

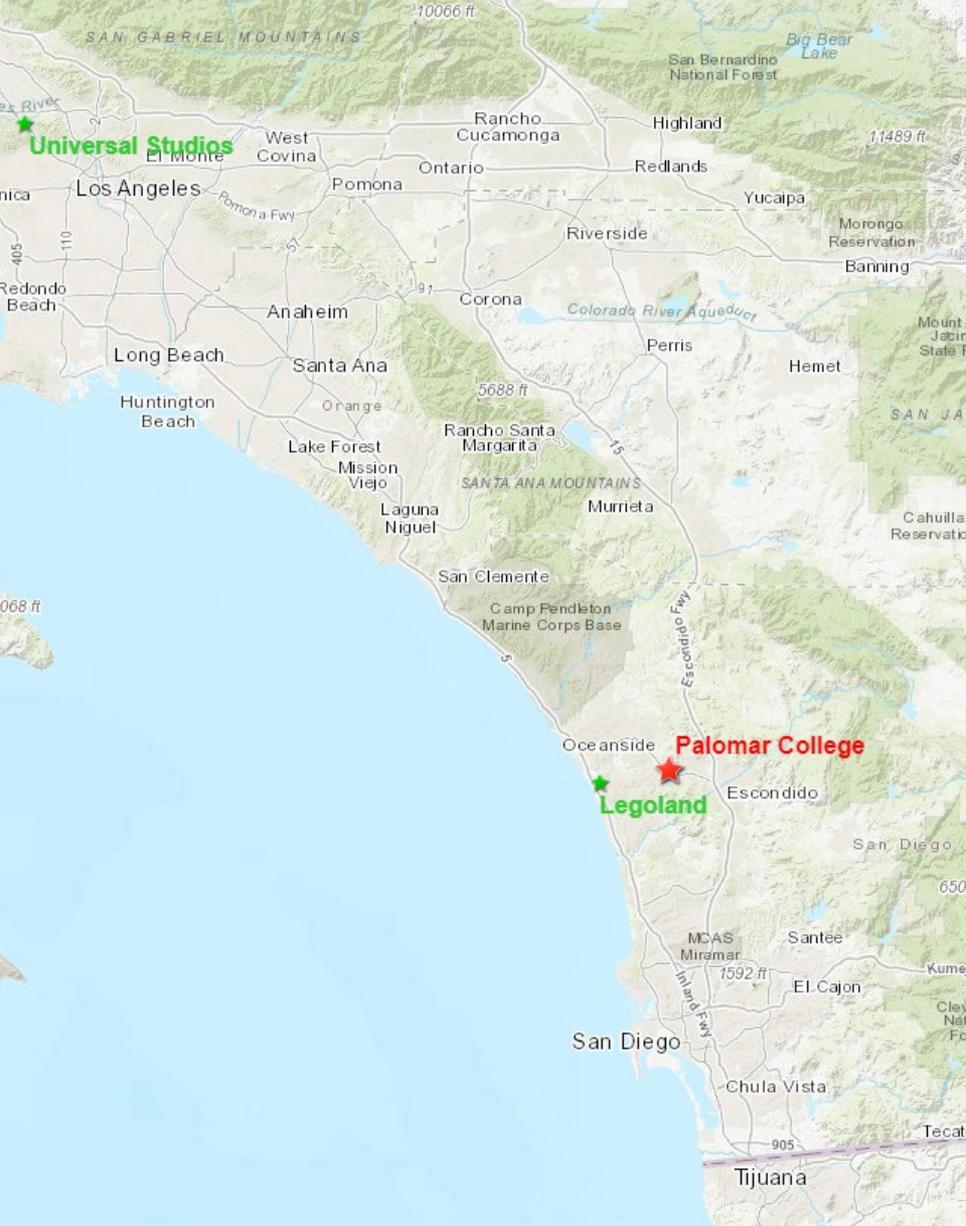


Don't Teach GIS, Teach WITH GIS!

Enhance student learning with GIS

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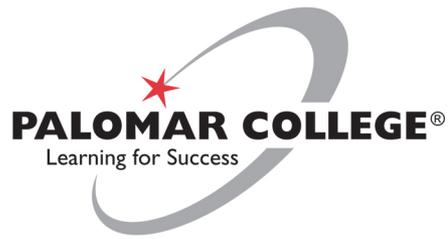
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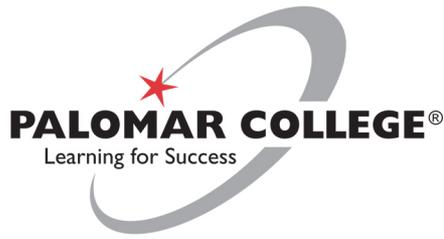
Who am I?

