Where to get tools and information to move forward

- Portals
- Regional support & guidance
- Data portals
- Visualization Tools
- Analytical Tools
- Socio-economic tools
- Indices

Portals

cake

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GREAT LAKES REGIONAL INTEGRATED SCIENCES & ASSESSMENTS CENTER

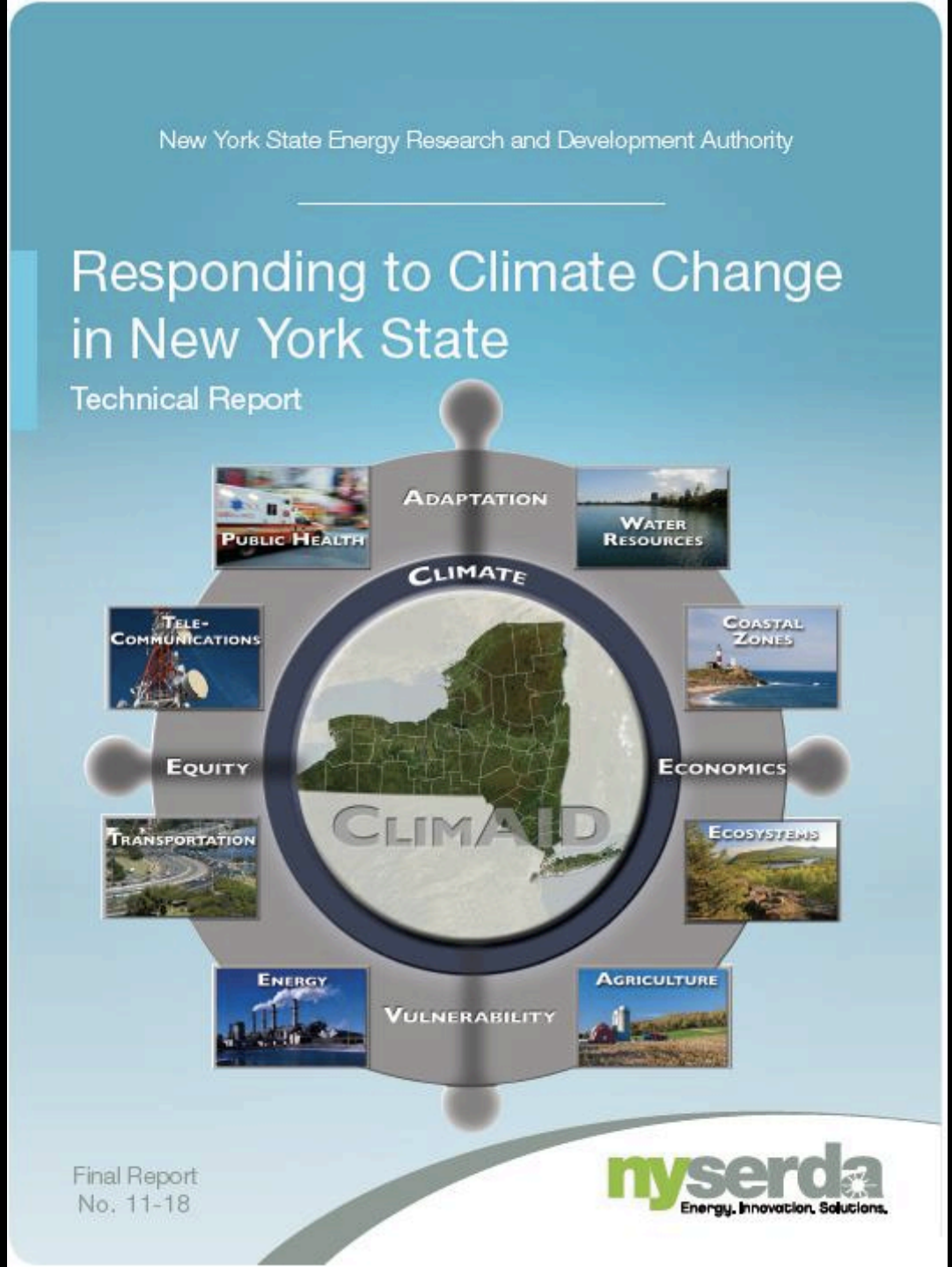
The *Great Lakes Regional Integrated Sciences and Assessments Center (GLISA)* is a collaboration of the University of Michigan, Michigan State University, and The Ohio State University, with funding from the National Oceanic and Atmospheric Administration. The economy of the Great Lakes Region and the wellbeing of its residents will be greatly affected by regional and local changes to the climate. Climate change is likely to reduce lake levels, shift patterns of precipitation, and alter average seasonal temperatures.

GLISA spotlights three critical sectors in the region--agriculture, watershed management, and natural reso urces-based recreation and tourism—which are interconnected through issues of water quality and quantity. GLISA focuses on the watersheds of Lake Huron and Lake Erie located in the states of Michigan and Ohio and the province of Ontario, but its reach encompasses the broader Great Lakes basin.

