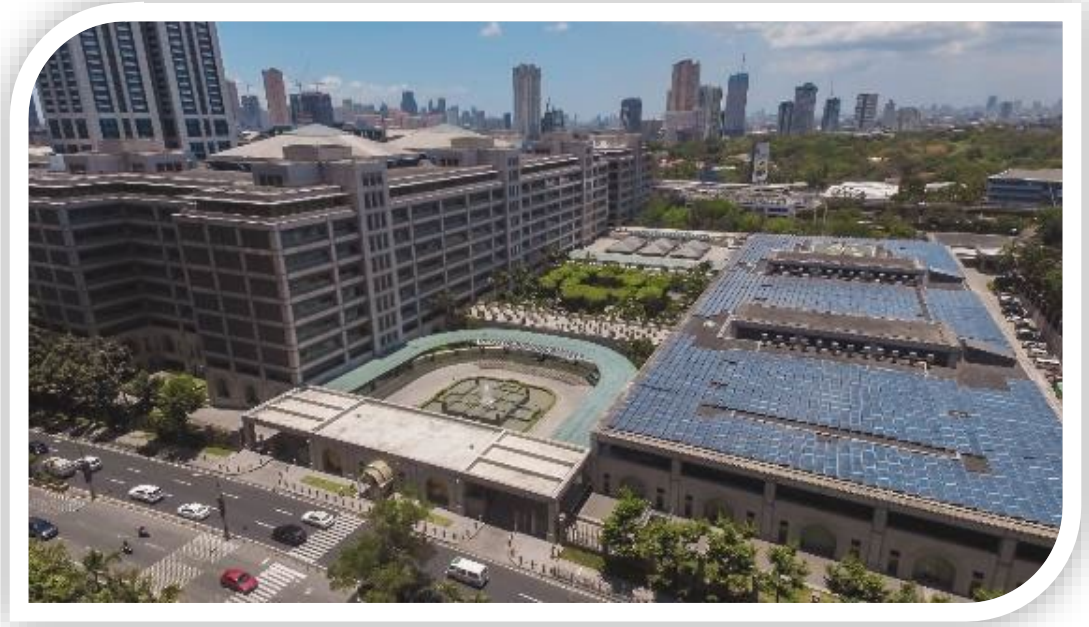
Tackling Extreme Precipitation Events Workshop: Application of Satellite Data for Tackling Extreme Precipitation Events

[Regional Application Context]

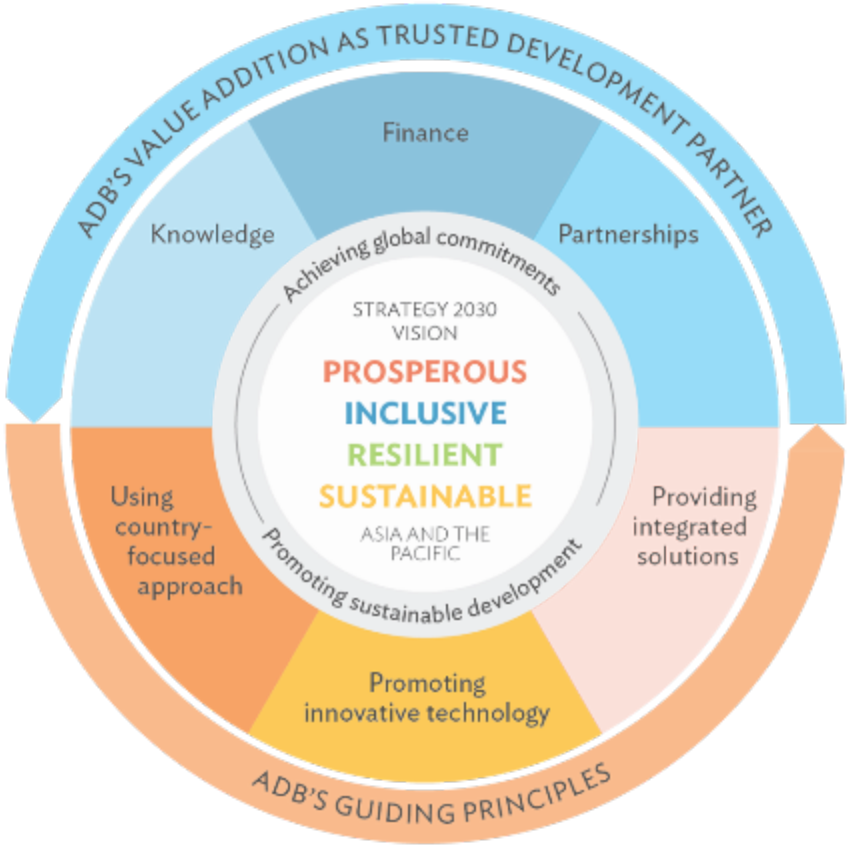
Paolo Manunta
Asian Development Bank

WHO WE ARE

- Founded in 1966
- A multilateral development bank
- Headquartered in Manila, Philippines
- 68 Members – 49 in the region
- 45 field offices
- 3,687 employees spanning 64 nationalities



