ENVIRONMENTAL GEOGRAPHY

Issue: Hazards and disasters
Lesson inquiry: How do people recover from natural disasters?
Career connection: Tracy Whelen, Geospatial consultant and 2nd Year Participant in the Business Insights & Analytics Leadership Development Program at Travelers Insurance

GEOGRAPHIC QUESTIONS:

- *How common are natural disasters?*
- *Where are common natural disasters located?*
- *How do hazards lead to disasters?*
- *How can hazard mapping help mitigate disasters?*
- *Why is post-event imagery analyzed in a catastrophe response process?*

RELATED GEOGRAPHY CAREERS:

- *Emergency Management Director*
- *Conservation Scientist*
- *Range Managers*
- *Urban and Regional Planners*

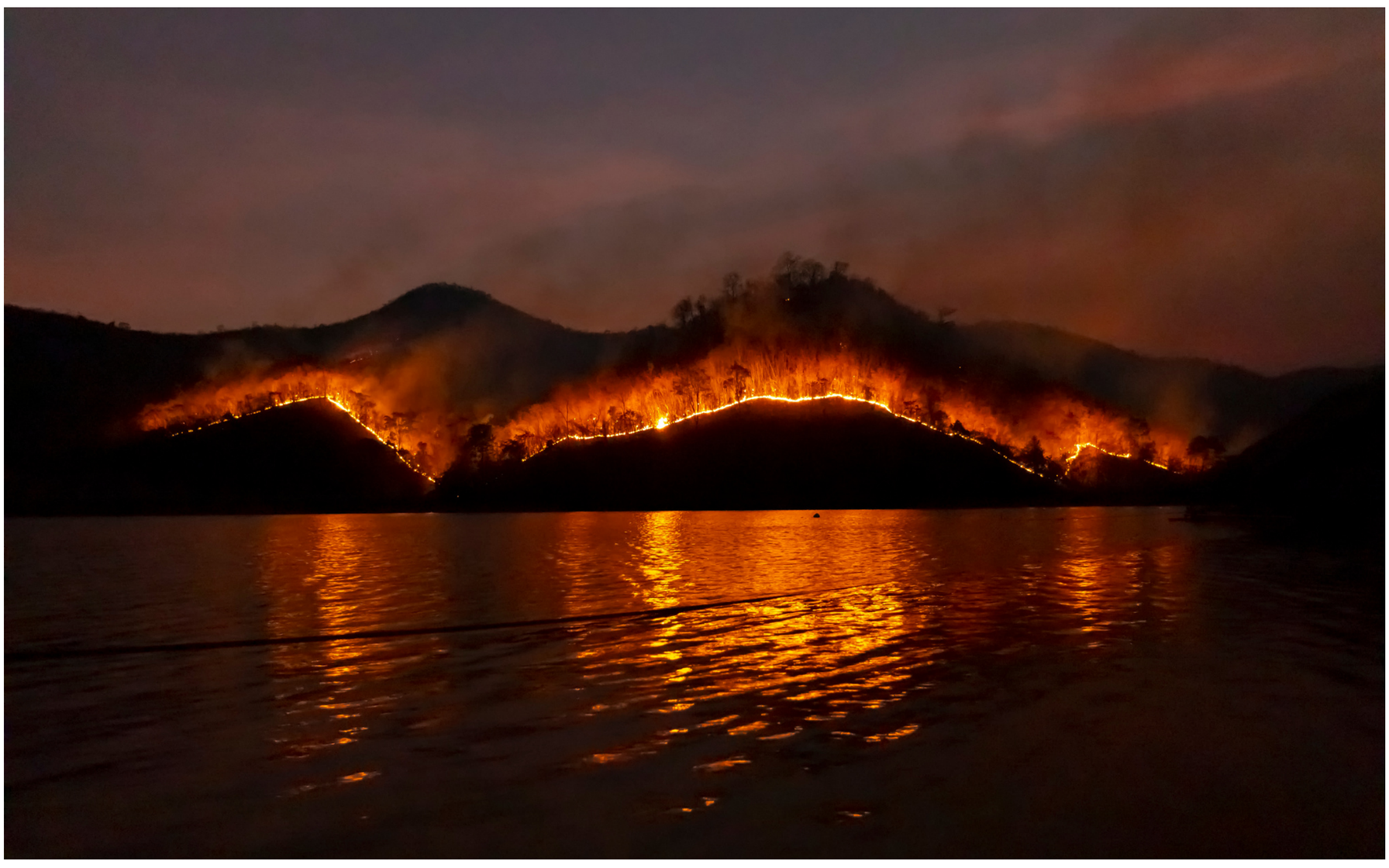


Photo: A fire charges up a hillside

APPLICATIONS:

- *Identify and define natural hazards and disasters.*
- *Examine data from disaster case studies to explore recovery responses.*
- *Explain how citizen empowered mapping can improve emergency responses.*

INTERVIEW DIGEST: TRACY WHELEN

"All the data I work with has a spatial component to it, and we often work with thousands or millions of records at atime, necessitating strong geography and computer science skills to efficiently store, process, and analyze data, and to deliver actionable outputs."