The two overarching goals of GLISA are to contribute to the long-term sustainability of the region in the face of a changing climate and to improve the utility of scientific knowledge to decision making. It pursues these goals through three programmatic areas:

http://www.glisa.umich.edu/

Regional Climate Info



NY State Climate Info

New York State | State Agencies | Search all of NY.gov

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Printer-friendly || A-Z Subject Index || Enter search words | Search DEC

Home » Energy and Climate » Climate Change

- Outdoor Activities
- Animals, Plants, Aquatic Life
- Chemical and Pollution Control
- Energy and Climate
  - Climate Change
    - Climate Action Planning
    - Climate Change Basics
    - Climate Smart Communities
    - Energy/Climate Solutions
    - Climate Change Information Resources
    - Sea Level Rise
    - Climate Change and Health
    - Regional Greenhouse Gas Initiative
    - Student Information on Climate Change
- Lands and Waters
- Education
- Permits and Licenses
- Public Involvement and News

http://www.dec.ny.gov/energy/63848.html

Climate Change

New Yorkers are Working on Many Fronts

To help minimize risks from climate change, New York State has set two goals:

- **Reduce emissions of heat-trapping greenhouse gases** by 80 percent from 1990 levels, by the year 2050 ("80 by 50"), and
- **Improve resilience to climate change** in all the state's communities.

As we work toward these goals, new economic opportunities will open and our dependence on out-of-state energy sources will diminish. This page links to information about planning, programs and actions that reduce the risk of harm from climate change and increase the benefits of the emerging low-carbon economy.

A Changing Climate Will Cost All New Yorkers

Already in New York:

- Winter snow cover is decreasing and spring comes, on average, a week or so earlier than it did a few decades ago.
- Even when the weather is cold, nighttime temperatures are measurably warmer.

Find on this Page

- State Climate Action Planning

Important Links

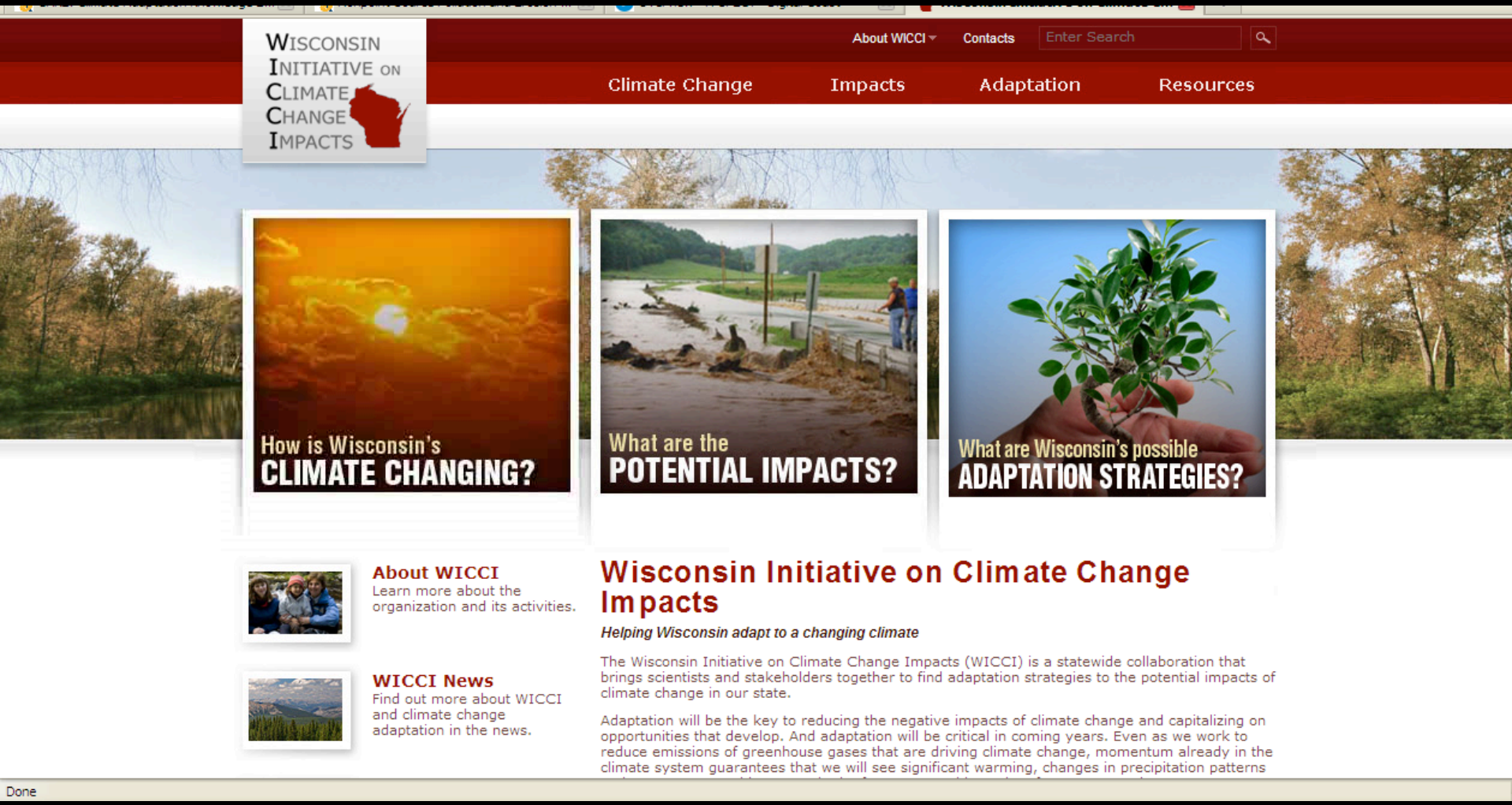
- Executive Order 24 - 80 by 50 Goal
- Assessing Energy Use and Greenhouse Gas Emissions in an EIS
- List of Climate Smart Communities
- Green Living
- Office of Climate Change
- NYS Sea Level Rise Task Force Report PDF 3.49 MB
- Climate Action Planning - Interim Report

Links Leaving

http://www.dec.ny.gov/energy/44992.html

Wisconsin Initiative on Climate Change Impacts (WICCI)

http://www.wicci.wisc.edu/



WISCONSIN'S CHANGING CLIMATE:

IMPACTS AND ADAPTATION

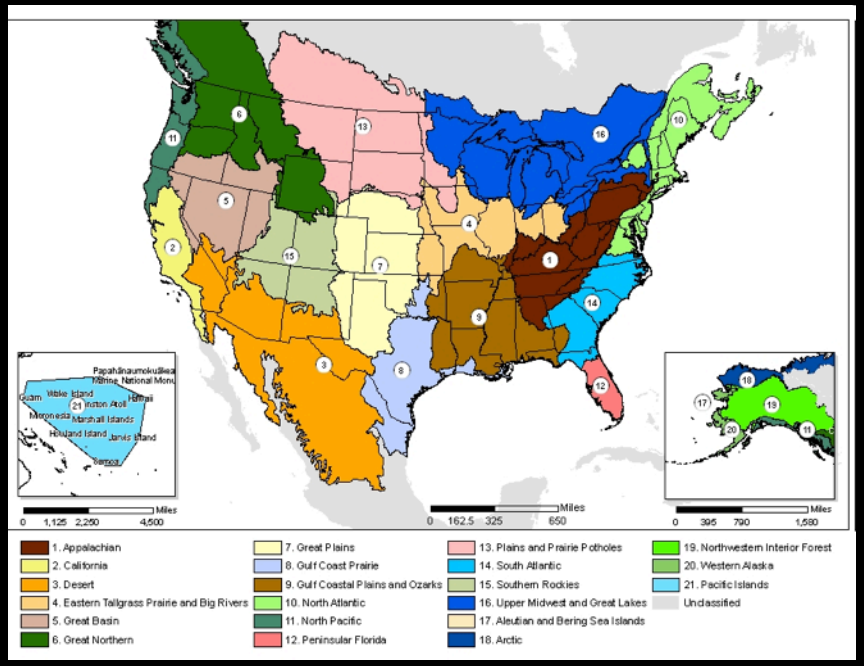
The first report of the Wisconsin Initiative on Climate Change Impacts

2011

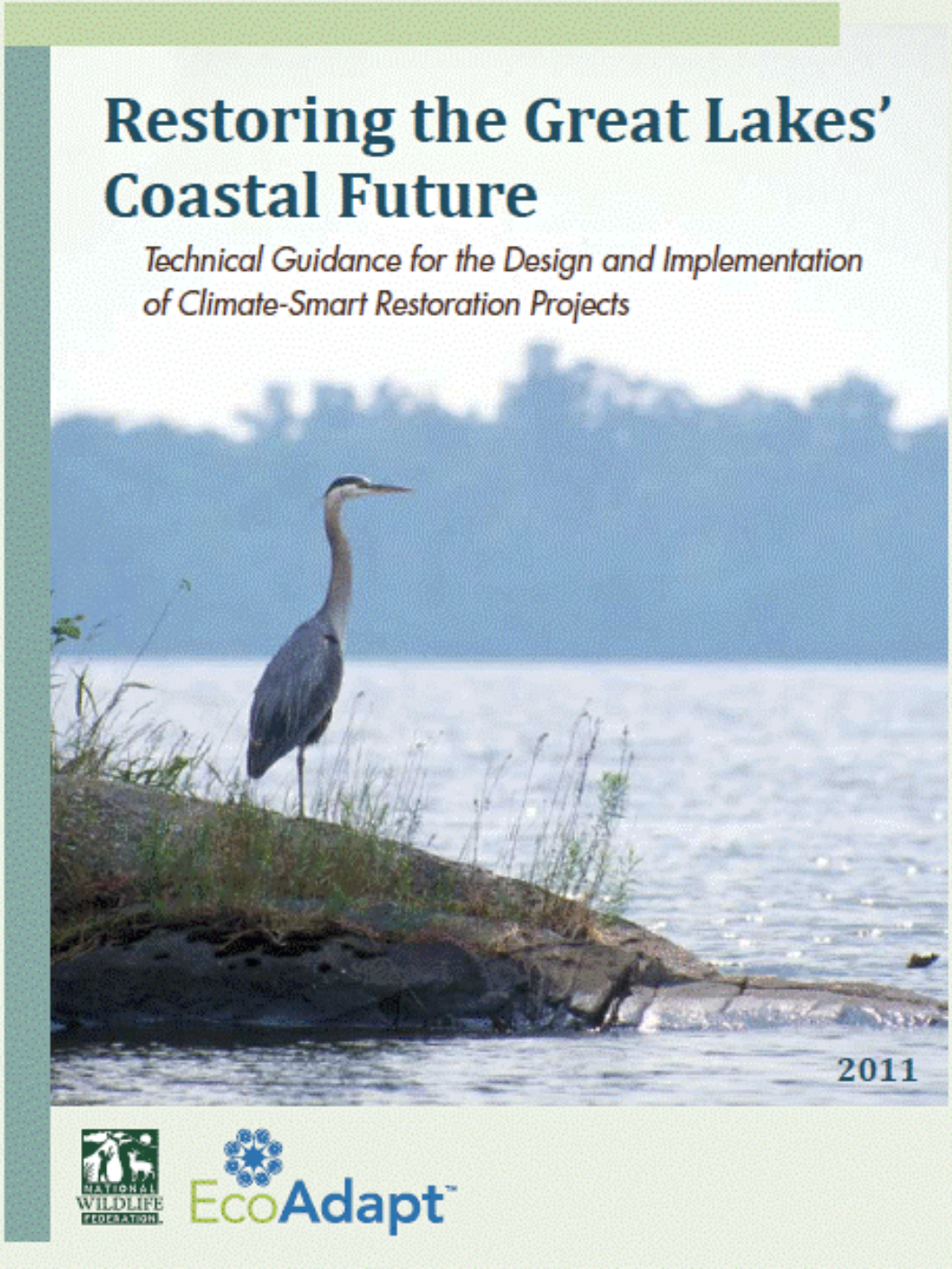
Developing Resources

- Department of Interior NE Climate Science Centers
- Department of Interior Upper Midwest and Great Lakes Landscape Conservation Cooperative
- NOAA Midwest Regional Climate Center, Illinois St.

