Accounting for water use in FLID

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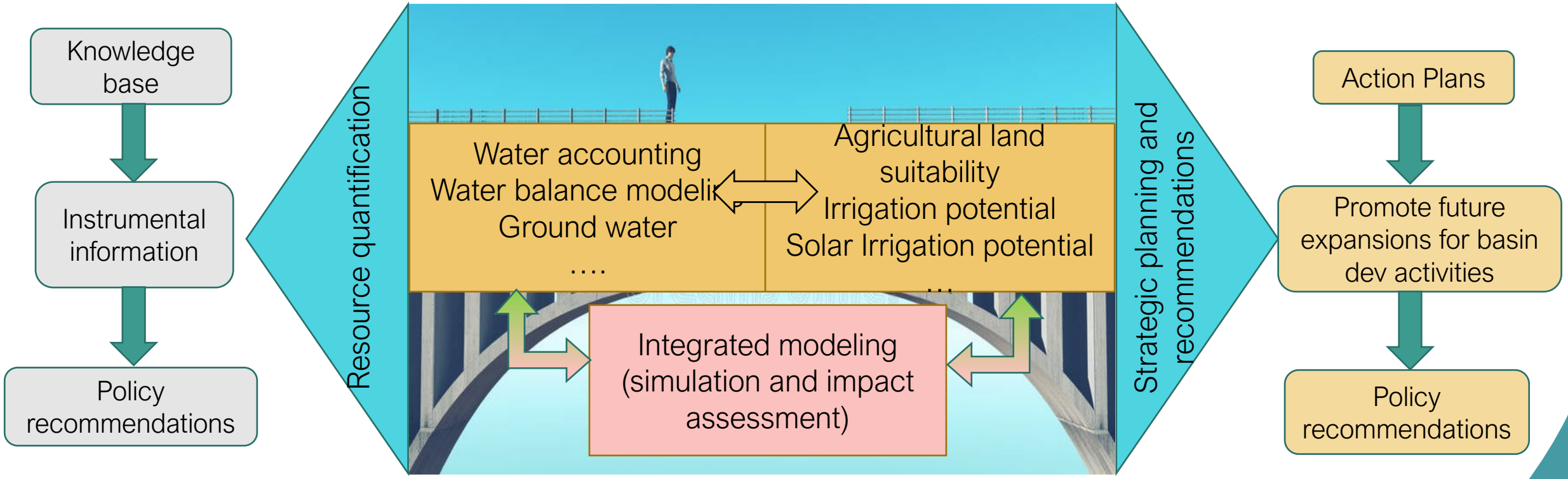
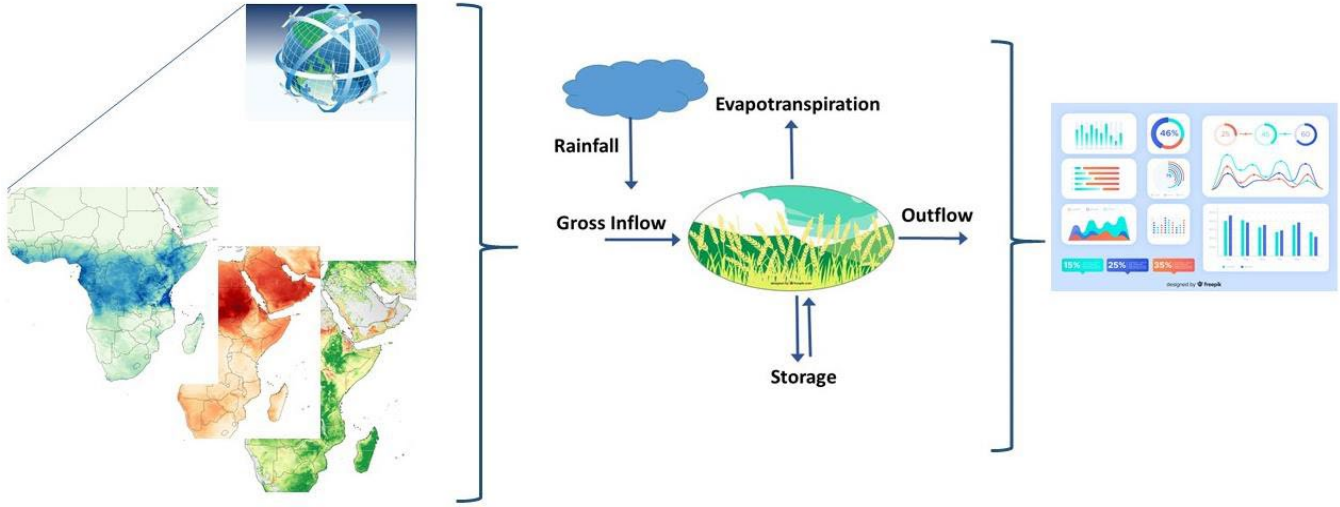
Integrated Modeling for FLID



Water Accounting (+)

WA+ addresses data challenges



WA+ enables sustainable water resources management

Water Accounting+ can provide a basic understanding of a basin's water accounts and it's used.