THE REGION'S POVERTY CHALLENGE



- Asia and the Pacific region is still home to around 40% of the world's extreme poor[1]
- An estimated $1.7 trillion per year is needed until 2030 to fill infrastructure gaps
- Of the 10 countries most exposed to climate change, environmental stress, and natural disaster risk, 7 are ADB developing member countries[2]

1/ Extreme poverty is measured by the $1.90/day threshold at 2011 purchasing power parity. World Bank.PovcalNet. http://iresearch.worldbank.org/PovcalNet/home.aspx.
2/ These countries are Bangladesh, Cambodia, the Philippines, Solomon Islands, Timor-Leste, Tonga, and Vanuatu. L. Kirch et al. 2017. WorldRiskReport: Analysis and Prospects 2017. Berlin: Bündnis Entwicklung Hilft. https://www.adb.org/sites/default/files/institutional-document/435391/strategy-2030-main-document.pdf.

STRATEGY 2030
OPERATIONAL PRIORITIES

Addressing remaining poverty and reducing inequalities

Accelerating progress in gender equality

At least 75% of number of ADB committed operations by 2030

Tackling climate change, building climate and disaster resilience, and enhancing environmental sustainability

At least 75% of number of ADB committed operations by 2030, total of $100 billion from ADB's own resources from 2019 to 2030

Making cities more livable

Promoting rural development and food security

Strengthening governance and institutional capacity

Fostering regional cooperation and integration

KEY APPROACHES

Expanding private sector operations

1/3 of number of ADB committed operations by 2024

Catalyzing and mobilizing financial resources for development

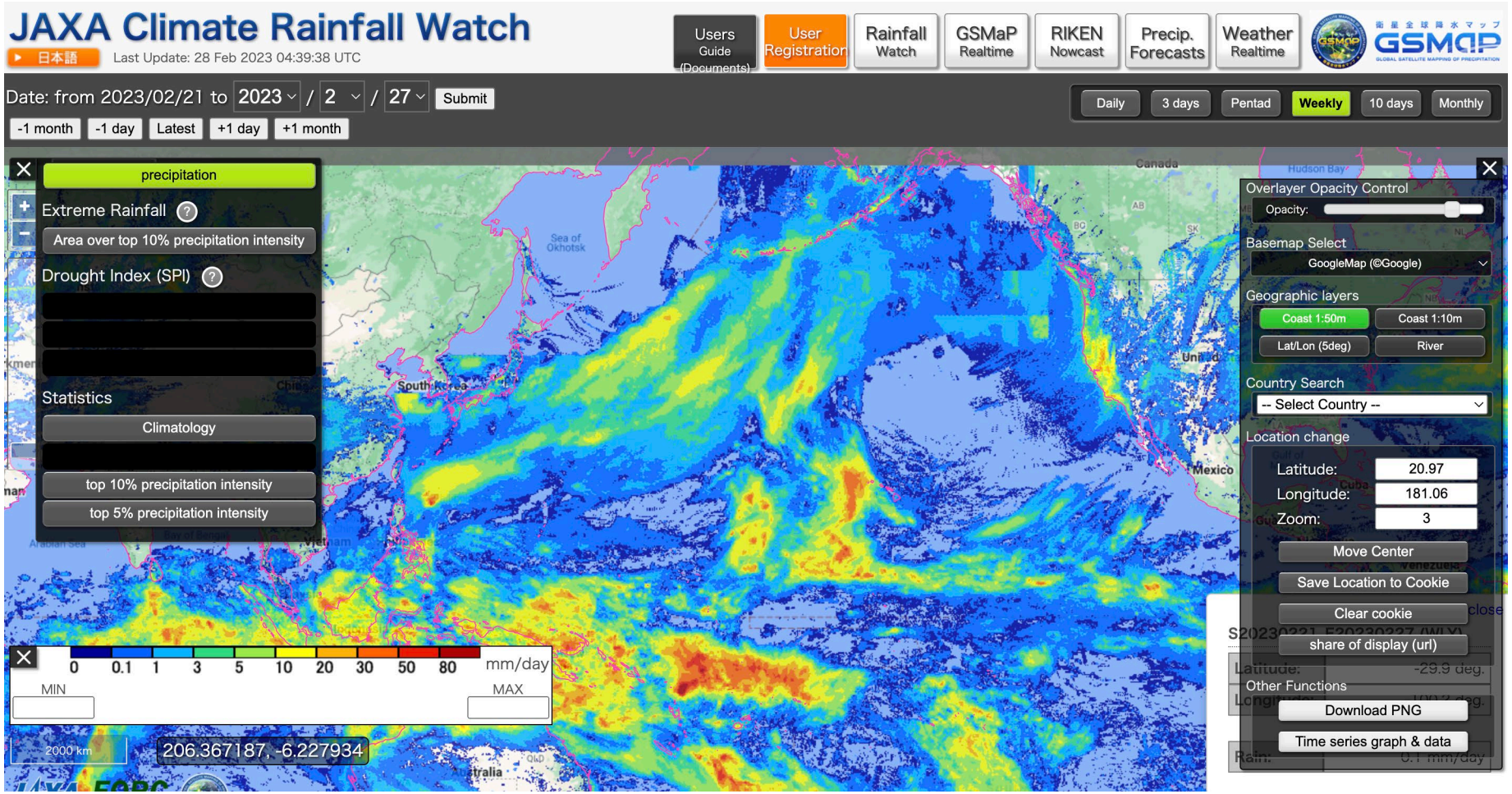
$1 in private sector operations financing matched by $2.50 of cofinancing

