Food and Agriculture Organization of the United Nations

WaPOR

FAO's portal to monitor Water Productivity through Open-access of Remotely sensed derived data

Global monitoring of water productivity in agriculture with FAO WaPOR: introducing the new open access portal and data

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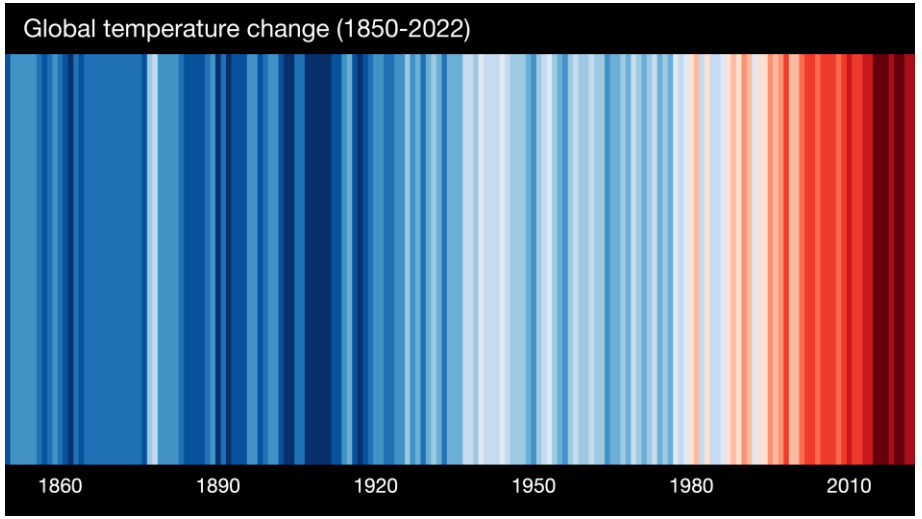
Ministry of Foreign Affairs of the Netherlands

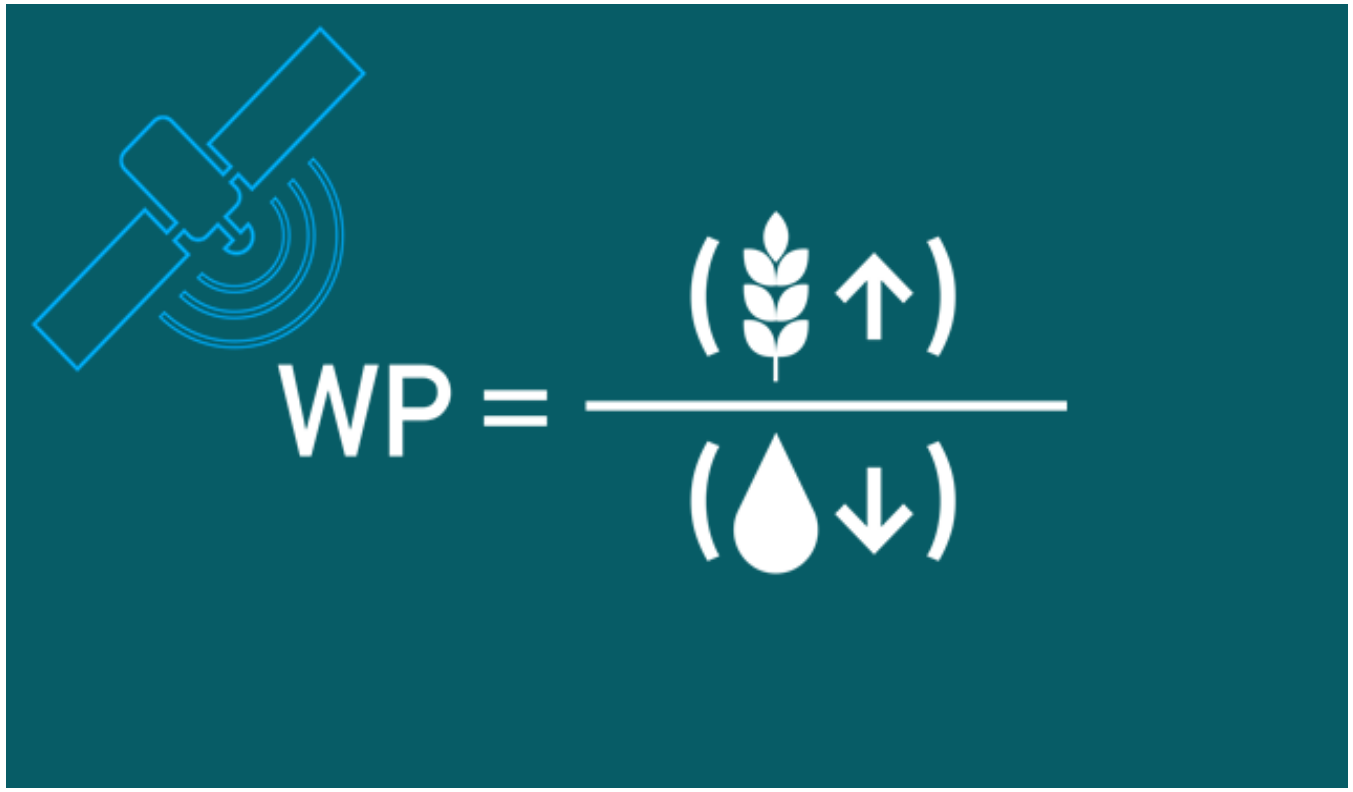
IWMI International Water Management Institute

