Improving water productivity on different scales

FutureWater methods and solutions

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29 March 2017

Water Productivity Masterclass, Wageningen

FutureWater

Research and consultancy for a
sustainable future of our water resources

FutureWater

- **“Research and consulting on water resource management”**
- Outputs: technical reports, policy reports, scientific publications, training, datasets, models, operational services
- Partners/Clients: World Bank, Asian Development Bank, Governments, River Basin Organizations, Research Entities
- Geographical focus: Europe, Asia, Africa
- Offices: Wageningen (NL), Cartagena (ES): 13 staff

Topics

Water for Food

River Basin Management

Water Shortage

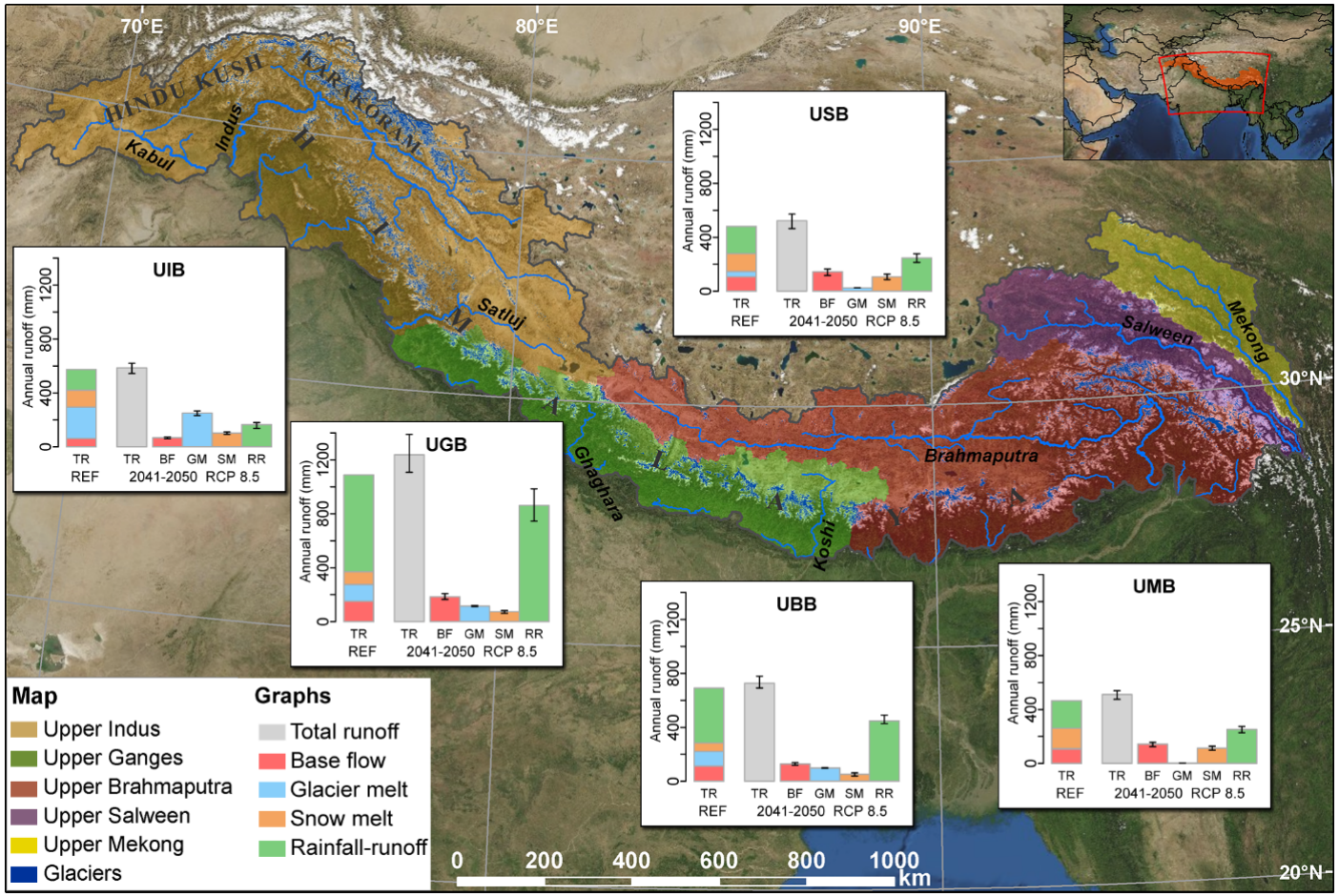
Water Excess

Irrigation

Climate Change

HI-AWARE: Himalayan Adaptation, Water and Resilience Research

- Client: IDRC, DFID
- Partners: ICIMOD, TERI, PARC, BCAS, Alterra
- Research on Glacier and Snowpack Dependent River Basins for Improving Livelihoods
- Role of FutureWater: Climate Change impacts on upstream water resources in the Indus, Ganga and Brahmaputra basins



