

# Assessing Threats to Publicly Identified Places of Importance

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# Introduction to PPGIS

- Public Participation Geographic Information Systems (**PPGIS**)
- Developed in late 1990's
- Captures local values, knowledge, and preferences
- Used to identify important places for stakeholders

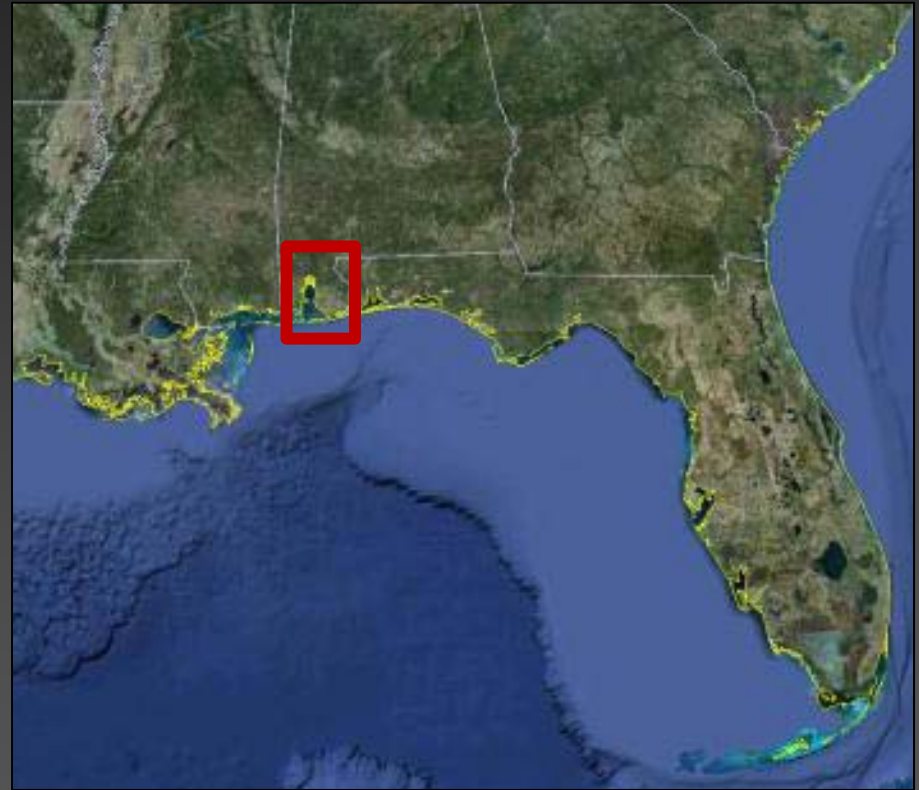


# Project Overview

- Public Participation GIS (PPGIS) survey
- Mail-based survey
- Participants use labeled stickers to identify management preferences and places they think are important for a range of values on a map

# Study Area

- Mobile Bay, AL  
(Baldwin and Mobile counties)
- 4,600 square miles
- Mixed urban and rural landscape
- Variety of terrestrial and aquatic ecosystems



# Survey Methodology

- Dillman method
  1. Pre-notice letter
  2. Survey
  3. Reminder postcard
  4. Reminder letter
- 988 surveys sent
- 274 surveys received (30%)



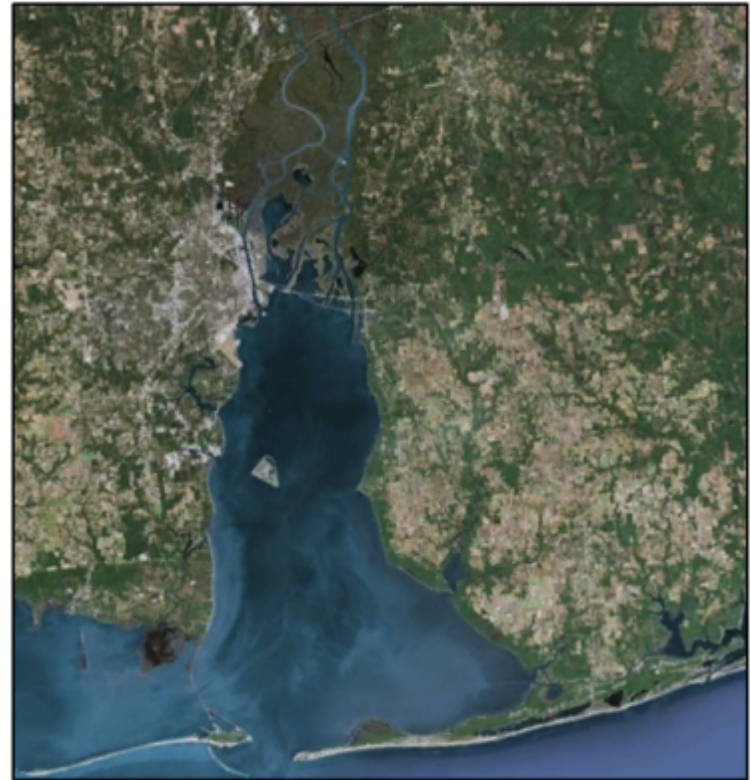


# Questionnaire

## 6 parts

1. Bay knowledge and length of residence
2. Participation in outdoor recreation activities
3. Opinions on a range of wildlife, water, and development issues
4. Satisfaction with a range of regional characteristics
5. A landscape values mapping activity
6. Demographic information

