

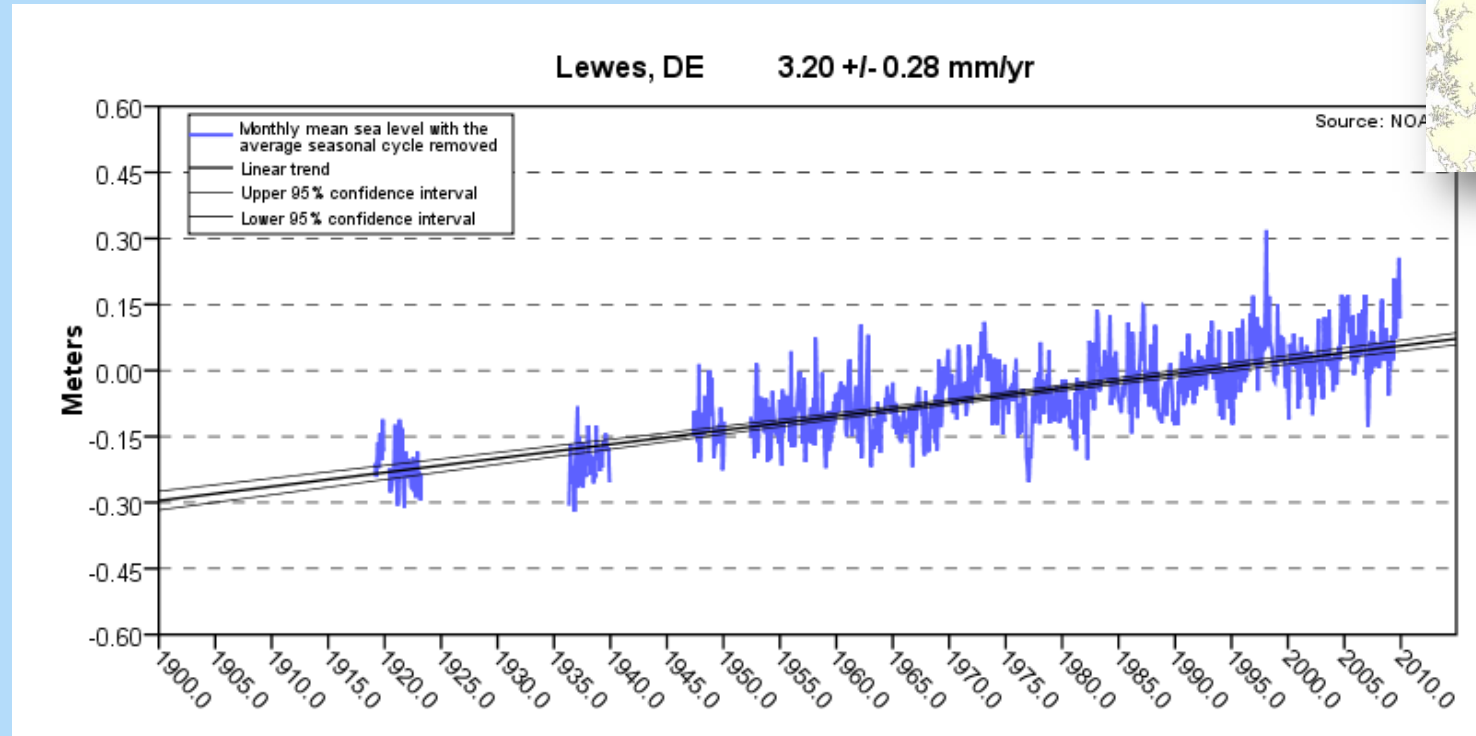
Survey Says!



