

**2019 North Carolina GIS Competition for grades 4 - 12**  
**Sponsors:** [North Carolina 4-H Youth Development](#) and [Esri](#)

**What:** An online GIS map making contest

**Dates:** April 26, 2019 - Recommended deadline for North Carolina school level competition submissions for review at the school level to select top five for submission to the State Committee.

May 7, 2019 - Schools must submit up to five school level winners to State Committee for competition judging by 5 PM.

May 22, 2019 - State Panel will submit top five middle school (grades 4 - 8) and top five high school (grades 9 - 12) winners to Esri by 5 PM.

June 3, 2019 - Esri will announce top national submission for middle school (grades 4 - 8) and high school (grades 9 - 12).

July 6 - 9, 2019 - Top national winners\* will attend the Esri Education GIS Conference in San Diego, CA. \*Winners must agree to attend the conference.

**Who is eligible:** North Carolina public, private, or homeschooled students are eligible to enter the contest. Maps can be submitted individually or as a team of two students. Limit of one entry per student or team.

Entrants must be pre-collegiate students registered in grades 4-12, from public schools or non-public schools including home schools, under age 19, who have not yet received a high school diploma or equivalent.

Entrants must reside and be in school in the United States or its districts or territories: 50 states, District of Columbia, Puerto Rico, Guam, Northern Mariana Islands, US Virgin Islands, and American Samoa. (Thus, "state" in this document means one of these 56 units.)

Students can work singly or in a team of two, but can participate in only one entry. Teams with one student in middle school (gr.4-8) and one in high school (gr.9-12) must be considered as high school.

Entrants may work on the challenge through school, via a club, or independently, but entries must be submitted to the state from a recognized school or home school.

Any school or home school program can submit to the state a maximum of five (5) entries total, counting the sum of middle school and high school entries.

**Challenge:** Your challenge is to create an original North Carolina based map on a topic of interest or concern to you and connected to your school curriculum in some way. The area mapped can range from the entire state to a smaller area, like a county or city.

### **ArcGIS Online Requirement:**

Entries must be from an [ArcGIS Organization account \(not a "public account"\)](#).

Any K12 school (public, non-public, or home school) or formal youth club can [request for free an ArcGIS School/Club Bundle](#) (includes an ArcGIS Organization account).

Entries must be an ArcGIS "[web app](#)" or "[Story Map](#)".

**Prizes:** The five maps judged the best in each division will be awarded a \$100 prize and will move to national level judging.

Middle School Division - grades 4 - 8

Senior High Division - grades 9 - 12

*Note: Teams spanning grade levels will be entered in the division of the student at the upper grade. \*Award-winning maps will remain visible to the public for one year.*

### **Design/Judging Criteria**

- Entries must be from an ArcGIS Organization account, not a "public account." This can be an Org operated by, e.g., the student's school or club, the district, the state GIS Education Team, or similar group.
- Entries must be visible without requiring a login. Entries engaging "premium data" (login required, such as Living Atlas) must set the display to permit access without needing a login. See [helpful note](#).
- Entries must be "original work by students," but may use data generated by outside persons or institutions, within guidelines of "fair use." (Students are encouraged to use appropriate professionally generated data, but the integration, treatment, and presentation must be original.)
- Entries must provide to the school/state/Esri two links in "short URL" format, e.g. "<http://arcg.is/1A2b3xyz>"
  - one link goes to the "display" page (the app or story map)
  - one link goes to the "[item details](#)" page (the metadata page for the app or story map). A link to this page will require a login if the Org does not "permit [anonymous access](#)" and the link uses the form "[\[my\\_org\].maps.arcgis.com/etc](#)"; to get around this, change the link to the form "[www.arcgis.com/etc](#)" when creating the short URL.
  - Users can create a short URL in "[arcg.is](#)" format within the ArcGIS interface, or at <http://bitly.com> (where any URL string formatted as "[\[anything\].arcgis.com/\[anything\]](#)" will be turned into a short URL formatted as "[arcg.is/\[shortlink\]](#)".)