Strengthening knowledge services

PARTERNSHIPS FOR EARTH OBSERVATION in ADB

DIGITAL TECHNOLOGY FOR DEVELOPMENT

JAXA Climate Rainfall Watch – ADB Perspective

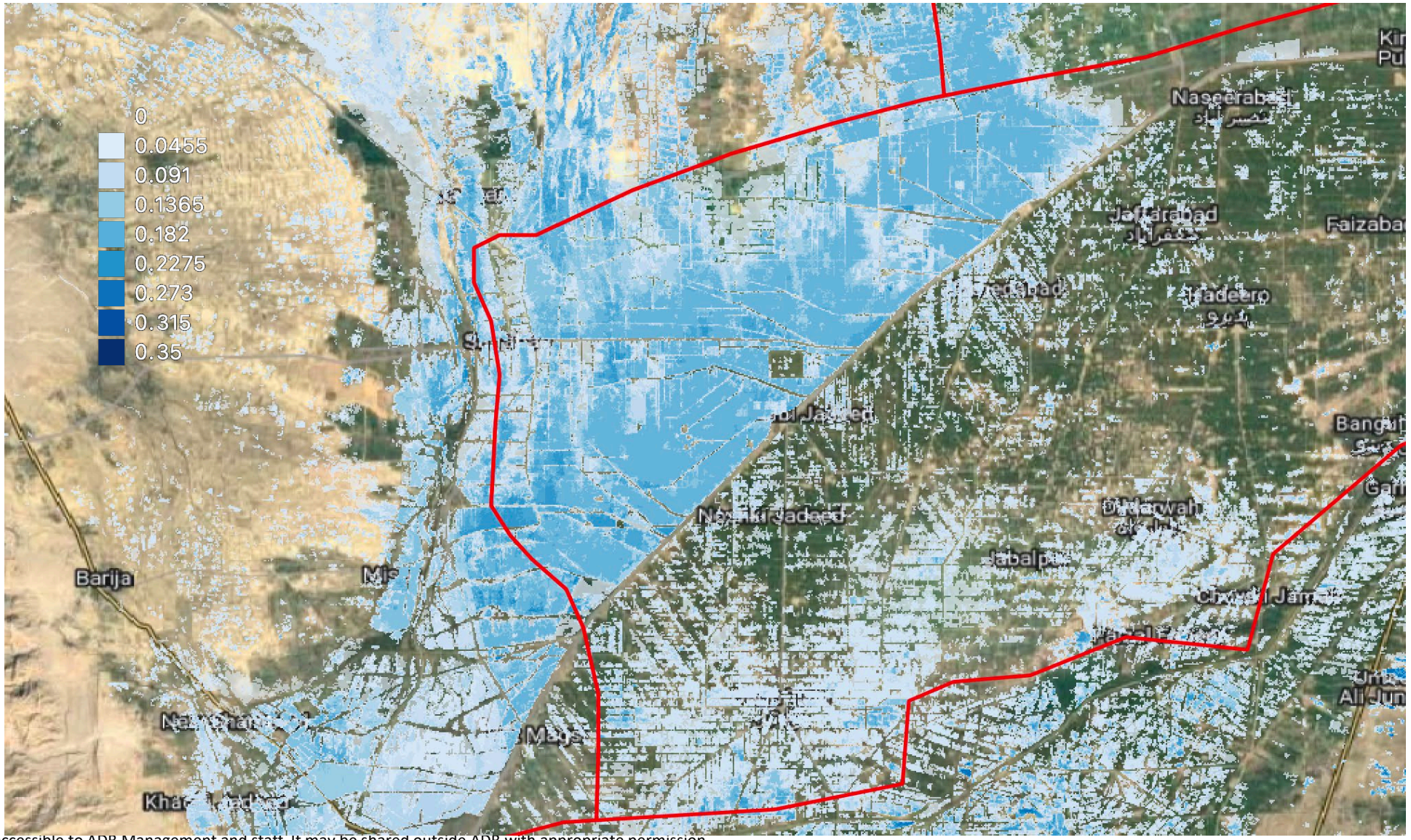