DELAWARE STATEWIDE SURVEY OF RESIDENTS' OPINIONS ON CLIMATE CHANGE AND SEA LEVEL RISE

**KELLY VALENCIK
DELAWARE COASTAL PROGRAMS**

Sea Level Rise at Lewes, Delaware



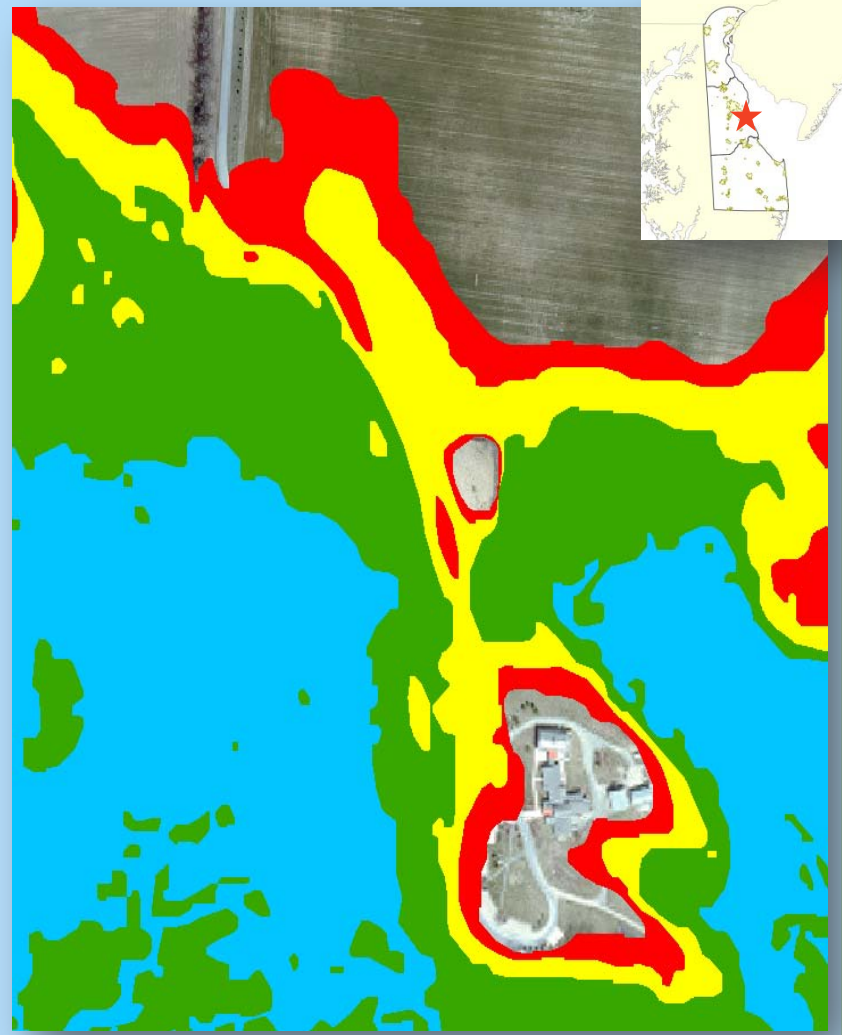
Global rate = 1.7 mm/yr

Delaware rate = 3.35 mm/yr (13 Inches/100 years)

Rates of sea level rise are very likely to accelerate in the future



- Scenarios for 2100
 - 0.5 meter increase (Green)
 - 1.0 meter increase (Yellow)
 - 1.5 meter increase (Red)
- Scenario Maps
 - Bath-tub Model
 - For planning purposes only
 - **Available online:**
<http://de.gov/slrmap>
 - **New – check out Surging Seas tool for Delaware!**
<http://sealevel.climatecentral.org>