### Mobile Bay Landscape Values Mapping Survey

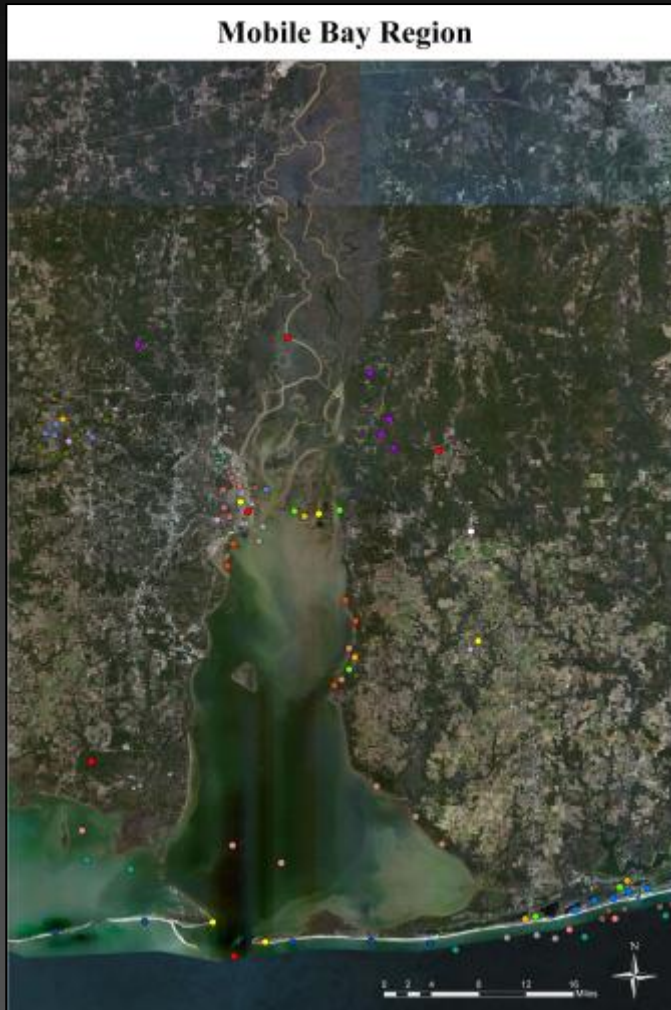


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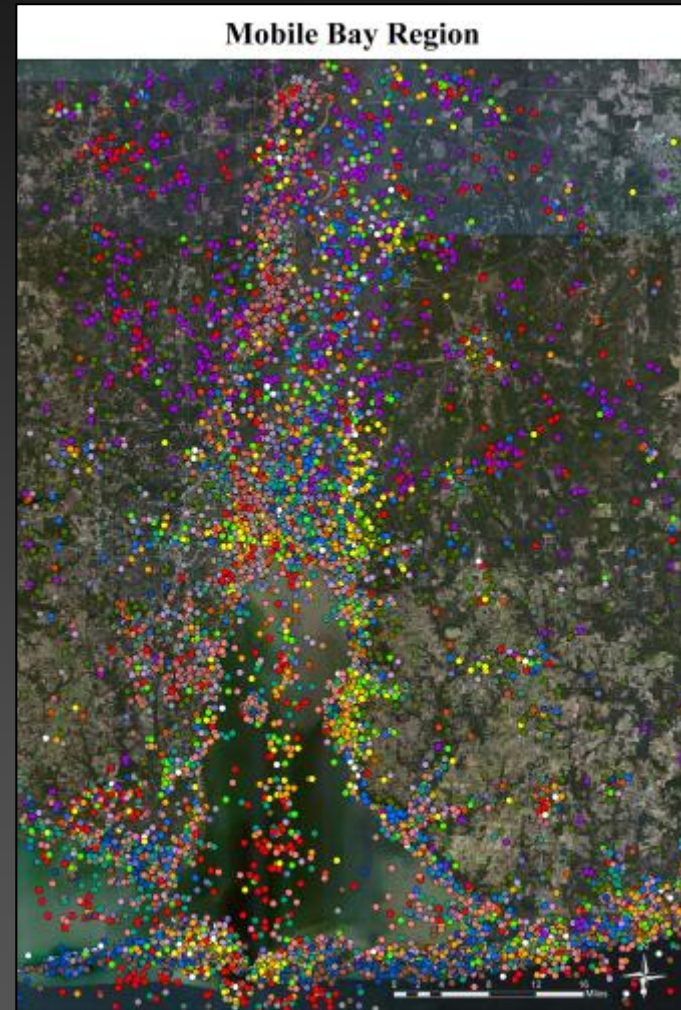
# Mapping Components

Value		Definition	
<b>Cultural Values</b>			
Economic/ Livelihood	E	These places are important to me for the economic benefits they provide, such as timber, fisheries, or oil.	E E E E E
Recreation/ Tourism	R	These places are important to me because they provide outdoor recreation or tourism opportunities.	R R R R R
Historic	H	These places are important to me because they are a significant part of human cultural legacy to me, others, and/ or the nation.	H H H H H
Aesthetic	A	These places are important to me for the attractive scenery, sights, smells, sounds, etc.	A A A A A
<b>Water Values</b>			
Fish Nursery	N	These places are important to me because they provide key habitat for juvenile fish to mature and support local fisheries.	N N N N N
Storm Protection	S	These places are important to me because they provide protection and buffering against the effects of hurricanes and storm surge.	S S S S S
Flood Protection	F	These places are important to me because they minimize flooding from rivers and streams.	F F F F F
Water Quality Protection	Q	These places are important to me because they filter sediment and remove pollutants from water.	Q Q Q Q Q
<b>Wildlife Habitat Values</b>			
Black Bears	B	I would like to see these places maintained for the conservation of black bears.	B B B B B
Manatees	M	I would like to see these places maintained for the conservation of manatees.	M M M M M
Sea Turtles	T	I would like to see these places maintained for the conservation of sea turtles.	T T T T T
Wading Birds	C	I would like to see these places maintained for the conservation of wading birds (cranes, herons, egrets, etc.).	C C C C C
<b>Pollution Threats</b>			
Air Pollution	P	Please indicate places that you believe threaten air quality.	P P P P P
Water Pollution	W	Please indicate places that you believe threaten water quality.	W W W W W
<b>Development Preferences</b>			
No Development	N	Please indicate places where you think any future development should be prohibited.	N N N N N
Residential Development	D	Please indicate places where you think residential development could occur with a well-designed plan.	D D D D D
<b>Special Places</b>			
Special Places	SP	Use these dots to identify up to 3 of your special places. Please remember to write your reason why these places are special in the survey booklet.	1 2 3
<b>Places You Dislike</b>			
Places You Dislike	PD	Use these dots to identify up to 3 places that you dislike. Please remember to write your reason why you dislike these places in the survey booklet.	1 2 3
<b>Most Recent Recreation Trip</b>			
Most Recent Recreation Trip	X	Use this dot to identify the location of your most recent recreation trip in the Mobile Bay region.	X

# PPGIS Mapping Exercise



- Example completed map
- 87 possible points
- 24 x 36 in.
- Scale: 1:150,000



- Results from 242 respondents
- 11,391 points
- Mean: 47.07 points per respondent



# Respondent Demographics

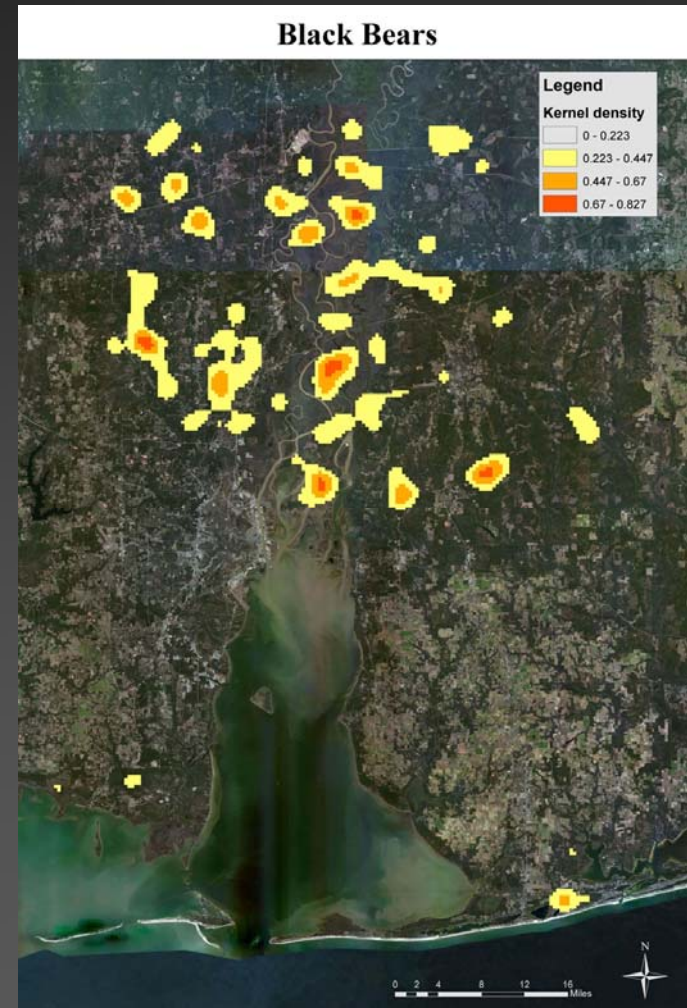
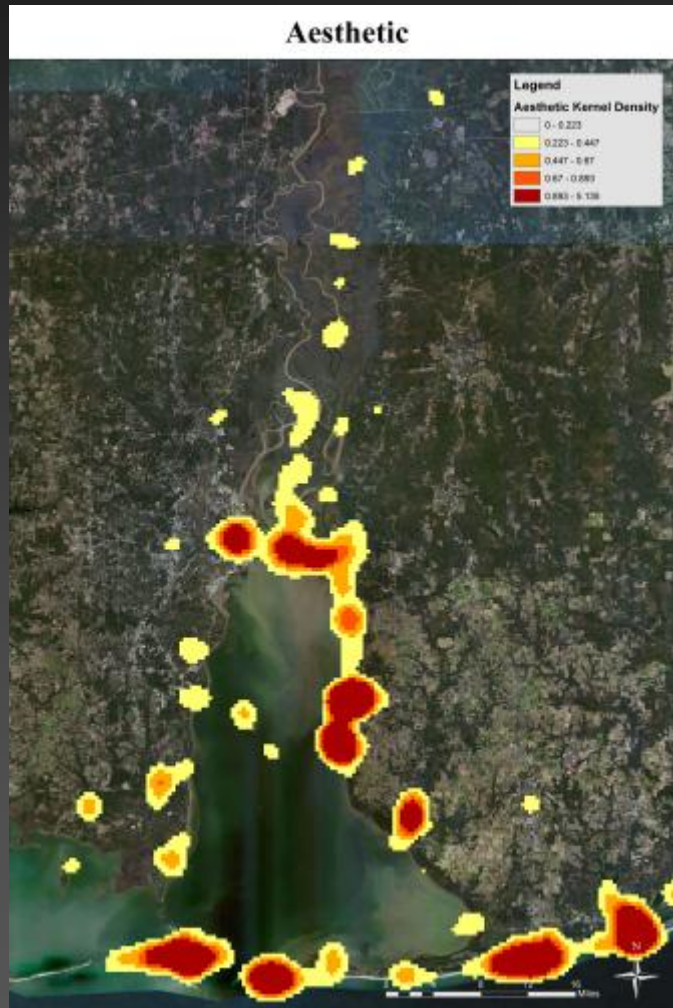
- Gender: 64% male, 30% female
- Race: 91% White/ Caucasian, 7% Black/ African American, 1% Native American, 0% Asian
- Education: 98% high school degree, 48% bachelor's degree, 21% graduate or professional degree
- Retired: 41% yes, 59% no
- Year of birth: mean = 1956
- County: Baldwin 43.22%, Mobile 56.78%

