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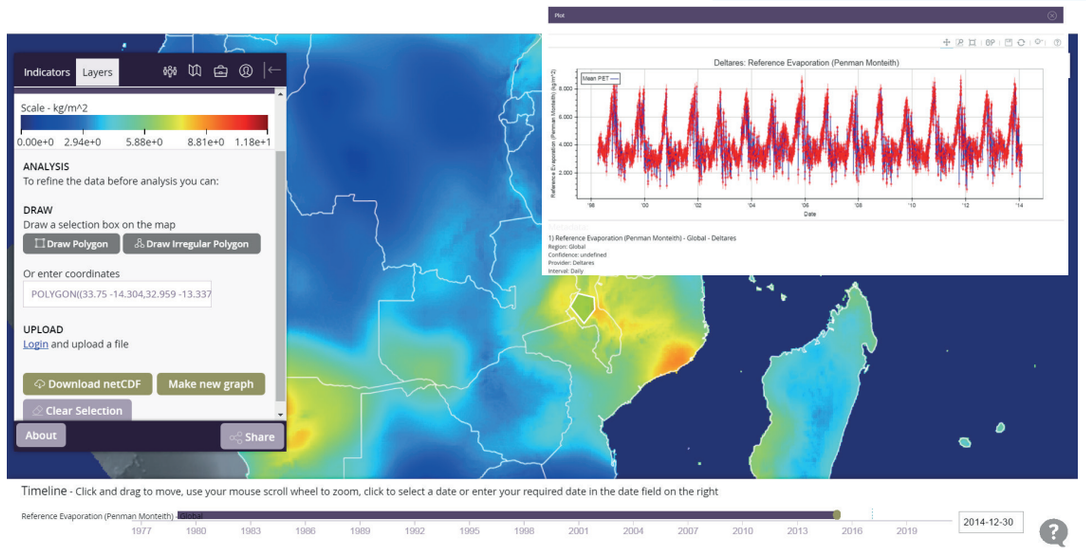
Global earth observation for integrated water resource assessment

Global water resources are under pressure due to increasing demand from industry, agriculture, energy, tourism and households. At the same time, climate change may shift the balance in many regions of the world. It is still difficult to assess the quality of water resources, and access to those resources, in many regions of the world which lack basic observation and monitoring systems.

Deltares is coordinating eartH2Observe, an EU FP7 project that aims to use global water data from models and satellites at the local level in order to support decisions about the management of water resources. This involves combining the results of ten global hydrological and land surface models with large amounts of remote-sensing data. In addition, the results are being verified and refined in a number of case studies around the world (including Bangladesh, Colombia, Australia and Ethiopia) in which local water managers use the data in their region.

A key feature of the project is the free and open data policy. All products are available on a data portal (wci.eartH2Observe.eu) that supports a graphical user interface but also direct downloads using a number of protocols. The application of these global datasets has major potential in many regions of the world. Studies of water resources in many countries could not have been performed without the global models and satellite data including river discharges, precipitation, evaporation, reservoir surfaces and so on.



In recent Deltares projects in Azerbaijan, Myanmar, Afghanistan, Colombia and Morocco, global data from the eartH2Observe project have been invaluable in determining local hazards such as drought and flood risk, or in calibrating local models. Furthermore, the quality of the combined remote-sensing and model datasets is constantly improving and these improved datasets are also becoming relevant for regions with dense in situ measurements, where they can be used to enhance the existing datasets.

Further reading:
www.earth2observe.eu
and wci.eartH2Observe.eu