Andy Jochems

Geologist

https://andyjochems.com/

RESEARCH INTERESTS

• Rift-basin architecture and stratigraphy
• Quaternary faulting and seismicity in New Mexico
• Environmental geology and contaminants of emerging concern
• Tectonic and fluvial geomorphology of major rivers in the western U.S.

EDUCATION

M.S. Geology | 2013
Utah State University | Logan, UT | 4.00 GPA
Advisor: Dr. Joel L. Pederson
Thesis: *Formation, deformation, and incision of Colorado River terraces upstream of Moab, Utah*

B.S. Environmental Science | 2011
University of New Mexico | Albuquerque, NM | 4.04 GPA, *summa cum laude*
Advisor: Dr. Laura J. Crossey
Senior Thesis: *Mixing between an alpine river and hydrothermal springs: controls on water quality and solute loading in the Jemez River, Jemez Mountains, NM*

WORK HISTORY

Source Water Protection Team Lead | April 2023 – Present
New Mexico Environment Department | Albuquerque, NM
• Develop and guide program directives to assist public drinking water systems
• Collaborate with technical partners, stakeholders, and water systems to address contamination
• Coordinate statewide programs for per- and polyfluoroalkyl substances (PFAS)
• Supervise 3 team members in meeting program and personal growth goals

Field Geologist | September 2013 – September 2019; November 2021 – March 2023
New Mexico Bureau of Geology & Mineral Resources | Socorro, NM
• Published peer-reviewed geochronologic and paleoclimate research
• Implemented GIS workflows for cartography, landscape modeling, and database management
• Led production of 1:24,000-scale geologic maps and associated reports
• Maintained NM Quaternary faults and folds database
• Managed accident-free Sediment/Soils Lab
• Served on *Lite Geology* board and published outreach articles for geoscience educators

Source Water Specialist | January 2020 – November 2021
New Mexico Environment Department | Santa Fe, NM
• Developed proactive source water protection plan for the City of Santa Fe public water system
• Performed GIS analyses of sources of contamination to surface and groundwater resources
• Gave invited presentations on contaminants of emerging concern

• Chaired cross-agency Technical Group and Data Screening Committee
• Devised and assisted in launch of statewide water sampling program
• Performed environmental reviews of large-scale public works and commercial projects
• Developed SOP for and conducted rigorous verification and validation of water quality data

Graduate Teaching and Research Assistant | August 2011 – July 2013
Utah State University | Logan, UT
• Performed geochronologic analyses at the USU Luminescence Lab
• Taught undergraduate geomorphology labs and supported summer field camp

Technical Specialist | June 2010 – June 2011
University of New Mexico | Albuquerque, NM
• Processed water samples at the UNM Analytical Chemistry Laboratory
• Supervised water quality sample collection by students

Contractor Technician | June 2008 – May 2010
U.S. Geological Survey | Albuquerque, NM
• Constructed, surveyed, and measured surface water gages
• Upgraded national database (NWIS) with thousands of groundwater records

TEACHING EXPERIENCE

Utah State University

GEO 4700 Geologic Field Methods | Fall 2011
• Logistical planning (map production, project design) for bi-weekly, field-based course
• Aided juniors and seniors in mapping of local geology and intensive scientific writing

GEO 5200 Geology Field Camp | Summers 2012, 2013
• Logistical planning (food and travel) for 15-20 individuals on 3 week field excursions
• Aided juniors and seniors on projects spanning sedimentology/stratigraphy, structural geology, igneous/metamorphic petrology, and process geomorphology

GEO 3600 Geomorphology | Fall 2012
• Updated and adapted lab curriculum
• Led two 3-hour lab sessions/week, emphasizing both qualitative (e.g., surficial mapping) and quantitative (e.g., flume hydraulics) approaches

OTHER WORK EXPERIENCE

Publications Chair | January 2017 – September 2019
New Mexico Geological Society | Socorro, NM
• Facilitated publication of popular annual guidebook series
• Initiated review-to-print process for special publications
• Prepared quarterly sales reports for Executive Committee

Volunteer Assistant Cross-Country Coach | July 2009 – November 2010
Eldorado High School | Albuquerque, NM
• Developed training plans for boys and girls teams in conjunction with Head Coach
• Supervised up to 70 athletes of all ability levels and advised them on preventing injuries
• Girls varsity team won 5A NMAA State Championships in 2009 and 2010