- *Professor of Geography*
- *Chair of the Earth, Space and Environmental Sciences Department*
- *Principal Investigator, UASTEP (NSF)*
- *Assistant Director, National GeoTech Center (NSF)*
- *B.A. Geography (UCLA); M.S. Environmental Sci. (Indiana University, Bloomington); PhD. Planning, Policy, & Design (UCI)*



Who are you?

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What is Geographic Information System (GIS)?

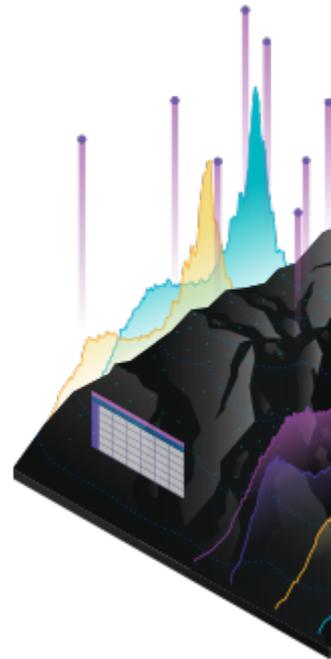
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Agenda

- *Geoinquiries*
- *Collector for ArcGIS*
- *Story Maps*

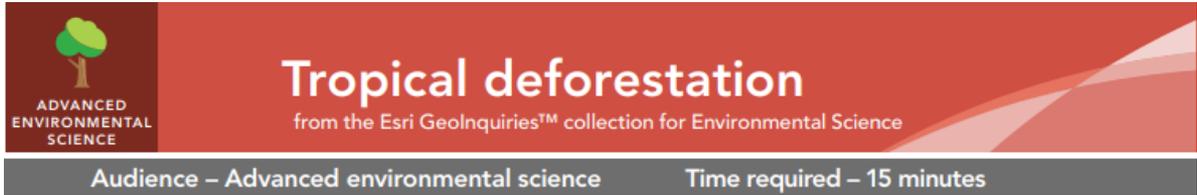


Geoinquiries



What are Geoinquiries?

- *Short lessons (15 minutes)*
- *135 activities in 9 subject areas*
- *Demonstration or hands-on activity*
- *Based on state and national education standards*
- *Technical directions and discussion questions*



Tropical deforestation
from the Esri GeoInquiries™ collection for Environmental Science

Audience – Advanced environmental science Time required – 15 minutes

Activity Explore deforestation trends and patterns.

Science Standards **APES: IV.** Land and Water Use (Feeding a Growing Population and Rangelands; deforestation)
NGSS: HS-ESS3-3. Create a computational simulation to illustrate the relationships among management of natural resources, the sustainability of human populations, and biodiversity.

Learning Outcomes • Students will identify and describe the locations most affected by deforestation.



Understanding globalization
from the Esri GeoInquiries™ collection for Human Geography

Audience – Human geography Time required – 15 minutes

Activity Investigate how connections are made across Earth, focusing on advancements in transportation and technology.

APHG Benchmarks **APHG: I.B.** Identify and explain major geographical concepts, including location, transportation, scale, place, and globalization.
APHG: III.A. Identify the connections between globalization and culture, including folk and popular culture.

Learning Outcomes • Students will explain the major geographical concepts underlying the geographic perspective.
• Students will explain how globalization influences cultural interactions and change.



Demonstration

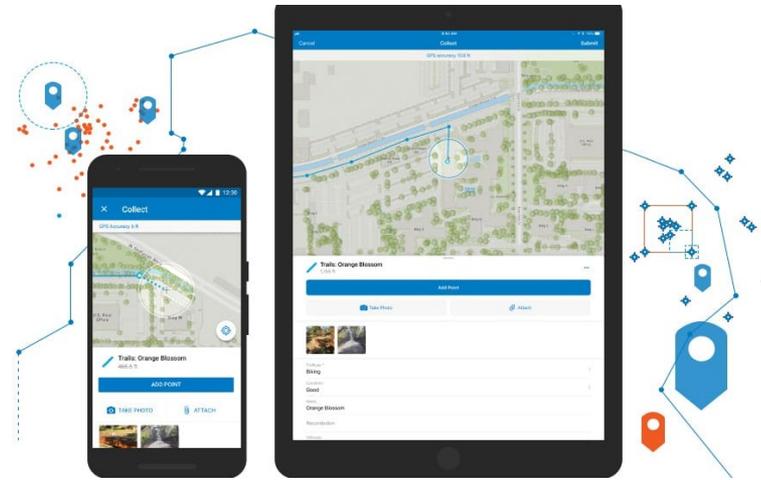
Assess landslide hazard with remotely sensed data