# Respondent Demographics

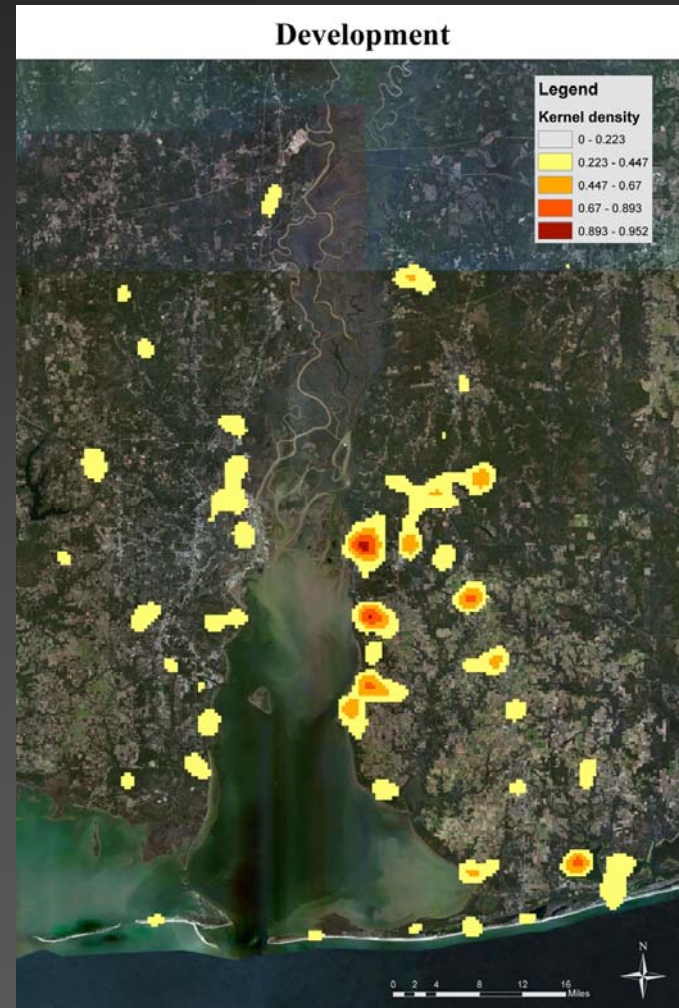
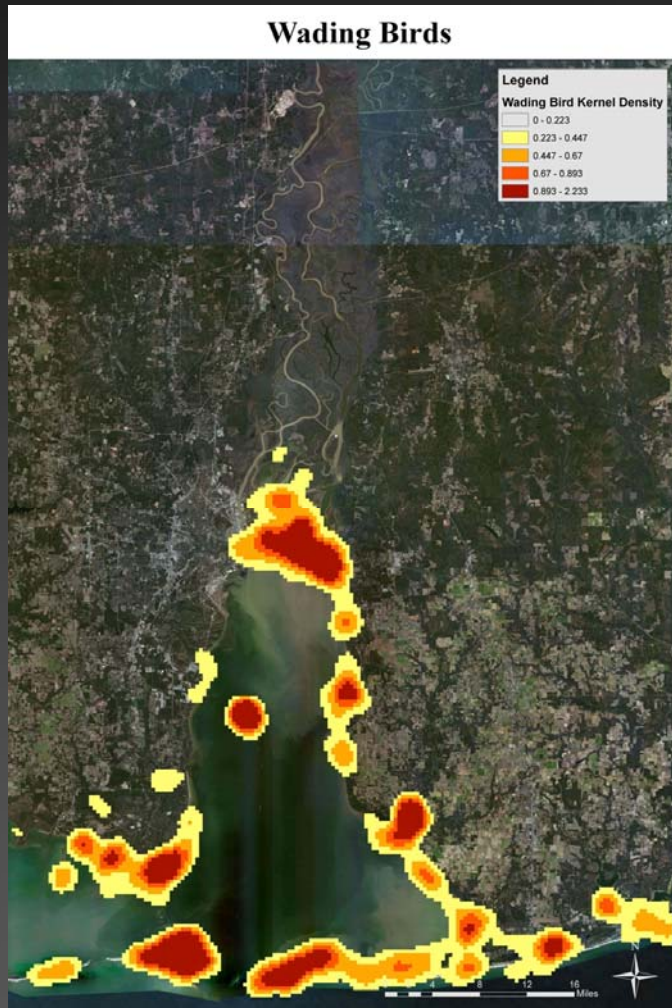
- Income for 2011:

Less than \$14,999	4%
\$15,000 to \$19,999	4%
\$20,000 to \$24,999	5%
\$25,000 to \$34,999	10%
\$35,000 to \$49,999	16%
\$50,000 to \$74,999	22%
\$75,000 to \$99,999	13%
\$100,000 to \$149,999	15%
\$150,000 or more	12%

