



Climate Program Office Review

May 24-26, 2022

Pre-Recorded Presentation

Activity Area 3 Engagement for Climate Resilience

U.S. Climate Resilience Toolkit

- LuAnn Dahlman, Editor
- Ned Gardiner, PhD, Engagement Manager

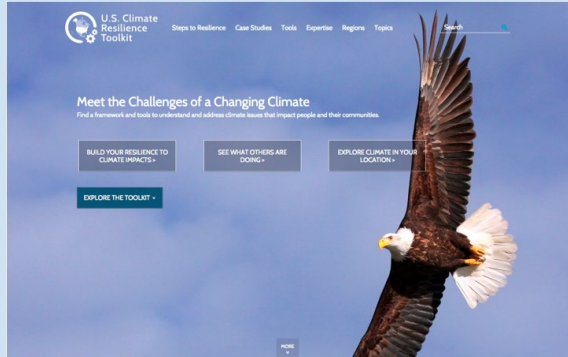
Collabralink Technologies, LLC

Contractors to NOAA/OAR Climate Program Office

Activity Area 3.

Communication, Education, & Engagement

Through the U.S. Climate Resilience Toolkit ([CRT](#)) and associated engagements, we help U.S. states, communities, & businesses manage their climate-related risks & opportunities and build resilience to climate-related hazards



- Plain-language descriptions of climate issues by topic and region
- Steps to Resilience Framework
- Pointers to freely available *Federal* tools for finding data and assessing vulnerability
- Case studies of folks who are confronting climate issues
- Future climate projections



The screenshot shows the homepage of the U.S. Climate Resilience Toolkit. At the top, there is a navigation bar with the NOAA logo, the title "U.S. Climate Resilience Toolkit", and links for "Steps to Resilience", "Case Studies", "Tools", "Expertise", "Regions", and "Topics". A search bar is located on the right. The main heading is "Meet the Challenges of a Changing Climate" with the subtext "Learn about potential climate hazards so you can protect vulnerable assets." Below this are three call-to-action boxes: "LEARN ABOUT THE STEPS TO RESILIENCE, OUR RISK MANAGEMENT FRAMEWORK", "READ CASE STUDIES DESCRIBING ON-THE-GROUND EFFORTS TO BUILD RESILIENCE", and "USE THE CLIMATE EXPLORER TO CHECK CONDITIONS PROJECTED FOR THE FUTURE". A "TOUR THE TOOLKIT" button is also present. The page is divided into two main sections: "TOOLS - Data locators, Checklists, Decision-support" and "CASE STUDIES". The "TOOLS" section features a grid of eight tool cards, each with a representative image and a brief description. The "CASE STUDIES" section features a map of the United States with numerous blue location pins indicating the geographic focus of the case studies.

TOOLS - Data locators, Checklists, Decision-support

- Coastal Flooding, Climate Change, and Your Health: What You Can Do to Prepare**
Geared to the general public, this booklet identifies steps people can take to prepare for the health risks associated with coastal flooding.
[Read more](#)
- Coastal Inundation Dashboard**
This dashboard brings water level data—including real-time, forecasts, storm surge, and historic flooding information—from over 200 coastal stations to your desktop.
[Read more](#)
- Coastal Resilience Decision Support System**
Coastal residents and planners use this suite of GIS-based tools to visualize flood risks from sea level rise and storm surge and identify areas and populations at risk.
[Read more](#)
- Coastal Resilience Evaluation and Siting Tool (CREST)**
Planners and natural resource managers can use this web tool to make informed decisions about siting of restoration and resilience projects.
[Read more](#)
- Coastal Resilience Index**
Communities can complete this questionnaire to assess their level of preparedness for extreme events. The exercise helps communities discuss and discover their climate-related vulnerabilities.
[Read more](#)
- Coastal Restoration Toolkit**
This web-based toolkit offers a wealth of tools and resources to help coastal residents address flooding, coastal erosion, water quality, invasive species, and wildlife habitat restoration.
[Read more](#)
- Coastal Risk Screening Tool**
Explore coastal flood risk and sea level rise projections for nearly any coastal location in the world. Users can adjust variables such as decadal year, water level, pollution scenario, sea level rise mode, and elevation data. Tambien disponible en Español.
[Read more](#)
- COMET-Farm**
Farmers and ranchers use this carbon accounting tool to estimate their operations' greenhouse gas emissions and capacity for carbon sequestration, and to evaluate the impacts of alternative management strategies on their net emissions.
[Read more](#)

