

Lessons from the Line: Partnerships that Bridge Science and Practice

*1st Municipal-Academia Cooperation for Climate Action and 5th Mason
Energy Forum*

April 17, 2023

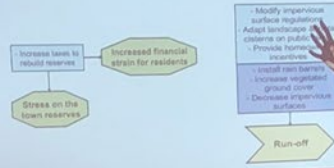
*Dr. Jessica Whitehead, Joan P. Brock Endowed Executive Director,
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**ACTIONS: What could be done?
Who could do it?**

- Public entities (local, state, federal)?
- Private entities (businesses, homeowners, nonprofits)?



How did I get here?!?

Local Level

State Level

What is resilience in hazards/climate change?

The “punching bag” version: resilience as the time it takes get back to a baseline from a shock or stress.

...but is that baseline the best we can be?

Is the baseline good enough for the future?



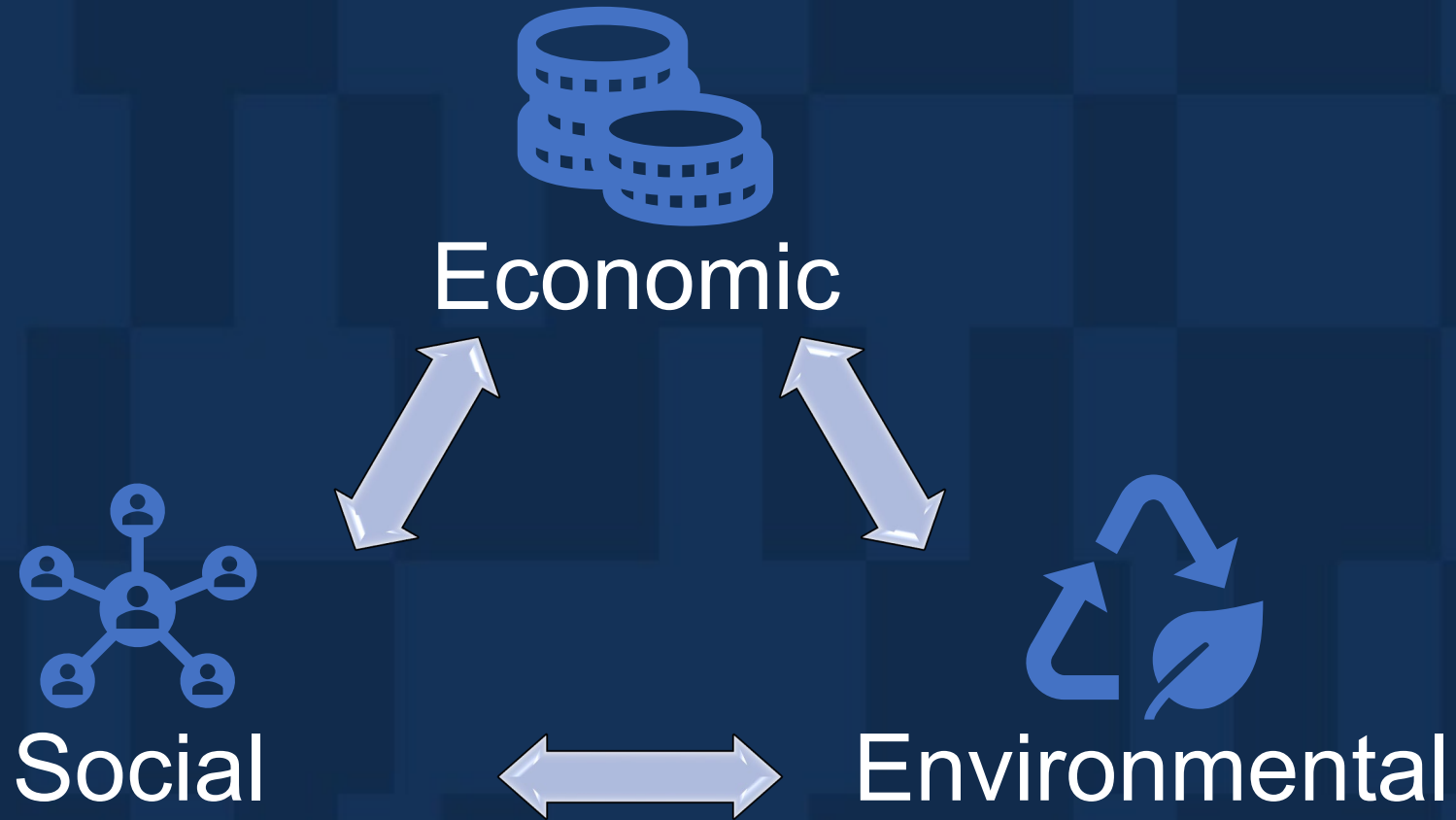
<https://commons.wikimedia.org/w/index.php?curid=23014272>



Virginia's Definitions of Resilience and Adaptation

- Resilience: “the ability of natural and built coastal environments to WITHSTAND AND recover from hazardous events such as extreme weather, storm surge, and recurrent flooding.”
- Adaptation: “the alternative to protection by fortification – as adjustment in natural or human systems to a new or changing environment that exploits beneficial opportunities or moderates negative effects.”





