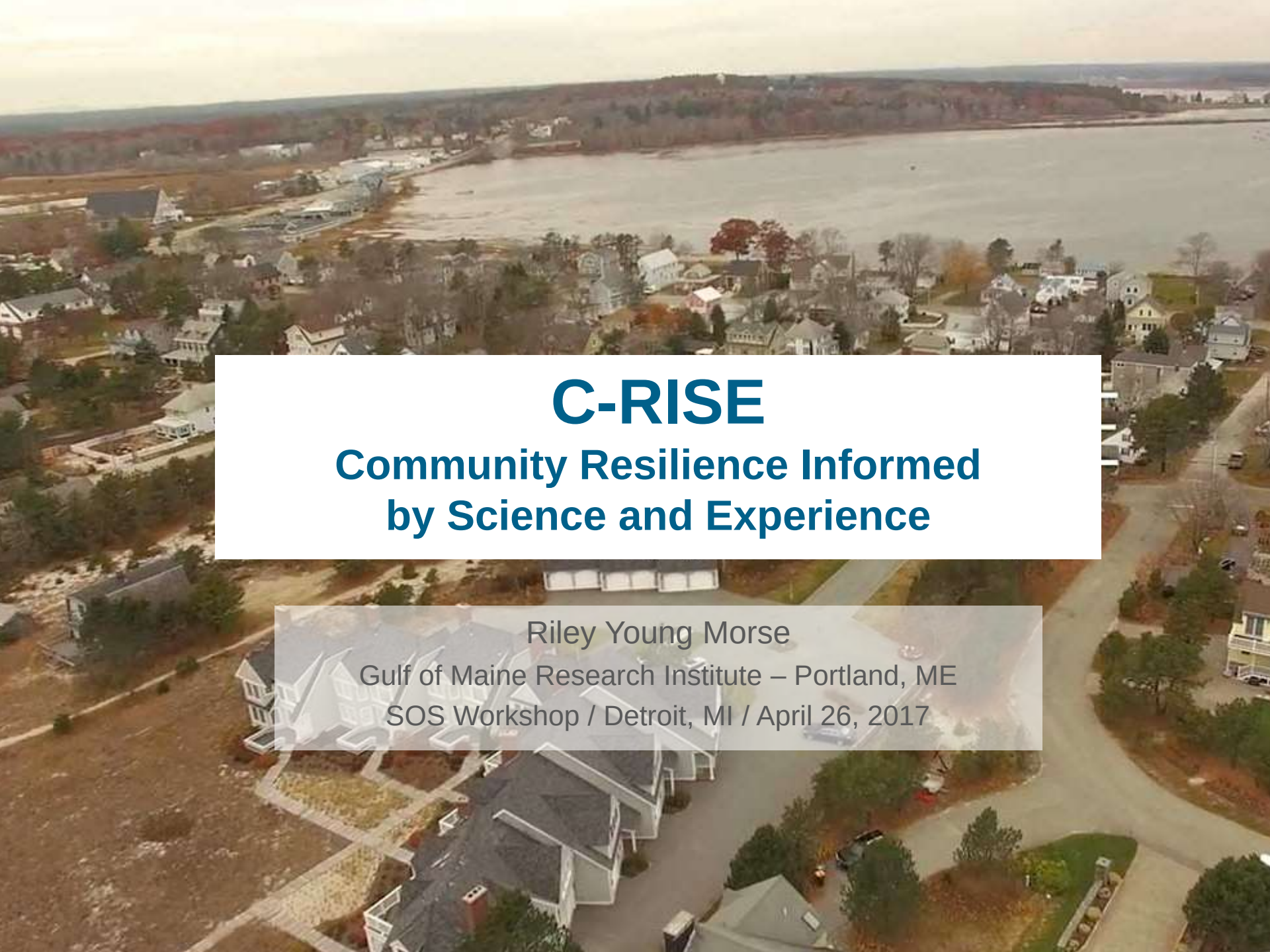


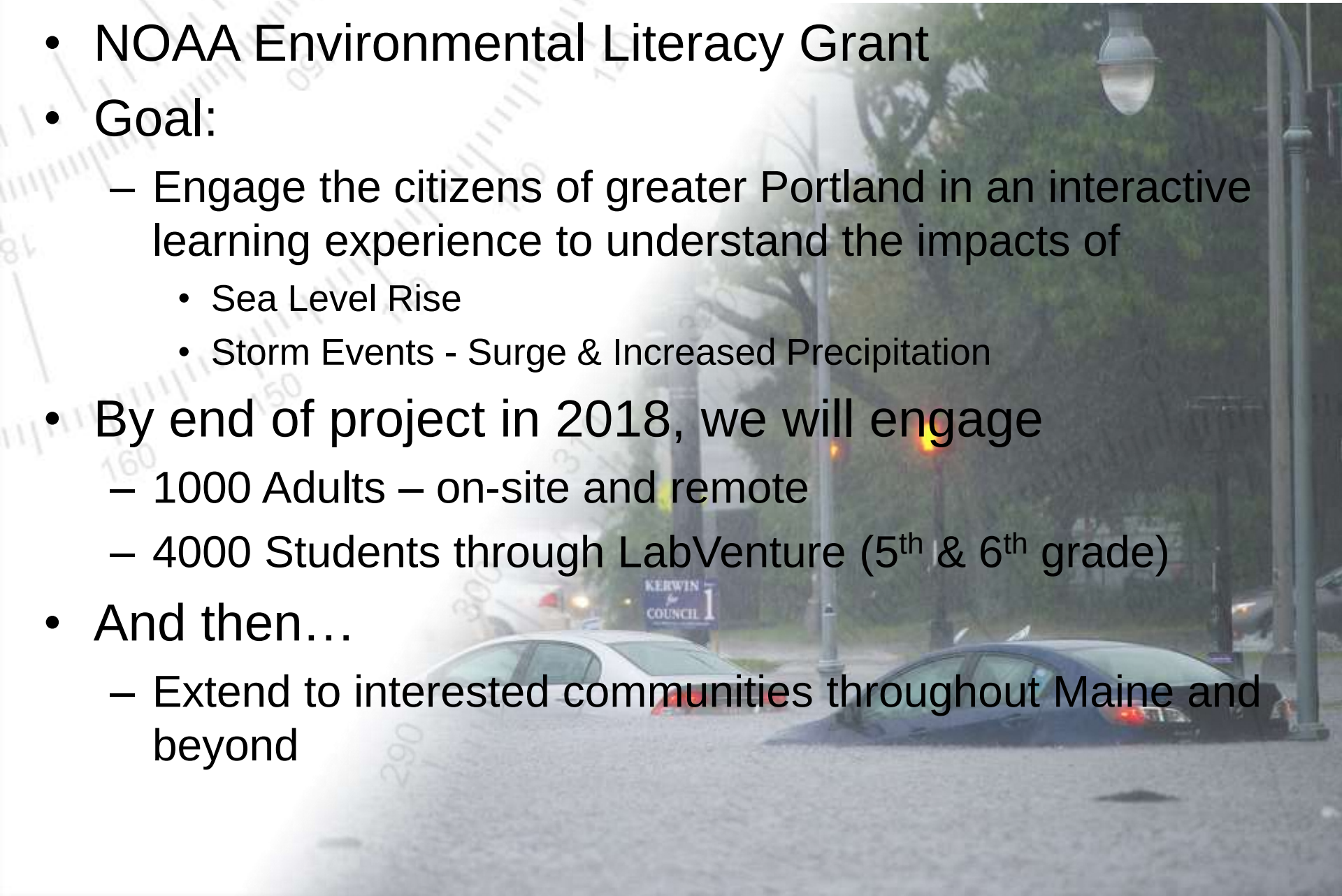
C-RISE

Community Resilience Informed by Science and Experience

Riley Young Morse
Gulf of Maine Research Institute – Portland, ME
SOS Workshop / Detroit, MI / April 26, 2017

