

MS-GIST Projects Spring 2023

Wednesday, May 03

** There will be 5 minute breaks between each back-to-back presentation to facilitate transitions in Zoom.*

*** Zoom links are available on request. Please contact Andrew Grogan - atgrogan@arizona.edu*

Date/Time	Presentation Title	Student Name
05/03/23 09:00 - 09:25 AM	<u>DESIGNING A WEB GIS APPLICATION FOR K-12 SCIENCE EDUCATORS TO INCORPORATE EARTH OBSERVATIONS IN CURRICULUM</u>	Desiray Wilson

DESIGNING A WEB GIS APPLICATION FOR K-12 SCIENCE EDUCATORS TO INCORPORATE EARTH OBSERVATIONS IN CURRICULUM

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05/03/23, 09:00 - 09:25 AM

Abstract:

Educational standards in the United States encourage the use of scientific inquiry-driven learning for K-12 students. One way to support students' development of scientific inquiry is to provide them with opportunities to investigate real complex problems using the same authentic Earth Science data and analysis techniques that scientists use. Federal government agencies such as NASA and NOAA house petabytes of freely accessible Earth Science datasets, but much of the data is only available for download and visualization in specialized data formats and visualization software, limiting its accessibility to teachers for use in their classroom instruction. The purpose of this project is to develop a Google Earth Engine data visualization tool that hosts a variety of authentic Earth Science datasets and analysis tools, eliminating the need for educators to obtain specialized knowledge of GIS data formats and visualization software to access and use this data in the classroom. A user-centered design (UCD) framework of the web application was used to receive and incorporate teacher feedback into the application's design. Responses from education specialists indicate that advances in web GIS technologies such as Google Earth Engine could offer a solution to making authentic Earth Science data more accessible to educators and students.

Keywords: Education, Earth Science, Application, GIS Technologies, Web GIS