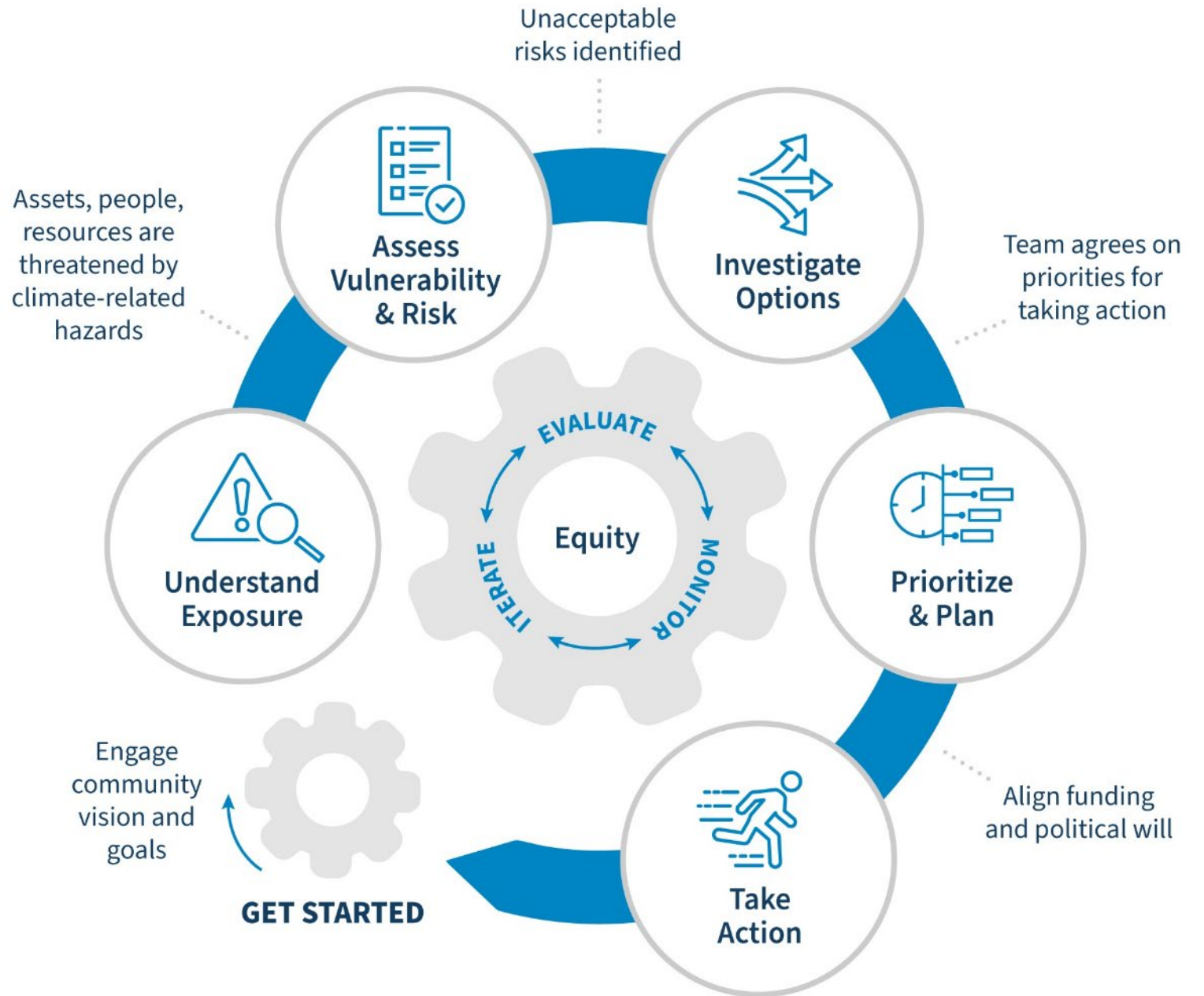
Moving beyond resilient projects to
resilient *systems*



What are the steps to resilience planning?

NOTE: There is now a private climate services industry that does this.

The Steps to Resilience



Where can Universities and non-profits support effective planning?