# Kernel Densities

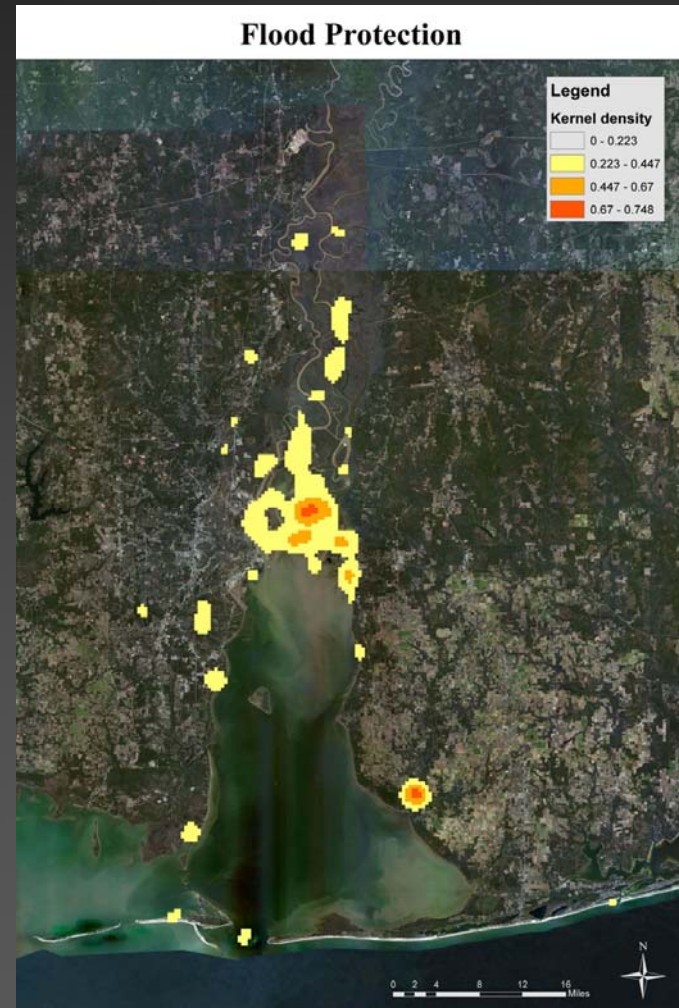
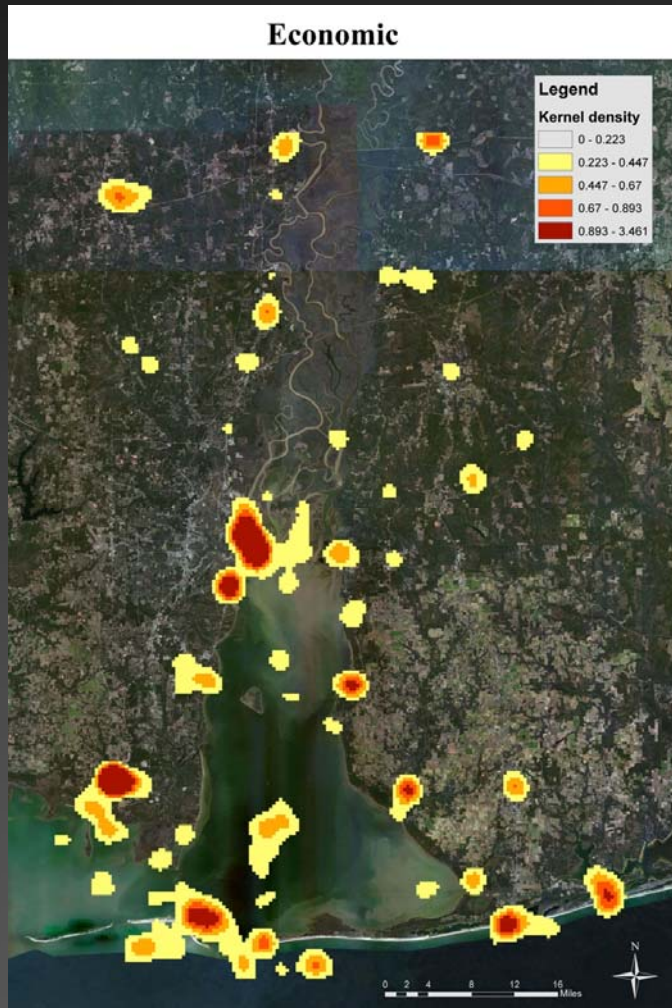


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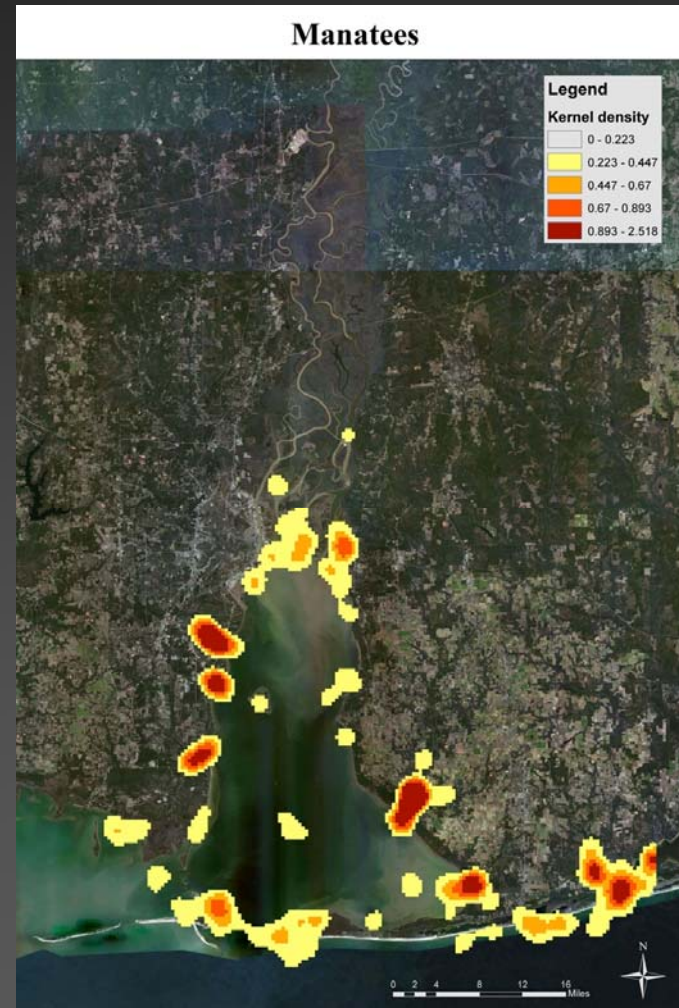
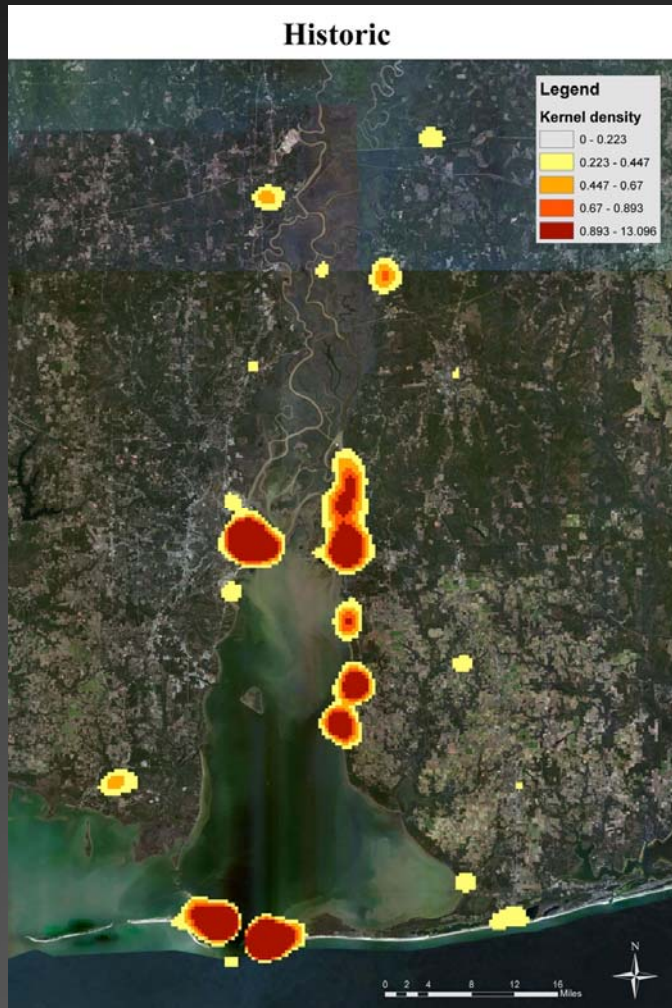




