



Exploring a Methodical Approach for Integrating and Applying GIS in Education


Anita Palmer and Barbaree Duke
Esri Education Summit 2018



anita@gisetc.com | barbaree@gisetc.com | chris.bunin@gmail.com | chrispo@gmail.com

Anita Palmer | Barbaree Duke | Chris Bunin | Christine Esposito

gisetc.com/gisforteachers | cartediempres.com

A young child with light-colored hair and eyes is shown from the chest up. They are wearing a blue and white striped t-shirt. Their right hand is held behind their ear, with fingers spread, as if they are listening intently or trying to hear something. The background is a plain, light-colored wall. The overall image has a slightly muted, greyish tint.

“we need a
textbook for
teachers and
pre-service
teachers”

What we
heard...



This Photo by Unknown Author is licensed under [CC BY-SA](#)

With a combined
100 years of
teaching &
75 years of
geospatial
teaching
experience...

Techniques for Pedagogy, Integration and GIS

01

Using Pre-
created
Story Maps

02

Using
GeoInquiries

03

Using Pre-
created Web
Maps

04

Adapted
GeoInquiries

05

Making
Maps & Data
Collection

06

Project
Based
Learning

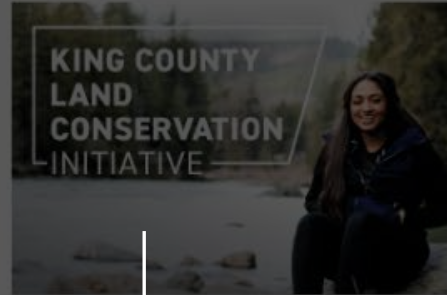
Gallery

Pre-created Story Maps

- Search the gallery by topic for a great place to start
- It's a perfect beginners tool.
- Explore the maps vetted by Esri Story Maps team.



River of Resilience: Part 9
By Krsta Schiyer



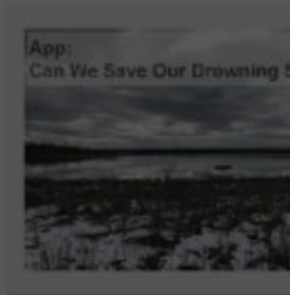
King County Land Conservation Initiative
By King County, WA



Audubon Climate Watch
By National Audubon Society



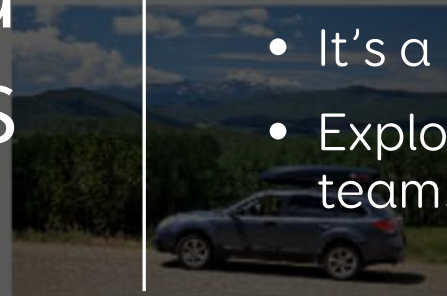
Can We Save Our Drowning Swimmers?
By Samish Indian Nation



Paisajes de otro mundo en Espinosa de los Caballeros
By University of Rhode Island/



Males and Females Without Health Insurance in the United States
By Lisa Berry, Esri