IHE DELFT Institute for Water Education under the auspices of UNESCO

Water is now central to food security and climate agenda



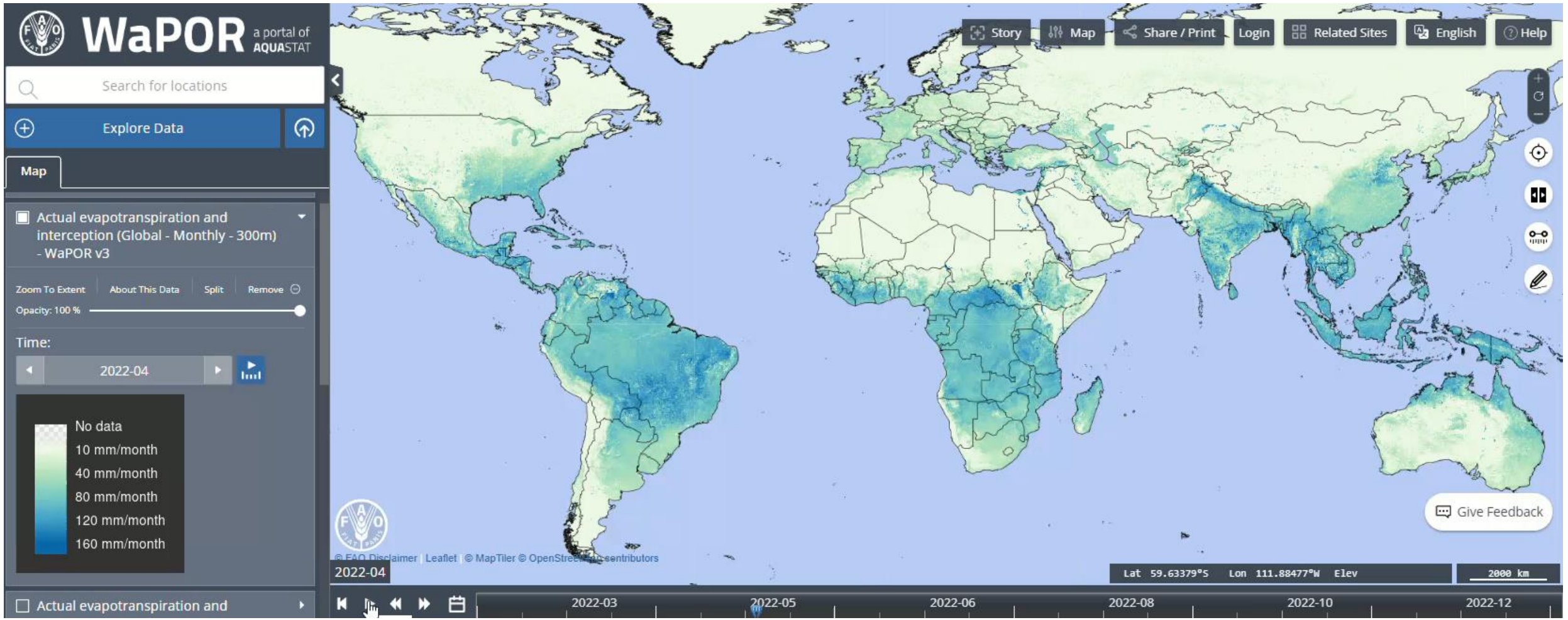
We need to produce more food with less water



