**Food and Agriculture Organization
of the United Nations**

SOUTH SUDAN

WORKSHOP
ON LAND COVER MAPPING

to support natural resources assessment and conflict
mitigation strategies in South Sudan

The workshop on "Land cover mapping to support natural resources assessment and conflict mitigation strategies in South Sudan" have the multiple objectives to:

- Provide a training to national experts on land cover mapping methodologies
- Discuss on land cover classification system and legend to adopt.
- Provide a training on data/metadata collection and identify data needs and gaps, particularly for targeted areas.
- Discuss and plan next steps.

Trainers from CBDS - Climate, Biodiversity, Land & Water Department (CB), UNFAO:

Gianluca FRANCESCHINI
Technical coordinator and GIS/RS expert

Agata ELIA
GIS Expert CBDS

Project funded by the
European Commission

12-16 February, Juba

AGENDA

Day 1 12 FEBRUARY	Objective: Satellite imagery – Sentinel-2 and Landsat-8 – Pre-processing of satellite imagery
Hour	**Topic**
09:00 - 09:10	Introductory remarks and introductions of participants
09:10 - 09:20	Objective of the workshop
09:20 - 09:30	Work-plan and description of the team
09:30 - 10:00	Introduction to land cover mapping and production chain
10:00 - 10:15	Ancillary datasets
10:15 - 10:45	Satellite imagery
10:45 - 11:00	Break
11:00 - 11:15	Exercise: Exploring Sentinel-2 data • Finding data with a spatial filter • Finding data with a temporal filter
11:15 - 12:00	Pre-processing
12:00 - 13:15	Lunch break
13:15 - 13:45	Atmospheric correction
13:45 - 14:00	Exercise: Atmospheric correction
14:00 - 14:15	Results of atmospheric correction
14:15 - 14:30	Band composite
14:30 - 15:00	Exercise: Band composite
15:00 - 15:15	Cloud removal
15:15 - 15:30	Break
15:30 - 15:45	Exercise: Cloud removal
15:45 - 16:00	Mosaicking
16:00 - 16:15	Exercise: Mosaicking
16:15 - 16:30	Data catalogue
16:30 - 16:45	Q&A
Day 2 13 FEBRUARY	Objective: Land cover production chain
Hour	**Topic**
09:00 - 09:30	NDVI and Vegetation indices
09:30 - 10:45	Exercise: Generating indices • Generate NDVI • Generate another index
10:45 - 11:00	Break
11:00 - 11:30	Pixel-based and object-based land cover mapping
11:30 - 11:45	Introduction to segmentation

SOUTH SUDAN

11:45 - 12:00	Parameters to segment
12:00 - 13:15	Lunch break
13:15 - 13:45	Exercise: Getting familiar with segmented shapefiles at different parameters
13:45 - 15:15	Exercise: Calculate NDVI in a segmentation
15:15 - 15:30	Break
15:30 - 15:45	Interpretation
15:45 - 16:30	Exercise: Interpretation
16:30 - 16:45	Q&A
Day 3 **14 FEBRUARY**	**Objective:** **LCSS – ISO Land cover characterization**
Hour	**Topic**
09:00 - 09:30	Introduction to LCCS
09:30 - 11:00	LCCS theory and exercises
10:45 - 11:00	Break
11:00 - 12:00	LCCS theory and exercises
12:00 - 13:15	Lunch break
13:15 - 15:15	Group discussion on land cover and land cover legend of South Sudan
15:15 - 15:30	Break
15:30 - 16:30	Group discussion on land cover and land cover legend of South Sudan
16:30 - 16:45	Q&A
Day 4 **15 FEBRUARY**	**Objective:** **GPS data and metadata collection**
Hour	**Topic**
09:00 - 10:00	Introduction to metadata
10:00 - 10:45	Group exercise: Metadata
10:45 - 11:00	Break
11:00 - 11:30	Reference systems and projections
11:30 - 12:00	Introduction to GPS
12:00 - 13:15	Lunch break
13:15 - 16:30	Field exercise: GPS data collection
16:30 - 16:45	Q&A
Day 5 **16 FEBRUARY**	**Objective:** **Uploading GPS data - Remarks and follow-up**
Hour	**Topic**
09:00 - 10:00	Creating event data in ArcMap from an excel file, DD-DMS conversion
10:00 - 10:45	Uploading GPS data in a GIS
10:45 - 11:00	Break
11:00 - 12:00	Planning next-steps
12:00 - 13:15	Lunch break

SOUTH SUDAN