The Third Eye: Flying Sensors to Support Farmers' Decision Making

ThirdEye

FutureWater HiView

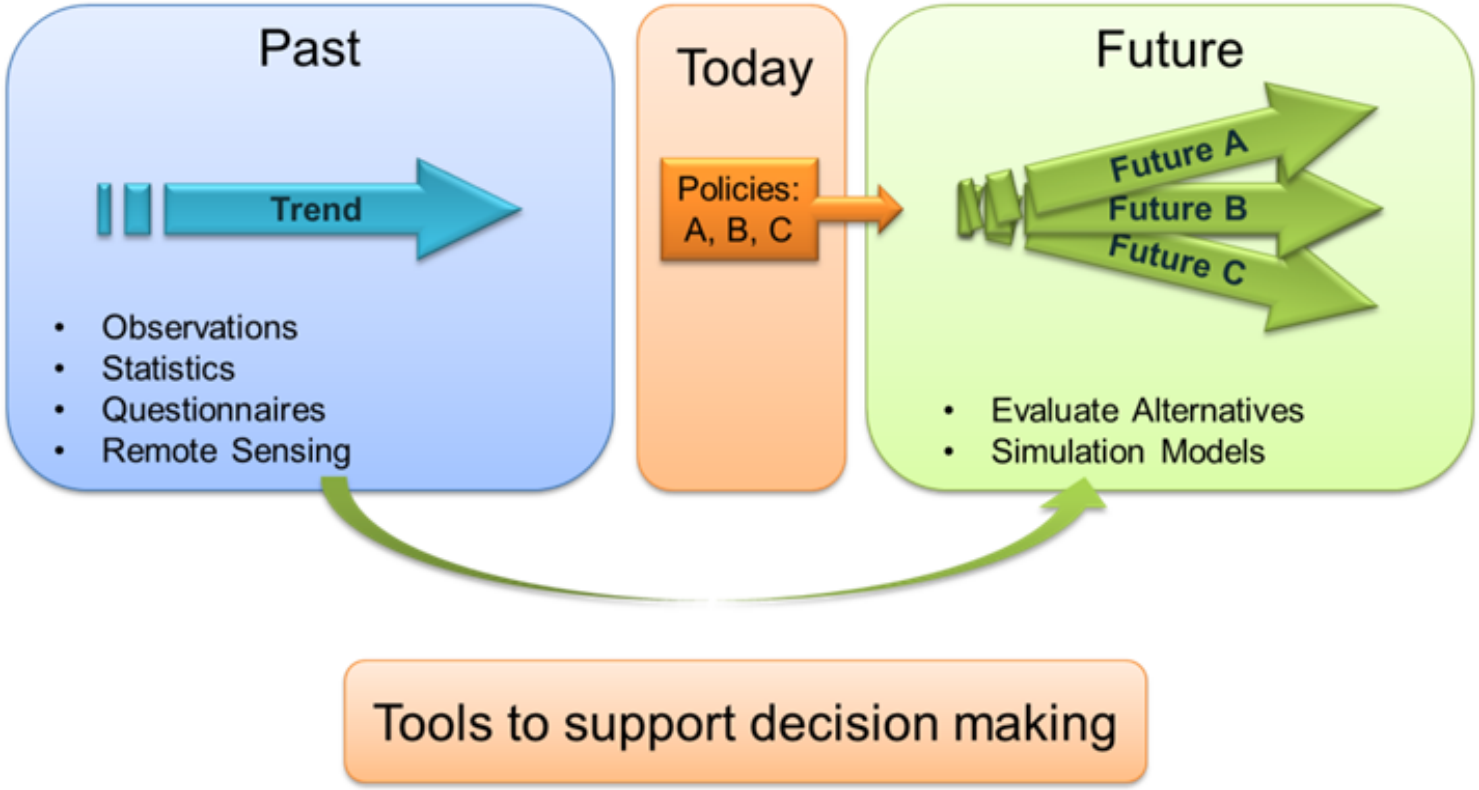
SECURING WATER FOR FOOD: A GRAND CHALLENGE FOR DEVELOPMENT

USAID FROM THE AMERICAN PEOPLE

SWEDEN

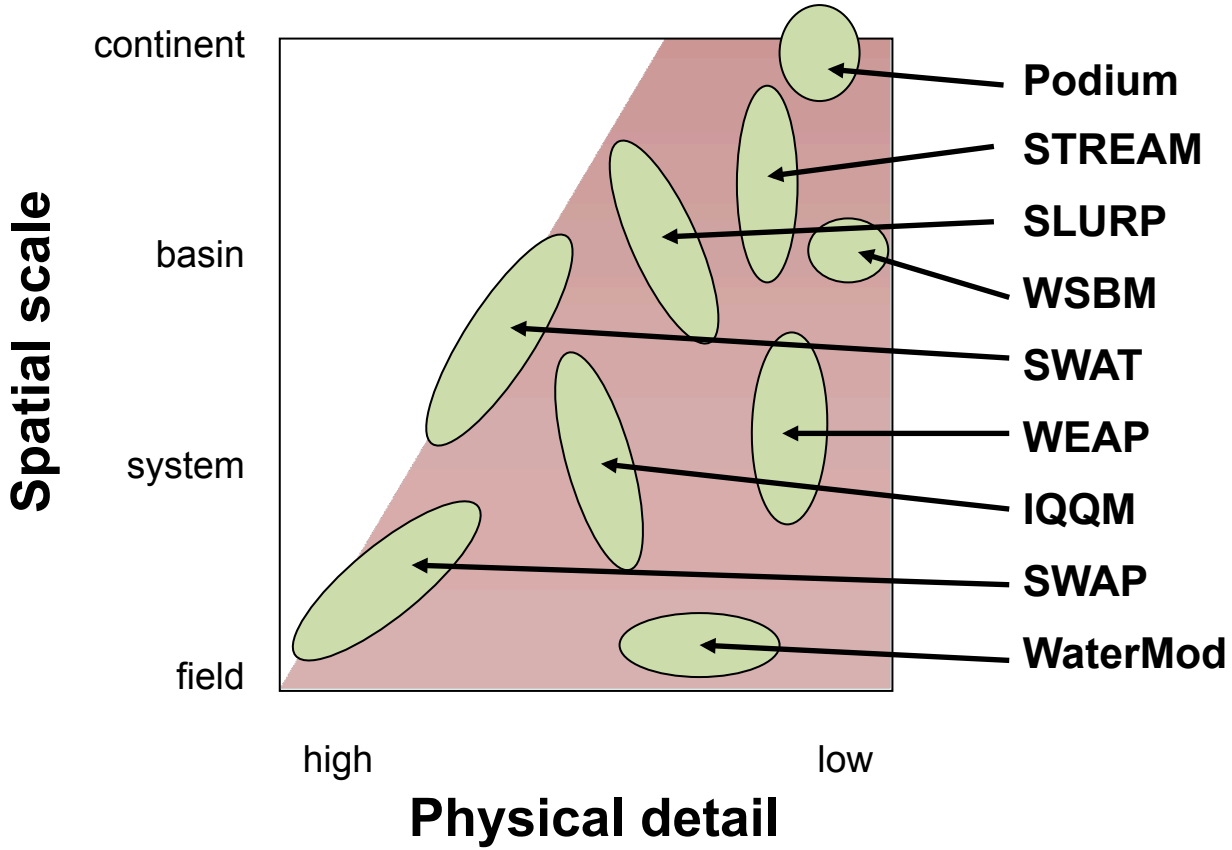
