Happy New Year!

Greetings from the (Co-) Chair

Brandon Schwab is the new Co-Chair and is sharing the position this year with Lori Dengler.

It was early in the semester during a department meeting when we realized that it had been far too long since our last newsletter. Well, the wait is over! (Feel free to begin breathing deeply once again.)

The HSU Geology Department and California higher education in general have undergone some significant changes over the last several years and the near term forecast shows continued upheaval. Nevertheless, we believe that we continue to provide one of the best geology educations around and work every day to continue to do so. Stay tuned as things develop and we will strive to do more to keep you up to date. In the meantime, please get in touch with us and let us know what YOU are up to. We hope to include an expanded alumni update in the next newsletter.

I am now in my 12th year at HSU and was recently promoted to Full Professor (along with my move into the role as Department Chair). I continue to teach the mineralogy-petrology-Earth resource courses and had a great group at Field Camp in the Roberts Mountains, NV last summer. I also have a number of undergraduate and graduate students working on theses in (and outside) the ExPet Lab. I am very happy to report that the College will soon have a state-of-the-art scanning electron microscope that we can use for secondary and back scattered electron imaging, semi-quantitative chemical analysis, and x-ray mapping of our rocks, fossils, and experimental run products! The SEM is funded by a National Science Foundation grant that John Reiss and Casey Lu in the Biology Department and I co-wrote. The SEM will be installed later this semester and we are all excited to be getting the new instrument. If anyone has a new XRD or XRF they’d like to pass along, please let me know!
Faculty & Staff Updates

Bud Burke

Bud was recently named a Geological Society of America Fellow! This prestigious award was bestowed in part to recognize Bud’s long running and seemingly infinite contribution of geologic inspiration to geology students everywhere. That inspiration continues as he and his students keep the Soils Lab humming along.

Hello (& Goodbye) Kerry!

Kerry Pinto Department Academic Support Coordinator.

Kerry joined the department one year ago as our Department Coordinator. Kerry replaced Val Arizzi who moved to the Psychology Department (for an office with a view). Kerry recently decided to pursue some other opportunities outside the University and I am sorry to say we will be losing her. Stop by and say hello while you can. We all wish her the very best!

Hi All! I’m Kerry – the Department Coordinator in Geology. I have really enjoyed working with the Geology professors and students – it has been fun to be surrounded by a lot of smart and hard-working folks. They have inspired me to go back to school and follow my passion. Best wishes to all.

Lori Dengler is Department Co-Chair (with Brandon)

Mother nature has been busy since our last Department newsletter. I’ve been involved with four post-event reconnaissance efforts: the 2009 Samoa earthquake and tsunami, the 2010 Offshore Eureka earthquake, the 2010 Chile earthquake and tsunami, and the 2011 Japan earthquake and tsunami. We started blog posts of post event field investigations with the Samoa event – you can find them at [http://www.humboldt.edu/rctwg/blog](http://www.humboldt.edu/rctwg/blog). In addition to my posts from Samoa, Chile, and Japan you can find Mark’s September 2010 trip to New Zealand to study the Christchurch mainshock. We have gained a reputation for post event reconnaissance studies. We’ve been fortunate to get funding from private donors (who wish to remain anonymous) to support some of these field efforts. I was able to bring a graduate student Nick Graehl on my Chile trip, and Mark was able to fund grad student Paul Sundberg on the New Zealand trip.

The recent tsunamis have finally convinced a number of organizations that tsunamis deserve recognition and study. I’ve been asked to form a tsunami committee for the Earthquake Engineering Research Institute (EERI). I am also co-leading a UNESCO - International Oceanographic Commission group revising the International Tsunami Survey Team Post Tsunami Survey Field Guide. We hope to have the final version out in early 2012 – hopefully before the next tsunami sets our timeline back again. I feel like I’m becoming a commuter to Japan. I was the US representative to a meeting of PARI – the Japanese Ports and Airports Research Institute last January – less than two months before the Tohoku earthquake. I was invited to return in late April spending ten days in some of the
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hardest hit areas of Miyagi and Iwate prefectures. It was a little unnerving to hear the mayor of Kessenuma talk about Japanese tsunami preparedness in January and then visit the same city in May to study the tsunami aftermath. I’ll be heading back to Japan in January for a World Bank sponsored meeting to look at lessons from the March 11 event for developing countries and then back again in February for a UNESCO meeting on tsunami warning.

