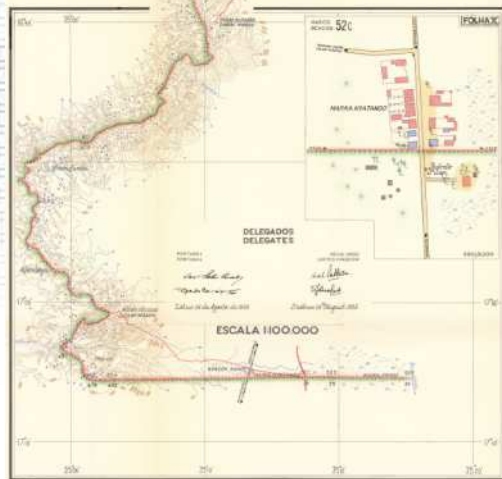
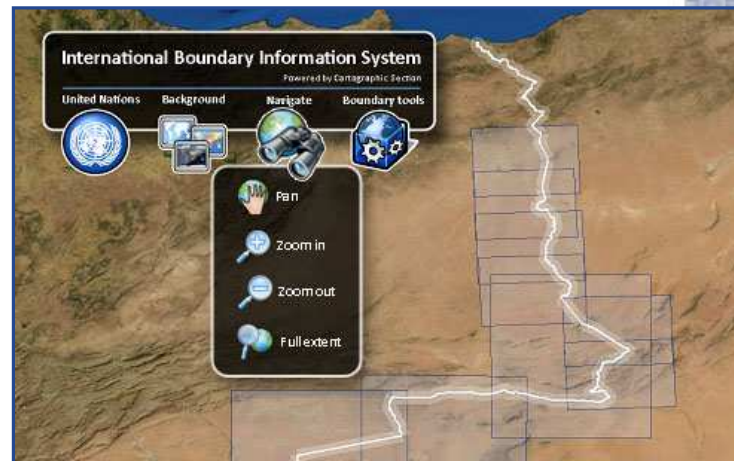
No.	Location	Approx. distance from previous locus measured along the watershed
44D	Between the Conqvo river in Mozambique and the Nykamba river in Nyasaland	5.20 km.
45	On the highest point of the southern end of the Mankanyama Hills	6.50 km.
45A	Between the Cachere river in Mozambique and the Lhanje river in Nyasaland	4.00 km.
45B	1 kilometre west of the village named Tenda	4.70 km.
46	On the summit of Chiranda Hill	5.90 km.
46A	Between the Mendo river in Mozambique and the Kanika river in Nyasaland	5.30 km.
47	At a point 500 metres S.W. of Melanga Hill	2.40 km.
47A	On a small hill 1.5 kilometres S.W. of Nyantoko Hill	6.90 km.
47B	On the highest point of the ridge 3.7 kilometres south of Nyantoko Hill	3.20 km.
47C	Between the Nacali river in Mozambique and the Mswabi river in Nyasaland	4.20 km.
47D	Between the Nacali river in Mozambique and the Mswabi river in Nyasaland	2.10 km.
47E	Between the Nacali river in Mozambique and the Mswabi river in Nyasaland	2.70 km.
47F	Between the Nacali river in Mozambique and the Mswabi river in Nyasaland	5.40 km.
48	On the summit of Molaka Hill	6.60 km.
49	On the summit of Mvaulidze Hill	7.90 km.
50	On the summit of Chafuta Hill	24.10 km.
51	On the summit of Kafalawaga Hill	3.80 km.
51A	On the summit of Kancire Hill	23.30 km.