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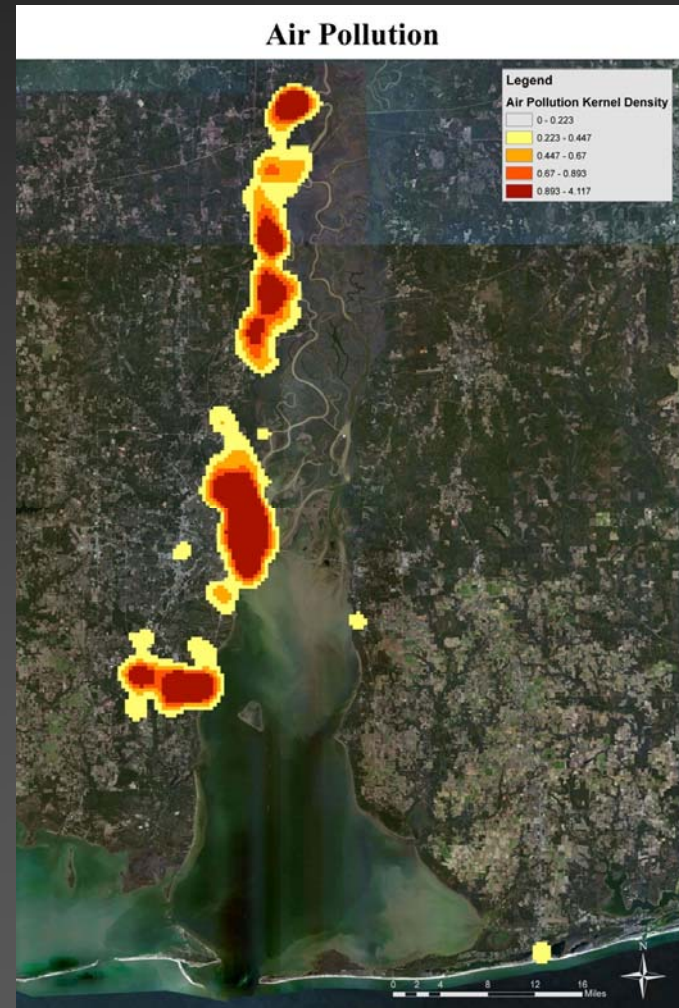
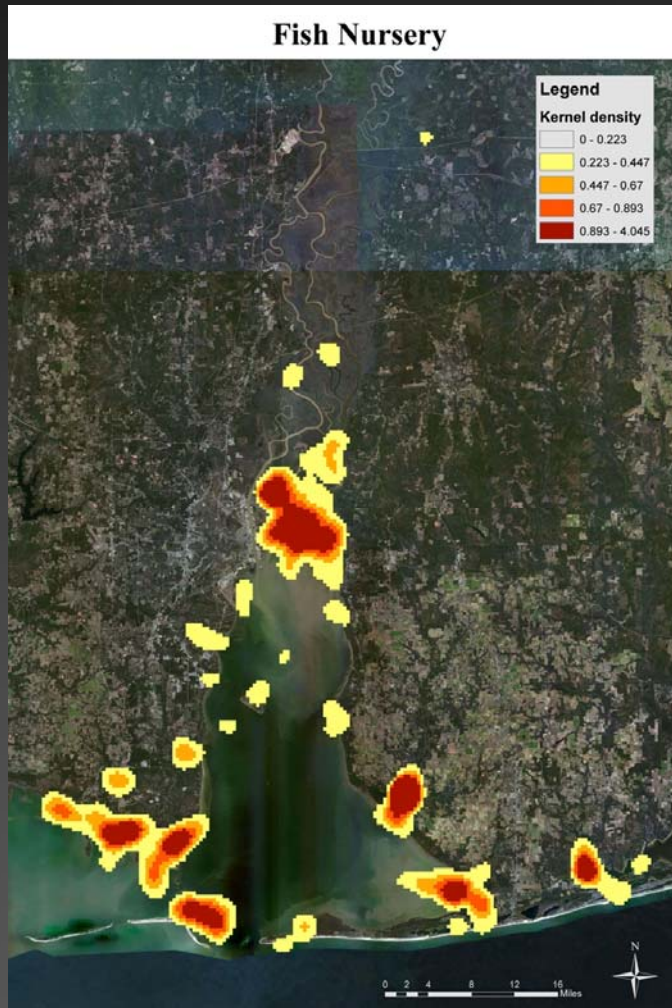


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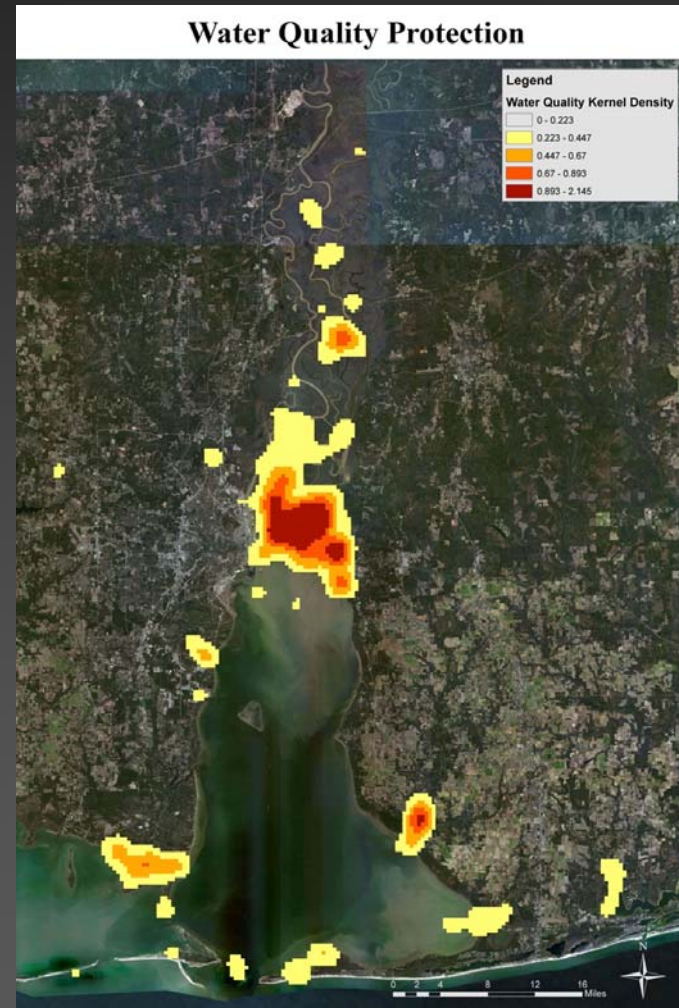
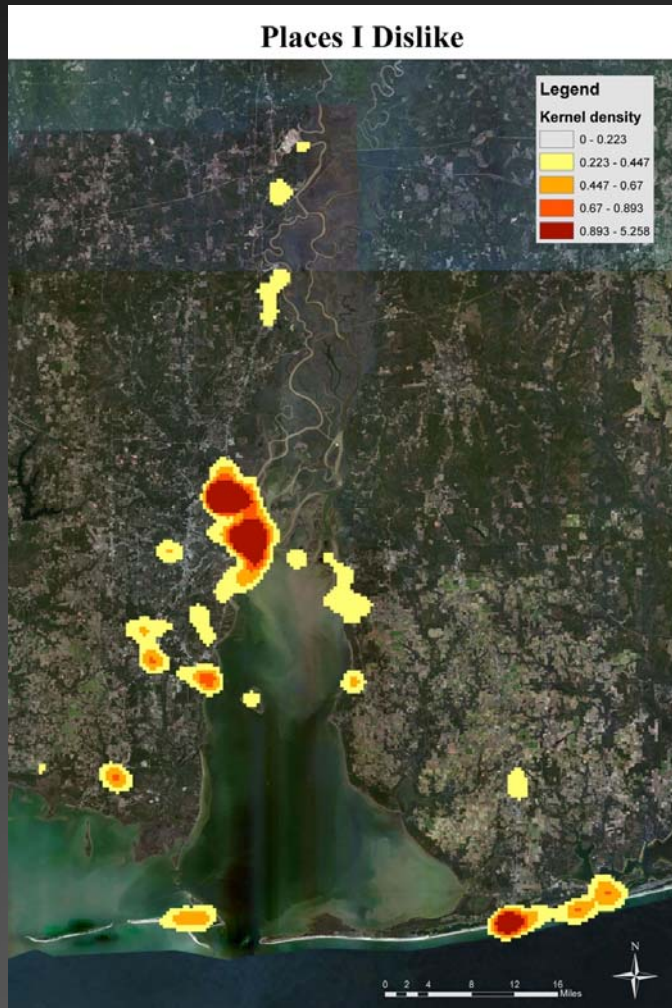