At Humboldt I am finishing up my 6th and final year as Chair of the department. Last year I did double duty chairing Oceanography as well. This year, I am fortunate to be sharing the chair duties with Brandon and next year I will be very happy to switch offices with Brandon and let him take complete charge. On the research front, other than chasing tsunamis, I’ve teamed up with Greg Crawford, formerly in the Oceanography Department, to deploy an Acoustic Doppler Current Profiler (ADCP) in Humboldt Bay to study the currents produced by tsunamis. We were fortunate to capture the Chile 2010 and the Japan 2011 tsunamis on the instrument - some of the only direct recordings of tsunami currents anywhere in the world. I’ve teamed up with the Humboldt Bay Harbor District on a NOAA PORTs system for Humboldt Bay that will support the installation of four additional ADCPs in Humboldt Bay. We also received support from a donor to purchase and install a similar instrument at Crescent City. I’ve had an excellent grad student Amanda Admire cranking through the data we’ve acquired so far and I’m now in the market for a new grad student to take over where she has left off when she graduates next year.

Mark and I were able to get a new addition of our preparedness magazine “Living on Shaky Ground: How to Survive Earthquake and Tsunamis in Northern California” published in 2009. We quickly ran through the original 300,000-copy print run, and then promptly revised it and printed another 50,000 copies after the 2010 and 2011 earthquakes and tsunamis. It’s available on our somewhat interactive web site – http://humboldt.edu/shakyground. We’ve pulled together tsunami evacuation maps and community-specific tsunami brochures on the Redwood Coast Tsunami Work Group site at http://humboldt.edu/rctwg. HSU students continue to be the backbone of the Earthquake – Tsunami Room at the Humboldt County Fair. 2011 marked the 13th consecutive year of the display and this year nearly 4000 people visited the room in its 11-day run.

Mark Hemphill-Haley

I am now in my tenth year teaching at HSU; it’s hard to believe a decade has gone by since I moved back to Humboldt. I received both my B.A. (1982) and M.S. (1987) degrees in geology at HSU. The time between living in the Northcoast area was spent in the San Francisco Bay Area where I worked for Woodward-Clyde Consultants (later to become URS Corp) and at the University of Oregon where I got my Ph.D.

My research interests are in neotectonics, paleoseismology and seismic-related hazards (ground motion, surface rupture, tsunamis, etc.). My current work includes a two-year project in the Yukon working with Gary Carver, Professor Emeritus from HSU, evaluating fault rupture potential along a proposed route of the Alaska Pipeline, a large diameter natural gas line from Prudhoe Bay to Calgary. It has been great to be in the field with Gary again; he was my M.S. advisor. I’ve also been involved in research in New Zealand where I spent about 5 months during my last sabbatical. My wife, Eileen (HSU 1982), and son, Ethan and I were able to live in the Wellington area. We lived on a farm in Wainuiamata as guests of Russ Van Dissen (HSU, 1982) and his wife Jo. Eileen and I worked for GNS Science as research scientists and were involved in projects that extended the length of both islands. I recently returned to New Zealand with graduate student Paul Sundberg following the M 7.1 Darfield earthquake in South Island near Christchurch.
Locally, I have several students who are mapping fluvial terraces and their associations with faults within the fold and thrust belt near Fieldbrook northeast of McKinleyville. We have been working with one of the local timber companies that has provided us with LiDAR data and land access. LiDAR has really made a difference in our ability to work with subtle geomorphic features.

I’m also working on an extended project with Cascadia GeoSciences (see more in the alumni update below) who have received funding to work with local wetland experts, researchers and students from University of Oregon and from HSU. We will be creating a high-resolution time-history of sea level around Humboldt Bay to document relative sea level change. Ray Weldon (University of Oregon) has recently used this method to document interseismic deformation along the Cascadia subduction zone. Given our close proximity to the end of the subduction zone we hope to glean insight into its behavior.

The great thing about being back at HSU is how similar the atmosphere of the department remains even more than 30 years since I first came to know it. Field geology is still of primary importance. We still maintain a fleet of vehicles for field trips and field camp. Undergraduates still have the ability to do research as part of their education. Most importantly, students still have direct access to faculty and staff in that same informal climate that has always made HSU geology a special place to learn.

