

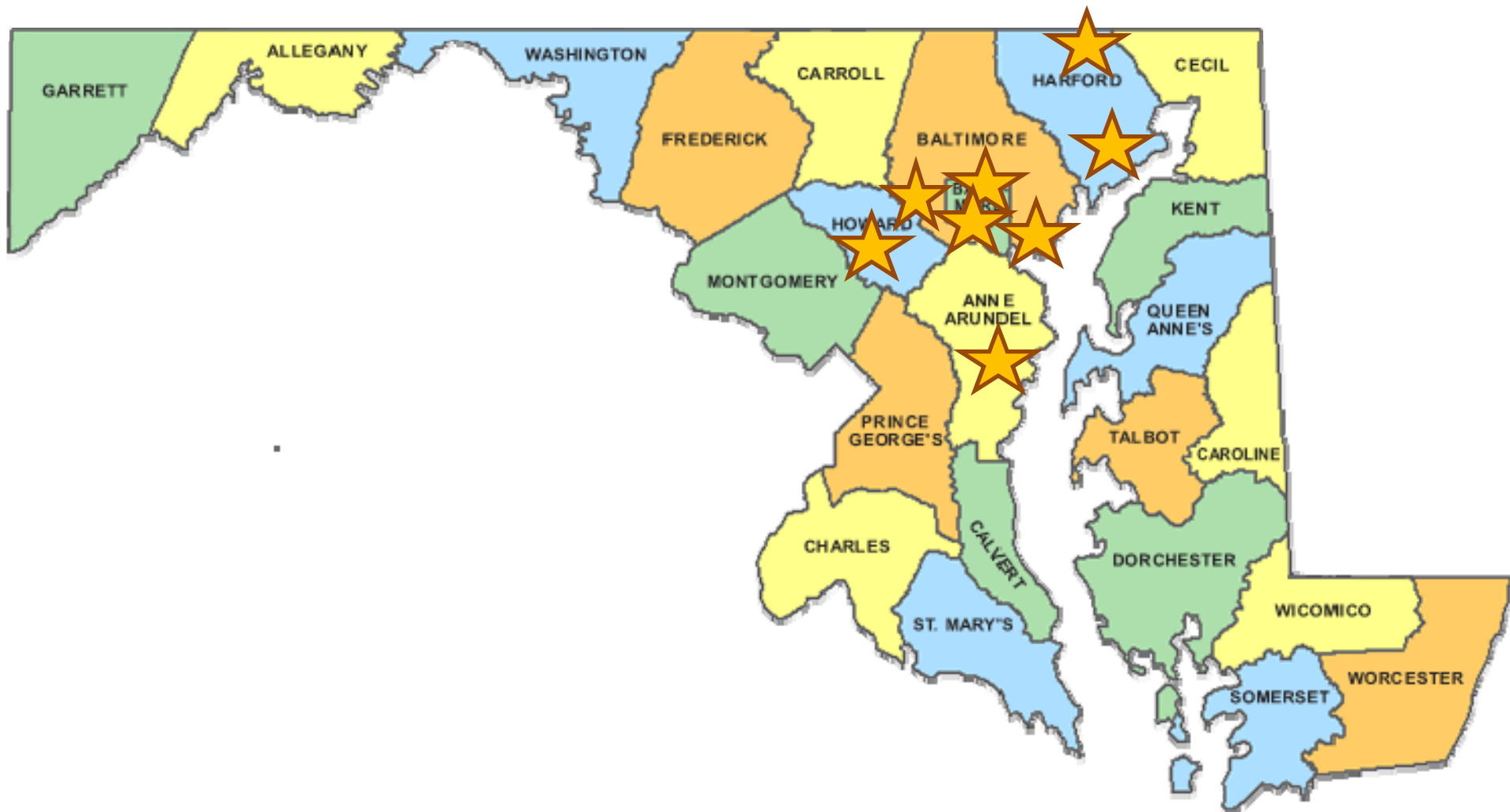


MARYLAND EDUCATION GIS LICENSE

TEAM BCPS

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GEOGRAPHIC INFORMATION SYSTEMS

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ESRI K-12 Software

In partnership with ESRI, Washington College provides ArcGIS software to Maryland public and private K-12 schools at no charge. If you or an educator you know are interested in providing students access to valuable technology skills that will expand their career opportunities in the future, this page will show you how to take advantage of this opportunity.



