Inland Geological Society

Newsletter of the Inland Geological Society Volume 38 No. 10

December 2026

Next Meeting:
Tuesday, December 1

Time:
Social: 6:00pm
Dinner 6:15pm
Presentation: 7:00pm

Location:
3 Iron Brewing Company
898 South Via Lata, Suite A
Colton, CA 92324

Coming to Dinner?
Students $10
IGS Members $15
Non-Members $20
Please RSVP by November 27th to:

rsvp.igs@gmail.com

In this issue:

	Page
❖ December Speaker: Ashley Stroup	1-2
❖ Announcements	2
❖ IGS Meeting Schedule	2
❖ Meeting Location & Current IGS Officers	3

"Seismic Anisotropy and Deployments in the Walker Lane and Eastern California Shear Zone"

Abstract

The plate boundary between the North American plate and the Pacific plate consists of an expansive network of faults. The San Andreas is often considered the entirety of the plate boundary, however the relative motion between the plates is accommodated by other areas of California as well. One of those important areas is the Walker Lane and Eastern California Shear Zone (WL-ECSZ). It accommodates about 25% of the relative motion between the plates east of the Sierra Nevada. The region is characterized by a network of dextral faults that may represent an evolution into a mature plate boundary. The relationship between the surface expression of plate boundaries and their connection to the ductile lithosphere is not well understood. Significant uncertainties exist in characterizing the strength of continental lithosphere, how faults organize in response to ductile forces, and how plate boundaries evolve over time. Using seismic imaging, we have explored how deformation within the lower crust and mantle in the WL-ECSZ is accommodated using Ps receiver functions to characterize lateral and vertical variations in deep crustal fabrics. Preliminary results indicate the presence of significant fabrics in the crust and uppermost mantle; however, these results are not easily interpretable within a single tectonic context. A related project that will help us to understand the evolution of the WL-ECSZ is a seismic survey of Owens Valley. Owens Valley began accommodating plate boundary slip about 3 million years ago and is considered to be within the most tectonically evolved areas of the WL-ECSZ. We have designed a seismic deployment which aims to better constrain basin and fault structure within Owens Valley. The project has an overarching goal of improving our understanding of how the eastern portion of the Pacific-North American plate boundary may be evolving. We also aim to improve our understanding of the valley's structure which can be used to address seismic hazard for the communities and natural resources.

Speaker Biography:

Ashley Stroup is a 4th year PhD student at the University of California Riverside doing geophysical research. She received her undergraduate degree in Geology from California State University San Bernardino. In her graduate student work, she focuses on the Walker Lane and Eastern California Shear Zone through computational analyses and field deployments. She utilizes existing seismic networks which record seismic waves from distant earthquakes to image the subsurface. She also deploys seismometers to improve project quality and address gaps in coverage. Her primary research goals are to improve our understanding of tectonic evolution and lithosphere strength.

ANNOUNCEMENTS:

The Inland Geological Society will meet the first Tuesday of each month at:

3 Iron Brewing Company
898 South Via Lata , Suite A
Colton, California 92324
(https://www.3ironbrewingco.com)

Our next meeting is scheduled for Tuesday, January 5, 2027.

Visit our:

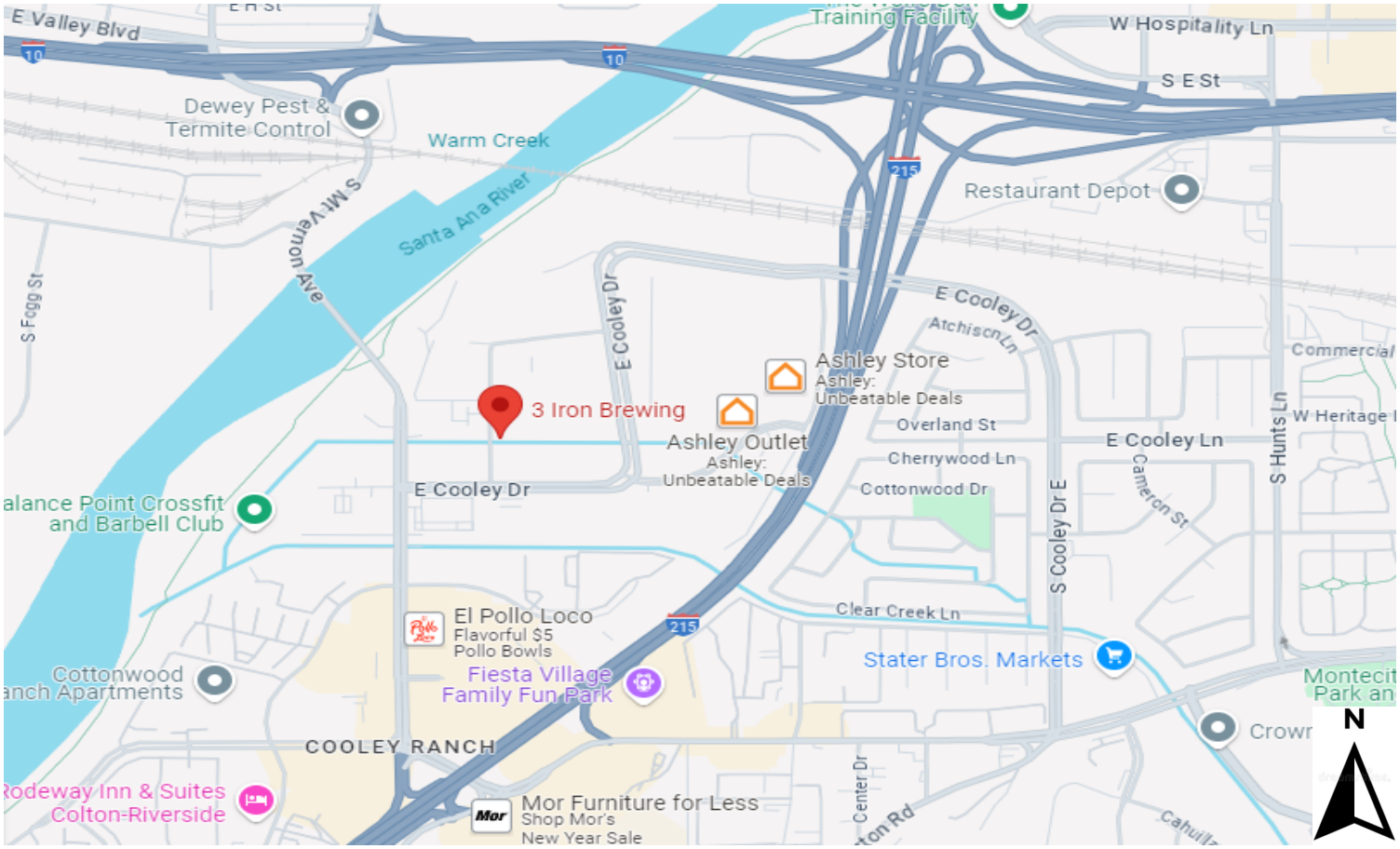
- Webpage at https://www.inlandgeo.org/
- Facebook Page at https://www.facebook.com/groups/InlandGeo/
- Instagram Page at https://www.instagram.com/inlandgeosociety/

IGS coffee mugs are available at the monthly meetings for $10. Get yours at the upcoming meeting!



3 IRON BREWING CO. COLTON, CA

898 South Via Lata , Suite A
Colton, California 92324
(https://www.3ironbrewingco.com)



IGS OFFICERS

President
Jessie Del Mastro
Santa Ana Basin RWQCB
jessie.p.bagby@gmail.com
951.551.7804

Vice President
Brock Gedik
GEM Group
brockgedik@gmail.com
909.787.9948

Web Master
Lance Pompe
lpome@llu.edu

Treasurer
Margaret Gooding
mgooding@roadrunner.com
909.434.5377

Secretary
Kian McElfresh
mcelfreshkian@gmail.com
541.210.4615

Membership Chair
Silvia Flores
silvia.flores.spf@gmail.com
909.904.0785

Newsletter Editor
Jeff Fitzsimmons
geojeff08@att.net
951.212.5018