# Integrating
# Computer Science + Geography

*Professional Fellowship*

*Session #2*

*Nov 21, 2023: 6:00-7:30 p.m.*

CALIFORNIA
global education
PROJECT CGEP

CALIFORNIA GEOGRAPHIC ALLIANCE

DEVELOPING THE POTENTIAL
IN EVERY GLOBAL CITIZEN
www.calglobaled.org

# Session Agenda

- Community EJ Screening Tool debrief

- ArcGIS Online + StoryMaps

- Student GIS Mapping Competition

- Summer 2024 workshop plans

- Planning an individualized fellowship path

# 5-minute Warm Up

Zoom poll

&

Meditate
on concept:

*Geospatial intelligence*



## What Is Geospatial Intelligence?

Geospatial Intelligence provides transformative insights by connecting location data with other spatial and non-spatial data. This is how it works.

Written by **Abdishakur Hassan**
Published on Feb, 06, 2023

built in
EXPERT
CONTRIBUTOR
NETWORK
★★★

# Geospatial Intelligence

Thinking about teachable intelligence, not CIA intelligence

An era of big data, complex issues, and critical decisions in which information processing capabilities, accurate models, and visionary thinking will all be vital

Intelligence rooted in real-world experience, environmental awareness, and active stewardship that can be aligned at multiple scales
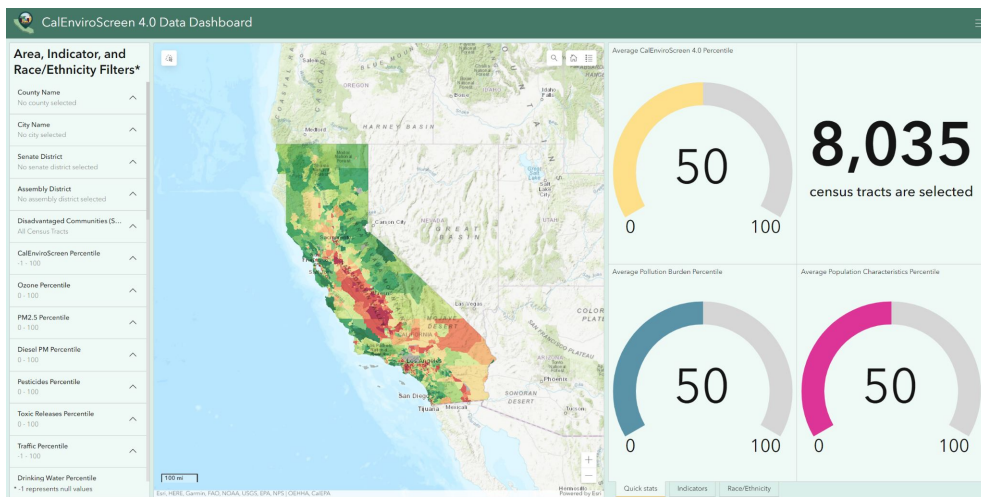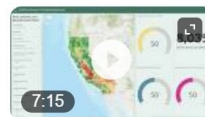
# Community EJ Screening Tool

- Designed to help move classroom conversations about environmental justice from general, vague, and unrelatable toward specific, data informed, and community relevant

- Can be completed by students (?) as a guided inquiry to build data literacy skills, increase knowledge, and motivate action

- Results can be introduced as starting point for explorations of community conditions, experiences, histories, and environments that develop skills and increase relevance in any subject area

