

Teaching The Teachers The
Importance Of GIS:
A Look At The Struggles Of
School Outreach And What
Oklahoma Has Learned

ABOUT THE COMPETITION

- Students research a topic of choice about their own state and create a story map about it.
- The competition is open to public, private, and home school settings in grades 4–12 in participating states.
- Students can participate in only one project, working on their own or in a team of two.
- Students can work independent of their school activities, but entries are routed through their school or qualifying organization.
- Up to five middle school and high school teams or individuals can be chosen from each state to receive \$100 Gift Card (National Council for Geographic Education).
- Then, from the five, one middle school and one high school team/individual will have their project entered into the National Competition.

OUR PAST OUTREACH EFFORTS

- Working with SCAUG and LGA (Local GIS Advocates)
- GIS Day at the Capitol and at OU
- Presentation to schools
- Emails to Superintendents and Principals of Public High Schools and Middle Schools
- Emails to Private Schools
- Emails to Homeschool Groups
- Networking with people connected to schools

OUR PAST OUTREACH EFFORTS (CONTINUED)

- [https://okdot.maps.arcgis.com/apps/MapSeries/index.html?appid=0f](https://okdot.maps.arcgis.com/apps/MapSeries/index.html?appid=0f8130af4a3a418da6e1008f33afaf32)

8130af4a3a418da6e1008f33afaf32

- [https://storymaps.arcgis.com/stories/9497acc99b114bce823c3298c48](https://storymaps.arcgis.com/stories/9497acc99b114bce823c3298c4884cf8)

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1 Intro to GIS

What is GIS? (link)

--- A geographic information system (GIS) is a framework for gathering, managing, analyzing, and displaying geospatial data.

ArcGIS Online (link) is a website tool used to make interactive maps in a fun, easy way. It is highly accessible for high school and middle school students, and aims to help young learners share and create maps about something in their home states.

How do I make a Web App? (link)

--- This is a step-by-step guide on how to create your own Webmap as well as create/add data for it.

What is a Story Map? (link)

--- Story Maps are a great way to combine your maps with narrative text, images, and multimedia content to create compelling, user-friendly web apps. There are many forms a story map can take, including a Virtual Tour, a Journal, a Cascade and more!

How do I make a Story Map? (link)

