

**The Partnership for Resilience and Preparedness (PREP)** is a public-private collaboration to empower a data-supported approach to building climate resilience.

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World Resources Institute (WRI)

US-India Partnership for Climate Resilience  
Workshop – Pune, India March 9, 2017



# Talk Overview

- Overview of PREP Partnership
- Overview of BETA PREP platform
  - Data
  - Dashboards
  - Insights

- User Needs Assessment (UNA)

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- Resilience Efforts in India

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- Exercise – Questionnaire

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- Break-out groups – Dashboard Exercise

# A public-private partnership

## Founding Partners



### PREP coordination



United States  
Global Change  
Research Program



WORLD  
RESOURCES  
INSTITUTE

# A public-private partnership

## New Partners



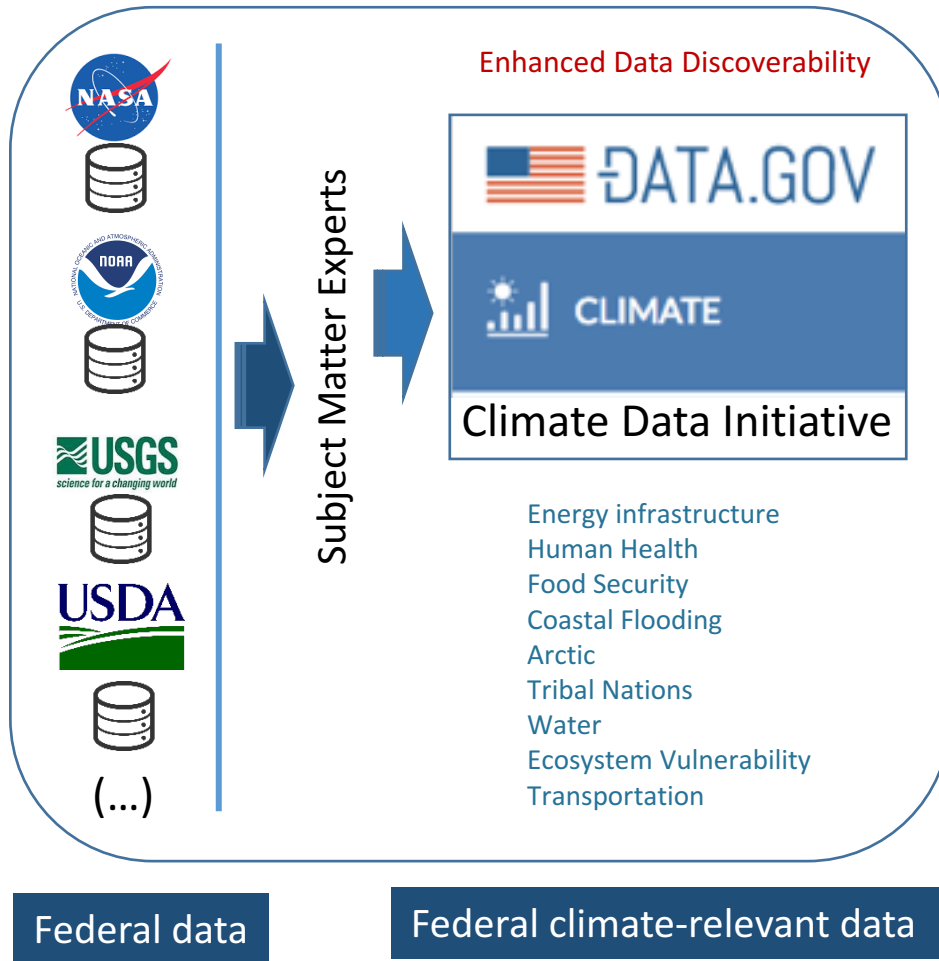
The Collider

EcoAdapt

## PREP coordination




# Climate Data Initiative



22 agencies

> 750 datasets

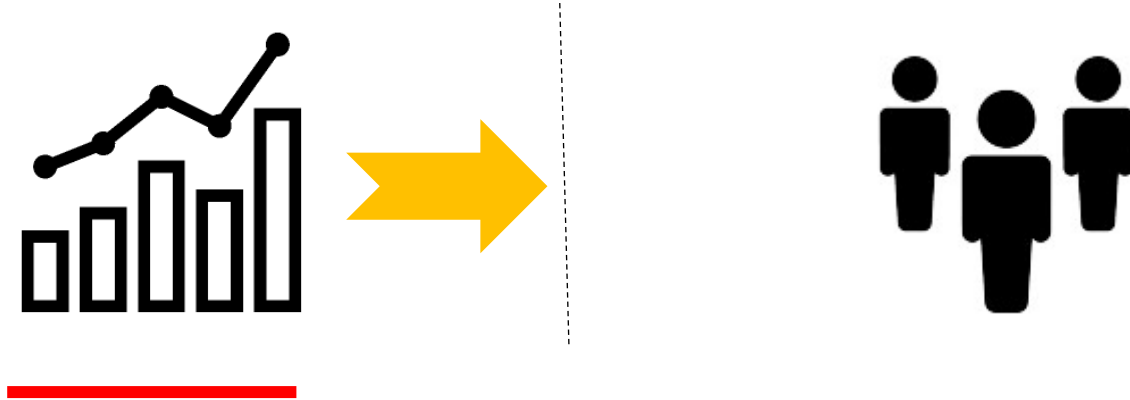


## The challenges assessing climate risk...

- Limited availability of robust and actionable information
- Even when data and information exist, they are difficult to find, access, and use.
- Insufficient guidance to assess climate risk and build resilience

