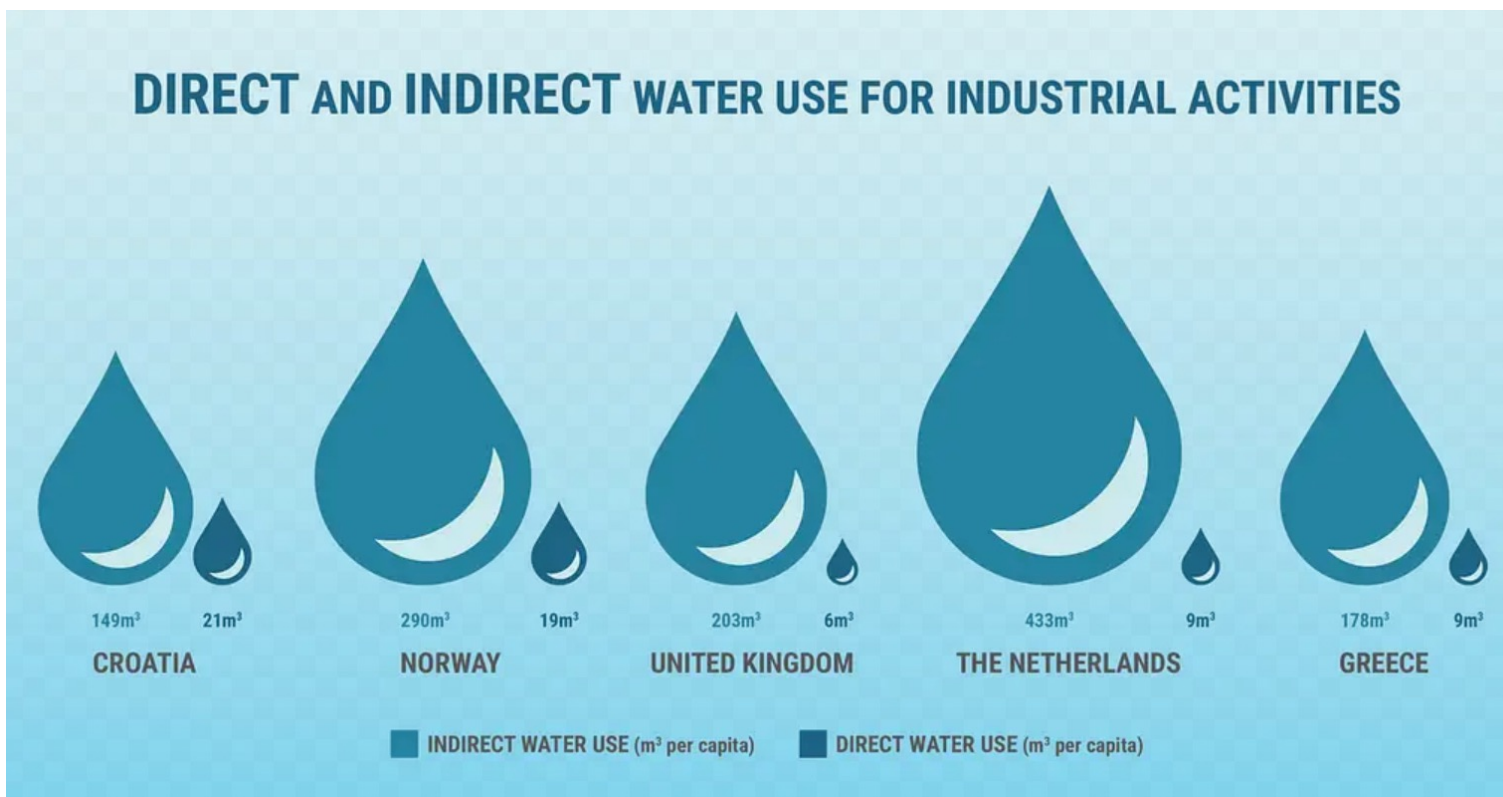


SHARED ON LINKEDIN YESTERDAY





2-5 May 2023, Rotterdam, The Netherlands

Geo4SDGs: Relevance to the Digital Age



WAPOR - MONITORING *WATER PRODUCTIVITY*
THROUGH REMOTELY SENSED DERIVED DATA

Boudewijn van Silfhout
CEO eLEAF

FEEDING 10 BILLION PEOPLE SUSTAINABLY ...