AWARDS | HONORS | SCHOLARSHIPS

Utah State University

Peter R. McKillop Scholarship (2012)
Geology Benchmark Society Award (2011-2013)

University of New Mexico

B.S. Environmental Science, *summa cum laude* (2011)
Caswell Silver Foundation Undergraduate Research Award (2010)
Dean's List (2007-2011)
Earth & Planetary Sciences Outstanding B.S. Environmental Science Graduate (2011)
Earth & Planetary Sciences V.C. Kelley / Estwing Outstanding Field Geologist (2011)
Harry and Mabel Leonard Scholarship (2008-2010)
Roger Y. Anderson Outstanding Continuing B.S. Environmental Science Student (2010)

PROFESSIONAL MEMBERSHIPS

- Geological Society of America (2012-present)
- New Mexico Geological Society (2011-present)
- New Mexico Geographic Information Council (2019-present)

COMPLETED THESES

Jochems, A.P., 2013, Formation, deformation, and incision of Colorado River terraces upstream of Moab, Utah [M.S. thesis]: Logan, Utah State University, 193 p.

Jochems, A.P., 2011, Mixing between an alpine river and hydrothermal springs: Controls on water quality and solute loading in the Jemez River, Jemez Mountains, NM [B.S. senior thesis]: Albuquerque, University of New Mexico, 36 p.

PEER REVIEWED PAPERS

Gallant, K.K., Koning, D.J., **Jochems, A.P.**, and Rinehart, A., 2022, Elucidating the structural geometry and major faults of the San Marcial Basin, Socorro County, using total Bouguer gravity anomaly data: New Mexico Geological Society, Guidebook 72, p. 341–356, doi: 10.56577/FFC-72.341.

Jochems, A.P., Hobbs, K.M., and Mustoe, G.E., 2022, Fossil wood in the upper Santa Fe Group, south-central New Mexico: Implications for mineralization style and paragenesis: New Mexico Geological Society, Guidebook 72, p. 295–304, doi: 10.56577/FFC-72.295.

Koning, D.J., Hobbs, K.M., **Jochems, A.P.**, and Chamberlin, R.M., 2022, Sedimentologic evidence for a major paleogeographic change at 8.5-6.5 Ma near San Antonio, south-central New Mexico: New Mexico Geological Society, Guidebook 72, p. 221–238, doi: 10.56577/FFC-72.221.

Morgan, G.S., Koning, D.J., Shackley, M.S., Love, D.W., Hobbs, K.M., and **Jochems, A.P.**, 2022, Early Pleistocene (late Blancan) vertebrates from Simon Canyon, Socorro County, central

New Mexico: New Mexico Geological Society, Guidebook 72, p. 265–279, doi: 10.56577/FFC-72.265.

Koning, D.J., Heizler, M., and **Jochems, A.**, 2020, Clues from the Santa Fe Group for Oligocene-Miocene paleogeography of the southeastern Colorado Plateau near Grants, New Mexico: New Mexico Geological Society, Special Publication 14, p. 153–166.

Jochems, A.P., and Morgan, G.S., 2018, A stable isotope record from paleosols and groundwater carbonate of the Plio-Pleistocene Camp Rice Formation, Hatch-Rincon Basin, south-central New Mexico: New Mexico Geological Society, Guidebook 69, p. 109–117, doi: 10.56577/FFC-69.109.

Koning, D.J., **Jochems, A.P.**, and Heizler, M.T., 2018, Early Pliocene paleovalley incision during early Rio Grande evolution in southern New Mexico: New Mexico Geological Society, Guidebook 69, p. 93–108, doi: 10.56577/FFC-69.93.

Morgan, G.S., Sealey, P.L., **Jochems, A.P.**, and Gensler, P.A., 2018, Late Pliocene (Blancan) vertebrates from the Camp Rice Formation in the vicinity of Hatch, Doña Ana and Sierra Counties, southern New Mexico: New Mexico Museum of Natural History and Science, Bulletin 79, p. 513–553.

Koning, D.J., **Jochems, A.P.**, Morgan, G.S., Lueth, V., and Peters, L., 2016, Stratigraphy, gravel provenance, and age of early Rio Grande deposits exposed 1-2 km northwest of downtown Truth or Consequences, New Mexico: New Mexico Geological Society, Guidebook 67, p. 459–478, doi: 10.56577/FFC-67.459.