Gulf of Maine Research Institute

A Quick Intro to C-RISE



- NOAA Environmental Literacy Grant
- Goal:
  - Engage the citizens of greater Portland in an interactive learning experience to understand the impacts of
    - Sea Level Rise
    - Storm Events - Surge & Increased Precipitation
- By end of project in 2018, we will engage
  - 1000 Adults – on-site and remote
  - 4000 Students through LabVenture (5th & 6th grade)
- And then…
  - Extend to interested communities throughout Maine and beyond

Developing the program

- Develop Learning Experience
  - Working with our Leadership Team (Portland/South Portland planners, NOAA OCM, local resiliency leaders, Maine scientists)
  - Engaging / Interactive / 90 minutes
  - Primary objectives
    - What impact will SLR have on *me* and the things I value
    - Planning in the face of uncertainty – level of risk
    - How to communicate urgency on a slow moving catastrophe (…in a hundred years…)
      - "Things are good until they suddenly aren't." (Bill Fraser, yesterday)
      - Storms – look at past storms on new tide baselines
      - King Tide – as a proxy to observe impacts today
  - Sourcing the data – time series and spatial
    - NOAA Digital Coast (https://coast.noaa.gov/digitalcoast/)
    - US Climate Resilience Toolkit (https://toolkit.climate.gov/)
    - SLR scenarios (NOAA, localized ME GIS)
    - Surge (NHS, SLOSH)
    - Local GIS layers (transportation, infrastructure, habitat)
- Rapid prototyping – ESRI Story Maps

ESRI Story Maps

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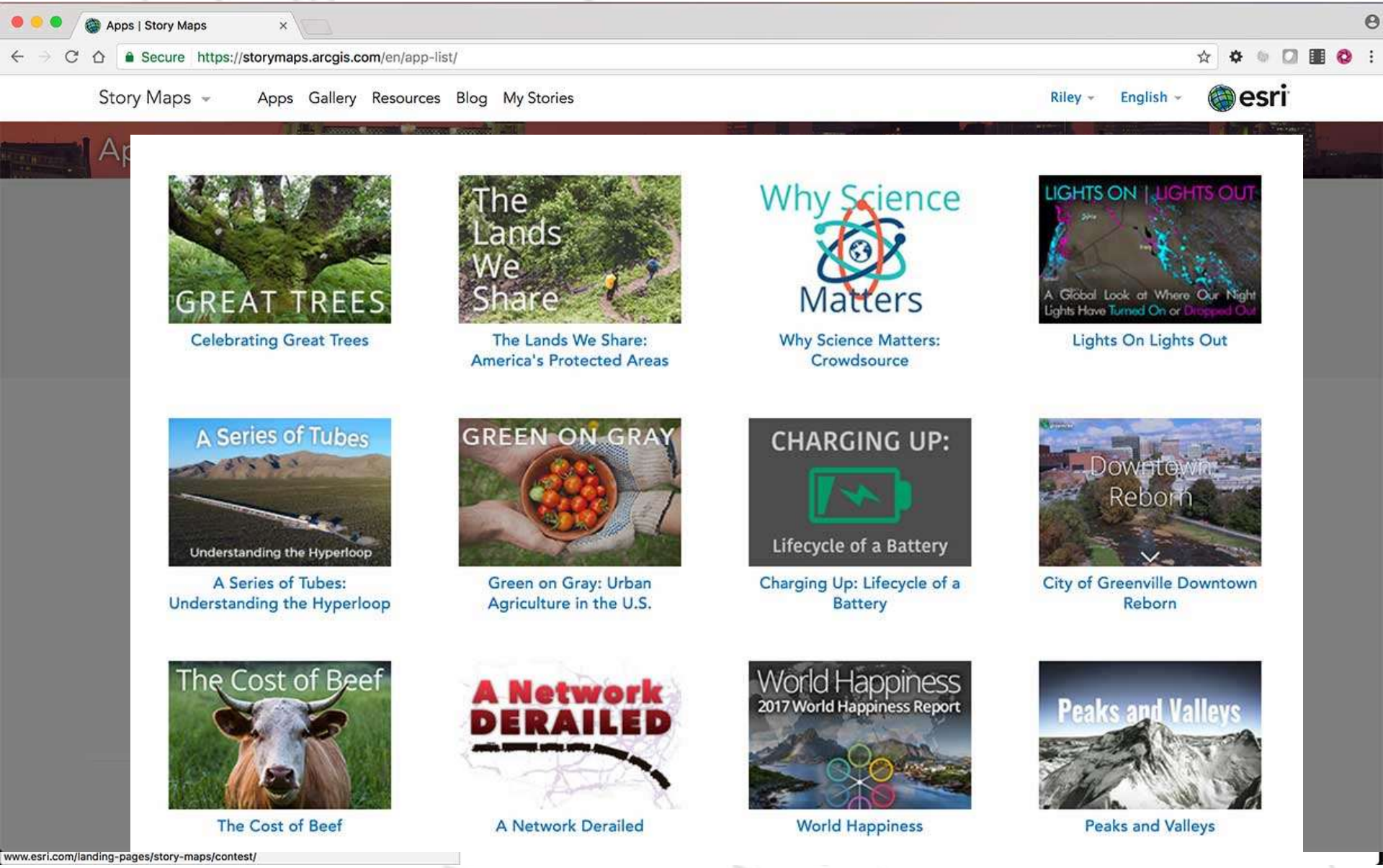


