

NEWS Climatology Project: The state of the water cycle at continental to global scales

Matthew Rodell[†]; Tristan L'Ecuyer; Hiroko Beaudoin; William Olson

[†] NASA/GSFC, USA

Leading author: Matthew.Rodell@nasa.gov

NASA's Energy and Water Cycle Study (NEWS) program fosters collaborative research towards improved quantification and prediction of water and energy cycle consequences of climate change. In order to measure change, it is first necessary to describe current conditions. The goal of the NEWS Water and Energy Cycle Climatology project is to develop "state of the global water cycle" and "state of the global energy cycle" assessments based on data from modern ground and space based observing systems and data integrating models. The project is a multi-institutional collaboration with more than 20 active contributors. This presentation will describe results of the first stage of the water budget analysis, whose goal was to characterize the current state of the water cycle on mean monthly, continental scales. We examine our success in closing the water budget within the expected uncertainty range and the effects of forcing budget closure as a method for refining individual flux estimates.