Jochems, A.P., and Koning, D.J., 2015, Holocene stratigraphy and a preliminary geomorphic history for the Palomas Basin, south-central New Mexico: New Mexico Geology, v. 37, n. 4, p. 77–88.

Jochems, A.P., and Pederson, J.L., 2015, Active salt deformation and rapid, transient incision along the Colorado River near Moab, Utah: Journal of Geophysical Research—Earth Surface, v. 120, no. 4, p. 730–744, doi: 10.1002/2014JF003169.

Yang, X., Scuderi, L., Liu, T., Paillou, P., Li, H., Dong, J., Zhu, B., Jiang, W., **Jochems, A.**, and Weissmann, G., 2011, Formation of the highest sand dunes on Earth: Geomorphology, v. 135, p. 108–116, doi: 10.1016/j.geomorph.2011.08.008.

BOOK CHAPTERS

Chamberlin, R., Koning, D.J., and **Jochems, A.**, 2022, Third-day road log: Lemitar Mountains and San Lorenzo Canyon: New Mexico Geological Society, Guidebook 72, p. 122–142, doi: 10.56577/FFC-72.122.

Jochems, A.P., and Seager, W.R., 2020, Caballo Lake and Percha Dam state parks, *in* Scholle, P.A., Ulmer-Scholle, D.S., Cather, S.M., and Kelley, S.A., eds., The Geology of Southern New Mexico's Parks, Monuments, and Public Lands: Socorro, New Mexico, New Mexico Bureau of Geology and Mineral Resources, p. 41–44.

SELECT NON-REFEREED PUBLICATIONS

Jochems, A., 2019, Rock glaciers of New Mexico: Lite Geology, v. 45, p. 8.

Jochems, A., 2018, Earth science technology review: unmanned aircraft systems (UAS): Lite Geology, v. 42, p. 9–10.

Jochems, A., 2017, Earth science technology review: monitoring avalanches in the 21st century: Lite Geology, v. 41, p. 13.

Jochems, A., 2016, Earth science technology review: augmented reality sandbox (SARndbox): Lite Geology, v. 39, p. 13–14.

Jochems, A., 2015, Earth science movie review: San Andreas: Lite Geology, v. 38, p. 11.

TECHNICAL REPORTS

New Mexico Environment Department Drinking Water Bureau and Wagon Mound Water System, 2025, Source water plan for the Wagon Mound Water System, Wagon Mound, New Mexico (PWS #3516618), 70 p., 4 appendices.

Hobbs, K.M., **Jochems, A.P.**, Kumah, F.N., Miller, P.L., Mojtabai, N., Pearthree, K.S., Razavi, M., and Richardson, C.P., 2023, Study to address sedimentation and erosion impacting infrastructure on the southern Jicarilla Apache Nation, New Mexico: New Mexico Bureau of Geology and Mineral Resources, Open-file Report 620, 175 p., 4 appendices.

New Mexico Environment Department Drinking Water Bureau and City of Santa Fe Water Division, 2021, Source water plan for the City of Santa Fe Water System, Santa Fe, New Mexico (PWS #3505126), 72 p., 4 appendices.

Koning, D.J., Cikoski, C.T., Rinehart, A.J., and **Jochems, A.P.**, 2019, Mapping suitability for managed aquifer recharge in the Albuquerque Basin: New Mexico Bureau of Geology and Mineral Resources, Open-file Report 605, 84 p.

Kelley, S., Koning, D., **Jochems, A.**, Mansell, M., and Zimmerer, M., 2017, Hillslope sediment volumes and geologic mapping, Santa Clara Canyon, northeastern Jemez Mountains, New Mexico: Final Technical Report for Santa Clara Pueblo and U.S. Army Corps of Engineers, 21 p., 1 sheet, scale 1:12,000 [not available to public].

COMPLETED GEOLOGIC MAPS

Jochems, A.P., and Aby S.B., 2024, Geologic map of the Chupadera 7.5-minute quadrangle, Socorro and Torrance Counties, New Mexico: New Mexico Bureau of Geology and Mineral Resources, Open-file Geologic Map 306, scale 1:24,000.

