

Michael A. Channer

linkedin.com/michael-channer-geoscience

machanner@gmail.com

505-850-8214

SKILLS

- Intermediate familiarity with Julia, Python, and MATLAB programming languages, also Linux, Docker, GDAL and SQL.
- Intermediate experience with software to process data and images into 3D visualization of point cloud data including Agisoft, ENVI, Pix4D, and SOCET GXP software as well geologically focused software Voxler, Surfer, and Strater by Golder Software.
- Advanced skill in ArcGIS, QGIS, and Adobe Illustrator.

SELECTED WORK EXPERIENCE

Oak Ridge National Laboratories

August 2020–present

Technical Professional in Remote Sensing; Oak Ridge, TN

- Build a machine learning data set of approximately 450,000+ potential images, including collecting, verifying, and standardizing classes.
- Create method for efficient acquisition and annotation of satellite imagery for machine learning applications
- Work with NSDD to collect imagery of sensitive border areas for in-country teams, according to situation-specific needs. Task Planet to collect current satellite imagery and vet results for quality and clarity. Annotate in ArcGIS and QGIS as well as assign and review any needed third-party annotations. Present results to sponsor and answer question regarding data. Working to expand the types of remote sensing technologies included in projects.
- Create algorithm to identify and mask image artifacts in sponsor data using Julia and Linux.
- Investigate methods to improve cloud shadow mitigation with Rochester Institute of Technology (RIT).
- Procure imagery as needed from Maxar's Global Enhanced GEOINT Delivery (G-EGD/EVWHS) portal.
- Assist in the creation of LandScan HD products for individual countries around the world that provide gridded population estimates at 3 arc-second resolution.

Cascade Earth Sciences

August 2018–August 2020

Geologist; Pocatello, ID

- Managed scope, schedule, budget, and personnel for multiyear, semiannual and annual monitoring projects for six municipal landfills in southeastern Idaho. These projects bring in over \$100,000 in annual sales and contributes steady work for 5 team members.
- Created several 3D models from drone flights; collected, processed, and transformed images into point clouds with limited point classification and limited filtering to estimate distances, geometry, and volumes within client sites.
- Managed and participated in projects for environmental due diligence assessments, water supply assessments, petroleum and hazardous waste investigation and remediation, groundwater monitoring, and municipal and industrial effluent land application. Consulted with clients, report to state agencies, and supervise the field work of up to 3-4 individuals and 1-2 subcontractors as well as the analytical testing through a contracted laboratory. Interpreted data, prepare reports, and perform technical reviews.

TerraGraphics Environmental Engineering

February 2017–July 2018

Geologist; Pasco, WA

- Oversaw the successful online testing and publication of the 2016 Annual Groundwater Report for the Hanford Site for CHPRC Soil and Groundwater Division. Prepared, tracked, and collected all necessary files for the report's web-based application known as the Hanford Interactive Groundwater Report Viewer (HIGRV). Learned and used HTML, Bash scripts, and command prompt operations to support the project.
- Acted as facilitator between CHPRC and INTERA (subcontractor) on HIGRV project. Responsible for communicating requirements, coordinating bug fixes between the two systems, scheduling meetings, and managing all other communication.
- Processed, compiled, and verified portions of the large data set generated by the automated water level network at Hanford.

- Compiled, wrote, and tracked portions of groundwater reports associated with CHPRC Soil and Groundwater program to ensure groundwater monitoring is compliant with Washington Administrative Code (WAC), Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and Resource Conservation and Recovery Act (RCRA) requirements.

USU Department of Geology

August 2014–December 2016

Research Fellow; Logan, UT

- Investigated the timing and temperatures of paleofluid circulation and mineralization. Downloaded DEMs from National Mapviewer; merged and processed data to create detailed maps of Precambrian basement rock in New Mexico. Used ArcGIS, Adobe Illustrator, and MATLAB, Julia, and Python programming languages to generate documents, models, and figures.
- Initiated and conducted several research projects, including an original project that received Honorable Mention for the National Science Foundation–Graduate Research Fellowship Program.
- Designed, executed, and documented field work; adapted protocols to establish best practices quickly; initiated collaborations with other researchers; handled sensitive laboratory equipment and performed time-intensive procedures; and wrote grant proposals, reports, presentations, and manuscripts.

