

WORKSHOP on the Environmental applications of Copernicus:

Satellite-based Wetland Observation Service

SUMMARY OF THE WORKSHOP

Malaga, 1-2st June 2016

The Spanish Copernicus training Workshop on the land service and its environmental applications was organized by the University of Malaga and the Ministry of Agriculture, Food and Environment as coordinator of the Copernicus user's forum in order to identify the requirements of the Spanish users as well as gaps and benefits of the Sentinels applications for the developments of their activities.

The workshop was conducted by the University of Malaga in the framework of the Satellite-based Wetland Observation Service (SWOS) project of Horizon 2020. The University of Malaga is also part of the consortium of the European Topic Centre on Urban, Land and Soil Systems and therefore is used to make the link between the European projects taking into account the national and regional components.

Background:

The Spanish coordination of the user's community is organizing a set of technical training workshops in order to:

- Identify the needs of the Spanish users;
- Perform the gap analysis of the products offered by Copernicus related to other satellite products and services;
- Conduct a users' mapping study;
- Carry out a users' requirement survey to identify needs

The rationale of these meetings/ hands-on workshops is the limited use of the Copernicus products within the environmental community of the Spanish Ministry due to the restricted knowledge of the benefits of its products for the development of the tasks and functions of the desk officers of the Ministry at national and subnational levels.

Conclusions:

- The knowledge of Copernicus products is poor and sometimes desk officers of the Public Administration are confused due to the lack of clarity on its potential use in the Copernicus web site. **Extended explanation on the original purpose, scale and potential uses (also linked to European legislation) would benefit the interest and increased use of these products at national and local levels.** The use of satellite images (Sentinel images among others) at the national level seems to be the product with highest potential interest for the administration.

Current weaknesses:

- **ESA catalogue** doesn't seem very user friendly compared to other existing services (like NASA products) in terms of data search, exploration, download.
- **Data download.** It is not possible to download just the image(s) for a specific extent defined by the user. When an extent is defined one has to download all the tails included in the specific region (downloading and further processing more information than needed and amounting for a unnecessary time loss for users).
- There seem to be an agreement (at least among the participants) that **additional image corrections should be done in house by ESA**, so the products delivered to the public are of immediate use without any further processing ("the image is expected by users to be already a product for immediate use"). Moreover, Sentinel-2 Toolbox doesn't seem to work properly for this purpose making the development of certain products by users not easy (namely the level-2A products). **Delivering corrected images**, that are comparable in terms of their preparation and correction processes, **would increase the usability of "harmonized" core sentinel products that are comparable and using common standards.** Indeed some external services are already providing corrected for Bottom-of-Atmosphere (BoA) Sentinel images.
- **Public Administration** acts both as **producers of the in situ data and providers of these data** in the framework of **the European and International monitoring and reporting obligations of the legislation.** The challenge is to find the Copernicus products that could fit with the needs of the officers taking into account that these products must be based on the official data they produce.

- We must take that requisite into consideration **if we want to promote the use of Copernicus products within the Administration**: for example as a tool within infringements procedures; monitoring the implementation of the European and national legislation, etc.
- One of the possible benefits that could help on **the monitoring and reporting exercise of the European legislation- if the satellite's images improve-** is to **make use of the satellite data to overcome the gaps on information collection**, for example, information gaps coming from the regional level that must be aggregated at national level.
- There are good examples of cooperation between the administration (users) and the University (specialized users), and private companies (specialized users), fostering the development of (downstream) Copernicus services. Some pre-requisites or conditions that facilitate such successful cooperation include:
 - **Clear definition from the administration of their needs.** Identification of existing gaps.
 - Improve the transferability of research where **universities**, particularly in Spain, **need to make their results more user-friendly for administrations** focusing on **bridging science results with policy needs**.
 - Given the broad policy range that land monitoring is providing, there is a need to clearly identify the network/communities better fitting in each case. However, these communities can learn from each other.
 - Given the purpose of Copernicus products to support users based on their needs, there is a clear **need to move from specific formats of interactions namely lectures/static presentations on Copernicus products to more practical/hands on workshops** (even with beta products as testers) so **users can explore the potentials and benefits of being part/ supporting universities/private institutions to tailor products** that could be delivered by these institutions depending on their needs.