CSUGGEOGRAPHIC INFORMATION SCIENCE IN THE CALIFORNIA STATE UNIVERSITY SYSTEM VOLUME 17 - SPRING 2020

Humboldt

Analyzing Landslide Susceptibility in Monterey County, California Using Maxent Modeling Software

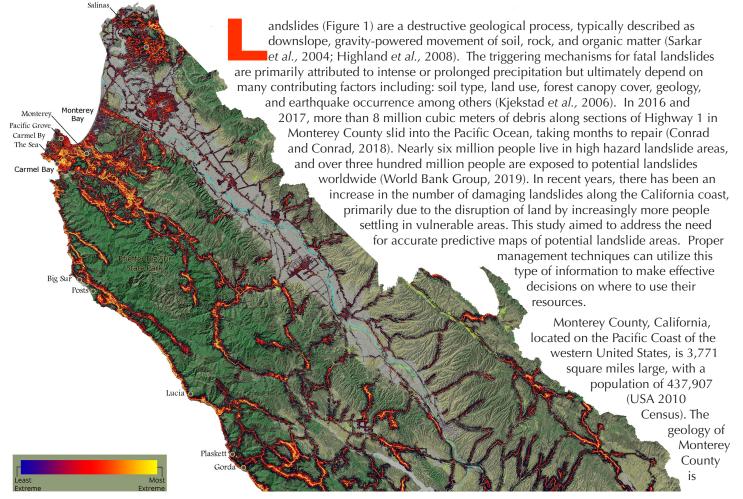


Figure 2: Map of landslide susceptibility throughout Monterey County, California.

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Figure 1: This landslide occurred at Mud Creek along Highway 1 in Monterey County, California in May of 2017 (Photograph by Mark Reid, U.S. Geological Survey).



2	Director's Message	
2 Chico>	Mapping a Displaced Population	
0	Empower Community to Use LA ortal and GeoHub for Public Good	
4 San Ma	rcos & UC Davis> Crowdsourcing to Reduce Tobacco Use and Litter	1
6 Humboldt> Sa	almon Spawning Suitability Model	
8 San	Francisco> Mapping the Fast Food	
	Environment	
SAVE THE DATE! Please note that the 2020 ESRI User Conference is going remote and will now be from July 13-15		

Los Angeles

Empower Community to Use LA City's Data Portal and GeoHub for Public Good: The Perfect Marriages of GIS and Big Data, Education and the Urban Community, Public University and Nonprofits

Story Map

The Inequality of Justice: Housing with a Record

Finding affordable housing in the Los Angeles area is already difficult in itself, but adding a criminal record to it can make this situation more difficult and at times impossible.

For some getting out of prison is a second chance at life. Whether it is getting back to family and friends or learning to be on your own, this second chance provides hope of a new start, but being in a situation where one can not find shetter may lead to recidivism.



Rent Burden and Color Divide

company and consider housing in Los Angeles is arready a allenge, but adding other components like a criminal cord makes it harder. Some housing facilities will turn ray individuals that have criminal records making it become for these individuals to obtain busines.

According to Looney and Turner, they gathered data from the IRS and fourd, 'In the first full calendar year after their release, only 55 percent of these previously incarcerated have any reported earnings and the median earnings of these that Go are just above \$10,000 " (as cited in brockings dou) in addition, in most areas that have individuals whose relis 30% or more of their income is

Looney and Turner article: <u>https://www.brookings.edu/research/w</u> opportunity-before-and-after-incarceration/

layer source: https://lahubcom.maps.arcgis.com

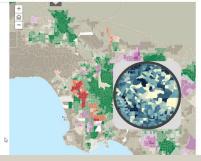
Housing for Formerly Incarcerated People

households with rent > 30% of income) against predominant racial population to show intersectional housing challenges.

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Figure 1: Mapping

rent burden (% of



Showing intersectional inequalities: rent burden and racial inequity

n 2018, California State University Los Angeles (Cal State LA) received a \$1 M, 3-year National Science Foundation grant designed to use Big Data and geographic information system (GIS) science to promote active learning and curricular enhancements for community engagement and civic learning. We developed strategic partnerships with the City of Los Angeles Chief Data Officer, and with Community Partners' Senior Program Director and Programs and Operations Manager. Each of these organizations offered the integrity and vitality necessary for engaging Cal State LA students and faculty, serving local nonprofits and communities, and promoting the City of Los Angeles' data initiatives through the LA GeoHub and Open Data Portal (ArcNews 2016). This project closely aligns with the universities' mission (Gomez et al. 2019) to transform local communities by providing underserved residents access to data and technology (Willner 2019).

Methods

Courses: The collaborative team sent out calls for spring course redesign proposals in early fall. Applicants needed to demonstrate how using the LA GeoHub with local nonprofits could engage real-world problem solving and enhance their students' learning outcomes while impacting the Greater Los Angeles Area for the public good. To facilitate the participation of nonprofits, Community Partners recruited organizations and provided information sessions and tutorials on GIS and the GeoHub.

Once courses were selected, faculty participated in workshops on how to (1) use ArcGIS (many of them had little experience) and access data (Training Workshop list 2019); (2) create new learning outcomes for the course; and (3) match project goals among faculty, students, and nonprofits. In addition, six in-class and online workshops were developed for students taking these course as part of learning material (Training Workshop List 2019). Faculty and student participants were supported throughout the semester by two graduate assistants, a data analytics coordinator, and ESRI staff. Students created individual or group projects based on the goals mutually established by them, their faculty members, and the nonprofits. Students showcased their projects through ESRI StoryMaps or posters during a public community forum. Attendees included students, faculty, and external partners (nonprofits, Los Angeles Deputy Mayor, CEO of Community Partners, members of the business community).