CASE STUDIES

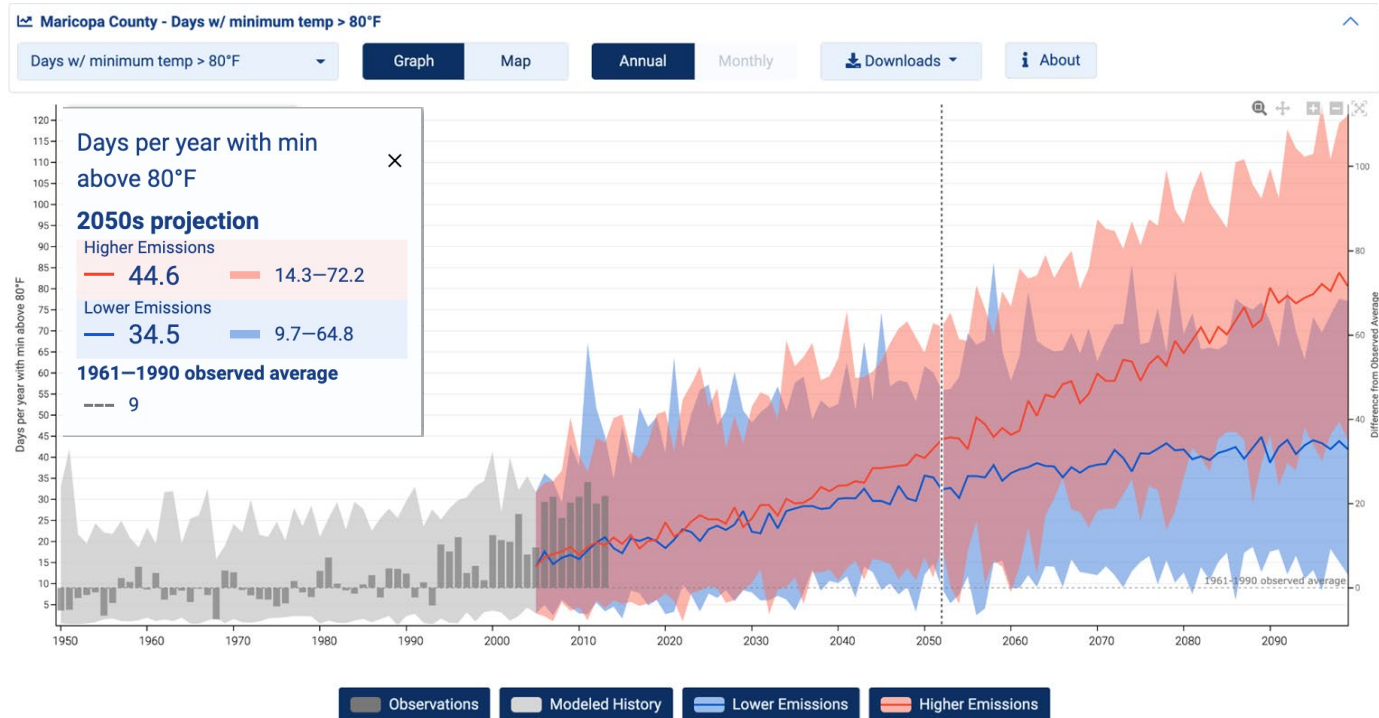
A map of the United States showing numerous blue location pins indicating the geographic focus of the case studies.

Easy Access to Climate Projections via Climate Explorer



Graphs, maps, and data downloads of past and projected climate conditions for every county in the United States.

Observed and projected increases in warm mornings – *days with overnight lows over 80°F* – in Maricopa County, Arizona.