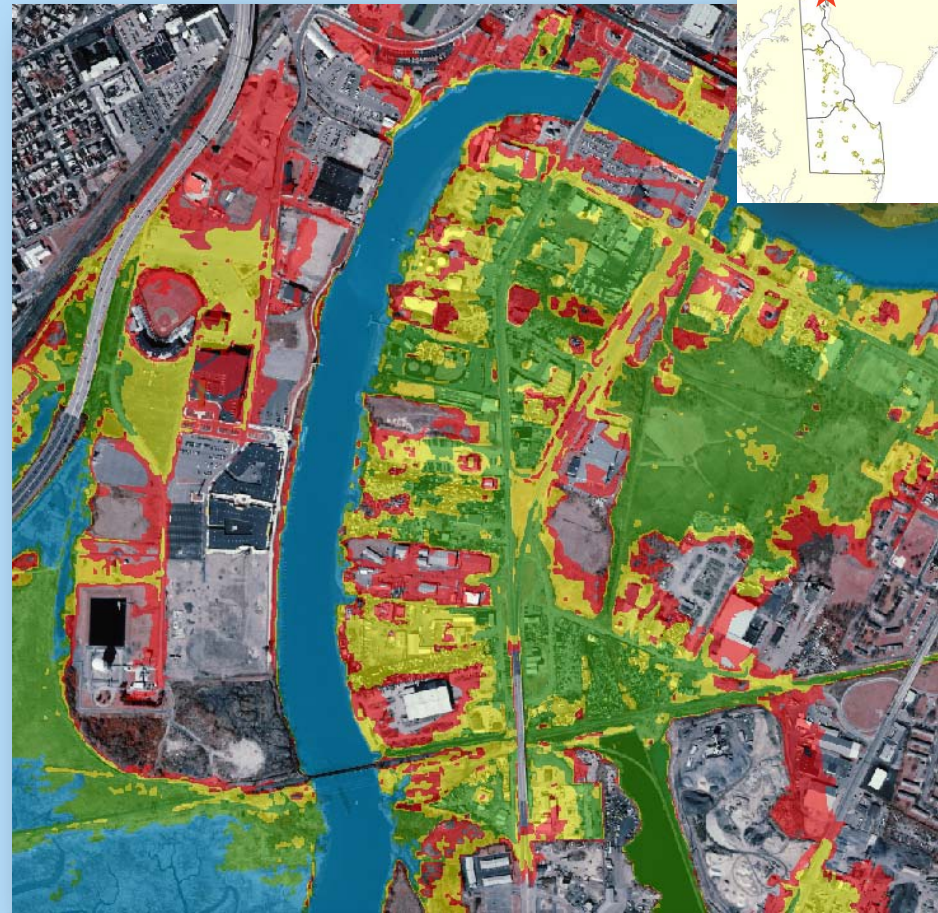
St. Jones Reserve, Dover DE

Sea level rise will affect all of Delaware



- Urban Areas in Northern Delaware:

- Transportation Networks
- Neighborhoods
- Economic Development Zones
- Contaminated soils
- Public Safety Facilities
- Sewer Capacity

