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NORTH CAROLINA OFFICE OF RECOVERY AND RESILIENCY

NORTH CAROLINA DEPARTMENT OF PUBLIC SAFETY

OFFICE OF RECOVERY AND RESILIENCY

Climate Change Resilience: North Carolina's Story

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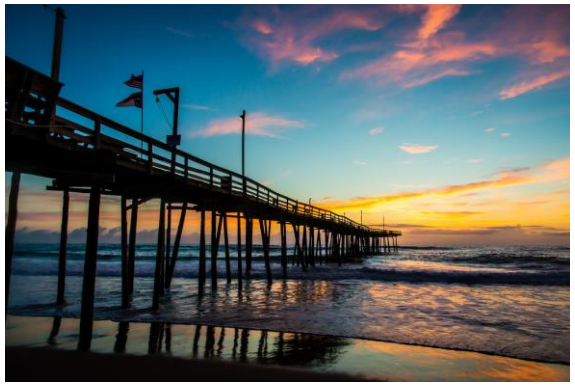
N★C DPS DEPARTMENT OF PUBLIC SAFETY

Welcome!

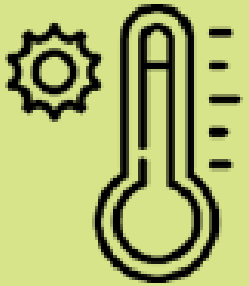


Tropical Storm Fred

The Science

Virtually Certain
Sea Level will continue to rise

Very Likely
Summer Heat Index Values will increase



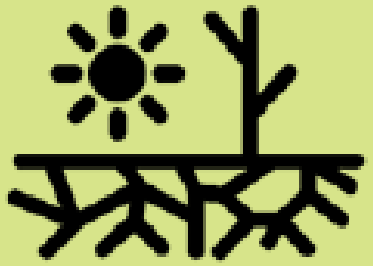
Likely
Annual Total precipitation will increase