## Scoring rubric (100 points):

- (5) topic is clearly identified, meets criteria of relevance to North Carolina, focuses on content within NC borders
- (10) overall presentation within the app or story map is effective in informing about topic
- (20) cartography is effective -- the composition, visualization, and interplay of layers (display scale, transparency, classification, symbolization, popups, charts, tables, labels, filtering, legend appearance) facilitates the viewer's grasp of individual elements of the topic and story
- (20) data used is appropriate -- engages an adequate volume and array of clearly significant elements, does not exclude clearly significant elements, does not include irrelevant elements; of the 20 "total data points possible," 5 are reserved for rewarding the creation, documentation, and inclusion of one's own data [0=none, 1=little/weak, 2=some/modest, 3=satisfactory, 4=much/good, 5=most/excellent] (so an otherwise ideal project that contained no user-generated data could receive at most 15 points)
- (20) geographic analysis ([classification](#), [filtering](#), [geoanalysis](#)) is evident, appropriate, and effective; the "map product" is not "essentially uniform dots/lines/areas on a map" nor "primarily pictures"
- (25) documentation in the [item details page](#) is clear and complete; all non-original contents (including images) in the presentation/ web app/ story map are appropriately referenced and/or linked so their sources are clear, and original contents are described and/or linked; documentation identifies processes used to analyze the content, plus any persons who assisted in project (including specifying if no one did)

## PROJECT TIPS

[Look at previous national winners and honorable mention projects.](#) This is a "map competition." Entries should be analytical in nature, map-centric rather than photo-centric or relying on too much text. Use of videos or static images generated by anyone other than the team members must be carefully documented, and such media should be used sparingly (few times, as supplements rather than primary visual elements); such outside content generally detracts from national scores. The project should emphasize student work; professionally generated GIS data generally does not detract from national scores this way. A good way to judge project balance quickly is to identify the "number of screens" a viewer would encounter and the number of seconds a viewer would spend consuming the entire project; map-based time and attention should be at least two thirds.

Good projects gently help even a viewer unfamiliar with the region know quickly the location of the project focus. Requiring a viewer to zoom out several times to determine

the region of focus detracts from the viewing experience. (Pretend the viewer is from a different part of the country, or a different country.)

Maps should invite interactive exploration by the viewer, not be static ("images"). The presentation should hold the attention of the viewer from start to finish.

Maps should demonstrate "the science of where" -- the importance of location, patterns, and relationships between layers. There is an art to map design; too much data may feel cluttered, but showing viewers only one layer at a time may limit the viewers' easy grasp of relationships.

Care should be taken to make "popups" useful, limited to just the relevant information. They should add important information, and be formatted to make the most critical information be easily consumed. These popups can include formatted text, key links, images, data presented in charts, and so forth.

Entries based on a project involving more than more than the entry team should note carefully the work done by the team members. For instance, if a class of 20 works together on a single project and three teams of two students each create different entries based on the 20-person project, each entry should clearly indicate what work was done by the team members. Any content prepared by the teacher/leader must be clearly identified. (For instance, "a Survey123 form (linked here) was created by our teacher, so our competition team do all the data gathering.")

### **Personally Identifiable Information (PII)**

Schools should consider issues around exposing PII. See <http://esriurl.com/agoorgsforschools> for strategies for minimizing PII. Teachers and club leaders should help students minimize exposure of their own PII and that of others, including in map, image, and text.

States must help potential entrants understand the level of PII required. Entries submitted to Esri for the top national prize (i.e. 1-HS and 1-MS) must agree in advance to expose student names, school names, and school city/state (homeschool students would be identified to closest city/town name).

Esri will not seek, collect, or accept student names for any entrants other than the national prize entrants (1-HS and 1-MS per state). These and only these will have names exposed by Esri.