Limited data? No problem! WA+ relies largely on remote sensing imagery, making it a feasible tool for data-scarce basins and a reliable source for transboundary waters.

Using open-source code (meaning anyone can access it!), WA+ uses pre-written code to analyze the remote sensing data.

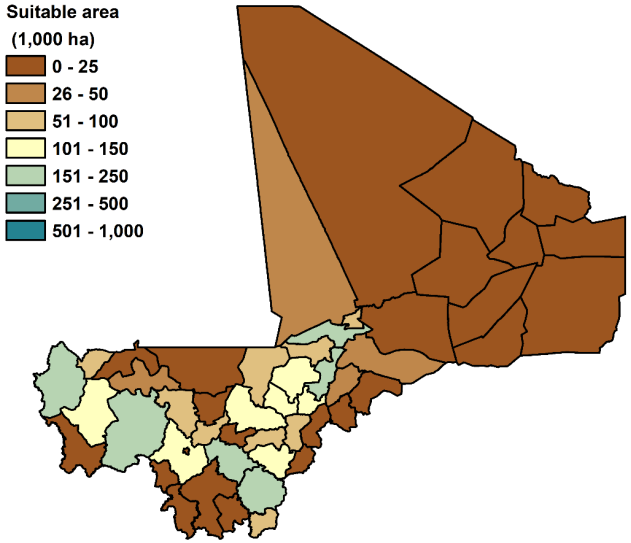
WA+ produces organized results, categorized into: Resource Base, Evapotranspiration, Agricultural Services, Utilized Flow, Surface Water, Groundwater, Ecosystem Services, & Sustainability.

WA+ outputs can be used to ignite well-informed, transparent discussions on water resource issues.

Case study: Integrated modeling in Mali

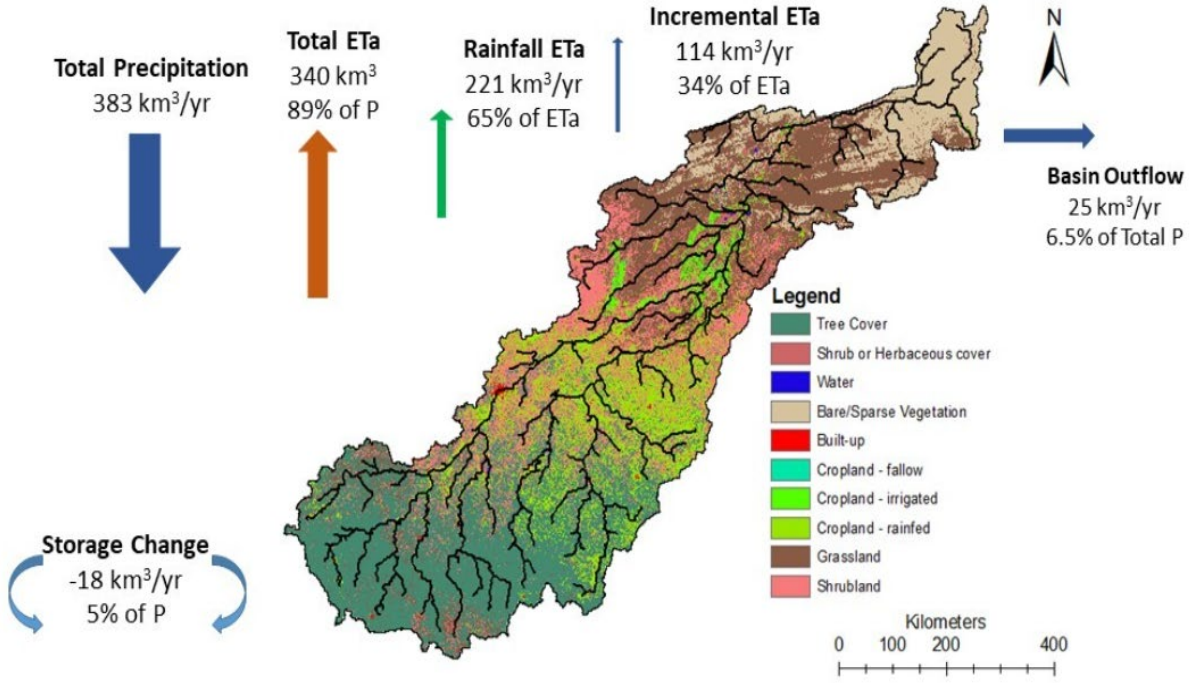
Objective: Identify areas in Mali where there is a high potential for scaling solar water pumps for developing irrigation

Water source	Area (M ha)
GW≤ 7 m	2,507
GW≤ 25 m	3,956
SW & small reservoirs	685
SW & GW≤ 7 m	3,002
SW & GW≤ 25 m	4,435



Where?