Sue Cashman

My Spring, 2010 structural geology class took advantage of the Mw 6.5 offshore northern California earthquake (Jan. 10, 2010) and damage reports by Lori, Mark, Bob and Steve to undertake a study of earthquake displacement of monuments in the Ferndale cemetery. Now there’s an unusual setting in which to learn to use a Brunton compass! Students presented their research results at the AGU meeting in December, 2010. (It is also highlighted in the new edition of Davis’s Structural Geology text!)

I’m continuing my research on Klamath Mountains geology and on fault rocks; collaborating with students on these projects is the most fun part of my job!

My current interest in the Klamath Mountains is the relatively recent (Cenozoic) geologic history of the province. The Klamath Mountains Province is both topographically anomalous (unusually high mountains for the coast ranges) and geologically anomalous (old and structurally complex). A few HSU undergrads and I are working with colleagues at Penn State University and University of Waikato (New Zealand) to try to figure out the timing of uplift, and how that might relate to the evolution of the plate boundary. Our initial focus is to combine geologic observations of Cretaceous and Tertiary cover rocks with thermochronometry and thermal modeling to establish the location(s) and timing of uplift.
As HSU geology alumni know, there are some world-class active faults here in northwestern California. Structural geologists can learn about degree of slip localization, slip history, rupture characteristics, and modes of failure by combining field observations of some of these faults with investigation of fault rocks and fault zone sediments at the microscopic scale. We’re looking forward to the new SEM, so microstructural studies of fault rocks will soon be easier for me and for my students.

On the family front, both of our daughters are off in the big world, and are scientists! Kathy is at University of Colorado, studying carbon cycling related to different types of land use. Emma’s interest is marine conservation and ecology; she is at San Jose State University and is studying seabirds as indicators of marine climate changes.

William Miller

I continue to teach the department’s paleontology classes, and recently took over Ken Aalto’s sed-strat course (now called Sedimentary Geology). I also teach the introductory course when needed. One interesting course-related development involves my GEOL 554 class in August. We think we’ve found a stratigraphic unit overlying the Rio Dell Formation at Centerville Beach that apparently no one has described previously. I’m urging the students to prepare a poster presentation for GSA based on their re-description and new interpretation of Pleistocene cover units at Centerville.

I’ve supervised two grad students recently. Adam Jackson just finished his thesis on modern burrowing organisms and their structures on the Eel River Shelf, and has moved on to pursue a PhD at University of Kansas. My new graduate student is Kelly Givins, who is interested in working on paleoecology of molluscs in the late Miocene Saint George Formation at Crescent City.

My field- and specimen-based research now focuses on weird trace fossils in the Paleozoic succession of the Valley and Ridge Province, primarily in southwestern Virginia. The traces I’m finding don’t look anything like modern structures and may have been made by burrowing animals belonging to extinct clades. And I continue to hunt for anything that looks like a fossil in Franciscan sedimentary rocks in northern California. (Let me know if you discover anything in the Franciscan!) I’m also involved in theoretical work on speciation (in particular connections between macroevolutionary patterns and large-scale ecologic processes), species concepts (I’m pretty sure the Evolutionary Species Concept of G. G. Simpson matches best what’s actually going on in nature) and delimitation of species in the fossil record (are slight variations in an Ordovician brachiopod morphospecies indicative of separately evolving species lineages?).

Steve Tillinghast

I can’t believe it has been almost 5 years since I took over the role of Geology Technician from Scott North. It has been a fun and challenging experience. Scott left some big shoes to fill but I’m slowly getting better at making thin sections, keeping the x-ray machines running and helping the Geology Department keep up with the latest in earth science technology. Also, I assisted Brandon at field camp this summer in the lovely Roberts Mountains, the same place I went to field camp eons ago! It’s amazing how each time I’ve mapped there, it seems to get more and more complicated. One of my big accomplishments this year was purchasing a new truck for the Geology Fleet. Finding the funds for vehicles is never easy but we
were able to use money donated by alums to leverage matching funds from the University. Having four-wheel drive vehicles is a critical part of keeping our field-based program healthy. Overall, the most enjoyable part of working for Humboldt Geology is, without a doubt, our students; they are always a great source of energy and inspiration in these challenging times.