- Rainfall forecast
- Cumulated values
- Less than 24 hours and seasonally
- Use case scenarios

Flood Pakistan

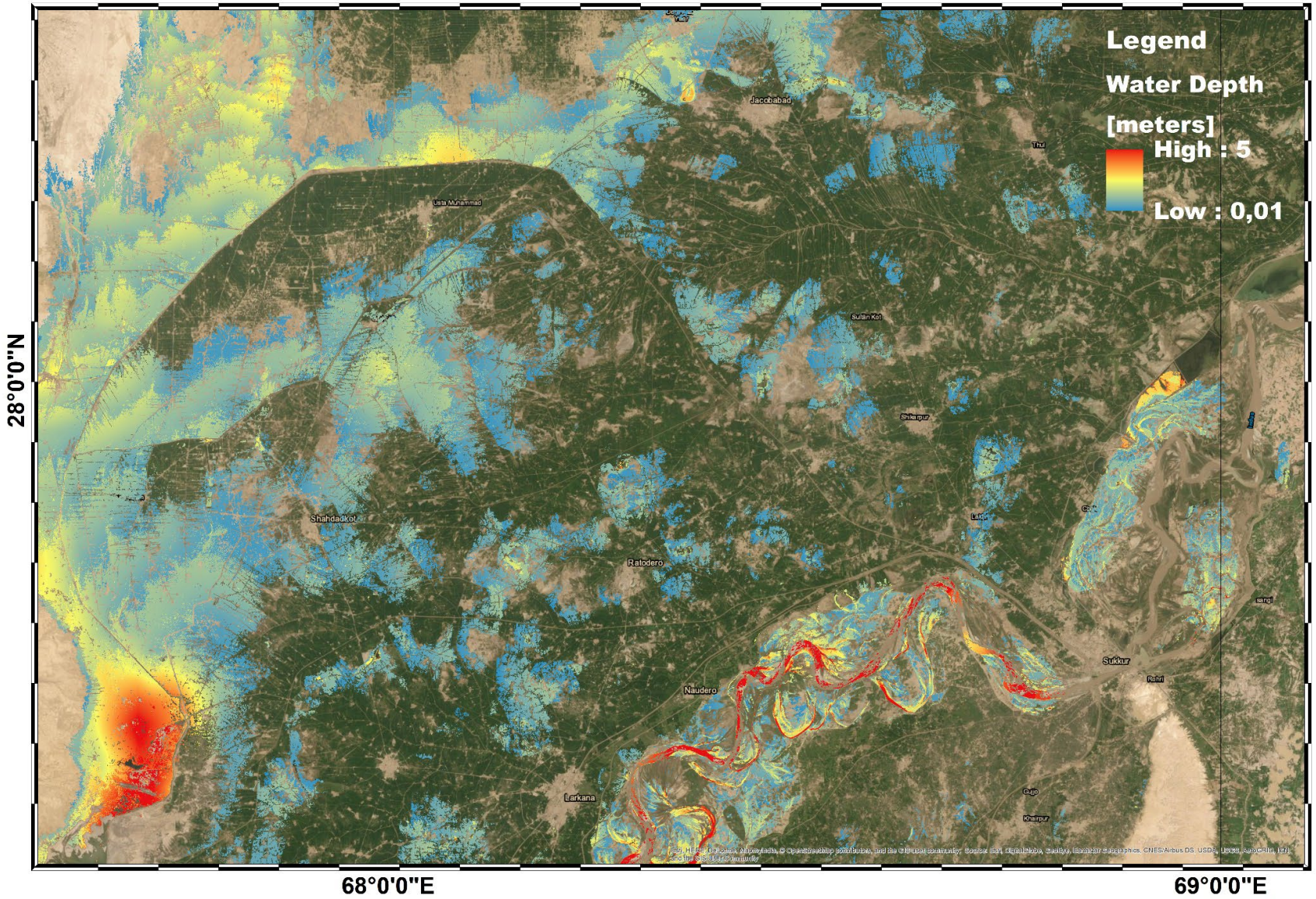
Flood Frequency spatial resolution ca. 20 m

