

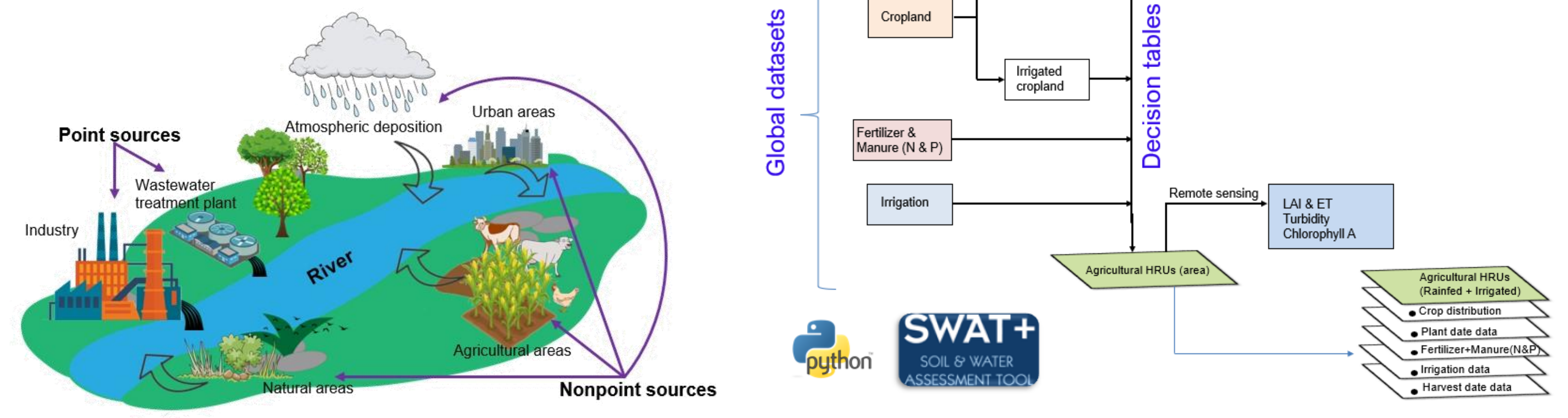
## 1. Limited spatial and temporal water quality observations

Gauging the true extent of how polluted or impacted freshwaters are remains challenging globally simply due to limited spatial and temporal water quality observations.