Addressing Climate-Related Impacts: the Steps to Resilience



FLOODING



Explore Hazards



Assess Vulnerability & Risks



Investigate Options



Prioritize & Plan



Take Action

- 350 tools for evaluating exposure
- 250 tools for evaluating vulnerability and risk
- Systematic approach for evaluating non-climate stressors alongside climate
- Evolving database of options developed with private sector civic leaders and adaptation professionals
- Prioritization methods centered in equity and rooted in decision analysis
- Facilitation and editorial support for community buy-in
- Actions linked to funding to ensure plans do not languish on a shelf

Transportation



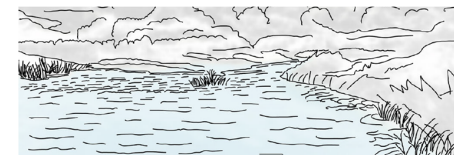
Healthy Communities



Outdoor Activities



Water Resources



HEAT & HEALTH



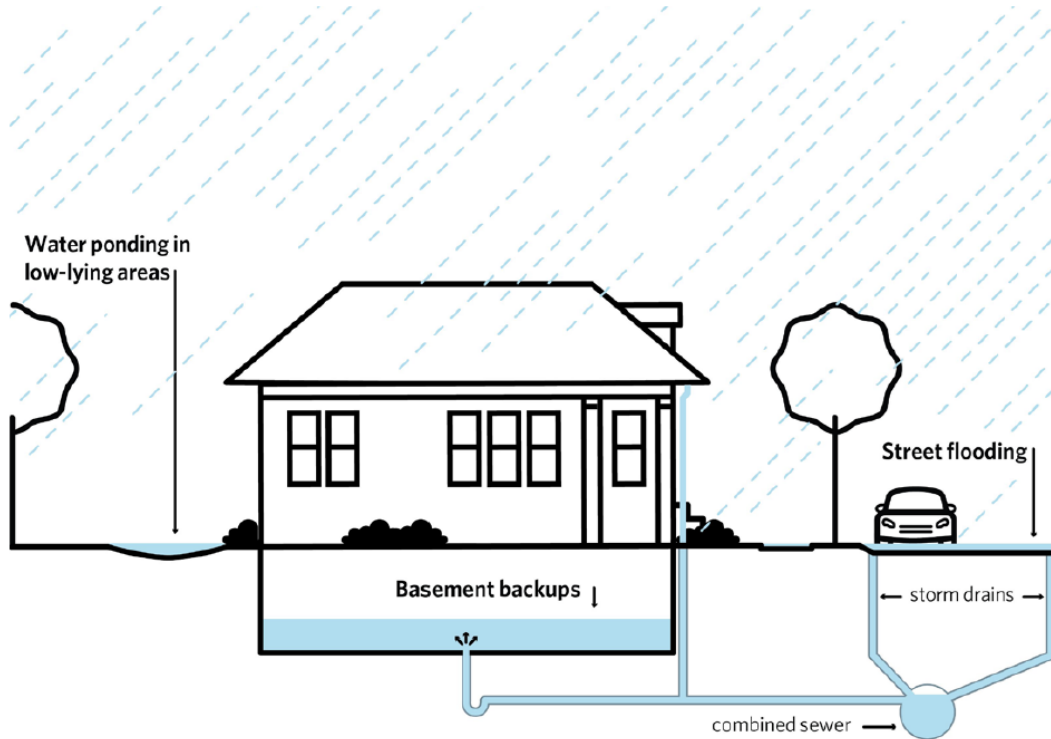
AIR QUALITY



DROUGHT & WATER SUPPLY



Flooding and Homes



Engage and Educate the Community:

Inform the community about weather hazards, flood risk, and encourage preparation at home. Promote green infrastructure practices. Promote IDPH standards for post-flood clean up. Incentive overhead basement sewer conversion.



Incorporate Equity and Inclusion:

Prioritize planning and investments to protect vulnerable populations. Collaborate to ensure residents most vulnerable to flooding are connected to relief services.



Collaborate and Build Capacity:

Coordinate resiliency efforts with federal, state, and regional planning agencies. Access and share timely weather data. Strengthen emergency and adaptive response skills among staff, civic leaders and allied organizations.



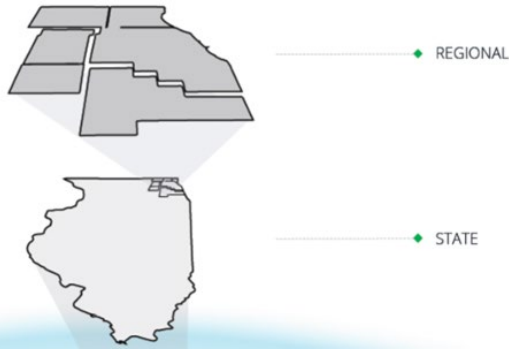
Enact Plans and Policies:

Participate in the Community Rating System and National Flood Insurance Programs. Guide future development to reduce sprawl, conserve land and protect ecosystem services. Incentivize or require resilient building design.