Source: Kunkel et al. (2020) *North Carolina Climate Science Report*

The Science

Likely Hurricane intensity will increase

Likely Severe droughts will become more intense

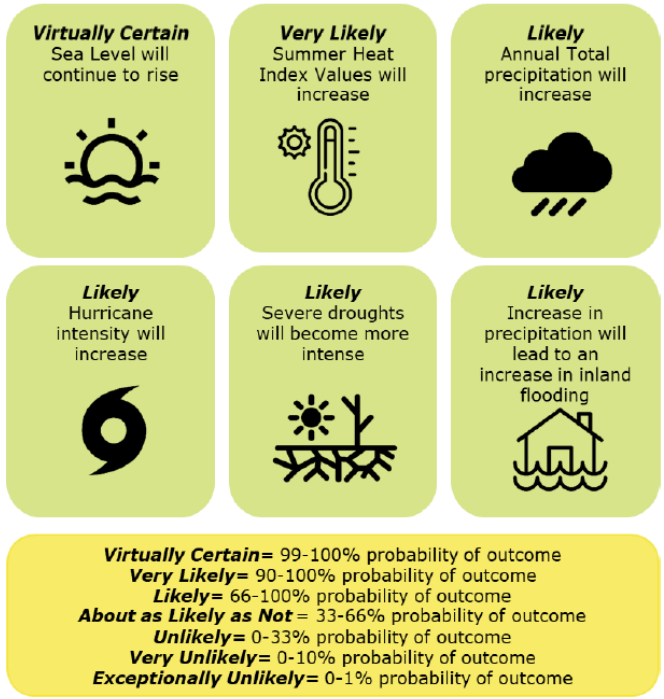


Likely Increase in precipitation will lead to an increase in inland flooding

Source: Kunkel et al. (2020) *North Carolina Climate Science Report*

The Science

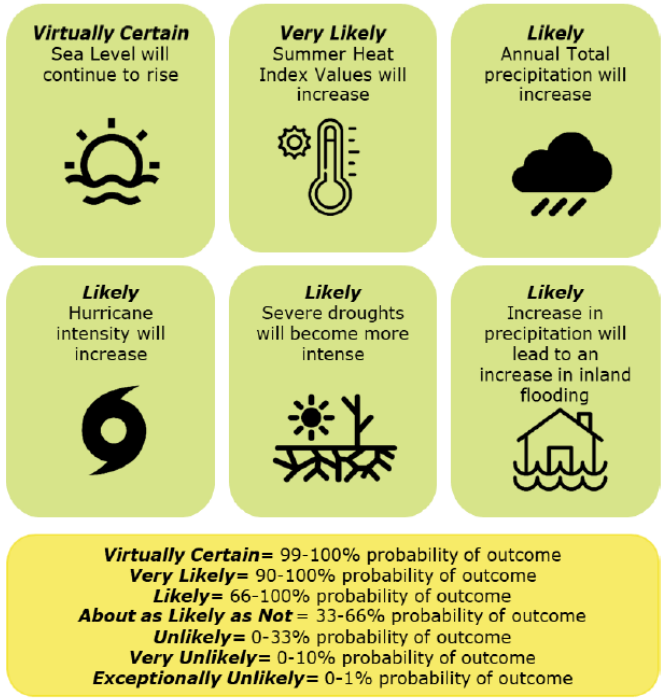
A. Climate Change Projections in North Carolina[1]



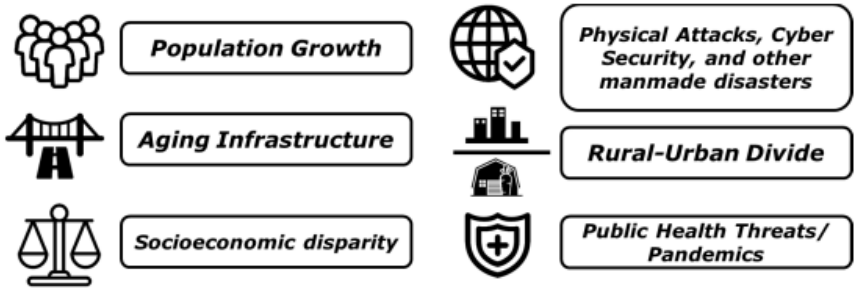
Source: Kunkel et al. (2020) *North Carolina Climate Science Report*

The Science

A. Climate Change Projections in North Carolina[1]



B. Non-Climate Stressors facing North Carolina



Source: Kunkel et al. (2020) *North Carolina Climate Science Report*

What's At Stake

Wildfire

Saltwater intrusion

Flash and riverine flooding

Cumulative public health burden

Loss of housing stock; business and job loss

Water quality and ecological impact

What's At Stake

Resilience: Two Models

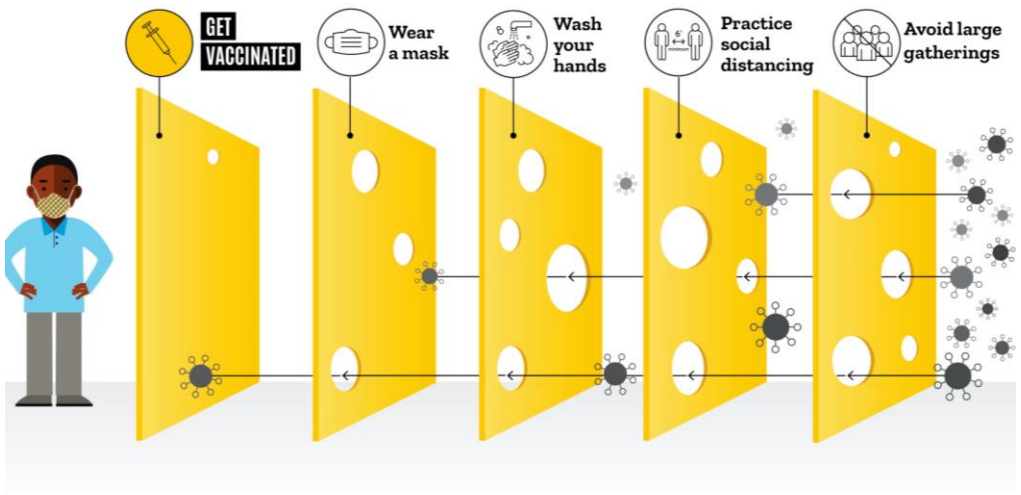
Resilience: The Swinging Door Model

How much time does it take to get back to a baseline after a shock or stress?

… is that baseline the best we can be? Is the baseline good enough for the future?