The Maryland Department of Information Technology signed an Enterprise License Agreement with ESRI effective September 1, 2011. The ELA authorizes Maryland state agencies unrestricted use of ESRI's Geographic Information Systems (GIS) software products. The ESRI education license will empower Maryland's education system to produce a workforce of GIS technology leaders and service agencies. ESRI software is also widely used in the academic, federal, state and local governments as well as in the private sector. Maryland's education system will be training its future workforce in the software and geospatial thinking processes utilized by most government, academic and private sector entities in the state and across the nation.

[List of Software](#)

How to Request Software

Requesting software is easy! Just follow these simple steps:

1. Fill out a **User Agreement Form** and e-mail it as a signed PDF to Emily Aiken

Geoworkshops

ESRI Maryland K-12 Agreement GIS Technical Support

If you have technical questions about using GIS software, please contact one of the following specialists:

Emily Aiken
Washington College GIS Lab
eaiken2@washcoll.edu
443-282-0014

Tim Rogers
Planning Analyst, Office of School Planning

<http://tinyurl.com/MD-GIS-ELA>

A TWO PART LICENSE





4.Earth's Systems: Processes that Shape the Earth

4.Earth's Systems: Processes that Shape the Earth

Students who demonstrate understanding can:

- 4-ESS1-1. Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time.** [Clarification Statement: Examples of evidence from patterns could include rock layers with shell fossils above rock layers with plant fossils and no shells, indicating a change from water to land over time; and, a canyon with different rock layers in the walls and a river in the bottom, indicating that over time a river cut through the rock.] [Assessment Boundary: Assessment does not include specific knowledge of the mechanism of rock formation or memorization of specific rock formations and layers. Assessment is limited to relative time.]
- 4-ESS2-1. Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.** [Clarification Statement: Examples of variables to test could include angle of slope in the downhill movement of water, amount of vegetation, speed of wind, relative rate of deposition, cycles of freezing and thawing of water, cycles of heating and cooling, and volume of water flow.] [Assessment Boundary: Assessment is limited to a single form of weathering or erosion.]
- 4-ESS2-2. Analyze and interpret data from maps to describe patterns of Earth's features.** [Clarification Statement: Maps can include topographic maps of Earth's land and ocean floor, as well as maps of the locations of mountains, continental boundaries, volcanoes, and earthquakes.]
- 4-ESS3-2. Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.*** [Clarification Statement: Examples of solutions could include designing an earthquake resistant building and improving monitoring of volcanic activity.] [Assessment Boundary: Assessment is limited to earthquakes, floods, tsunamis, and volcanic eruptions.]

The performance expectations above were developed using the following elements from the NRC document *A Framework for K-12 Science Education*.

