

*2017 National Capital Region Water Resources
Symposium*

**Panel Introduction: Applications of
Remote Sensing and Space
Technologies in Water Resources
Management**

April 7, 2017

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US City Lights from Space



Credit: NASA

Algae bloom: Western Lake Erie, 2011



Credit: MERIS/NASA; processed by NOAA/NOS/NCCOS

Missouri River Flood, Nebraska, 2011



Source: U.S. Geological Survey (USGS) Landsat Missions Gallery, "Missouri River near Omaha, NE - one year after flooding," U.S. Department of the Interior / USGS and NASA

Lake Mead, Nevada/Arizona



1984

2016



Source: U.S. Geological Survey (USGS) Landsat Missions Gallery; Lake Mead Reaches Historic Low; U.S. Department of the Interior / USGS and NASA.

Lake Mead, Nevada/Arizona



Great Salt Lake, Utah



Credit: Sorooshian, UC Irvine

Urbanization, Shanghai China

1984



2016



Source: NASA Earth Observatory

Wildfire near Ashland, Kansas 2017

March 1



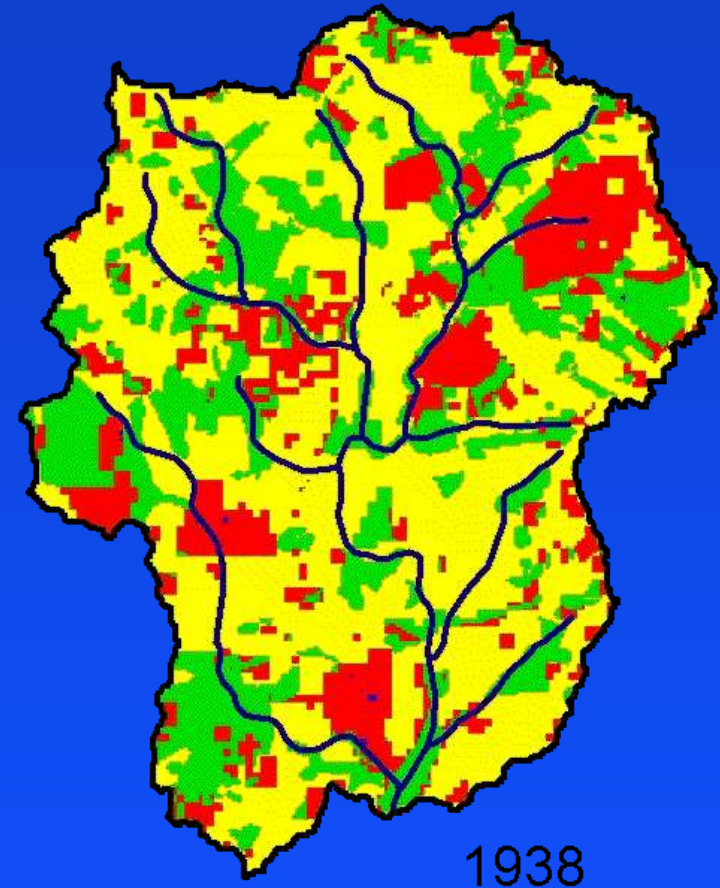
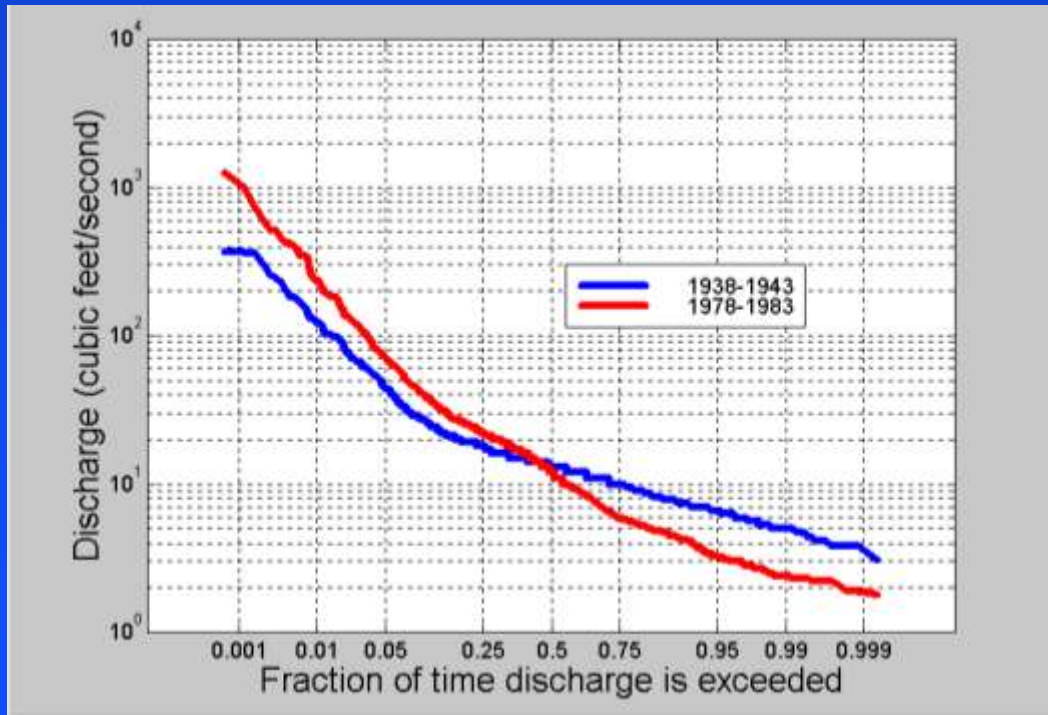
March 17