# CDI: Data driven approach

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# PREP: Prioritize data based on user needs...

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# PREP: audience

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1

**Primary audience:** Analysts (including science translators) using data and information to conduct risk assessments and create risk management reports, or assist in analysis.

2

**Secondary audience:** Data developers and innovators aiming to leverage the extensive amount of climate-relevant data to create value added products and tools to support climate resilience.



3

**Tertiary audience:** Those consuming the risk management information and reports (created by the primary audience).



# PREP: focus areas

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- **Data:** identify and reduce the barriers to discovering, accessing, contributing, and using data for climate resilience.
- **Engagement:** enhance the collaboration among producers and users of data, and identify the data and information needs from decision makers across the globe.
- **Platforms:** promote the discovery and use of climate related data and services through the development of open, online platforms.





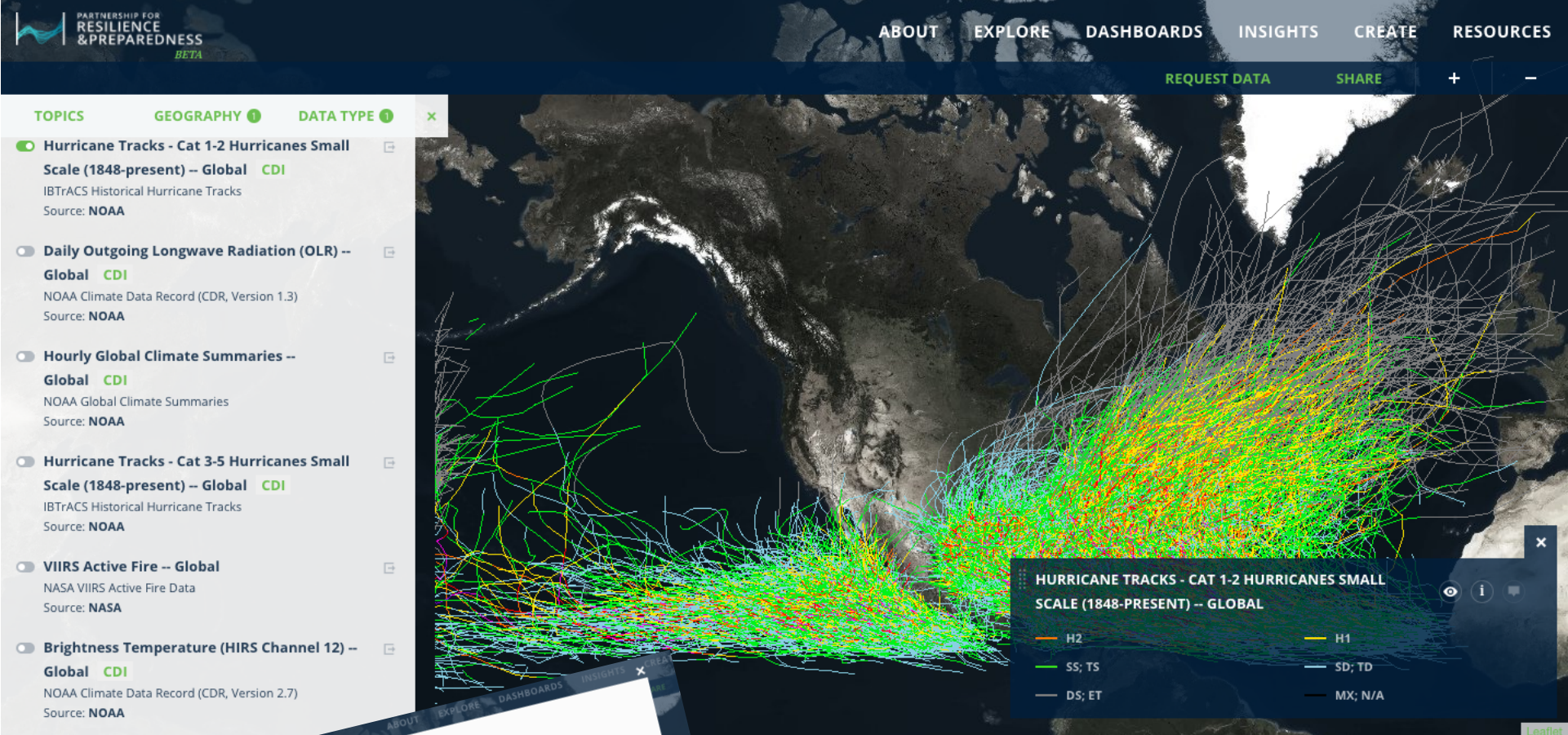
- ✓ Beta release in Sept 2016.
- ✓ Data discovery
- ✓ Dashboards and Insights
- ✓ Co-develop, co-brand, and co-govern
- ✓ Build on existing work
- ✓ Make open source, open access, and technology neutral
- ✓ Release early and iterate