SouthWest Journey
By Martin Vavrincik



Combating Homelessness in Los Angeles Courthouse
By Lauren Scott Griffin, Esri



Tulips in the Capital
By National Capital Commission, Canada



Story + Maps
By Sergio Domenech Zuero, Esri



Sending a Convincing Message



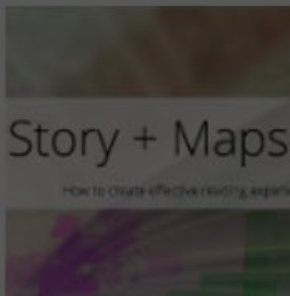
ASKARI SERPENT



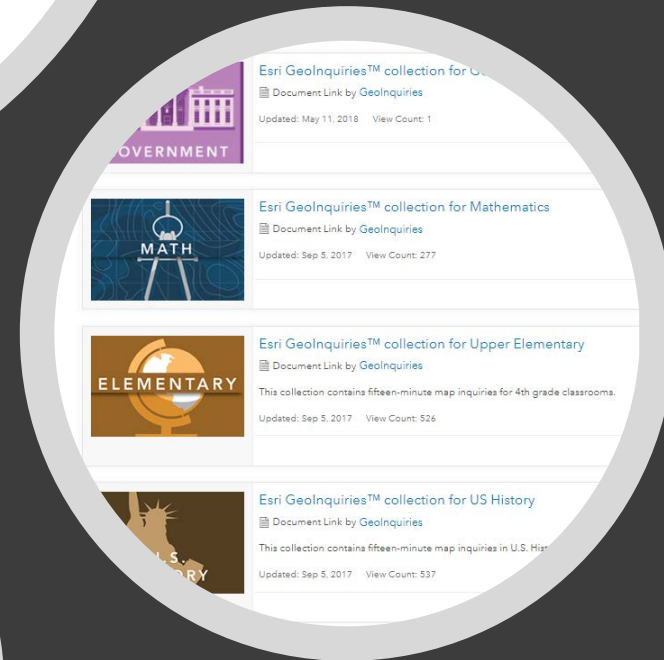
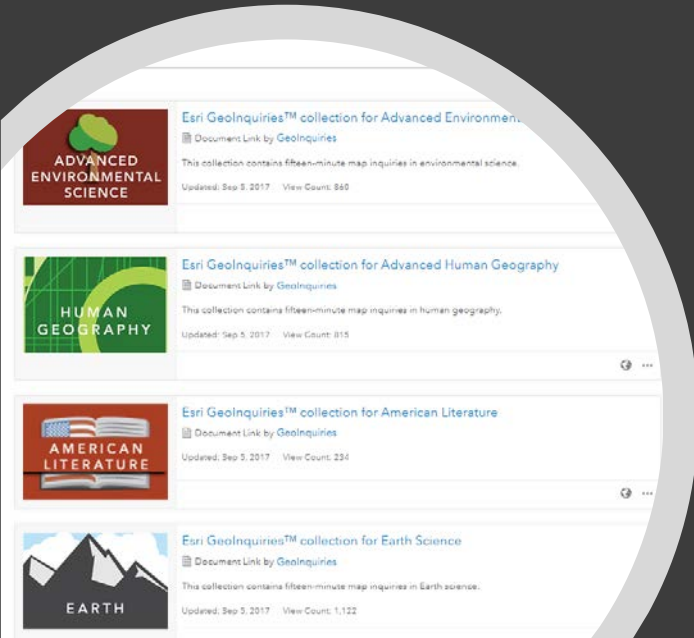
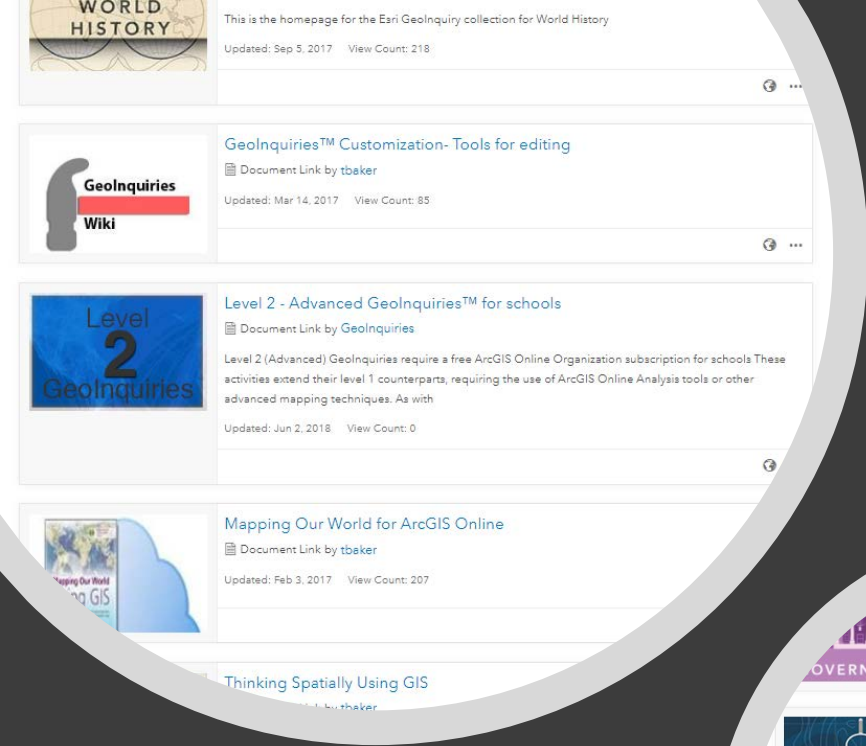
Sul cammino del Rinascimento



Julie's Improbable Flight



Story + Maps: Part 2



Use Geolnquiries

- 13 collections
- Designed for Instructors to guide students through a 15-20 minute discussion.
- Adaptable, CC Licensed content
- Standards and Textbook referenced

Pre-Created Web Maps

- Search by Topic at arcgis.com
- Historical figures or events
- Famous Authors
- Scientific Research



Use with the Book You Wouldn't Want to be in Alexander the Great's Army

Created: Jan 15, 2017 Updated: Jan 15, 2017 View Count: 18



The life and times of Alexander the Great

Web Mapping Application by [ramon11085](#)

Map following Alexander as he journeys across Europe and the middle east to land in India

Created: Oct 11, 2013 Updated: Oct 14, 2013 View Count: 56




Historic_Sogdiana_Territory

Feature Layer by [grey9005@esri.com_Story](#)

Extent for the ancient territory of Sogdiana during the empire of Alexander the Great.

