

# Santa Barbara – Ventura Regional SLR & Coastal Impacts Planning Workshop

## “Adaptive” Adaptation Process

Alyssa Newton Mann

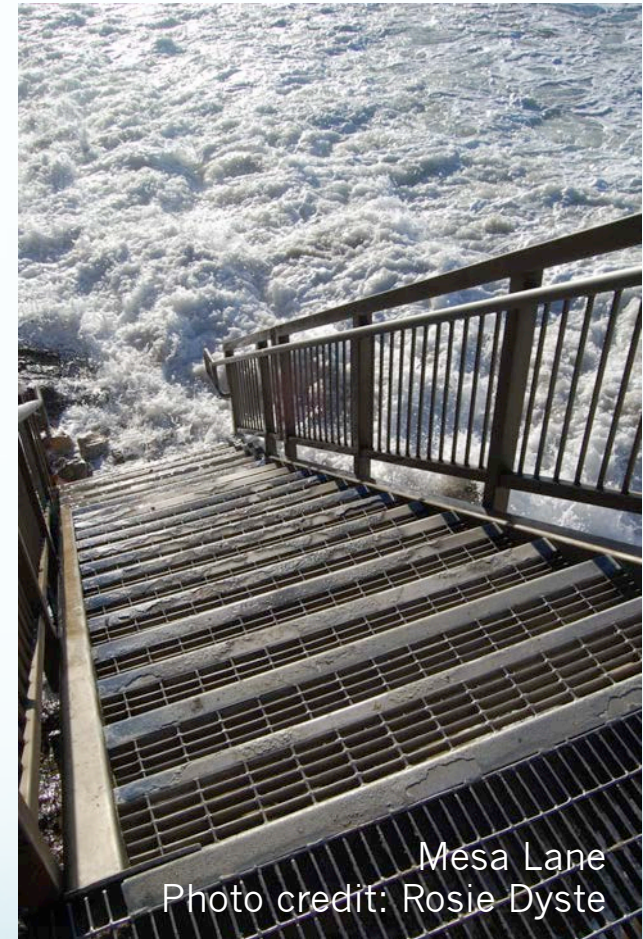
Juliette Finzi Hart & Phyllis Grifman

April 14, 2015 | City of Carpinteria Council Chambers

# The Challenge

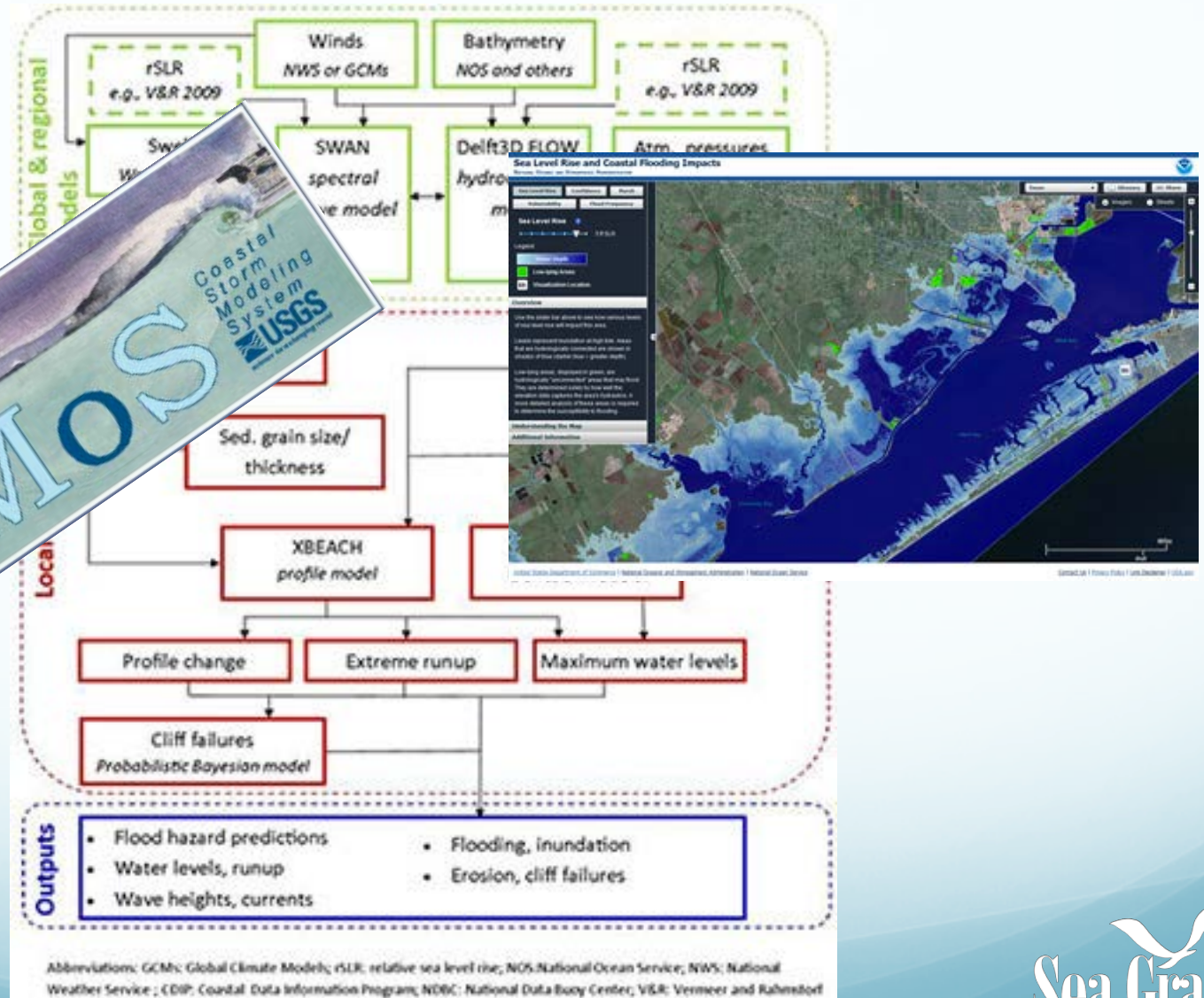
“Responding to climate-related risks involves decision making in a changing world, with continuing uncertainty about the severity and timing of climate-change impacts”