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Tips for implementation

- Access at: <https://tinyurl.com/geoinquiries>
- Always test lessons 24 hours in advance
 - ArcGIS online updates
 - Web maps, layers updates
- Use the same internet browser (e.g. Chrome)
- Best setup for activities (laptop, desktop, mouse)

Collector for ArcGIS



What is Collector for ArcGIS?

- *Mobile data collection app (iOS, Android)*
- *Collect data using phone/tablet GPS*
- *Data collected and sent to web map*
- *Can be used online/offline*



Case Study

- *Sign inventory (Pinellas County, Florida)*

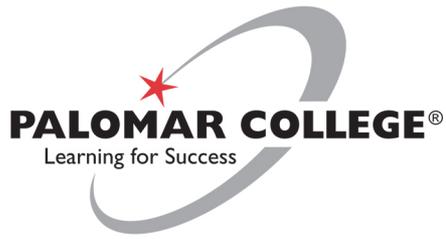
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DUNEDIN

NMV Sign #839976

LAT: 39.6512629, LON: -84.3395821
Attachments: "No Parking on Trail"
Post style: antique
Install Date: 03-16-2012





Case Study

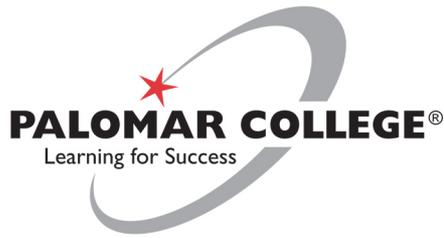
- *Palomar Student Mapping Project (Polynesian Garden)*

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DigitalGlobe, Microsoft
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Demonstration

*Build a webmap on ArcGIS Online
and collect data using Collector for ArcGIS*

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Process at a glance

Building the Layer on ArcGIS Online

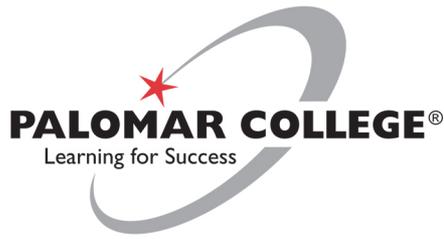
- Sign into ArcGIS.com
- Go to Content
- Go to Create
- Select Feature Layer
- Select Build a layer
- Select Points, click Create, click Next, click Next
- Enter Title, click Done
- (Once the layer has been built), click Data, then select Fields
- Click Add (to add in your own fields)
- Click Overview, click Enable Attachment (to collect photos)
- Click Open in Map Viewer

Building the web map on ArcGIS Online

- Click Save. Enter Title, Tags, and Summary. Click Save Map
- Click Share (Be sure to share it with the group that contains your students)
- Save the map again

Collecting data with your mobile device

- Open Collector Classic on your phone, and sign in
- Look for your saved map in the All Maps section
- Open it and start collecting data!
- *You should be able to see your collected data instantly on the ArcGIS Online web map!*



