
EMODnet Physics and river runoff data management

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Rivers runoff exert a strong influence in their neighbouring coastal area in several ways, modifying the water stratification, introducing significant fluctuations in circulation patterns and modulating the impact of upwelling events.

In the current context of a global decline of the hydrometric networks, the uncertainties include the river runoff reaching the coast and most of the water properties as temperature, salinity, etc. For this reason, river climatologies are generally imposed in the land boundaries of coastal or regional ocean models, ignoring river variability in flow and other associated properties. Anyhow, the main weakness of river climatologies is its incapacity to include the interannual variability compared to watershed model applications that are in agreement with the main river flow trends.

On the other hand, watershed models tend to overestimate river flows, especially during dry seasons. EMODnet Physics has started integrating and making available near real time river runoff and in situ river runoff trends (monthly and annual means).

Operational observations and watershed modelling forecast for the main rivers and stations near the river discharge area will be increasingly made available to the public and research community through the EMODnet physics webpage (<http://www.emodnet-physics.eu/>). Currently river flow from some stations in Portugal, Ireland, France, UK, Belgium, Netherlands and Germany have been made available. These data will be completed in terms of watersheds and water properties by catchment models based on the MOHID Land model (<http://www.mohid.com/>).

Monitoring and forecasting communities are welcoming this new data to improve the current operational thermohaline circulation in coastal areas by a better characterisation of the land-marine boundary conditions. In this presentation the current data flow, format and the future evolution of the service will be presented.