"If you can build a Power Point, you can build a Story Map" – D.P. - https://storymaps.arcgis.com/en/

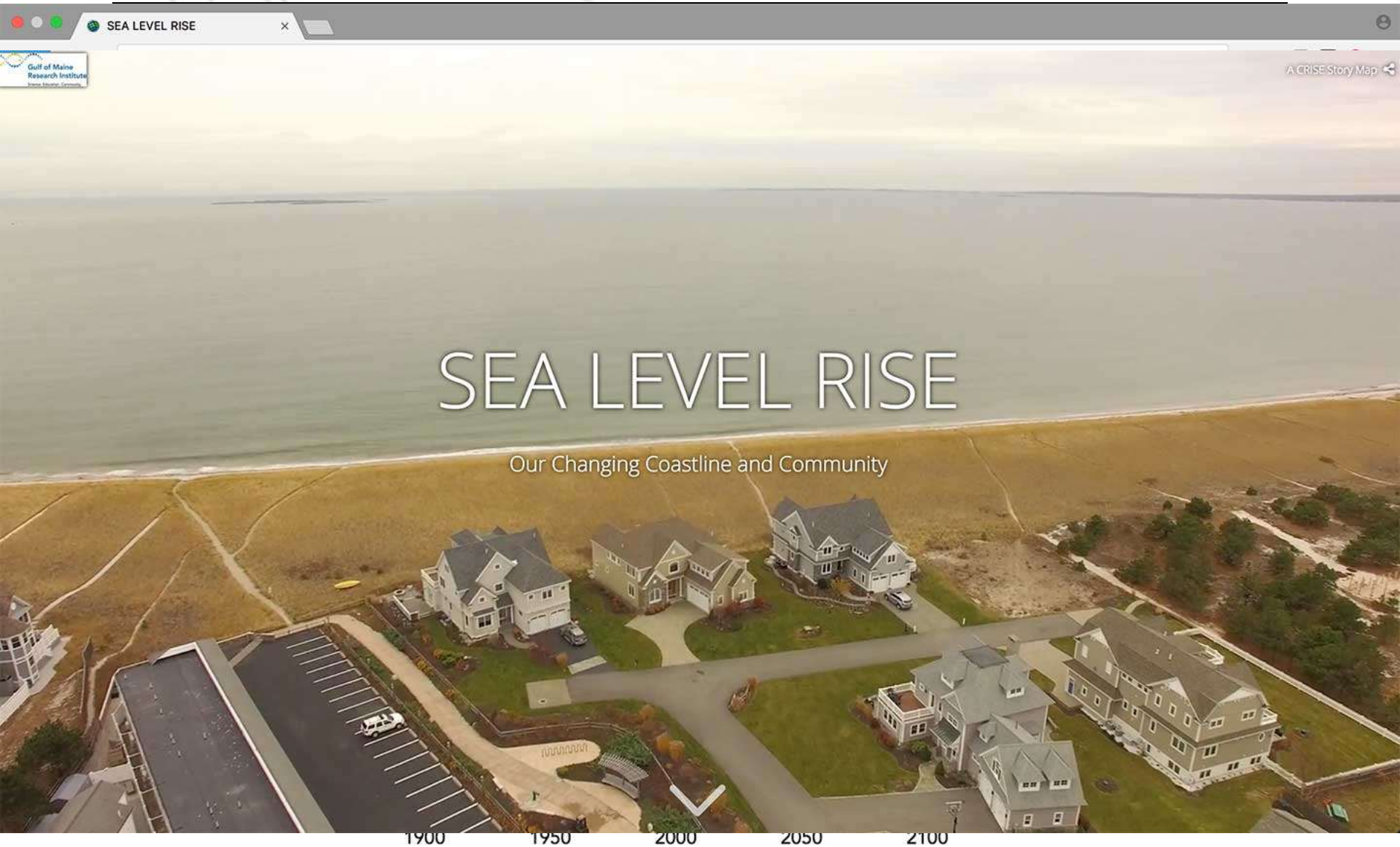
C-RISE Prototype Feedback

- Less is more – don't start at the beginning
- Rapid prototyping works
- Make a local connection or there is no connection
- Human stories and knowledge matter
- Human nature is powerful
  - We crave black and white answers
  - "Tribe over Truth"
- Our job is to
  - Long timescales – won't mean a thing in 100 yrs
  - Help make connections (e.g. roads to hospitals)
- Climate change can be scary (and distracting)
- Information is power… but not enough

C-RISE Learning Experience