Water Productivity = yield per unit of water consumed

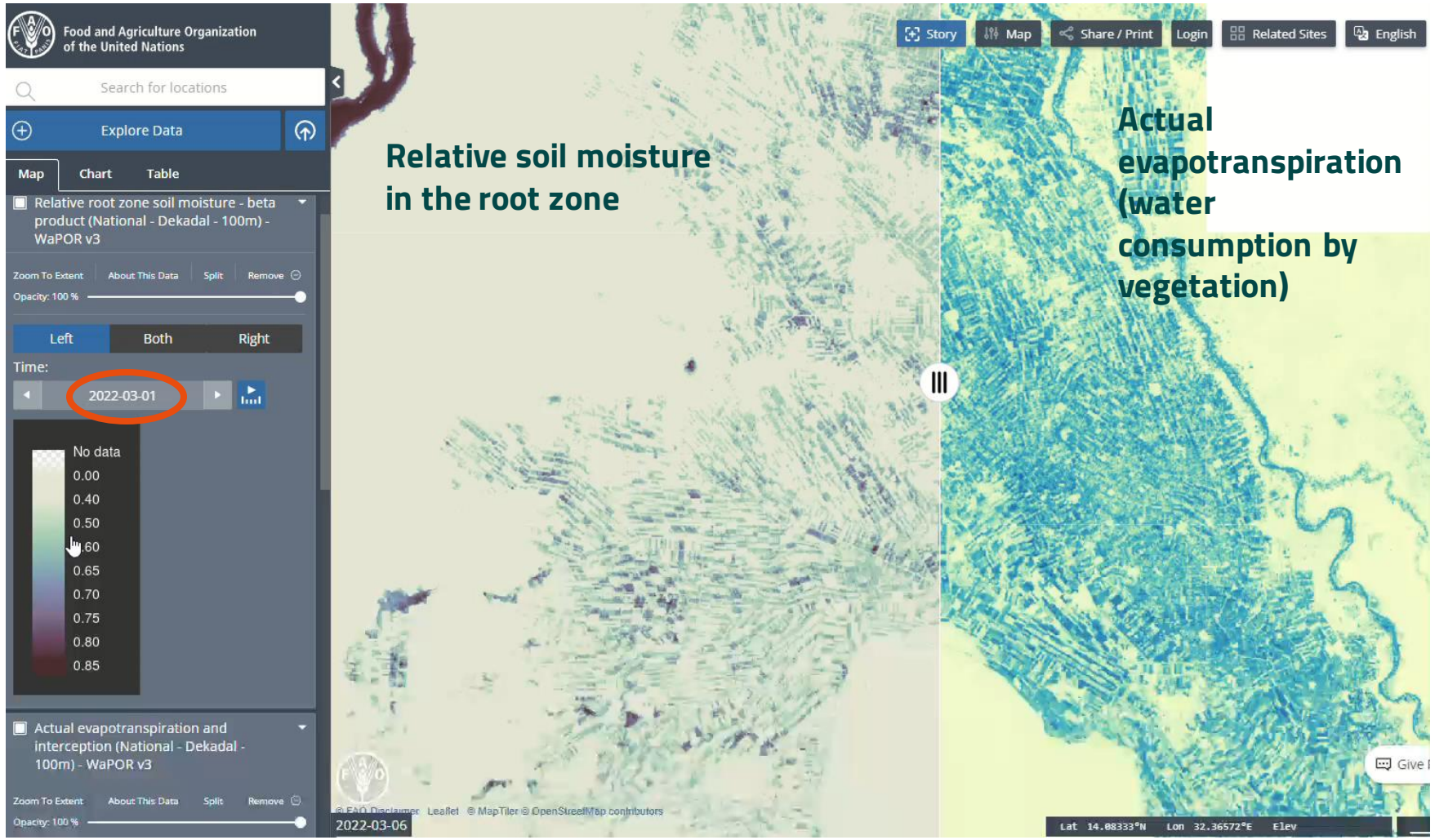
UN 2023 Water Conference
22 – 24 Mar 2023, New York