target 2.4
Increase agricultural productivity



target 15.3
Combat desertification



target 6.4
Increase water use efficiency

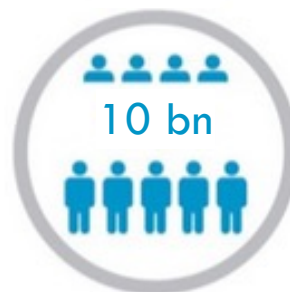


target 17.18
Availability of high-quality, timely, and reliable data

2022



2050



50 % more
food production



Using less
water



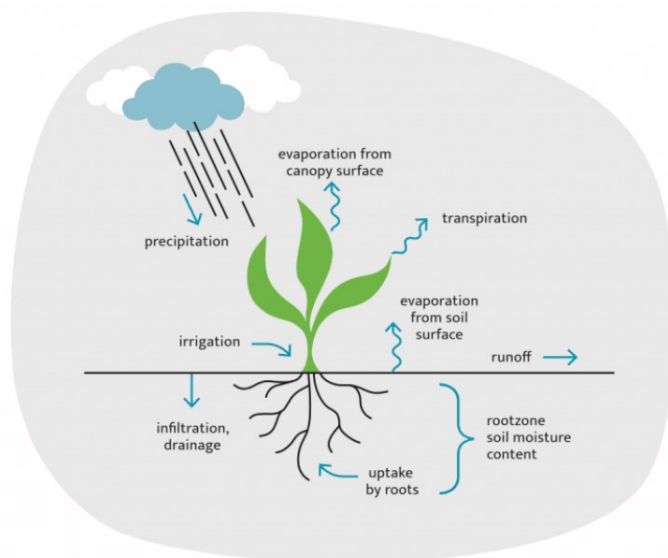
USING SATELLITE DATA HAS *THREE* KEY BENEFITS

- 1. Scalable:** satellite-based data cover the entire globe
- 2. Up-to-date:** near real-time and historical information for early detection
- 3. Consistent:** unbiased indicators comparable across regions for more transparent and equal distribution of water resources

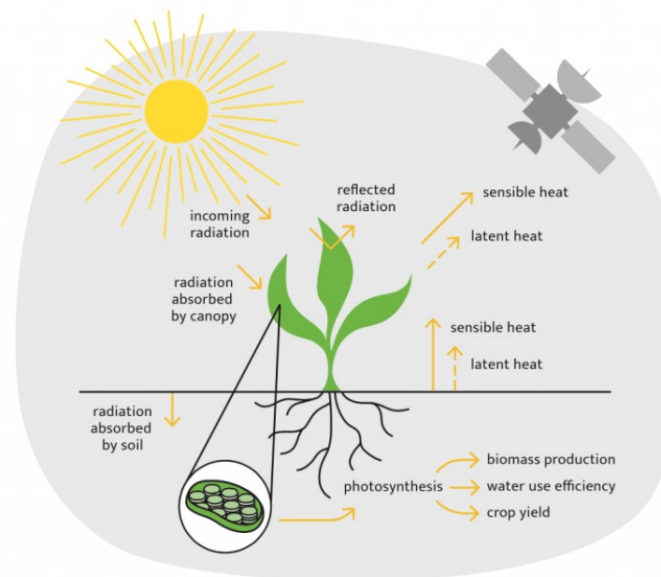
However, most use cases rely on 'indicative' satellite data, more green, less green, not enabling quantified data