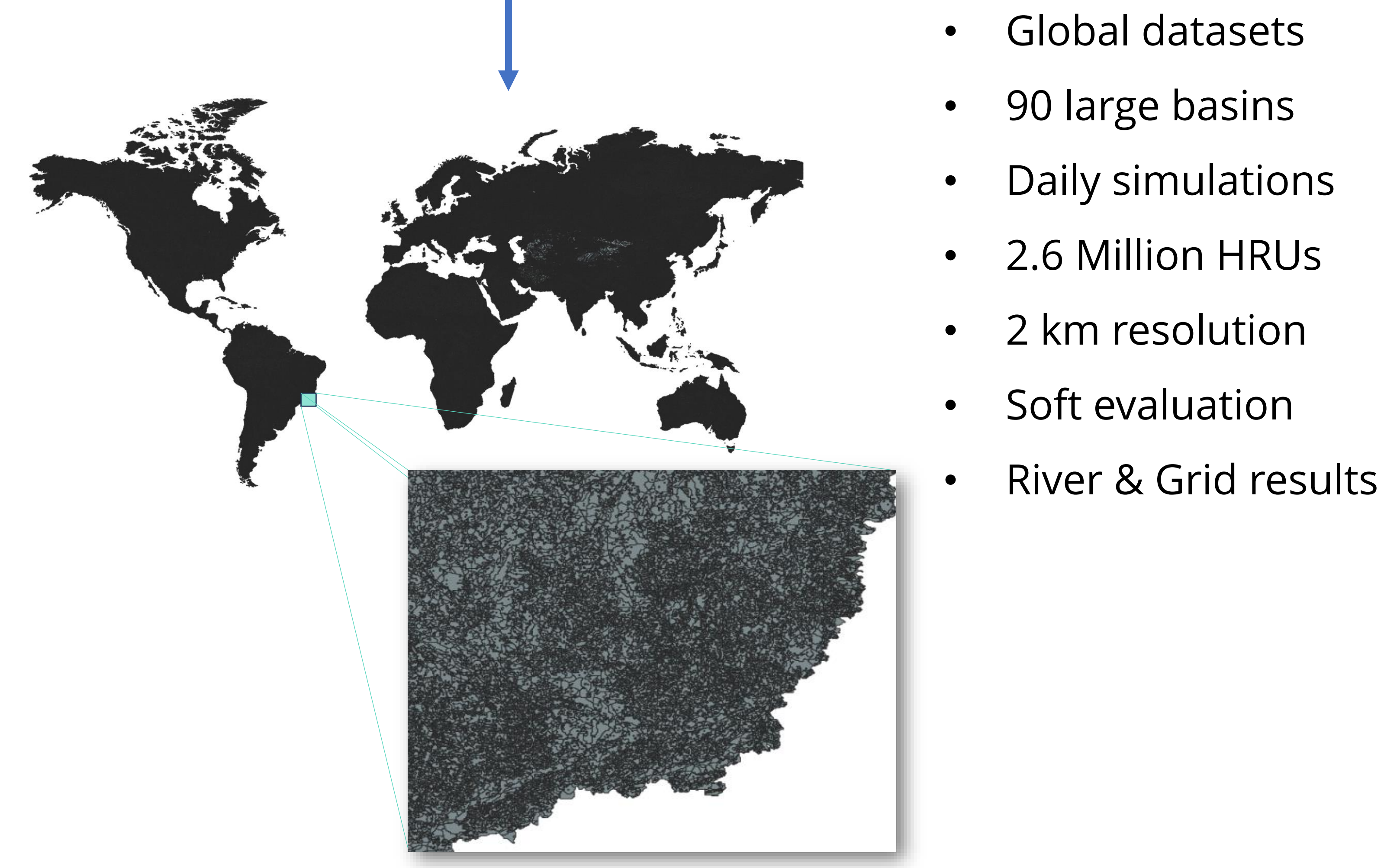
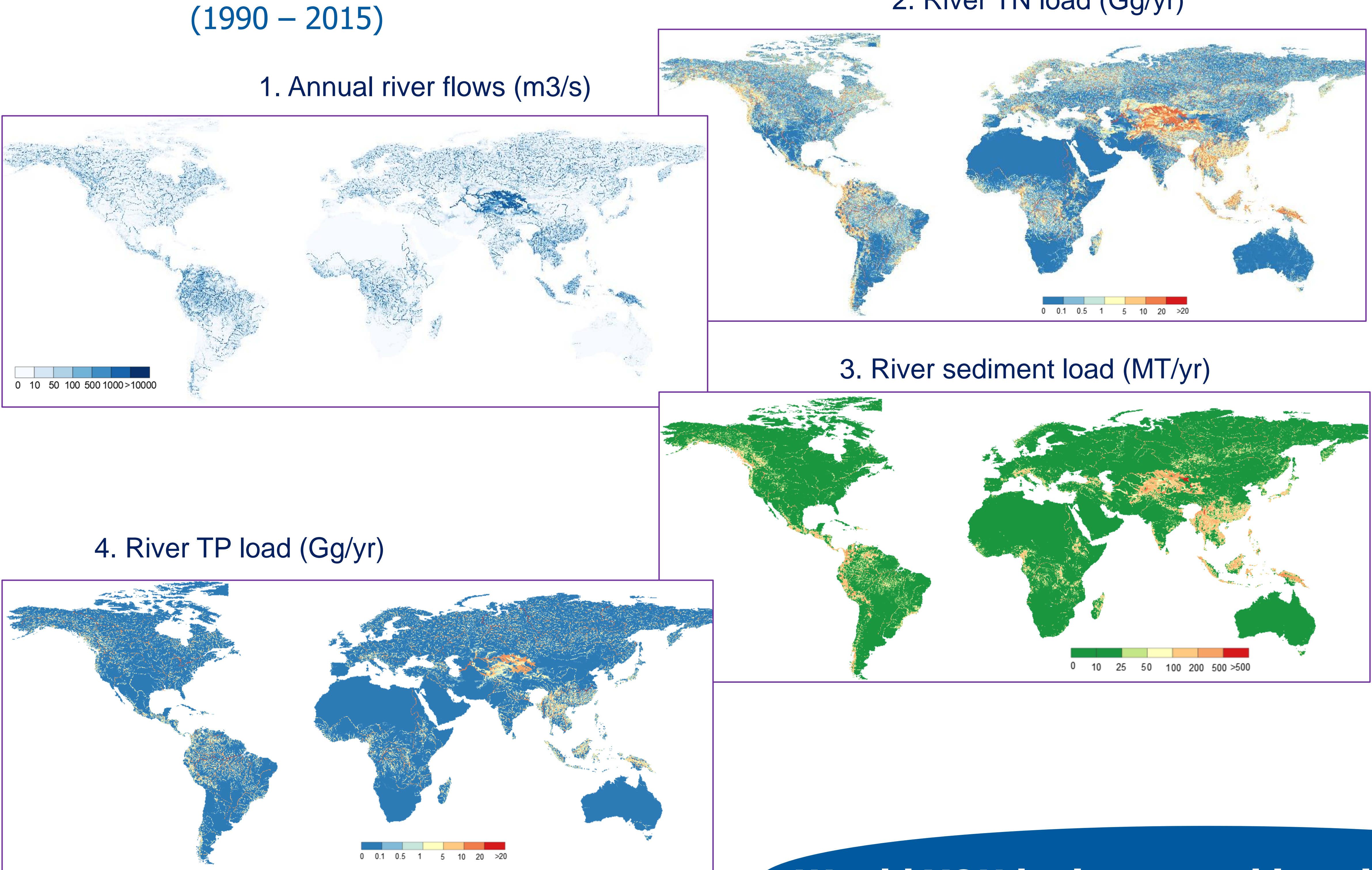
To address this gap, we present a **high-resolution global water quality model** utilizing the Soil Water and Assessment Tool (**SWAT+**). Our objectives are twofold:

- (1) To offer locally relevant water quality estimates on a global scale.
- (2) To understand how human activities and climate change are influencing the water quality of rivers.

## 2. Modelling approach (SWAT+)



## 3. Are regional patterns captured? (1990 – 2015)



Setup is based on major basins and output is combined for global coverage

- Global datasets
- 90 large basins
- Daily simulations
- 2.6 Million HRUs
- 2 km resolution
- Soft evaluation
- River & Grid results

## 4. What next?

- Further model evaluation + reservoir management rules
- Areas around Aral sea e.g Indus basin not yet correctly captured
- Running future water quality patterns (ISIMIP fast track)
- Should be managed through a web portal, fully open?

**Would YOU be interested in using the model?**