Stay Tuned



Restoration guidebook



Data Portals

A Word About Modeled Data

"Spurious precision and a false sense of accuracy"

-Hector Galbraith

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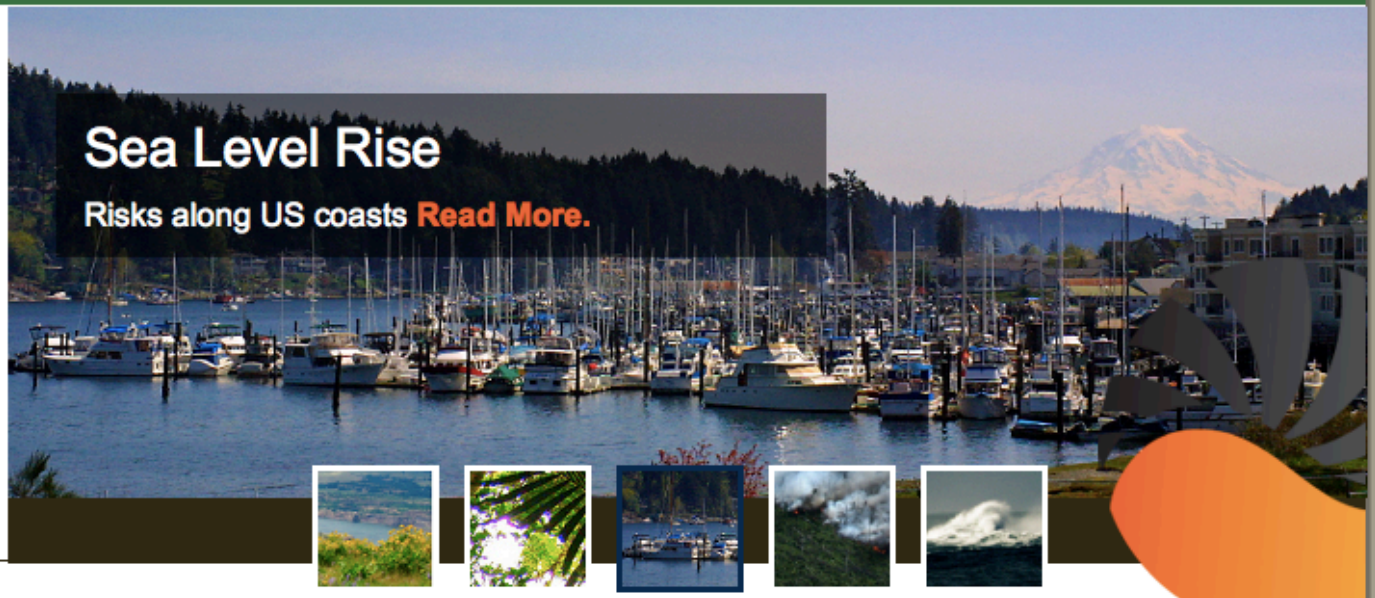


Latest News

See all Climate Center news.

Independent assessment documents warming of 1oC since the 1950s

Posted: October 24, 2011

The new Berkeley Earth Surface Temperature study finds reliable

About the Climate Center

The Climate Center is one of the entryways to Data Basin, the on-line database with data manipulation tools created by the Conservation Biology Institute (CBI).

The Climate Center:

- lists the **most recent datasets**, **maps** and **galleries** with relevance to climate change issues.
- provides special **features** that tell stories around specific datasets available in Data Basin.

www.databasin.org

The Nature Conservancy
Protecting nature. Preserving life.™

ClimateWizard

University of Washington
The University of Southern Mississippi

Analysis Area	Time Period	Map Options	Measurement	Resources
○ United States ◉ Global Global	○ Past 50 Years ○ Mid Century (2050s) ◉ End Century (2080s)	○ Map of Average ◉ Map of Change Compare & Animate Models	○ Average Temperature ◉ Precipitation Dec - Feb	Case Studies Documentation Data and Map Image Download ClimateWizard Custom Analysis Printer Friendly Version

