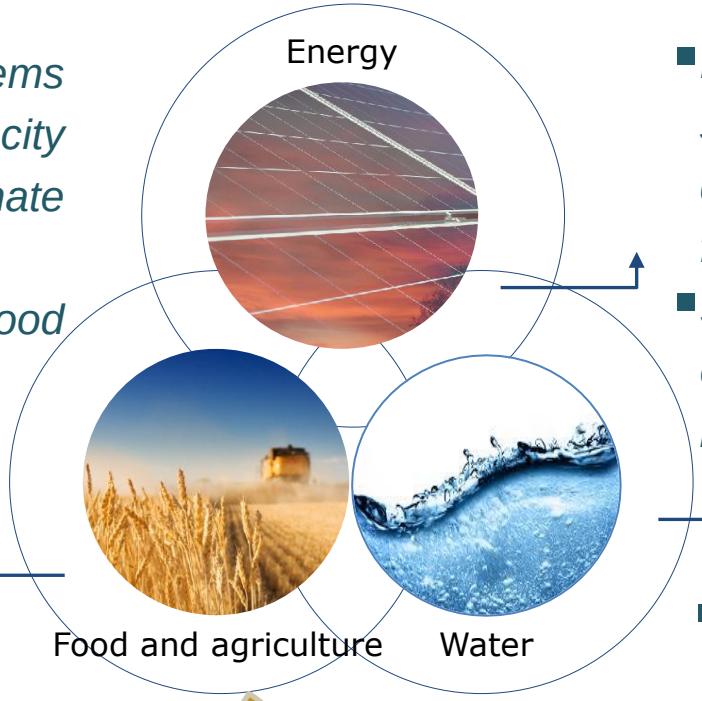
Coordinating and integRating state-of-the-art Earth Observation Activities in the regions of North Africa, Middle East and Balkans and Developing Links with GEO related intiatives toward GEOSS

GEO-CRADLE – Launching of WP4
Thursday, 17th November 2016

Eratosthenes Research Centre
Limassol, Cyprus

T4.2 – Improved Food Security

- *Food production systems that strengthen capacity for adaptation to climate change (2.4)*
- *Food waste and food security (12.3)*
- *End malnutrition (2.2)*



- *Restore degraded land and soil, including land affected by desertification, drought and floods (15.3)*
- *Sustainable management and efficient use of natural resources (12. 2)*

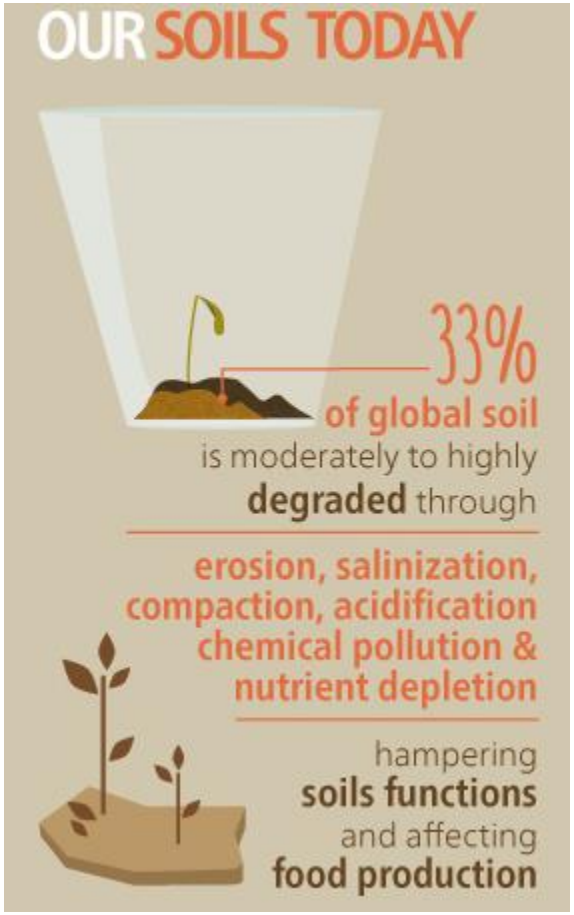
- *Protect and restore water-related ecosystems (6.6)*
- *restore degraded land and soil, including land affected by desertification, drought and floods (15.3)*

T4.2 – Improved Food Security

The overarching objective is the development of datasets, data analytics, and indicators that will enable the integration for the Nexus approach to benefit the food SDGs as well as other SDGs that are sensitive to those targets.