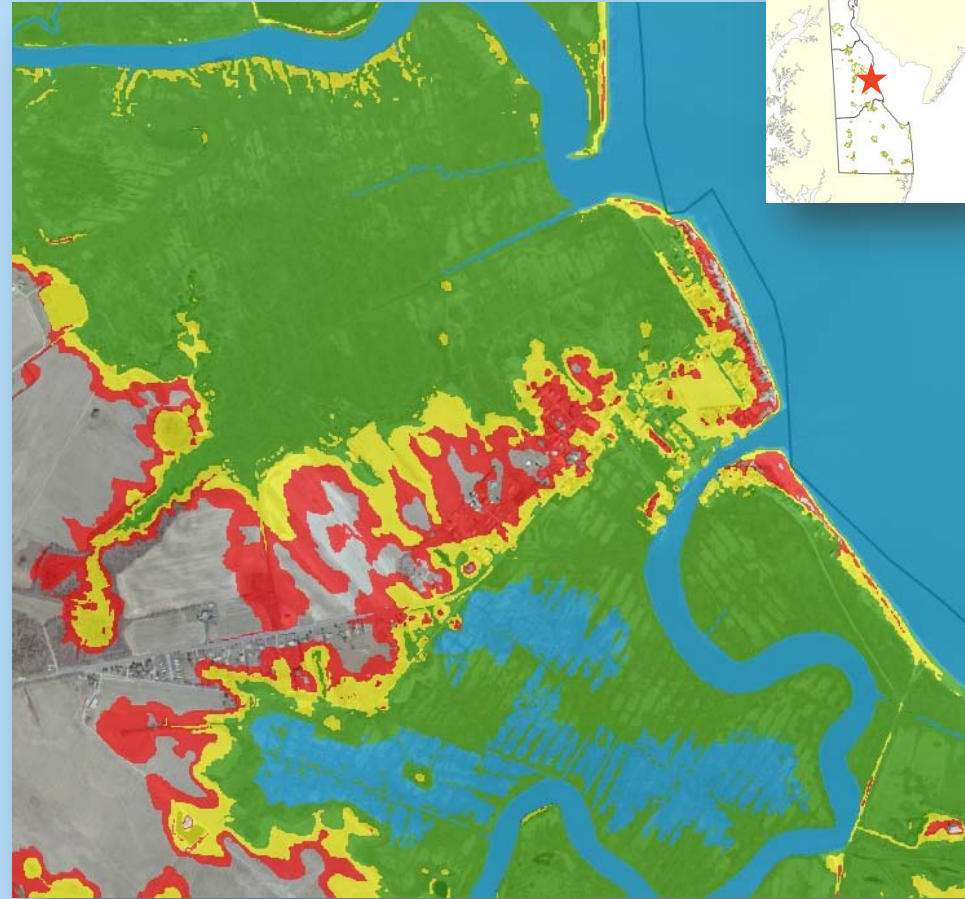


South Wilmington and Surrounding Areas with 0.5, 1.0 and 1.5 meters of SLR to 2100

Sea Level Rise will affect all of Delaware



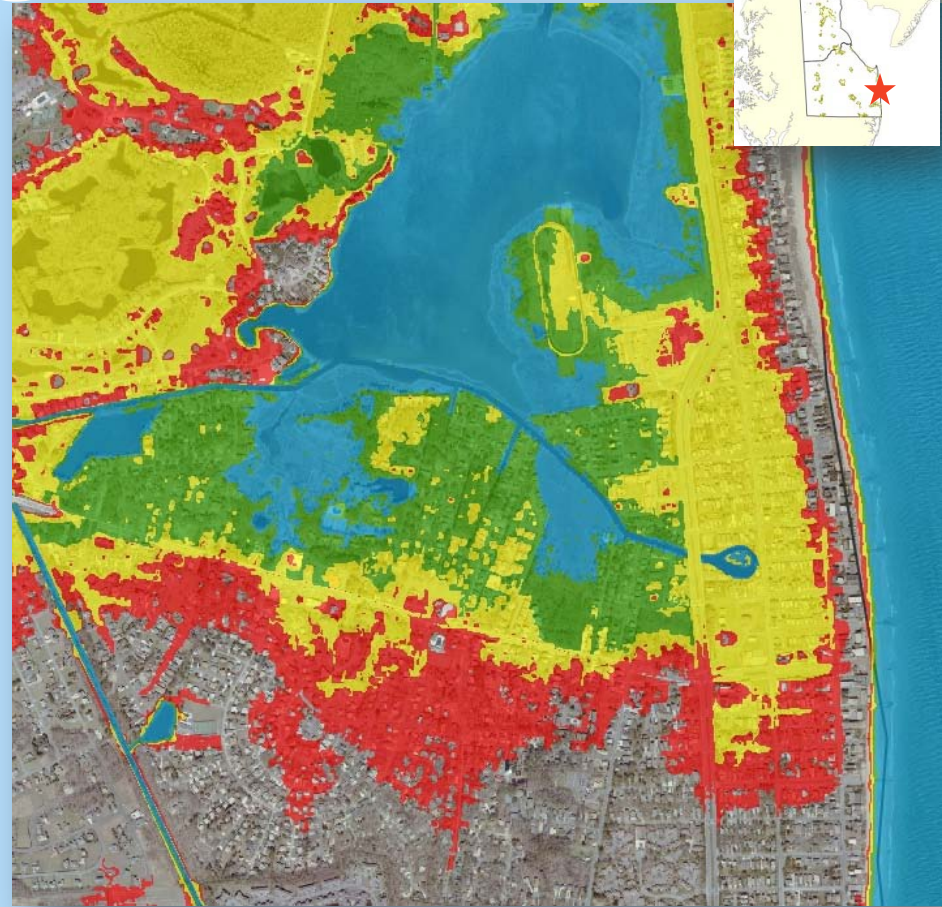
- At risk in Coastal Kent County:
 - Commercial/Recreational Fishing Docks
 - Residences
 - Habitat
 - ✦ Wetlands
 - ✦ Shorebirds
 - ✦ Horseshoe Crabs
 - Way of Life