Koning, D.J., **Jochems, A.P.**, Krupnick, J.M., McLemore, V.T., Neudorf, C.M, Ricci, J., and Attia, S., 2024, Geologic map of the Socorro 30 x 60-minute quadrangle, Socorro, Torrance, and Valencia Counties, New Mexico: New Mexico Bureau of Geology and Mineral Resources, Open-file Geologic Map 317, scale 1:100,000.

Aby, S.B., and **Jochems, A.P.**, 2022, Geologic map of the Rayo Hills 7.5-minute quadrangle, Socorro and Torrance Counties, New Mexico: New Mexico Bureau of Geology and Mineral Resources, Open-file Geologic Map 300, scale 1:24,000.

Kelley, S.A., Goff, F., Miller, P.L., Sawyer, D.A., Koning, D.J., Thompson, R.A., Smith, G.A., Minor, S.A., Kellog, K.S., Read, A.S., Askin, T., Zimmerer, M.J., and **Jochems, A.P.**, 2023, Geology of the Los Alamos 30 x 60-minute quadrangle study area, Los Alamos, Santa Fe, and Sandoval Counties, New Mexico: New Mexico Bureau of Geology and Mineral Resources, Open-file Geologic Map 293, scale 1:24,000.

Jochems, A.P., Kelley, S.A., and Seager, W.R., 2020, Geologic map of the Tortugas Mountain 7.5-minute quadrangle, Doña Ana County, New Mexico: New Mexico Bureau of Geology and Mineral Resources, Open-file Geologic Map 282, scale 1:24,000.

Koning, D.J., **Jochems, A.P.**, Hobbs, K.M., Pearthree, K.S., and Love, D.W., 2020, Geologic map of the Paraje Well 7.5-minute quadrangle, Socorro County, New Mexico: New Mexico Bureau of Geology and Mineral Resources, Open-file Geologic Map 286, scale 1:24,000.

Koning, D.J., Pearthree, K.S., **Jochems, A.P.**, and Love, D.W., 2020, Geologic map of the San Marcial 7.5-minute quadrangle, Socorro County, New Mexico: New Mexico Bureau of Geology and Mineral Resources, Open-file Geologic Map 287, scale 1:24,000.

Jochems, A.P., and Koning, D.J., 2019, Geologic map of the Black Hill 7.5-minute quadrangle, Socorro County, New Mexico: New Mexico Bureau of Geology and Mineral Resources, Open-file Geologic Map 274, scale 1:24,000.

Jochems, A.P., and Cox, B.E., 2019 Geologic map of the Priest Tank 7.5-minute quadrangle, Sierra County, New Mexico: New Mexico Bureau of Geology and Mineral Resources, Open-file Geologic Map 275, scale 1:24,000.

Koning, D.J., **Jochems, A.P.**, Foster, R., Cox, B., Lucas, S.G., Mack, G.H., and Zeigler, K.E., 2018, Geologic map of the Cuchillo 7.5-minute quadrangle, Sierra County, New Mexico: New Mexico Bureau of Geology and Mineral Resources, Open-file Geologic Map 271, scale 1:24,000.

Rawling, G.C., and **Jochems, A.P.**, 2018, Geologic map of the Puerco Dam 7.5-minute quadrangle, Sandoval County, New Mexico: New Mexico Bureau of Geology and Mineral Resources, Open-file Geologic Map 269, scale 1:24,000.

Jochems, A.P., 2017, Geologic map of the Arroyo Cuervo 7.5-minute quadrangle, Doña Ana and Sierra Counties, New Mexico: New Mexico Bureau of Geology and Mineral Resources, Open-file Geologic Map 261, scale 1:24,000.

Jochems, A.P., and Koning, D.J., 2017, Geologic map of the Clark Spring Canyon 7.5-minute quadrangle, Sierra County, New Mexico: New Mexico Bureau of Geology and Mineral Resources, Open-file Geologic Map 263, scale 1:24,000.

Jochems, A.P., and Koning, D.J., 2016, Geologic map of the Saladone Tank 7.5-minute quadrangle, Sierra County, New Mexico: New Mexico Bureau of Geology and Mineral Resources, Open-file Geologic Map 259, scale 1:24,000.

Jochems, A.P., 2015, Geologic map of the Williamsburg NW 7.5-minute quadrangle, Sierra County, New Mexico: New Mexico Bureau of Geology and Mineral Resources, Open-file Geologic Map 251, scale 1:24,000.

