

Student	Project Title	Abstract	Faculty Mentor	Faculty Department
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Morgan Andrews	Climate Stressors and the Tolerance of Freshwater Invertebrates Along an Elevational Gradient	<p>Aquatic invertebrates can act as ecological health indicators; habitats that support these species are increasingly vulnerable from climate change. I will use field studies and lab tests to grasp which invertebrates will best persist under climate stress. In the field, species will be surveyed in 20 ephemeral and permanent stock ponds on an elevation gradient. I will analyze invertebrate features of breathing apparatus, body shape, and life cycle. I will use field studies and lab tests to grasp which invertebrates will best persist under climate stress. In the field, species will be surveyed in 20 ephemeral and permanent stock ponds on an elevation gradient. I will analyze invertebrate features of breathing apparatus, body shape, and life cycle.</p>		
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		<p>Anaplasma phagocytophilum coinfections in Ixodes spp. ticks. Tick-borne pathogens and diagnoses have increased in numbers from 1992 to 2014 in the west coast, midwest, and northeastern states (Eisen et al. 2017). Many factors have contributed to this increase including shifts in the distribution of ticks, human exposure to ticks and increased tick-borne disease awareness, and the presence of coinfecting ticks. Ticks will be collected through a free citizen science program and are mailed to the testing facility, identified to species, and tested for pathogen presence using qPCR. Samples that are positive for both</p>		
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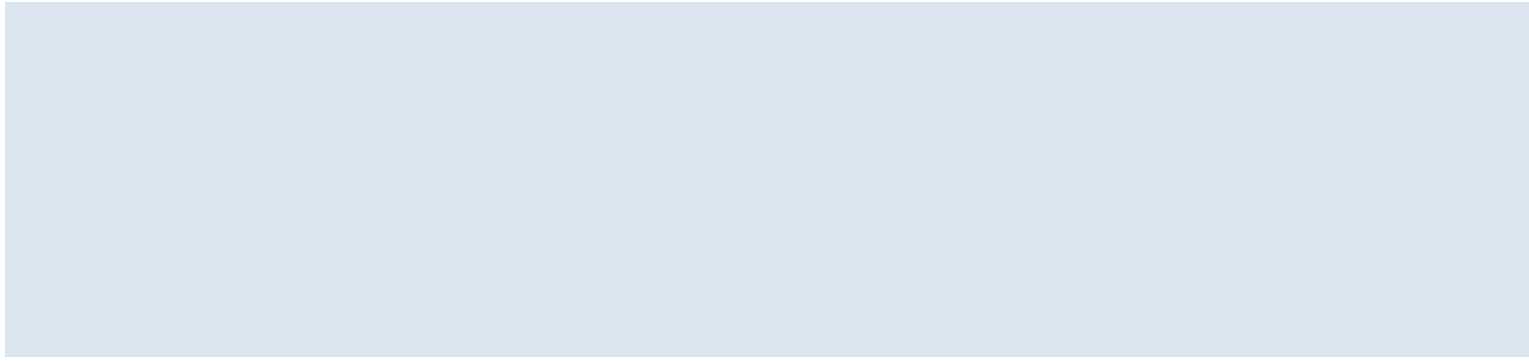
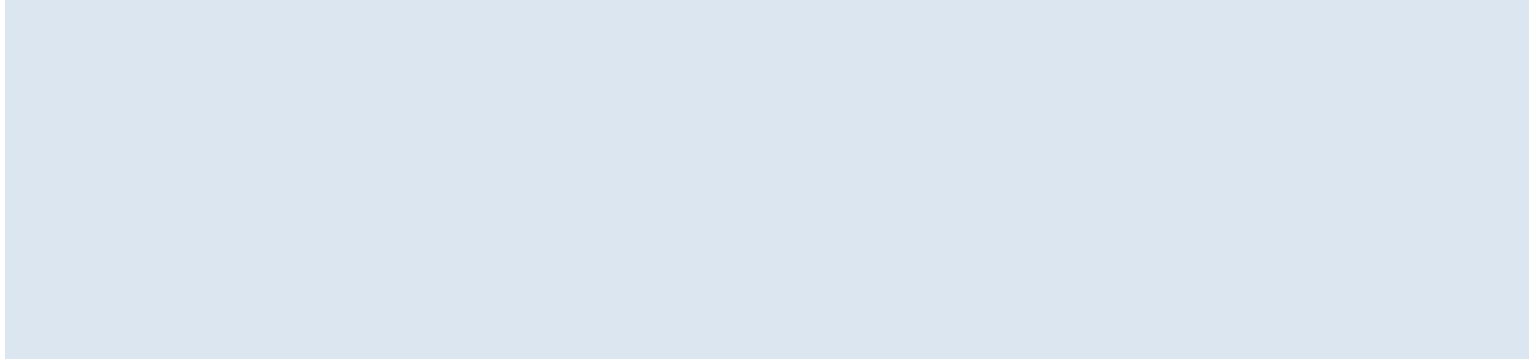
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HURA Grant Recipients, 2018-2019