Bowers Beach and Surrounding Areas with 0.5, 1.0 and 1.5 meters of SLR to 2100

Sea Level Rise will affect all of Delaware

- At risk in the Sussex Coastal Area:
 - Homeowners
 - ✦ Bayfront and Oceanfront
 - ✦ Septic Systems
 - Tidal Wetlands and riparian areas
 - ✦ Habitat
 - ✦ Flood Attenuation
 - ✦ Water Quality
 - Transportation Networks
 - DE National Guard

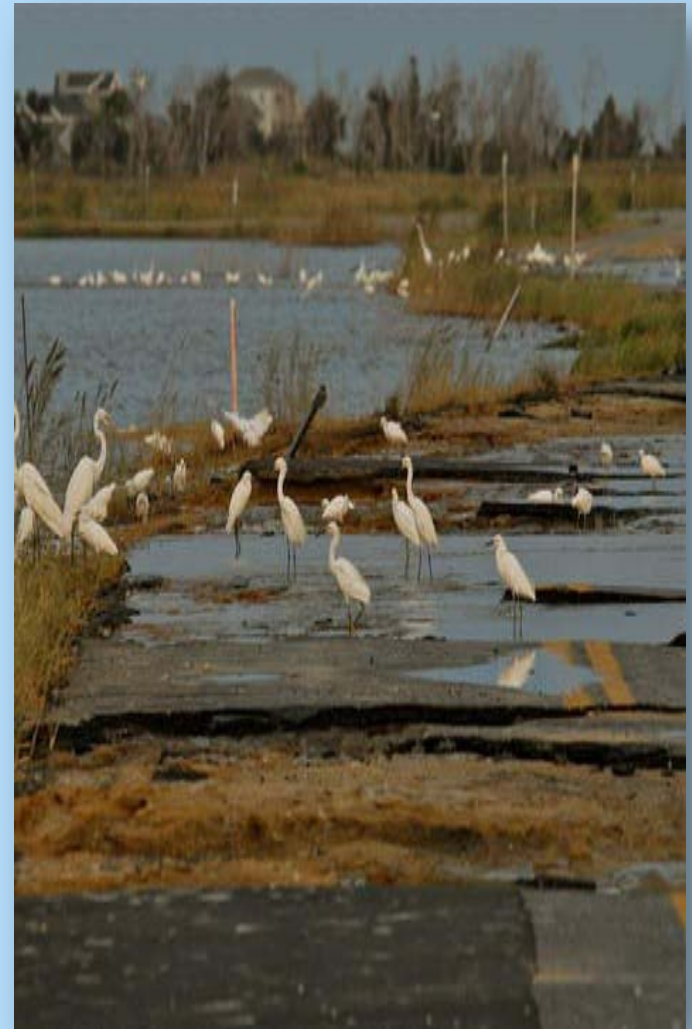


Bethany Beach and Surrounding Areas with 0.5, 1.0 and 1.5 meters of SLR to 2100

Proactive Planning for Sea Level Rise is necessary to ensure future quality of life



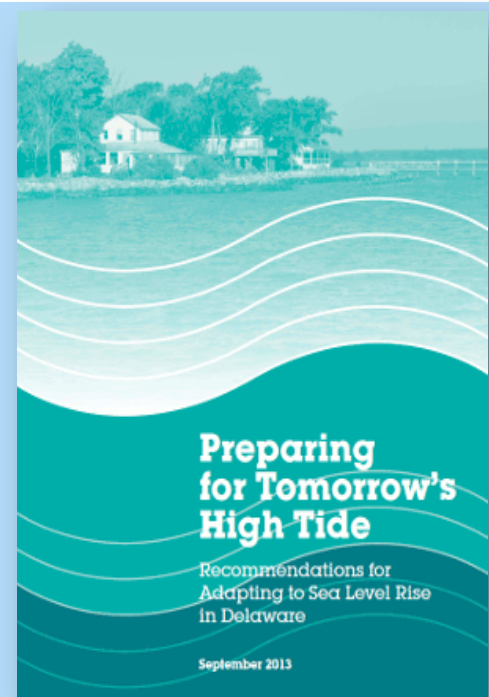
- Sea levels are rising now and expected to accelerate
- Land use & public works decisions have long life-span
- Two-for-one
 - Planning for SLR helps mitigate today's flood risk