GIS data



Field Name	Description	Data type	Rule	Value	Example
ID_SEGMENT	Identification of segment	Text (14 characters)	Mandatory	003-003-01	D2648J-03
BOV_CNTRY	Bordering country 1	Text (3 characters)	Mandatory	ISO3	GHA
BOV_CNTRY2	Bordering country 2	Text (3 characters)	Mandatory	ISO3	TGO
BOV_TYPE	Boundary type	Short integer	Mandatory	Value	1 (International boundary)
BOV_STATUS	Boundary status	Short integer	Mandatory	Value	3 (Demarcated by pillars)
BOV_SAO	Boundary geometry	Short integer	Mandatory	Value	2 (AddressGeometry)
BOV_GEOSUB	Geometry subclass	Short integer	Mandatory	Value	2 (Road)
BOV_ISSUE	Boundary issue	Short integer	Mandatory	Value	5 (Vertical)
TXT_SOURCE	Text source	Text (10 characters)	Mandatory	Source code	UNTS
TXT_DATE	Text date	Short integer (3)	Mandatory	yyyymmdd	19490405
TXT_DETAIL	Text detail	Text (50 characters)	Mandatory	Full text reference	UN Treaty Series, vol 1171, 1964, No 22115
TXT_PARTY1	Boundary making party 1	Text (50 characters)	Mandatory	ISO3	GBR
TXT_PARTY2	Boundary making party 2	Text (50 characters)	Mandatory	ISO3	GBR
TXT_LINK	Text hyperlink of text	Text (250 characters)	Recommended	URL or other link	http://unes.org/
SRC_TYPE	Source type	Text (50 characters)	Mandatory	Full references	Treaty map (L100 000)
SRC_VALUE	Source value	Short integer	Mandatory	Value	1 (Excellent quality) to 9 (Low quality)
RCVY_SCALE	Recovery scale	Text (50 characters)	Mandatory	Value	50 000
RCVY_PRODUCR	Recovery producer	Text (100 characters)	Mandatory	Producer code	UNCS
RCVY_DATE	Recovery date	Short integer (6)	Mandatory	yyyymmdd	20030901
RCVY_LINK	Link to recovery report of text	Text (250 characters)	Recommended	URL or other link	Server URL link to pdf
COMMENT	Comments	Text (250 characters)	Optional	Description	Parameters related to boundary

Visualisation



Treaty Maps

N.º	Latitude (S)	Longitude (E)	Altitude (M)	Type
2	14 28 48.3	33 56 22.9	1.339	A
3	14 29 24.4	34 05 11.8	1.380	A
4	14 27 25.9	34 05 54.5	1.338	A
5	14 27 04.5	34 06 44.8	1.323	A
6	14 26 16.1	34 11 07.9	1.445	A
6A	14 26 32.5	34 12 42.9	1.497	A
7	14 25 31.9	34 14 02.4	1.534	A
7A	14 25 49.9	34 16 02.4	1.555	A
8	14 23 56.7	34 18 05.0	1.500	A
9	14 23 57.2	34 20 34.4	1.636	A
10	14 23 46.5	34 23 19.8	1.574	A
10A	14 25 09.3	34 25 09.5	1.546	A
10B	14 28 45.7	34 26 48.8	1.508	A
11	14 31 10.5	34 27 50.3	1.462	A
12	14 32 09.8	34 28 53.1	1.458	A
13	14 34 40.5	34 31 34.9	1.567	A
14	14 37 07.4	34 32 54.1	1.494	A
15	14 40 53.2	34 31 56.9	1.390	A
16	14 45 12.6	34 32 49.2	1.416	A
17	14 46 35.1	34 34 04.1	1.439	A
18	14 48 42.9	34 35 01.5	1.471	A
18A	14 50 28.1	34 34 30.6	1.486	A
19	14 52 40.6	34 34 34.3	1.404	A
20	14 54 00.6	34 34 57.1	1.468	A
21	14 57 43.3	34 35 42.3	1.489	A
22	14 58 46.9	34 36 57.9	1.546	A
22A	15 00 30.4	34 37 56.2	1.605	A
23	15 01 39.6	34 36 19.4	1.618	A
23A	15 04 01.9	34 34 23.3	1.646	A
24	15 05 14.3	34 35 06.8	1.638	A
25	15 06 02.2	34 35 23.8	1.803	A
25A	15 06 44.1	34 34 36.0	1.736	B

Treaty Coordinates



SALB

Second Administrative Level Boundaries

www.unsalb.org



SALB initiated by World Health Organization (WHO) under the UNGIWG in 2000. As of 2011, the function has been transferred to UN Secretariat (Statistics Division & Cartographic Section).