UNM Earth and Planetary Science Department

September 2011–June 2014

Research Assistant; Albuquerque, NM

- Researched, collected, and analyzed field data; generated a digital elevation model for the entire state of New Mexico (merged and processed 36 files through several operations in ArcGIS) to delineate watersheds, extract river profiles, measure aspects of basalt mesas, and investigate landscape change over long periods of time. This information allowed interpretation of denudation (or erosion) since the basalt flows solidified. Temporal and spatial scales of differential incision help evaluate the relative importance of neotectonic, geomorphic, and climatic forcings. Published undergraduate thesis *Surface uplift above the Jemez mantle anomaly in the past 4 Ma based on $^{40}\text{Ar}/^{39}\text{Ar}$ dated paleoprofiles of the Rio San Jose, New Mexico, USA*. (Pub. October 2015 in *Geosphere*)
- Assisted graduate students and professors in field work and projects.

EDUCATION

Utah State University, Logan, UT

August 2014–May 2017

- M.S. Geology; GPA 3.841
- MS thesis: *(U-Th)/He thermochronologic constraints on secondary Fe-oxide mineralization in southwestern New Mexico*.
- *Selected Coursework*: Structural Geology: Applied Petroleum Geology; Mechanics in Earth Sciences; Structural Geology: Deformation Mechanics; Sedimentology and Stratigraphy: Deep Time; Communicating Science; Aqueous Geochemistry; and Geochemistry: Stable Isotopes, Geochronology, and Thermochronology

University of New Mexico, Albuquerque, NM

August 2010–August 2014

- B.S. Earth and Planetary Sciences, Distributed Sciences minor; **Summa cum laude**.
- BS thesis: *Surface uplift above the Jemez mantle anomaly in the past 4 Ma based on $^{40}\text{Ar}/^{39}\text{Ar}$ dated paleoprofiles of the Rio San Jose, New Mexico, USA*. (Pub. October 2015 in *Geosphere*)
- *Selected Coursework*: Mineralogy; Stratigraphy and Sedimentology; Igneous and Metamorphic Petrology; Structural Geology; Geomorphology and Surficial Geology; Field Geology; Analytical Methods in Geochemistry; and Introduction to Geographic Information Systems

PUBLICATIONS AND PRESENTATIONS

- Odlum, M.L., Ault, A.K., Channer, M.A., and Calzolari, G., 2021, Seismicity recorded in hematite fault mirrors in the Rio Grande rift: *Geosphere*, v. 17, no. X, p. 1–20.
- Odlum, M. Ault, A.K., Calzolari, G. and **Channer, M.A.**, 2020, Multi-method thermochronometric record of exhumation and fault slip in the Central Rio Grande Rift, Sandia Mountains: 2020 GSA Rock Mountain Section 72nd Annual Meeting, Provo, UT.

*Poster presentation canceled due to COVID-19 outbreak.

- **Channer, M.A.**, Ault, A.K., and Reiners, P.W., 2016, (U-Th)/He thermochronologic constraints on secondary Fe-oxide mineralization in southwestern New Mexico: 2016 GSA Annual Meeting, Denver, CO.
Poster presented at GSA Annual meeting.
- Ault, A.K., Evans, J.P., McDermott, R.G., Jensen, J.L., and **Channer, M.A.**, 2016, “Mirrored” hematite and silica fault surfaces reveal textural evidence of coseismic(?) elevated temperatures on damage zone fault surfaces: 2016 GSA Annual Meeting, Denver, CO.
- **Channer, M.A.**, Ault A.K., Reiners, P.W., and Shuster, D.L., 2016, (U-Th)/He thermochronologic constraints on secondary Fe-oxide mineralization in southwestern New Mexico: USU Student Research Symposium.
Poster presented at the annual USU Student Research Symposium.
- **Channer, M.**, Ricketts, J., Zimmerer, M., Heizler, M., and Karlstrom, K., 2015, Surface uplift above the Jemez mantle anomaly in the past 4 Ma based on $^{40}\text{Ar}/^{39}\text{Ar}$ dated paleoprofiles of the Rio San Jose, New Mexico, USA *Geosphere* 0: GES01145.1.
- **Channer, M.**, Ault, A., Reiners, P., Shuster, D., 2015, (U-Th)/He and $^4\text{He}/^3\text{He}$ constraints on secondary Fe-oxides mineralization in Southwestern New Mexico: 2015 GSA Annual Meeting, Baltimore, MD.
Poster presented at GSA Annual meeting.
- **Channer, M.**, Ricketts, J., Zimmerer, M., Heizler, M., and Karlstrom, K., 2014, Using the longitudinal river profile of the Rio San Jose and $^{40}\text{Ar}/^{39}\text{Ar}$ dating of late-Cenozoic basalts to test models for mantle-driven uplift across the Jemez lineament, New Mexico: Geological Society Annual Spring Meeting, P. 20.
Poster presented at New Mexico Geological Society Spring Meeting and recipient of Best Student Presentation award.
- Robertson, J., Huntoon, P., Darling, A., Crow, R., Karlstrom, K., Warne, J., Savage, J., Crossey, L., and **Channer, M.**, 2012, Multi-stage evolution of Grand Canyons Surprise Valley landslides and their interaction with carving of Grand Canyon: Geological Society of America Abstracts with Programs, Vol. 44, No. 6, P. 18.