Delaware's Coastal Resiliency Initiative



- Building the Foundation for Adaptation
 - Implementation Actions (Pilot Projects)
 - Scientific – Technical and Support Actions
 - Communication, Training, and Public Involvement Actions
 - Coordinated SLR Policy Development



<http://de.gov/slradaptplan>



National Surveys on Climate Opinions



- **6 Americas Survey** (George Mason & Yale Universities, 2009)
 - 51 % either alarmed or concerned
- **Pew Research Center** (2009)
 - 65% say climate change serious or somewhat serious
 - 57% say there is solid evidence for warming



Delaware Survey Goals



- Understand (then apply):
 - Basic level of belief, knowledge and understanding of CC & SLR
 - Importance of CC & SLR with respect to other issues and in their own lives
 - Perceptions about taking action to mitigate or adapt
- Interpret trends in how DE is perceiving these issues – compare 2014 results with 2009
 - More or less concerning to residents?
 - Do they support more action/planning?
 - Has our previous outreach worked?



Survey Methods



- Telephone Survey

- N=1,508
- Cell and Landlines
- 153 questions
- Crosstab analysis
- Nonparametric analysis for behavioral and demographic characteristics
- 95% confidence interval

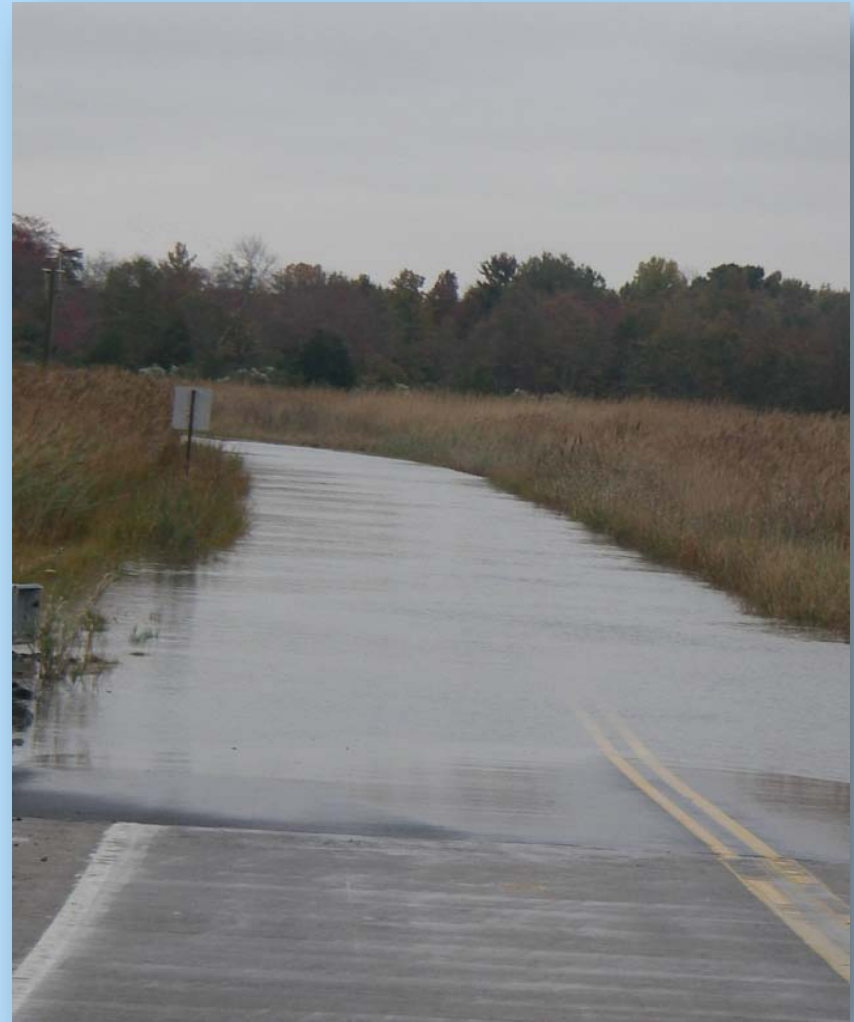
Mommy, the government wants to ask you some questions!



