

The Ocean and Earth's Changing Water Cycle: Past, Present, Future

Session 4: Friday Morning, May 18, 2012

Data Resources and Future Research and Development Initiatives on the Marine Water Cycle

Abstract:

The Aquarius Salinity Satellite and Upper Ocean Salt Balance

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The Aquarius/SAC-D satellites, launched June 2011 has been measuring the global ocean salinity field since late August 2011, now providing almost 9 months of continuous data. The Aquarius mission is designed to provide an accurate and well resolved ocean surface salinity observing capability for ocean and climate studies, and to understand the links between the global water cycle and ocean circulation. This talk first provides a status update on the Aquarius mission, the data quality, and some examples of early scientific findings, particularly some finer scale features such as river plumes and tropical instability waves that we did not expect to see so clearly in the data. Secondly, talk will begin to address the marine freshwater budget and the surface salinity variability observed thus far. In particular, preliminary estimates will be given for the upper ocean advection and the extent that it balances the net freshwater flux at the surface.