GRANTS AND AWARDS

- **NSF-Graduate Research Fellowship Program Honorable Mention (2016)**
- Peter R. McKillop Memorial Scholarship (2016)
- **AAPG Imperial Barrel Award, 3rd place, Rocky Mountain Section (2015)**
- Claude E ZoBell Scholarship (2015)
- Beryl and Tura Spring Scholarship (2015)
- GSA Research Grant (2015)
- Robeson Grant USU (2015)
- **USU Presidential Doctoral Research Fellowship (2014)**
- **Stuart A. Northrop Award for top undergraduate geology student (2014)**
- **Best Student Presentation NMGS Meeting (2014)**
- Caswell Silver Foundation Grant for Undergraduate Research (2014, 2012)
- **Dean’s List (2014, 2013, 2012, 2011, 2010)**
- NMGS Fall Field Conference Scholarship (2013)
- **Barry M. Goldwater Scholarship Honorable Mention (2013)**
- J.P. Fitzsimmons Award for Superior Academic Record and Service (2013)
- Ashley Forsyth Memorial Scholarship (two awards in 2013)
- New Mexico Geological Society Lucille Pipkin Scholarship (2013)
- Harry Leonard Research Fellowship (2013)
- New Mexico Geological Society Grant (2013)
- College of Arts and Sciences Undergraduate Research Initiative Award (2013, 2012)
- **Finalist for the Fulbright Summer Institute Program (2011)**

FIELD WORK EXPERIENCE

- Performed field work, mapping, and sample collection in Montana, Utah, Colorado, and New Mexico associated with graduate work.
- Performed mapping associated with undergraduate senior thesis (lead to 2015 *Geosphere* publication).
- Assisted in mapping the Geologic South Garcia SE Quadrangle, New Mexico.
- Participated in advanced graduate-level field camp in Grand Canyon as 3-week research river trip.
- NM field geology course spent 60+ hours in the field during semester plus 3-week summer field camp.

CERTIFICATIONS

- Professional Geologist, State of Idaho (PG No. 1677)
- 40-Hour Hazardous Material Training

PROFESSIONAL AFFILIATIONS

- Geological Society of America (GSA)
- American Geophysical Union (AGU)
- Institute of Electrical and Electronic Engineers (IEEE)

LEADERSHIP

- Portneuf Valley Environmental Fair Board Member (2020)
- 2020 Rotary District Meeting Excursions Committee Chair (2019–2020)
- Portneuf Valley Partners Board Member (2018–2020)
- Boy Scouts of America Venture and Varsity Scout leader (14- to 18-year-old scouts) (2012–2014)
- President and founder of the Net Impact UNM undergraduate chapter (2011)
- Associated Student Body President of largest high school (2,700 students) in Idaho (2007)
- Boy Scouts of America Distinguished Eagle Scout Award (2005)

VOLUNTEER EXPERIENCE

- Pocatello Rotary Club Member (2018–2020)
- Geology Museum tour guide at USU's Science and Engineering Day (2016)
- Volunteer for Promontory School for Expeditionary Learning USU campus visit and geology hike (2016)
- Science fair judge for Bear River Elementary School (2016)
- Volunteer tutor in STEM Edith Bowen Laboratory Elementary School (2014–2016)
- USGS summer volunteer investigating the Deadman Creek Thrust Fault, Colorado, USA (2015)
- Albuquerque Grant Middle School volunteer (2011–2014)
- Bilingual Education for Central America Summer Camp volunteer: 5 weeks in Honduras teaching English and mentoring at a bilingual school (2012)
- Church service volunteer in Boise, ID and Mexico City, Mexico (2008)

REFERENCES

Don March, Remote Sensing Data Scientist (former), Oak Ridge National Laboratories	(provided upon request)
Katie Salvaggio, Director of Imaging Science, HySpecIQ	(provided upon request)
Abe Izen, Director of Operations (former), Cascade Earth Sciences	izen.abe@gmail.com
Sharron Matthews, Civil Engineer, Cascade Earth Sciences	sharron.matthews@valmont.com
Mason Kreidler, Environmental Scientist, TerraGraphics Environmental Engineering	masontin@gmail.com
Jason Ricketts, Adjunct Professor, University Texas at El Paso	jwricketts8@gmail.com
Karl Karlstrom, Professor, University of New Mexico	kek1@unm.edu