

**United Nations/European Space Agency/Government of Sudan
Regional Workshop on the Use of Space Technology for
Natural Resources Management, Environmental Monitoring and Disaster Management**

Khartoum, Sudan, 4 – 8 April 2004

Final Programme

Sunday 4 April

- 0800 – 0900 Registration of Participants
- 0900 – 1030 **Opening Ceremony**
- Statement by the Director General of the National Centre for Research – Prof Ali M Abdel MAGID
 - Statement by UNOOSA – Mr David STEVENS
 - Statement by European Space Agency – Ms. Micheline TABACHE
 - Welcome statement by the Secretary General of the Ministry of Science and Technology – Prof Eltayeb IDRIS
 - Opening statement by H.E. Minister of Science and Technology – Prof Alzubair Bashir TAHA
 - Welcome statement by H.E. Vice President of Sudan – Prof Moses Mashar
- 1030 – 1100 Refreshments
- 1100 – 1230 **Keynote Presentations**
- Chairman: Prof. Abdalla A. ABDALLA (International Consultant in Agriculture, Sudan)
Rapporteur: Mr. W. Eltaib WAGIEALLAH (Higher Council for Civil Defence)
- Mr. Hassan M. HASSAN (Sudan Remote Sensing Authority) – The Use of Geo-Spatial Technologies for Development and Management of Environmental Resources
Ms. Micheline TABACHE (European Space Agency) - The Use of Space-based Technologies for Sustainable Development
Mr. Abdishakour GULAID (United Nations Economic Commission for Africa) – Building an Information Society in Africa – The Role of ECA
Mr. David STEVENS (United Nations Office for Outer Space Affairs) – The Use of Space-based Technologies: The Role of the United Nations Office for Outer Space Affairs
- 1230 – 1330 Lunch
- 1330 – 1520 **Presentation Session 1 – Agriculture and Natural Resources Management**
- Chairman: Mr. Mohamad KHAWLI (National Center for Remote Sensing, Lebanon)
Rapporteur: Mr. Hicham EZZINE (Royal Center for Remote Sensing, Morocco)
- Mr. Hassan FADUL (Agriculture Research Cooperation, Sudan) – The Application of Remote Sensing in Monitoring Desertification on Agricultural Lands of Gazira Scheme
Mr. Ambrose ORODA (Regional Centre for Mapping of Resources for Development) – The Use of Geo-Spatial Technologies for Natural Resources Management in South Western Sudan
Mr. Anwar SIALA (Survey of Libya) – The Use of Geo-Spatial Technologies in Libya: Improved Mapping for Agriculture, Desertification Management and Natural Resources Management
Mr. Alex FORTESCUE (Satellite Applications Centre CSIR – South Africa) – The Use of Geo-Spatial Technologies: A SADC Regional Perspective
- 1520 – 1550 Afternoon Tea

- 1550 – 1730 **Discussion Session 1 – Building Upon Success Stories: How has Space-based Technologies been successfully incorporated?**
- Three working groups: two focusing on Sudan and one focusing on the region.

Monday 5 April

- 0900 – 1050 **Presentation Session 2 – Land Use and Land Degradation**
Chairman: Mr. Anwar SIALA (Survey of Libya)
Rapporteurs: Mr. Ambrose ORODA (Regional Centre for Mapping of Resources for Development) and Ms. Emmanuella NGENZEBUHORU (Environment Department – Burundi)

Mr. Hicham EZZINE (Royal Center for Remote Sensing – Morocco) – The Use of Geo-Spatial Technologies for Forest Fire Risk Mapping
Mr. Edwin HAULE (Ministry of Natural Resources and Tourism – Tanzania) – The Use of Geo-Spatial Technologies for Forest Resource Management
Mr. Joseph K. KANYANGA (Zambia Meteorological Department – Zambia) – The Use of Space-based Technologies for Forest Management in Zambia – A Case Study in the Copperbelt Province
Mr. Hamdy El-GAMILI (The National Authority for Remote Sensing and Space Sciences – Egypt) – Assessment of Environmental Deterioration Due to Land Use/Land Cover Changes in El Gona Area, Red Sea Coast, Egypt