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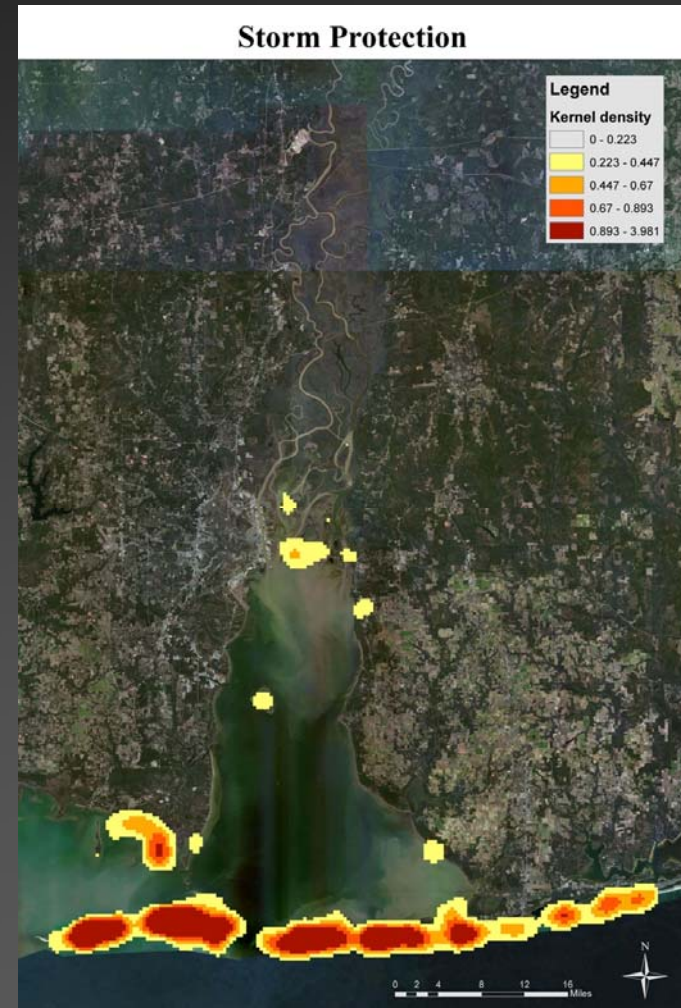
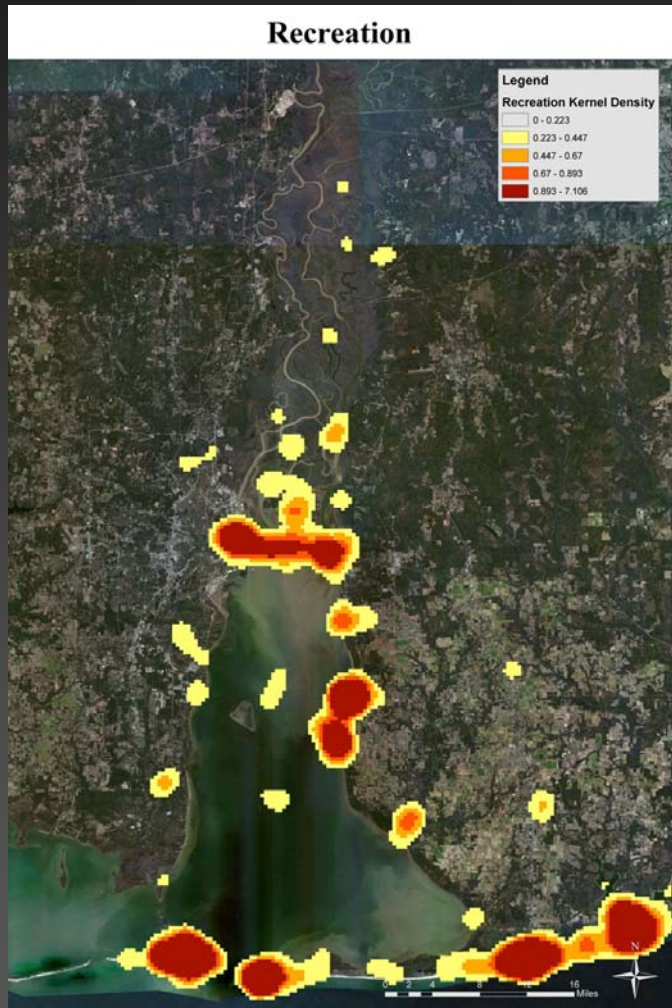


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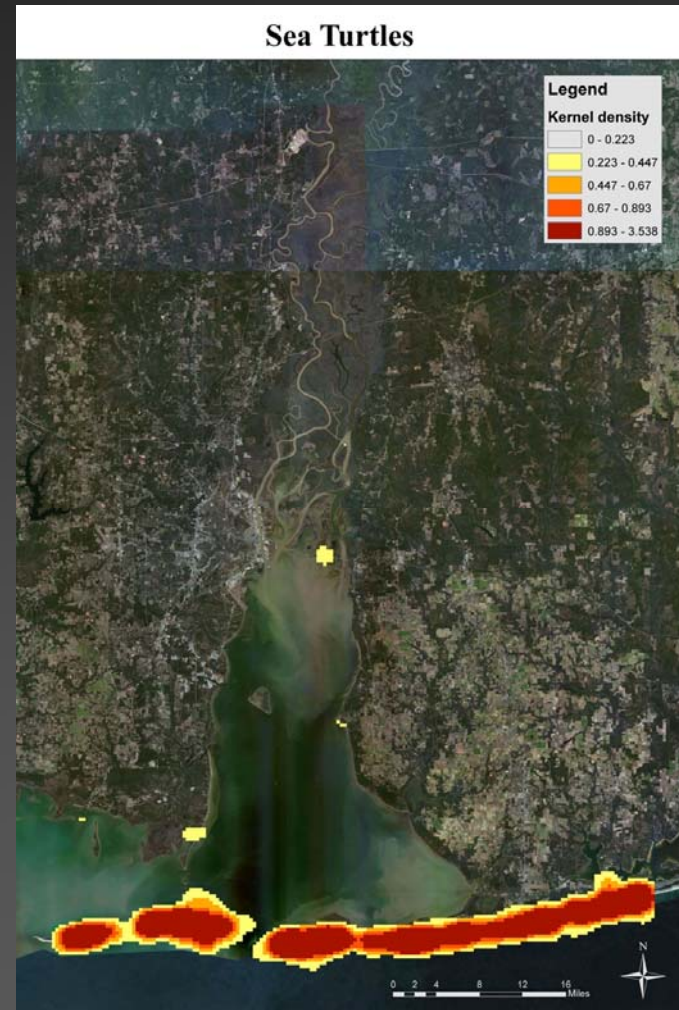
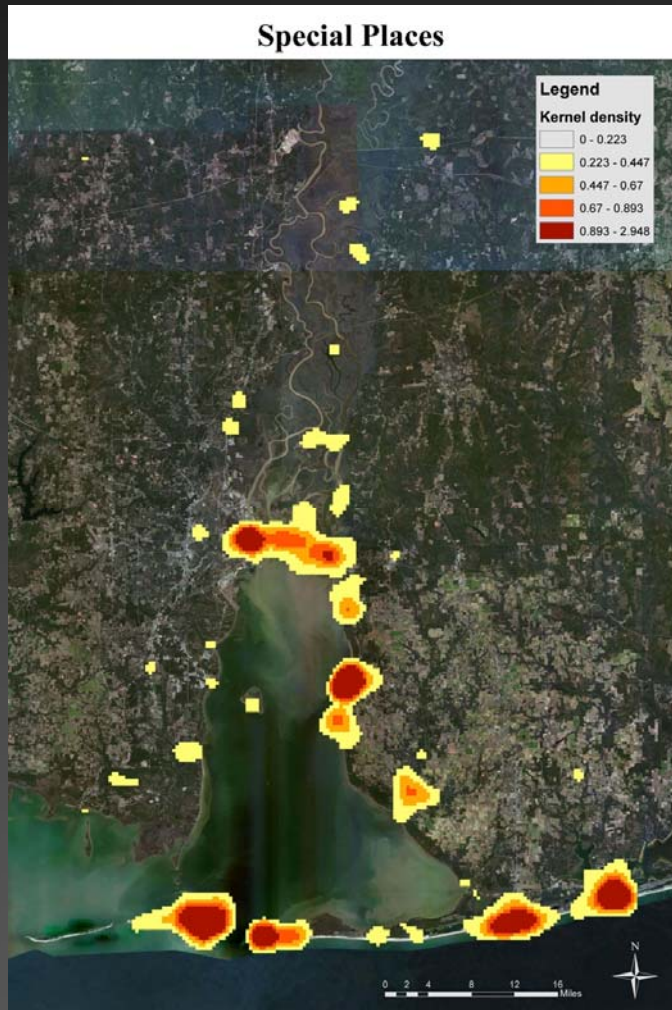




