

Jonathan Callahan, PhD

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EDUCATION

University of Washington, Seattle, Washington

PhD, Chemistry, 1993

Dissertation: "Simulation, Optimization and Visualization of NMR Experiments"

Washington University, St. Louis, Missouri

BS, Germanic Languages, 1986

EXPERIENCE

Mazama Science

President, 2007-present

Operate a small consulting firm serving national and international government science agencies, including NOAA, NASA, EPA, and the Forest Service, as well as non-governmental science agencies and companies including Incorporated Research Institutions for Seismology, Center for Infectious Disease Research, TerrainWorks, and Eigenvector Research.

Work with clients to develop and deploy improved data management, data access, data analysis and visualization, and systems operations.

Perform data analysis and visualization and write reports for state and federal agencies.

Mentor undergraduate/graduate students advancing to Ph.D. programs and careers in data analytics.

University of Washington

Scientist/Engineer, Joint Institute for the Study of the Atmosphere and Ocean, 2005-2006

Joint-appointment at NOAA's Pacific Marine Environmental Lab. Lead developer for the "Live Access Server" – a web based analysis and visualization system for oceanographic model output.

Research Consultant, Joint Institute for the Study of the Atmosphere and Ocean, 1995-2005

Joint-appointment at NOAA's Pacific Marine Environmental Lab. Core developer working on analysis and visualization tools for oceanographic and atmospheric models. Developed web-based user interfaces to access and display Terabytes of climate data.

Research Associate, Departments of Chemistry/Biophysics, 1993-1995

Developed user interfaces for novel Nuclear Magnetic Resonance spectrometers.

OPEN SOURCE SOFTWARE

GitHub – <https://github.com/jonathancallahan>

R Projects on CRAN – <https://cran.r-project.org>

IRISMustangMetrics (seismology health metrics algorithms)
IRISSeismic (seismology data manipulation)
MazamaSpatialUtils (tools for standardized spatial analysis)
MazamaWebUtils (tools for building databrowsers)
PWFSLSmoke (air quality monitoring framework)
seismicRoll (high-speed, timeseries algorithms for seismology)

DATABROWSERS

As a thought leader and advocate for web-based access to scientific data and analysis, Mazama Science builds databrowsers for diverse interests. Current examples include:

Smoke Monitoring (US real time particulate pollution)
<https://tools.airfire.org/monitoring>

MUSTANG Databrowser (seismology state-of-health metrics)
<https://ds.iris.edu/mustang/databrowser>

FASTAViewer (custom genomics visualizations)
<http://mazamascience.com/FASTAViewer>

Arctic Transport Potential (soot deposition forecast)
<https://tools.airfire.org/arctic-transport>

Population Trends (international population trends)
<http://mazamascience.com/PopulationDatabrowser>

Energy Export Databrowser (international energy production/consumption)
<http://mazamascience.com/OilExport>

Pronto Databrowser (Seattle bikeshare statistics)
<http://mazamascience.com/ProntoDataChallenge>

PRESENTATIONS

Software training classes for agency personnel at NASA, USFS and IRIS
Presentations at national and international scientific meetings, as well as software meetups