

# Building Resilience

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# resilience

*Noun*


1. the capacity to recover quickly from difficulties; toughness.



# As our infrastructure becomes more vulnerable, we need location intelligence to plan resilience

RESILIENCE





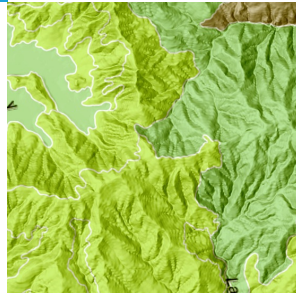
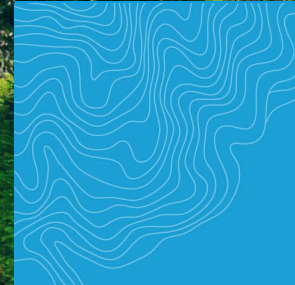
As water, ecosystems, and natural resources become more at risk, we need new tools to protect biodiversity and natural habitats

CONSERVATION



As our cities become hotter, we will  
rely on manmade and nature  
solutions to make them livable

NATURE BASED SOLUTIONS



**As we uncover patterns  
of inequity, we must help  
those most vulnerable**

**SOCIAL EQUITY**

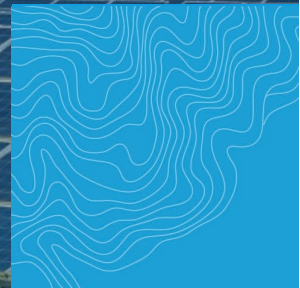


# As we experience more frequent flooding, communities must rethink development and mitigation planning

RESILIENT COMMUNITITES

# As we work to decarbonize our energy sources, spatial analytics help optimize alternative energy siting

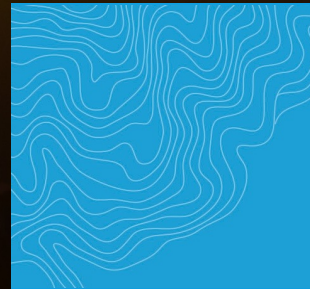
RENEWABLE ENERGY





# As we work to reduce harmful greenhouse gas emissions, technology helps to monitor progress

REMOTE SENSING



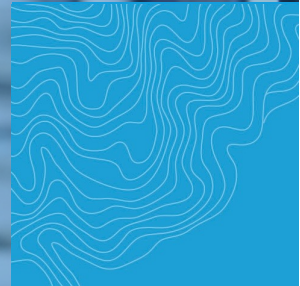
As we strengthen our supply chain, GIS uncovers vulnerabilities and risks in the Global systems.

SUPPLY CHAIN



**As we strive to reverse the trends of climate change, we must educate the next generation to take climate action**

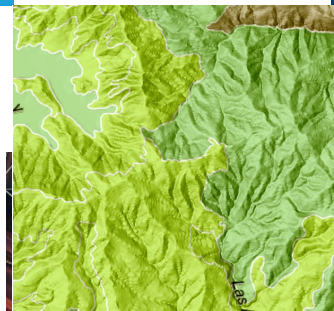
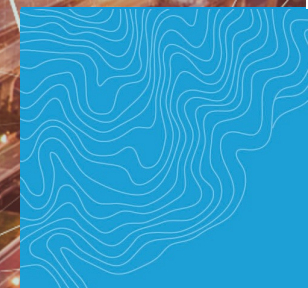
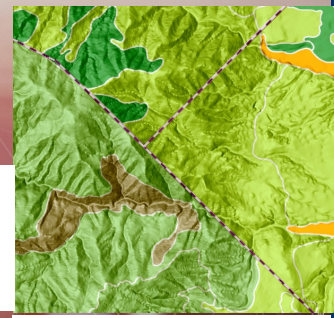
EDUCATION



# As we work to mitigate carbon emissions, we rely on data driven models for intelligence



DIGITAL TWINS





As we strive to combat climate change  
a geographic approach provides the  
foundation for understanding

DATA DRIVEN DECISIONS



# Evolving beyond response

Breaking the cycle of disaster, response, recovery...repeat...