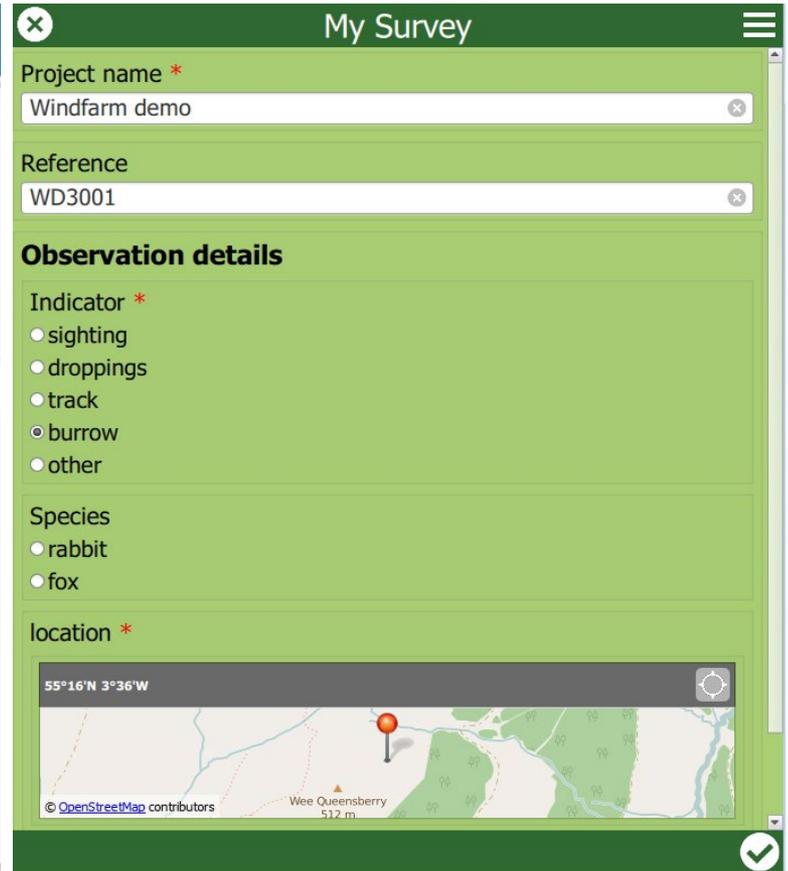
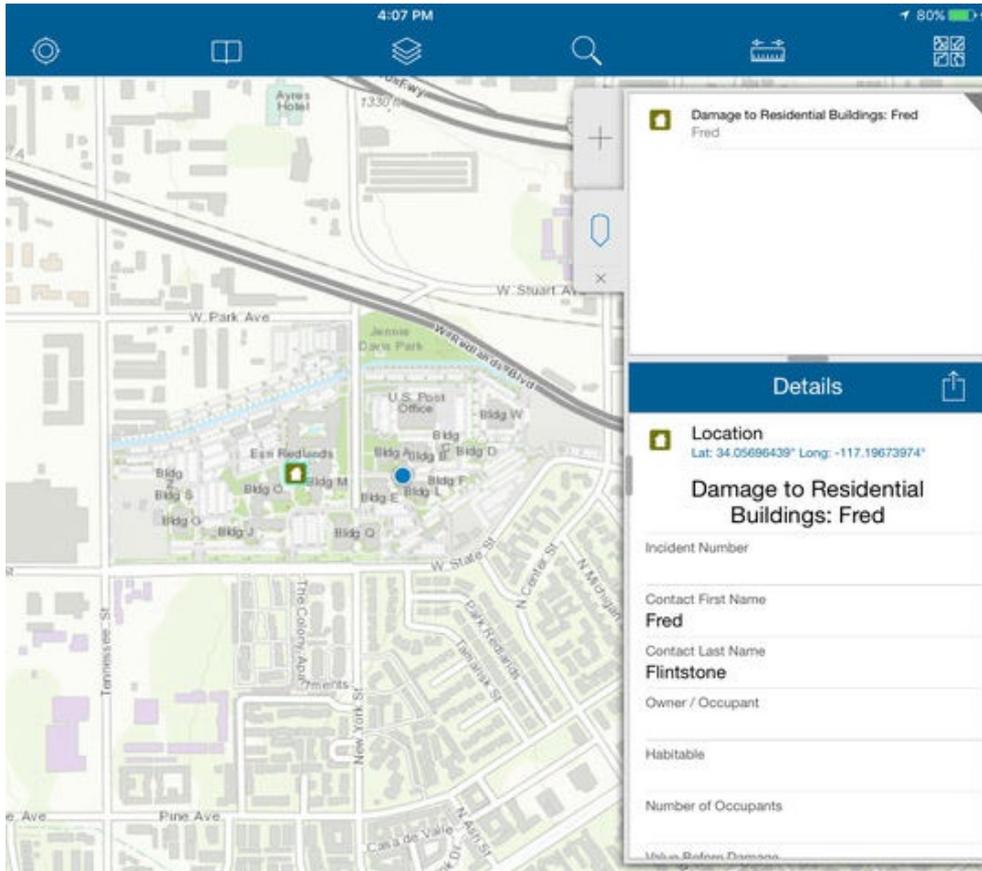
**How will YOU use Collector
in your classes?**

