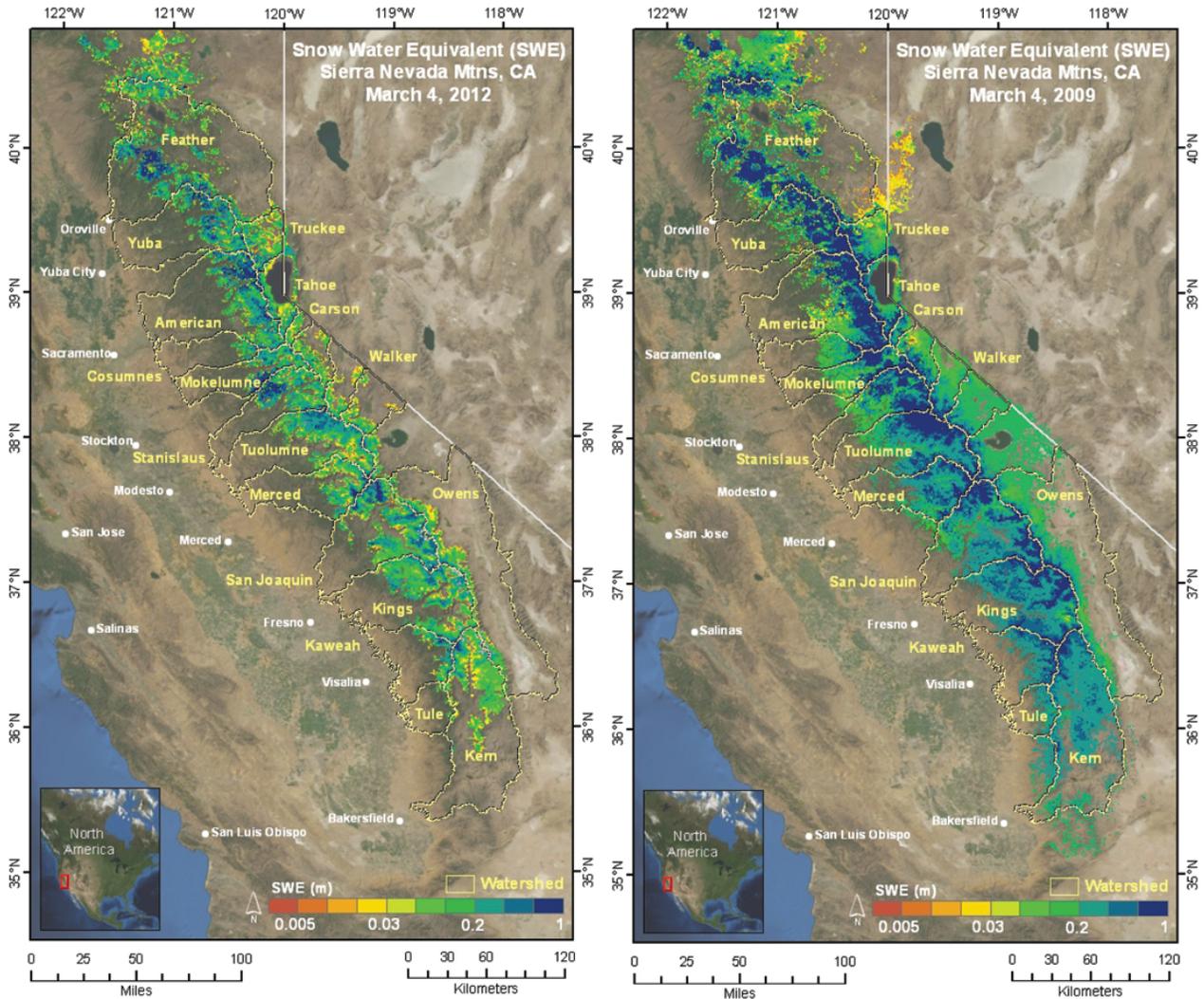


# Real Time Snow Water Equivalent (SWE) Simulation March 4 - 11, 2012 Sierra Nevada Mountains, California

## Introduction

This report is a beta product and subject to revision. We have developed a real-time SWE estimation scheme based on historical SWE reconstructions between 2000-2009 and daily in situ SWE measurements for the Sierra Nevada in California. Real-time SWE will be released on a weekly basis during the maximum snow accumulation period.



## Discussion

SWE amounts for March 4, 2012 are shown on the left and SWE amounts for March 4, 2009 are shown on the right. 2009 was an average snow year. Note the marked decreased extent and depth of SWE between 2012 and 2009. All watersheds are affected by the thin snowpack. Average regional SWE amounts as measured by automated snow sensors for March 13, 2012 by the CA DWR show 37% of average for

the Northern Sierra/Trinity, 30% of average for the Central Sierra and 28% of average for the Southern Sierra (CA DWR).

### **Methods**

Results for the week of March 4–11, 2012 are based on real-time data from 81 in situ SWE measurements distributed across the Sierra Nevada, one Moderate Resolution Imaging Spectroradiometer (MODIS)/Terra Snow cover daily cloud-free image (, and a normalized reconstructed SWE image for March 1, 2005. Relative to snow stations and the NWS SNODAS product, the reconstructed SWE product correlates strongly with full natural flow, especially late in the snowmelt season (Guan, etal.).

### **Current Meteorology**

Between March 4–11, 2012 there was some snowfall in the Tahoe region, but conditions were fairly dry across most of the Sierra. Currently snow is falling in the Tahoe region, with minor accumulations in the southern Sierra.

### **References**

California Department of Water Resources (CA-DWR), March 13, 2012, Statewide Summary of Snow Water Content, <http://cdec.water.ca.gov/cgi-progs/products/swccond.pdf>.

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