# PREP Platform Emphasis

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1. Data discovery and visualization
  - Increase data access and interoperability
  - Space for dialog between users and producers
2. Dashboards
  - Dynamic tracking of key indicators
3. Insights
  - Share success / stories / Resilience-building results
4. Part of an “ecosystem” of resilience tools / platforms

# Data Exploration and Visualization









**Hurricane Tracks - Cat 1-2 Hurricanes Large Scale (1848-present) -- Global**

IBTrACS Historical Hurricane Tracks

- Description:** This Historical Hurricane Tracks web site provides visualizations of storm tracks derived from the 6-hourly (0000, 0600, 1200, 1800 UTC) center locations and intensities for subtropical depressions and storms, extratropical storms, tropical depressions and storms, and all hurricanes, from 1848 through the previous Atlantic hurricane season (June 1 through November 30) as recorded in the International Best Track Archive for Climate Stewardship (IBTrACS, <http://www.ndbc.noaa.gov/oa/ibtracs/index.php>) data set.
- Organization:** NOAA
- License:** U.S. Government Work
- Access:** <https://catalog.data.gov/dataset/worldwide-historical-hurricane-tracks-from-1848-through-the-previous-hurricane-season>
- Download:** <https://coast.noaa.gov/arcgis/rest/services/Hurricanes/AllHurricanes/MapServer/3/query?where=1%3D1&returnGeometry=true&r...>

- Search for climate-relevant data on the [Explorer](#) or upload your own data.
- Query and combine with data from other sources, and visualize them in the same platform.
- See what data similar communities are using to build resilience around the world.
- Request data

[TOPICS](#)[GEOGRAPHY](#)[DATA TYPE](#)

- ☐ **Monthly Outgoing Longwave Radiation (OLR)**   
-- Global **CDI**  
NOAA Climate Data Record (CDR, Version 2.2-2)  
Source: **NOAA**
- ☐ **Social Vulnerability Index (2006-2010) -- U.S. (Virginia)** **CDI**   
Social Vulnerability to Environmental Hazards  
Source: **NOAA**
- ☐ **Social Vulnerability Index (2006-2010) -- U.S. (New Jersey)** **CDI**   
Social Vulnerability to Environmental Hazards  
Source: **NOAA**
- ☐ **Palmer Hydrological Drought Index -- U.S.**   
NOAA NCEI Indices  
Source: **NOAA**
- NASA NEX Annual Maximum Temperature -- Brazil (Porto Alegre)**   
NASA Earth Exchange Global Daily Downscaled Projections  
Source: **NASA**
- ☐ **Dams -- U.S.** **CDI**   
USACE Major Dams  
Source: **DOT**
- NASA NEX Annual Precipitation Summaries -- Brazil (Porto Alegre)** 



# Find and contribute data and tools

Dashboards – tracking key  
indicators of hazard,  
exposure, vulnerability, risk  
and preparedness

# Sonoma County's Climate Resilience Dashboard



Sonoma County Climate Resilience Team

## < DASHBOARDS

SHARE

Unprecedented warm conditions are projected to occur in both summer and winter seasons. Both extreme wet years and extreme dry years are likely to become more frequent. Preparing for the impacts of this increase weather variability is critically important.

