

Trees and Ecological Services Investigation How do trees and vegetation provide ecosystems services to the community?	Zoning	e
Different types of vegetation provide ecological services including shade, habitat for wildlife, and nutrient cycling.	 Government tool for controlling how land is used 	Maps
 Investigate the area around your school to identify different types of trees. Explore the environmental and societal benefits that trees provide in Allentown. Investigate the relationship among trees and crime in Allentown. 	 Codified in "Zoning Ordinance" 	
Read all instructions and answer each question on your investigation sheet.	 A Map – divides community into zones which each allow different kinds of use 	
Preparations Checklist: Dichotomous Key iBook downloaded Ecological Services Field Map downloaded Measuring Tape	 Text – designating what may be constructed in each 	
Step 1: Open the Collector App and Your Map	requirements, as well as procedural	
a. Collector app and sign in	matters	▶ 10 01:54

Student and Teacher Guides

PD Materials



A Professional Development Approach for Teaching Socio-Environmental Science Investigations with Mobile Geospatial Technologies,

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> Data collected from six seperate classes color coded by tree genus. Also shown is an individual class' data table, which can be sorted or filtered by field.

Video Tutorials

02:29 ◀))



GIS online is free for US K-12 schools.

Data layers can be turned off an on to display geospatial patterns. Students can also edit and add new features to their map.



Increased growth for all teachers in their **Geospatial Science - Technological**

Sample GS-TPACK items:

teaching strategies. teaching strategies.

- teaching strategies.
- student learning.

Findings

Acknowledgements

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Pedagogical Content Knowledge (GS-TPACK).

All GS-TPACK subscales showed improvement after implementation.

Customized interface and data displays I can design lessons that effectively combine content, geospatial technologies, and

I can *teach* lessons that effectively combine content, geospatial technologies, and

I can use geospatial technology to teach content effectively using a variety of

I can adapt my use of teaching strategies when using geospatial technology for

I can plan lessons that make effective use of GIS. I can analyze data using GIS.

1) Strong growth in teacher's geospatial pedagogical content knowledge.

2) Increased map use by teachers, both within and outside of SESI activities.

3) Teacher use of maps as media for inqury, not didatic instruction.

4) Teacher modeling to guide student's analysis in GIS.

Come see related talk today in Session 235, Room 2B at 3:55 - 4:10 pm