



UK Centre for Ecology & Hydrology

# HydroSOS

Knitting local and global hydrological status and outlooks systems together for seamless water resources assessment

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## Are conditions hydrologically 'normal'?

### What is HydroSOS?

HydroSOS will provide an overview of the current hydrological status, whether this is significantly different from "normal", and an assessment of whether this is likely to get better or worse in the coming weeks and months. It is the link between monitoring and decision making, providing information on flood and drought susceptibility.



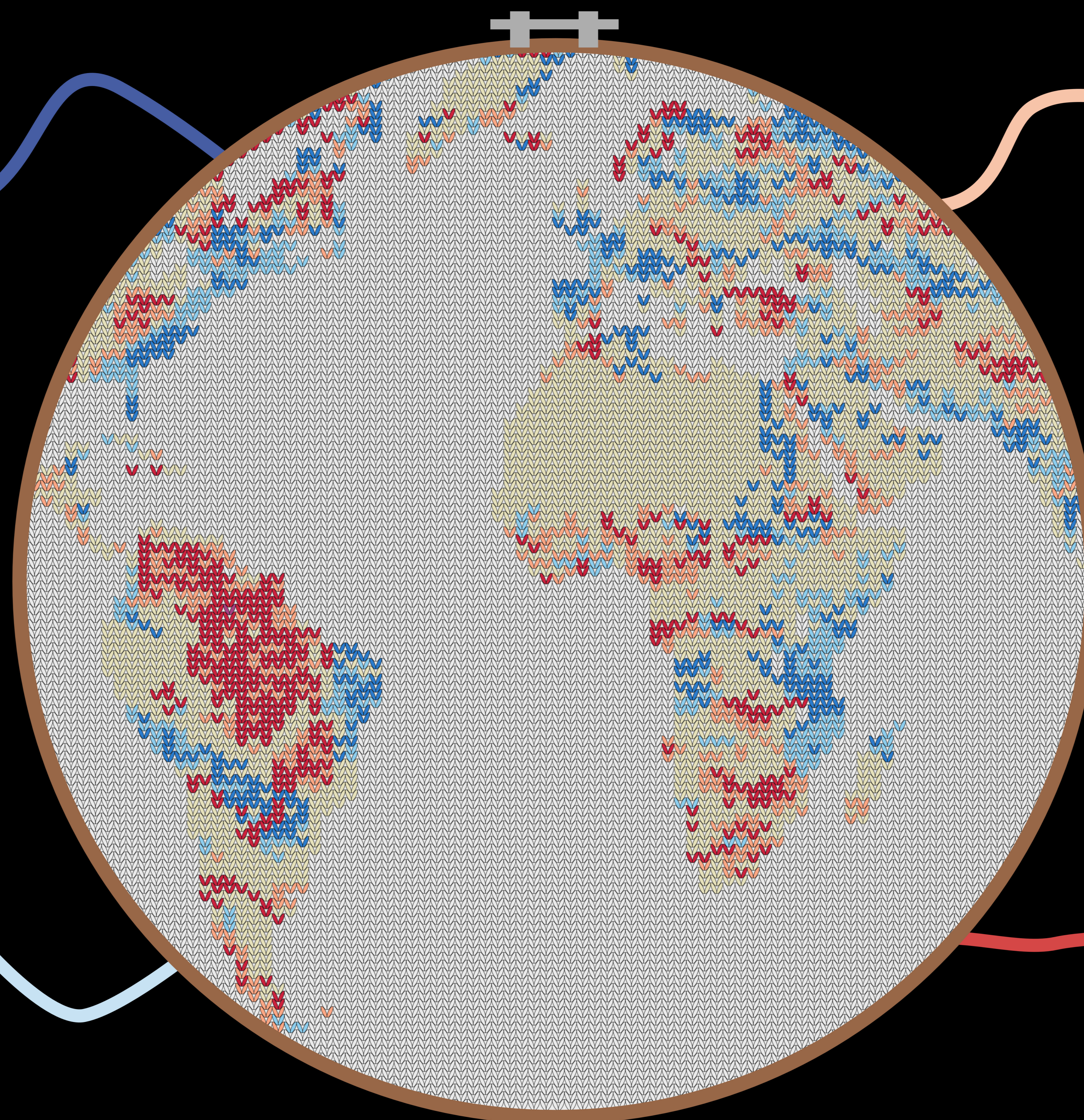
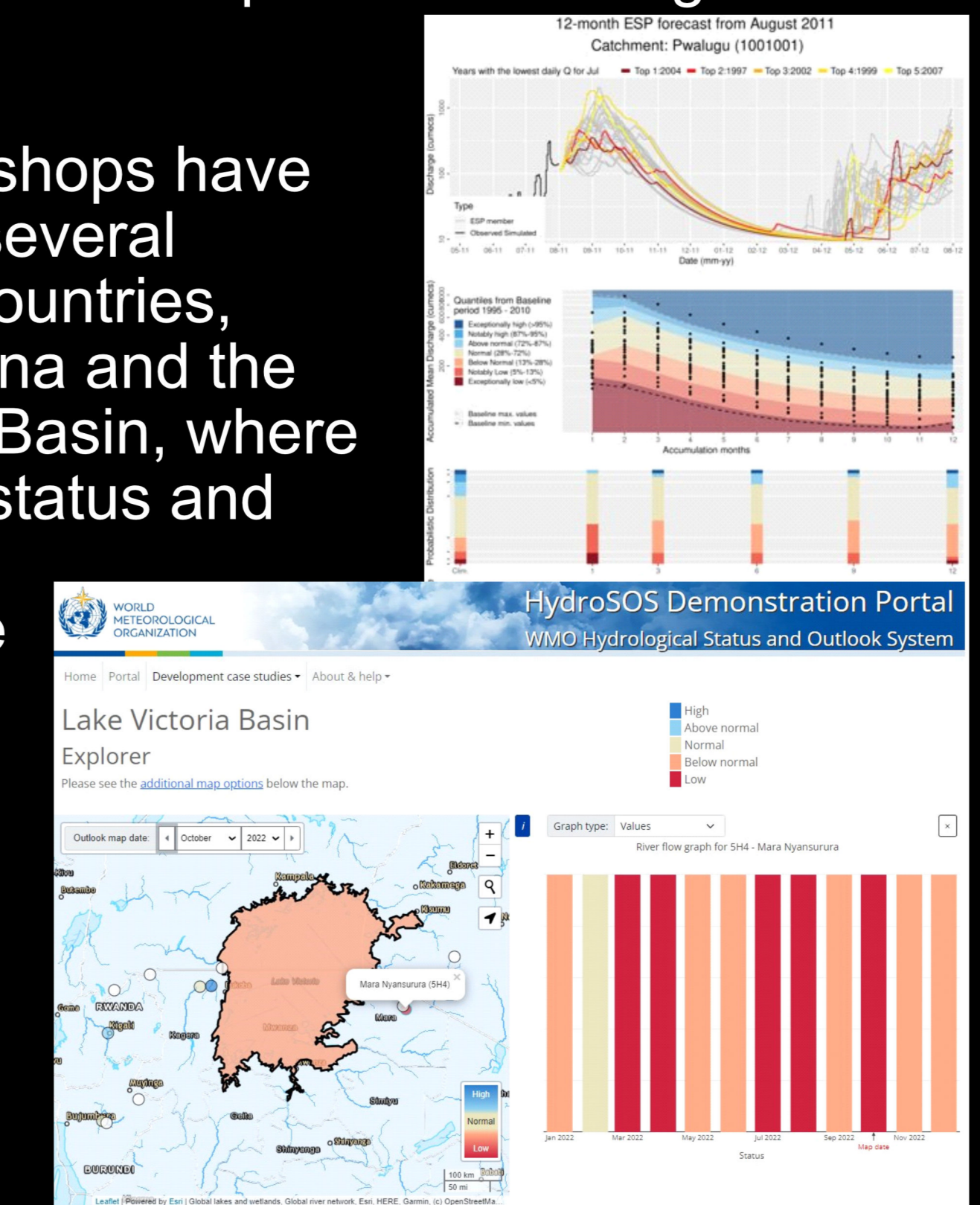
HydroSOS will help enhance services at different scales, and unite them in a coherent post-processing framework defining what's "normal".

