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MĀNOA

## Department of Atmospheric Sciences Seminar Announcement

Department of Atmospheric Sciences, S.O.E.S.T., University of Hawai'i at Mānoa  
2525 Correa Road, HIG 350; Honolulu, HI 96822 ☎956-8775



### Probabilistic predictions with an analog ensemble

#### Dr. Luca Delle Monache

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Research Applications Laboratory  
National Center for Atmospheric Research

**Date:** Monday, March 5, 2018  
**Refreshments:** 11:30am at KUY courtyard  
Free Cookies, Coffee & Tea Provided  
(Please Bring Your Own Cup)  
**Seminar Time:** 12:00pm  
**Location:** Kuykendall Hall, KUY 101

#### Abstract:

The analog of a forecast for a given location and time is defined as the observation that corresponds to a past prediction matching selected features of the current forecast. The best analogs form the analog ensemble (AnEn), which produces accurate predictions and a reliable quantification of their uncertainty with similar or superior skill compared to traditional ensemble methods while requiring considerably less real-time computational resources. The AnEn has been successfully applied for predictions of weather parameters, air quality, renewable energy, and the intensity of tropical cyclones. Examples of some of these applications will be shown.

#### Bio:

"Luca Delle Monache is the Science Deputy Director of the National Security Applications Program (NSAP), of the Research Applications Laboratory, in the National Center for Atmospheric Research, Boulder, Colorado. He helps to manage a group of 20 scientists and 10 software engineers. He defines scientific and programmatic strategies for NSAP and manages large multi-institution projects. He earned a Laurea in Mathematics from the University of Rome, Italy (1997), an M.S. in Meteorology from the San Jose State University, USA (2002), and a Ph.D. in Atmospheric Sciences from the University of British Columbia, Canada (2005). His interests include the design of ensemble/probabilistic predictions, numerical weather prediction, postprocessing methods including artificial intelligence algorithms, renewable energy, air quality modeling, accelerated microscale simulations, and inverse modeling."