Objectives of SALB: collect, manage and disseminate administrative boundary data and information in coordination with National Mapping Agencies (NMAs)

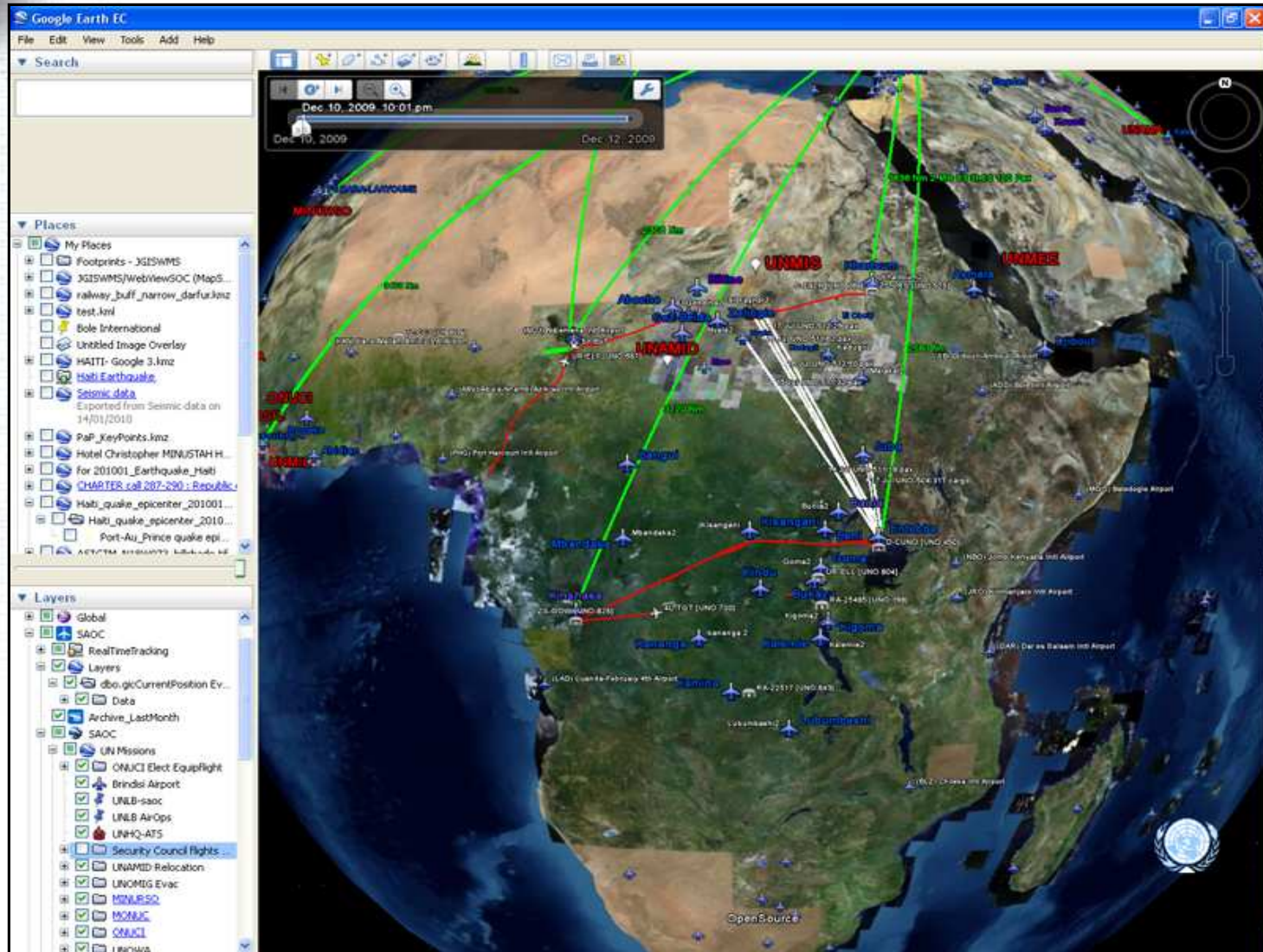
- ⇒ Seamless administrative boundary maps and data since 2000
- ⇒ Coded historic changes of administrative boundary
- ⇒ Contact information of NMAs

www.unsalb.org





UN Earth



UN Gazetteer

Internet Explorer window showing the **fuzzvg UN/FC Common Gazetteer Search** interface. The search term is **abeche**. The results list administrative divisions in Chad, such as **Abéché, Préfecture du Ouaddaï, Chad** and **Abécher, Préfecture du Ouaddaï, Chad**.

Aurora browser window showing the **UN Gazetteer application** interface. The search term is **Alger**. The interface displays a map of Algeria with numbered markers and a table of results.

