JOSEPH I. SMITH
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PRISM Climate Group
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EDUCATION

Oregon State University	B.S (Computer Science)	2002
Oregon State University	B.S. (Physics)	1996
Linn-Benton Community College	A.A. (Theatre Arts)	1990

PROFESSIONAL EXPERIENCE

2002- Faculty Research Assistant, Northwest Alliance for Computational Science and Engineering

1999-2002 Programming Assistant, Oregon Climate Service/PRISM Climate Group, Oregon State University

PROFESSIONAL ACTIVITIES

Joseph Smith writes software for the acquisition, quality control, processing, storage and application of meteorological data and metadata. Data are retrieved from Web and FTP sites or captured from dedicated feeds, and subjected to a variety of isolated and cross-variable tests of validity. They are upscaled to various temporal resolutions and utilized to derive additional parameters, stored in a relational database along with ancillary information, and applied to the continuous mapping of meteorological parameters across large geographical regions. Metadata for reporting stations are collected, sorted and validated to provide an accurate positional reference for the data in space and time.

Joseph has been a Software Research Engineer in Oregon State University's PRISM Climate Group, Northwest Alliance for Computational Science and Engineering, since 2002. The PRISM Climate Group is a recognized world leader in spatial climate analysis. The group developed and continues to update digital maps of long-term normals and daily and monthly time series for the conterminous US, downloaded approximately 750,000 times per month from the PRISM Web site. They developed the first-ever detailed climate and species suitability maps for the People's Republic of China, aiding Oregon grass seed growers in creating a multi-million dollar market for their seeds in China. They have also been updating official NOAA extreme precipitation maps that provide guidance used by states, counties, and municipalities to determine building codes and regulations. In 2012, they released a new official USDA Plant Hardiness Zone Map, the key plant selection guide for horticulturalists, nurserymen, and gardeners; this map received 20 million online accesses in the first two weeks of release. The group has an ongoing relationship with the USDA Risk Management Agency, which oversees the federal crop insurance program. In an effort to improve the integrity and efficiency of the claims process, the RMA asked the group to provide high-quality spatial weather and climate data on a daily basis for every farm in the lower 48 states. In addition, PRISM long-term climate datasets are being used in conjunction with soils data and a water balance model to establish zones of crop suitability to provide greater accuracy and spatial detail in crop insurance underwriting.

HONORS & AWARDS

2012 ARS Excellence in Information Award: Presented to the OSU PRISM Climate Group and selected USDA/ARS employees for contribution to the successful design, development, and implementation of the 2012 USDA Plant Hardiness Zone Map.

2012 Environmental Systems Research Institute international award: Special Achievement in GIS, presented to the OSU PRISM Climate Group and the USDA/ARS Office of National Programs for outstanding work in developing and communicating the 2012 USDA Plant Hardiness Zone Map for the United States and Puerto Rico.

PUBLICATIONS

Daly, C., Doggett, M.K., **Smith, J.I**., Olson, K.V., Halbleib, M.D., Dimcovic, Z., Loiselle, R.A., Ryan, A.D., Pancake, C.M., Kaspar, E.M. 2021. Challenges in observation-based mapping of daily precipitation across the conterminous United States. *Journal of Atmospheric and Oceanic Technology*. Accepted.

Daly, C., **J.I. Smith**, and K.V. Olson. 2015. Mapping atmospheric moisture climatologies across the conterminous United States. *PloS ONE* 10(10):e0141140. doi:10.1371/journal.pone.0141140.

Daly, C., M.P. Widrlechner, M.D. Halbleib, **J.I. Smith**, and W.P. Gibson. 2012. Development of a new USDA Plant Hardiness Zone Map for the United States. *Journal of Applied Meteorology and Climatology,* 51: 242-264.

Daly, C., Halbleib, M., **Smith**, **J.I**., Gibson, W.P., Doggett, M.K., Taylor, G.H., Curtis, J., and Pasteris, P.A. 2008. Physiographically-sensitive mapping of temperature and precipitation across the conterminous United States. *International Journal of Climatology*, 28: 2031-2064.

Daly, C., **J.I. Smith**, and R. McKane. 2007. High-resolution spatial modeling of daily weather elements for a catchment in the Oregon Cascade Mountains, United States. *Journal of Applied Meteorology and Climatology*, 46:1565-1586.

Daly, C**.,** W.P. Gibson, G.H. Taylor, M.K. Doggett, and **J.I. Smith**. 2007. Observer bias in daily precipitation measurements at United States Cooperative network stations. *Bulletin of the American Meteorological Society*, 88:899-912.