- 1050 – 1110 Morning tea

- 1110 – 1300 **Presentation Session 3 – Hydrology and Water Resources Management**
Chairman: Ms. Talita GERMISHUYSE (Institute for Soil Climate and Water – South Africa)
Rapporteur: Mr. Joseph K. KANYANGA (Zambia Meteorological Department – Zambia)

Ms. Micheline TABACHE (European Space Agency) – TIGER Initiative: Water Resources Management in Africa
Mr. Mustafa A. YOUSIF (Wadis and Water Resources Directorate, Sudan) – The Role of Space Technologies in the Exploration and Assessment of Groundwater in the Basement Complex Areas of Sudan
Mr. Abdalla ABDELSALAM (UNESCO Chair Water Resources – UCWR) - The Use of Space Technology in Water Resources Assessment - Ground Water and Surface Water Modeling Techniques
Mr. Mohamad KHAWLI (National Center Remote Sensing, Lebanon) – The Use of Space-based Technologies for Studying Stress Increase of Land Use Change: Focus on Water Resources Management
Mr. Eltaib S. M. GANAWA (National Remote Sensing Authority, Sudan) – GIS-based Irrigation Water Management for Site Specific Management in Malaysia

- 1300 – 1400 Lunch

- 1400 – 1530 **Presentation Session 4 – Country Papers**
Chairman: Ms. Joan KABASELLEH (ICPAC – IGAD Climate Prediction and Applications Centre)
Rapporteur: Mr. Edwin HAULE (Ministry of Natural Resources and Tourism – Tanzania) and Mr. Ebrahim KANDAH (Royal Jordanian Geographic Center – Jordan)

Mrs. Muna M. Muhamad AHMED (Environmental Research Institute, U of K, Sudan) – Environmental Emergency Management
Mr. Ahmed A. KAREEM (Sudan Meteorological Authority) – A Satellite-based Agrometeorological Monitoring System for Sudan

Mr. Ali Taha AYOUB (Ahfad University for Women, Sudan) – The Need for Systematic Monitoring and Assessment of Land Degradation / Desertification in The Sudan
Mr. Malik N. MALIK (Arab Authority for Agricultural Development, Sudan) – AAAID Applying Precision Farming Technology in Agadi Project – Sudan
Mr. Musa A. FOTA (Sudan Meteorological Authority) – The Use of Space-based Technologies in Sudan Meteorological Authority

1530 – 1600 Afternoon Tea

1600 – 1730 **Discussion Session 2 – Identifying Constraints to Further Use: What are the current constraints to the increase in the use of space-based technology solutions?**

- Three working groups: two focusing on Sudan and one focusing on the region.

Tuesday 6 April

0900 – 1300 Technical Tours

- Meteorology
- Forestry
- Geological Research

1600 -1900 Trip to Blue Nile – White Nile confluence

Wednesday 7 April

0900 – 1050 **Presentation Session 5 – Environmental Monitoring and Assessment**
Chairman: Ms. Micheline TABACHE (European Space Agency)
Rapporteur: Ms. Aster Deneke YILMA (Environmental Protection Authority – Ethiopia)

Ms. Joan KABASELLEH (ICPAC – IGAD Climate Prediction and Applications Centre) – The Use of Space-based Technologies for Monitoring Extreme Weather Events

Mr. Haroun A. ABDALLA (Sudan Meteorological Authority) – Remote Sensing Information and Disaster Management

Ms. Eman ABDEL GHAFAR (World Health Organisation) - Health and Disaster Management in Eastern Mediterranean Region

Mr. Jamal E. EL-MAHI (Geological Research Authority Sudan) – Spectral Signature as a tool for targeting Carbonate Rocks (Marble), Atbara and Kadabas areas, River State – Sudan

Mr. Abdel H. GADEL MULA (Faculty of Geology – University of Khartoum) – The Determination of Abu Delieg Earthquake Intensity and Hazard Assessment.