Intern Selection: Students who have taken one of the spring redesign courses were encouraged to apply for paid summer internships and work for one of the nonprofits. Known as Social Equity Engagement geo-Data Scholars (SEEDS), these interns worked with their respective nonprofits on data acquisition, organization, management, and analyses. As a final culmination, SEEDS presented their work to all related constituents at an end-of-the-summer gathering that showcased their results and highlighted the impact of their work.

Results

Courses: We selected five courses for the first cohort (e.g., ANTH3200 – Where in the California Community Are You?; GEOG3690 – Fundamentals of GIS; SOC348 – Sociology of Race/Ethnicity, Class, and Gender; SOC4050 – Service Learning and Sociology Internships; and SOC4420 – Social Change). A total of 104 students who enrolled in the redesigned courses consulted with 28 nonprofits and produced 41 projects (Big Data Community Forum, 2019). One student, for example, created a Spyglass app that allowed users to see how rent burdens differentially affect neighborhoods of color (Figure 1) (Examples of products,

Empowering Community continued from page 3

2019). Additional examples of student projects that are important to our communities are shown in Figures 2-4.

Interns: We selected seven SEEDS to work with seven nonprofit organizations during the summer of 2019. Collectively, SEEDS worked a total of 1,440 hours (SEEDS projects 2019). Most began with a low level of confidence in their technical skills and all finished their internships confident in their projects and in their technical growth, which included strides in using the LA GeoHub, statistical computing and data management software, and coding. Many students were able to leave behind instruction manuals and structural frameworks for nonprofit employees and future interns to keep the projects going. All nonprofits expressed interest in more workshops, more help, and a long-term connection with the project having seen the immediate pay offs in the first year.

The impact of students' academic trajectory and selfassurance in using GIS was remarkable. Tarkhanyan Takouhi, a senior in Psychology and a GIS novice, cleaned up the Los Angeles Regional Reentry Project's (LARRP) outdated

database and created an interactive map of resources and services for the reentry community. LARRP used her product to secure a \$175,000 grant and offered her a full-time position that she described as "a dream job". She will further expand these interactive maps as a tool for their community resource advisors. Another student, Alfredo Estrada, a geology major, taught himself Visual Basic coding and cleaned and organized over 100,000 data entries for City Plants (during 2014-2019). He produced visualization products and set up automatic updates when new entries are added to the datasheet. Now, City Plants can see the distribution of their trees and spot underserved areas where they need to focus for the next year. City Plants is a partner of Mayor Garcetti's urban forest development to combat climate crisis (Mayors' Office Press release, 2019). Alfredo, inspired by internship experience, decided to enroll in our GIS certificate program. Martha Solorio, a junior in geology who worked with Wildwoods Foundation, increased her interests in GIS and took more GIS and coding courses. Her skills and interest secured her a summer internship position at ESRI for the upcoming summer 2020.

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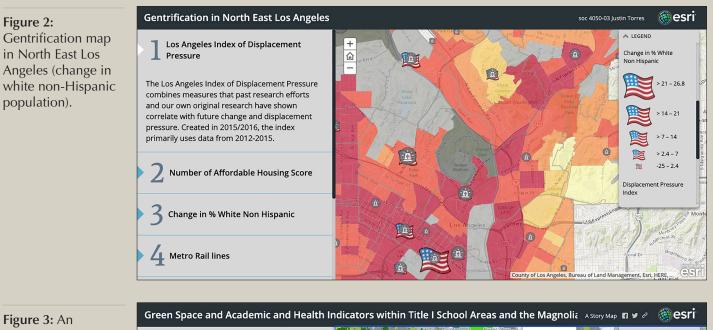
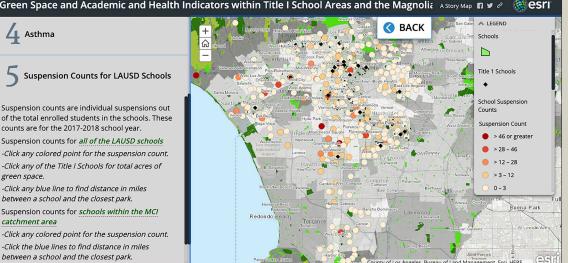


Figure 3: An

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interactive story map showing student suspension counts and green spaces in a student class project: Green Space and Academic and Health Indicators within Title 1 School.



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Homies Unidos :Fighting Stigmas Together

Nomes Undos an organization which works to end the dehumanization of our undocumented youth coming from El Salvador. These individuals are facing ging indicated VolGenCe and extreme issues of poverfly back in their homeland. Taskins also to the first most more indicates their families behind, but some do it in hopes of coming to America for a more promising faure.

"Tor more than 14 years. However, and promote passes in our change, working to end violence and promote passes in our communities through gang prevention, the promotion of human rights in immigrant communities, and the empowerment of youth through positive alternatives to gang involvement and distructive behavior."

Using maps to draw connections between

local and global issues



Changing Narratives about Immigrant Youth

Youth Population in Immigrant Families
This map is measuring children who are either
foreign born or living with foreign born parents.

families near the area in which Homies Unidos primarily serves.

mi<mark>es Unidos Creates Change</mark>

Homicides in Central America

- This map depicts the homicide rates in Central America.
 High homicide rates are pushing these Central American individuals out of their country in search for
- a safer life in America.

involvement of the U.S. in Central America caused mass mi objects inflicted by the U.S.-

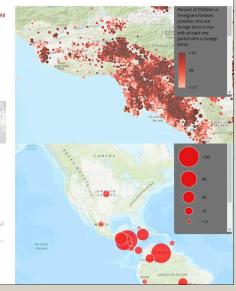


Figure 4: Mapping immigrant communities against homicide rates to situate local issues in global processes of Change.