



Food and Agriculture Organization
of the United Nations

» FAO Webinar Series

Earth observation data for agricultural statistics

March-May 2023



**Global Network of Data
Officers and Statisticians**

SESSION 1 : EOSTAT project overall presentation

8 March 2023

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SCOPE OF EOSTAT

EOSTAT PROJECT

Launched in 2019 by the Office of the Chief Statistician

Main objective: to build capacity in countries in producing crop statistics using Earth Observations, in line with the Statistics Modernization Strategy of FAO and the Modernization of National Statistical Systems promoted by the UN Statistical Commission.

Other relevant objectives:

- i) increasing the quality of national crop statistics (accuracy, timeliness and disaggregation)
- ii) filling data gaps in FAO's databases, and
- iii) promoting innovation through methodological development and adoption of new technologies
- iv) supporting the standardization of EO methods for the production of land cover statistics in countries and within FAO.

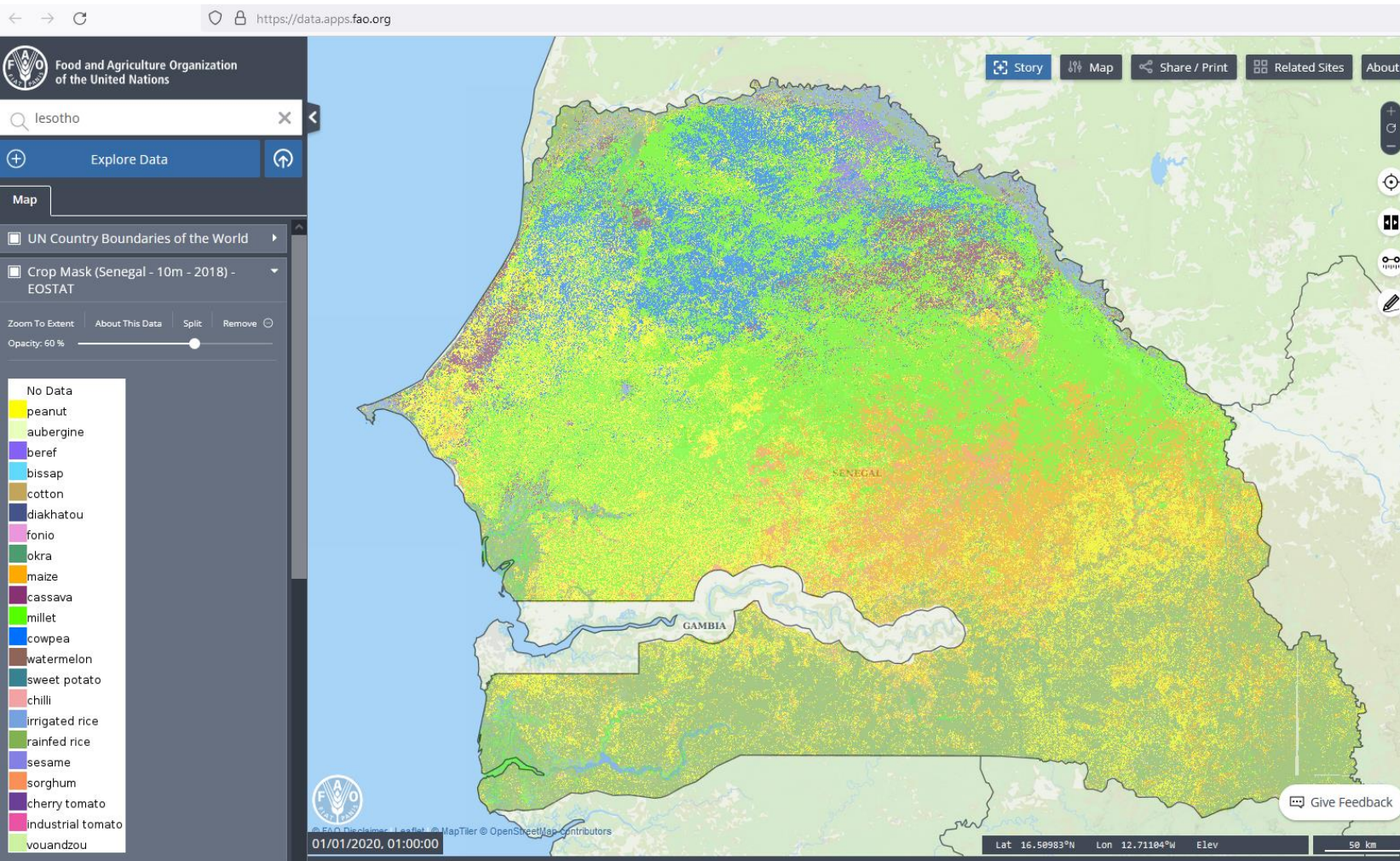
Currently implemented in 12 countries, and to be expanded to 18 countries in 2023.

MAIN ACTIVITIES AND DATA FOR THE HIH INITIATIVE

EOSTAT PROJECT ACTIVITIES

1. Crop acreage statistics
2. Crop yield statistics
3. Land cover statistics
4. Optimization of survey design and collaboration with 50X2030 Initiative
5. Methodological development (data frugal algorithms, re-use of in-situ data)
6. Development of tools for automatic crop classification (EOSTAT CROP MAPPER)
7. Standardization of EO methods at FAO, across UN agencies and across NSO's
8. On site training, webinars and seminars. Transfer of knowhow and tools.

