### Southern California Coastal Impacts Project

- Outreach/technica I assistance of USGS CoSMoS
- Capacity-Building and Outreach
  - Trainings/Works hops
  - Webinar series
  - Public outreach





### Beyond "Just" Sea Level Rise

Sea level rise with tides + storms
Mid-century sea level With tides + storms
Current sea level

San Diego, 2050 Is Calling. How Will We Answer? (2014) The San Diego Foundation; Climate Education Partners.







# CoSMoS 2.0 and beyond...



1. Global forcing using the latest climate models



2. Drives global and regional wind/wave models



3. Scaled down to local hazards projections



### **Overview of Processes Included in CoSMoS**



Flood Level is Combination of:

Relative SLR + tides + seasonal effects + storm surge + wave runup + fluvial discharge backflow



## USGS CoSMoS SoCal

- Initial Results Available Today
  - 100 yr storm at 0, 0.5, 1.0, 1.5, 2.0 m sea level rise (SLR)
  - Shoreline evolution & cliff retreat
  - Cliff retreat
  - Flood depth, Wave/current information





University of Southern California





## **Our Coast, Our Future Flood Hazard Viewer**



#### http://data.prbo.org/apps/ocof/



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  - Shoreline evolution & cliff retreat
  - Cliff retreat
  - Flood depth, Wave/current information
- Full results available in Fall 2016
  - Daily conditions, annual, 20 yr, 100 yr storms
  - 0 2 m SLR (at 0.25 m increments) + 5 m SLR
  - Flooding integrated with 100 yr projected shoreline change
  - Shoreline change, cliff retreat, flood depth/duration, wave/current information

https://www.sciencebase.gov/catalog/item/5633fea2e4b048076347f1cf



### **Crest to Crest: Watershed-Scale Adaptation Planning**

- What are the impacts from climate change at the various stages?
- How do impacts interact do they amplify/attenuate each



Units: Thousand cubic km for storage, and thousand cubic km/yr for exchanges

#### **Community of Practice**

- Regional Water Quality Control Board
- UCLA/The Los Angeles Sustainable Water Project
- LA County/Bureau of Reclamation
- RAND/Bureau of Reclamation
- Many others!



# Thank you!

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http://dornsife.usc.edu/uscseagrant/climate-change

https://www.sciencebase.gov/catalog/item/5633fea2e 4b048076347f1cf

