We Have New Group Members!

Alexander Gorr (PhD student) is studying post-wildfire debris flow inundation with Dr. McGuire. He is working to develop an inundation model that is capable of predicting the downstream effects of potential debris flows on a regional scale.

Tao Liu (postdoc) recently finished his Ph.D. at UofA where he worked with Dr. Vic Baker on exploring the role of the extreme paleoflood in flood risk analysis on the lower Green River and modeling megaflood events in Northwestern US. He is now a postdoctoral research associate working on postfire floods, extreme paleofloods, and detection of the possible mechanisms of extreme floods using machine learning.

Olivia Hoch (MS student) is in her first year working with Dr. McGuire, focused on understanding how landscapes recover following wildfires in Arizona, New Mexico, and California. She uses a combination of field and remote sensing data integrated with modeling to understand how the potential for debris-flows change over time.

Nate Abramson recently joined the Geosciences department coming from Biosphere 2 where he worked at the Landscape Evolution Observatory and the Catalina-Jemez Critical Zone Observatory and brings a background in field and laboratory scale hydrology studies. He is working with Dr. Pelletier on a project funded by BHP, monitoring and assessing the erosion performance of reclaimed mine sites across southern Arizona.
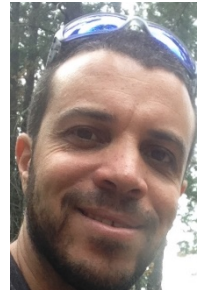
Jon Pelletier has developed numerical models that evaluate alternative mine closure designs in terms of their potential to minimize erosion of waste materials over time scales of decades to centuries. This work combines remote sensing, field measurement and instrumentation, and numerical modeling at study sites near San Manuel and Miami, Arizona. Although the application is mine reclamation, the work will inform our understanding of erosion by overland flow on hillslopes generally.

Luke McGuire and his group have been focused on studying the role of disturbance events, including wildfire, on erosion rates and geologic hazards. The group's work on post-fire debris flow hazards is currently being supported by two recently funded proposals titled "Improving situational awareness of impactful post-fire debris flows" and "Emergency post-fire debris flow inundation hazards: Identifying who is at risk in the immediate aftermath of a fire."

Alexander Prescott (PhD candidate) gave an oral presentation at GSA 2019 titled "Parallel implementation of a unit contributing area algorithm that minimizes grid-resolution effects." He is in the 4th year of a PhD program focused on landscape evolution, fluvial sediment transport, and global climate change with Dr. Pelletier.

Tyler Doane (postdoc) is working closely with Dr. Pelletier and Dr. Mary Nichols broadly aimed at probabilistic descriptions of hillslope surfaces and their evolution. In one effort, he is working to explore a probabilistic description of rill networks to explain nonlinear transport relationships on rilled hillslopes. In another, he has developed a field-installed laser that obtains a high spatial and temporal resolution profile of the landsurface in effort to relate the fine-scale dynamics of microtopography to the statistics of hillslope sediment transport.

Last May, **Carissa Raymond** graduated with a Masters of Science having focused on connections between rainfall intensities and post-fire debris flows in Arizona. She now works with the US Forest Service as a Coronado National Forest Hydrology Resource Assistant.