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p>Planning and Carrying Out Investigations Planning and carrying out investigations to answer questions or test solutions to problems in 3–5 builds on K–2 experiences and progresses to include investigations that control variables and provide evidence to support explanations or design solutions.</p> <ul style="list-style-type: none"> Make observations and/or measurements to produce data to serve as the basis for evidence for an explanation of a phenomenon. (4-ESS2-1) <p>Analyzing and Interpreting Data Analyzing data in 3–5 builds on K–2 experiences and progresses to introducing quantitative approaches to collecting data and conducting multiple trials of qualitative observations. When possible and feasible, digital tools should be used.</p> <ul style="list-style-type: none"> Analyze and interpret data to make sense of phenomena using logical reasoning. (4-ESS2-2) <p>Constructing Explanations and Designing Solutions Constructing explanations and designing solutions in 3–5 builds on K–2 experiences and progresses to the use of evidence in constructing explanations that specify variables that describe and predict phenomena and in designing multiple solutions to design problems.</p> <ul style="list-style-type: none"> Identify the evidence that supports particular points in an explanation. (4-ESS1-1) Generate and compare multiple solutions to a problem based on how well they meet the criteria and constraints of the design solution. (4-ESS3-2) 	<p>ESS1.C: The History of Planet Earth</p> <ul style="list-style-type: none"> Local, regional, and global patterns of rock formations reveal changes over time due to earth forces, such as earthquakes. The presence and location of certain fossil types indicate the order in which rock layers were formed. (4-ESS1-1) <p>ESS2.A: Earth Materials and Systems</p> <ul style="list-style-type: none"> Rainfall helps to shape the land and affects the types of living things found in a region. Water, ice, wind, living organisms, and gravity break rocks, soils, and sediments into smaller particles and move them around. (4-ESS2-1) <p>ESS2.B: Plate Tectonics and Large-Scale System Interactions</p> <ul style="list-style-type: none"> The locations of mountain ranges, deep ocean trenches, ocean floor structures, earthquakes, and volcanoes occur in patterns. Most earthquakes and volcanoes occur in bands that are often along the boundaries between continents and oceans. Major mountain chains form inside continents or near their edges. Maps can help locate the different land and water features areas of Earth. (4-ESS2-2) <p>ESS2.E: Biogeology</p> <ul style="list-style-type: none"> Living things affect the physical characteristics of their regions. (4-ESS2-1) <p>ESS3.B: Natural Hazards</p> <ul style="list-style-type: none"> A variety of hazards result from natural processes (e.g., earthquakes, tsunamis, volcanic eruptions). Humans cannot eliminate the hazards but can take steps to reduce their impacts. (4-ESS3-2) <i>(Note: This Disciplinary Core Idea can also be found in 3.WC.)</i> <p>ETS1.B: Designing Solutions to Engineering Problems</p> <ul style="list-style-type: none"> Testing a solution involves investigating how well it performs under a range of likely conditions. <i>(secondary to 4-ESS3-2)</i> 	<p>Patterns</p> <ul style="list-style-type: none"> Patterns can be used as evidence to support an explanation. (4-ESS1-1),(4-ESS2-2) <p>Cause and Effect</p> <ul style="list-style-type: none"> Cause and effect relationships are routinely identified, tested, and used to explain change. (4-ESS2-1),(4-ESS3-2) <hr/> <p>Connections to Engineering, Technology, and Applications of Science</p> <p>Influence of Engineering, Technology, and Science on Society and the Natural World</p> <ul style="list-style-type: none"> Engineers improve existing technologies or develop new ones to increase their benefits, to decrease known risks, and to meet societal demands. (4-ESS3-2) <hr/> <p>Connections to Nature of Science</p> <p>Scientific Knowledge Assumes an Order and Consistency in Natural Systems</p> <ul style="list-style-type: none"> Science assumes consistent patterns in natural systems. (4-ESS1-1)
Connections to other DCIs in this grade-level: will be available on or before April 26, 2013.		
Articulation of DCIs across grade-levels: will be available on or before April 26, 2013.		
Common Core State Standards Connections: will be available on or before April 26, 2013.		
ELA/Literacy –		
Mathematics –		





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MAP

GROUPS

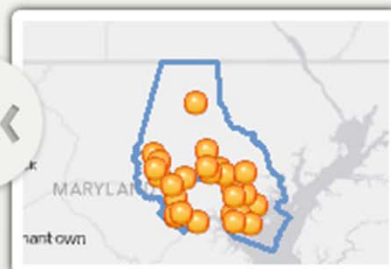
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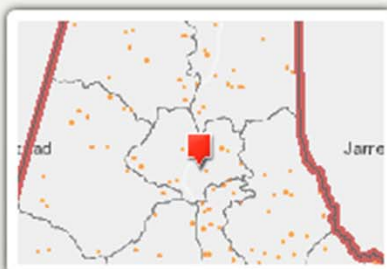