Ministry of Foreign Affairs

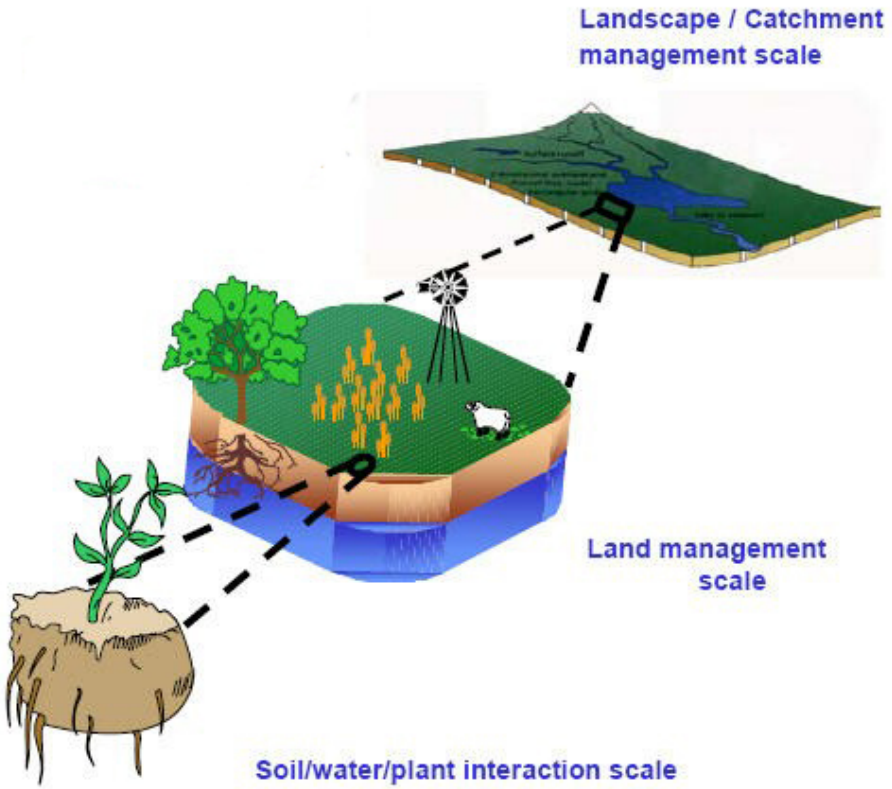
From monitoring WP to improving WP



*SDG 6.4: **by 2030**, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity, and substantially reduce the number of people suffering from water scarcity*

