



An Overview of Adaptation Planning Salisbury 24 April 2023- Eric Mielbrecht



Key need to incorporate climate change into <u>near-, medium-, and</u> <u>long-term planning</u>

Minimize risk of wasting time, money, and effort
Maximize likelihood of success



'A society grows great when old men plant trees whose shade they know they shall never sit in." Greek Proverb



Perspectives





Responding to Climate Change



MITIGATION ACTION TO REDUCE EMISSIONS THAT CAUSE CLIMATE CHANGE Water conservation

Local foo

Complete

communitie

ban

ADAPTATION

CLIMATE CHANGE IMPACTS

ON TO MANAGE THE RISKS OF

Mitigation is what we do to decrease the potential of climate change itself. ✓Addresses the <u>causes</u> with a focus on reducing greenhouse

gas emissions

Adaptation is how we prepare for, respond to, and recover from the changes that we are already experiencing/ expected to experience. ✓ Addresses the <u>impacts</u> of climate change with a focus on managing change

Many Adaptation Planning Processes





Many Adaptation Planning Processes





Adaptation Ladder of Engagement®



- Participatory and iterative
- Generate place-based adaptation strategies



No right or wrong way – the most important thing is to get started!





Adaptation in Illinois

Adaptation in Illinois









Heat Waves, Drought, Flooding



Adaptation in Illinois







Extreme allergies and climate change

Climate change affects weather patterns, often increasing storm severify and rainfail causing wetter 4, seasons as well as creating warmer weather patterns. Longer, warmer weather patterns provide extended and fourshing growth seasons for pollen, mold and other allergens. This can make the air 5, quality worse, and more likely to trigger attacks.

How does climate change affect m health?

These changes extend some of the worst offenders polien season. Between 1995-2016 rayweed's polien season increased in 10 of the 11 areas measured by an average of 17 days. Longer allergy seasons and poorer air quality can make asthma worse. Effects go beyond just polien, an increase in thunderstorms can also contribute to worsening asthma symptoms. Rising temperatures cause poor air quality making it harder to br<u>eathe.</u>

Astma is all in the mind - Astma is not a psychological condition. However, emotional triggers can cause flare ups. You will grow out of asthma - You cannot grow out of asthma. In about 50% of children with astma, the condition may become inactive in the teen years, however it can flare up again at any time during adulthood. Astma is not serious, and no one dies from it - You can die from asthma if the

People with asthma should not exercise

Swimming is an optimal exercise for those

with asthma, however exercise in dry or cold

Someone with asthma can provoke

episodes anytime they want in order to ge attention - Asthma attacks cannot be fake

attacks are not controlled.

air can trigger attacks.

Asthma Mythe

What can you do?

Check the air quality index before going outside! Air quality and levels of intriants vary daily, keep an eye on it at weww.aimow.gov Stay indors during thundenstorms. Improve air quality by advocating for a reduction in open huming, and do not expose yourself to it by staying indoors when burning is high.

Work with your doctor to learn what your triggers are, and how you can avoid them. Advocate for policy makers to make changes that reduce the negative impact on the environment that can affect your health.

Normal airway During symptoms



Adaptation Strategies

- Created an **online heat toolkit** for local health departments
- Developed an online flood mapping toolkit for emergency preparedness professionals
- Targeted education opportunities for healthcare workers so they are better prepared to address health effects of climate change
- Established a mini grant program for local health departments to build their capacity to address the public health effects of climate change
 https://braceillinois.uic.edu/take-action-2/take-action/

Adaptation Planning Process





California Adaptation Planning Guide 2020

PHASE,

Explore,

Define, and Initiate



PHASE 1. Project Scoping

- Identify goals, desired outcomes of process
- Set geographic boundaries and timeframe
 - Near (e.g., length of a plan: 10-20 years)
 - Mid (25-50 years)
 - Long (e.g., lifespan of infrastructure: 50-100 years)
- Identify key stakeholders
- Identify key pre-existing conditions and climate stressors

• Identify important community assets





Vulnerability =

The degree to which natural, built, and human systems are susceptible to harm

Why Assess Vulnerability?



- Identify what is most vulnerable (e.g., people, places, assets, elements) and why
- Helps you to develop a range of adaptation



Vulnerability Assessments: Vulnerability





Likelihood: Degree to which an element or asset is exposed to significant changes in climate (i.e. how likely is it that an asset will be exposed to a given climate hazard?)

Consequence: Degree to which an element or asset is affected by exposure to a changing climate (i.e. how significant is the effect of the climate impact?)

Adaptive Capacity: The ability to adjust to climate change to moderate potential damages, take advantage of opportunities, or cope with consequences

Vulnerability:

A function of the likelihood of <u>exposure</u> to climate changes, the <u>consequence</u> of those changes, and the <u>capacity to adapt</u> to changes







PHASE 4. Implement, Monitor, Evaluate

- Put adaptation strategies into action
- Create a monitoring program to track implementation
- Evaluate strategies to determine what is/is not working and adjust, as needed







Case Study: Waterbury, VT

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Flood Risk, Extreme Events



TROPICAL STORM IRENE 2011

Case Study #1: Waterbury, VT





Adaptation Strategies

- Created a Flood Inundation Mapper to identify areas exposed to damage during real-time flooding to aid emergency responses
- Created home elevation and ground floor/basement fill-in pilot projects to elevate homes in 100-year floodplain
- Inventoried bridges and culverts to evaluate how structure could fail
- Established a Property Acquisition Program to target land conservation for flood resilience

Questions?

Building a Climate Savvy Community