- *Soil spectral libraries and satellite imagery for low input sustainable agriculture and progressive improvement of soil quality*
- *Offering reliable EO data, adhering to the same standards as the Open Geospatial Consortium*
- *Provision of information and data facilitating in decision making*

T4.2 – Improved Food Security



Imperative to:

- *Monitor and automatically map natural, physical and chemical properties of the soil*
- *Use the maps of soil attributes to combat soil degradation (as identified on the left)*
- *Spatially detect soil contamination and water capacity*

T4.2 – Improved Food Security: Soil Spectroscopy

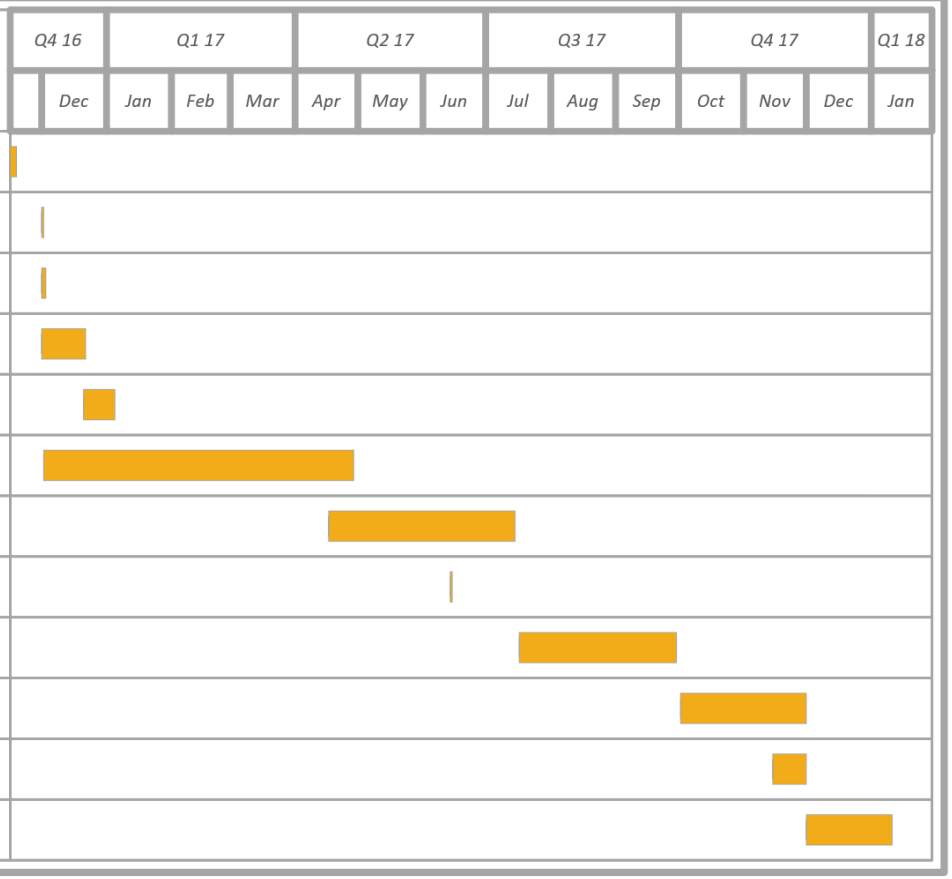
- *Standard and Protocols*
- *Soil Spectral Library building capacity*
- *From Laboratory to Field domains*
- *From Field to Air Space-borne domains*
- *Data Mining and learning machinery*