- Part I: Facilitated Introduction
- Part II: Coastal Storms
- Part III: Value Based Experiences
  - What will the impacts be on the places I depend on, areas I care about
  - Groups select: transportation, infrastructure, habitats
- Part IV: Where do we go from here?
  - Resilience around the world
  - How to get involved
  - Learn more @ home

Sea Level Rise: Introduction



C-RISE http://arcg.is/2erc4r2

C-RISE: Coastal Storms

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Coastal Storms

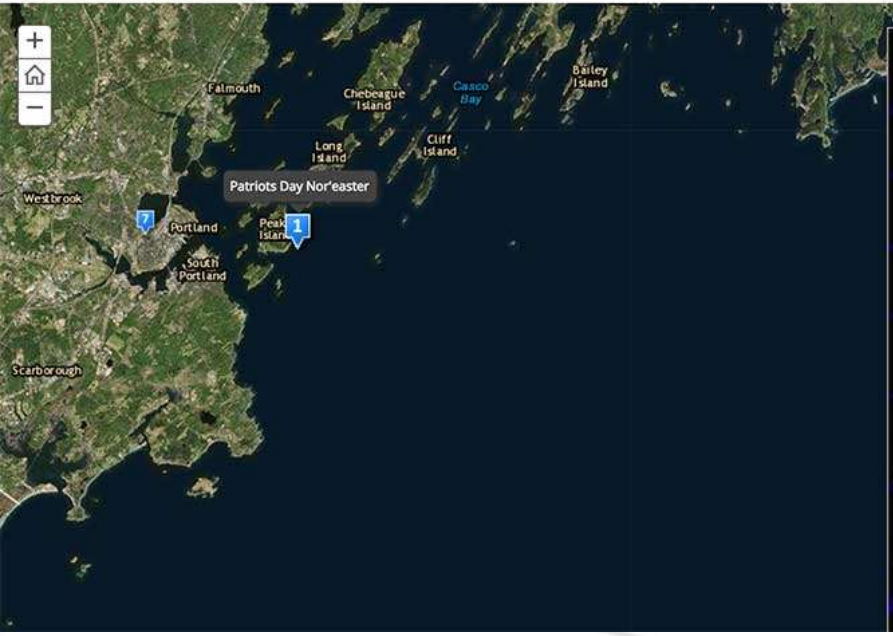
https://gmri.maps.arcgis.com/apps/Cascade/index.html?appid=1b49721bd0094dc99a7e2cbe04ab8d30

