SESSION 2 : Crop Yield Mapping and Yield Statistics

20 March 2023

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Department of Earth and Environmental Sciences, Michigan State University
### Webinar Series on Earth Observation Data for Agricultural Statistics

**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:


<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Date</th>
<th>Time</th>
<th>Speaker(s)</th>
<th>Guest(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>EOSTAT project overall presentation</td>
<td>8 March 2023, 15:30 – 17:00</td>
<td></td>
<td>Organized jointly with the Global Network of Data Officers and Statisticians</td>
<td>Pietro Gennari, FAO &amp; Lorenzo De Simone, FAO</td>
</tr>
<tr>
<td>2</td>
<td>Crop yield mapping and yield statistics</td>
<td>20 March 2023, 15:30 – 17:00</td>
<td></td>
<td>Lorenzo De Simone</td>
<td>Prof. Bruno Basso, Michigan State University</td>
</tr>
<tr>
<td>3</td>
<td>Crop type mapping and acreage</td>
<td>4 April 2023, 15:30 – 17:00</td>
<td></td>
<td>Lorenzo De Simone</td>
<td>Sophie Bontemps, Université of Louvain</td>
</tr>
<tr>
<td>4</td>
<td>EO augmented survey design, in-situ data standards, and best practices in georeferencing</td>
<td>13 April 2023, 15:30 – 17:00</td>
<td></td>
<td>Lorenzo De Simone</td>
<td>Sophie Bontemps, Université of Louvain</td>
</tr>
<tr>
<td>5</td>
<td>Standardized land cover classification for land cover statistics</td>
<td>26 April 2023, 15:30 – 17:00</td>
<td></td>
<td>Lorenzo De Simone, FAO</td>
<td>William Ouellette, CEO at SoilWatch</td>
</tr>
<tr>
<td>6</td>
<td>Crop field boundaries mapping using machine learning and very high-resolution data</td>
<td>10 May 2023, 15:30 – 17:00</td>
<td></td>
<td>Lorenzo De Simone, FAO</td>
<td>Sherrie Wang, DEAFRICA/MIT</td>
</tr>
</tbody>
</table>
SCOPE OF EOSTAT
Launched in 2019 in OCS, the main objective of the EOSTAT project is to build capacity in countries in producing crop statistics using alternative data sources (Earth Observations) in line with the principles of the Modernization process of National Statistics Offices promoted by the UN Statistical Commission.

In connection to the main objective, there are a series of other relevant goals, such as i) increasing the quality of crop statistics reported by countries increasing the accuracy, the timeliness and the disaggregation, ii) filling data gaps in FAO’s databases, and iii) promote innovation through methodological development and technology.

Currently implemented in 12 Countries, and expanding to 18 in 2023, EOSTAT is supporting the standardization of Earth Observations Methods for the production of official statistics in countries. In this context EOSTAT is also supporting the internal process in FAO on standardization of methods for land cover and land use mapping discussed under the mandate of the Data Coordination Group.
MAIN ACTIVITIES AND DATA FOR HIH
1. Crop type mapping
2. Crop yield mapping
3. Crop field boundaries
4. Standardized annual land cover mapping
5. Optimization of survey design and collaboration with 50X2030
6. Methodological development (data frugal algorithms, in-situ data)
7. Development of tools (EOSTAT CROP MAPPER)
8. Support the standardization of EO methods in the Agency, across UN agencies and across NSO’s
9. On site training, webinars and seminars. Transfer of knowhow and tools.
CROP YIELD MAPPING AND CROP YIELD STATISTICS: COLLABORATION WITH THE MICHIGAN STATE UNIVERSITY. PROFESSOR BRUNO BASSO
Bruno Basso is John A. Hannah Distinguished Professor and MSU Foundation Professor of Earth and Environmental Sciences at Michigan State University. He is an internationally recognized agroecosystem scientist and crop systems modeler.

His research focuses on agriculture and environmental sustainability, climate change’s impact on agricultural systems, food security, circular bio-economy of agricultural systems.

He is a Fellow of the American Association for the Advancement of Science (AAAS);

He is the recipient of the 2021 Morgan Stanley Sustainability Solution Prize Collaborative among other prestigious awards he received.

He serves as member of the Board of Agriculture and Natural Resources of the US National Academies of Sciences, Engineering and Medicine (NASEM).