

Agenda

Applications of Coarse to High Resolution Satellite Imagery for Land Productivity Assessment & Management

6th – 17th February 2006
Bamako, Mali



Facilitators:

AGRHYMET :

RCMRD :

SADC/RRSU :

ICRISAT:

USGS/EROS :

GLCN Regional Coordinator :

Issoufou Alfari

Erick Khamala

Blessing Siwela

Pierre C. Sibiry Traore

Gray Tappan, Jim Rowland, Mike Budde

André Bassole

Agenda

Monday, February 6, 2006

0830 – 0840	Welcoming Address	Dr. Bonny R. Ntare (country representative (CR) ICRISAT Mali)
0840 – 0915	Greetings/Registration/Software Installation	
0915 – 1015	Opening Comments	
	Introduction/Purpose/Logistics	Rowland/Sibiry
	Introduction of Regional Centers	
	• AGRHYMET (West Africa)	Alfari
	• Regional Remote Sensing Unit (RRSU) (SADC/Southern Africa)	Siwela
	• Regional Centre for Mapping of Resources for Development (East Africa)	Khamala
1015 – 1030	Break	
1030 – 1230	Lecture - Introduction to Remote Sensing	
	• Definition and History	Budde
	• Concepts and Principles of Remote Sensing (Electromagnetic Radiation, Atmospheric Effects, Surface Reflective Properties, etc)	Khamala/Budde
	• Remote Sensing Satellite Systems Overview	
	NOAA / GOES	Rowland
	Landsat	Khamala
	SPOT	Siwela
	MODIS / ASTER / VIIRS	Budde
1230 – 1400	Lunch	
1400 – 1430	Lecture - Applications of R.S. in West Africa	Alfari
1430 – 1530	Exercise 1 - Image Exploration/Processing using multi-resolution data (correction, enhancement, interpretation, etc.) – <i>Geovis/Idrisi software</i>	Khamala/ Siwela
1530 – 1545	Break	
1545 – 1700	Exercise 1 – cont'd Image Exploration/Processing using multi-resolution data (correction, enhancement, interpretation, etc.) – <i>Geovis/Idrisi software</i>	Khamala/ Siwela

Agenda

Tuesday, February 7, 2006

0830 – 0930	Lecture - Elements of Interpretation	Tappan
0930 – 1015	Lecture - Challenges of Land Cover Mapping (West Africa experience)	Tappan/Alfari
1015 – 1030	Break	
1030 – 1115	Lecture – Corona System Overview	Tappan
1115 – 1230	Exercise 2 – Image Interpretation/Comparison Landsat ETM+ / Landsat MSS / Corona (interpret and assess change between image pairs)	Tappan/Budde
1230 – 1400	Lunch	
1400 – 1445	Lecture - Introduction to NDVI <ul style="list-style-type: none">• What is NDVI? Why use it?• NDVI Datasets (AVHRR, SPOT Vegetation, MODIS)• NDVI Availability & Acquisition (GIMMS 8km, AVHRR 1km, SPOT Veg 1km, MODIS 250m, 500m, 1km)	Rowland Rowland/Budde Rowland/Budde
1445 – 1530	Lecture – NDVI at Regional Centers	Alfari/Siwela/ Khamala
1530 – 1545	Break	
1545 – 1600	Lecture - NDVI Analysis (comparison to average conditions, time series)	Rowland/Budde
1600 – 1700	Exercise 3 – NDVI Classification (bare soil, sparse vegetation, etc.) using multi-resolution MODIS NDVI for the same area of the Landsat/Corona in exercise 2 (compare) – <i>ArcView 3.2</i>	Budde/Alfari/ Siwela

Wednesday, February 8, 2006

0830 – 0900	Lecture - Seasonal NDVI Metrics (how derived, what they mean, temporal analysis)	Budde/Rowland
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Agenda

0900 – 1015	Lecture – NDVI Metric Trend Analysis (coarse resolution GIMMS data)	Budde
1015 – 1030	<i>Break</i>	
1030 – 1130	Lecture – Degradation, Desertification, Protection, and Natural Resource Management	Tappan
1130 – 1230	Lecture – How are these topics being addressed at the regional centers.	Alfari/Siwela/ Khamala
1230 – 1400	<i>Lunch</i>	
1400 – 1430	Lecture – Local Variance Analysis (approach, results, caveats) Introduction of Mean-Max Approach	Budde/Tappan
1430 – 1530	Exercise 4a– Calculate mean-max NDVI using 250m MODIS NDVI for a small window. (identify, characterize, and annotate anomalies)	Budde/Tappan
1530 – 1545	<i>Break</i>	
1545 – 1700	Exercise 4b – Continue analysis of anomalies using pre-processed West Africa mean-max image. (analyze anomalies in your respective countries)	Budde/Tappan