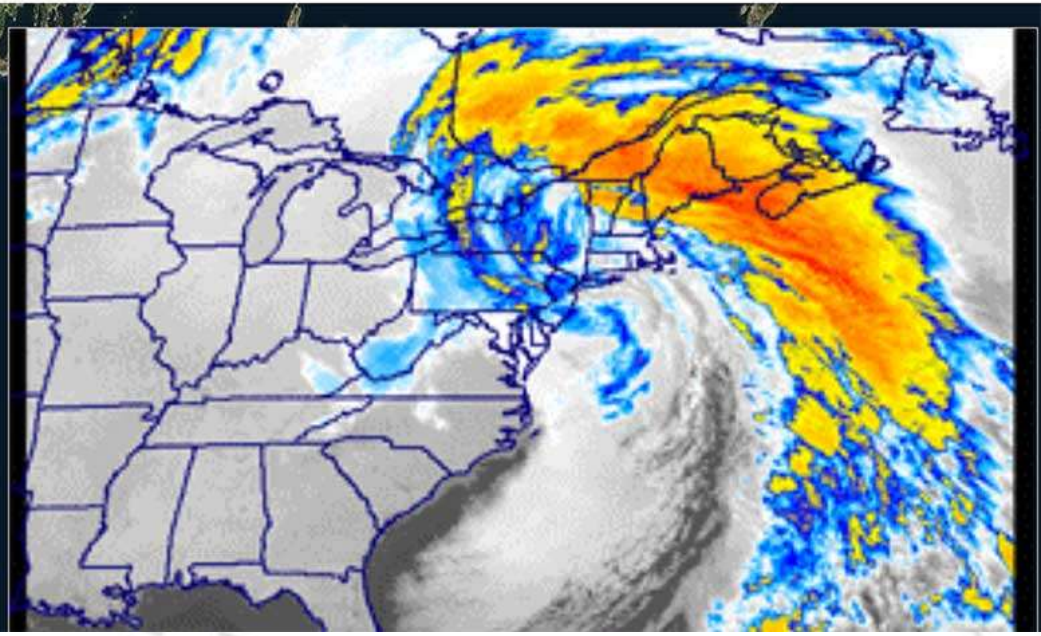
esri Coastal Storms

A Story Map

Patriot's Day Storm

From April 15-18, 2007 a Northeaster known as the Patriots Day Storm battered the coast of the Gulf of Maine. This storm lasted through 6 high-tide cycles, bringing hurricane-force winds and extreme rainfall, causing a 2.7 foot storm surge and flooding in coastal areas and extensive flooding of streams and rivers inland.





C-RISE: SLR Resilience

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Sea Level Rise Resilience

https://gmri.maps.arcgis.com/apps/Shortlist/index.html?appid=d8941fadf87b4632a930ee9856e9dbfa

Sea Level Rise Resilience

Examples of efforts to adapt and mitigate risk: globally, regionally and locally

A CRISE story map

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All | International | United States | Maine