# CalEnviroScreen is a CS + Geo Masterpiece



CalEnviroScreen 4.0 Dashboard
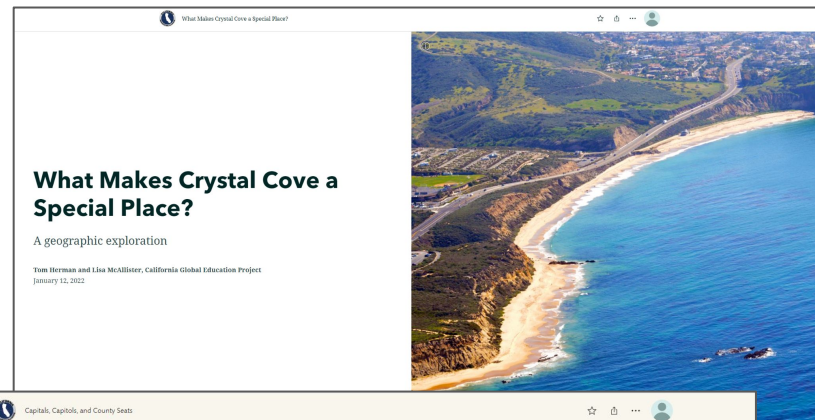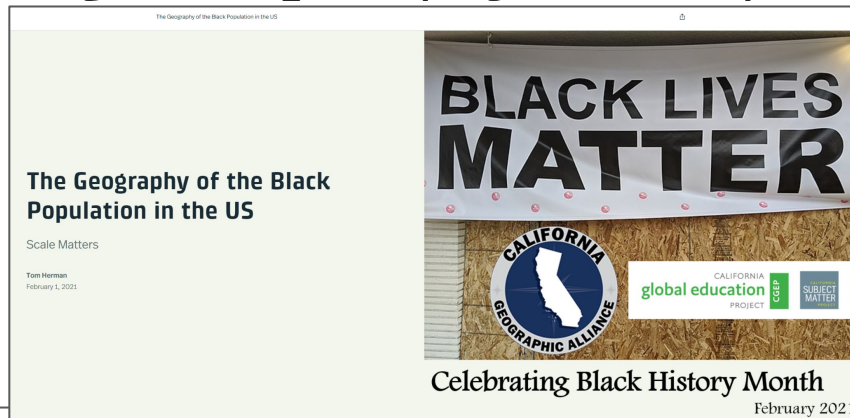*This is the same tool and data that state lawmakers use to try to address environmental justice!*

How much difference is there between places in California?

Are environmental justice issues in California connected with legacies of White privilege?

# Esri's ArcGIS Online

- Industry standard Geographic Information Systems software

- Cloud-based software organizational accounts are free to schools (includes mapping and Survey123 applications)

- Map based resources and curriculum materials available and usable without account or login

  - Web maps, map apps, and StoryMaps
  - GeoInquiries & Next generation GeoInquiries
  - National Geographic MapMaker Interactive

# StoryMaps (by Tom)

Do you think racial segregation in the United States is increasing or decreasing at the present time? What evidence can you access to better understand?
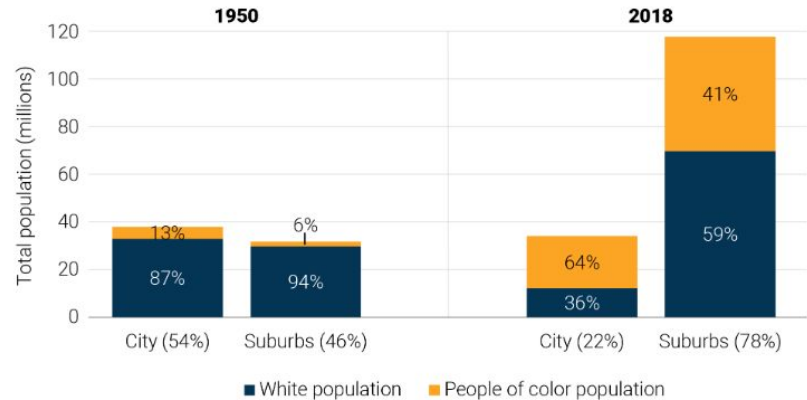
POLITICS & POLICY

## U.S. neighborhoods are more segregated than a generation ago, perpetuating racial inequity

We often overlook one of the root causes in staggering disparities in health, income and incarceration – where we live.

**Figure 1. Regional distribution of population by race**
Today's MSAs containing the top 50 U.S. cities by population in 1950 and 2018



Source: Brookings analysis of IPUMS USA, University of Minnesota.

