On the job training Egypt

Marloes Mul, Ahmed ElNaggar, Solomon Seyoum, Abebe Chukalla

IHE Delft Institute for Water Education

Component 2 Capacity building

Objective
Enhanced capacities of stakeholders to use the WaPOR database for practical applications to increase land and water productivity as well as for policy relevant applications to support sustainable water management and governance and agricultural policies.

Component 3 Compendium of solutions

Objective
Compendium of implementable solutions and tools, co-developed with various stakeholders at different operational scales, from farm to the national level, to effectively increase land and water productivity in agriculture sustainably at field level as well as to support water management, water governance and agricultural policies

On the job training

Linked to specific country activities/ application development
- Target audience: technical experts

Development of apps, dashboards etc by WaPOR team
- Training on how to replicate the analyses/ adapt and co-design
- Training on how to maintain tools
- Training on how to use the tools (end user training)

Training of trainers
- General concepts
- Standard analyses for selected case study
- Interpretation of analyses
- Identify tailored analyses, adapt scripts and implement analyses

Courses with key
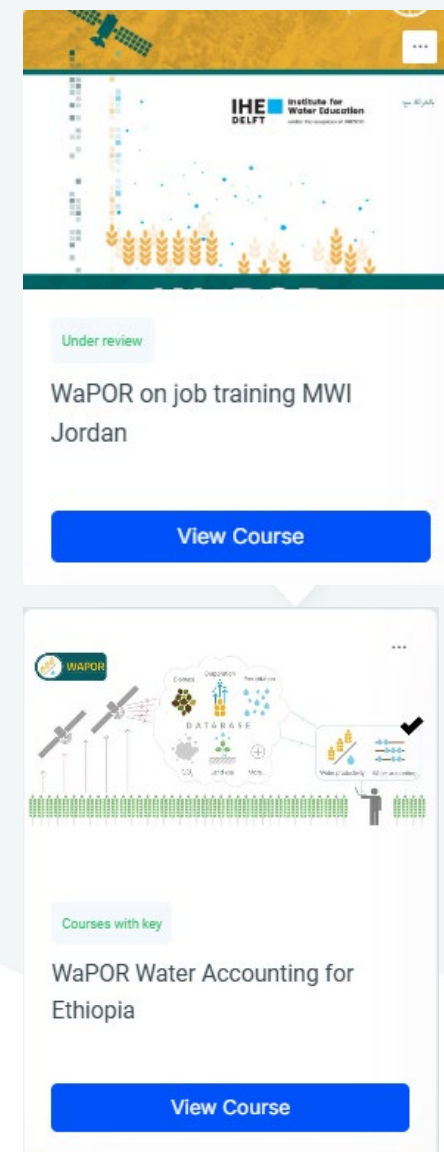
On the job training WaPOR for Egypt

View Course

Steps:
- Identify suitable candidates
- Regular online meeting (supported by dedicated platform)
- Possible face to face meeting (after sufficient progress made)

Country trainings - On the job training

- Various topics covered focussing on application development (output 3a)
  - Irrigation Performance Assessment (Kenya, Sudan, Egypt, IWMI – Jordan/Iraq/ Mozambique)
  - Irrigation scheduling (IWMI – Algeria/Tunisia)
  - Supporting integration WaPOR into WIS (Palestine, Jordan)
  - Groundwater assessment (Iraq, Jordan, Palestine)
  - Water use assessment/WA+ (Egypt, IWMI – Kenya)

- Or creating community of practice:
  - Water Accounting plus (Ethiopia - completed)
  - Training of trainers in Pakistan (academia – starting in 2025)
  - Training of trainers in Colombia (various government departments- starting in 2025)

Under review

WaPOR on job training MWI Jordan

View Course

Courses with key

WaPOR Water Accounting for Ethiopia

View Course

Capacity building (global)

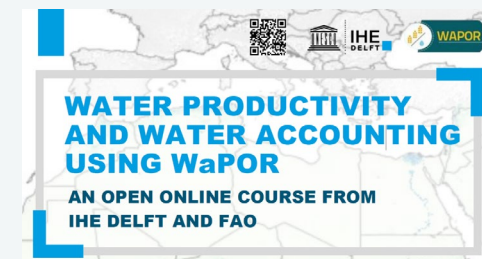- **Also used to support the on the job training**