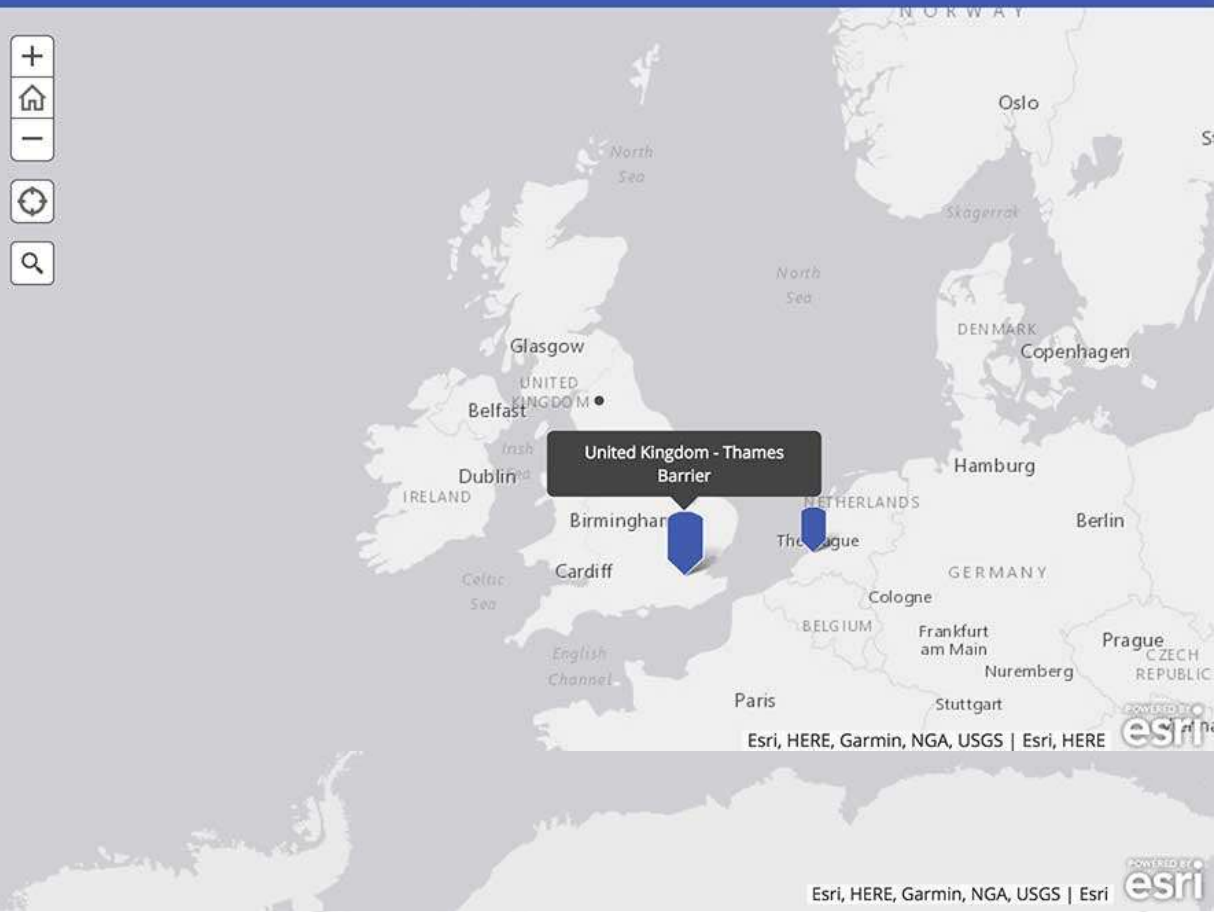
United Kingdom - Thames Barrier

The Thames Barrier is one of the largest movable flood barriers in the world. It is part of a system of flood barriers operated by the U.K. Environment Agency to protect the Thames Estuary from flooding. The Environment Agency released the Thames Estuary 2100 Plan in 2011 to outline how flood risk management, based on current climate guidance, will impact the estuary. The worst case scenario outlines an 8.6 foot increase in water levels (a combination of rising waters and


Australia


Bangladesh


Kiribati



Next Steps

- Developing the Value Based Experiences
- Dress Rehearsal next month
- Adult Program
- Building out content library for the @ home experience
  - Deeper dives: learn more info on SLR, tides – the global picture (more NOAA global layers!)
  - Historic Portland**
  - Adapt to other locations (interest from partners throughout state)

Portland: Then and Now


Thank you!
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