Objective: To quantify water availability (utilizable flows) available for expanding smallholder irrigation in Mali through basin water accounting



How much?

Case study: Integrated modeling in Mali

(a) Ségou

Area suitable for small-scale solar-powered irrigation systems (SPIS)
The total area identified as suitable for SPIS in Ségou is 145,000 ha.

Water requirement for SPIS
Assuming an average crop water requirement of 350-550 mm/season (for major vegetable/cereal crops) and an irrigation efficiency of 60%, the total irrigation water required is about 600-920 mm/season.

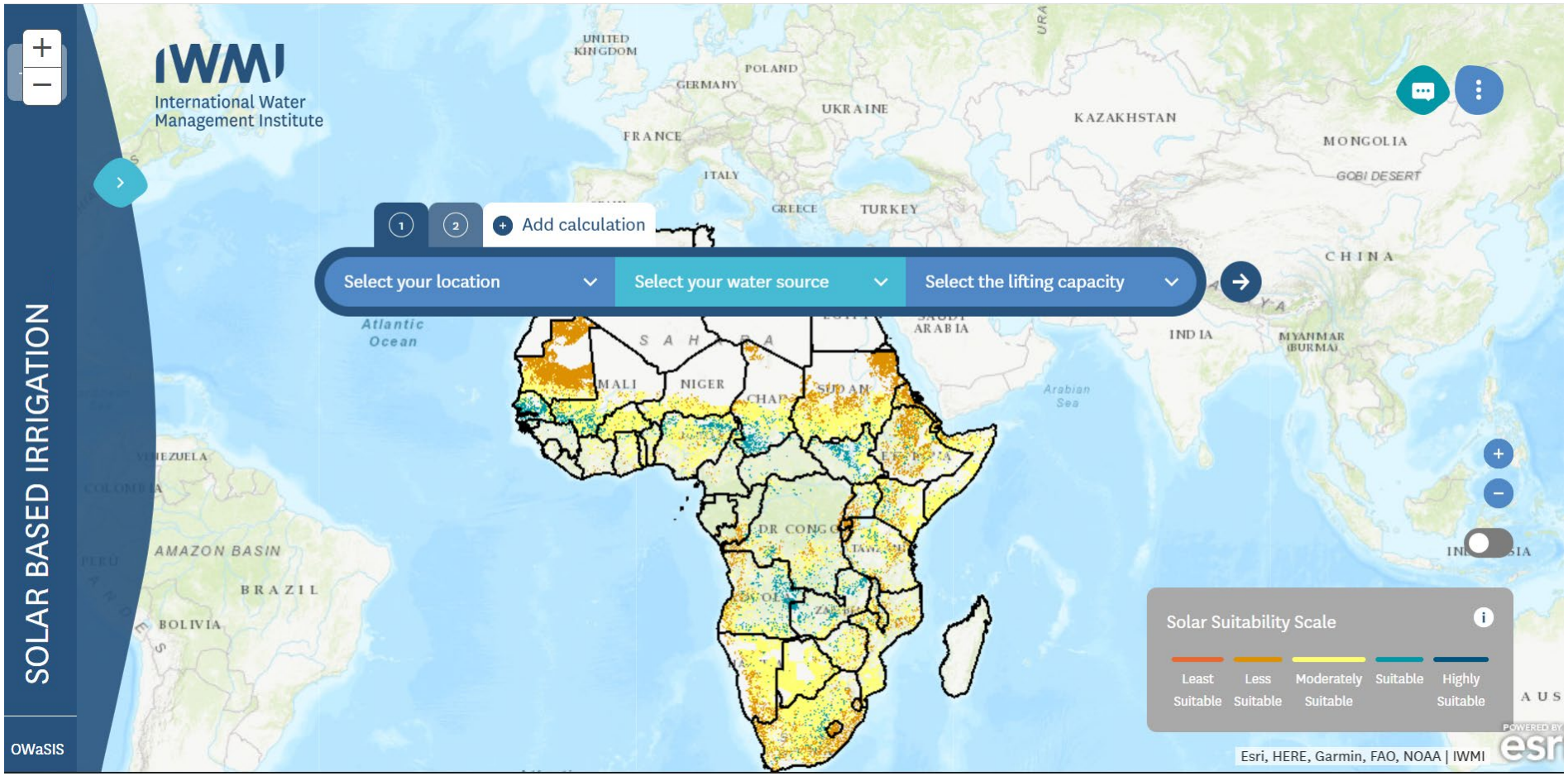
Area feasible for SPIS
Based on the irrigation requirement, we estimate that it would be feasible to irrigate crops with a low to medium water requirement.