Federal/Interagency Collaboration

- SMEs develop and support content
- FARG work groups
- Climate Resilience Information System

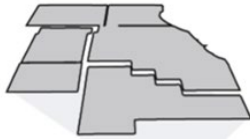


State

- State resilience planning



◆ MUNICIPAL



◆ REGIONAL

Regional Government

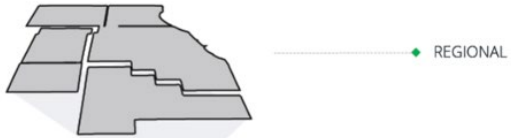
- Councils of government (Chicago Climate Action Plan)



Individual Capacity Building

- Executive and civic leaders (ACCO)
- Professionals (AIA, ASAP)
- Municipal Leaders (NLC, ICMA)
- Resilience Ecosystem

Aligning Federal Resources across Society



Individual Capacity Building

- Executive and civic leaders (ACCO)
- Professionals (AIA, ASAP)
- Municipal Leaders (NLC, ICMA)
- Resilience Ecosystem

Regional Government

- Councils of government (Chicago Climate Action Plan)

State

- State resilience planning (North Carolina)

Federal/Interagency Collaboration

- SMEs develop and support content
- Climate Resilience Information System
- FARG work groups

5:1 Benefits:Cost for Climate
Resilience Toolkit

The Economic Impact of the U.S. Climate Resilience Toolkit: A Case Study Approach

By Jim Fox, Nina Flagler Hall, and Karin Rogers



NEMAC
NATIONAL ENVIRONMENTAL
MODELING & ANALYSIS CENTER

Coordination and Collaboration in the Resilience Ecosystem



Decision support platforms for climate change adaptation: an overview and introduction

[Jean P. Palu](#)

[Climatic](#)

6466 Ar

Introd

North Carolina

Climate Risk Assessment and Resilience Plan

Impacts, Vulnerability, Risks, and Preliminary Actions

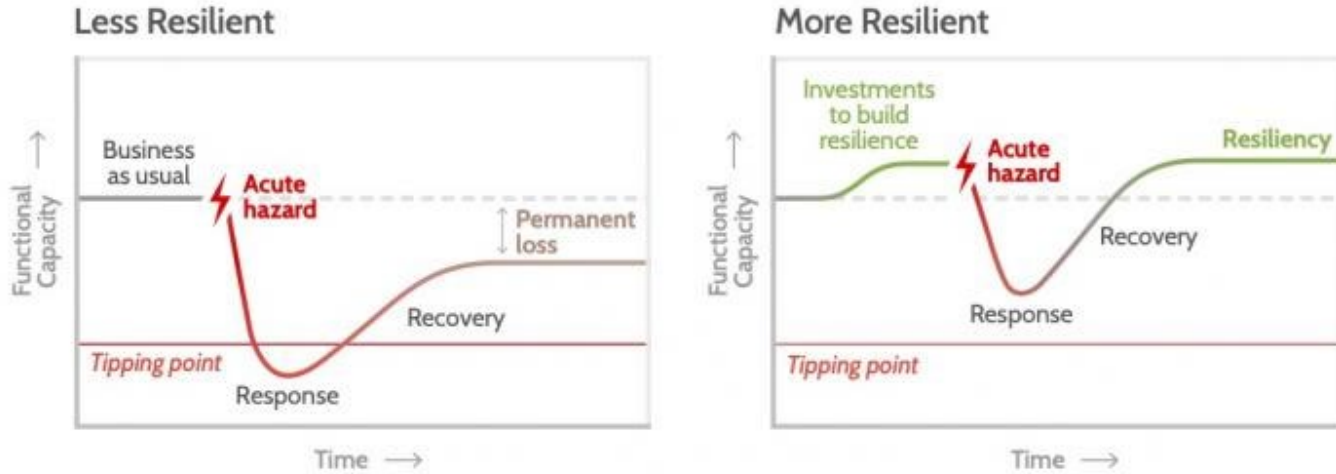
A Comprehensive Strategy for Reducing North Carolina's Vulnerability to Climate Change

