



## **New CLIVAR research focus: Consistency between planetary heat balance and ocean heat storage**

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Climate is very much about exchange of energy in the Earth System, and in particular in the form of heat. Quantifying these exchanges and how it affects our climate system is one of the key challenges faced by the climate research community. In this context, the Ocean-climate system - Variability, Predictability and Change (CLIVAR) project of the World Climate Research Programme (WCRP) has recently established a new research focus on “Consistency between Planetary Heat Balance and Ocean Heat Storage”. The main objective of the CLIVAR cross-cutting activity is to better understand the “role of the ocean in energy uptake” by analyzing consistency of heat budget components as seen by independent global observing systems, including (i) Earth Observation (EO) satellite data, (ii) in-situ measurements of ocean heat content storage changes, and (iii) Ocean reanalysis for heat transports and exchanges. The project aims at a refinement of a scientific framework on consistency between planetary heat balance and ocean heat storage; the evaluation of existing data sets and information products, their uncertainties and their consistency; recommendations on how to improve the observing systems and derived information products, assimilation methods, ocean and climate models and surface fluxes; contributing insights to related climate research topics such as anthropogenic climate change, seasonal climate prediction, decadal variability, predictability and prediction, as well as sea-level variability and change.