Surface water availability
Surface water yield up to 800 mm is available during the wet season. Surface water can meet most crop water requirements during the wet season (for a crop with a low to medium water requirement) on 100% of the land identified as suitable for solar irrigation.

Groundwater availability
All the areas identified as suitable for solar irrigation have medium (41-60) to medium-high (61-80) percentile groundwater availability. Irrigation from groundwater sources is essential to avoid crop failures. In Ségou, groundwater resources can support crops covering an area of about 80,000 ha.

Limits on scaling
Wet season (SW) – 145,000 ha
Dry season (SW+GW) – 80,000 ha

Continental Solar Irrigation Potential suitability mapping



http://sip.africa.iwmi.org

GET IT ON Google Play

german cooperation DEUTSCHE ZUSAMMENARBEIT

giz Futurepump

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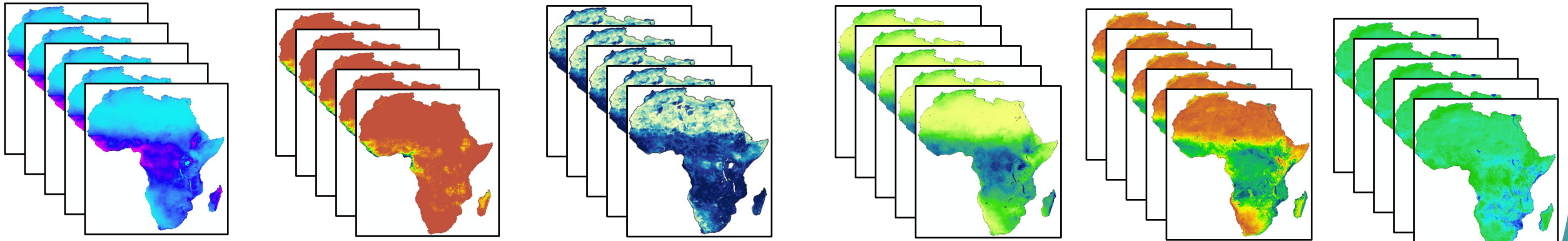
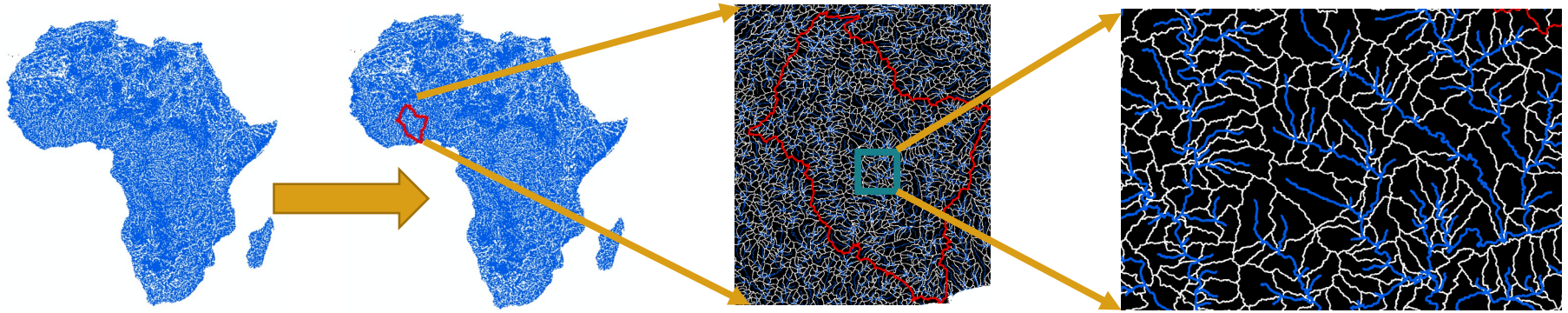
INNOVATION LAB FOR Small Scale Irrigation

CGIAR RESEARCH PROGRAM ON Water, Land and Ecosystems

Continental Water Accounting (CWA)

1. Surface runoff
2. Deep Drainage
3. Soil Moisture
4. Actual ET
5. Crop ET
6. Net ET





Temporal Resolution: 2000-2021
Spatial Resolution: 1 km x 1 km
Time step : daily

>28,600 reaches in Africa

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Thank You

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