Swiss Cheese Model

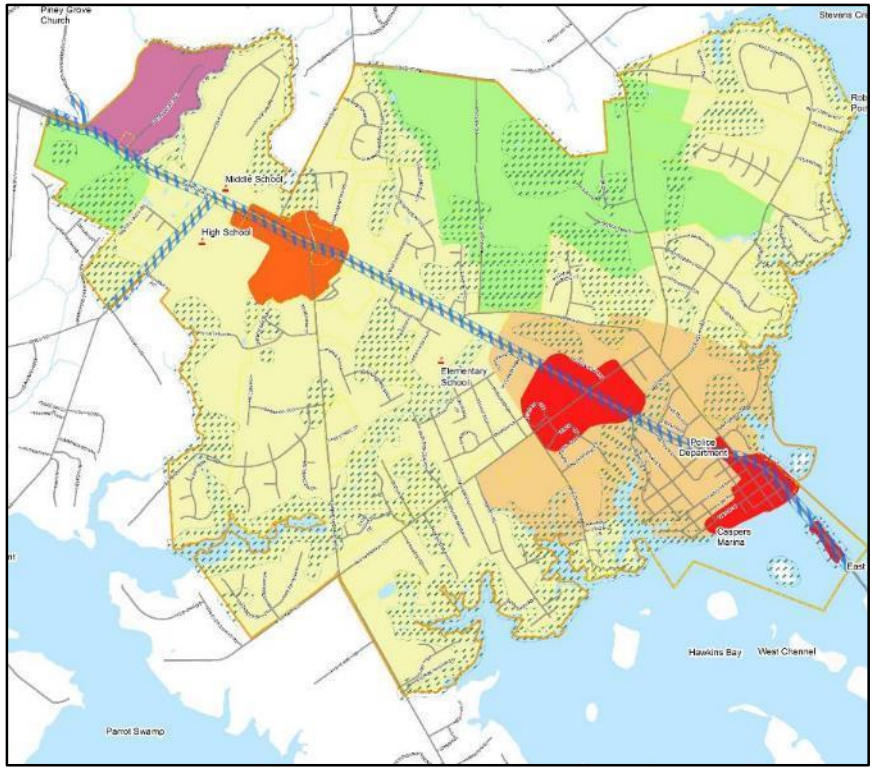
"Why Swiss cheese may be the key to keeping you safe from COVID-19"



University of Iowa Hospital & Clinics website:
https://uihc.org/health-topics/why-swiss-cheese-may-be-key-keeping-you-safe-covid-19

- Multiple layers of defense
- No single layer provides 100 percent protection against harm
- Residual possibility of harm

Land Use



How do we live with water?

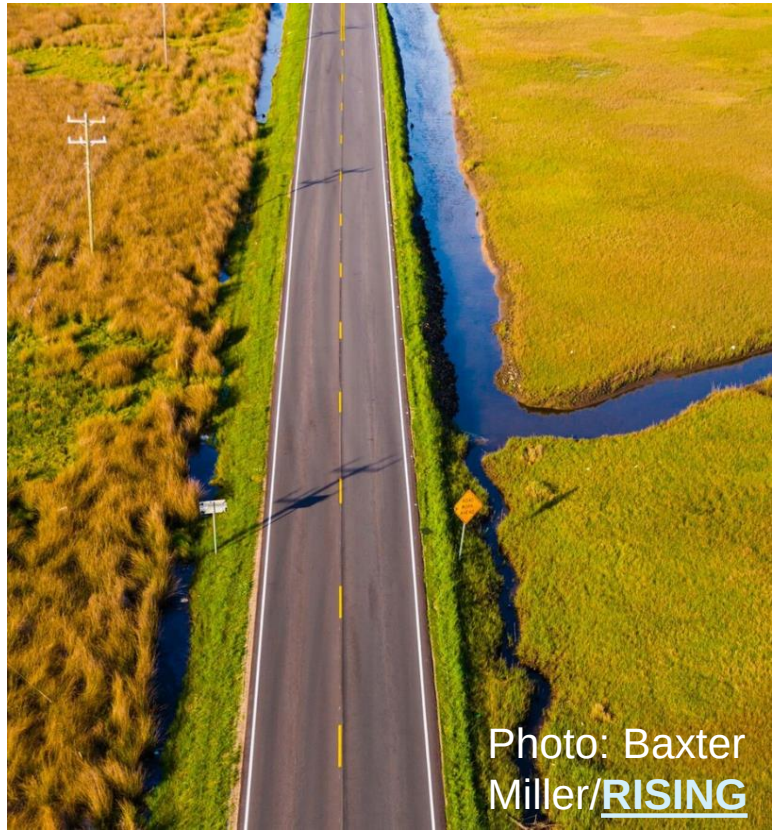
A place for development and a place for water.