Future Climate Model

IPCC Fourth Assessment

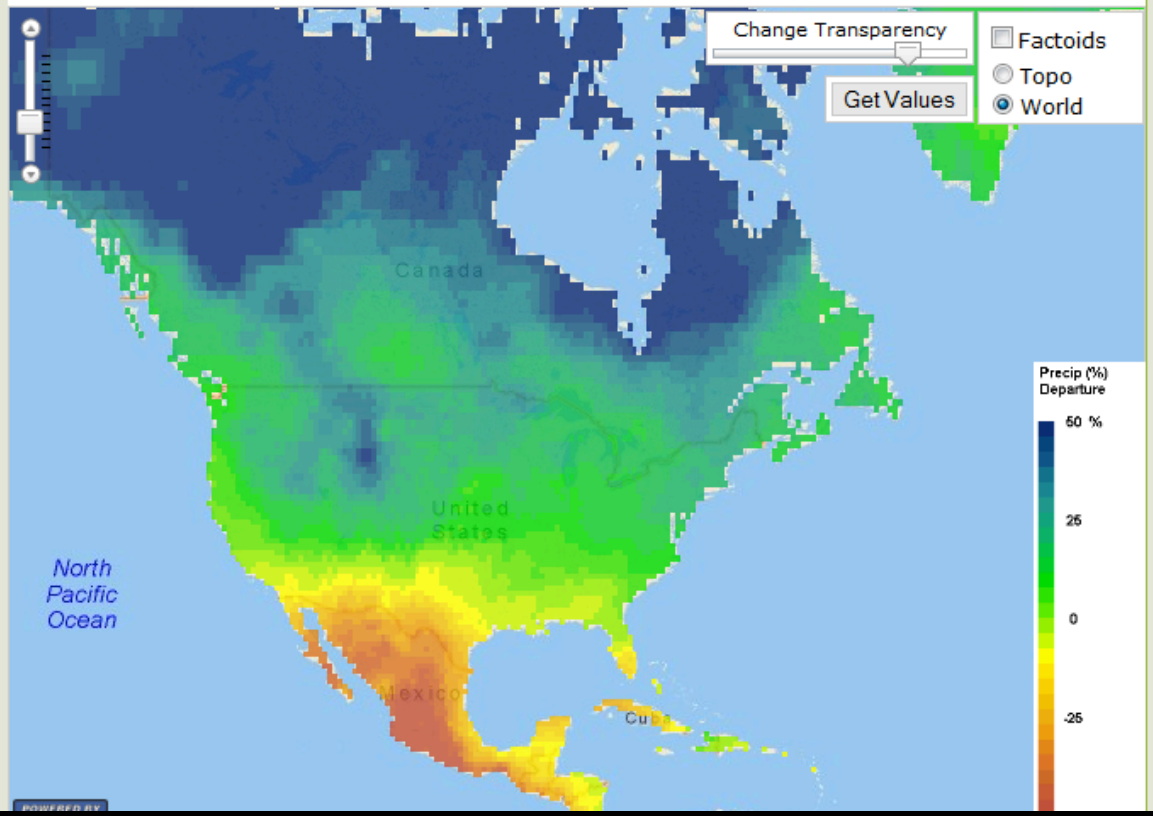
Emission Scenario
High A2

General Circulation Model
Ensemble Average

50%: This map shows the precipitation change projected by the middle model. **Areas that are blue are projected to increase by at least half of the models, and areas that are yellow to red are projected to decrease in precipitation by at least half of the models.**

Change in Dec-Feb Precipitation by the 2080s

Model: Ensemble Average, SRES emission scenario: A2



http://www.climatewizard.org

DIGITAL COAST
NOAA Coastal Services Center

Home Data Tools Training Approaches In Action

More than just data...

The Digital Coast also provides the tools, training, and information needed to turn these data into the information most needed by coastal resource management professionals. Read more...

Welcome to the Digital Coast. If you have questions or comments, please take a video tour or contact us.

Data
Learn more about the kinds of data available and download data.

Tools
Use these tools to turn data into the useful information your organization needs.

Training
Update your skills by participating in one of these training programs.

In Action
See how data and tools are used to address

Approaches

Coastal Inundation Toolkit
Understand the basics and get the tools that will help make your community more resilient.

Offshore Renewable Energy Planning
Get the data and tools needed to make siting decisions.

Conserving Coastal Wetlands for Sea Level Rise Adaptation
Learn spatial techniques and get resources to prioritize wetland conservation.

Featured Resources

Digital Coast Webinar Series
Features a series of presentations, demonstrations, and discussions on Digital Coast products.

State of the Coast
Get a state-level view of how coastal ecosystems, economies, and communities are connected.

Mississippi Geospatial Clearinghouse
A comprehensive spatial information warehouse for use by government.

Data: Coastal elevations, bathymetric lidar

http://www.csc.noaa.gov/digitalcoast/

NOAA: climate.gov

NOAA HOME WEATHER OCEANS FISHERIES CHARTING SATELLITES CLIMATE RESEARCH COASTS CAREERS

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NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Prototype

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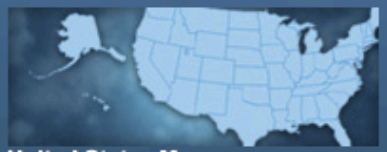
Integrated Map Application

Access multiple layers of free, searchable climate data quickly and easily through the integrated data set map application.

Go to map now»

Global Maps
Observation maps that cover records across the entire planet



United States Maps
Maps that cover the United States and surrounding territories

Regional Maps
Observational data grouped by specific region

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- Historical Hurricane Tracks

Visualization

Tools: habitat priority tool, coastal change analysis program, coastal country snapshots, CanVis, N-SPECT