Lead



Principle	Definition	Components of Principle
Goals	Future desired conditions	Plan purpose, vision, goals, and objectives
Fact Base	Empirical foundation that identifies and prioritizes issues to ensure that strategies are well informed	Data sources; analysis of current conditions; climate change exposure; vulnerability and risk assessment
Strategies	Guide to decision making to assure plan goals are achieved	Capacity building, land use, green infrastructure etc.; cost and co-benefits of strategy options; prioritization of strategies
Public Participation	Recognition of actors engaged in preparing the plan	Description of planning process and techniques to engage stakeholders; Identify individuals involved in preparation of the plan
Coordination	Recognition of the interdependent actions of multiple organizations and the need for coordination	Engagement of local universities, state agencies, businesses, neighboring jurisdictions, etc. in the planning process
<u>Implementation and Monitoring</u>	Guidance to translate plan strategies into action and track progress towards goals	Organizational responsibilities, timelines, and funds for implementation and monitoring
Uncertainty	Plans recognition of and approaches to overcome uncertainty in future climate projections	Recognize sources of uncertainty; consider multiple future scenarios; flexible, robust, or no-regret strategies



Where can Universities and non-profits support effective planning?

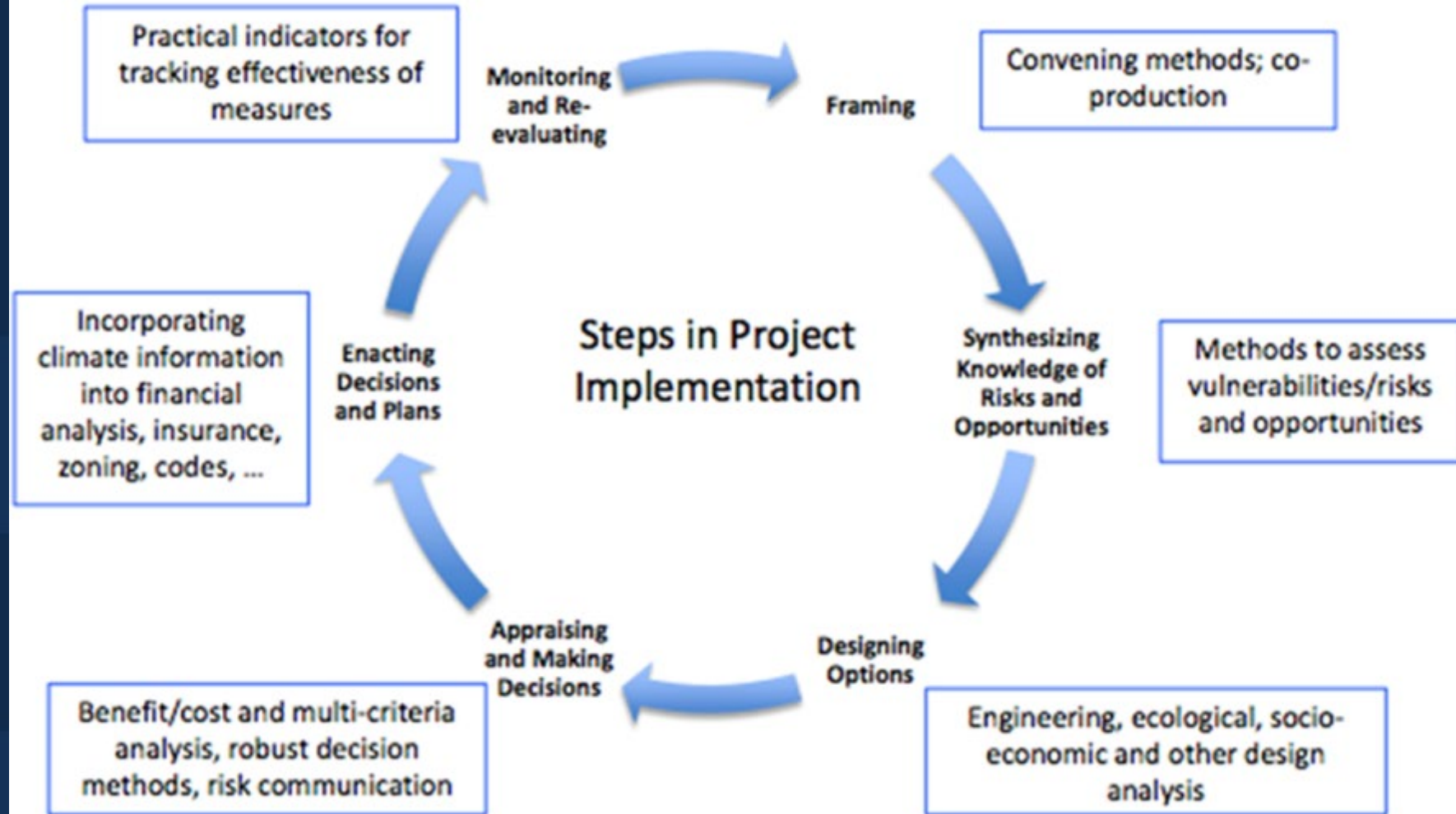
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Support



What are the steps to becoming resilient?