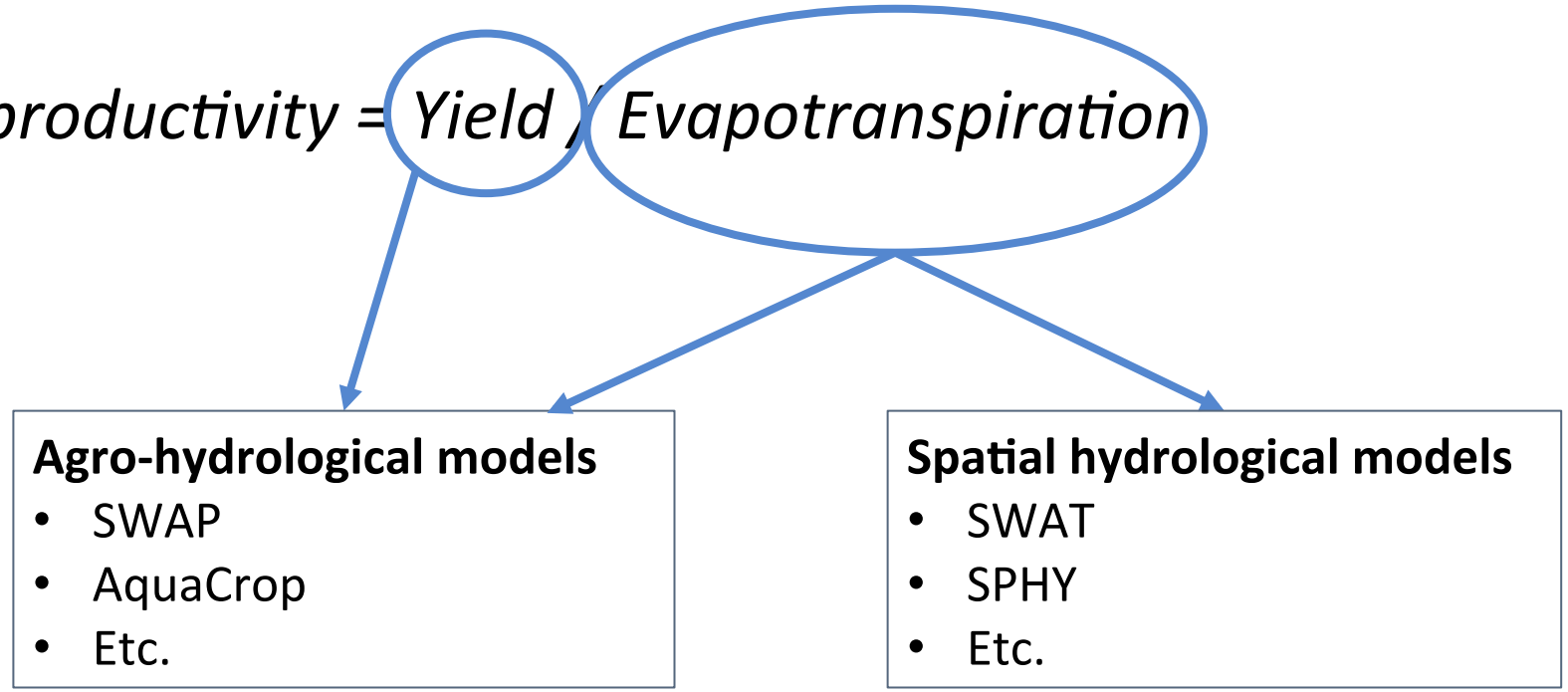
Model categories





From monitoring WP to improving WP