June 2020

Publications (Theory and Practice)

- Climatic Change Special Issue
- Climate Action Plan for Chicago Region
- Risk and Resilience Plan for North Carolina

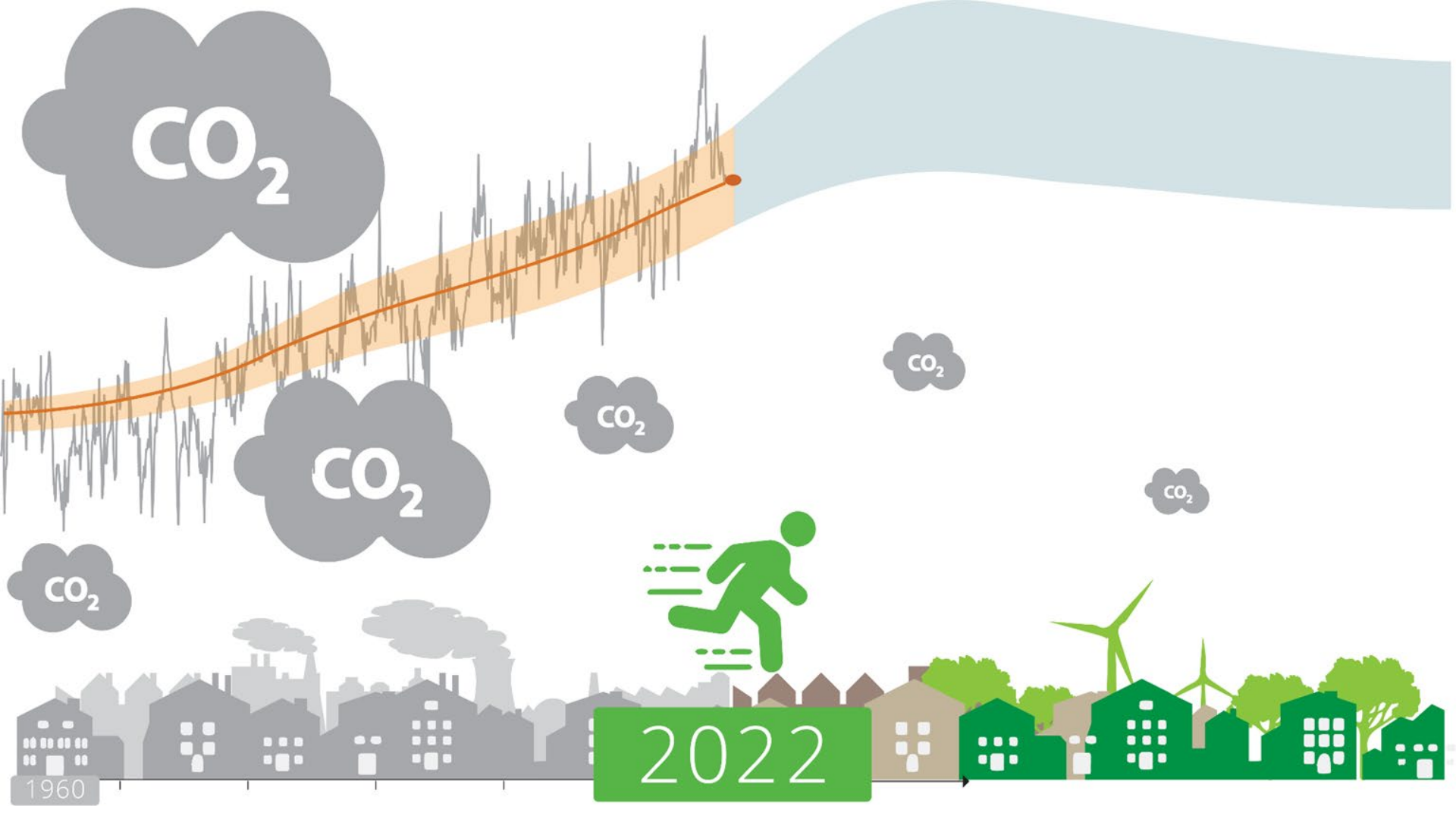
Ongoing Evidence of Progress



Above: definition of resilience.

Climate-Smart Communities Initiative

- Practitioner's Guide



CO₂

CO₂

CO₂

CO₂

CO₂

CO₂

2022

1960



Thank you!