http://www.csc.noaa.gov/digitalcoast/

CanVis: Visualization Tool

Before

After

South Bass Island, Ohio

Perry Memorial Monument

NOAA Coastal Services Center
LINKING PEOPLE, INFORMATION, AND TECHNOLOGY

Nonpoint-Source Pollution and Erosion Comparison Tool

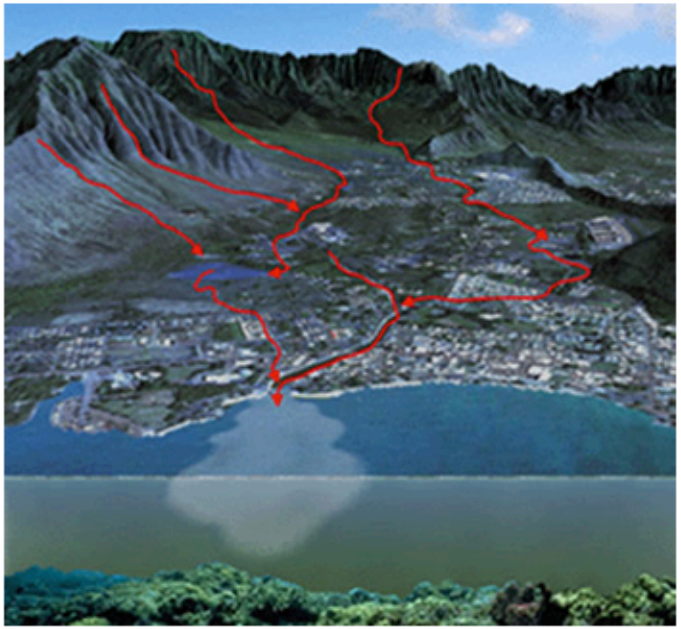
NOAA Coastal Services Center

Overview

Use the Nonpoint-Source Pollution and Erosion Comparison Tool (N-SPECT) to investigate potential water quality impacts from development, other land uses, and climate change. N-SPECT was designed to be broadly applicable, but the tool operates most accurately in medium-to-large watersheds having moderate topographic relief.

New publication describes regional pollutant coefficient development

N-SPECT version 1.5.1 is now available



Features

Provides projections and maps of surface water runoff volumes, pollutant loads, pollutant concentrations, and total sediment loads

Helps users see areas that might benefit from changes to proposed development strategies

Processes digital elevation data quickly and easily

Provides a means to analyze "what if" land use change scenarios

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Articles

CSI Team Investigates Tornado Outbreak

Featured Article, May 06, 2011
by Rebecca Lindsey

The tornado outbreak across the southern United States in late April 2011 was deadly, devastating, and record breaking. NOAA's 'CSI' team is investigating the possible connections between global warming, natural climate patterns, and tornados.

Read More

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Videos

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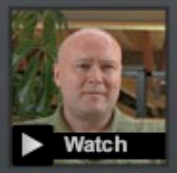
Meet NOAA's climate scientists and get their perspectives on climate.



Predicting El Nino and La Nina Events

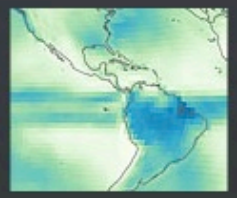
Impacts of La Nina in Africa

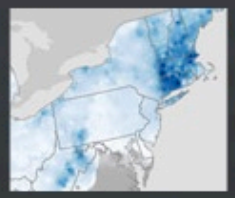
The Effects of Climate Change on El Nino & La Nina

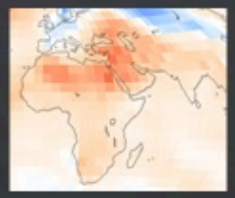
Images

Browse ClimateWatch Images

Browse images, photos, and visualizations of Earth's climate system.







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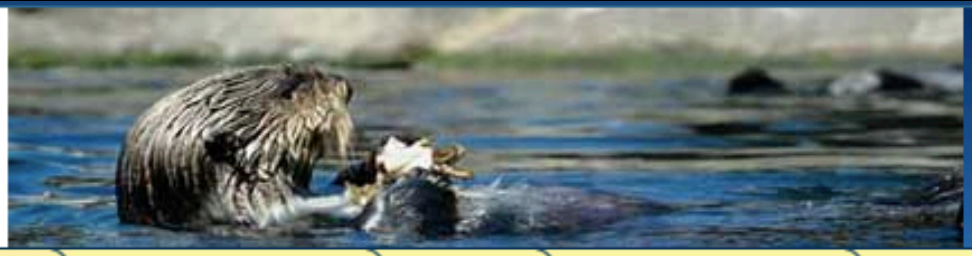
NatureServe



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Products & Services

NatureServe Vista: Decision Support for Better Planning

NatureServe Vista is a **powerful, flexible, and free decision-support system** that helps users integrate conservation with land use and resource planning of all types.

Planners, resource managers, scientists, and conservationists can use NatureServe Vista to:

- conduct conservation planning and assessments
- integrate conservation values with other planning and assessment activities, such as land use, transportation, energy, natural resource, and ecosystem-based management.
- evaluate, create, implement, and monitor land use and resource management scenarios designed to achieve conservation goals within existing economic, social, and political contexts.

With version 2.6, NatureServe Vista is now compatible with ArcMap 10. ArcMap 10's 64 bit platform has greatly increased Vista's speed and ability to handle much larger planning regions.

Learn More

NatureServe VISTA.

- Register and **download** NatureServe Vista 2.6 for free with unlimited use.
- On-demand training and technical support for version 2.6 is available (version 1.3 is no longer supported). **Contact** us for pricing.
- **What's New** in NatureServe Vista 2.6
- Please check the **system requirements** before downloading and attempting to install NatureServe Vista

www.natureserve.org

EPA United States Environmental Protection Agency

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Water: Climate

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  - Infrastructure Financing
  - Sustainable Infrastructure

You are here: Water » Water Infrastructure » Water Security » Climate » Climate Resilience Evaluation & Awareness Tool (CREAT)

Climate Resilience Evaluation & Awareness Tool (CREAT)

Climate Ready Water Utilities Home

EPA has developed CREAT, a software tool to assist drinking water and wastewater utility owners and operators in understanding potential climate change threats and in assessing the related risks at their individual utilities. CREAT provides users with access to the most recent national assessment of climate change impacts for use in considering how these changes will impact utility operations and missions.