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Tips for implementation

- *Make sure that students are in your ArcGIS Online group*
- *Share web map with the group*
- *Integrate use of your mobile device's sensors*
 - *Light sensor, Microphone*
- *Will this be for online or offline use?*
- *Another option? Survey123*

Collector vs. Survey I 23



Story Maps



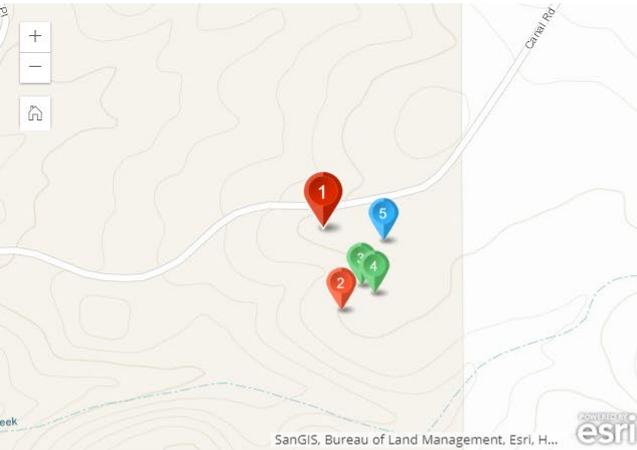
What are Story Maps?

- *Interactive online presentation*
 - *Web maps*
 - *Text*
 - *Images*
 - *Multimedia (Youtube)*
 - *Other Story Maps*

Student Example

- *Human Geography: San Pasqual Illegal Dump Sites*

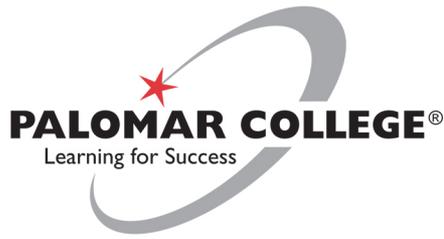
Human Geography



1 East Canal 1

The Environmental Department at San Pasqual has cleaned up several hazardous sites over the years. This is the scene at one of the most extensive sites San Pasqual has ever undertaken. Located near East Canal Road, several trailers like this were surrounded by huge accumulations of household trash, disabled vehicles, and various other garbage.