Baltimore County Public Schools

Baltimore County STEM Alliance



Baltimore County High School Career



Baltimore County STEM Alliance



Baltimore County Streams

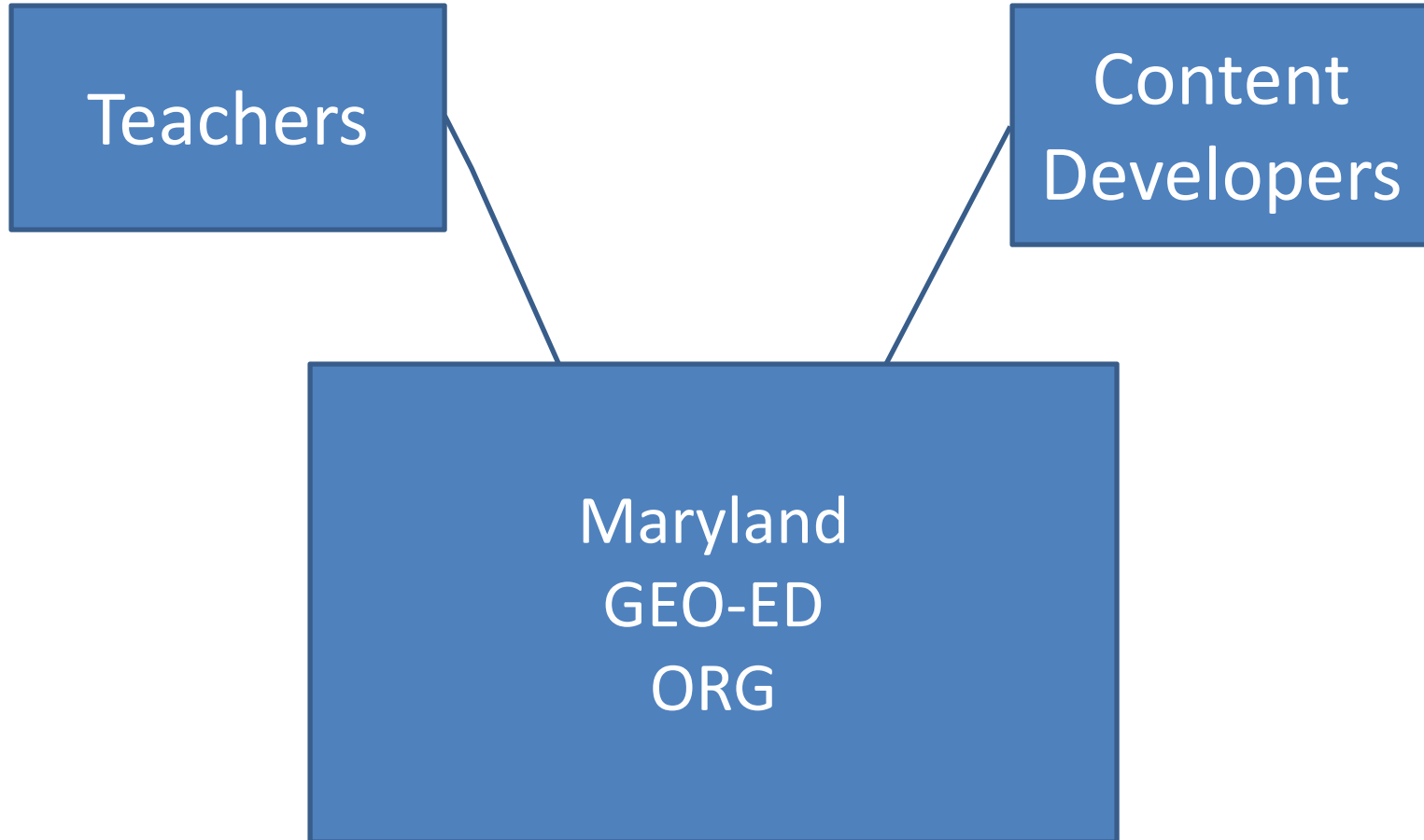


Eastwood Elementary GIS Day 2012

Baltimore County Public Schools spatial data and applications sharing area.

[Make a Map »](#)

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