Feature search

Alger
Total hits: 48

#	name	id	country	latitude	longitude
1	Algiers PPLC	24 68 604	Algeria, Alger	36.7525	3.04197
2	Bordj El Kifan PPL	24 64 788	Algeria, Alger	36.74871	3.18248
3	Ain Taya PPL	24 69 036	Algeria, Alger	36.79333	3.28694
4	Dar El Baida PPL	24 62 016	Algeria, Alger	36.71333	3.2125
5	Birkhadem PPL	24 64 973	Algeria, Alger	36.71499	3.05002
6	Bab Ezzouar PPL	24 66 979	Algeria, Alger	36.72615	3.18291
7	Rouiba PPL	24 44 042	Algeria, Alger	36.73829	3.28079
8	Alger Plage PPL	24 68 598	Algeria, Alger	36.78567	3.23569

Feature view/edit

2468604

Algiers

Class: PPL, code: PPLC, accuracy: 100%, elevation: 0m, mission: GlobalBaseData



Collaboration & Partnership

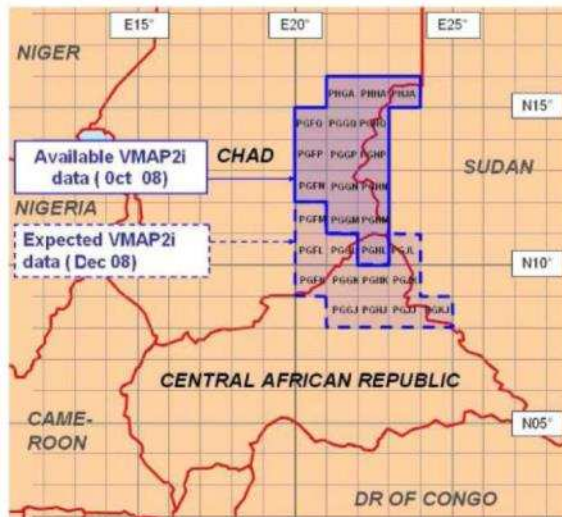
- **Member States (France, Germany, Italy, Netherlands, Romania, Spain, UK, USA, etc.)**
- **UN Global Geospatial Information Management (UN-GGIM)**
- **African Union (AU)**
- **European Union (EU)**
- **EU Satellite Centre (EUSC)**
- **EC Joint Research Center (JRC)**
- **Multinational Geospatial Co-production Program (MGCP)**
- **GMES/Copernicus projects (G-MOSAIC, G-NEXT)**
- **NATO**
- **UN secretariat & agencies (UNGIWG), including UNITAR/UNOSAT**
- **International professional organizations (ICA, DGIWG, OGC, WWHGD, etc.)**
- **Academia & Research Institutes (CIESIN, IBRU, ITC, etc.)**



Strategic Partnerships

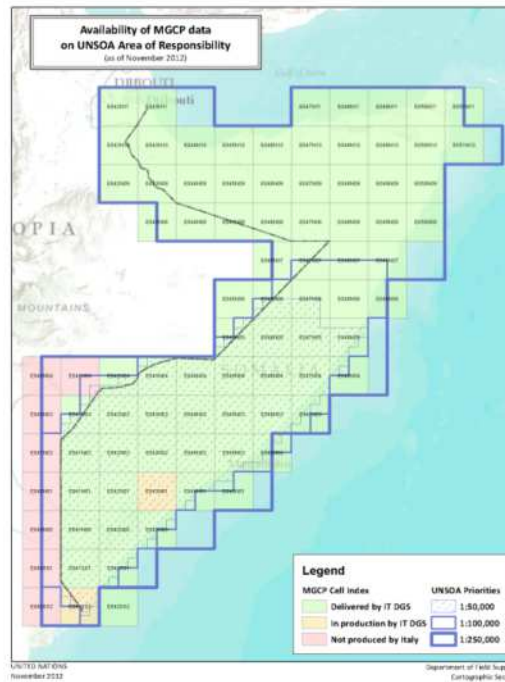
Member States

France for MINURCAT (2008)



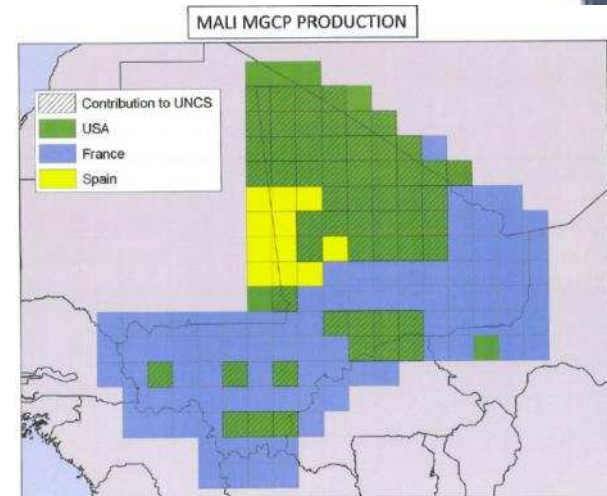
27 cells – 432 maps @ 1:50,000

Italy for UNSOA (2012)



