THE WORLD POST COVID-19

THE OPPORTUNITY PROJECT

2021 PROBLEM STATEMENT

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA)

Tackling the Climate Crisis through Climate-Smart Communities

THE CHALLENGE – This sprint challenges participants to create tools that enable local decision-making about climate resilience and federal capacity to support local-level priorities, to improve climate resilience planning in communities around the nation. This may include easy-to-use geospatial information tools to help local governments identify and integrate locally relevant federal data to tackle the impacts of climate change on their communities.

EXECUTIVE CHAMPION – Tony LaVoi, Chief Data Officer, NOAA

THE PROBLEM – Climate change-driven extreme events and changed patterns of temperature and precipitation are causing cascading problems in our nation's communities. As the associated frequency, severity, and costs increase, so, too, does the risk facing Americans, especially those most vulnerable to climate impacts, such as poor, rural and minority populations. Some of the greatest climate-related hazards include extreme heat, drought, wildfires, severe storms and very heavy precipitation, sea level rise and stronger storm surges, and poor air quality. Unfortunately, the pace and scale of climate-related impacts are generally outpacing our nation's response. For example, both the average annual number and combined cost damages of billion-dollar disasters (BDDs) in the United States have quadrupled since 1980. Over the last four decades, our nation has gone from an average of 2.9 BDDs costing $18 billion per year in the 1980s, to 12.3 BDDs costing $82.5 billion per year in the 2010s.

Resilience to these growing threats must be built locally. But to guide and inform their long-term planning and make climate science-informed decisions, local decision makers need data from all levels of government at their fingertips. They need to be able to customize geospatial information in locally tailored maps, visuals, and text to communicate about and address local climate-related risks and opportunities.

THE OPPORTUNITY – Though some larger cities and well-resourced locations have access to GIS tools that help to integrate and visualize this data, many smaller governments lack the expertise and resources to produce their own locally synthesized geospatial data assets —especially those that are disproportionately impacted by climate change and that may lack the resources to develop their climate resilience plans independently. Furthermore, federal agencies' datasets can be hard to find and use, in part because they are widely scattered across agencies. Solutions to this challenge have been called for in recent policy such as the Executive Order on Tackling the Climate Crisis at Home and Abroad.

To address this challenge, local governments need tools that help them to easily locate and synthesize high quality data from all levels of government, and use that data to map, visualize, and communicate about their climate-related risks and opportunities. Such tools would also improve the nation's collective ability to share information about the outcomes and lessons learned from actions taken to build climate resilience, and to produce quantitative estimates of the costs and benefits of taking action.

TOP United States Census Bureau

VISION FOR SPRINT OUTCOMES – Municipal, county, and tribal governments will be able to quickly and easily find and integrate federal agencies' scientific and socioeconomic data, and pair it with their own local data. Communities of all types will be empowered to understand their vulnerabilities and accelerate their pace of climate resilience planning. The availability of the resulting tools will also reduce each community's planning costs.

TARGET END USERS – The two primary target audiences are: *(1) municipal, county, tribal, and state decision makers* who are responsible for planning and action to protect people, property, resources, services, and infrastructure from climate-driven extremes, **especially in underserved communities;** and (2) *climate adaptation/resilience professionals* who provide local decision makers with expert guidance and translation services to help guide and inform development of their local climate resilience plans.

RELATED DATA SETS

- Global Historical Climatology Network Data, National Oceanic and Atmospheric Administration (NOAA)
- Sea Level Trends and Patterns & Projections, National Oceanic and Atmospheric Administration (NOAA)
- Drought.gov Data & Maps
- Climate Model Intercomparison Projections, University of Melbourne
- River and Stream Flow Data, U.S. Geological Survey (USGS)
- Sea Level Rise Inundation Maps, National Oceanic and Atmospheric Administration (NOAA)
- Risk Maps and Floodplains, Federal Emergency Management Agency (FEMA)
- National Risk Index, Federal Emergency Management Agency (FEMA)
- Census Tract Maps, U.S. Census Bureau
- Social Vulnerability Index, Centers for Disease Control and Prevention (CDC)
- Community Resilience Estimates, U.S. Census Bureau
- Climate Data on Extremes, Climdex

LEAD POINTS OF CONTACT

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