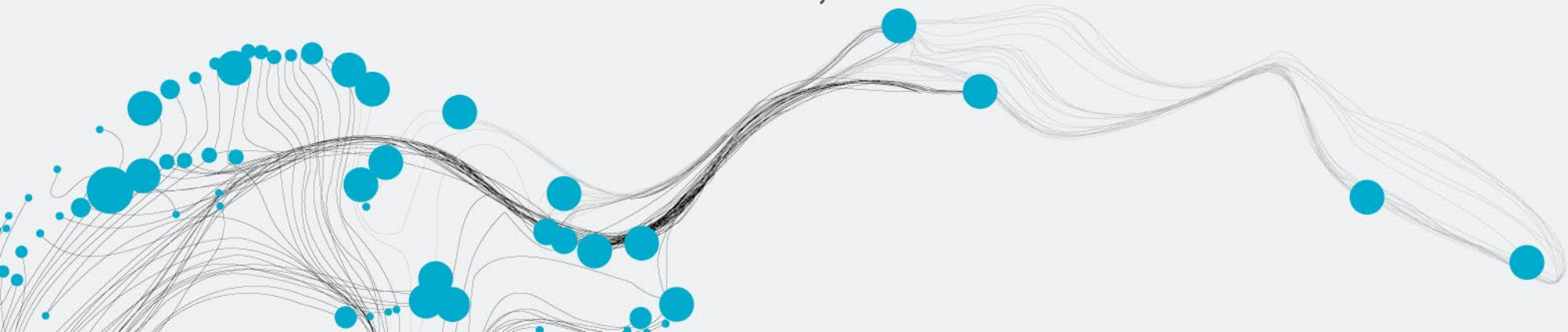
Faculty of Geo-Information Science and Earth Observation, ITC

This HE Teaching Material was supported by the EGU Higher Education Teaching Material Grant 2023

CROP WATER PRODUCTIVITY

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



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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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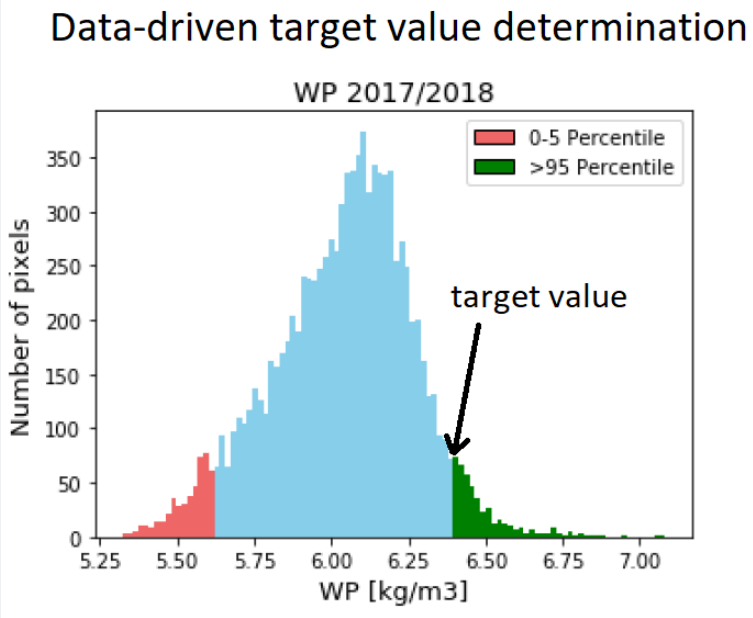
IRRIGATION PERFORMANCE INDICATORS

DEFINITION

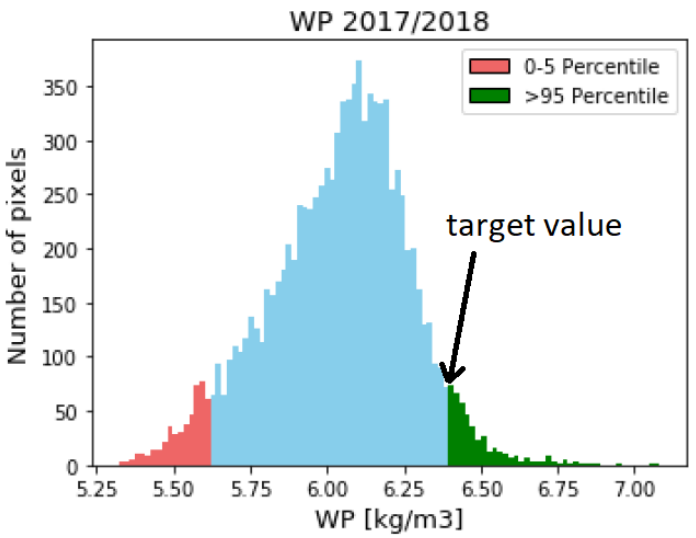
- **compared** to a *target, standard, reference* or *benchmark* val ue
- Ask a farmer or use a data-driven approach: 95th percentile of field values