Source: NASA Earth Observatory

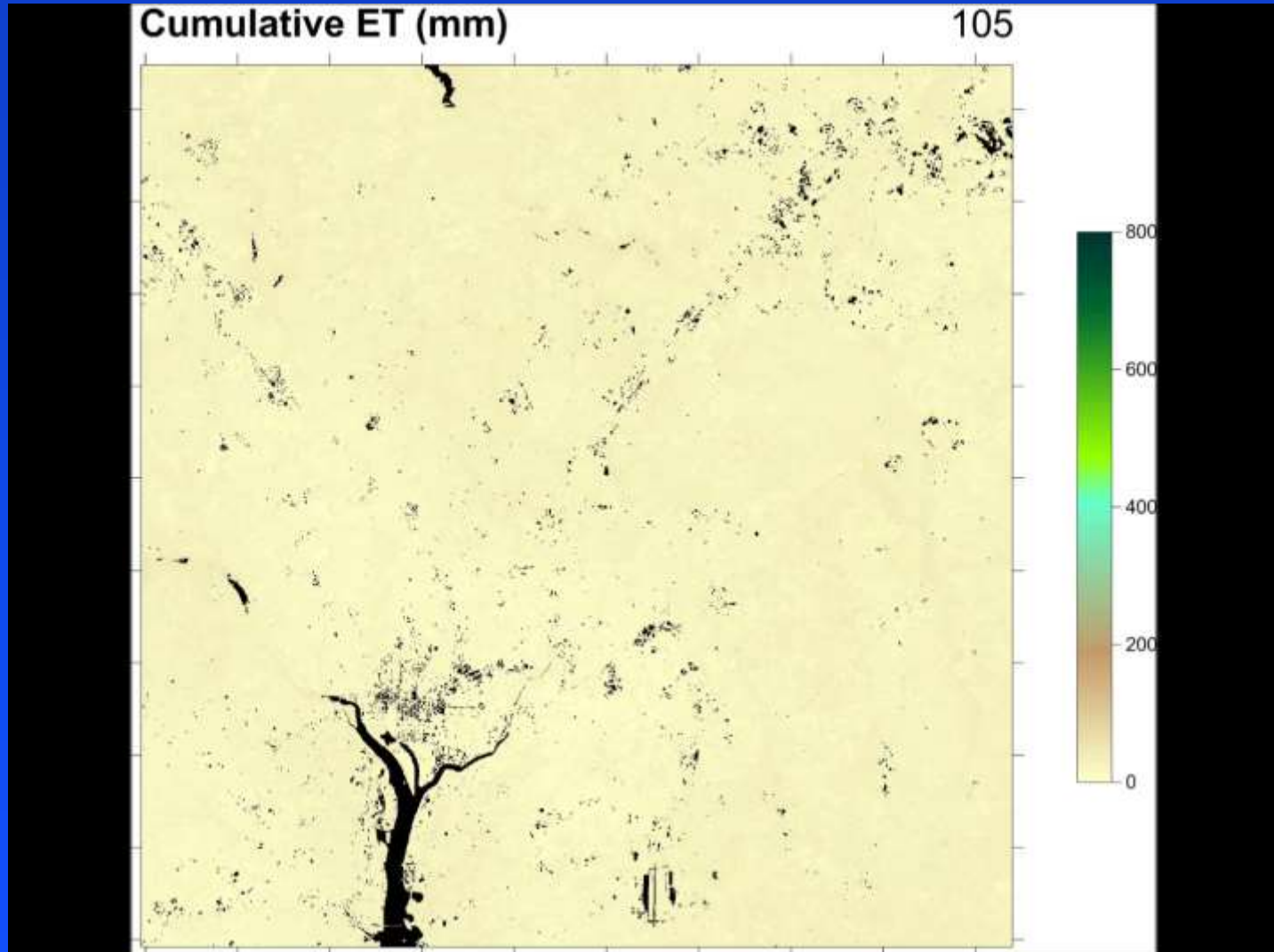
Hydrologic Effects of Land Use Change

- How does land use change affect water balance?



