

Training sessions in remote sensing and land cover monitoring

The Direção-Geral do Território (DGT) has organized a series of training sessions dedicated to land cover monitoring services and to remote sensing. The sessions took place in 3 different days with 2 training sessions given each day, one for remote sensing and one for land cover monitoring services, corresponding to a total of 6 training sessions. Each session was targeted to a specific audience. All the sessions were given in online format.

The training session related to remote sensing addressed its fundamentals including satellites from the Copernicus program (e.g. Sentinel-2) and data processing for land cover classification. The training session related to land cover monitoring covered the exploration of the Copernicus Land Monitoring Services (CLMS), including GIS examples. This session topics included the CLMS product types, the Corine Land Cover (CLC) the High and Very High Resolution Layers (HRL, VHRL) and the CLC+. The second part of this training session was devoted to the new Portuguese land cover monitoring system (SMOS) which is being implemented and developed by DGT together with other national institutions in co-creation processes.

The training sessions were held on the following dates:

- 27th October 2021
- 19th November 2021
- 13th December 2021

The first date of the training sessions was given to a group of users of the SMOS products (guSMOS). The guSMOS is a group of users formed by representatives of the Portuguese Local and Central Administration. Its objective is to participate in the definition and improvement of the SMOS products technical specifications and usability tests, ensuring that the system meets the needs and expectations of its users. Some members of other previously established group of users were also present, including members from the National Land Commission (CNT), Steering Council of the National Geographic Information System (CO-SNIG) and the Cartography Coordinating Council (CCC).

The second date of the training sessions was devoted to users in the Public Local Administration, including municipal council (CM) and Intermunicipal Communities (CIM), in collaboration with the SNIG-Local and CO-SNIG working groups.

The third date of the training sessions was held for a larger group of users in the Public Central Administration.

The number of participants in the first date of training sessions was 82, followed by 237 participants attending the second date and 249 for the third and final date. As a whole, the training sessions provided formation to a total of participants 568.

A satisfaction questionnaire was sent out by DGT after the training sessions. The first date of the training sessions had an average score of 4.26 out of 5, with all questions being scored with a value of 4 or higher. All the participants considered that their expertise on Copernicus services has increased

and that it is a useful tool for their work. The questionnaire also provided some important feedback, which will be useful and will be taken into account for future training courses carried out by DGT.

The training sessions had the following agenda. The agenda was the same all training sessions.

Training Session 1: Remote Sensing

1. Fundamentals in remote sensing
 - 1.1. Electromagnetic radiation
 - 1.2. Satellites and Sensors
 - 1.3. Data processing

Training Session 2: Land cover monitoring

1. Copernicus Land Monitoring Service (CLMS)
 - 1.1. Products type
 - 1.2. CORINE Land Cover (CLC)
 - 1.3. High and Very High Resolution Layers (HRL and VHRL)
 - 1.4. CLC+
2. SMOS and cartographic products
 - 2.1. SMOS
 - 2.2. Land use and land cover map (COS)
 - 2.3. Simplified land over map (COSsim)
 - 2.4. New products and SMOS evolution
3. Discussion

This initiative was carried out in the framework of the European Union's Caroline Herschel Framework Partnership Agreement (FPA) on Copernicus User Uptake under the grant agreement No. FPA 275/G/GRO/COPE/17/10042, project FPCUP (Framework Partnership Agreement on Copernicus User Uptake), Action number 2018-1-24, Action title "Portuguese user's coordination and training" (Portugal Space, Direção-Geral do Território9), Specific Grant Agreement (SGA) no 6.