- *IPCC 5<sup>th</sup> Assessment, 2014*



Mesa Lane  
Photo credit: Rosie Dyste

# Without this to guide our planning?



Abbreviations: GCMs: Global Climate Models; rSLR: relative sea level rise; NOS: National Ocean Service; NWS: National Weather Service; CDIP: Coastal Data Information Program; NDBC: National Data Buoy Center; V&R: Vermeer and Rahmstorf

# Problems can arise when....

- Uncertainties are underestimated
- Stakeholders or experts don't agree = gridlock
- Misplaced confidence -- Blind to surprises



West Beach  
Photo credit: Rosie Dyste

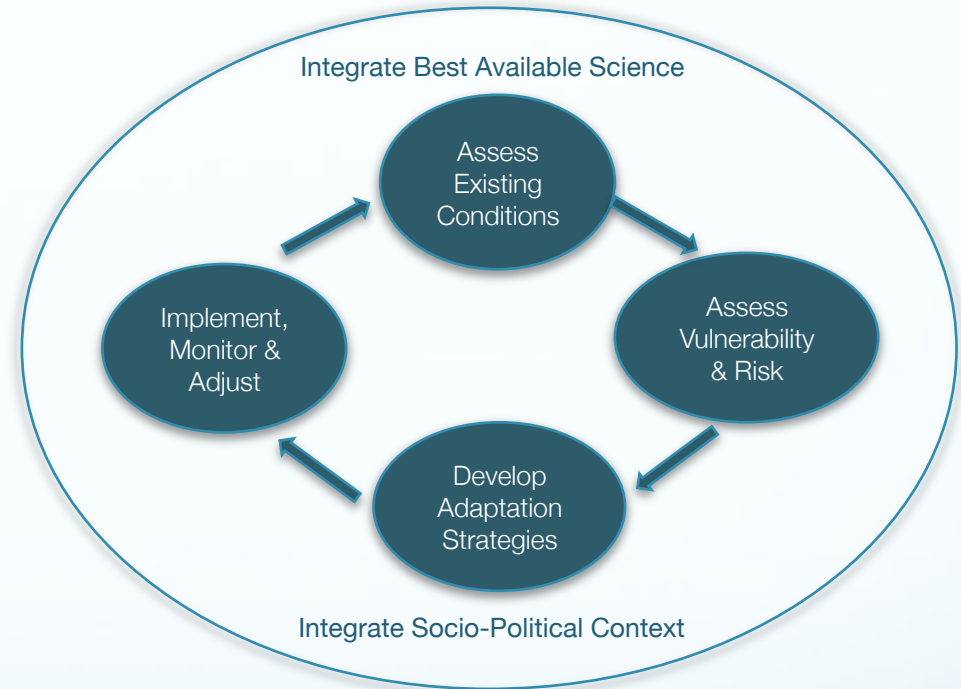
# Uncertainty and waiting for perfect science...

I THOUGHT I WAS  
INTERESTED IN UNCERTAINTY  
BUT NOW I'M NOT SO SURE



# “Adaptive” adaptation planning

- Science is ever-evolving
- Adaptation planning is iterative
- Plan for range of scenarios
  - Scenario-planning
  - Robust decision-making
  - Adaptive management



Approach involves rethinking how we use uncertain and evolving information in our planning

# “Adaptive” adaptation planning

“When the future proves hard to predict, plans ought to be flexible and robust.”

