
ALEX EDDY

www.alexeddygis.com

EXPERIENCE

U.S. NATIONAL PARK SERVICE | Data Manager

Three Rivers, CA: 10/2016 - Present

- Direct a complex program of data management activities that protect the value of long-term monitoring datasets collected, managed, and disseminated by the Sierra Nevada Network Inventory and Monitoring Program
- Work closely with network staff, park resource managers, technical staff, and cooperators to supervise procedures relating to data collection, validation, verification, storage, security, publication, and archiving
- Design, develop, manage, and implement a geospatial (ESRI ArcGIS) and tabular (Microsoft Access) relational database applications for compliance with division guidance and agency policy
- Serve as data coordinator and technical advisor for network parks; assist parks in responding to national mandates related to information security, data transparency, and management of protected or sensitive data
- Improve the integration of geospatial technology in field operations, including automation of field map production (Python, Model Builder, etc.) and development of web-based GIS field mapping applications (ArcGIS Online)
- Provide ongoing technical support, including file management and security, hardware and software support, equipment training (GPS, radio, and emergency messaging devices), and personal property management
- Develop visual products, including large-format maps and web maps, to effectively communicate monitoring data
- Publish and maintain records on the NPS Data Store (IRMA); maintain current species lists on NPSpecies
- Develop a training program for field crews on a variety of topics, including IT security, acceptable computer use, field techniques for GPS, data quality assurance procedures, GIS-based mapping, and data entry

U.S. NATIONAL PARK SERVICE | Cartographic Technician

Three Rivers, CA: 3/2014 - 8/2015 and 3/2013 - 9/2013

Staten Island, NY: 10/2013 - 3-2014

- Expand the integration of GIS in natural and cultural resource management and planning; provide GIS services for the Sequoia and Kings Canyon National Parks (SEKI) Wilderness Stewardship Plan and Resource Stewardship Strategy
- Model and synthesize resource trends to assist staff in exploring management alternatives; perform GIS suitability analysis to evaluate climate change vulnerability and inform adaptive management strategies
- Work with resource managers and specialists in a multi-disciplinary environment to efficiently collect, integrate, and process data for the SEKI Wilderness Character Map
- Facilitate information sharing and resource communication through the design and management of the SEKI public Park Atlas web-based GIS application; prepare digital and paper maps for public review meetings
- Improve long-term data quality, integrity, and management; manage data in an enterprise environment (ArcSDE); design, create, and manage complex geodatabases from disparate spatial and non-spatial data
- Perform error analysis and run geodatabase topology; implement national data standards
- Create comprehensive documentation for datasets relating to aquatic communities, vegetation communities, wet meadow and fen (wetland) habitats, air quality, viewsheds, park infrastructure, and other resource information
- Train technicians and interns in GPS data collection and GIS tasks
- Provide data management training to park staff through a series of workshops; prepare a data management plan for use in a variety of future projects
- Collect and process high-precision GPS data, using Garmin and Trimble devices, for cultural and natural resources; process GPS data in the office using DNR Garmin (DNR GPS) and Pathfinder Office
- Strengthen GIS applications in Hurricane Sandy Recovery Operations; make data management recommendations to help prepare for and adapt to future natural disaster incidents

EXPERIENCE

CITY OF BOULDER | GIS Analyst

Boulder, CO: 2/2016 - 10/2016

- Promote data stewardship by creating mapping applications that allow non-technical subject matter experts — including technicians, volunteers, and contractors — to participate directly in data collection, editing, and processing
- Conduct GIS, cartography, and GPS training sessions for staff of varying technical skill levels
- Design and implement mobile and web-based GIS applications to streamline GPS field data collection and data entry
- Maintain and troubleshoot technical hardware, including laptops, tablet computers, and GPS units

UNIVERSITY OF COLORADO BOULDER | Research Associate

Boulder, CO: 8/2015 - 5/2016

- Develop LiDAR (Light Detection And Ranging)-derived products, such as elevation, slope, aspect, and hydrology; geospatially model river profiles, erosion, weathering, channel incision rates, and mass wasting patterns
- Analyze and evaluate data to identify spatial and statistical trends; synthesize data collection, analysis, and results in preparation for scientific publication