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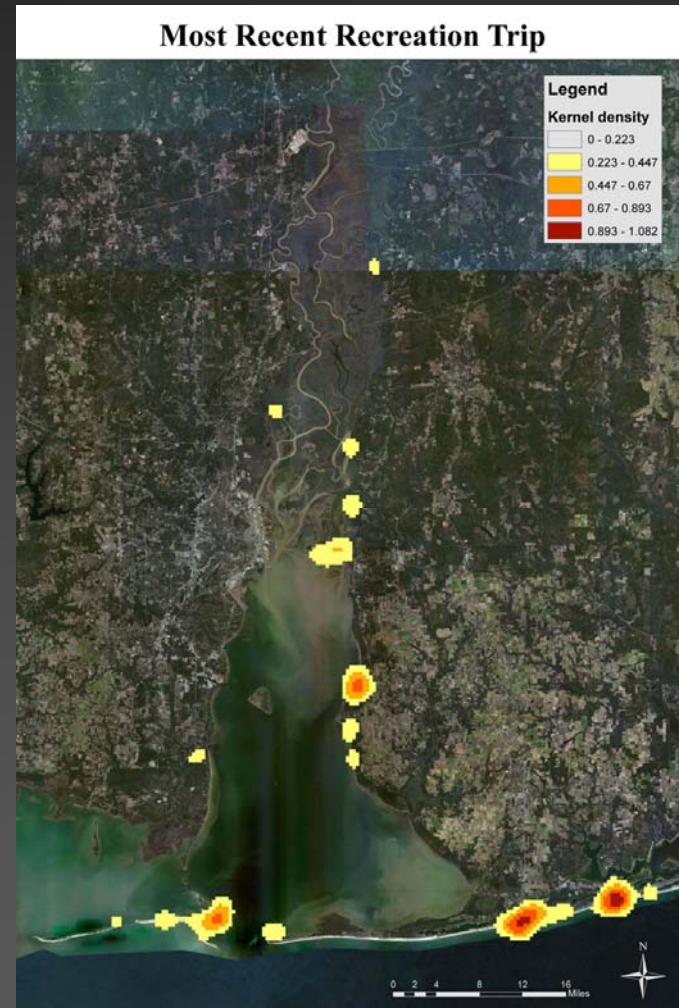
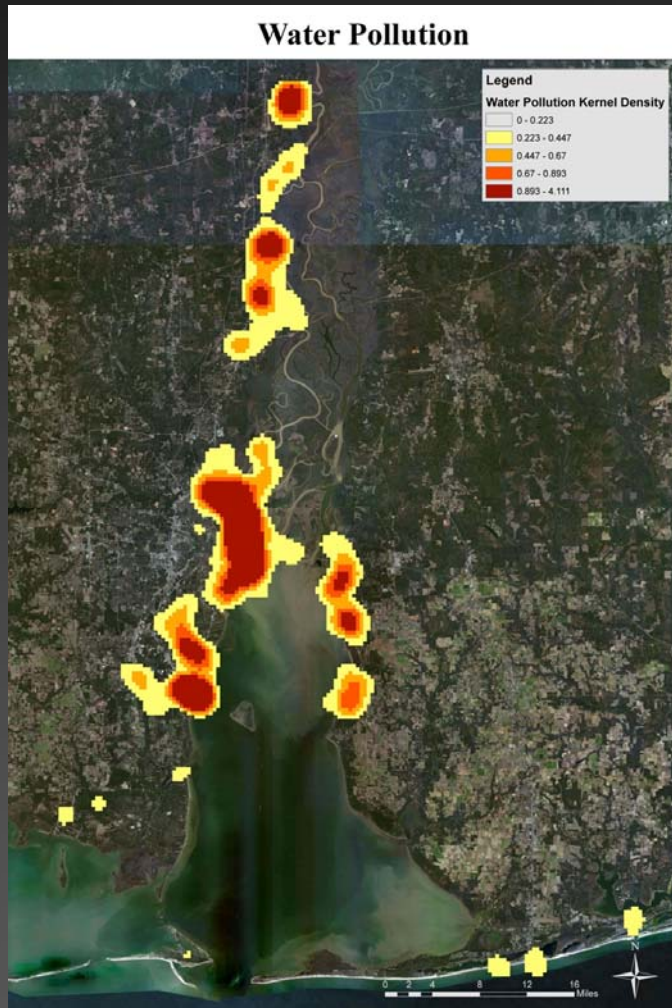