### Regional Implementation

Regional HydroSOS implementation plans have been developed for each of the six WMO global regions and are in the process of being implemented.

Training workshops have been held in several regions and countries, including Ghana and the Lake Victoria Basin, where deriving new status and outlooks products have been trialed.

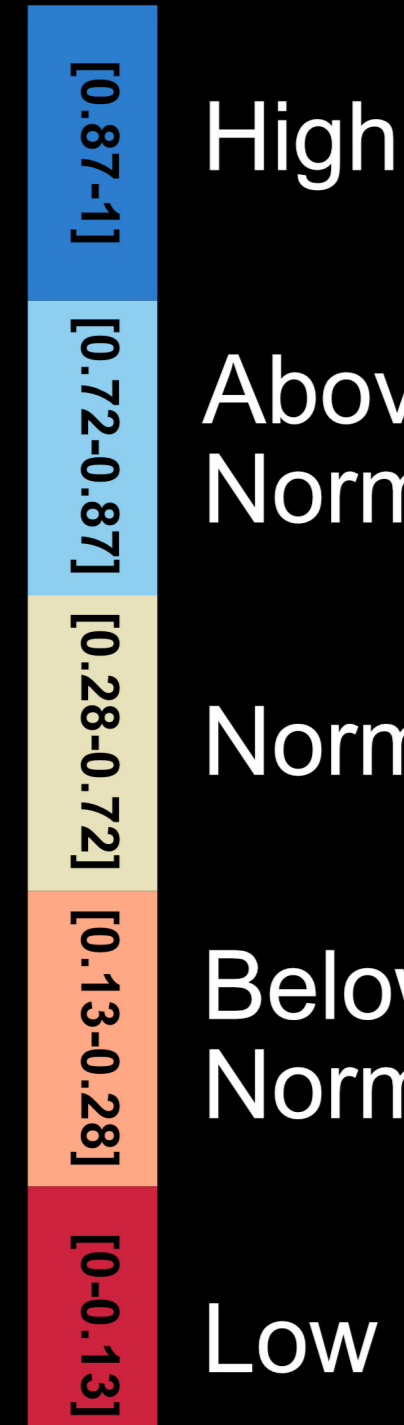
Open-source seasonal hydrological outlooks tools are being developed.



### Consistent Categorisation

HydroSOS uses rank percentiles to transform raw hydrological data into categorised products. This is calculated using the following steps:

1. Calculate monthly mean.
  2. Calculate the monthly mean as a percentage of the historic average.
  3. Calculate the rank percentiles using the Weibull distribution  $[i / n + 1]$ , where  $i$ =rank and  $n$ =number of years on record.
  4. Assign the percentile to a category.
- Common scripts in R and Excel have been created to calculate products in this way.

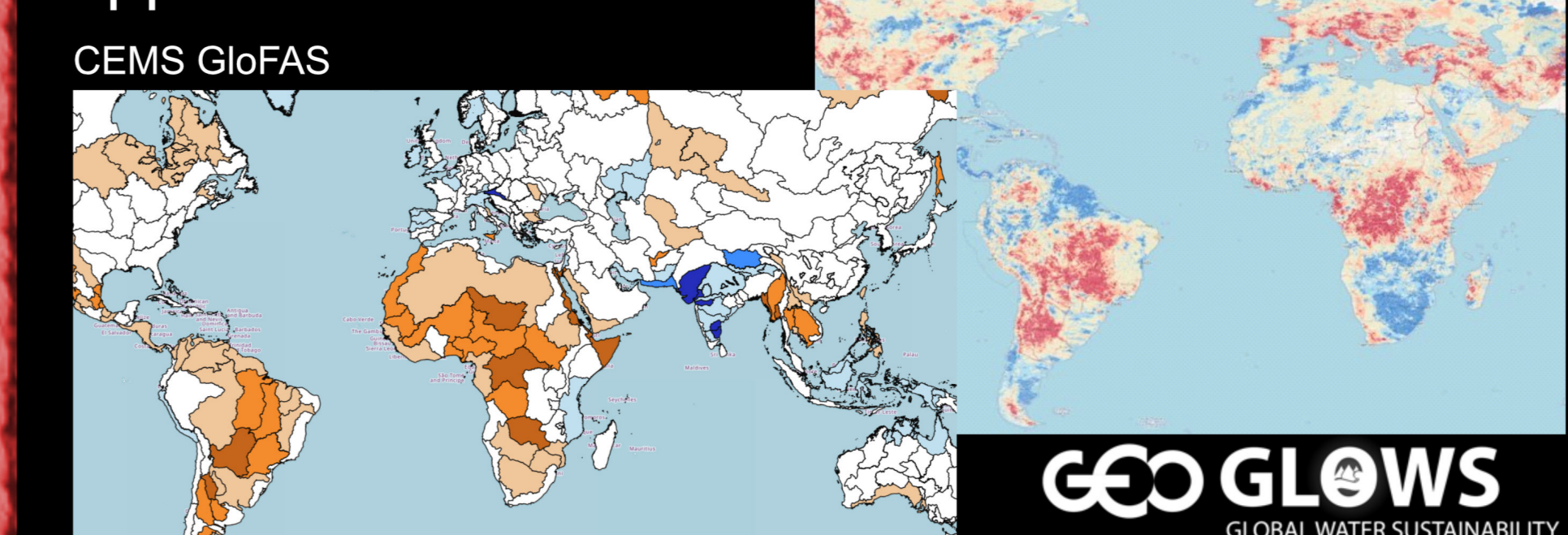


### Global Implementation

Several global status and outlooks systems are available, however these provide information over different lead times and different resolutions / basin aggregations.

HydroSOS will unite these systems using the common categorisation system, and offer a user-friendly blended global overview by weighting them in space and time using consistent skill information.

The GEOGloWS initiative provides novel bias correction methods for improved local applications.



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