2 2023 ArcGIS Online Competition

Security Checks

CCTV Coverage

Road Networks

Building Plans

Emergency plans

Terrain Data

Locations

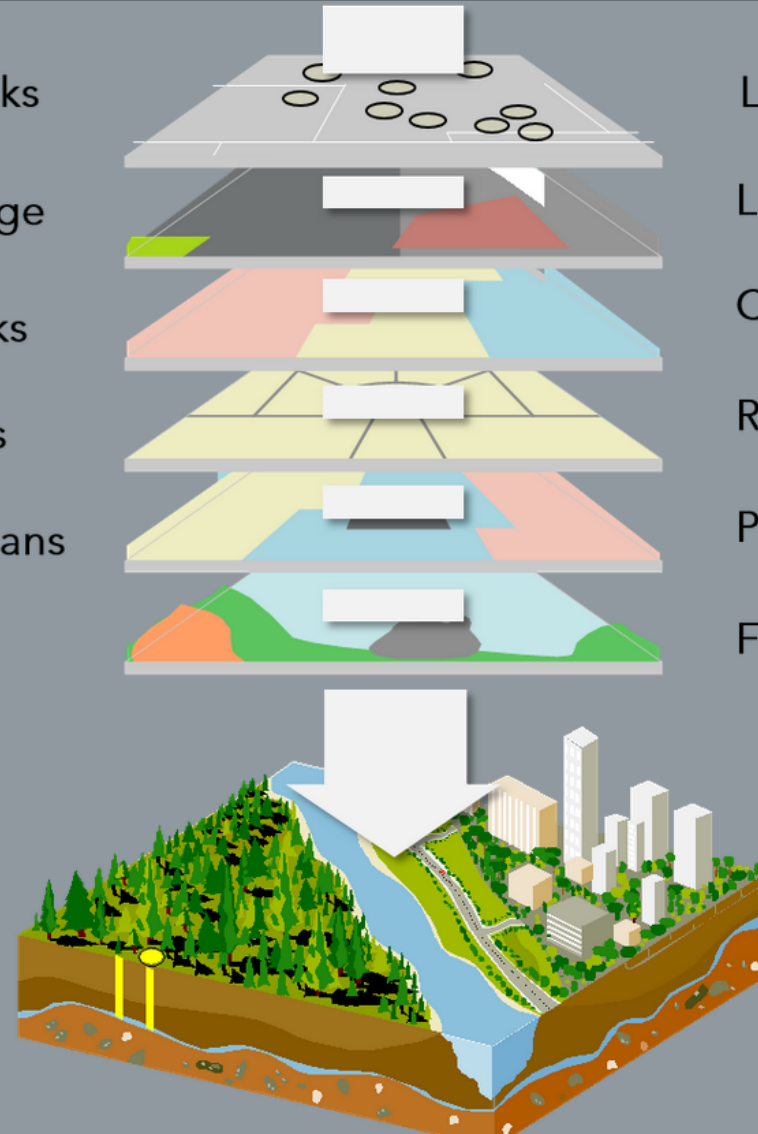
Land ownership

Census

Rivers & Canals

Policy-holders

Flood risk



The "real world"

Oklahoma Map Competition 2024

ArcGIS School Map Competition

November 2, 2023



What is GIS?

Geospatial Information Systems is a framework for gathering, managing, analyzing and displaying geospatial data.

BARRIERS TO OUTREACH

- Digital world of Zoom calls and emails versus in person interactions
- Post-pandemic changes to teaching and the amount of planning required
- Sufficient time for the teachers to learn the software and implement it into their curriculum within the timeline of the competition
- Political climate – polarization of topics that might be typical for such projects
- Disparity of contacts - any organization that is not public schools

IDEAS FOR INCORPORATING THE COMPETITION

Extra Credit Projects or Incorporated into an already planned research project

- **Mathematics**
 - Visualization and better understanding of statistics through creating maps which depict numerical numbers
 - Crime statistics
 - Voting
 - Population
- **History**
 - Mapping of battles
 - Everything from Plains Indian Wars to the Red River Bridge War
 - Indian Removal Act and Land Grab
 - Map the progression of settlers into Native lands
 - Mapping archeological discoveries
 - A student could create a story map showing their discovery locations for arrow heads and such
- **Sciences**
 - Creating a habitat suitability model for endangered or threatened species
 - Tracking fire recovery using NDVI (Normalized Difference Vegetation Index)
 - Creating a model to discover the best location for wind farms or solar panels
 - Natural Disaster mapping – Tornadoes, earthquakes, fires, and floods
 - Predicting mosquito prone areas based on standing water
- **Art**
 - Creating a story map showing street art or other areas of artistic or architectural significance.
 - Creating artistic versions of cartographic rendering.

Past Submissions

[Oklahoma Wind Farm Areas](#)

[The Films of Oklahoma](#)

[Cotton Production](#)

[DUI Accidents](#)

[2020 Oklahoma Tornadoes](#)

BENEFITS OF INTRODUCING STUDENTS TO GIS

- It will give them a leg up at college or in the workforce.
- They will learn how to think spatially.
- They will learn how to spot bad data or misrepresentations of data.
- They might see the greater connectivity of the world around them.
- Students may gain applicable knowledge and understanding of statistics.

RESOURCES FOR SCHOOLS AND GROUPS

The ArcGIS for Schools Bundle is available at no cost for instructional use to individual US K–12 schools, school districts, and states direct from Esri.

Beyond the United States, the bundle is available to schools worldwide through Esri's network of international distributors.

Every public, private, home school, technical school, and youth-serving club is eligible.

For clubs and homeschools requesting software, see <https://gisclubkit-k12.hub.arcgis.com/>.

The National Council for Geographic Education has resources for teachers https://ncge.org/main_page/teacher-resources/

WHAT HAVE WE LEARNED?

- Outreach to schools earlier than the start of the competition
- Nurture **any and all** personal contacts related to education
- Think Smaller
 - Beta Club
 - 4H Club
 - Boy Scouts
 - Girl Scouts
 - Various in-school subgroups
- Lobby with individual schools to be at a teacher workday
- Teach the teachers early in the school year
 - <https://www.esri.com/content/dam/esrisites/en-us/media/misc/getting-started-with-gis-for-educators.pdf>
 - https://ncge.org/main_page/teacher-resources/

LEARN FROM OUR MISTAKES (INTERACTIVE)

- What challenges do you think are unique to your own state?
- What organizations and clubs could you utilize for outreach?
- What would you have done differently?
- What specific subjects in school do you think could utilize this competition in their curriculum?

ANY QUESTIONS OR COMMENTS?



Scan this for our StoryMap
regarding the competition.

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