## DATA

## INSIGHTS

## TOOLS

### Precipitation change sonoma

Annual Precipitation in inches



- ✓ Collect data, tools and insights (interactive stories) relevant to your community in one place.
- ✓ Create and share your own online dashboard.
- ✓ Explore what others are doing in their dashboard.
- ✓ Get updates when datasets are added.

# Dashboards

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Find collections of data, insights and tools that communities and organizations find important for managing climate risk

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Learn and incorporate

Share Insights –  
tell your resilience story



**INSIGHTS – STORIES OF COLLABORATION .....  
ANALYSIS ..... HAZARD ..... VULNERABILITY, .....  
PLANNING..... ACTION ..... AND ..... RESILIENCE**



# Find data-driven stories and tools that spotlight specific climate-related risks and solutions

In PREP's next phase, any user will be able to **create** and share their own dashboards and insights.

## Climate Explorer

Explore maps and graphs of historical and projected climate trends in your local area. View data by topics to see how climate change will impact things you care about.

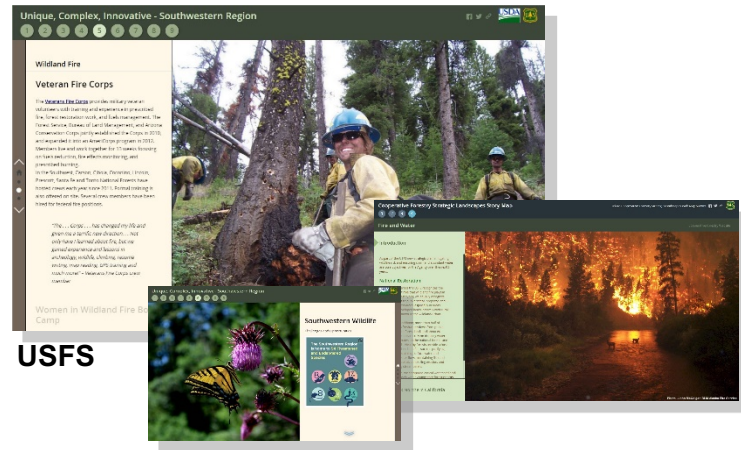


## U.S. Resilience Initiatives

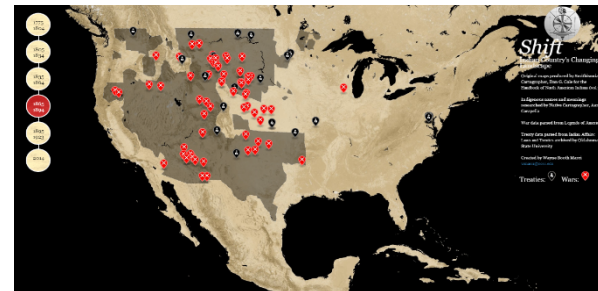
The purpose of this proof-of-concept mapping application is to highlight the participation of U.S. cities within selected resilience initiatives and programs. It is intended to inform a national-level analysis of gaps and overlaps between these efforts and identify areas for collaboration.