DIGITAL TECHNOLOGY FOR DEVELOPMENT



ADB

Water depth estimates based on Copernicus DEM

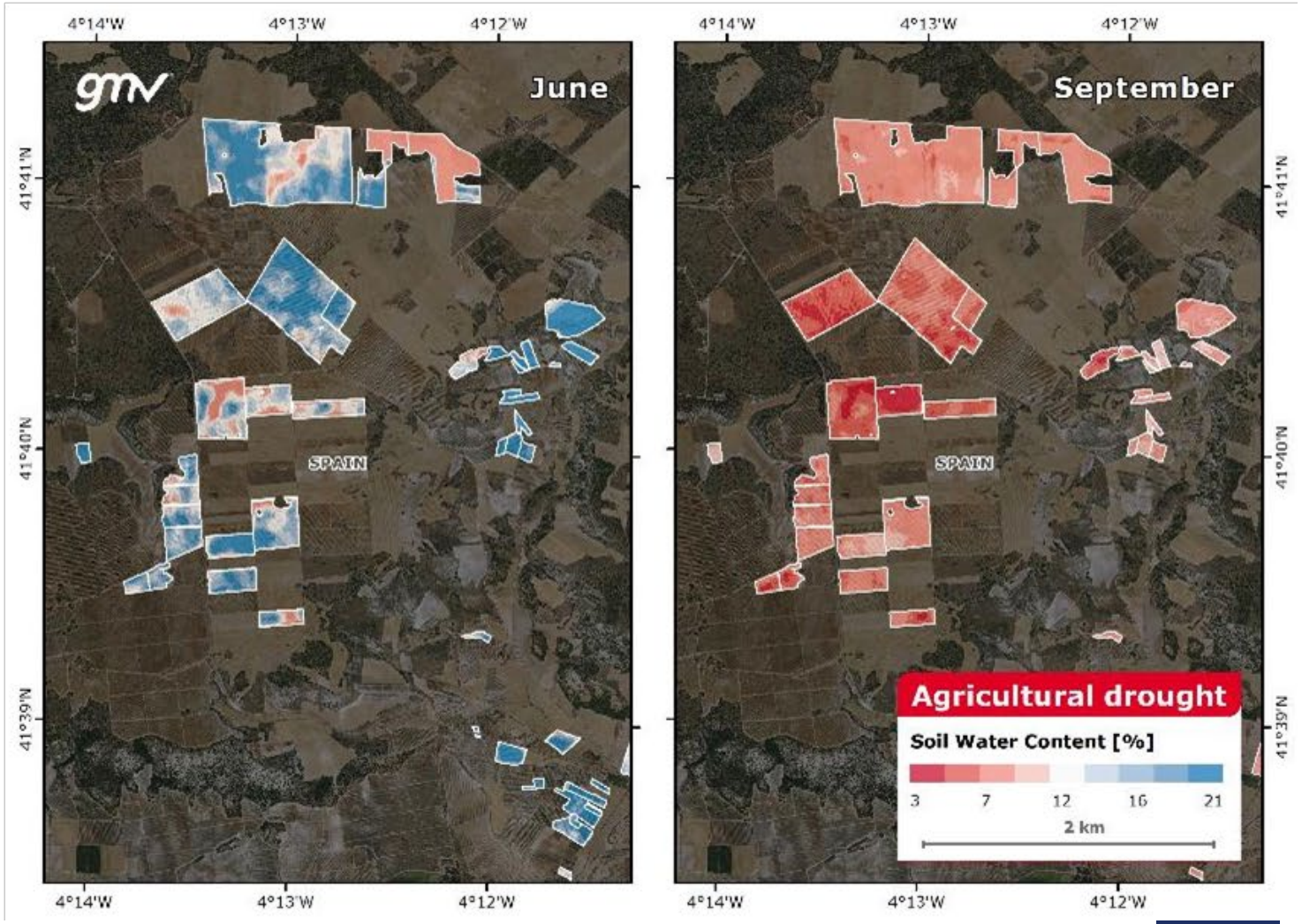


Drought Monitoring and Early Warning

DIGITAL TECHNOLOGY FOR DEVELOPMENT

Agricultural drought

Provides time-series information on **vegetation biophysical variables** and **soil moisture** from satellite optical imagery and meteorological reanalysis, and the analysis of **dynamics** and anomalies of **drought indicators**. These elements are used to produce an agricultural combined drought indicator that is based on a cause-effect relationship.