First, do no harm: Not making flooding problems any worse

Future Land Use

- Traditional Town Center (TTC)
- Suburban Town Center (STC)
- Coastal Traditional Neighborhood (CTN)
- Low Density / Suburban Neighborhood (LDSN)
- Rural / Agricultural (RA)
- Light Industrial / Employment (LIE)
- Conservation Priority Area (CPA)
- Gateway Corridor (GC)

Infrastructure



Nature Based Solutions

Natural features provide protection

Community Capacity

Local government

Neighborhood cohesion

Social and Economic Connectedness

- Government capacity
- Local schools and parents
- Faith communities
- Chambers of commerce
- Health providers and champions
- Business owners
- Local media
- Nonprofits
- Senior centers
- Workforce development
- Leadership and representation!!

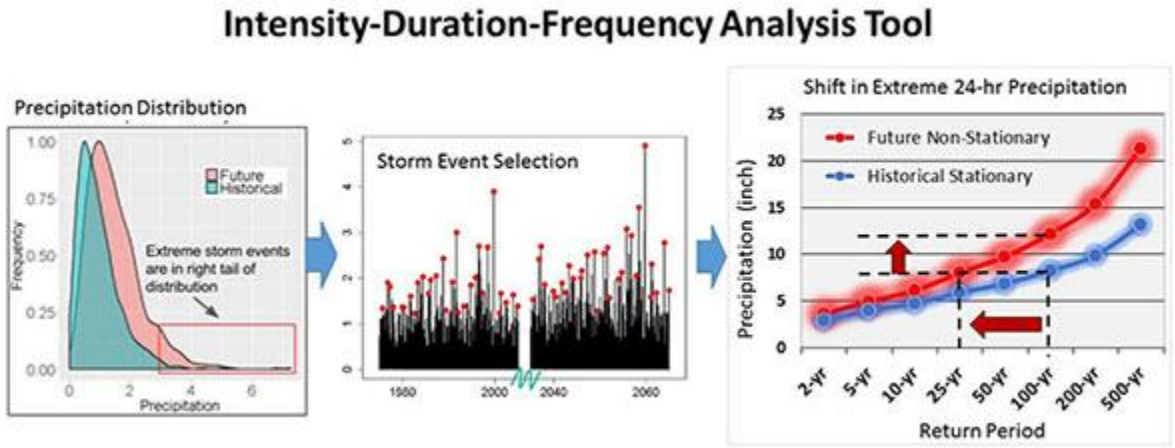
Emergency Preparedness

- Emergency management operations
- Multi-lingual emergency communication
- Household emergency kit
- Evacuation preparation, especially for elders, people with disabilities
- Know your flood risk: flood.nc.gov
- Purchase flood insurance (even renters)

What's Happening in North Carolina?

UPDATING DATA

- Rainfall frequencies (Atlas 14)
- Future rainfall statistics
- Probable maximum precipitation
- Climate projections



What's Happening in North Carolina?

RETROFITTING TO BETTER STANDARDS

Protecting N.C. 24 between Swansboro and Cedar Point by building large-scale living shorelines

Restoration efforts along the corridor will improve water quality in the White Oak River

What's Happening in North Carolina?

HEAT HEALTH EMERGENCY PREPAREDNESS

Heat-health alert systems in Bladen, Robeson, and Scotland Counties tailored toward populations most vulnerable

High heat included in Durham Community Health Assessment; urban heat island effect mapping

What's Happening in North Carolina?

COMMUNITY RESILIENCE PLANNING

Local and regional leadership and action provide groundwork for bringing in implementation money

Two state programs provide technical assistance for local government and regions interested in resilience planning

North Carolina RESILIENT COMMUNITIES PROGRAM

North Carolina RESILIENT COASTAL COMMUNITIES PROGRAM

RISE
Regions Innovating for Strong Economies and Environment

What's Happening in North Carolina?

TELL US MORE!

Resilience Recap

- There is a lot at stake in North Carolina

1

- Make today's decisions in consideration of their *generational* impact

2

- Learn from past mistakes (swinging door) and build many layers of resilience (swiss cheese)

3

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