Colin Wingfield

As field camp manager, I have now been to 7 field camps spanning my education and work experience, camping 38+ weeks cumulatively for Humboldt Geology. Recently we have camped at California Springs and the Robert’s Mountains in Nevada. Also some new spots for Humboldt Geology, we have camped in the Inyo/Whites to map Poleta and the Mono Craters area for glacial features, my first California camp. I’m looking forward to continue to camp for work. I can’t wait to see where we go next. California Springs? Wink, wink, nudge, nudge. Mark?

The stockroom keeps truckin’ along, feeding and stoking the labs in Van Matre Hall. Need a map? We probably have the air photo too. Don’t forget to return that 100’ tape and the Brunton you checked out last summer. With a full lab schedule, the stockroom is staffed by 3 student assistants and myself. Come by, check us out in VMH108.

Other staff news.

Andre Lehre has started the Faculty Early Retirement Program (FERP) and is teaching half time. He was off campus last semester, but will return this spring to teach Field Methods and Hillslope Processes. Ken Aalto retired last year and between ski trips is serving as President of the GSA History and Philosophy of Geology Division. John Longshore and Don Garlick remain in the area and it is always great to see them when they come in for our colloquium series and student thesis presentations. Harvey Kelsey (photo to left – teaching a class in plate tectonics in Aceh, Indonesia) and his students continue to be very active in neotectonics research in the Pacific Northwest and beyond. Eileen Hemphill-Haley (Mark’s better half) is a Research Associate in the department. It is great to have her micropaleontology expertise in-house! We are also fortunate to have Bob McPherson back this semester teaching a section of Earthquake Country.

(Brief) Alumni Update

Members of the mapping group "F-Troop" in Bud’s first field camp have done well. All received their B.A.’s in 1982. John Veevaert is the owner of Trinity Mineral Company (http://www.trinityminerals.com) based out of northern California. Kurt Fraese is the CEO of GeoEngineers out of Seattle, WA (http://www.geoengineers.com). Dave Bazard and Kevin Yokoyama are professors at College of the Redwoods.

Dave Draper (BS ’85) is manager of the Astromaterials Research Office in the Astromaterials Research and Exploration Division at NASA Johnson Space Center. Jonathan Castro (BS ’93) is Professor of Volcanology at the University of Mainz, Germany. Christa Jackson (BS ’11) and Adam Jackson (MS ’11) are married (to each other) and are both Ph.D students at the University of Kansas.

Cascadia Geosciences – Tom Leroy (MS ’99), Jason Patton (MS ’04), Jay Stallman (MS ’03), and Todd Williams (MS ’02) have started a non-profit corporation, Cascadia Geosciences, to conduct and promote interdisciplinary earth science research, watershed restoration, and educate the public. Check out http://cascadiageo.org for more information!
Want your update included? Send us a note! We’d love to hear from you and if you are willing we’d like to share your news in the next installment of the HSU Geology Newsletter.

Request for Alumni Feedback

Survey
If you are an HSU Geology alumni, please help us by completing a brief survey available online at: http://www.surveymonkey.com/s/QVVNPME

This survey helps us fulfill requirements for our Program Review. Your feedback is very important and will influence our ability to request new faculty hires, make changes to curriculum, and guide the future of the department.

Alumni Advisory Panel
Interested in further influencing the future of the Geology Department and helping current and future students beyond taking the survey? We are looking for ideas and members for an HSU Geology Alumni Advisory Group. Do you have thoughts for sustained fund raising? Interested in student recruiting or advising? Want to help HSU Geology grads find jobs? Send your thoughts (and nominations) to: geology@humboldt.edu. Thanks!

New Rig…

Speaking of alumni support, here is a picture of ‘Alice’ (as in, ‘in Wonderland’) with Colin on her journey to her inaugural field camp last summer. This extended cab Ford 350 4x4 is a tangible example of what alumni donations mean to our department!

Final Note
The greatest part of working in the Geology Department at HSU continues to be our students (current and former). Thanks for being part of our lives and keep in touch. As you know, support for higher education is dwindling and we are becoming more reliant on outside financial assistance every year. We know that the economic reality is difficult for everyone (or at least 99% of everyone), but please do keep us in mind. Without your support we could not do what we do. Thanks for everything!

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