78 cells – 312 maps @ 1:100,000

France, Spain, USA for MINUSMA (2013-14)



136 cells – 544 maps @ 1:100,000



Strategic Partnerships

European Union

30 Oct 2013 UNCLASSIFIED For Official Use Only. Submittable to UN/OP/W. OIAI 3301 0009 002 (First Approval Report)

Legend:
 Main entrance
 Soft-Skinned Vehicle
 Local road paved
 Local road unpaved
 Dirt track

Significant changes are observed at the probable storage facility. On the image dated 25 Oct 2013, one new Soft-Skinned vehicle, probably a large van or a truck is parked in the entrance area, next to a large trailer truck previously observed (Inset 1). No other vehicle activity is observed on the image. However, a lot of unidentified material is noted in front of the tunnel entrances further up the road (Inset 2 and Inset 3). The nature of this material is unknown, but it appears to consist of multiple, circular, dark-toned objects with an approximate diameter of 2 m (see detail). There are no roadblocks or any sign of observation in the facility or its close vicinity.
 All Comment: Images have been retouched to provide a better perspective.

Location 23 Presidential Palace of Abidjan

Force	None
Location	Plateau
Lat/Long	N05°19'07.71", W004°01'21.75"

This is the Presidential Palace of Abidjan. It is located in the south-western part of the Plateau district, in the neighbourhood of the port of Base Marine Haute Mer (described in this report as Location 12). Presidential palace covers an area of 14 hectares approx.

Ancillary sources of information (8th of April, Reuters: <http://www.reuters.com/article/2011/04/08/ivory-coast-41USTRE73014220110408?pageNumber=1>, BBC: <http://www.bbc.co.uk/news/world-africa-13008263>) claim that Mr. Laurent Gbagbo is remaining there.

23 Feb 2011

G-mosaic Detailed Reference Map
 Abidjan (A-Rank), Sudan

Scale: 1:50,000
 Date: 1/10/2011
 Author: G-mosaic

Legend:
 Buildings
 Roads
 Water
 Vegetation
 Topography

G-MOSAIC (2009 - 2011)
G-NEXT (start April 2013)

05 Oct 2013 UNCLASSIFIED For Official Use Only. Submittable to UN/OP/W. OIAI 3301 0006 001 (First Report)

The facility is located at 22 km NE of Damascus, in an industrial area and covers approximately 18 ha. It is walled and has a single entrance. On 24 Aug 2013, the access was protected by earth revetments and a probable vehicle check point. Numerous other road blocks and VCPs have also been observed in the surroundings. The facility consists of several probable fabrication/processing buildings connected to storage tanks and a probable large storage building. One of the tanks seems to be damaged. Spills or burnt traces are noted in the southern part of the site. Three probable vents have been observed, indicating possible underground storage. On 24 Aug 2013, no significant vehicle activity has been observed.



G-next Somalia
 Luuk - River Crossing Point

Scale: 1:50,000
 Date: 1/10/2011
 Author: G-next

Legend:
 Buildings
 Roads
 Water
 Vegetation
 Topography

EU Satellite Centre
 (2005 - cont.)



UN-GGIM: A Global Initiative



Formal inter-governmental Committee of Experts to:

- Discuss, enhance and coordinate Global Geospatial Information Management activities by **involving Member States** at the highest level as key participants
- **Make joint decisions and set directions** on the use of geospatial information within national and global policy frameworks
- **Work with Governments** to improve policy, institutional arrangements, and legal frameworks
- **Address global issues and contribute collective knowledge** as a community with shared interests and concerns
- **Develop effective strategies** to build geospatial capacity in developing countries





Thank you



Kyoung-Soo Eom
Chief Cartographic Section
eom@un.org
+1 (212) 963-0221

Guillaume Criloux
Chief GeoOps Unit
criloux@un.org
+1 (917) 367-4935

Ayako Kagawa
Chief Geo Support Unit
kagawa@un.org
+1 (917) 367-4260