Created: Dec 19, 2017 Updated: Dec 19, 2017 View Count: 7



Alexander the Great Map 1 - 8th Grade World History

Web Map by [tamanunnelley221](#)

Use with the Book You Wouldn't Want to be in Alexander the Great's Army

Created: Aug 6, 2016 Updated: Aug 6, 2016 View Count: 159

Hacking Geolnquiries: Tools for Customization

<http://bit.ly/HackingGeolnquiries>

Geolnquiries are short, standards-based inquiry activities for teaching map-based concepts found in commonly used textbooks. Using an inquiry instructional model, Geolnquiries integrate ArcGIS Online technology to support subject matter content teaching. Lessons include learning objectives, technical "how-to's", textbook references, and formative whole-class assessment items – all packed into one page. These activities are technology agnostic and can be delivered in a classroom with as little as a tablet and a projector. Any teacher can use a Geolnquiry, regardless of their prior experience with digital mapping tools. For questions or concerns, email geoinquiries@esri.com



The goal of these wiki-style pages is to help you, the classroom instructor, move beyond the "out-of-the-box" geoinquiries, customizing the maps and activities to your needs. The page is accessible at: <http://bit.ly/HackingGeolnquiries>

- [Geolnquiries -->](#)
- [Hacking the instruction sets -->](#)
- [Hacking Geolnquiry maps -->](#)
- [Hacking Geolnquiry data →](#)
- [Analyzing Geolnquiry data -->](#)

Educational Research

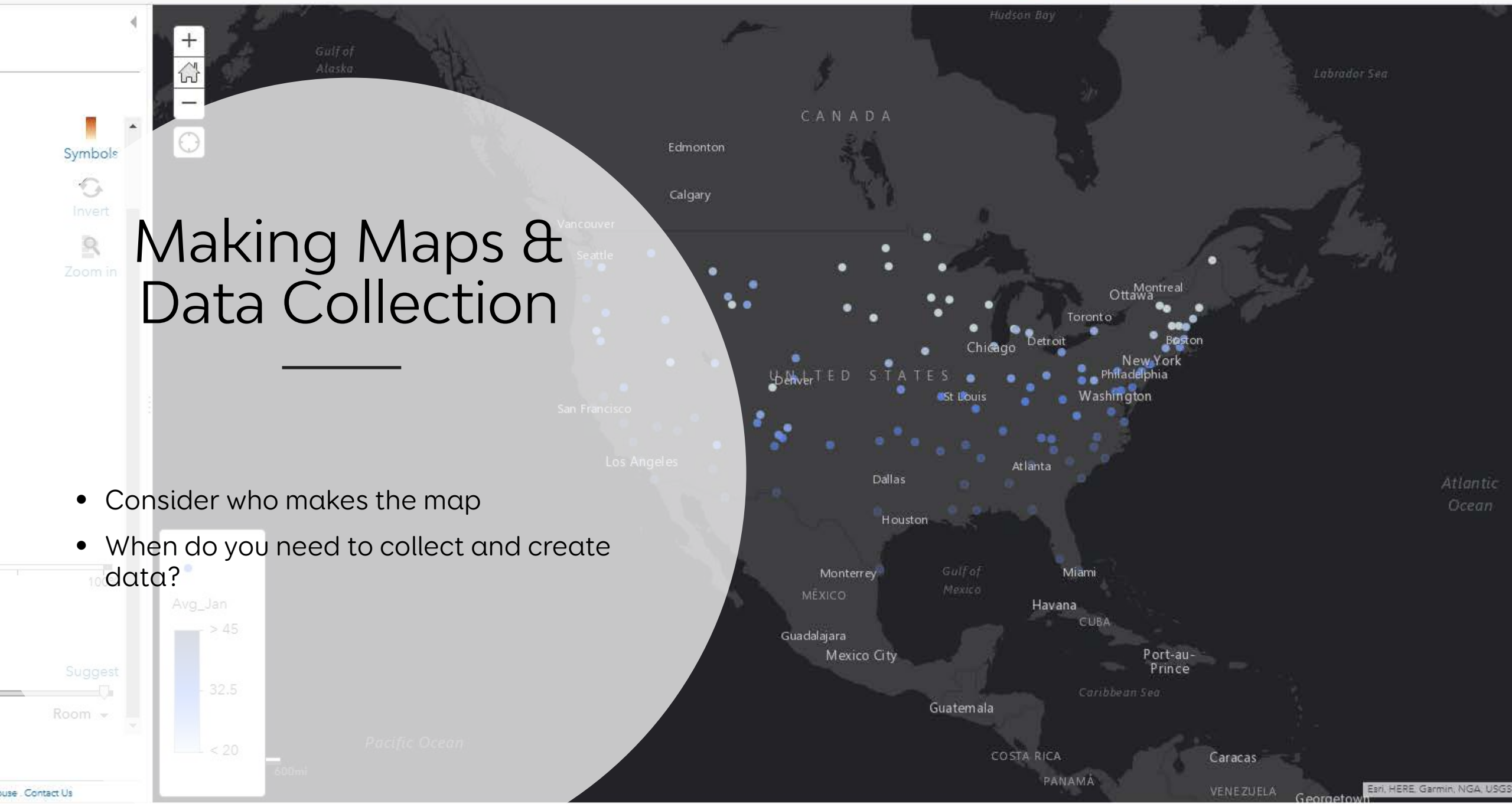
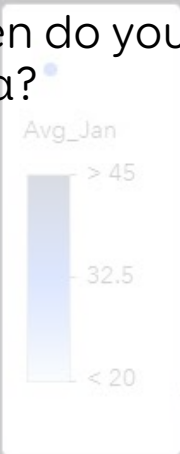
A growing bibliography of geoinquiry academic articles and research is now online at <http://bit.ly/GeolnquiryPubs> .