J. Rosenhead, 1989

Adaptive plans are “designed to respond over time to new information and perform well over a wide range of future scenarios”

R. Lempert, 2003

# How can this work in practice?

- Productive relationships between scientists and decision-makers
- Iterative assessments of vulnerability and risk, incorporating the best available science
- Embracing uncertainty by developing a range of possible outcomes
- Planned re-evaluation of policies and monitoring
- A systematic process for acquiring new information
- Flexible language in planning documents



# Stakeholder Engagement



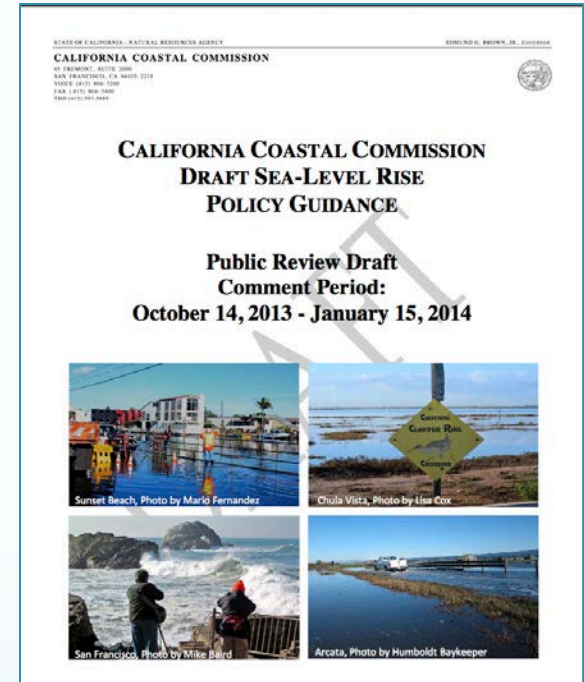
Political Leaders  
City Councils  
Sustainability Depts  
Wastewater Treatment  
Emergency Managers  
Private Industry  
Consultants  
Public Utilities  
Public Works  
Harbor Depts  
Planning Depts  
Park Managers

NGOs  
Academia  
Educators  
State Agencies  
Federal Agencies  
MPOs, JPAs, COGs  
Museums, Aquariums  
Community Organizations  
Professional Associations  
Regional Organizations  
Neighborhood Councils  
Social Justice Organizations

# Precedence for Adaptive Adaptation

Draft *Sea Level Rise Policy Guidance*,  
California Coastal Commission, 2013

“If the likelihood of impacts is expected to increase with rising sea level, it may be necessary to design for some amount of sea level rise and include design flexibility that will allow future project changes or modifications to prevent impacts if the amount of sea level rise used in the design is not sufficient.”



[http://www.coastal.ca.gov/climate/slr/guidance/CCC\\_Draft\\_SLR\\_Guidance\\_PR\\_10142013.pdf](http://www.coastal.ca.gov/climate/slr/guidance/CCC_Draft_SLR_Guidance_PR_10142013.pdf)

# Precedence for Adaptive Adaptation

Draft *Sea Level Rise Policy Guidance*, California Coastal Commission, 2013

*“include design flexibility that will allow future project changes or modifications”*

*“Flexible monitoring with various triggers or change points”*

# Washington State

- Washington State Law (Growth Management Act) requires counties and cities to use the best available science in planning

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### **RCW 36.70A.172**

#### **Critical areas — Designation and protection — Best available science to be used.**

(1) In designating and protecting critical areas under this chapter, counties and cities shall include the best available science in developing policies and development regulations to protect the functions and values of critical areas. In addition, counties and cities shall give special consideration to conservation or protection measures necessary to preserve or enhance anadromous fisheries.

# Washington State

- Washington State Law (Growth Management Act) requires counties and cities to use the best available science in planning

*“counties and cities shall include the best available science in developing policies and development regulations to protect the functions and values of critical areas” which includes frequently flooded areas*

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# King County, Washington

- The Environment Chapter of the King County Comprehensive Plan in Climate Change & Biodiversity section:

*“King County should evaluate a range of projected future climate scenarios based on best available science to help ensure that conservation efforts are able to meet their objectives in a changing climate.”*

- Language on *how* and *when* the Comprehensive plan, even outside of the 4-year Comprehensive Plan update cycle.

*“Every year the Comprehensive Plan may be amended... Technical amendments to policy, text, maps or shoreline designations”*

# Louisiana Comprehensive Master Plan for a Sustainable Coast

“To accommodate the dynamic nature of coastal processes, reducing flood risks and the restoration of coastal Louisiana is an **Evolving Process** that should lay the groundwork for an effective

**Monitoring & Evaluation**

that, in the face of increasing uncertainty, assesses the success of the plan, and supports the adaptive

**Revisit Plan Regularly**

**Triggers to Respond to changing conditions**



# Solana Beach Local Coastal Program

LCP adopted Feb 2013, amended June 2014

- Prioritize monitoring of SLR – both short-term for permitting and long-term to respond to potential development policies
- Inventory of available studies on coastal processes to help fill information gaps
- Re-evaluate erosion rate every 10 years or more often if physical condition warrant – e.g. climate change / SLR





# City of Imperial Beach

- SLR Vulnerability Assessment & Adaptation Planning
- “Adaptive approach” for study and planning
  - Use best available science for vulnerability assessment
  - Use CoSMoS 3.0 for adaptation strategy development (or earlier if available)



# Thank you! Questions?

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<http://dornsife.usc.edu/uscseagrants>