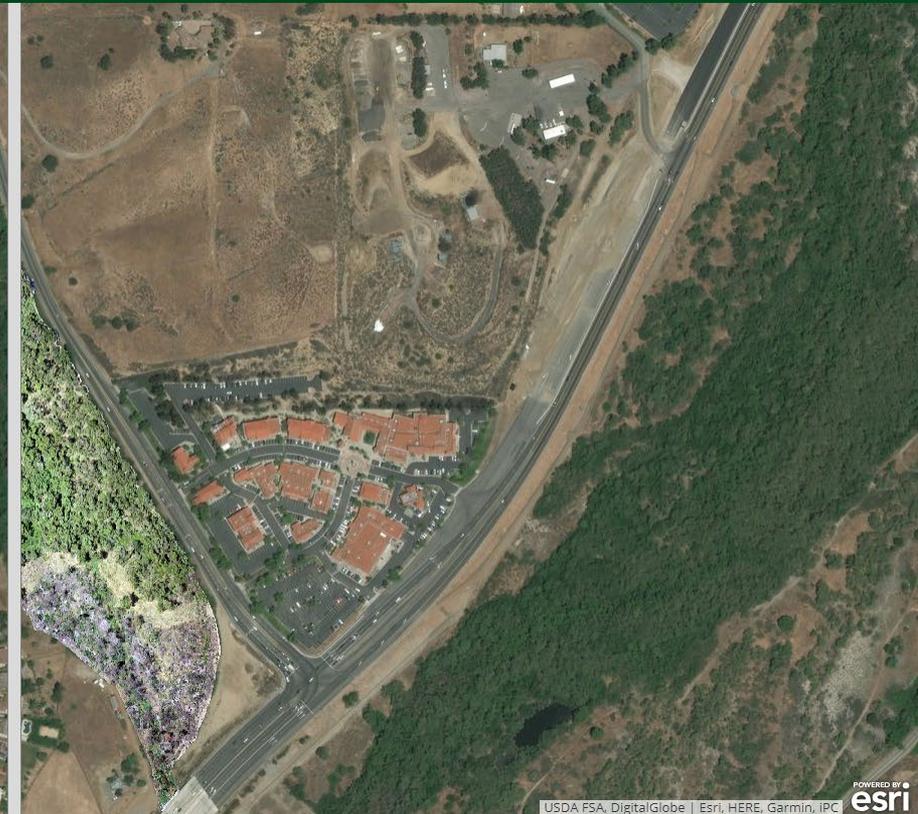
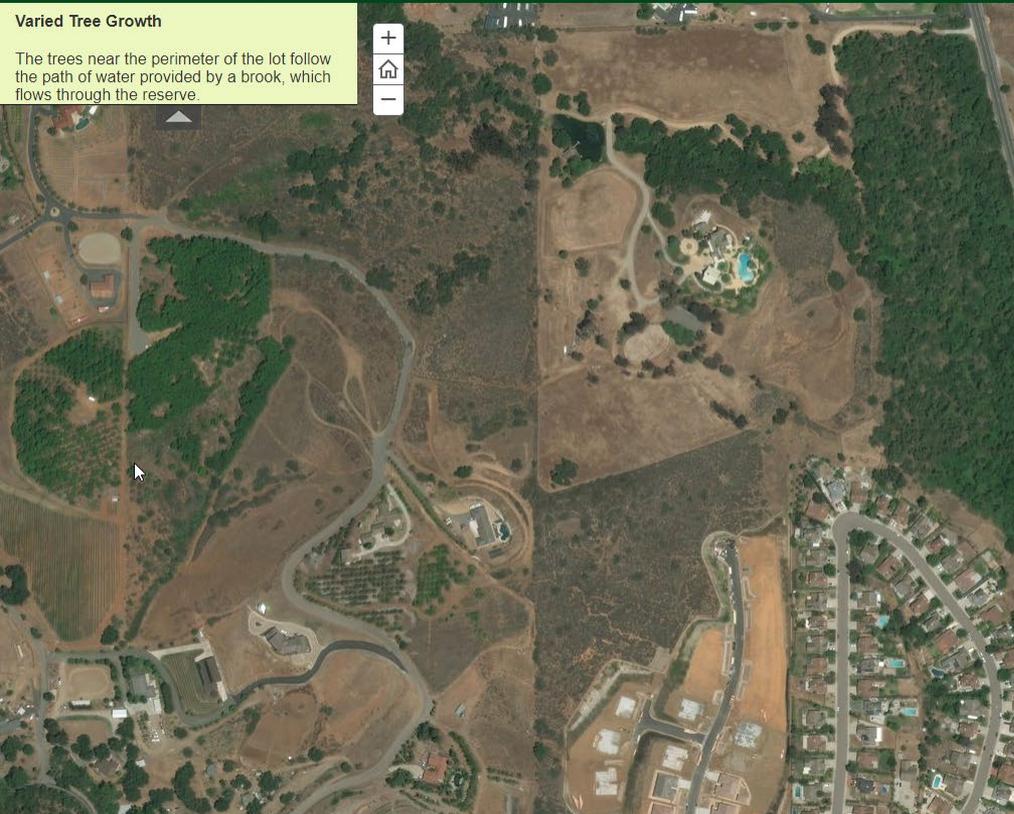
Student Example

- *Drone Technology Summer Camp: Bonsall Preserve*

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Drone Technology Summer Camp

- 1
- 2
- 3
- 4
- 5
- 6



Tips for implementation

- *What story are you trying to tell?*
- *Different templates available for different purposes*
- *Sharing permission*
- *“Five Fast Ways to Make Your Story Maps POP!”*

Getting Started Resources

- [Library of Geoinquiries](#)
- [Getting Started with Collector for ArcGIS](#)
- [Survey123 Tutorials](#)
- [Story Map Tutorials](#)
- [Teach with GIS Lesson Gallery](#)
- [National Geospatial Technology Center of Excellence](#)
- [Unmanned Aircraft Systems Operations Technician Education Program](#)

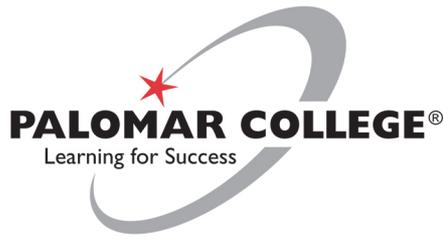


Why GIS in the classroom?

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Thank you!

Questions?

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