

# Land-use Change and its Effects on the North American Monsoon



## Theodore Bohn

*Post-doctoral Research Associate  
Decision Center for a Desert City and  
School of Earth and Space Exploration  
Arizona State University*

Ted Bohn arrived at ASU in September 2013 after receiving his Ph.D. from the University of Washington. He was awarded an NSF SEES Fellowship and works under the direction of Enrique Vivoni in the School of Earth and Space Exploration and Dave White at Decision Center for a Desert City.

Using a coupled land-atmosphere model, Bohn studies the impacts of changes in land cover/land use in northwestern Mexico on moisture recycling and transport to both the US and other areas of Mexico.

He is also assessing the feasibility of employing land use decisions to influence the North American Monsoon and thereby reduce regional vulnerability to climate variability and change.

Southern Arizona and New Mexico receive 40-60% of their annual rainfall in the summer, as part of the North American Monsoon (NAM).

Modeling studies suggest that 15-25% of this rainfall first falls on Mexican land, is transpired by vegetation, and subsequently is transported northward across the border to the US.

The natural ecosystems in Sierra Madre Occidental and the adjacent Gulf of California are known for their rapid greening and large transpiration rates at the onset of the monsoon, which promote the recycling of precipitation back into the atmosphere and facilitate further rainfall.

Two primary human activities have dramatically changed the region's hydrologic cycle and evapotranspiration rates: irrigated agriculture and deforestation for grazing activities.

Join us for a presentation of cutting-edge science and modeling!

**Wednesday, April 8, 2015**

**12:00-1:30 p.m.**

**Lunch will be served**

**Please RSVP to: [katie.peige@asu.edu](mailto:katie.peige@asu.edu)**

**Where:** Decision Center for a Desert City, 21 East 6th Street, Suite 126B, Tempe

**Map:** <http://dcdc.asu.edu/about-us-contact>

**Website:** <http://dcdc.asu.edu>