

ENVIRONMENTAL GEOGRAPHY

Issue: Hazard Mapping

Lesson inquiry: How do cities plan for disaster?

Career connection: Rebecca Grover, freelance GIS analyst, independent contractor and consultant.

GEOGRAPHIC QUESTIONS:

- *What physical factors are important to consider in disaster mitigation for cities i.e. topography, population density, etc.?*
- *Where can people access services for emergency assistance in the event of a natural disaster?*
- *Is there a trend in demographics of areas at the highest risk for natural disasters?*

RELATED GEOGRAPHY CAREERS:

- [Emergency Management Director](#)
- [Conservation Scientist](#)
- [Range Managers](#)
- [Urban and Regional Planners](#)

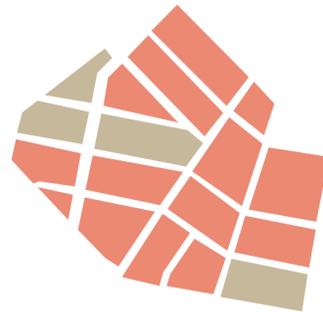


Photo: California wildfire

APPLICATIONS:

- Explain how natural hazards may lead to natural disasters.
- Use FEMA flood hazard layers to examine flood threats of different areas.
- Complete a hazards map by identifying areas at risk of flooding, landslides, and emergency assistance sites.
- Develop policy recommendations for emergency management.

INTERVIEW DIGEST: REBECCA GROVER

“My overall professional goals are to be involved in companies, projects, and research that further the well-being of disadvantaged or marginalized populations, especially as this relates to environmental impacts. Any type of community-based development or research is also welcome. Utilizing GIS as a key component for all of these interests is also a significant goal.”

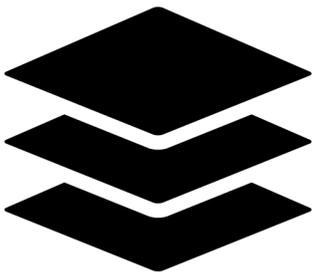


Photo: Rebecca Grover smiles in front of an orange background

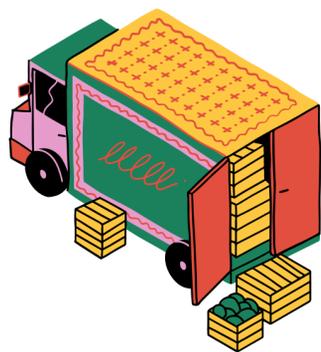
LESSON ACTIVITY EXAMPLE:

Search an area in the FEMA flood hazard layer data. Identify that area on a topographic map and highlight areas prone to liquefaction during an earthquake, areas susceptible to flash floods, and critical facilities that could be used for emergency services in the event of a natural disaster. Use Google Earth's time slider tool to examine before and after imagery of different natural disasters i.e. Hurricane Sandy, OKC tornado's California and/or Australia wildfires.

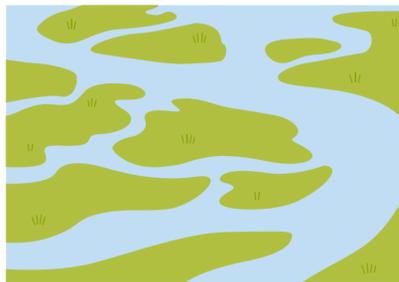
GLOSSARY:



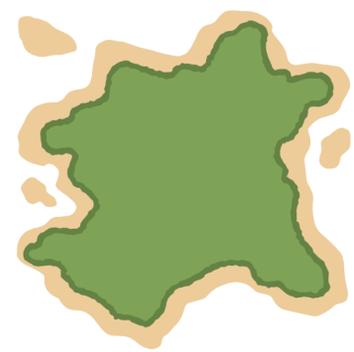
DIGITAL ELEVATION MODEL (DEM)



FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)



GEOGRAPHIC INFORMATION SYSTEMS (GIS)/(GISC)



100-YEAR FLOOD ZONES

SKILLS:

- GIS
- *Python*

BACKGROUND RESOURCES:

- [Homeland Security Natural Disaster Page](#)
- [2018 Hazard Mitigation Plan for San Diego County](#)

DATA:

- [USGS Topographic Maps](#)
- [FEMA flood hazard layer data](#)
- [Google Earth \(free download here\)](#)

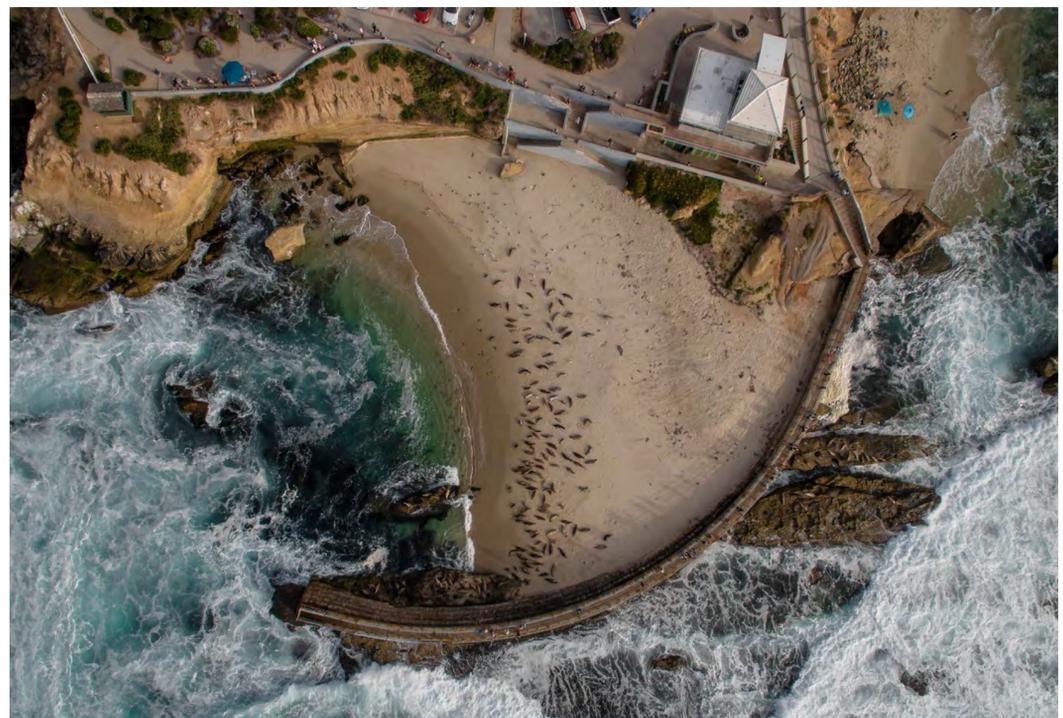
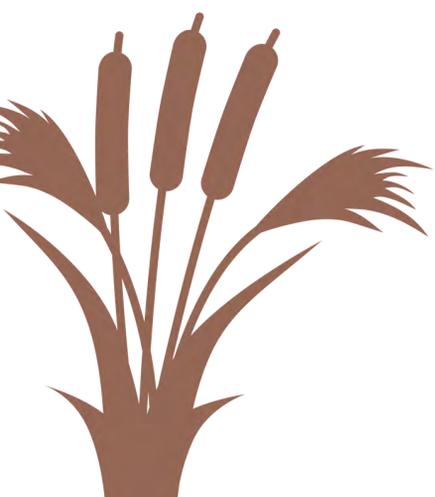


Photo: Bird's eye view of La Jolla Children's Play Pool



{ **RppforCS**  : ENCODING **GEOGRAPHY** }

