**Virtual Geospatial Skills Camp for Rural Montana Youth**
**– PUBLICLY RELEASABLE ABSTRACT**
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Montana is one of the most rural states in the U.S., with 75% of school districts considered rural—the highest proportion of any state. Consequently, not just many but *most* Montana young people grow up with few or no STEM opportunities beyond school-based classes, which also can be quite limited due to small school sizes and STEM teacher shortages.

We will create a **STEM summer camp experience** to reach Montana students who are typically excluded from STEM opportunities due to geographic location, socioeconomics or other barriers. The camp will use a hybrid format: synchronous and asynchronous **remotely delivered content** coupled with **in-person guidance from trained educators** in **five rural communities.** Though Montana State University educators, researchers and students will be intimately involved in design and delivery, the camp will not take place at Montana State University, but rather in five remote and geographically dispersed regions of the state. Participating students, thus, will also be from rural/ reservation communities. We will use existing partnerships with groups such as Montana GEAR UP, tribal colleges and Montana Afterschool Alliance to select camp locations and community-based educators, who will then recruit local students, prioritizing those from under-served populations, such as girls, under-represented minorities, military connected youth and first-generation college students. The target age is early high schoolers (rising 9$^{th}$ and 10$^{th}$ graders).

The camp theme is **geospatial skills**, which reinforces AFOSR STEM topic areas of Physical Sciences; Engineering and Complex Systems; and Information and Networks. Camp activities will include maps for analysis and navigation; collecting, analyzing and disseminating imagery from terrestrial, satellite and other sources; skills and required credentials for piloting UAVs; remote sensing; basic electronics and circuitry related to sensor development and use; and geospatial analysis tools. Students will learn about **potential career pathways and fields of study** related to geospatial science and engineering, particularly those connected to the Air Force and other organizations that offer employment in rural areas. Students will be encouraged to relate camp skills and experiences to their individual interests such as robotics, human performance or aviation; community needs, such as natural resources management, precision agriculture or meteorological forecasting; and national topics of interest such as security, energy or climate change.

The camp is designed to benefit not just the participating students, but also the community educators, who will receive professional training in a growing field, a stipend for training and camp delivery, support for travel and meals, and (depending on their professional status), continuing education credits or certificate of participation. Community educators will be trained as a cohort to build a network of support among colleagues that will last beyond the timeframe of the camp.

Students and mentors who complete the camp will be invited to the Montana State University campus in Bozeman for a new event entitled MSU GIS Day, another opportunity for students and educators to build further connections and view college-level labs and research.

All materials created for the camp – though Montana-specific and locally/culturally relevant – will be available to the larger region and nation and could serve as a testbed for serving youth and their adult educators from and in remote, rural and under-served areas.