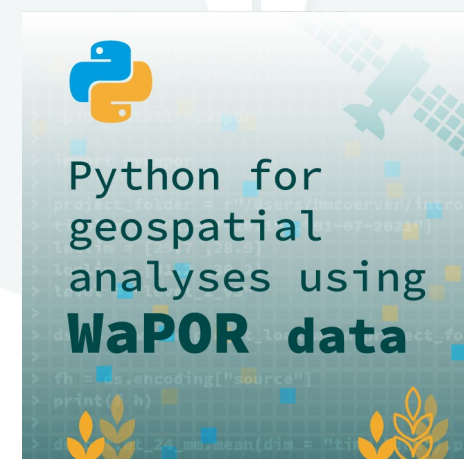| |
|---|
| Water Productivity and Water Accounting using WaPOR (phase 1) (also in French and Arabic) - 3 modules |
| WaPOR concepts and validation |
| WaPOR v3 Introduction (also available in French and Spanish) |
| Python for geospatial applications using WaPOR data |
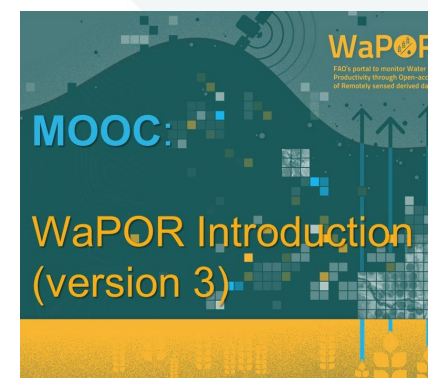
Planned activities Egypt

- **Area 1: Crop specific irrigation performance indicators**

  - **Activity 1:** Support the development and updating of scripts for estimating crop specific Irrigation Performance Assessment (based on WaPORIPA). To be tested in the Meat Yazid area using the WaPOR L3 data before upscaling to entire Nile Delta.

  - **Activity 2:** Support identifying low productivity hotspots and diagnostic analyses of land and water productivity variations (eg following Safi et al., 2022 and other methods)

  - **Activity 3:** Co-design visualisation of the IPA outputs and integration into WA+ dashboard.

  - **Expected output:** Scripts and visualisation of WaPOR based IPA indicators. Identification of low productivity hotspots and initial diagnostics.
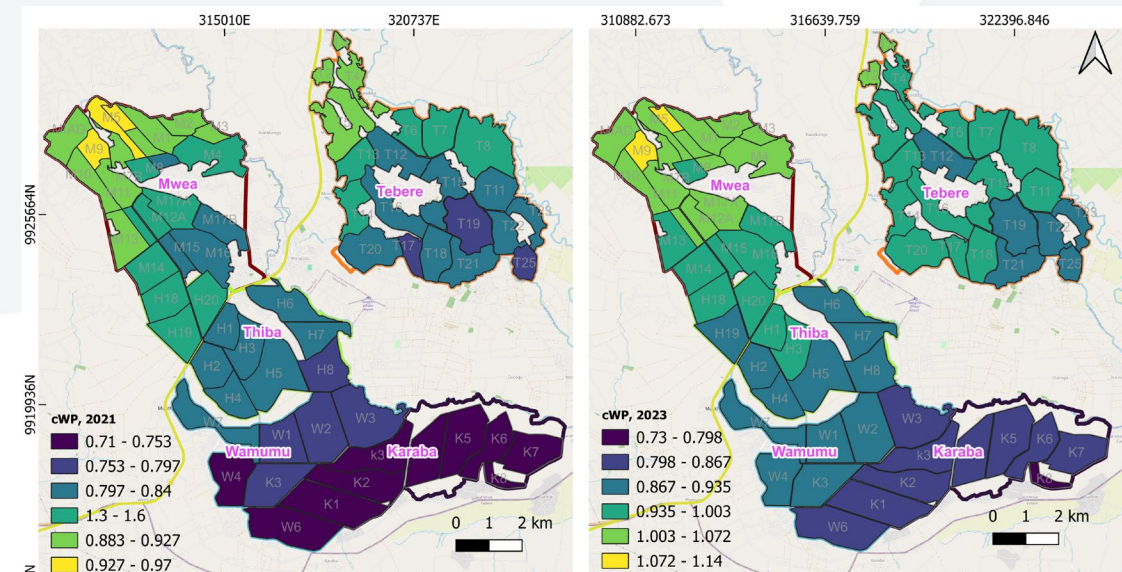
Planned activities Egypt

