

Nathaniel E. Roth

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Education:

- *Bachelor of Science (B.S.)* in Environmental Biology and Management with emphasis in Environmental Biology, University of California, Davis, **2000**
 - Minor: Geographic Information Systems

Research Interest:

- Spatial analysis of environmental impacts caused by past and future urban development and transportation networks.
- Ecosystem services
- Quantitative impact assessment of current and proposed land use policies on landscapes.
- Development of Geographic Information Systems based models for environmental assessments.
- Spatial data accessibility and decision support systems for land managers.
- Open space recreation access opportunities.

Work Experience:

- 2002-2010, Programmer, Information Center for the Environment, University of California, Davis
 - GIS application development
 - Customization of ArcGIS for specific applications
 - End user support and training
 - Geodatabase design
 - Cartographic display
 - Custom GIS analysis
 - Client and community GIS support
 - Miscellaneous tasks / time critical assistance.
- 2000-2002, Post Graduate Researcher, Information Center for the Environment, University of California, Davis
 - Aerial Photo interpretation for digitizing to vector coverages
 - GPS field work for ground control point collection.

Work Experience (cont'd):

- GIS data preparation.
- MS Access database creation for tracking vegetation plots and invasive species records.
- ASP forms for remote submission of invasive species data.
- MS Access database for tracking and reporting CalTrans bridge historic register data.
- Outreach
- 1998-2000, Network Administrator, Department of Environmental Science and Policy, University of California, Davis.
 - Basic network administration
 - Creating and deleting user accounts.
 - Manage the department email server.
 - Trouble shooting of problems with personal and departmental computers.

Recent Publications:

- Beardsley, K., Thorne, J. H., Roth, N., Gao, S., & McCoy, M. C. (2009) *Assessing the influences of rapid urban growth and regional policies on biological resources*. *Landscape and Urban Planning*, 93(2009), 172-183.
- Johnston, R. A., Roth, N., & Bjorkman, J. (2009) *Adapting Travel Models and Urban Models to Forecast Greenhouse Gasses in California*. *Transportation Research Record*, 2133, 23-32.
- Beardsley, K., Roth, N.E., McCoy, M.C., (2007) *Impacts of Different Growth Scenarios in the San Joaquin Valley of California*. In *Proceedings of the 2007 International Conference on Ecology and Transportation*, edited by C. Leroy Irwin, Debra Nelson, and K.P. McDermott. Raleigh, NC: Center for Transportation and the Environment, North Carolina State University.
- Thorne, J., McCoy, M., Hollander, A., Roth, N., Quinn, J. (2006) *Regional Environmental Analysis for Transportation Corridor Planning*. In *Proceedings of the 2005 International Conference on Ecology and Transportation*, edited by C. Leroy Irwin, Debra Nelson, and K.P. McDermott. Raleigh, NC: Center for Transportation and the Environment, North Carolina State University.

Conference Presentations:

- Roth, N., Thorne, J., McCoy, M., (2007) **Urban Growth Impacts on Agriculture and Urban Services in the San Joaquin Valley, California**. 2007 Association of American Geographers Annual Meeting. San Francisco, CA, April 17, 2007
- Huber, P., Roth, N., Thorne, J., McCoy, M., Meade, R.,(2007) **Potential impacts of urban growth on an ecological network in the San Joaquin Valley, California**. 2007 Association of American Geographers Annual Meeting. San Francisco, CA, April 17, 2007
- Beardsley, K., Roth, N., Thorne, J., Huber, P., McCoy, M., (2007) **Environmental Impacts of Urban Growth in California's San Joaquin Valley**. 2007 Association of American Geographers Annual Meeting. San Francisco, CA, April 17, 2007

Conference Presentations (cont'd):

- Sailer, C., Noujdina, N., Roth, N., Mount, J., 2003. (2003) **Change detection methodology for the Cosumnes watershed of Northern California**. Proceedings of ASPRS Annual Conference, 5 – 9 May, Anchorage, Alaska (American Society for Photogrammetry and Remote Sensing, Bethesda, Maryland), unpaginated CD-ROM.
- Roth, N., Viers, J., Johnson, J., Deas, M., Quinn, J. (2005) **Sunrise on the Klamath: An ArcObjects application for determining topographic sunrise and sunset**. 2005 ESRI User Conference Proceedings, 25-29 July, San Diego, CA.

Awards:

- First place, 2006 ESRI User Conference Map Gallery. “Best Software Integration.” Roth, N., Viers, J., Slaton, M., Safford, H. **Spatially Integrated Reporting of Environmental Criteria for Resource Management: An Example from Lake Tahoe**. 2006 ESRI User Conference, San Diego. August 7-11, 2006