SCIENCE ENABLES *QUANTIFIED* GEO-BASED DATA

Water balance



Energy balance



Quantified data makes it possible to support 'industrial' *actionable* use cases

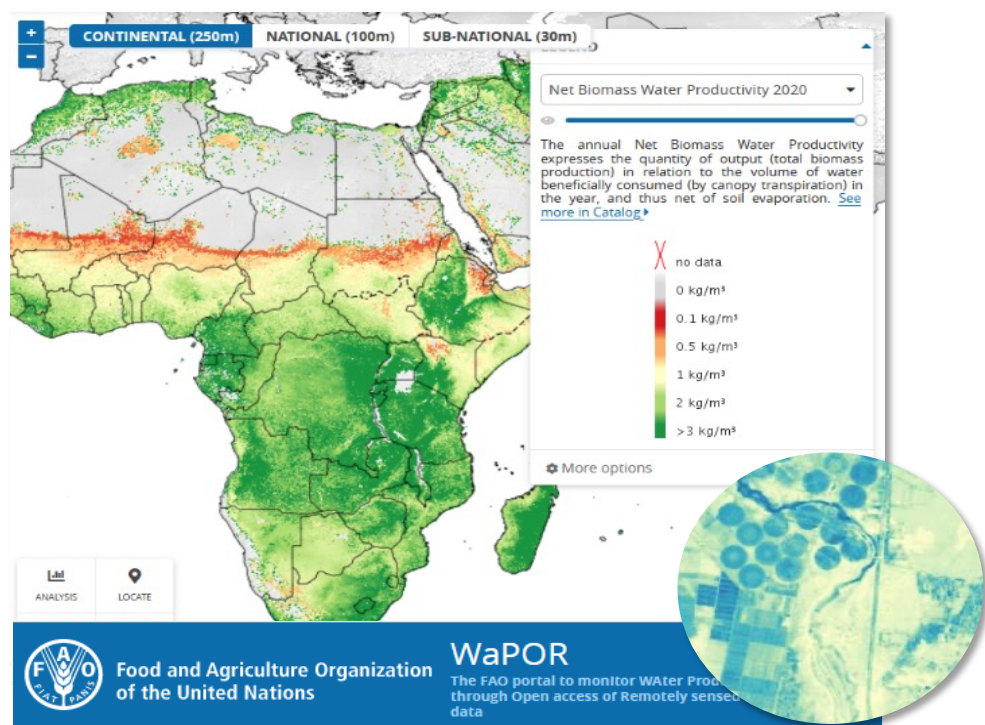
THE CONCEPT OF WATER PRODUCTIVITY

Is water or land the limiting factor?

Yield
= kg/ha

Water
productivity
= kg/m³

FAO WAPOR PORTAL TO MONITOR WATER PRODUCTIVITY



<https://wapor.apps.fao.org>

- | Open-access |
- | on crop growth and water status |
- | for Africa and the Middle East |
- | 2009 – present |

| Globally available in June |

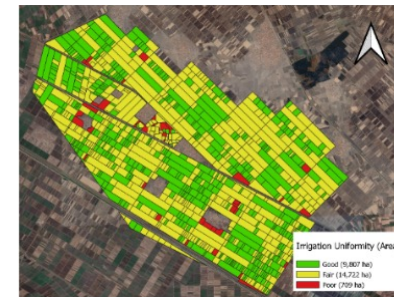
WAPOR BASED SUDAN PROJECT OUTCOME

The Hydraulics Research Center (HRC-Sudan) set up an advisory service for the Gezira Irrigation Scheme that conveys WaPOR satellite-based information on crops and irrigation

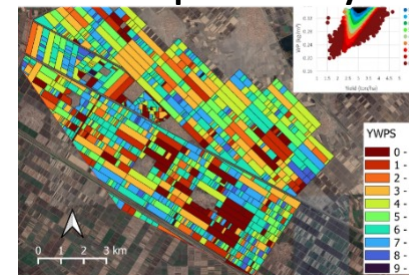
Major change: farmers started to irrigate more frequently using less water

- Wheat yield increased by 67% (average)
- Save in irrigation water /season 33% - 55%