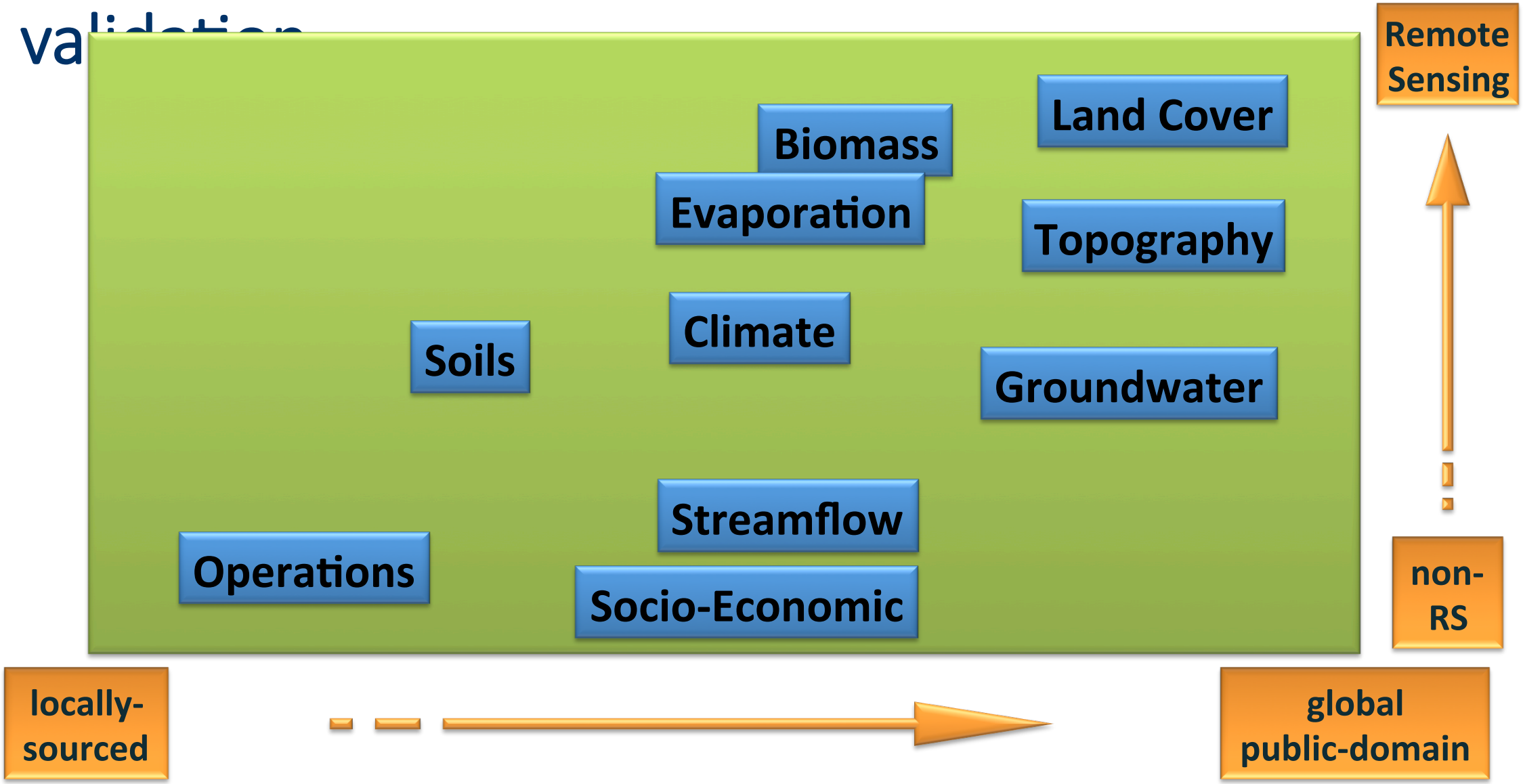
Crop water productivity = Yield / Evapotranspiration