Adapted Geolnquires

<http://bit.ly/HackingGeolnquiries>

Making Maps & Data Collection

- Consider who makes the map
- When do you need to collect and create data?



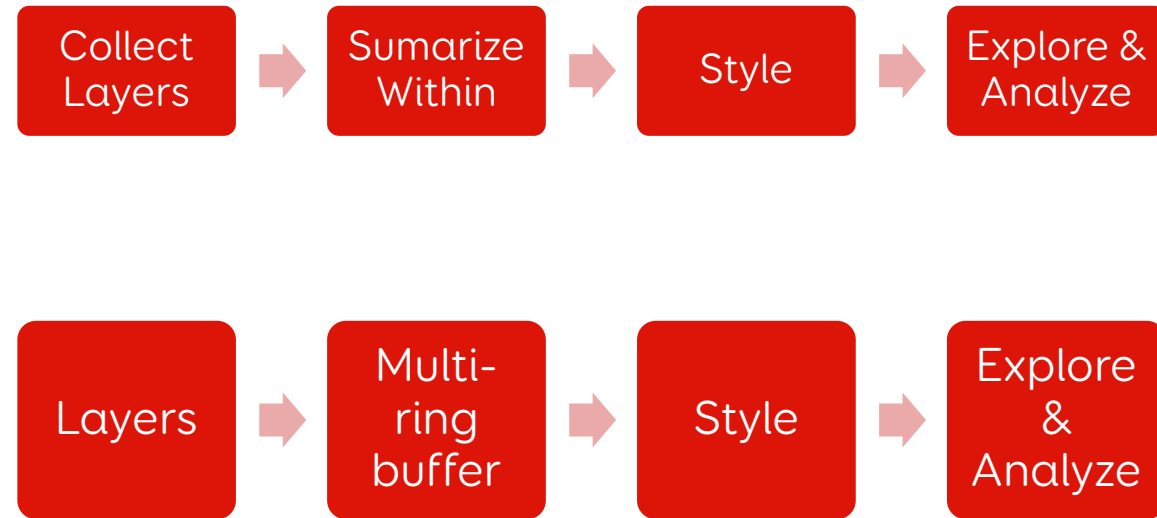
Project- Based Learning & GIS



Connecting PBL with Geographic Inquiry

Give students essential experiences in analysis, planning, data creation, and communication.

Applying the GIS Advantage - Analysis



ANALYSIS SCENARIO 3



A group of students are doing a project on the major river systems of the United States and were assigned the Mississippi River System. They would like to create a map that shows the Mississippi River, the major rivers of the Mississippi River System, and all the US States that intersect these rivers.

Now, where to store maps and data?

What is the best way to organize your ArcGIS Organization?



When do you introduce students to their own accounts?



How do you take advantage of groups?



Thank you!
Questions?



anita@gisetc.com | barbaree@gisetc.com | chris.bunin@gmail.com | chrispo@gmail.com

Anita Palmer | Barbaree Duke | Chris Bunin | Christine Esposito

gisetc.com/gisforteachers | cartediempres.com