The results



- Delaware residents believe that climate change and sea level rise are real and they have experienced it.
 - 79% of Delawareans are completely or mostly convinced that **climate change** is happening
 - 70% of Delawareans are completely or mostly convinced that **sea level rise** is happening



Odessa, Del. October 16, 2009

Feeling the heat



- Residents have increasingly felt impacts:
 - 53% agree they have personally felt the impacts of climate change
 - 28% agree they have personally felt the impacts of sea level rise
 - ✦ Increase of 8% in past 5 years!



And they don't like it!



- 79% think that climate change is a threat
- Slight increase degree of threat since 2009
 - 7% more said CC is a VERY serious threat than somewhat serious
 - Highest concern about impacts on:
 - ✦ Health
 - ✦ Agriculture
 - ✦ Safety
 - ✦ Natural Resources



Not one bit!



- 68% worry about sea level rise
 - 5% more than in 2009
 - Highest concern about impacts on
 - ✦ Ocean-front cities and towns
 - ✦ Delaware's beaches
 - ✦ Marsh/wetland areas
 - ✦ Riverfront cities and town



Slaughter Beach, November 2011

Delaware is optimistic!



- 3/4 agree that Climate Change impacts can be reduced by human efforts
 - And they can personally action
- Strong majority feel the same about sea level rise



And we are ready to act!



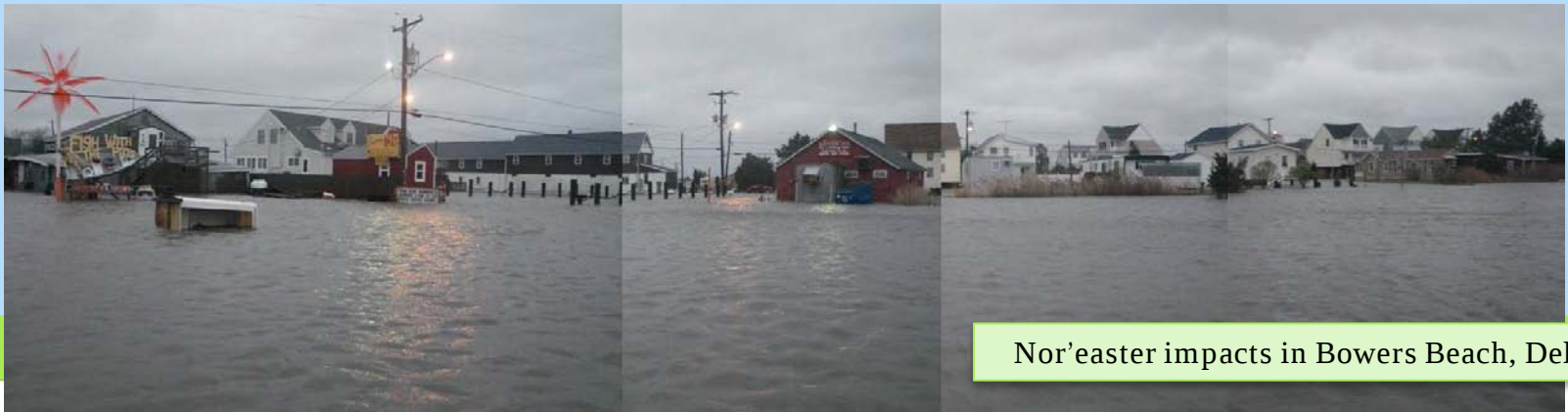
- 3/4 of Delawareans support taking immediate action to reduce climate change and sea level rise
- 3/4 of Delawareans support taking action on sea level rise before impacts occur