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2018-19 Projects				

Jenna Chaffeur and Andrew Thomas

Examining Water Storage Loss in the Wet Meadows of the Mogollon -010.2 ref15



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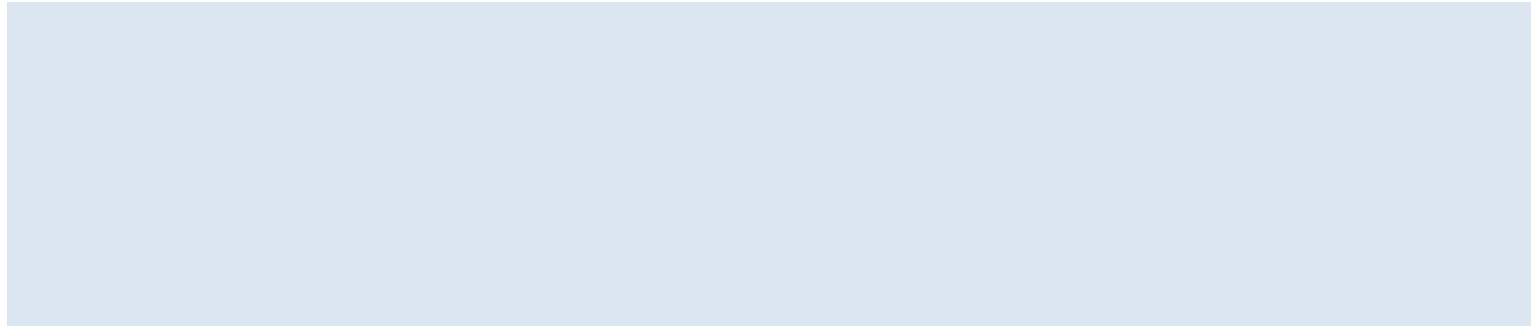
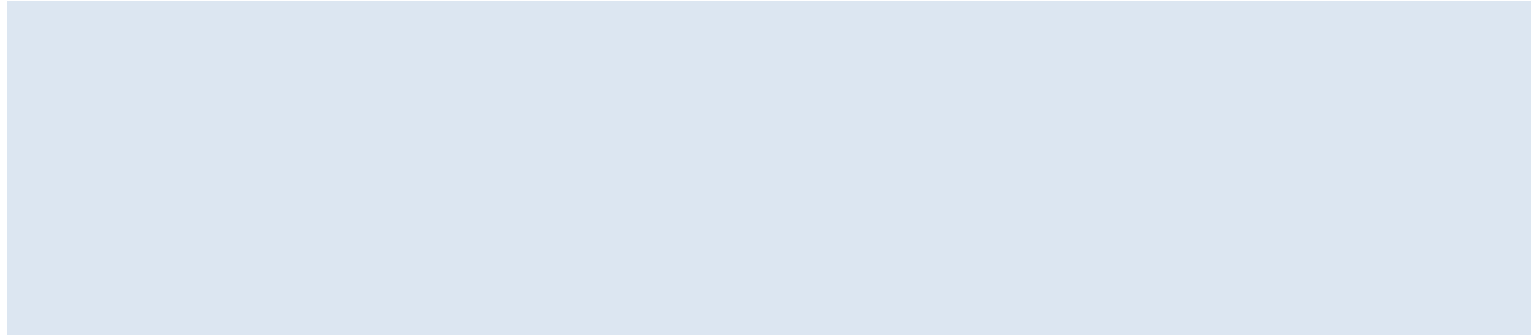
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2018-19 Projects				

Briana Palmiero

Evaluation of plant moisture stress and overall drought tolerance in relationship to climate change in southwestern White Pine (Pinus strobiformis)

The importance of this study is to determine whether increasing temperature with climate change will affect Southwestern white pines water intake enough to force migration or potentially cause extinction. This would affect food sources and habitats for small mammals, soil erosion, biodiversity, and overall air quality in mountain environments. I hypothesize that if seeds were taken from a warm climate under conditions to further heat them they will have little success. To carry out this experiment, we selected families of seeds from locations across southwestern North America, with half of the seeds being under



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2018-19 Projects

Amber Treadway	<p>Influence of Market Integration on the Cardiovascular Health of Indigenous Ecuadorians</p>	<p>Market integration, the transition from a traditional subsistence-based economy to a Western market-based economy, is rapidly occurring among indigenous populations throughout the world. Among the Shuar, an indigenous population from Amazonian Ecuador, the health implications of this transition are a study on the impact of market integration on the cardiovascular and metabolic health of Shuar adults, data have been recorded. Thus, the objective of the proposed project is to conduct an updated analysis of the links between market integration and cardiovascular health among the Shuar using newly available data.</p>	Melissa Liebert	Anthropology
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Rebekah Turner	<p>Evaluating genetic variation at an anti-tick vaccine locus to improve eradication of cattle fever ticks</p>	<p>Cattle fever ticks transmit lethal cattle fever parasites (<i>Babesia</i> spp.) for which no effective vaccines exist. These ticks and pathogens are endemic in Mexico and are at risk of reintroduction into the US, which imports up to 1 million cattle a year from Mexico. Cattle fever parasites can only be transmitted by <i>Rhipicephalus microplus</i> and <i>R. annulatus</i> ticks, therefore, disease prevention is aimed at tick control. One method of control is to treat cattle with an anti-tick vaccine that targets a tick midgut</p>		
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