Western Governors’ Drought Forum

NOV. 13-14, 2014

California State Capitol, Sacramento, CA

Drought Impacts and Solutions in the Agricultural Sector

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The Western Governors’ Drought Forum initiative is being conducted in partnership with NOAA’s National Integrated Drought Information System.
New Frontiers for Drought Data and Analysis

Richard Howitt,
Josué Medellín-Azuara

University of California, Davis

Western Governor’s Drought Forum
Sacramento
November 13, 2014
Drought Management Data from Satellites

- Water supply predictions of drought response
- Satellite measures of fallowed acres
- Satellite measures of water use
Comparison of Idle Land July/August

NDVI UCD  
2014 vs 2012

NASA  
2014 vs 2011

SWAP  
2014 vs 2012

Relative Idle Land 2011-2014  
Julian Day 210  
- 0  
0.001 - 0.03  
0.03 - 0.07  
0.07 - 0.14  
> 0.14

UC DAVIS  
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ET Estimation Methods

- Crop coefficients and reference evapotranspiration
- Energy balance methods SEBAL & METRIC
Conclusions

• Drought impacts are predicted by water supply forecasts.

• Forecasts are updated by satellite measures of “green-ness” NDVI

• Good potential for detailed water use estimates by satellite energy balance measures.
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