Precautionary Approach to Planning



- Majority support changing building codes to reduce risk in flood-prone areas
- Majority support avoiding building in areas at risk from sea level rise
- Support for more research on sea level rise
 - Less support for elevating buildings, wetland migration, buying out frequently flooded properties

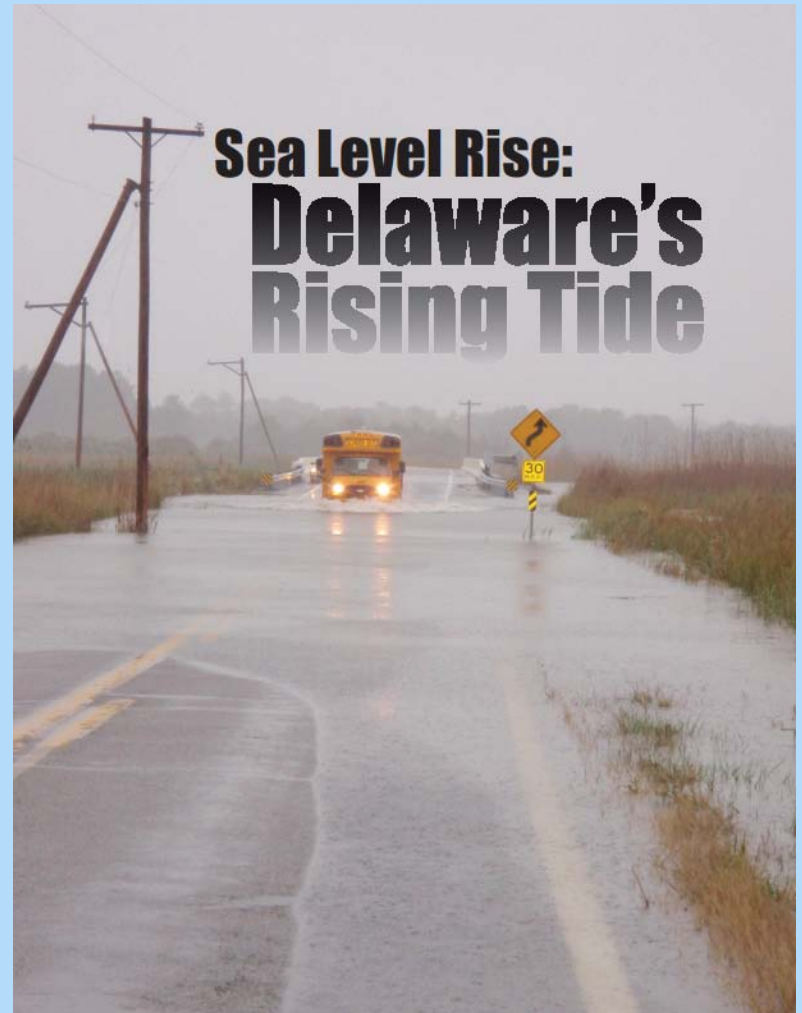


Nor'easter impacts in Bowers Beach, Delaware

Communication and Outreach Implications



- Focus education/ outreach efforts on the impacts of CC & SLR on resources Delawareans care most about, rather than as a stand alone
 - DE residents are more concerned about many resources that will be affected by SLR & CC, than about SLR & CC itself



Messaging Implications - Geography



- Coastal Residents more likely to believe in SLR, more likely to have experienced it
- Coastal Residents more likely to think that government should be doing more to prepare



UD Coast Day, Lewes, Del.

Messaging Implications – Responsible Planning



- Proactive, responsible planning is a theme that resonates with Delawareans
- Emphasizing responsible governance and wise-use of tax dollars has proven particularly useful in presentations to various audiences



Delaware Sea Level Rise Advisory Committee
members

Applying the Data



- Support for working with communities and municipalities in Delaware – there is *Constituent Support* for planning!
- Support for research, funding & adaptation options
- Outreach materials and messaging



Thank you!

Questions?

More information:

<http://de.gov/coastal>

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