Towards global monitoring of water productivity

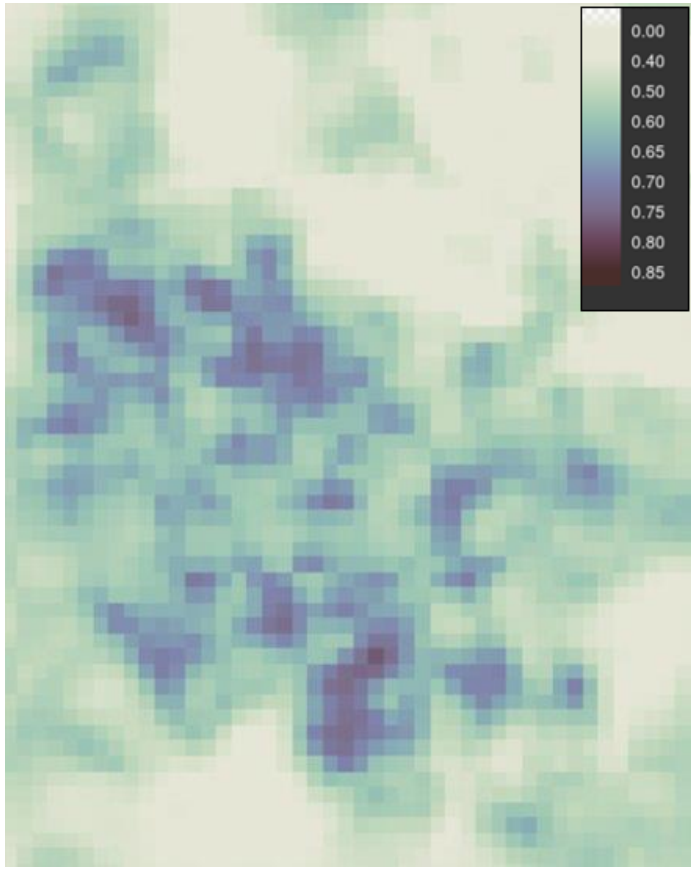


Thermal sharpening better captures spatial variations

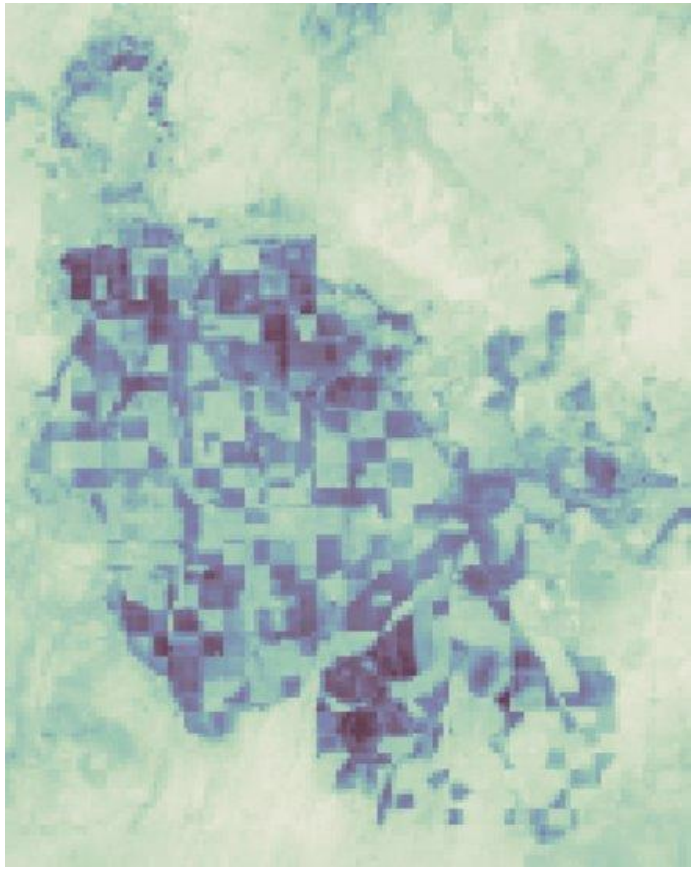
Relative Root Zone Soil Moisture (*beta* product) introduced