Resilient and sustainable agricultural production

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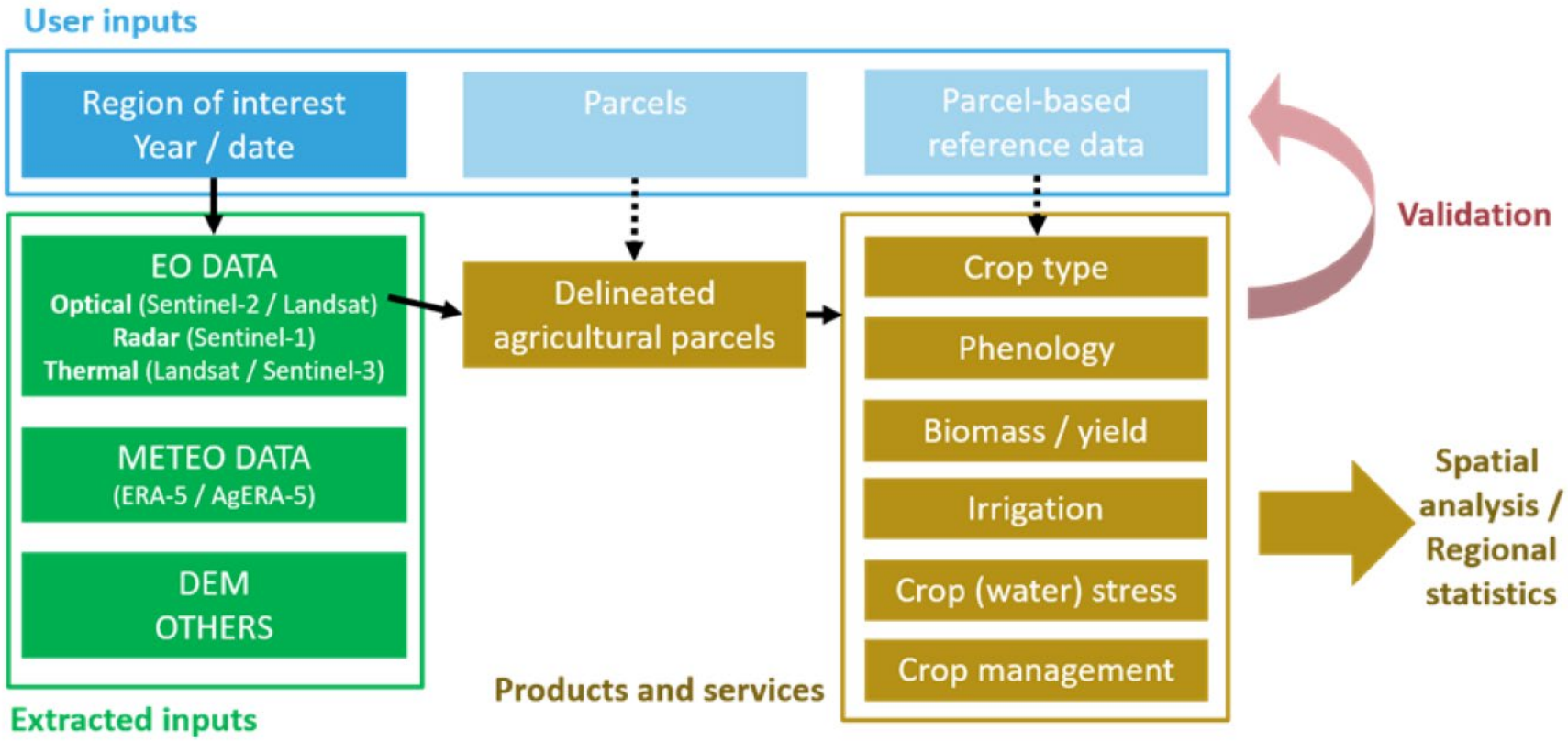

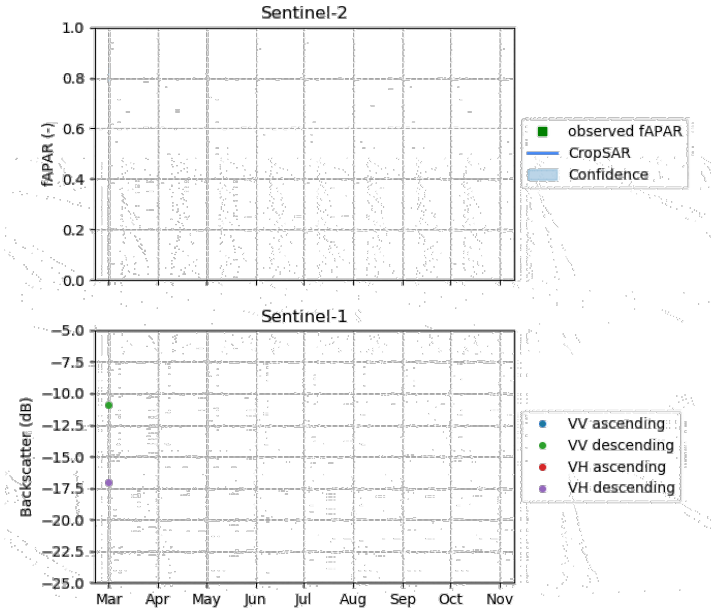

- Detailed mapping of what is happening on a field
- Smart combination of data → from data to insights

