

Faculty of Geo-Information Science and Earth Observation, ITC

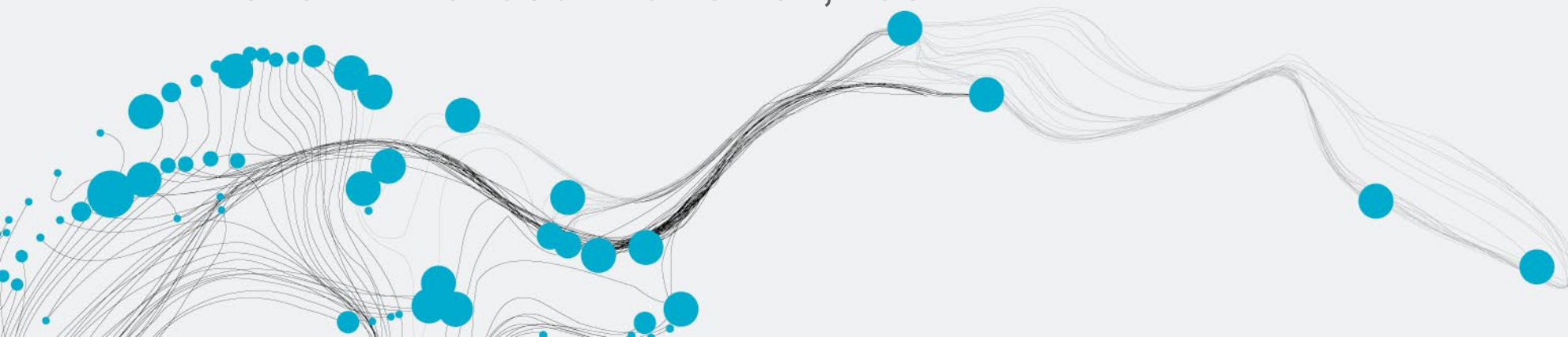
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# CROP WATER PRODUCTIVITY

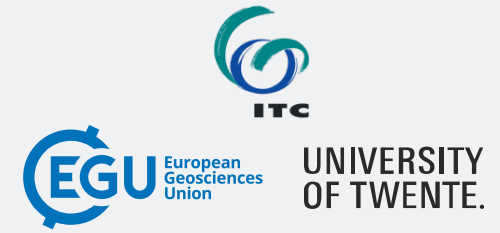
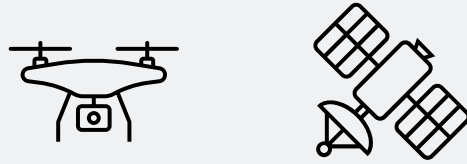
AN ONLINE SHORT COURSE BY  
DR. EGOR PRIKAZIUK  
WITH SUPPORT OF  
THE EUROPEAN GEOSCIENCE UNION, EGU



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Crop yield and crop water demand estimation with remote sensing





CONTINENTAL

NATIONAL

SUB-NATIONAL

WAtER Productivity  
through  
Open access  
of Remotely sensed  
derived data

[https://wapor.apps.fao.org/home/WAPOR\\_2/1](https://wapor.apps.fao.org/home/WAPOR_2/1)

# WHAT IS WATER PRODUCTIVITY?

$$\text{Land Productivity} = \text{Yield} = \frac{\text{harvested biomass}}{\text{area used}}$$

## YOU WILL LEARN IN THIS COURSE

- Crop Water Productivity = CWP = ...
- Derive *meaningful* estimates of CWP from WaPOR data
- Evaluate the performance of an irrigation scheme with CWP



# YOU WILL LEARN TO

1. **Explain** the link between **crop yield** and **crop water demand** (reading, lecture)
2. **Link** the **components** of crop water productivity (CWP), plant productivity, evapotranspiration, with the respective **Earth Observation (EO) based modelling techniques** (reading, lecture)
3. **Calculate crop yield** from EO-based **gross primary productivity** (GPP) estimates (exercise, Excel)
4. Identify **phenological metrics** (start, end of the growing season) from EO data (exercise, Excel)
5. Produce **meaningful**, growing season-related **estimates** of CWP (exercise, WaPOR)
6. Conclude on the **efficiency of the water management scheme** in the study area (case study)

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