Irrigation uniformity

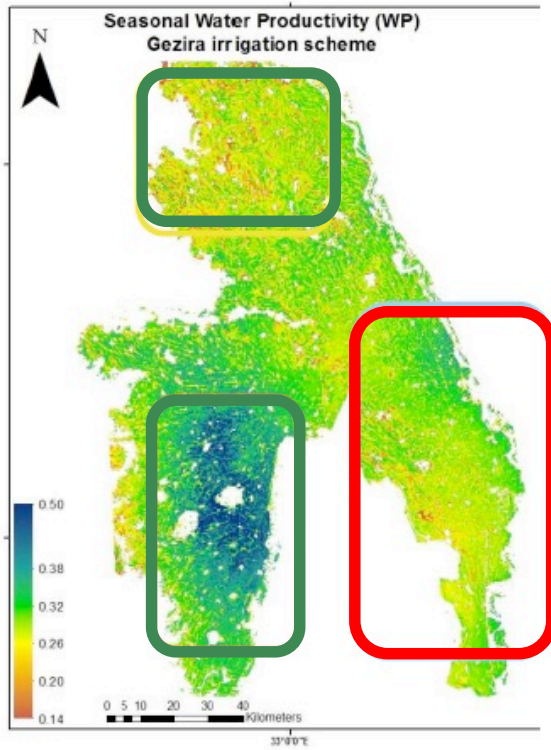


Yield water productivity score

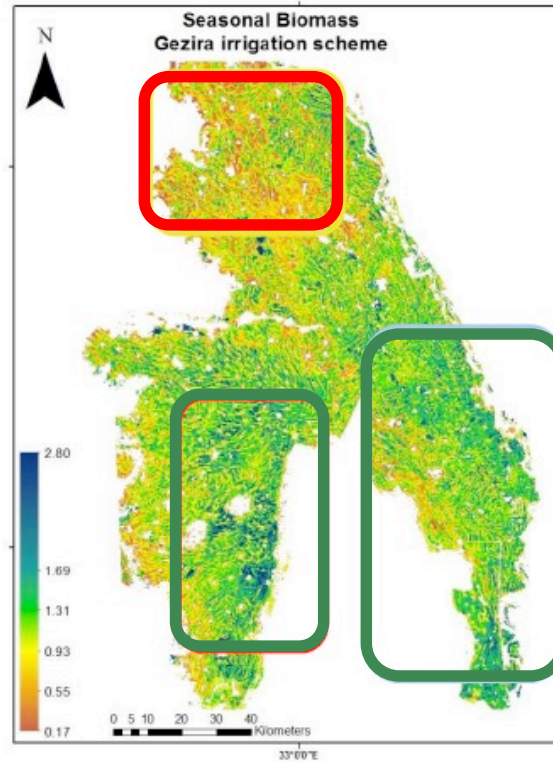


EVALUATING IRRIGATION PERFORMANCE

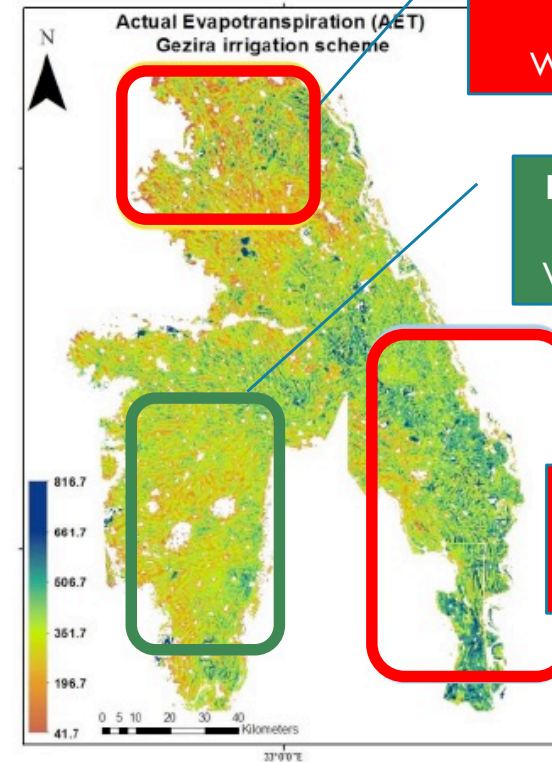
Water usage



Yield



Water Productivity



Low Water productivity:
 Yield = low
 Water usage = low

High Water productivity:
 Yield = high
 Water consumption = low

Low Water productivity:
 Yield = high
 Water usage = high

THANK YOU