T4.2 – Improved Food Security: Plan of action

- 3 common major attributes for all partners
- 2 unique region specific attributes picked by and for each partner
- 100+ samples sent by each partner
- Contemporary knowledge and know-how regarding soil spectroscopy will be disseminated to the partners
- Partners will be educated in soil spectroscopy through 2 webinars
  - Soil sampling (+ set of guidelines and questionnaire)
  - Acquisition of soil spectra
  - Creating a SSL with its assorted metadata
  - Building of models
  - Applying to EO data
- A final questionnaire will be distributed where partners will assess how easy and feasible it is to use the knowledge gained from the pilot

WP420 – Improved Food Security: Plan of action

ID	Task Name	Start	Finish	Duration
1	Workshop on SSL	16-Nov-16	18-Nov-16	3d
2	Webinar #1	01-Dec-16	01-Dec-16	1d
3	Distribute set of guidelines and how-to manual	01-Dec-16	02-Dec-16	2d
4	Questionnaire	01-Dec-16	21-Dec-16	15d
5	Update set of guidelines	21-Dec-16	04-Jan-17	11d
6	Soil collection	02-Dec-16	28-Apr-17	106d
7	Acquisition of soil spectra	17-Apr-17	14-Jul-17	65d
8	Webinar #2	14-Jun-17	14-Jun-17	1d
9	Development of models	17-Jul-17	29-Sep-17	55d
10	Maps from UAS / satellites	02-Oct-17	30-Nov-17	44d
11	Final questionnaire	15-Nov-17	30-Nov-17	12d
12	Final deliverable	01-Dec-17	10-Jan-18	29d



WP4.2 –Water Extremes Management - WEM

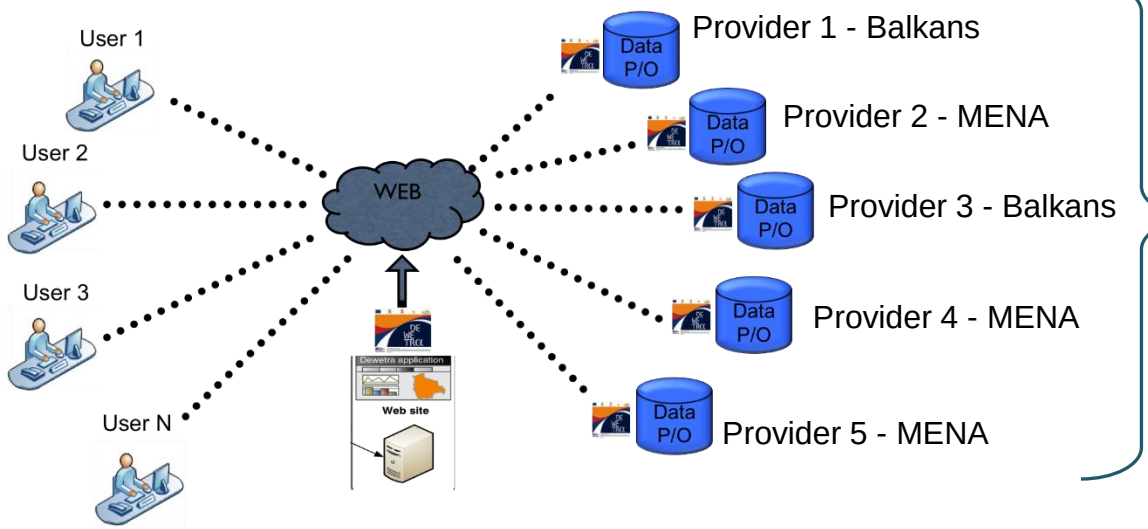
FOCUS: to adapt to the GEO-CRADLE needs arisen from the WP2 activity.

