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*

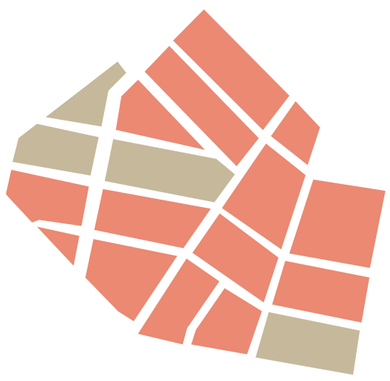


Photo: California wildfire

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

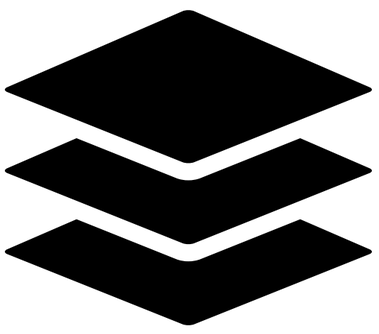
"My overall professional goals are to be involved in companies, projects, and research that further the well-being of disadvantaged or marginalized populations, especially as this relates to environmental impacts. Any type of community-based development or research is also welcome. Utilizing GIS as a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

Photo: Rebecca Grover smiles in front of an orange background

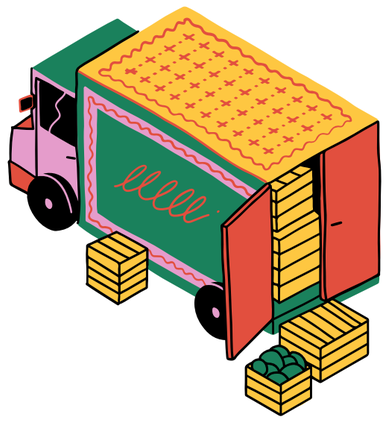
LESSON ACTIVITY EXAMPLE:

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.

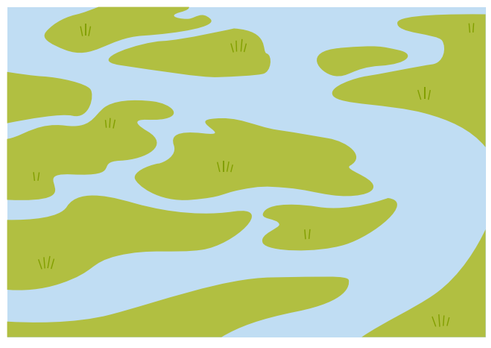
GLOSSARY:



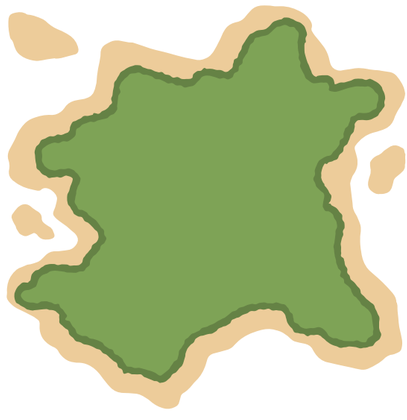
DIGITAL ELEVATION MODEL (DEM)



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

{ RpptforCs : ENCODING GEOGRAPHY }

San Diego State University Department of Geography College of Arts and Letters · UC Riverside · NCRGE · Sweetwater Union High School District · San Diego Mesa College · California Geographic Alliance · NSF