The screenshot shows the CMRA website interface. The navigation bar includes: CMRA, Introduction, Current Hazards, Assessment Tool, Hazard Information, Federal Policies, and Open Data. The main content area features a map of the United States with various hazard icons overlaid. The title "Climate Mapping for Resilience and Adaptation" is prominently displayed. Below the map, there is a paragraph of text and a list of two bullet points.

**CMRA** Introduction Current Hazards Assessment Tool Hazard Information Federal Policies Open Data

## Climate Mapping for Resilience and Adaptation

Knowing which hazards could harm the things you care about is the first step in protecting them. This portal can help you understand what climate-related hazards you face, now and in the future.

- View real-time maps showing where climate-related hazards are occurring today
- Check how your exposure to five common climate-related hazards is projected to change over time

*...to adapt, evolve, and become resilient.*

# There is no New Normal

Design & build solutions for a more resilient future...

In this age of data, information and connectivity,

. . . even though we can quantify more of what was previously uncertain,  
...it makes apparent how much more we don't know.

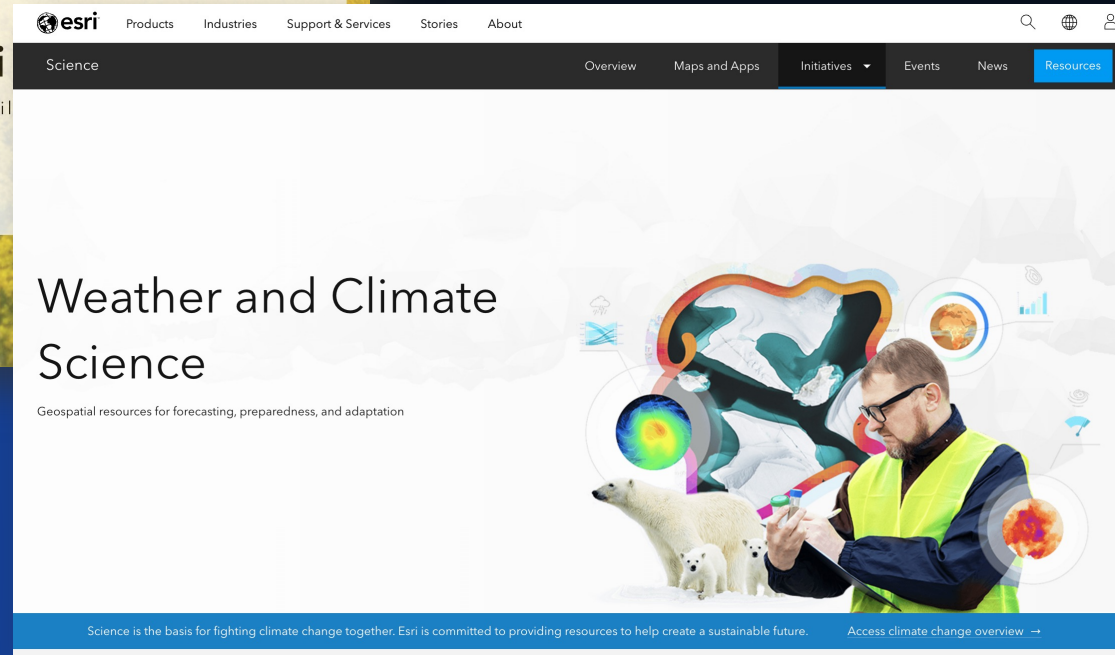
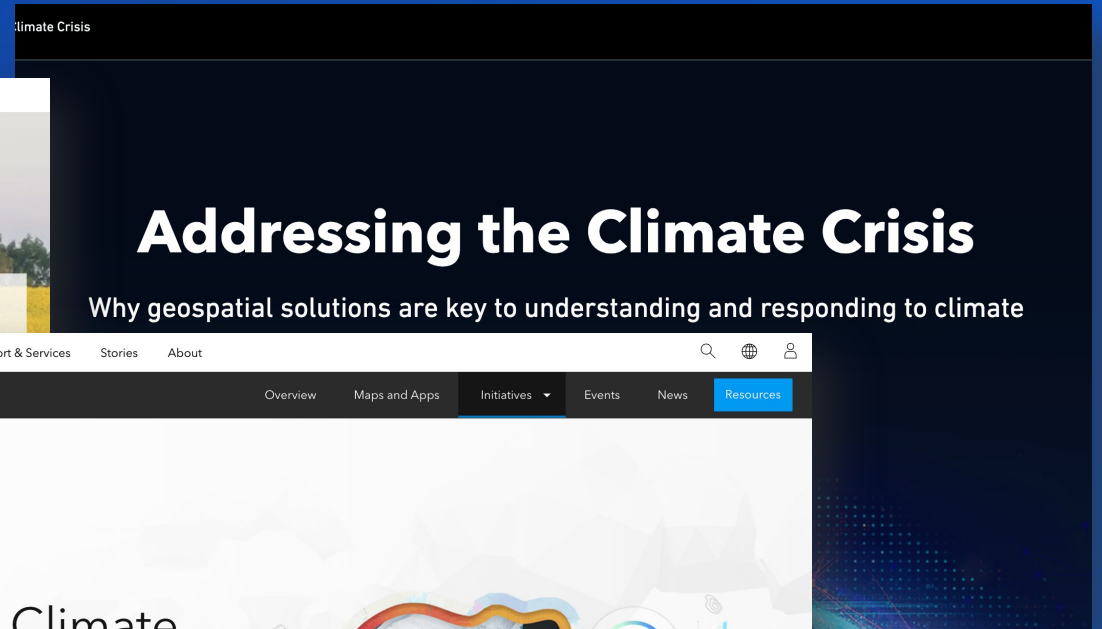
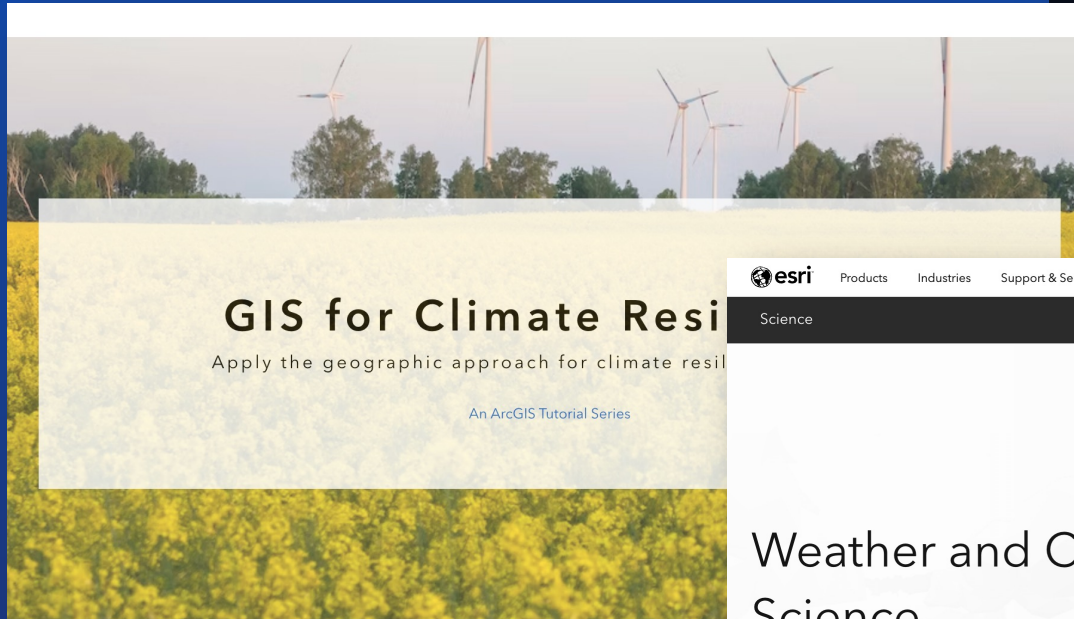
What is evident, is that change is happening more quickly and surprisingly...  
...across multiple dimensions and scales than we ever thought possible.

We can no longer use the past as a reliable indicator of the future...  
. . . and new risks and correlations are emerging...  
...in a way that we have not anticipated.



# Enable sustainability & resilience across sectors

Raising awareness of existing technologies



*...to adapt, evolve, and become resilient.*



# Thank you

Climate based open  
learning materials



Climate science  
resources