# Curate and share insights

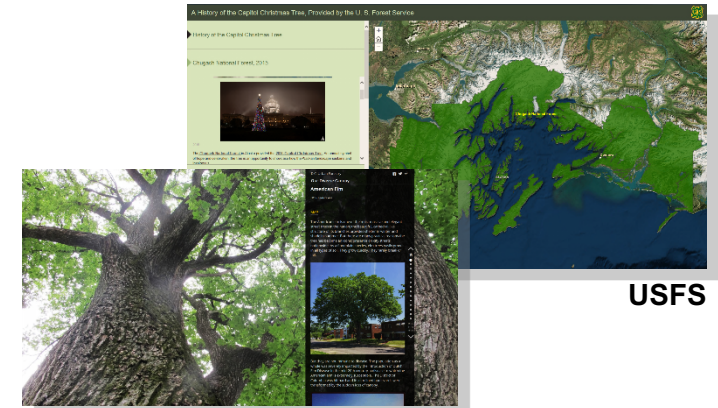
# STORY MAPS



USFS

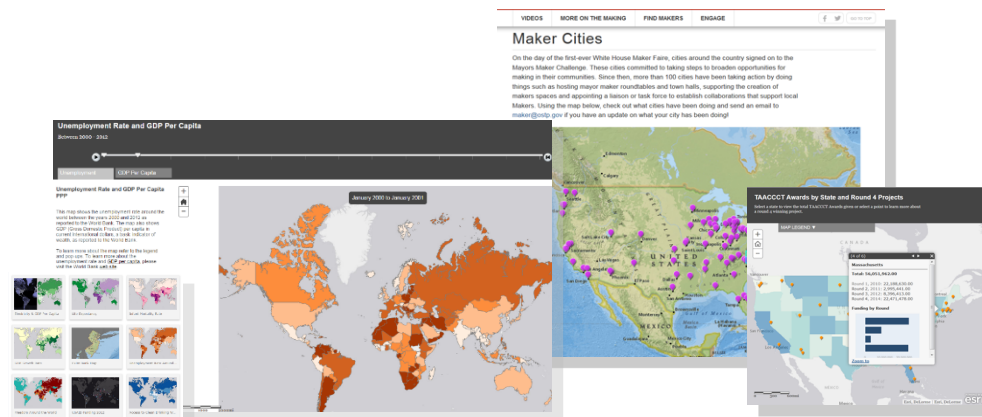


US

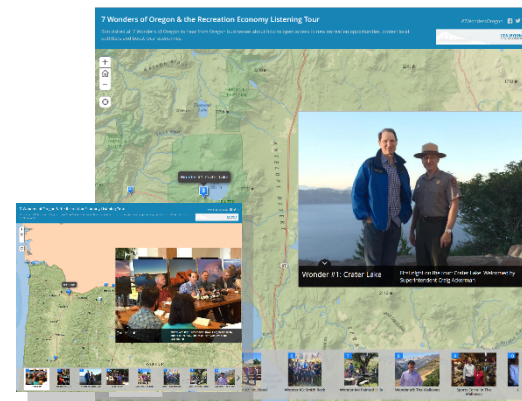


USFS

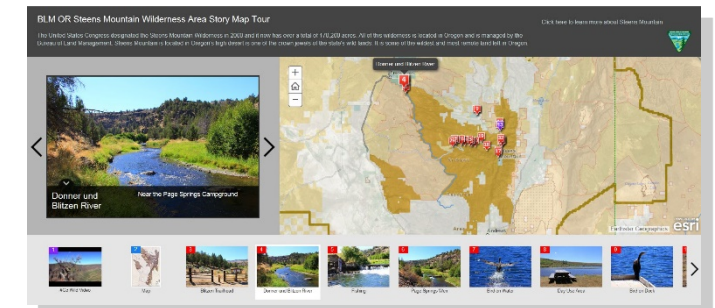
Washington, DC



Senate Foreign Relations



Office of Senator Ron Wyden



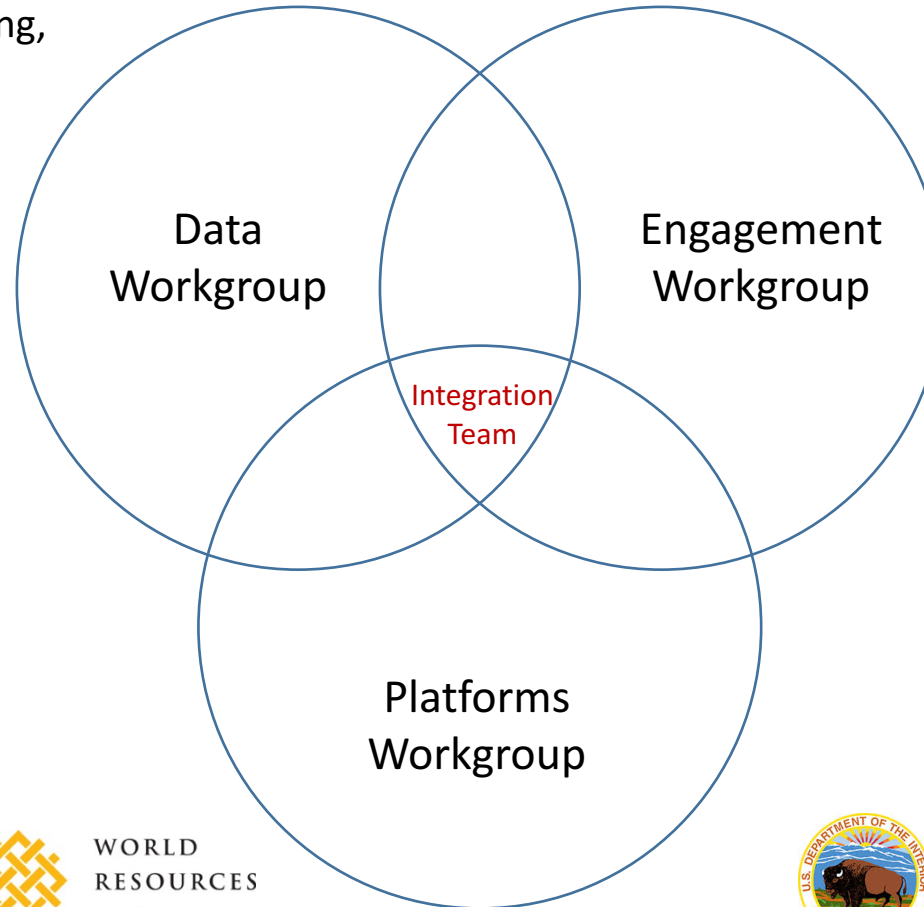
Steens Mountain Wilderness, Oregon

PREP development –  
soliciting input to guide  
enhancements and serve the  
user community

The **PREP Data Workgroup** seeks to reduce the barriers to accessing, contributing, and using data for climate resilience.



The **PREP Engagement Workgroup** seeks to understand the information needs of those seeking to build preparedness and resilience.



The **PREP Platforms Workgroup** seeks to promote the discovery and use of climate related data and services through the development of open, online platforms.

# Engagement Workgroup (EWG)

1. Input on info and data needs for climate preparedness
2. Outreach – co-development of dashboards



# Our Ambition

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## Support better, data-informed Climate Adaptation and Resilience Planning (CARP)



Common carp (Picture: Pat Tully)

### Primary Audience

Analysts (including science translators) using data and information to conduct risk assessments and create risk management reports, or support others in such analyses

### Secondary Audience

- Data developers and innovators
- Users of risk management information



# User Needs Assessment (UNA) Approach

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- Literature review
- Interviews / surveys
- Understanding the ecosystem of resilience platforms and tools
- Identifying gaps and needs
- Inform curation of data and tools

# User Needs Assessment (UNA) – Info Gathering

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**1) Broad look at CARP - Data and information needs and preferences; Tool preferences**

