

Central Valley Flood Protection Board Meeting

November 21, 2014

INFORMATIONAL BRIEFING

Subsidence and Levee Movement in the Sacramento-San Joaquin Delta:
Application of Radar Imaging to a Region-Wide Levee Assessment
(*James Herota, Board staff; Cathleen Jones, NASA Jet Propulsion Laboratory*)

BRIEFING SUMMARY

Introduction

Dr. Cathleen Jones - Radar scientist at the NASA Jet Propulsion Laboratory, California Institute of Technology located in Pasadena, CA.

Dr. Jones has received several of NASA's awards for projects including:

- The NASA Exceptional Achievement Medal in 2014 for groundbreaking contributions to the study of hazards using radar remote sensing ;
- The Explorer Award for Scientific and Technical Excellence in 2013;
- Ranger and Mariner Awards for development of the Uninhabited Aerial Vehicle Synthetic Aperture Radar (UAVSAR) system.

Dr. Jones has conducted research on natural and man-made hazards, including sinkholes, levee stability, ground subsidence, and oil slick detection and characterization. Her most recent publication reports detection of major ground movement that occurred prior to formation of a catastrophic sinkhole, " Bayou Corne, Louisiana, sinkhole: Precursory deformation measured with radar interferometry " published in *Geology*, which is the official journal of the Geological Society of America.

Most recently at the 8th Annual Bay-Delta Science Conference held on October 28-30, 2014 in Sacramento, Dr. Jones presented an overview and findings based on the use of radar imaging to assess Subsidence and Levee Movement in the Sacramento-San Joaquin Delta levees.

Dr. Jones will present highlights and findings of the Sacramento-San Joaquin Delta levee radar imaging project and will provide insights on technology transfer and the benefits of using radar remote sensing within the State Plan of Flood Control levees protecting urban areas.