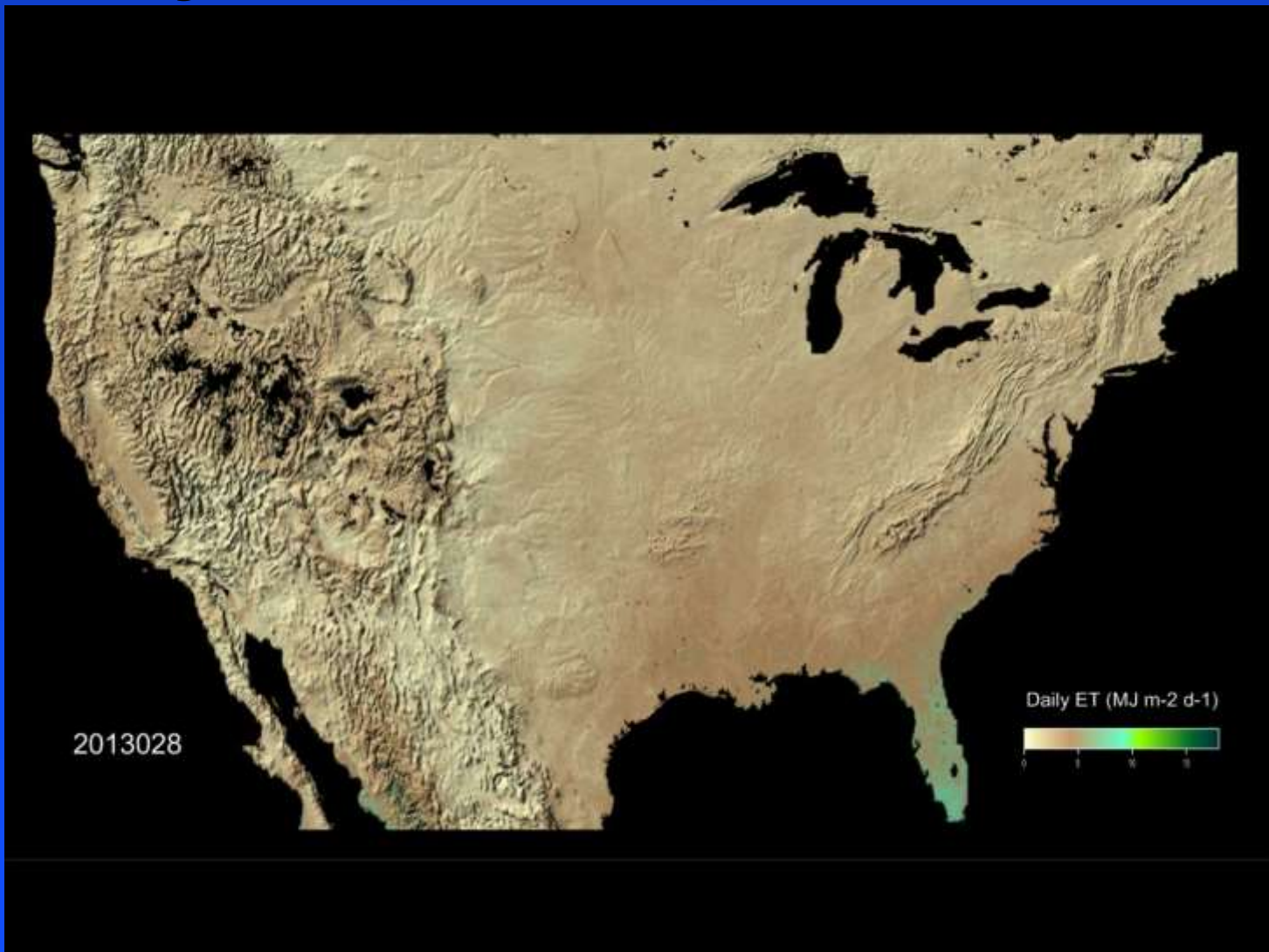
Methods from: Moglen, G.E., and R.E. Beighley (2002). "Spatially Explicit Hydrologic Modeling of Land Use Change." *Journal of the American Water Resources Association*, 38(1): 241-253.

Cumulative ET: Washington, DC metro area



Credit: Martha Anderson (ARS, HRSL)

US Daily Evapotranspiration, 2013-14



Credit: Martha Anderson (ARS, HRSL)

Our Panel Speakers

- **John Jones: USGS, “USGS Remote Sensing to Measure and Model Water Availability”**
- **Stephen Newman, USACE, “USACE Research in Remote Sensing of Snow Dominated Watersheds”**
- **David Mocko: SAIC (at NASA), “Using Land Data Assimilation Systems for Drought Monitoring, Water Resources, and Hydrologic Indicators”**

Format

- **Panelist Presentations: ~ 45-50 minutes total**
 - **Short Q&A after each presentation**
- **Open Panel Discussion: ~20-25 minutes**
- **Lunch!**