**2) Barriers to Resilience Planning – Data Gaps? Interoperability?**

**3) Key Data and Information Needs**

**4) Recommendation on platform enhancements**

**5) Specific edits / changes**

# A public-private partnership

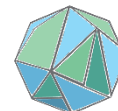
## Government Partners



## NGO Partners



## EcoAdapt



INTELLIGENT ECOSYSTEMS  
INSTITUTE

## Private Sector / Tech Partners



[Taking Action](#) > [Grand Isle: Louisiana's First Line of Defense from Coastal Flooding](#) >

## Grand Isle: Louisiana's First Line of Defense from Coastal Flooding

Lying directly south of New Orleans on Louisiana's coast, Grand Isle often bears the brunt of strong waves and storm surge in the Gulf of Mexico. To protect this town and inland parishes from flooding, engineers constructed a first line of defense.

### Stressors and impacts

At Grand Isle, Louisiana, rising seas and sinking land add up to one of the highest rates of relative sea level rise in the world. As global sea level goes up and regional geologic processes cause the ground to go down, the Gulf of Mexico claims hundreds of acres of land per year. As a result, inland cities are increasingly vulnerable to flooding from tropical storms and hurricanes. Lying directly south of the densely populated city of New Orleans, Grand Isle represents Louisiana's first line of defense from coastal flooding.

#### Mean Sea Level Trend

8761724 Grand Isle, Louisiana

### Steps to Resilience:

- ✓ Step 1: Identify the Problem
- ✓ Step 2: Determine Vulnerabilities
- ✓ Step 3: Investigate Options
- ✓ Step 4: Evaluate Risks & Costs
- Step 5: Take Action

### Topic:

Coastal Flood Risk > [Sea Level Rise](#) >

# PREP – Curated data and tools

- Which data / how much data is needed for CARP?
  - Historic
  - Current
  - Recent trends
  - Projections?
- Level of detail / granularity
- Information to understand thresholds
- Information on impacts / cost of events

Thank you

Enabling collective action to  
manage climate risks |

[www.prepdata.org](http://www.prepdata.org)

For info on PREP going forward:

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- Laretta Burke, [laretta@wri.org](mailto:laretta@wri.org)