Seasonal Forecast

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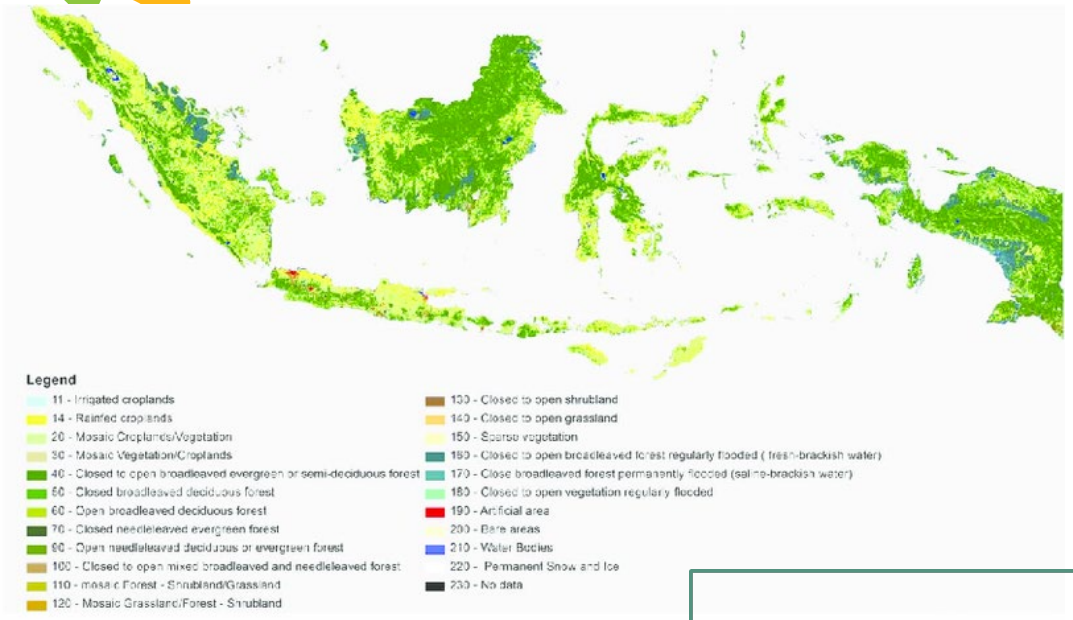
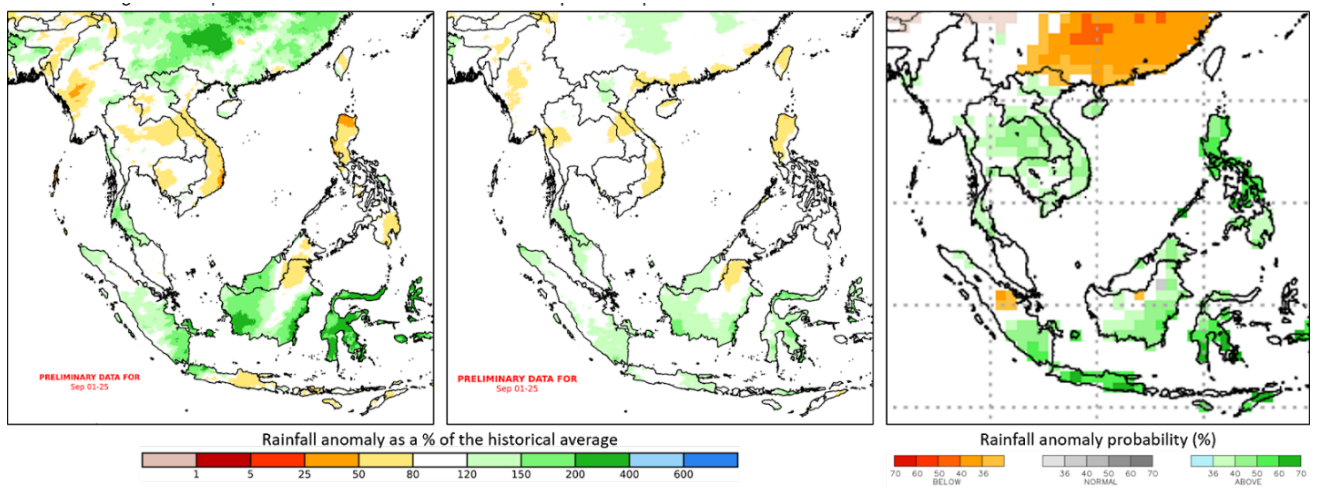
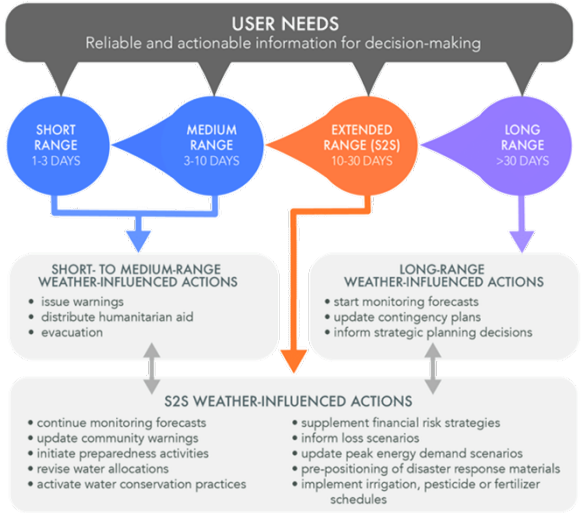
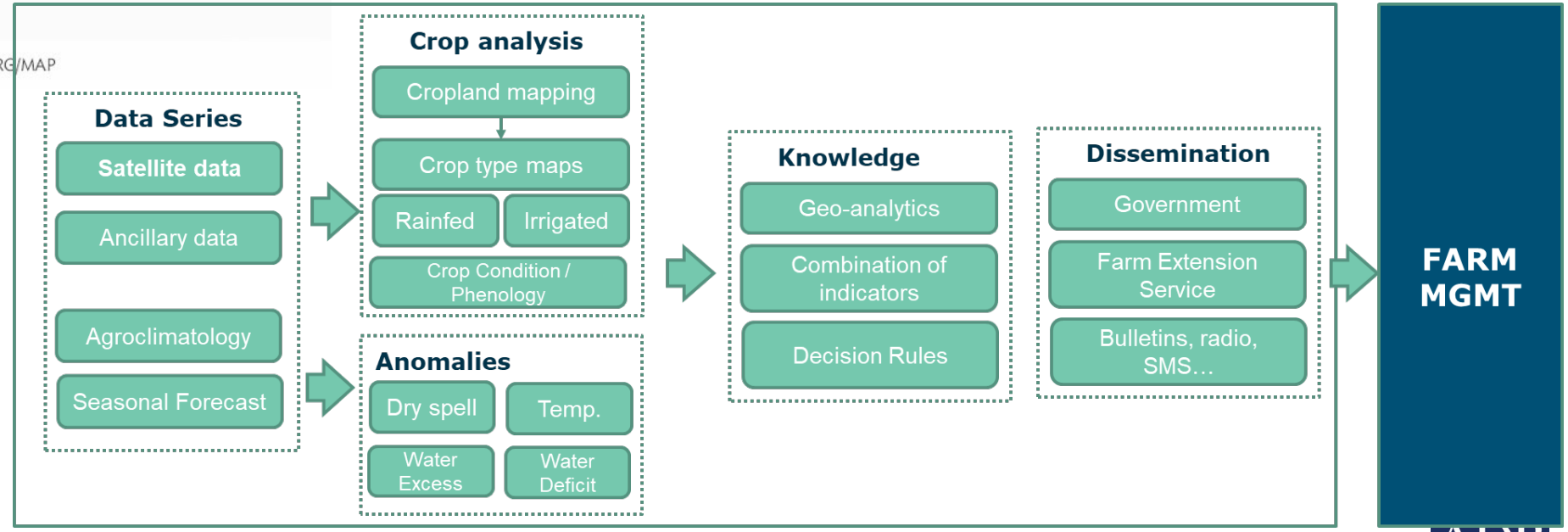


Source: The Food and Agriculture Organization of the United Nations. DATA.FAO.ORG/MAP







CONCLUSIONS

- Cloud-based satellite processing or data distribution via Geoportal preferred in DMCs (Developing Member Countries)
- Adoption cannot happen without systematic capacity building and access to tools
- A stand-alone data streaming may fail to be adopted if not integrated part of the solution Climate Smart Agriculture (Indonesia) Disaster Risk Reduction (wide regional approach e.g. South Asia)

Thank you.