Jochems, A.P., and Koning, D.J., 2015, Geologic map of the Williamsburg 7.5-minute quadrangle, Sierra County, New Mexico: New Mexico Bureau of Geology and Mineral Resources, Open-file Geologic Map 250, scale 1:24,000.

Jochems, A.P., Jochems, A.P., and Cikoski, C.T., 2015, Geologic map of the Skute Stone Arroyo 7.5-minute quadrangle, Sierra County, New Mexico: New Mexico Bureau of Geology and Mineral Resources, Open-file Geologic Map 252, scale 1:24,000.

Jochems, A.P., Kelley, S.A., Seager, W.R., Cikoski, C.T., and Koning, D.J., 2014, Geologic map of the Hillsboro 7.5-minute quadrangle, Sierra County, New Mexico: New Mexico Bureau of Geology and Mineral Resources, Open-file Geologic Map 242, scale 1:24,000.

Koning, D.J., and **Jochems, A.P.**, 2014, Geologic map of the Benavidez Ranch 7.5-minute quadrangle, Bernalillo and Sandoval Counties, New Mexico: New Mexico Bureau of Geology and Mineral Resources, Open-file Geologic Map 234, scale 1:24,000.

Koning, D.J., **Jochems, A.P.**, Kelley, S.A., McLemore, V.T., and Cikoski, C.T., 2014, Geologic map of the Monticello 7.5-minute quadrangle, Sierra and Socorro Counties, New Mexico: New Mexico Bureau of Geology and Mineral Resources, Open-file Geologic Map 245, scale 1:24,000.

SELECT ABSTRACTS

Jochems, A.P., Beisner, K.R., and Gray, E.L., 2025, Preliminary statistical comparison of per- and polyfluoroalkyl substances (PFAS) in groundwater resources of New Mexico: New Mexico Geological Society, 2025 Annual Meeting, Proceedings Volume.

Jochems, A., Koning, D., and Cikoski, C., 2018, Updated stratigraphic nomenclature of the Plio-Pleistocene Palomas Formation (upper Santa Fe Group), south-central New Mexico: New Mexico Geological Society, 2018 Annual Meeting, Proceedings Volume, p. 37.

Jochems, A.P., Haller, K.M., and Koning, D.J., 2016, An updated map of Quaternary faults and folds in New Mexico: Geological Society of America, Abstracts with Programs, v. 48, no. 7, doi:10.1130/abs/2016AM-280631.

Jochems, A., Koning, D., Monger, C., and Love, D., 2015, Late Holocene alluviation in the Palomas basin, south-central New Mexico: New Mexico Geological Society, 2015 Annual Meeting, Proceedings Volume, p. 26.

Jochems, A.P., 2013, Incision and salt deformation along the incising Colorado River and its tributaries north of Moab, Utah: Geological Society of America, 125th Annual Meeting, 2013 Program, v. 45, no. 7, p. 57.

Jochems, A.P., and Pederson, J.L, 2012, Linkages of fluvial terrace formation and geometry to Milankovitch-scale climate change revealed by the chronostratigraphy of the Colorado River above Moab, UT, and regional correlations: Abstract EP53C-1051 presented at 2012 Fall meeting, San Francisco, Calif., 3-7 Dec.

Jochems, A.P., Sherson, L.R., Crossey, L.J., and Karlstrom K.E, 2010, Predictive analysis of geochemical controls in an alpine stream: Abstract H31D-1041 presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec.