The most frequently quoted requests have been:

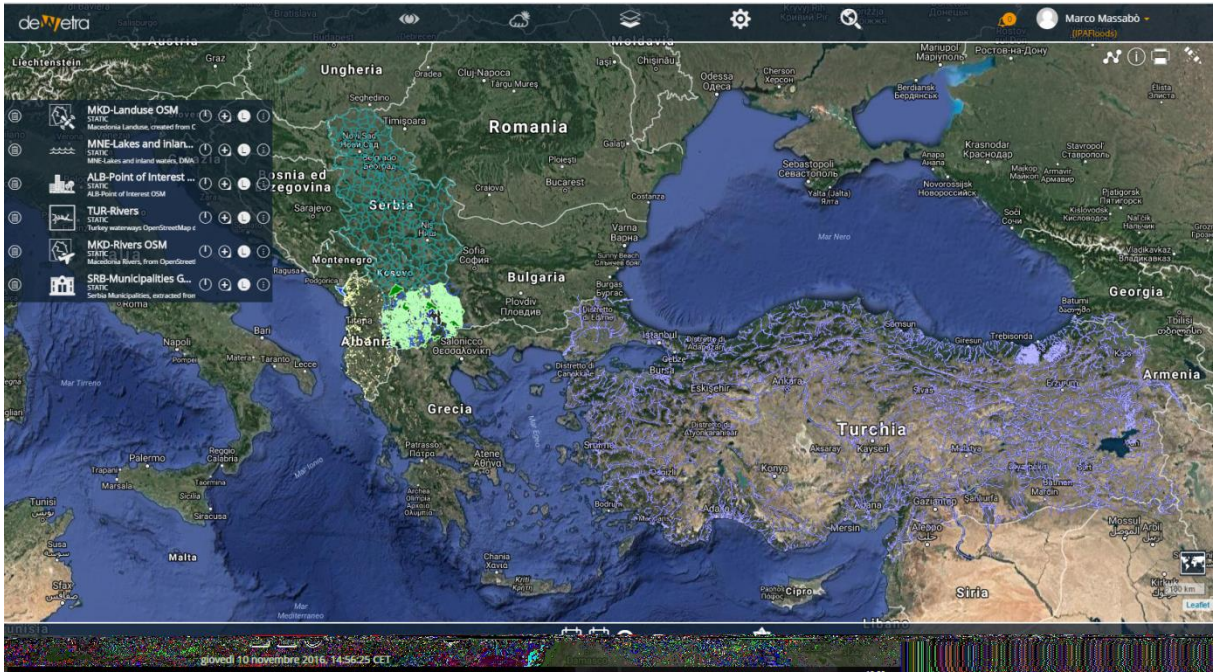
- flood risk monitoring, damage monitoring and mapping of flood extent
- weather data
- land use maps
- water resources (from mapping of water spring to dams locations)
- Infrastructure maps, including transportation ways and drainage networks

The myDEWETRA platform implementation would allow the **collection** and **systematization** of various kind of **data and model outputs**, automatically or manually recorded, previously stored in the data-hub or in the myDewetra GEO server, allowing their **combination and display on the same web based interface producing added value**.

WP4.2 –Water Extremes Management - WEM



- **EO data providers for WEM-DEWETRA** - from the survey of the EO data providers (WP2), a selection of the providers to be contacted by the **partners**, based on the type, format and accessibility of data they declared during the survey phase