U.S. BUREAU OF LAND MANAGEMENT | GIS/Natural Resource Specialist - GeoCorps America Intern

Washington, DC: 11/2012 - 2/2013; 6/2012 - 8/2012; 6/2010 - 8/2010

- Provide spatial analysis for environmental management and natural resource planning for multiple land units
- Assist with data visualization and science communication for protected areas; develop thematic maps and graphics tailored to staff needs; provide visual tools to improve understanding of ecological and physical landscape patterns
- Create intuitive cartographic representations of sensitive and controversial spatial information; create map templates for national-level cartographic products; provide leadership on cartography for multiple levels of GIS users
- Create a national-level transportation dataset that is current, accurate, and spatially precise; design data standards and perform data status assessment, and address program needs; develop detailed metadata

THE OHIO STATE UNIVERSITY | Research Associate

Columbus, OH: 6/2011 - 6/2012; 5/2009 - 6/2010

- Work with a diverse team of researchers to integrate and synthesize information collected in a data-sparse region; create a complex historical geochemistry geodatabase for use in scientific research
- Perform advanced remote sensing analysis to quantify and model changes in the Greenland ice sheet; download, preprocess, and analyze satellite imagery from multiple sources
- Synthesize and report scientific findings for publication in peer-reviewed academic journals

MID-OHIO REGIONAL PLANNING COMMISSION | Water GIS Intern

Columbus, OH: 2/2011 - 6/2011

- Spatially assess point and non-point pollution sources to evaluate regional water quality; collect, assess, and integrate data from a variety of sources and formats, including tabular, paper, and raw GPS
- Prepare cartographic products for demonstration at public meetings in support of cooperative water management at the local and regional level; map a variety of complex jurisdictional and water utility boundaries
- Facilitate local understanding of regional water issues by creating visually-accessible web-based mapping tools

OHIO GEOLOGICAL SURVEY | Geologic Mapping Intern

Columbus, OH: 9/2007 - 3/2010

- Ensure preservation of historic records through digital archival techniques; perform data conversion and integration through scanning, digitizing, georeferencing, editing, and quality assurance
- Convert tabular, hard-copy, and other data formats into ArcGIS and Microsoft Access databases
- Prepare maps and charts for scientific reports; coauthor publications related to Ohio surficial geology; interpret geomorphology and map geologic hazards, including karst formation and abandoned underground mines

EDUCATION

THE OHIO STATE UNIVERSITY

M.A. Geography, Columbus, OH: 2012 (GPA 3.9/4.0)

Specialization: Society and Environment; Thesis research: human and natural systems, water resources, spatial analysis
Related Coursework: Remote Sensing of the Environment; Advanced Quantitative Methods for Geography; Climatology; Seminar for Climatology; Seminar for Cartography; Field Methods in Human Geography

B.S. Geography, Columbus, OH: 2010 (GPA 3.7/4.0)

Second Major: Geological Sciences; Specialization: Geographic Information Systems (GIS)

Related Coursework: Fundamentals of GIS; Intermediate GIS; Design and Implementation of GIS; Elements of Cartography; Numerical Cartography; Introduction to Geostatistics; Meteorology; Elementary Programming; Physical Geology; Geology and the Environment; Historical Geology; Oceanography; Water Security; Energy and Resources; Cryosphere; Geomorphology; Stratigraphy and Sedimentology; World and Regional Geography; Geography of the U.S. and Canada; Making of the Modern World; Geography of Development; World Urbanization

SELECTED PUBLICATIONS

PEER-REVIEWED JOURNAL ARTICLES & REPORTS

Eddy, A., B. Mark, M. Baraer, J. McKenzie, A. Fernandez, S. Welch, & S. Fortner (2017). *Exploring Patterns and Controls on the Hydrochemistry of Proglacial Streams in the Upper Santa River, Peru*. *Journal of Glaciers and Mountain Ecosystems*, (3) 41-57.

Tricker, J., P. Landres, G. Fauth, P. Hardwick, & A. Eddy (2014). *Mapping Wilderness Character and Travel Time in SEKI*. Natural Resource Technical Report, NNPS/SEKI/NRTR-2014/872. Fort Collins, CO.