B | Metropolitan Policy Program at BROOKINGS

**Even after decades of growing diversity and spatial mobility, most Americans still live in racially segregated neighborhoods.**

*You should do this!*



## My California

### GIS MAPPING SHOWCASE AND COMPETITION
#### FOR 4-8TH AND 9-12TH GRADES

**2024 COMPETITION TIMELINE**

| JANUARY 26 | MARCH 1 | MARCH 22 | APRIL 19 | MAY 10 |
| --- | --- | --- | --- | --- |
| Deadline for schools to sign-up for the optional mentoring program | Deadline to submit student work for mentoring | School registration deadline | Entries due to CGA | CGA announces state winners |

Grades 4-12

Schools/teachers register and submit up to 5 entries to state competition

1-2 student authors per entry (StoryMap)

Contest info and past winners at calgeography.org

**CALIFORNIA GLOBAL EDUCATION PROJECT**

*DEVELOPING THE POTENTIAL IN EVERY GLOBAL CITIZEN*
**www.calglobaled.org**

# Questions?

CALIFORNIA
global education
CGEP
PROJECT

DEVELOPING THE POTENTIAL
IN EVERY GLOBAL CITIZEN
www.calglobaled.org

Geo-advocates Dr. Ashley Penir, Lara Main, and Tom Herman
National Council for Geographic Education Annual Conference

CALIFORNIA
global education CGEP
PROJECT

DEVELOPING THE POTENTIAL
IN EVERY GLOBAL CITIZEN
www.calglobaled.org

# Summer 2024 Workshop



**July 15-17, 2024**

Univ. of San Diego campus

>On-campus accommodation for 7/14-17

>Travel and meal costs covered

>Work time: 8:30-4 Mon/Tue; 8:30-12 Wed

>Field trips in evenings as requested

>Airline tickets will be purchased by USD

# Planning Your Fellowship Path

1. **Identify opportunities** to integrate something new into your instruction that advances your goals and connects with student interests while leveraging the power of CS + Geo.

2. **Document** your process and progress, **and periodically share** your work with the group.

3. Set your own **SMART objectives** for the fellowship, with regard to developing and piloting teaching and learning activities.
(SMART = specific, measurable, achievable, relevant, and time-specific; e.g., *By December 31, 2023 I will identify at least two opportunities to integrate or emphasize CS + Geo in my teaching related to a high-interest topic.*)

4. **Engage networks of collaboration and support** based on your needs

5. Add one or more objectives related to **sharing your work** and the value of CS + Geo.

# Planning Your Fellowship Path

- **Planning document shared on Google Drive**

- **One document per fellow. Add note if you choose to work in pairs or groups**

- **Start entering your info.**

- **Sharing planning documents will begin after December meeting.**



Click here to access

| Name: | |
| Grade level(s): | |
| Subject(s): | |
| Description of community location and context: | |

Opportunities I have identified for integrating CS + Geo
(at least 1 by Dec '23, 3 by Apr '24)

My fellowship objectives
(establish 2-3 SMART objectives by Apr '24, update progress on each as relevant)

Questions and/or needs I have in order to meet my objectives

Plans for sharing my work and the value of CS + Geo with colleagues and ed leaders
(at least 1 by Oct '24)

Notes

Links to Key Resources and Shareable Products

# Questions?

# Source Docs: Geography

- CA K-12 History-Social Science Framework adopted Aug 2016 (link)

- *Geography for Life* standards (link)

# Source Docs: Computer Science

- CA K-12 Standards adopted Aug 2018 (link)

- Other CDE info and Computer Science Focus Group Report from 2018 (link)

- Computer Science Teachers Assn Standards (link)

# Integrating
# Computer Science + Geography

*Next meeting:*
*Dec 19, 2023: 6:00-7:30 p.m.*

CALIFORNIA
global education
PROJECT CGEP

CALIFORNIA GEOGRAPHIC ALLIANCE

*DEVELOPING THE POTENTIAL*
*IN EVERY GLOBAL CITIZEN*
**www.calglobaled.org**