Thursday, February 9, 2006

0830– 0915	Lecture – Data Available at Regional Centers	Alfari/Khamala /Siwela
0915 – 1015	Lecture - Landsat, ASTER, and Corona - Application for Land cover change mapping, forest mapping, etc. (West Africa experience)	Tappan/Alfari
1015 – 1030	<i>Break</i>	

Agenda

1030 – 1130	Lecture - Landsat, ASTER, and Corona - Application for Land cover change mapping, forest mapping, etc. (East Africa experience)	Khamala
1130 – 1230	Lecture – Remote Sensing Applications - Applications of remotely sensed data for operational monitoring in the SADC region	Siwela
1230 – 1400	<i>Lunch</i>	
1400 – 1530	Exercise 5 – Focused Land Cover Assessment using multi-resolution and multi-date imagery, from all sources discussed, to identify and interpret change.	All Facilitators
1530 – 1545	<i>Break</i>	
1545 – 1700	Exercise 5– cont’d. Focused Land Cover Assessment using multi-resolution and multi-date imagery, from all sources discussed, to identify and interpret change.	All Facilitators

Friday, February 10, 2006

0830 – 1700	Field Study Trip AIM: to familiarize participants with how coarse, moderate, and high resolution satellite imagery interpretation can be coupled with GPS technology to relate field observations to remotely sensed imagery.	All Participants
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Agenda

Monday, February 13, 2005

Participants will be divided into groups of 2-3. Each group will be given anomalies to investigate using the interpretation techniques presented and their personal knowledge of the region.

The goal is to apply the skills and knowledge gained from the workshop lectures and field trip of the previous week to analyze multi-scale and multi-date imagery to identify and interpret change. Each group will be asked to give a brief synopsis of their findings.

0830 – 1015	Group Projects	All Participants
1015 – 1030	Break	
1030 – 1230	Group Projects	All Participants
1230 – 1400	Lunch	
1400 – 1530	Group Projects	All Participants
1530 – 1545	Break	
1545 – 1700	Group Projects	All Participants

Tuesday, February 14, 2005

0830 – 1015	Group Projects	All Participants
1015 – 1030	Break	
1030 – 1230	Assemble Results	All Participants
1230 – 1400	Lunch	
1400 – 1530	Assemble Results	All Participants
1530 – 1545	Break	
1545 – 1700	Presentation of results	All Participants

Agenda

Wednesday, February 15, 2005

0830 – 1015	Presentation of results	All Participants
1015 – 1030	Break	
1030 – 1230	Plenary Discussions	All Participants
1230 – 1400	Lunch	
1400 – 1700	Visit ICRISAT GIS Centre w/tour and discussion	Sibiry/ Participants

Thursday, February 16, 2005

0830 – 1700	UNEP/FAO GLCN Presentation <ul style="list-style-type: none">• GLCN introduction• Accomplishments in Africa• Need for Thematic Harmonization• LCCS 2	Di Gregorio, Latham
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Friday, February 17, 2005

0830 – 1015	Land Cover Harmonization, Needs, and Plans <ul style="list-style-type: none">• Land Cover & Land Cover Applications• LCCS 2 and EROS Land Cover in Sahel	Tieszen Tappan, Di Gregorio
1015 – 1030	Break	
1030 – 1230	Country Land Cover Status, Plans, and Needs <ul style="list-style-type: none">• Country Status, Plans, and Needs	Bassole & Participants
1230 – 1400	Lunch	
1400 – 1530	Plans and Proposals for Future Projects <ul style="list-style-type: none">• Requirements for Harmonization• How do we proceed?	Di Gregorio All Participants
1600	Closing Remarks <ul style="list-style-type: none">• AID Perspective• Conclusion Closing Ceremonies (country representative (CR) ICRISAT Mali)	Stokes Sibiry & Tieszen Dr. Bonny R. Ntare
	Resolutions Reviewed and Edited by Each Organization	