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## Department of Atmospheric Sciences Special Seminar Announcement

Department of Atmospheric Sciences, S.O.E.S.T., University of Hawai'i at Mānoa  
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# Changes in precipitation with warming

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**Date:** Monday, April 4, 2016  
**Refreshments:** 2:30pm  
Free Cookies, Coffee & Tea Provided  
(Please Bring Your Own Cup)  
**Seminar Time:** 3:00pm  
**Location:** Kuykendall Hall, KUY 101

### Abstract:

As the Earth warms in response to anthropogenic forcing, we anticipate that precipitation will also change. The changes in precipitation themselves are a significant driver of impacts of climate change on the environment and society, as well as driving changes in circulation in the atmosphere and ocean. In this talk, I will tell you about my work examining precipitation and how it changes, using climate models, observations, and theory.

Precipitation plays a role in the planet's energy budget: when water evaporates, it cools the surface, and when it condenses again and falls as rain, it heats the atmosphere. We can understand how precipitation changes in the global, long-term mean by examining the other components of the surface and atmospheric energy budgets: radiation and sensible heat flux. I will tell you about some key findings from taking this approach, and making radiative transfer calculations of climate model simulations.

We do not experience globally-averaged precipitation, but rather the rain that falls where we are day by day. I will also tell you about some of my work quantifying the distribution of daily precipitation accumulation, in both climate models and observations.

Precipitation, its distribution, and how they change are at the intersection of many questions in climate research, including how atmospheric circulation and energetics change, and what the impacts of these changes will be. Some anticipated future research trajectories will be highlighted.