Howat, I.M., & A. Eddy. (2011). *Multidecadal retreat of Greenland's marine terminating glaciers*. *Journal of Glaciology*, 57 (203), 389-396(8).

Szabo, J.P., M.P. Angle, & A. Eddy. (2011). *Pleistocene Glaciation of Ohio, U.S.A. Quaternary Glaciations-Extent and Chronology, Volume 15*. Ed. Ehlers, J., Gibbard, .L., & Hughes, P.D. 513-520. Amsterdam, Netherlands: Elsevier Press.

MAPS & POSTERS

Eddy, A., S. Haultain, A. Heard, J. Nesmith, L. Mutch, P. Hardwick, & M. Jerez (2018). *Tracking change in Sierra Nevada Landscapes*. Map 317 presented at ESRI User Conference, San Diego, CA, 9-13 July.

Eddy, A. & P. Hardwick (2017). *Welcome to our Parks and A Day in the Parks* posters, created for DOI Secretary visit to Sequoia and Kings Canyon National Parks. National Park Service, Three Rivers, CA.

Tricker, J., P. Landres, G. Fauth, P. Hardwick, & A. Eddy (2016). *Mapping Wilderness Character in Sequoia and Kings Canyon National Parks*. Map 19 and Map 22 presented at ESRI User Conference, San Diego, CA, 27 June-1 July.

Eddy, A. & K. Morris (2015). *Park Atlas for Sequoia and Kings Canyon National Parks*. Lead developer for web map, Mapbook-Atlas-2223433, Denver, CO. <https://irma.nps.gov/DataStore/Reference/Profile/2223433>

Eddy, A. "Callejon de Huaylas, Río Santa, y Cordillera Blanca" map created for Carey, M. (2014). *Glaciares y cambio climático y desastres naturales. Ciencia y sociedad en el Perú*. Lima, Peru: IEP/Instituto de Estudios Peruanos.

Mark, B., A. Eddy, M. Baraer, J. McKenzie, E. Walsh, A. Fernandez, O. Wigmore, R. Battista, & A. Guittard (2013). *Characterizing changing stream water quality in a glacierized tropical watershed*. Presented at American Geophysical Union Fall Meeting, San Francisco, CA, 9-13 Dec.

Eddy, A., L. Gore, C. Moyer, & A. Ritchie (2012). *Service First: Land Management Agencies Working Together*. Presented at ESRI User Conference, San Diego, CA, 23-27 July.

Mark, B., J. Bury, M. Carey, J.M. McKenzie, K.I. Huh, M. Baraer, & A. Eddy (2011). *Thresholds of glacier hydrologic change and emergent vulnerabilities in a Tropical Andean waterscape*. Presented at American Geophysical Union Fall Meeting, San Francisco, CA, 5-9 Dec.

TRAINING

Society for Conservation GIS Conference, Pacific Grove, CA (2018)

Wilderness First Aid, Three Rivers, CA (2018)

Mental Health First Aid, Three Rivers, CA (2018)

National Park Service (NPS) Data Management Training Workshop, Fort Collins, CO (2018, 2017)

ESRI User Conference, San Diego, CA (2017, 2016, 2015, 2013)

NPS Fundamentals Residential, Grand Canyon, AZ (2017)

High Resolution Topography Short Course, Tempe, AZ (2016)

NPS Operational Leadership, Three Rivers, CA (2015)

AFFILIATIONS

Society for Conservation GIS (2016-Present)

Geological Society of America (2009-Present)

RELATED SKILLS

- Strong foundation in environmental geography, earth sciences, and resource management
- ESRI ArcGIS 10.x, including ArcMap, Arc Catalog, and extensions, such as Spatial Analyst
- Web mapping applications, including GeoCortex Essentials Manager, ESRI ArcGIS Online, and ESRI Portal for ArcGIS
- Field applications for mobile GIS, including ESRI Collector for ArcGIS and Survey123 for ArcGIS
- GPS data collection using Garmin and Trimble receivers; GPS data management with DNR GPS
- Microsoft Office Suite, including Word, Excel, Access, and Publisher
- Intermediate Spanish language proficiency