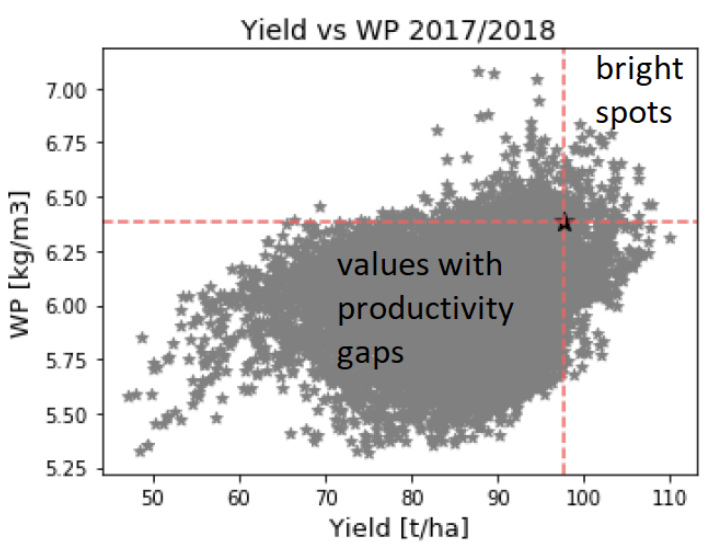
https://github.com/wateraccounting/WAPORWP/tree/v1.1

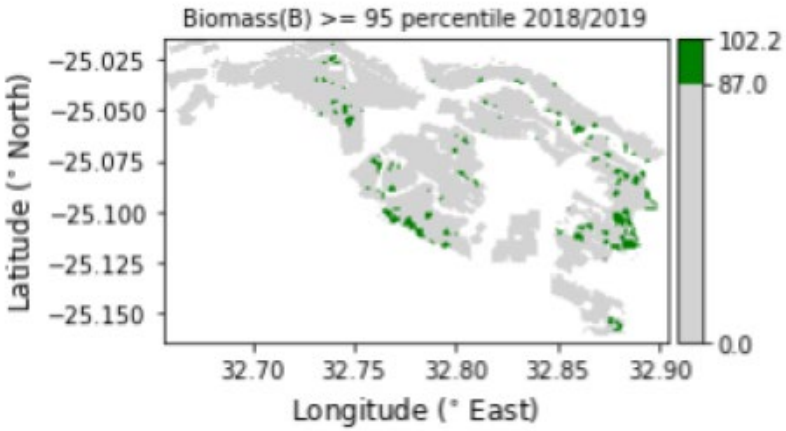
BRIGHT SPOTS AND PRODUCTIVITY GAPS

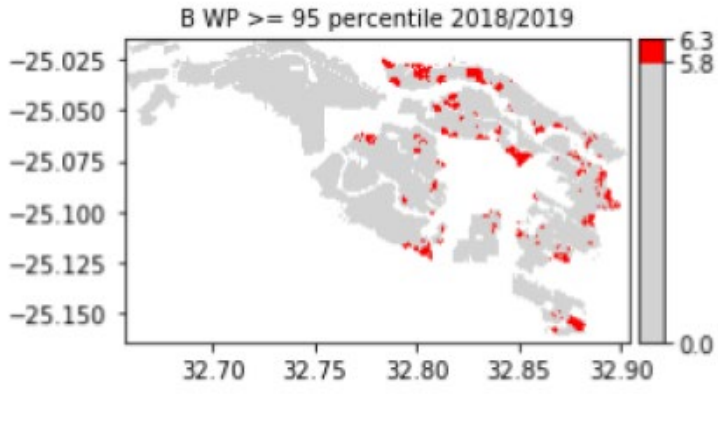
Data-driven target value determination



Bright spots and productivity gaps







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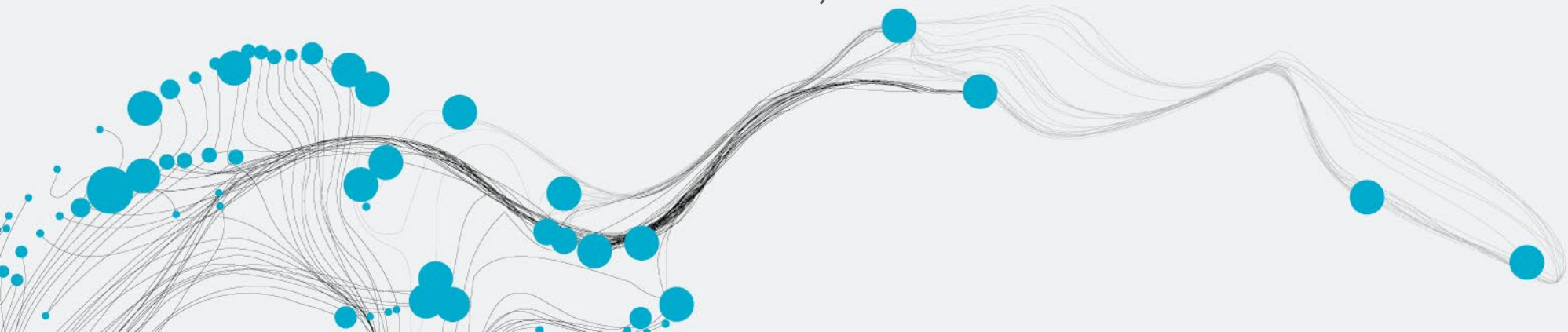

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