

Drought Working Group Report

Participants

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Questions raised from discussions

- We discussed why we talked directly after citing the four types of droughts about satellite data (ET)
- We discussed about the advantage of using the thermal based satellite drought index which is obtained only from satellite data
- We asked which model has been used to obtain ET , Rim said its Alexi's model (250m resolution)
- We asked if NASA has equivalent satellites to Meteosat to give information on precipitation in real time, etc
- Correcting AVHRR data since 1979 instead of 1999
- We discussed the early warning systems, and the importance of the use of different kind of drought indicators which complete each others
- We mentioned the importance of using an insurance system
- We talked about the use of satellite data to asses crops productivity/yield
- "Rescue Irrigation", how to know the quantity of water to use to get the best quantity of olives (example), cause even if it looks green, that doesn't mean it doesn't need water, otherwise we'll get bad harvesting
- Could satellite data obtain the priority zones where to irrigate to save the crops?
- There is a problem with the olives here in Tunisia, because they are much spaced (20 meters), So NDVI will not work well, hence the need to use better indicators: vegetation stress indicator (SVI), etc? Or the use of Radar (information on one meter deepness)
- Moisture indicators also could be useful in some cases (calibrating soil moisture in situ..)
- Some participants mentioned the existence of a National Committee for drought? To seek synergy and collaboration with it
- IRA responsible of providing veget monitoring indicators from AVHRR
- INAT, CNCT, INM & others should be involved in that, The participants asked what is the role of the other partners?
- Role of CNCT: need of material to carry out the validation

- Soil moisture satellite data, CNCT will ask ESA at early December for SMOS data (available since 2010). Why not use AMSR-E data? (some participants mentioned that it does not work well in Tunisia)
- JRC will be contacted by CNCT to look for partnership (fAPAR data)
- MODIS NDWI 10 days: NDWI is sensitive to changes in liquid water content of vegetation canopies & less sensitive to atmospheric effects than NDVI
- The question was also what kind of product level the participants will get? The final product, or the local data should be introduced in the models to get the final data/outputs?
- The participants asked about the formulation of the models and if they work well in arid regions or tested before in Tunisia?
- LIS give previsions (20 to 100 years), used as input, gives info on soil moisture (1km)
- Did LIS work for seasonal prevision/forecasting?
- • Jamieson et al. (1995) found that a reduction in the intercepted radiation (and therefore in fAPAR) is always a consequence of droughts, both in early or late events, MERIS time series?
- Can we get time series of NDVI, NDWI, NDDI, SVI, ET, GVMi? (AVHRR, MODIS...)
- How to overcome the difficulties that may result from the use of different resolutions/scales? Up/down-scaling?

Suggestions

- Check the existing works and drought management plans as well as the national water information system (SINEAU) to avoid duplicating efforts and maximize the benefits:
 - ✓ National drought management Plan of Tunisia
 - ✓ Maghreb Early Warning System to Drought (SMAS): OSS
 - ✓ Early Warning System for the management of risks associated with climate extremes and Climate Change in Tunisia
 - ✓ PISEAU I project (2003-2007) and PISEAU II (2009-2014)
 - ✓ Study of implementation of the National Water information system (SINEAU): (EMWIS NFP: DG BIRH, etc)