- **Area 2: Creating high resolution ET and NPP data in Nile valley using WaPOR methodology**

  - **Activity 1:** Support the testing and evaluating of different methods (pyWaPOR and WaPOR L2 downscaling using pyDMS or other methods) for generating high resolution ET and NPP data. Test sites: Sakha and SIDS (with ground observation data and WaPOR L3 high resolution data which can be used for calibration and validation)

  - **Expected output:** Agreed method for generating high resolution ET and NPP data, downscaling for targeted areas in Meat Yazid and Nagaa Hammad from 100 m to 20 m
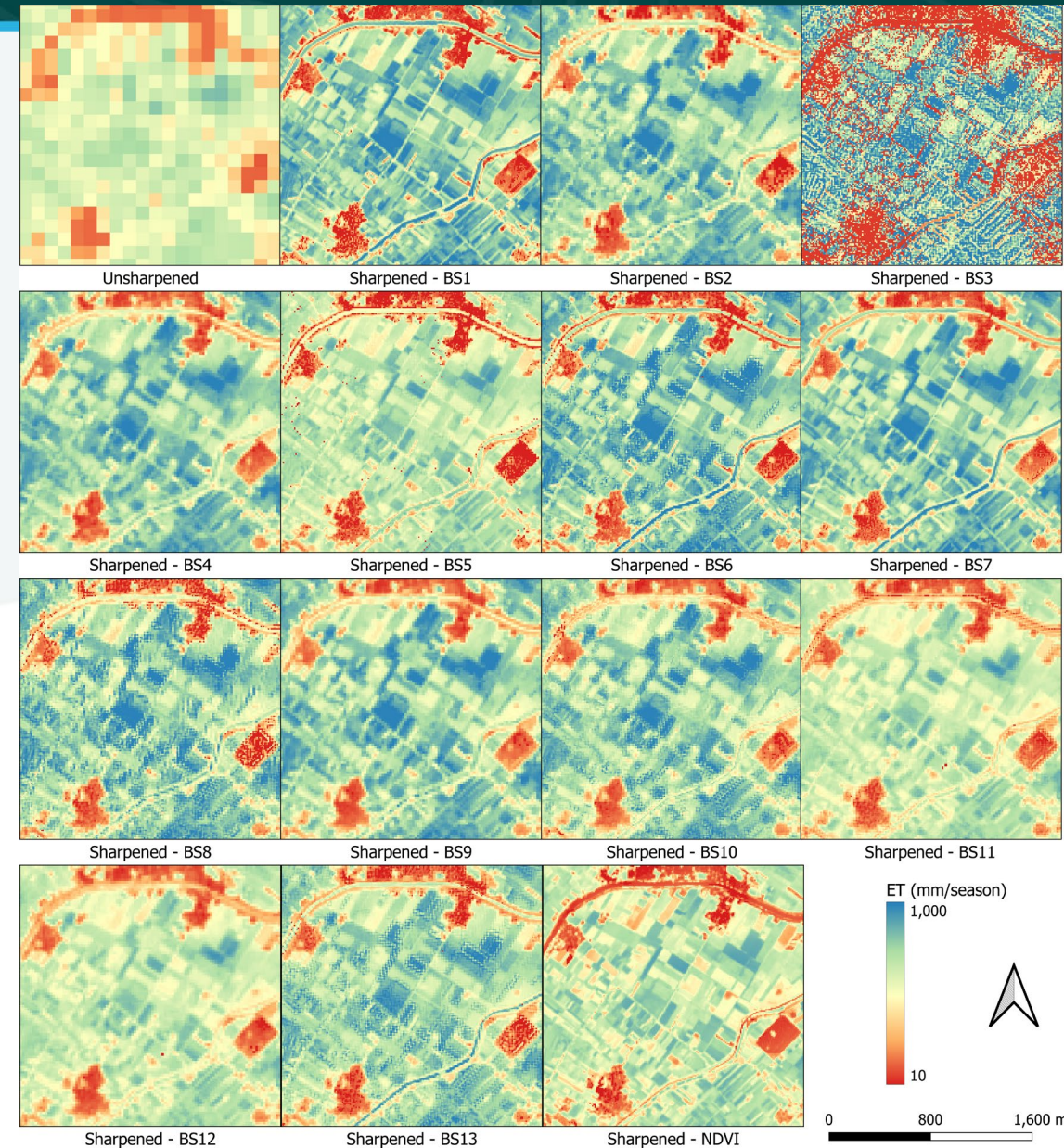
Planned activities Egypt