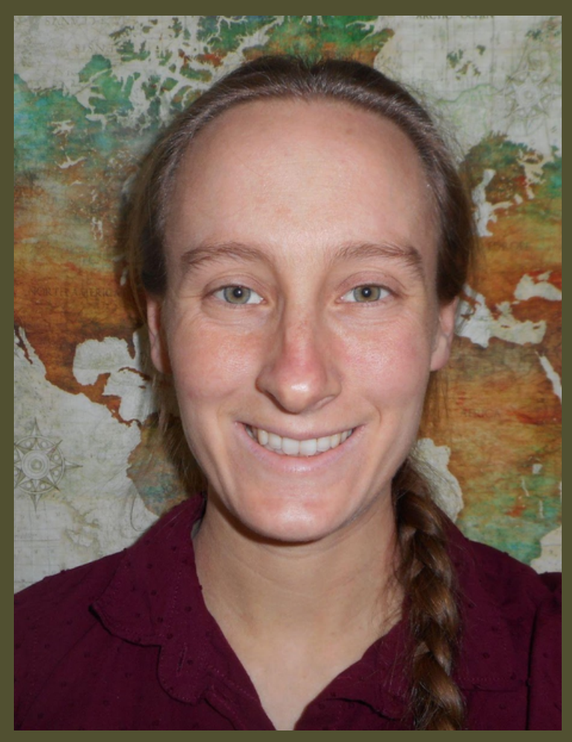


Photo: Tracy Whelen in front of a map

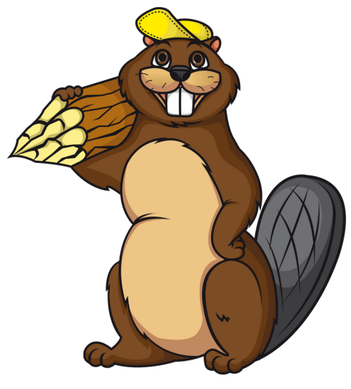
LESSON ACTIVITY EXAMPLE:

- Use the NOAA Disaster and Risks Maps here to identify the costliest natural disasters in U.S. history.
- If ArcGIS is available, download the ArcGIS Collector app to demonstrate how accessible field reporting of post-event imagery is. Additionally, discuss the potential benefits of smartphones to improve emergency responses.

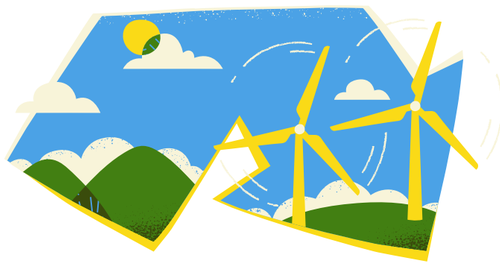
GLOSSARY:

NATURAL DISASTER

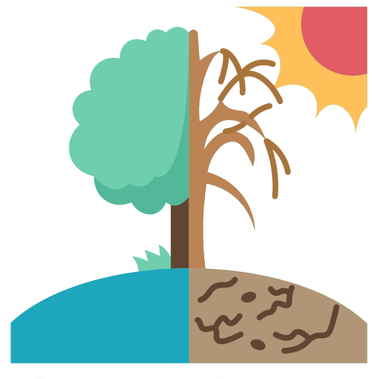
HAZARDS



MITIGATE



SUSTAINABILITY



CLIMATE CHANGE

SKILLS:

- *Structured Query Language (SQL)*
- *Python*
- *Data formatting and collection*
- *GIS*

BACKGROUND RESOURCES:

- *Travelers Insurance Natural Disaster Response & Preparation video*
- *Hazard and disaster emergency preparedness sheets*
- *NOAA Disaster and Risks Maps*
- *Homeland Security Natural Disaster Page*
- *2018 Hazard Mitigation Plan for San Diego County*

DATA:

- *Business data (e.g. claims, policies)*
- *Event data – wildfire boundaries, hurricane wind footprints, precipitation measurements, tornado damage reports, etc.*
- *Aerial imagery and derived model output*
- *Property geometry data (e.g. building footprints, parcel boundaries)*