Sustaining this over time falls on the municipality.

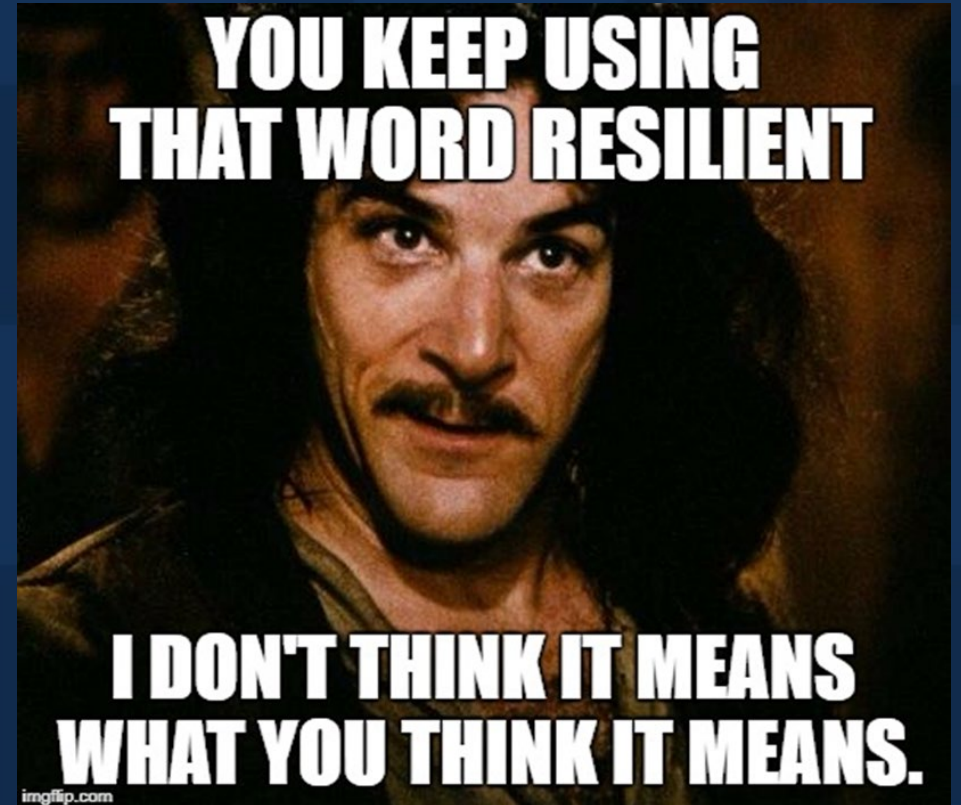


Moss et al. 2019: Evaluating Knowledge to Support Climate Action: A Framework for Sustained Assessment; Report of an Independent Advisory Committee on Applied Climate Assessment (<https://journals.ametsoc.org/doi/pdf/10.1175/WCAS-D-18-0134.1>)



What municipalities need Universities to know

- Municipal staff are experts in implementation
- Science and practice speak different languages
- People want action, not papers
- Law and policy are A THING
- Your contact is never the single decision-maker
- Risk is never the single decision criteria
- Money is short, help us stack sources



What Universities need municipalities to know

- Universities are experts in physical and social science
- Science and practice speak different languages
- My department chair/funder wants a paper
- Uncertainty is A THING
- Universities don't work like consultants do
- Your decision-relevant thresholds may not line up with the best available science
- Money is short, help us remain a long term presence



Mission

The Institute for Coastal Adaptation and Resilience advances the practice of coastal resilience and adaptation by engaging with communities, organizations, and businesses to develop and deploy solutions based on integrated, innovative, and applied research.

Vision

ICAR catalyzes the action needed to build vibrant communities, strong economies, and healthy ecosystems across the Commonwealth of Virginia despite natural hazards and climate change.



**INSTITUTE FOR COASTAL
ADAPTATION & RESILIENCESM**

Building capacity for a Resilient Commonwealth - Resilient and Adaptable Communities Partnership

- Catalyzing action today through building capacity for projects that balance people and the Bay
- Visioning the action of the future through innovation and prioritization
- Sustaining action through building resilience capacity of existing workforce and tomorrow's resilience professionals



An aerial photograph of a rural landscape. A multi-lane highway curves through the scene from the bottom left towards the center. The surrounding area is a mix of green fields, some with yellowing autumn trees, and a cluster of buildings, including a large school-like structure with a yellow roof. The background shows rolling hills under a clear sky.

How can you transform what you are already doing for resilience?





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