MAGIP Scholarship and Grant Awards, 2021

The MAGIP Grants and Scholarship Committee is pleased to announce the 2021 awards for Higher Education Scholarships and K-12 Education Grants.

Despite the challenges of online learning and living, MAGIP was fortunate to receive a relatively large number of high-quality scholarship applications from Doctoral and Master degree candidates. While we would like to support all submitted projects, we identified two exceptional Higher Education Scholarship proposals that we are delighted to fund this year. These scholarships will be distributed to one Doctoral student, and one Master's degree student. Furthermore, we are excited to work with the Frenchtown Intermediate School through a Van Shelhamer Memorial K-12 Education Grant and help them develop geospatially-oriented lesson plans based on GeoCaching and Orienteering exercises. and one Bachelor degree student. Below are the names, institutions, and project descriptions of these well-deserving awardees.

MAGIP Higher Education Scholarships

Christopher Hansen, Ph.D. Candidate
W.A. Franke College of Forestry and Conservation
Wildlife Biology Program
University of Montana
"Vegetation Response to Livestock Grazing on Public Lands in the Western United States"

Montana is rich with farming and ranching history, and collectively agriculture is one of the biggest contributors to the state economy. Better understanding of livestock grazing and associated impacts on vegetation is crucial for the long-term sustainability of this vital component of Montana landscape, culture, and food security.

To learn more about Christopher's project his abstract is available here:

Abstract:
Identifying how livestock grazing on public lands influences vegetation composition is critical for sound rangeland management. Thus, my primary objective is to identify how livestock grazing on public lands influences vegetation functional group cover and primary productivity throughout the western United States. While the effects of livestock grazing on vegetation is well established (e.g., Milchunas and Lauenroth 1993, Milchunas et al. 2008), no one has completed a range-wide assessment of livestock grazing on BLM lands. This study will elucidate the state of public lands in the western United States and how grazing of public lands influences vegetation, which could help inform management agencies on whether management objectives are met.

Shira Ellenson, Master's Candidate
W.A. Franke College of Forestry and Conservation
Department of Geography
University of Montana
"Arctic Greening: 25 Years of Change from In-Situ and Remotely Sensed Observations"

For better or worse, the climate is changing and this is strikingly apparent in places like the arctic regions of North America. In order to sustain critical environments and fragile communities, we must understand the spatial patterns of warming, cooling, precipitation, and vegetation response. Shira's work will help explain what has been measured over the past 25 years from both plot-based local and remotely sensed regional perspectives.

To learn more about Shira's project his abstract is available here:

Abstract:
Responses to climate change are not likely to be uniform across a mosaic of land cover types (Elmendorf et al. 2012) nor driven by air temperature alone. There are other controls operating at a finer scale including glacial history, permafrost characteristics, topography, soil moisture, and nutrients (Berner et al .2020). While satellite remote sensing is useful for summarizing Arctic trends, variation in spatial and temporal trends arise due to complex interactions (Frost et al. 2019) which can be missed at coarse resolution (Myers-Smith et al. 2020). Smaller, plot-scale studies are necessary to better understand the vegetation changes occurring on the ground (Elmendorf et al., 2012).

MAGIP Van Shelhamer Memorial K-12 Education Grant

Riley Devins, Principal
Frenchtown Intermediate School
Frenchtown, MT

Providing students with exposure to maps and teaching them how to use maps as navigation tools and as a resource while in the city, in the wild, or traveling is important everywhere, and particularly in rural Montana. Using maps as teaching tools is also helpful because it allows us as teachers to really put distance in perspective, and it furthermore helps develop student geographic awareness and cartography skills.

The Frenchtown Intermediate School would like to work with a MAGIP mentor to develop lesson plans that build on basic map and orienteering skills. They would also like to use contemporary open-source apps to develop lessons based on GeoCaching. With the help of a MAGIP mentor they will be able to identify new and exciting ways of bringing geospatial technology into the classroom and develop skills that will complement STEM learning.