- **Area 3: Capacity building**

  - **Activity 1:** On the job (online) training of government staff (mainly supporting the team in implementing Area 1 & 2)
    - Introduction to WaPORv3
    - Python for geospatial analyses
    - Validation of WaPOR v3 data (ET, NPP, yield)
    - Irrigation performance analyses
  - **Activity 2:** Physical training in Egypt (content to be determined)
  - **Expected output:** Team in Egypt capable to run WaPOR analyses

Proposed time schedule (May–September)

Topics /Activities	Wk 1&2 05-2025	Wk 3&4 05-2025	Wk 1&2 06-2025	Wk 3&4 06-2025	Wk 1&2 07-2025	Wk 3&4 07-2025	Wk 1&2 08-2025	Wk 3&4 08-2025	Wk 1&2 09-2025	Wk 3&4 09-2025	Wk 1&2 10-2025
Participants Identification (FAO)	■										
Registration of participants on MOOC /Demo on how to access MOOC (IHE)	■										
Topic 1: Introduction to WaPORv3 (Mul)											
2W Introduction to WaPORv3 (MOOC)		■									
Topic 2: MOOC python for geospatial analyses (Mul, ElNaggar)											
4W Introduction to python for geospatial analyses (MOOC)			■	■							
Topic 3: Validating WaPOR data (Mul)											
2W Validation concepts and practical applications					■						
Topic 4: IPA-Meat Yazid (Mul, Dehati) Presentation and discussion irrigation performance indicators											
1W Recap WP & IPA/ Introduction to WaPORIPA python scripts						■					
1W WaPOR data download for Meat Yazid & run WaPORIPA							■				
1W Preparing data per crop type (masking)								■			
1W Introduction to tailored python scripts for IPA assessment / use of NetCDF files								■			
1W Practical application of tailored python scripts for IPA assessment in Meat Yazid								■			
1W IPA-Meat Yazid visualization using python scripts								■			
Topic 5: Diagnostic analyses for yield and water productivity variations (Kumar)											
1W Introduction to the diagnostic indicators									■		
2W Download Sentinel images and raster calculations										■	■
2W Compare yield and water productivity variation with indicators										■	■
1W Present and discuss results											■

Next steps:

- **Dedicated OCW page has been set up with all the materials and links**
  - List of participants has been provided (incl email address they registered to the OCW)
  - All participants to register in the OCW platform of IHE (a few still missing)
- **Weekly online meetings with the participants**
  - Main focus of the meetings is to provide additional clarifications/ Q&A/ discuss site specific analyses and results (not to repeat presentations)
  - 2-4 hrs work needed in between the sessions
  - Schedule is flexible
  - Meetings will be recorded
- **Certificate will be issued to those participants completing:**
  - MOOC introduction to WaPORv3
  - MOOC python for geospatial analyses using WaPOR data
  - Complete the course materials for the on the job training

Next steps:

- **Start with MOOC Introduction to WaPOR v3 course**

(https://ocw.un-ihe.org/course/view.php?id=263)

- Q&A 29 May (complete topics 1. Introduction to WaPOR v3 & 2. WaPOR portal v3)