Scenario runs:

- Climate change
  - Changes in rainfall
  - Changes in temperature
  - Changes in reference ET
  - CO_2 fertilization effect
- Human interventions, e.g.
  - Enhanced seed varieties
  - Changing cropping patterns
  - Adjusted irrigation scheduling
  - Increasing fertilizer application
  - Mulching

Sources of data – input and calibration / validation



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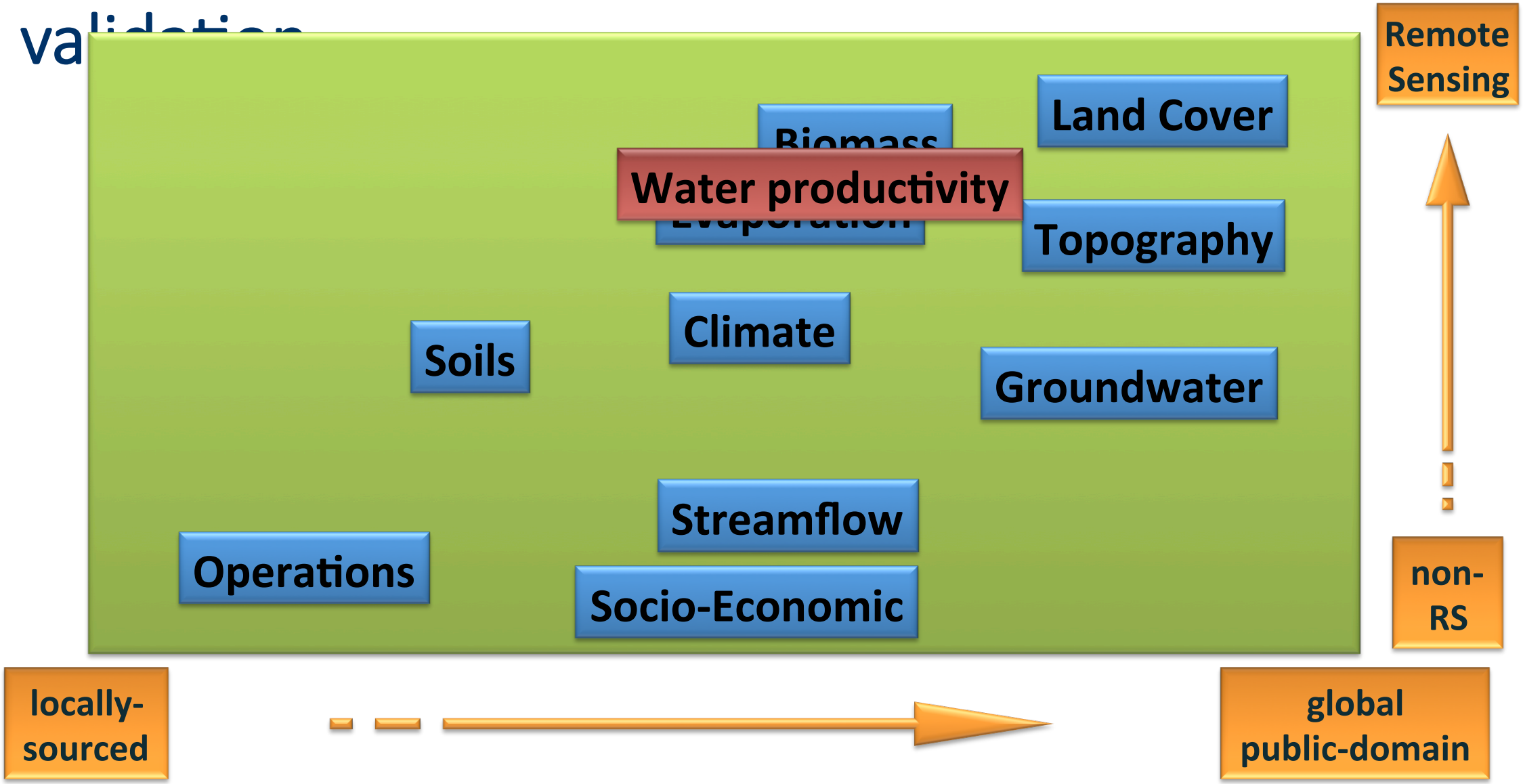

Today: using models to quantify water productivity

- At the field scale: interactive session using AquaCrop
- National and basin scales: brief demonstration of different applications