CREAT allows users to evaluate potential impacts of climate change on their utility and to evaluate adaptation options to address these impacts using both traditional risk assessment and scenario-based decision making. CREAT provides libraries of drinking water and wastewater utility assets (e.g., water resources, treatment plants, pump stations) that could be impacted by climate change, possible climate change-related threats (e.g., flooding, drought, water quality), and adaptive measures that can be implemented to reduce the impacts of climate change. The tool guides users through identifying threats based on regional differences in climate change projections and designing adaptation plans based on the types of threats being considered. Following assessment, CREAT provides a series of risk reduction and cost reports that will allow the user to evaluate various adaptation options as part of long-term planning.

- For more information see Climate Resilience Evaluation and Awareness Tool Fact Sheet PDF (2pp, 245K)
- New! Register for CREAT Training

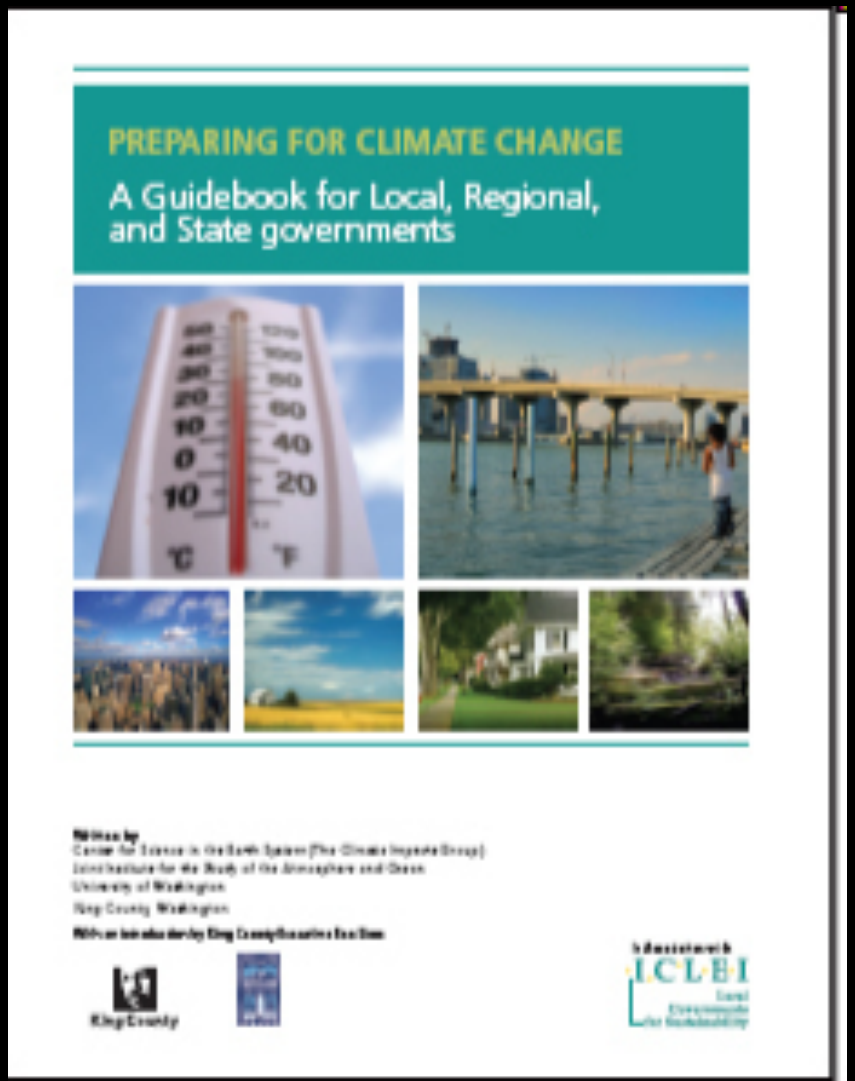
  Learn about how to use the tool through a series of webinars including:
  - CREAT 101 – An Introduction to the tool;