1050 – 1110 Morning tea

1110 – 1300 **Presentation Session 6 – Food Security and Human Security**
Chairman: Mr. Alex FORTESCUE (Satellite Applications Centre CSIR – South Africa)
Rapporteur: Mr. Bassam ALLOUCH and Mr. Mohamad AL ALI (GORS – General Organisation of Remote Sensing – Syria)

Mr. Lieven BYDEKERKE (Flemish Institute for Technology Research – Belgium) – GMFS: Enhancing Food Security Monitoring in Sub-Saharan Africa

Ms. Talita GERMISHUYSE (Institute for Soil Climate and Water – South Africa) – Crop Yield Estimation System Using NOAA and MODIS Satellite Imagery

Mr. Mathewos TAMIRU (World Food Program) – The Use of Geo-Spatial Technologies for Vulnerability Analysis and Mapping (VAM)

Mr. Isau BWERINOFA (UNDP – United Nations Relief and Recovery Unit) – The Use of Geo-Spatial Technologies to Support Humanitarian Aid Coordination

Ms. Hencke BRECHT (UNHCR) - Use of Space Technologies for Refugee Operations in Africa

- 1300 – 1400 Lunch
- 1400 – 1530 **Open Session – Participants wishing to make a 10 minute contribution**
Chairman: Dr Elnair Abdalla Elsiddig (Faculty of Forestry, University of Khartoum)
Rapporteur: Dr Salwa M. Abedlhameed (Wildlife Research Centre, Sudan)
- Mr. Bassam ALLOUCH (General Organisation of Remote Sensing, Syria) – The Use of Space-based Technologies for Natural Resources Management and Environmental Monitoring in Syria.
- Ms. Aster Denekew YILMA (Environmental Protection Authority, Ethiopia) – The Use of Geo-Spatial Technologies for Environmental Protection in Ethiopia.
- Mr. Magdi A.R. TOMBE (Geological Research Authority Sudan) – Image Processing Techniques for Geological Mapping of Kurmuk- Qiessan area, Blue Nile State, Sudan.
- Mr. Mahboug S. Mohamedain (Sudan University of Technology) – Assessing and Mapping Land Use/Land Cover Change Using Remote Sensing and GIS.
- Mr. Ahmed A. EL-GIB (Environmental Advisor to the Ministry of Environment, Oman; Former President of the National Council for Research) – The Use of NDVI in Environmental Assessment.
- Mrs. Balgis M. E. OSMAN (Higher Council for Environment and National Resources) – Assessment of Impacts and Vulnerability to Climate Change: Possibility of Using Remote Sensing.
- Mr. Mohammed A. GORANI (University of Khartoum) – The Status of Topographic Mapping in the Sudan.
- 1530 – 1600 Afternoon Tea
- 1600 – 1730 **Discussion Session 3 – Identifying a “Common Strategy”. How can we work together toward forming partnerships and increasing the use of space-based technologies?**
- Two working groups: one focusing on Sudan and one focusing on the region.

Discussion Session 4 – Identifying a “Common Strategy”

Thursday 8 April

- 0900 – 1050 **Discussion Session 4 – Identifying a “Common Strategy”**
- 1050 – 1110 Morning tea
- 1110 – 1230 **Discussion Session – Wrap up**
- Synthesis of presentations, open sessions and working groups (report given by each rapporteur)
 - Presentation of the proposals and recommendations for the implementation of a regional network and plan of action.

Closing Remarks

- UNOOSA
- European Space Agency
- Sudan Remote Sensing Authority
- Prof. EL AGIB (ex-President National Council for Research) – Announcement of the Khartoum Declaration
- Closing Statement by H.E. Minister of Science and Technology – Prof. Alzubair Bashir TAHA