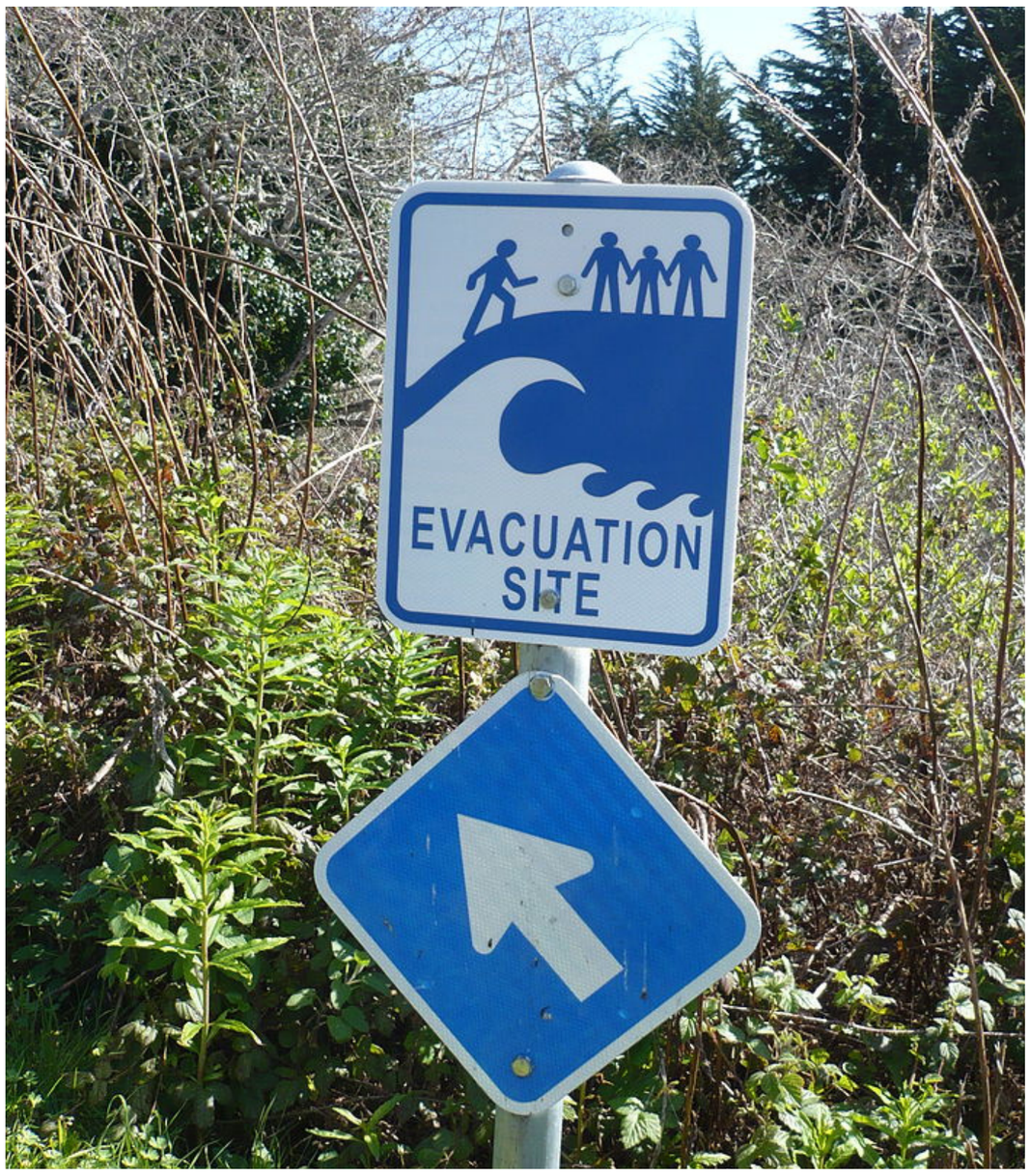
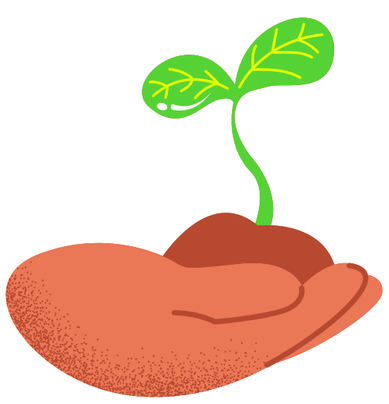


Photo: A tsunami evacuation site sign



{ RppforCS : ENCODING GEOGRAPHY }