http://water.epa.gov/infrastructure/watersecurity/climate/creat.cfm

Socio-economic

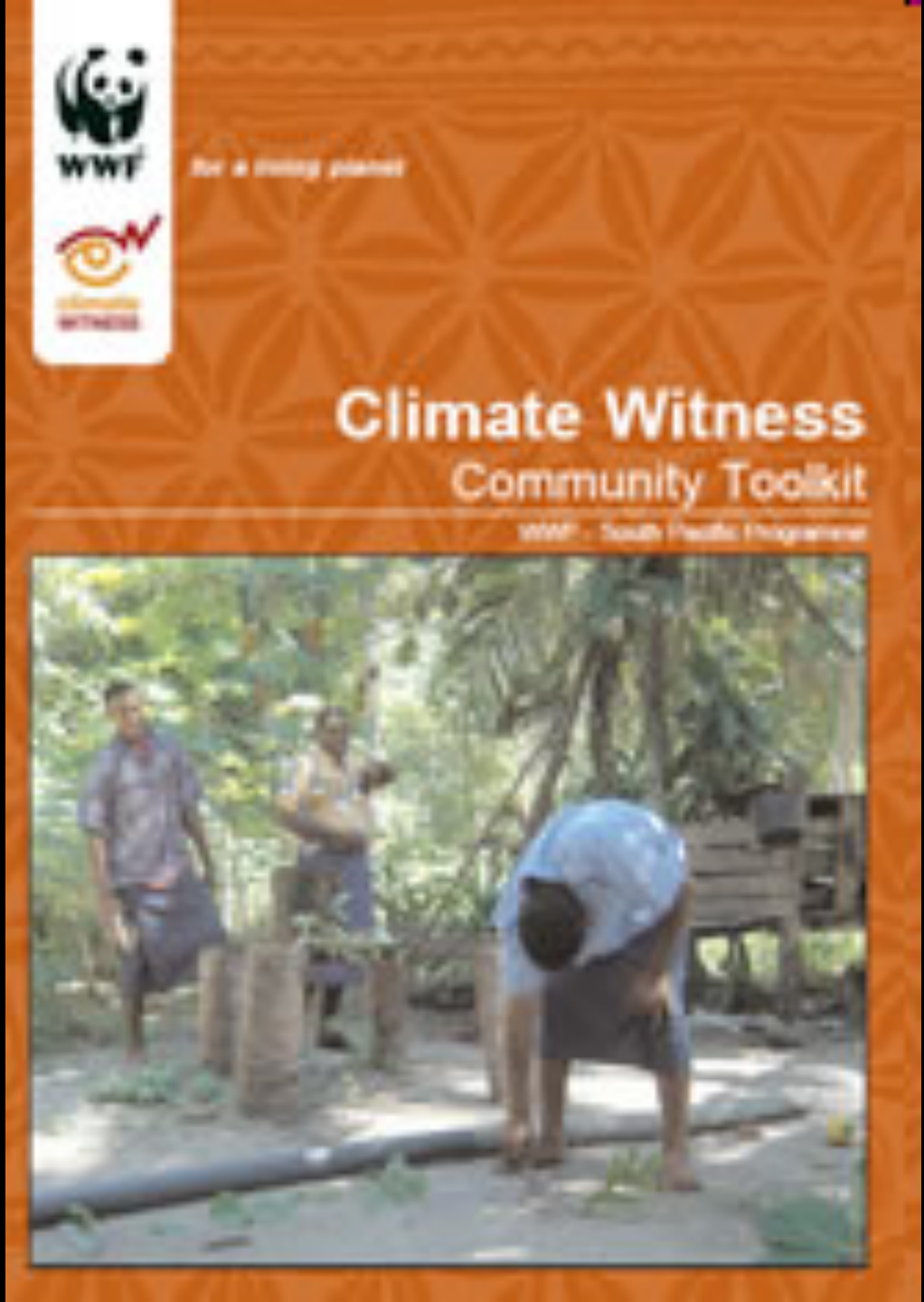
ICLEI, King County, Climate Impacts Group Adaptation Book

http://cses.washington.edu/cig/fpt/guidebook.shtml#downloading



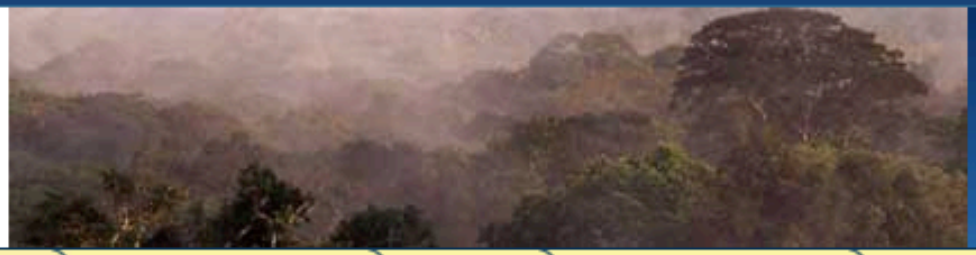
Climate Witness

http://assets.panda.org/downloads/



Indices

NatureServe



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Climate Change

- Confronting Climate Change
- Climate Change Vulnerability Index
- Search Species Vulnerability Assessments
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Confronting Climate Change

The NatureServe Climate Change Vulnerability Index

Climate change is affecting numerous plant and animal species right now. But how do you determine which species are most vulnerable, which ones need more focused attention sooner rather than later?

The ***NatureServe Climate Change Vulnerability Index* can help identify plant and animal species that are particularly vulnerable to the effects of climate change**. Using the Index, you apply readily available information about a species' natural history, distribution and landscape circumstances to predict whether it will likely suffer a range contraction, population reductions, or both during the coming years. You can use the Index as part of a variety of analyses, including assessing the relative risk of species listed in State Wildlife Action Plans or part of any assessment of the vulnerability of species to climate change.

Update: Version 2.1 now available!

Every day, we learn more about our climate, the changes it is

Contact

Bruce Young
Director of Species Science

Index

- NatureServe's Strategy
- Climate Change Vulnerability Index
- Guidence in NatureServe Vista

Download

- Version 2.1 of the **NatureServe Climate Change Vulnerability Index**
- **Guidance for v2.1** (PDF, 512KB)

www.natureserve.org

A Word About Modeled Data

"Spurious precision and a false sense of accuracy"

-Hector Galbraith

10 Commandments for Models*

1. Model outputs *can* be beneficial to planning processes;
2. They should only be used when they are needed; i.e. if the problem can be readily solved using conventional approaches, that is likely preferable;
3. For spatial planning with many overlapping considerations, models may not be available;
4. When used in planning, models should be considered in relation to agreed-upon goals and objectives of the planning process;
5. Good planning requires a mix of good science, governance, and communication / engagement with users;
6. Tools such as models require proper use of data and cannot be expected to answers to questions for which the processes are not clear.
7. Ultimately, adaptation is a social decision;
8. Tools like models can assist in providing a pool of possibilities and pointing out options that have not been considered before. It can highlight areas of uncertainty, as well as possibility;
9. Used properly, models are one source of information among many, including empirical data (environmental, social and economic); and
10. Local knowledge / concerns and other considerations (e.g. management practicalities) should be used in concert with model outputs to form adaptation strategies.

* Modified from the “Ten Commandments for Marxan in Planning”