WaPOR V3: increased spatial resolution



Global data 300m



National data 100m, covering Africa and Near East

Sub-national areas 20m, >15 areas of ~100,000 ha

Relative Root Zone Soil Moisture 1-10 January 2022, Ethiopia

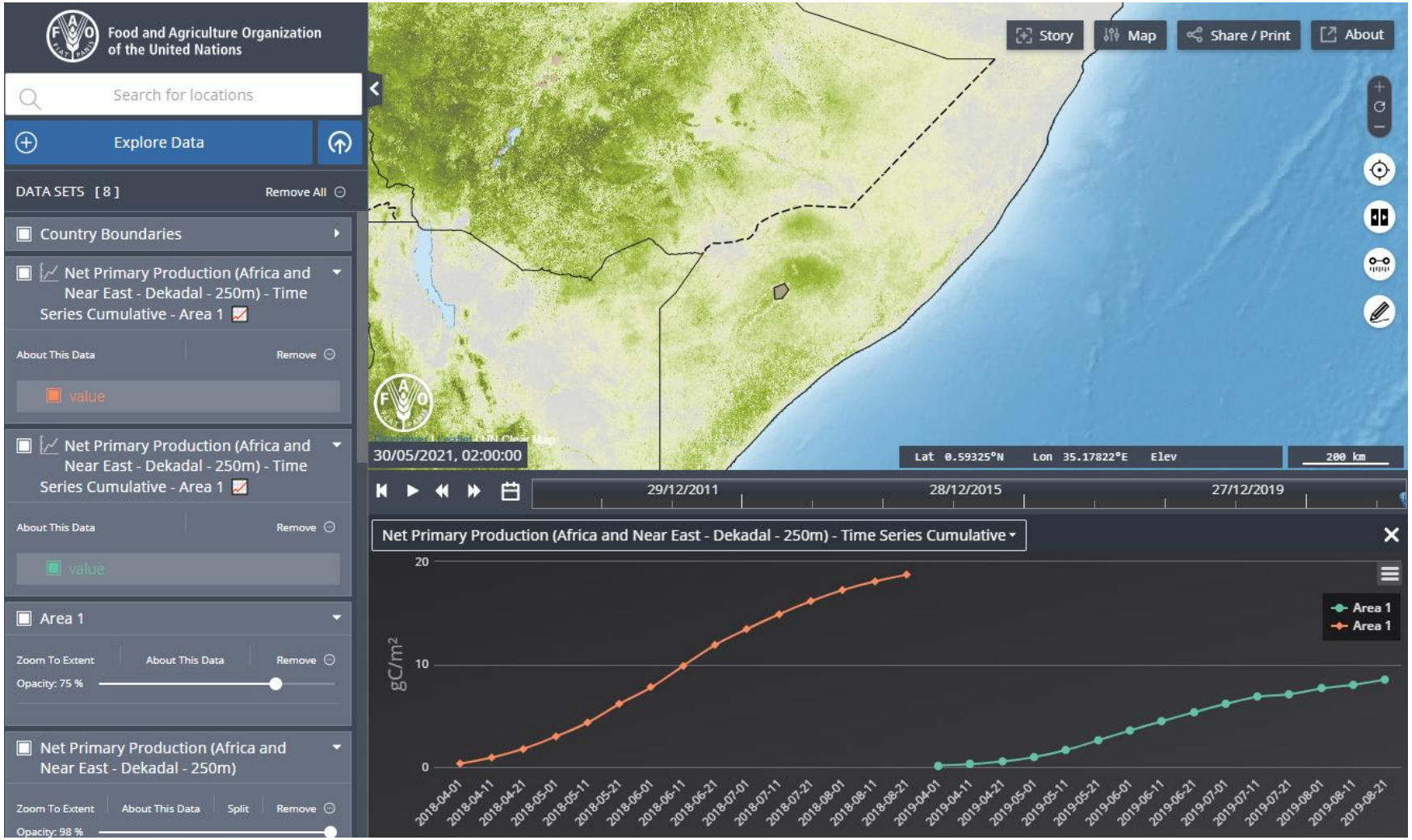
New data portal

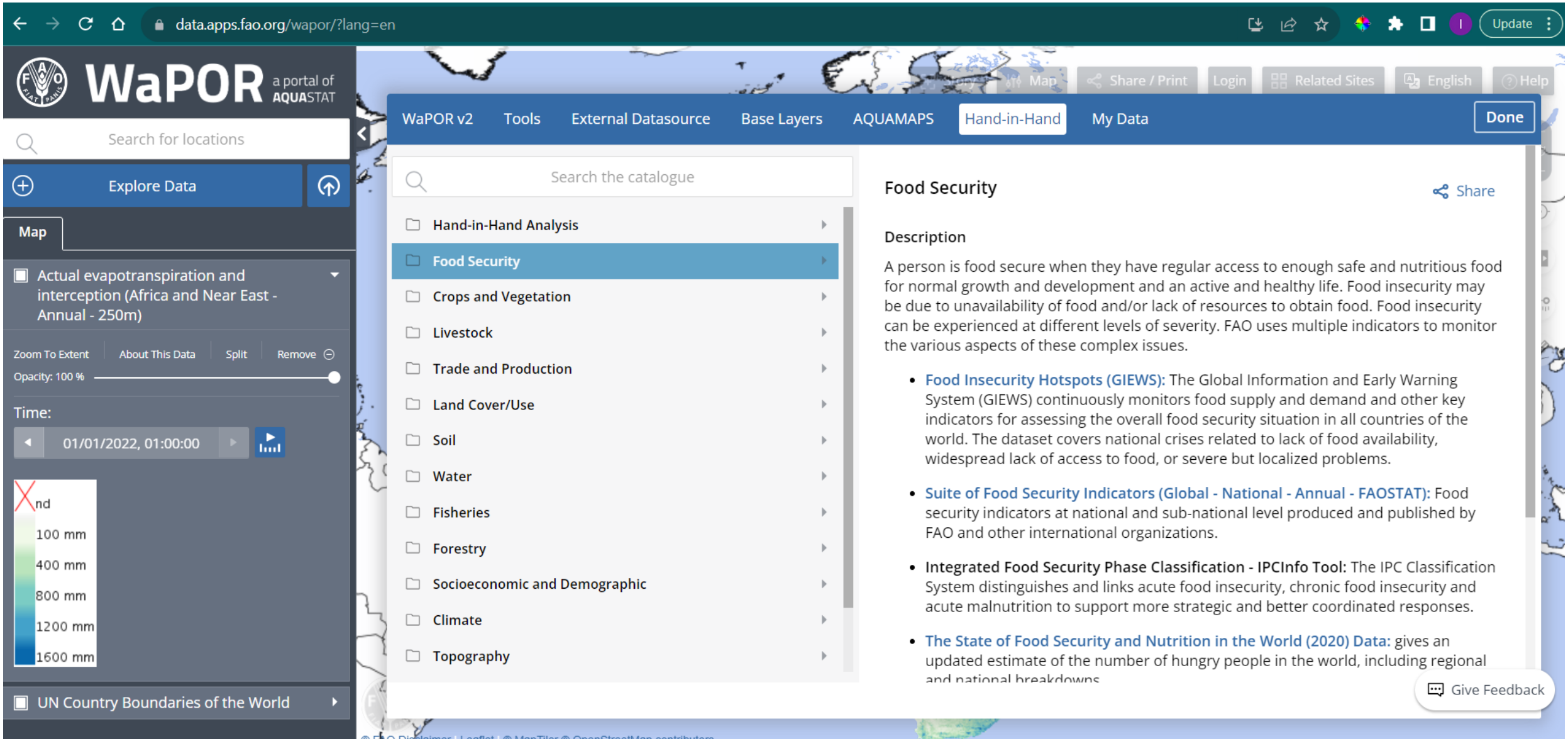
New functionalities developed by WaPOR team in the geospatial platform to enhance analytical capabilities:

- Cumulated time series
- Direct comparison on the charts between different areas or different time periods
- Plotting of different variables on the same chart (such as Reference and Actual ET)

Watch the video at

https://www.youtube.com/watch?v=gA_t4HuFNhM




data.apps.fao.org/wapor/?lang=en
Update
WaPOR a portal of AQUASTAT
Search for locations
Explore Data
Map
Actual evapotranspiration and interception (Africa and Near East - Annual - 250m)
Zoom To Extent
About This Data
Split
Remove
Opacity: 100 %
Time:
01/01/2022, 01:00:00
nd
100 mm
400 mm
800 mm
1200 mm
1600 mm
UN Country Boundaries of the World
Map
Share / Print
Login
Related Sites
English
Help
WaPOR v2
Tools
External Datasource
Base Layers
AQUAMAPS
Hand-in-Hand
My Data
Done
Search the catalogue
Hand-in-Hand Analysis
Food Security
Crops and Vegetation
Livestock
Trade and Production
Land Cover/Use
Soil
Water
Fisheries
Forestry
Socioeconomic and Demographic
Climate
Topography
Food Security
Share
Description
A person is food secure when they have regular access to enough safe and nutritious food for normal growth and development and an active and healthy life. Food insecurity may be due to unavailability of food and/or lack of resources to obtain food. Food insecurity can be experienced at different levels of severity. FAO uses multiple indicators to monitor the various aspects of these complex issues.
Food Insecurity Hotspots (GIEWS): The Global Information and Early Warning System (GIEWS) continuously monitors food supply and demand and other key indicators for assessing the overall food security situation in all countries of the world. The dataset covers national crises related to lack of food availability, widespread lack of access to food, or severe but localized problems.
Suite of Food Security Indicators (Global - National - Annual - FAOSTAT): Food security indicators at national and sub-national level produced and published by FAO and other international organizations.
Integrated Food Security Phase Classification - IPCInfo Tool: The IPC Classification System distinguishes and links acute food insecurity, chronic food insecurity and acute malnutrition to support more strategic and better coordinated responses.
The State of Food Security and Nutrition in the World (2020) Data: gives an updated estimate of the number of hungry people in the world, including regional
Give Feedback

Action-oriented data for different users

scale

Farmers and other end-users (app developers, agricultural entrepreneurs): advisory services

Irrigation scheme managers, WUAs, river basin authorities: monitoring water use and irrigation performance

Policy makers: water allocation strategies, water productivity targets, SDGs

WaPOR

Applications

LARI-LEB

PlantVillage Nuru

IRWI

FAMEWS

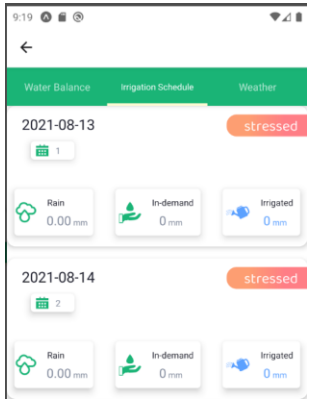
FAO DSP

There is a wide range of applications of WaPOR data that go beyond water productivity.

ICT-based solution (app) for irrigation scheduling advice

IRWI (Egypt), LARI-LEB (Lebanon), IREY (Tunisia), WaFIRR (Jordan-under finalization) app help farmers know:

- how much water is required so that they can decide when and how much to irrigate and
- how healthy is the crop and predicted yield during the season.