SELECT SPEAKING ENGAGEMENTS AND WORKSHOPS

Apr 2025	*Per- and polyfluoroalkyl substances (PFAS) in New Mexico: Occurrence and drinking water regulations*: New Mexico Rural Water Association, 47th Annual Conference, Isleta, NM, April 17, 2025.
Apr 2025	*Per- and polyfluoroalkyl substances (PFAS) in New Mexico: Water resources, new regulations, and reducing exposure*: League of Women Voters of Central New Mexico, Albuquerque, NM, April 10, 2025.
Jan 2025	*Source water protection, PFAS updates, NMED drinking water online resources*: New Mexico Water and Wastewater Association, Annual School, Las Cruces, NM, January 27, 2025 [workshop and presentation].
Oct 2024	*PFAS monitoring at New Mexico's public water systems*: New Mexico House of Representatives, Radioactive and Hazardous Materials Committee, Alamogordo, NM, October 15, 2024. Co-presenter: J. Martinez (NMED).
Sep 2024	*Source water protection: PFAS updates, NMED drinking water online resources, and wildfire/post-fire*: New Mexico Water and Wastewater Association, Central School, Albuquerque, NM, September 12, 2024 [workshop]. Co-presenter: D. Torres (NMED).
Jul 2024	*New Mexico PFAS update*: Environmental Council of the States, PFAS Caucus, July 30, 2024 [virtual]. Co-presenter: C. Trueblood (NMED).
Apr 2024	*Per- and polyfluoroalkyl substances (PFAS) in New Mexico's drinking water resources*: New Mexico Rural Water Association, 46th Annual Conference, Isleta, NM, April 18, 2024.
Mar 2024	*Source water protection at the NMED Drinking Water Bureau*: Rural Community Assistance Corporation, Water Operators Leadership Institute, Chamita, NM, March 20, 2024 [workshop].
Feb 2024	*Per- and polyfluoroalkyl substances (PFAS) in New Mexico's drinking water resources and upcoming regulation*: New Mexico Drinking Water Bureau, internal training, Albuquerque, NM, February 27, 2024.
Nov 2023	*Per- and polyfluoroalkyl substances (PFAS) in New Mexico's drinking water resources*: New Mexico Rural Water Association, 13th Annual Southern Fall Conference, Las Cruces, NM, November 30, 2023.
Oct 2023	*Emerging contaminant data: Managing data outside of a regulatory framework*: New Mexico Water Data Initiative, Water Data Interagency Workshop and Technology Adoption Project Follow-up, Santa Fe, NM, October 25, 2023.
Sep 2023	*Per- and polyfluoroalkyl substances (PFAS) in drinking water and upcoming regulations*: Rural Community Assistance Corporation, Water Leadership Institute, Taos, NM, September 9, 2023 [workshop].
Aug 2023	*Overview of per- and polyfluoroalkyl substance (PFAS) investigations in New Mexico's drinking water*: U.S. Department of Agriculture, Agriculture PFAS

Subgroup – State Roundtable Presentation and Discussion, August 10, 2023 [virtual].

Jul 2023 *Overview of per- and polyfluoroalkyl substance (PFAS) investigations in New Mexico's drinking water*: American Ground Water Trust, New Mexico Groundwater Conference, Albuquerque, NM, July 13, 2023.

FIELD TRIPS LED

10/12-14/18 *Friends of the Pleistocene—Monumental Moab*: Annual field conference of the Rocky Mountain Cell of Friends of the Pleistocene | Moab, UT
Co-organizers: J. Pederson, J. Mauch, and T. Rittenour (Utah State University)

6/10/2015 *Shales at all Scales*: Field trip for petroleum industry experts and other geoscientists | Cerrillos, NM
Co-organizers: J. Heath and A. Ilgen (Sandia National Labs), D. Koning (NM Bureau of Geology & Mineral Resources)

WORKGROUPS | BOARDS

• PFAS Data Screening Committee (*chair*), 2020 – 2021 and 2023 – present, New Mexico Environment Department (NMED).

• PFAS Technical Group (*chair*), 2020 – 2021 and 2023 – present, NMED.

• PFAS Caucus, 2023 – present, Environmental Council of the States (ECOS).

• PFAS Team, 2024 – present, Interstate Technology Regulatory Council (ITRC).

• PFAS Workgroup, 2021 and 2023 – present, Association of State Drinking Water Administrators (ASDWA).

• New Mexico State Hazard Mitigation Planning Team, 2018, New Mexico Department of Homeland Security.

• Lite Geology board, 2015 – 2019, New Mexico Bureau of Geology & Mineral Resources.

CERTIFICATIONS

• OSHA 40 Hour HAZWOPER (2019)

SOFTWARE | SYSTEM PROFICIENCIES

• Adobe Creative Suite
• ArcGIS 10.x and Pro
• ArcGIS 10 Online
• GRASS GIS
• HTML
• MATLAB
• Microsoft Office/Office 365
• Phreeqc Interactive
• Python (GIS applications)
• QGIS
• R 4.4.3
• Stereonet 11.6.0