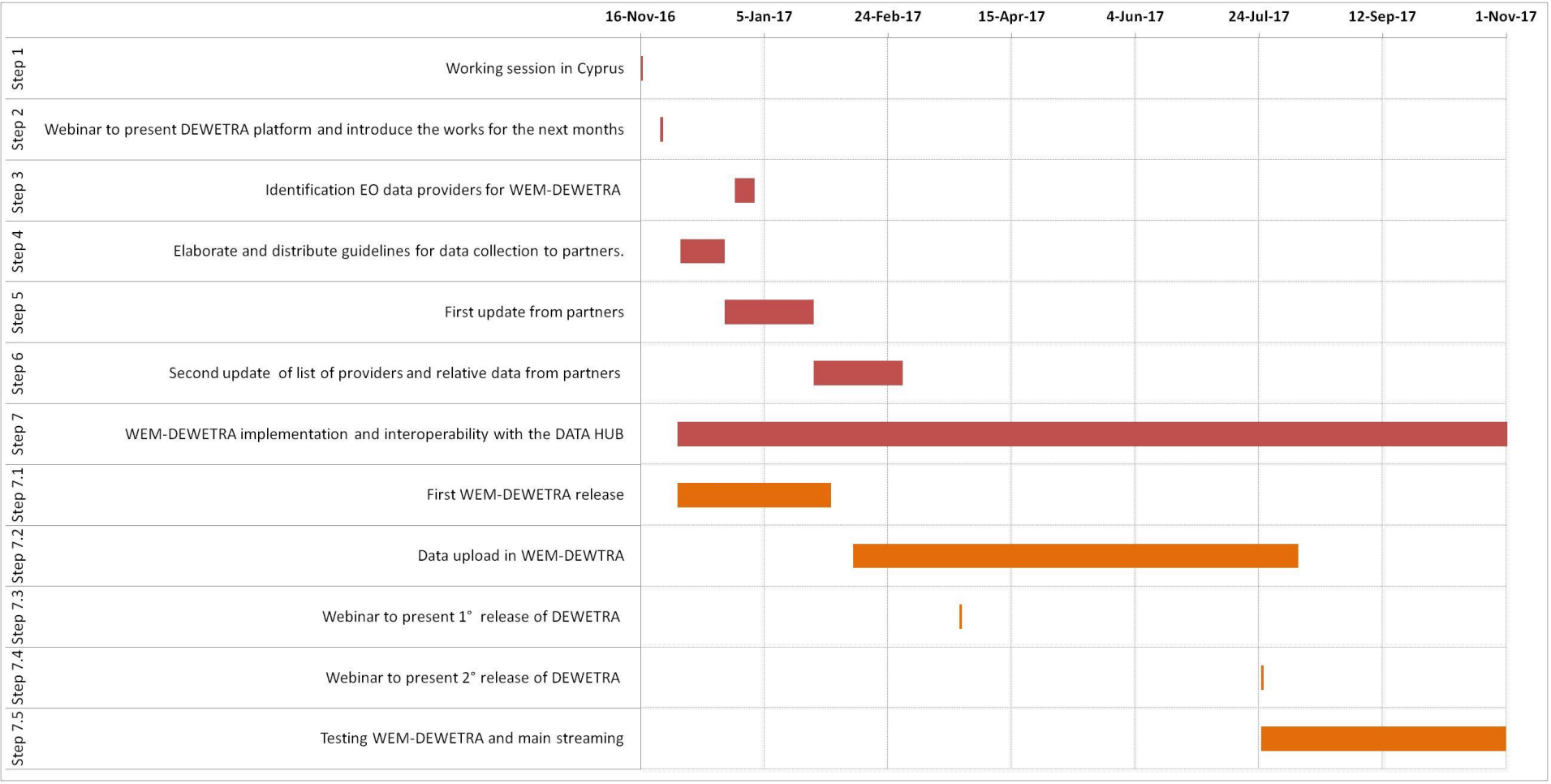


Possible example of WEM-DEWETRA implementaion

WP4.2 –Water Extremes Management – WEM STEPS for WEM-DEWETRA implementation in the RoI

ID	TASK	Start Day	Days
Step 1	Working session in Cyprus	16/11/2016	1
Step 2	Webinar to present DEWETRA platform and introduce the works for the next months	24/11/2016	1
Step 3	Identification EO data providers for WEM-DEWETRA	24/12/2016	8
Step 4	Elaborate and distribute guidelines for data collection to partners.	02/12/2016	18
Step 5	First update from partners	20/12/2016	36
Step 6	Second update of list of providers and relative data from partners	25/01/2017	36
Step 7	WEM-DEWETRA implementation and interoperability with the DATA HUB	01/12/2016	340
Step 7.1	First WEM-DEWETRA release	01/12/2016	62
Step 7.2	Data upload in WEM-DEWTRA	10/02/2017	180
Step 7.3	Webinar to present 1° release of DEWETRA	25/03/2017	1
Step 7.4	Webinar to present 2° release of DEWETRA	25/07/2017	1
Step 7.5	Testing WEM-DEWETRA and main streaming	25/07/2017	99

WP4.2 –Water Extremes Management - WEM



Open Issues