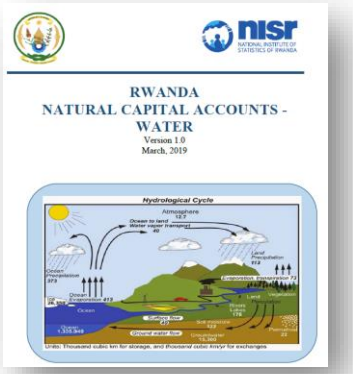
Apps can use WaPOR data in combination with user's inputs and other data sources

International Water Management Institute

Informing national and global policies

League of Arab States guidelines on **Improved Water Allocation for Agriculture in the Arab Region**

Government of Rwanda using it for **Natural Capital Accounts**

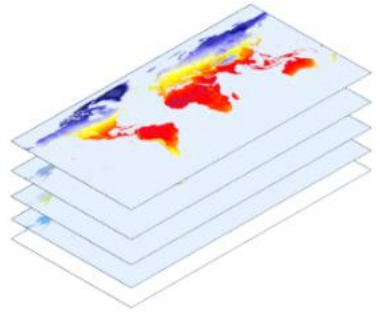


Government of Egypt using it in the **Water Accounting Unit of MWRI**

Contribute to evidence-based National Water Roadmaps

Supporting data acquisition for **SDG monitoring and achieving targets** (SDG 6 in particular)

Knowledge sharing for sustainability



- Data distributed through ReST API for easier integration in ICT applications
- Open geospatial standards (wms, wcs, Cloud Optimized GeoTiff)
- Open codes and algorithms:

Wiki page for methodology
https://bitbucket.org/cioapps/wapor-et-look/wiki/Home

Bitbucket python

PyWaPOR https://www.fao.org/aquastat/py-wapor/index.html

- Online courses, tutorials, hackatons
- Catalog of WaPOR applications and uses

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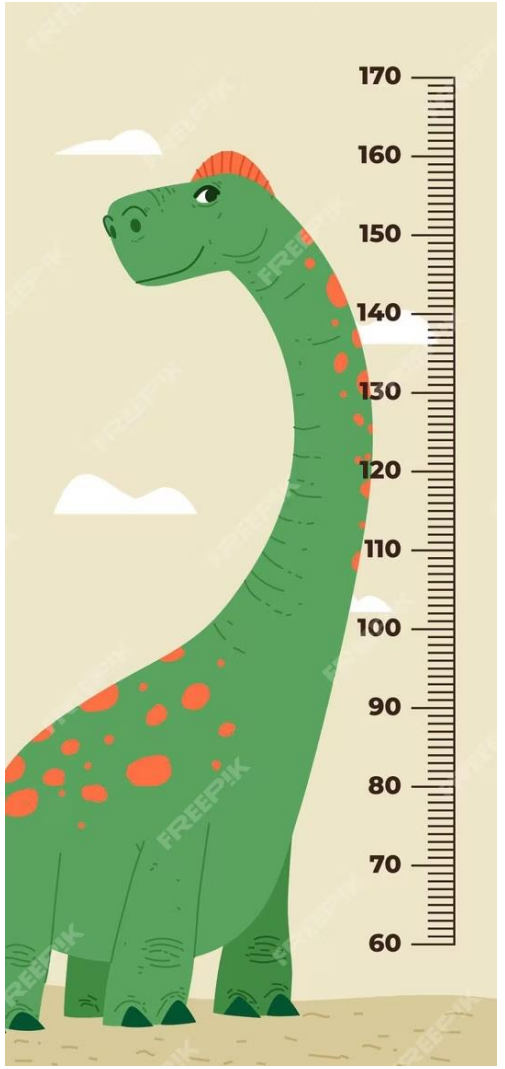
>10 Terabites of data V2 (15 years), >2 TB/y in V3

>8,000 Registered users in the portal (registration no longer required)

>1,000 people trained in >15 countries, in addition to online training participants

>1.5 M hectares (home to roughly 2 M farmers) covered with high resolution data supporting field level water productivity improvements

>80 Applications registered in the catalog showcasing WaPOR use for a variety of topics



Thank you!

data.apps.fao.org/wapor

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www.fao.org/in-action/remote-sensing-for-water-productivity