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COMPETITIVE DIVISION-ACADEMIC

Introducing Students to Hazard Mitigation Using ArcGIS Pro and the National Risk Index

This assignment is designed for undergraduate students to explore nationwide trends in risk from natural hazards, apply knowledge of mitigation tools, and sharpen analytical skills in the context of emergency management. These goals are accomplished through the use of ArcGIS Pro and the geospatial dataset contained in FEMA's National Risk Index (NRI). In this poster, we describe how students at the U.S. Coast Guard Academy use these tools to identify the top three natural hazards posing the greatest risks to a chosen state, while mapping the Risk Score for those hazards on a county-by-county basis. Students then calculate and graph the human population affected by each hazard. Based on this data, students apply their knowledge of mitigation tools previously gained in the classroom to recommend effective mitigation activities to protect at-risk populations. The use of ArcGIS Pro and the NRI reinforces and extends classroom instruction by encouraging students to apply emergency management concepts to patterns derived from real-world datasets.

Presentation Theme: The theme of our presentation is about an innovative way to introduce undergraduate students to hazard mitigation through using ArcGIS and the National Risk Index.

Collaborators, Advisor(s) and Department(s) that assisted with this research: Dr. Lucy S. Vlietstra, PhD, US Coast Guard Academy