EOSTAT AND THE HAND-IN-HAND INITIATIVE



- 64 national maps developed since 2020
- Accessible through the Hand in Hand Geospatial Platform of FAO

WEBINAR SERIES STRUCTURE



6 WEBINARS, 8 MARCH – 10 MAY 2023.

Session 1 (8 March 2023, 15:30 – 17:00) Registration link	EOSTAT project overall presentation Organized jointly with the Global Network of Data Officers and Statisticians Speakers: Pietro Gennari, FAO & Lorenzo De Simone, FAO	Session 5 (26 April 2023, 15:30 – 17:00)	Standardized land cover classification for land cover statistics Speaker: Lorenzo De Simone, FAO Guest: William Ouellette, CEO at SoilWatch
Session 2 (20 March 2023, 15:30 – 17:00)	Crop yield mapping and yield statistics Speaker: Lorenzo De Simone Guest: Prof. Bruno Basso, Michigan State University	Session 6 (10 May 2023, 15:30 – 17:00)	Crop field boundaries mapping using machine learning and very high-resolution data Speaker: Lorenzo De Simone, FAO Guest: Sherrie Wang, DEAFRICA/MIT
Session 3 (4 April 2023, 15:30 – 17:00)	Crop type mapping and acreage Speaker: Lorenzo De Simone, FAO Guest: Sophie Bontemps, Université of Louvain		
Session 4 (13 April 2023, 15:30 – 17:00)	EO augmented survey design, in-situ data standards, and best practices in georeferencing Speaker: Lorenzo De Simone, FAO Guest: Sophie Bontemps, Université of Louvain		

From March to May 2023, join FAO Webinar Series on Earth observation data for agricultural statistics! The webinar series will raise awareness of the EOSTAT project and highlight FAO's work in building countries' capacity on the use of Earth observation data for the production of agricultural statistics. Full program online:

<https://www.fao.org/statistics/events/detail-events/en/c/1631683/>

STANDARDIZATION, FAO'S DCG, UN WORKING GROUPS



PERSPECTIVES ON STANDARDIZATION

The DCG-T is developing a quality assurance framework for EO and Big data, together with a set of standards to be implemented by FAO and by countries.

The overall compliance with the QAF and set of standards could be used to inform a scoring system which would be used to certify the fitness for use by official statistics of the geospatial products.

Some of the key standards to be developed include:

1. Revision of the LCLU International Classification
2. Minimum requirements for number of land cover classes & in situ data
3. Minimum threshold for class accuracy classification and its stability over time
4. Standardized workflows for image preprocessing (e.g. minimum number of composites to produce an annual land cover map; threshold for cloud coverage of satellite images).
5. Standardized template for metadata documentation

NEW FAO'S GOVERNANCE OF DATA AND STATISTICS

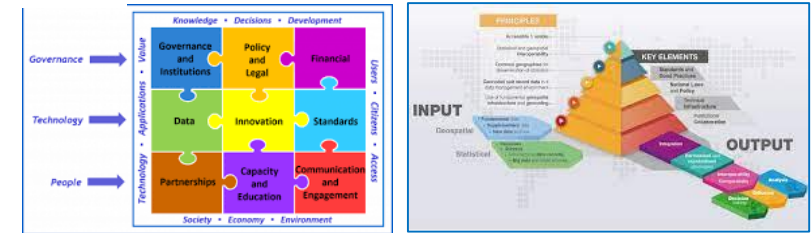
- The FAO Council established a Data Coordination Group as the apex body in the broader, renewed internal coordination system for data (including big data and geospatial data) and statistics.
 - The DCG is chaired by the Chief Economist as Executive Data Champion
 - Main objective of the DCG is to ensure greater coherence and enhanced managerial support to data harmonization and data innovations, as well as to accelerate the data-driven transformations needed to achieve the 2030 Agenda
 - The DCG comprises senior managers representing both the users and producers of data and statistics at FAO, is supported by a Technical DCG which is in charge of developing internal policies and standards for data for statistics.
 - This Technical DCG consists of appointed senior technical staff from all units producing data and statistics in FAO.

GLOBAL GOVERNANCE OF EO DATA AND STATISTICS



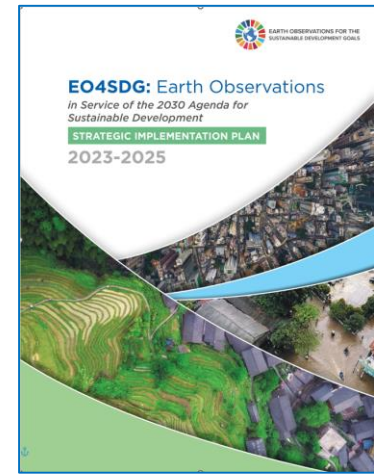
1. UNGGIM

- Established by ECOSOC as the apex intergovernmental mechanism for making joint decisions and setting directions with regard to the production, availability and use of geospatial information within national, regional and global policy frameworks.
- Integrated Geospatial Information Framework (IGIF)
- Global Statistical Geospatial Framework (GSGF)



2. UN Statistical Commission - (2022)

- ECOSOC adopted the revised ToRs of the Commission that broaden its mandate as the primary intergovernmental body for the coordination of the UN statistical and data-related system.
- Adoption of the SDG Geospatial Road Map



UN COMMITTEE OF EXPERTS ON BIG DATA AND DATA SCIENCE FOR OFFICIAL STATISTICS - TASK TEAM ON EO DATA FOR AGRICULTURAL STATISTICS

- **Co-chairs: FAO, WB and INEGI**
- **Methods and research**
 - In-situ data minimum requirements
 - Innovative, more data frugal classification algorithms
 - Land cover/land use mapping for official statistics
- **Data sharing**
 - Standard definition of in-situ data
 - Confidentiality issues of georeferenced data
 - Infrastructures for in-situ data sharing
- **Training**
 - EO training courses: AI aided course selection based on user profile
 - Collaboration with UNITAR