Alys Caitlyn Thomas

Department of Earth System Science • University of California, Irvine
6485 Adobe Circle • Irvine, CA 92617 • thomasac@uci.edu • 510-284-7000

Education:

Ph.D., Department of Earth System Science: Hydrology, 2009-2014 (June completion)
Dissertation: Building a Drought Characterization Framework with Satellite Remote Sensing and Computer Modeling on Regional and Global Scales
University of California, Irvine, CA
Advisor: Dr. James Famiglietti

M.S., Department of Soil, Water, and Environmental Science, 2009
Thesis: Statistical evaluation of NDVI-climate relationships for drought monitoring in Arizona
University of Arizona, Tucson, AZ
Advisor: Dr. Michael Crimmins

B.S., Department of Marine and Environmental Systems: Meteorology, 2004
Florida Institute of Technology, Melbourne, FL

University Teaching Experience:

Department of Earth System Science, University of California, Irvine, 2013
Teaching assistant for General Education Science course, *Hurricanes, Tsunamis, and other Catastrophes*. Led three discussions and review session to further clarify scientific concepts related to natural hazards.

Teaching assistant for upper division course, *Fundamentals of GIS for Environmental Science*. Designed homework lessons and final project assignment. Led computer labs to assist students with homework.

Teaching assistant for General Education Science course, *Physical Geology*. Led two laboratory sections and review sessions to clarify scientific concepts related to paleoclimatology and soil and rock types.

Teaching assistant for General Education Science course, *The Atmosphere*. Led two discussions and review sessions. Taught 300-student lecture on thunderstorm development and precipitation types.

Department of Soil, Water, and Environmental Science, University of Arizona, 2007
Teaching assistant for lower division course, *Introduction to Environmental Science*. Designed and led laboratory experiments.

Professional Experience:

Bay Area Air Quality Management District, San Francisco, CA
Atmospheric Scientist, 2006-2007
Research and project planning: organized emission inventory data; generated visual aids in the form of maps, time series, and tables for project support

Publications and Presentations:

Thomas, A., J. T. Reager, J. S. Famiglietti, and M. Rodell (2013), GRACE-observed water storage deficits for hydrological drought characterization, *Geophysical Research Letters*, [in review].

Thomas, A., J. T. Reager, J. S. Famiglietti, and M. Rodell (Dec 2013), GRACE-observed water storage deficits for hydrological drought characterization, *Oral Presentation*, *American Geophysical Union Fall Meeting,* Session H32F. Remote Sensing Applications for Water Resources Management II: Groundwater Monitoring, Data Integration and Modeling.

Thomas, A., J. T. Reager, and J. S. Famiglietti (Dec 2012, Jan 2013), Statistical characterization of terrestrial water storage variability and drought on multiple scales within GRACE satellite footprints: *Poster, American Geophysical Union Fall Meeting, San Francisco, CA. & Oral Presentation, 93rd Annual American Meteorological Society Meeting.*

Thomas, A., M. Rodell, H. K. Beaudoing and J. S. Famiglietti (Dec 2011, Jan 2012) Determining Spatio-temporal Patterns of Regional Hydrologic Drought and Resulting Water Deficiency Using GRACE and GLDAS/Noah Terrestrial Water Storage Fields: *Poster, American Geophysical Union Fall Meeting & Poster, 92nd Annual American Meteorological Society Meeting.*

Thomas, A., M. Rodell, and J. S. Famiglietti (2011) Distinguishing Regional Drought Characteristics Using GRACE Terrestrial Water Storage Datasets*: Poster presented at the NASA Global Drought Monitoring Workshop, April 11-12, 2011.*

Awards and Honors:

- NASA Graduate Student Research (GSRP) Fellowship: $30,000 Ann. (2010-present)
- UA/NASA Space Grant Graduate Fellowship Program: $24,000 Ann. (2008-2009)
- *Ambassador*, 2013 NASA Student Ambassadors Program

Technical Proficiencies:

- **Matlab Programming**
  - *Data Analysis and Visualization, Statistical Toolboxes, 2D/3D Mapping, Animation*
- **Geographic Information Systems**
  - *Geodatabases, 3D Visualization, Geoprocessing and Georeferencing, Surface Modeling,*

Spatial Interpolation, Python Scripting for ArcGIS, Image Processing, Raster Data

- **Experience with Global Climate and Land Surface Modeling**
  - *Catchment Land Surface Model, Global Land Data Assimilation System, CMIP5, CLM4.0*
- **Experience with Satellite Remote Sensing Products**
  - *MODIS, AVHRR, GRACE, LandSat, TRMM, PRISM*

Additional Activities:

- American Geophysical Union
- American Meteorological Society
- National Ground Water Association
- Orange County Graduate Women in Science (OCGWIS)
- *Volunteer*, Climate, Literacy Empowerment And iNquiry (CLEAN) Youth Science Education