

Boulder Fluid and Thermal Sciences Seminar Series



Tuesday, July 12, 2016

3:30pm-4:30pm (refreshments at 3:15pm)

Bechtel Collaboratory in the Discovery Learning Center (DLC)

University of Colorado, Boulder

Assessing the Contribution of Natural Climate Variability to Global and Regional Sea Level Rise

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Sea level is a measurement of considerable interest and importance for the study of climate. Variations in sea level over long time periods provide an important observation of the current state of the climate, reflecting both the heat and mass changes in the ocean. Rising sea levels along the world's coastlines threaten to permanently impact infrastructure and ecosystems, with millions of people potentially being displaced if the oceans were to rise two meters. Addressing and mitigating the effects of changes in sea level involves accurately determining the contributing factors and associated impacts to past, present and future sea level rise and variability. Although much of the focus on future sea level rise concerns the long-term trend associated with anthropogenic warming, on shorter timescales, internal climate variability can contribute significantly to regional sea level. Such sea level variability should be taken into consideration when planning efforts to mitigate the effects of future sea level change on regional levels. Providing such a regional assessment is a challenging task that requires expertise across a wide range of disciplines and a variety of data sources. In this talk, the problem of projecting future regional sea level rise will be introduced and the associated challenges discussed. More specifically, the talk will focus on the contribution to global and regional sea level of natural climate variability on interannual to multidecadal timescales. By estimating and removing the influence of natural climate variability, a better understanding of the sea level rise associated with anthropogenic warming can be gained, providing valuable insight into future regional sea level.

Biography: Dr. Ben Hamlington is an assistant professor in the Ocean, Earth and Atmospheric Sciences Department at Old Dominion University. He received his PhD in Aerospace Engineering Sciences from the University of Colorado at Boulder. His recent work has dealt with the study of sea level across a range of spatial and temporal scales, focusing on assessing the contribution of natural climate variability to sea level on global and regional scales. Additionally, he has studied the impact of vertical land motion on the ability to assess past and present sea level change. He is a member of the NASA Sea Level Change and NASA Ocean Surface Topography Science Teams.