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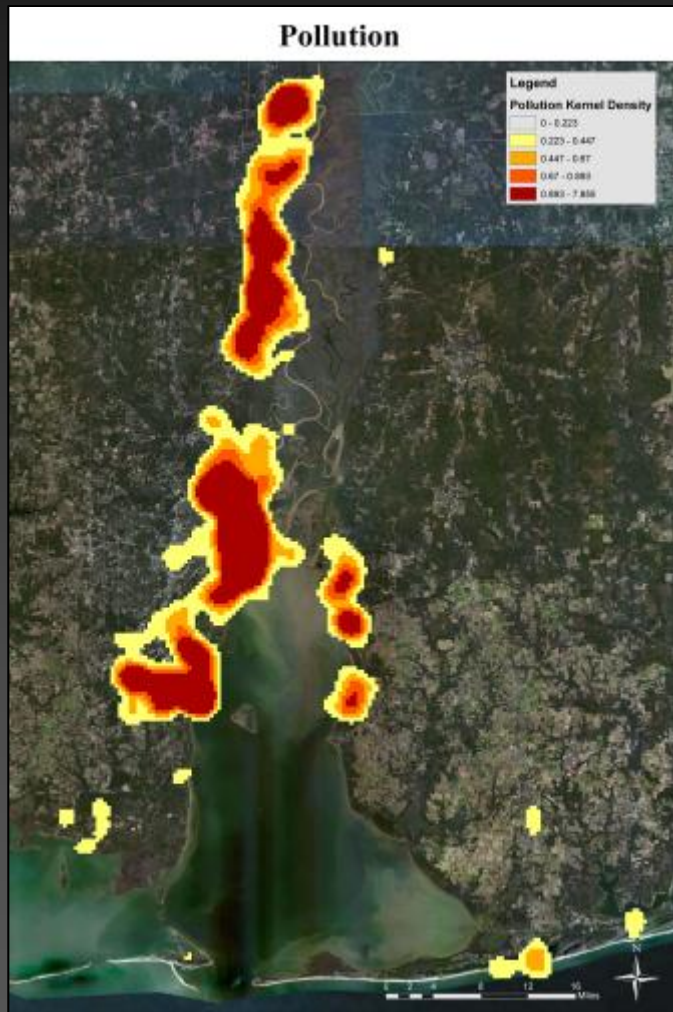
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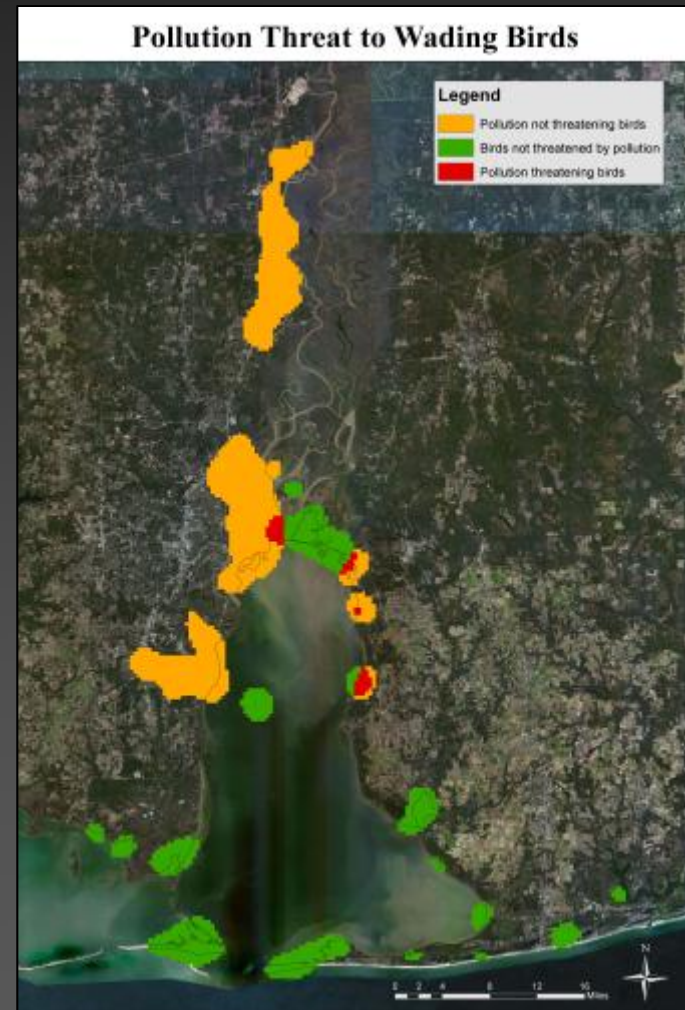
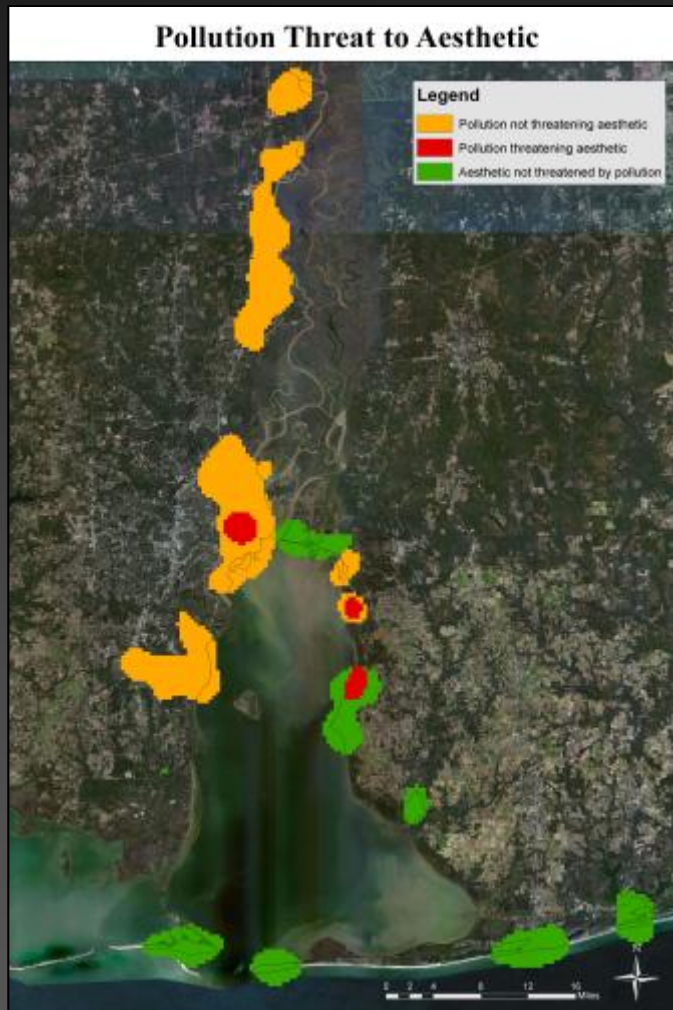
- Kernel densities greater than or equal to 0.67 are considered to be significant hotspots for each item



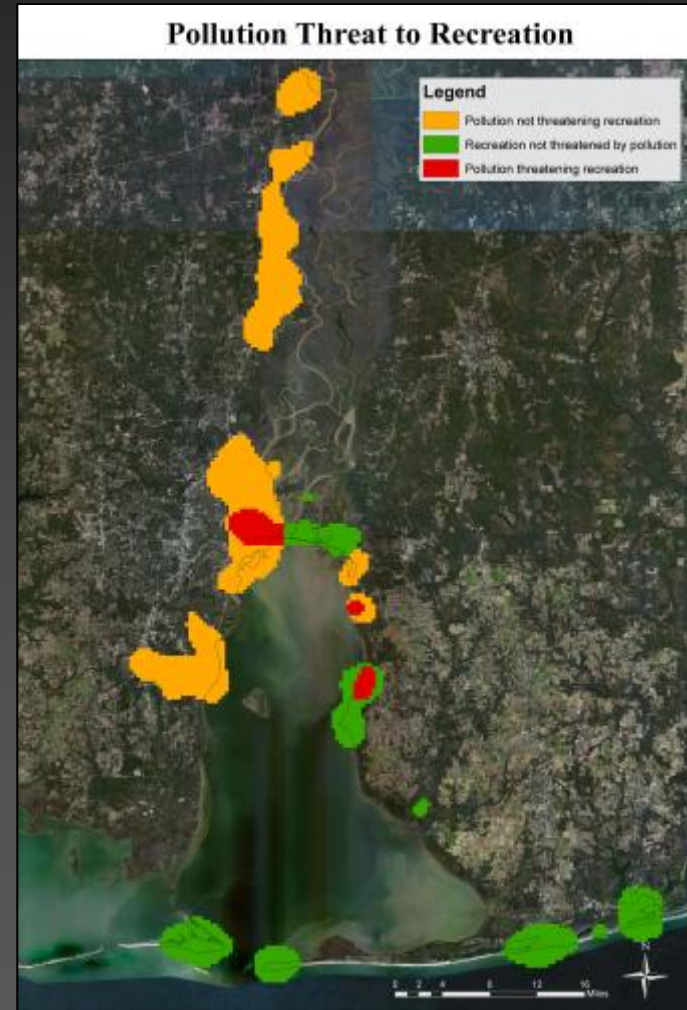
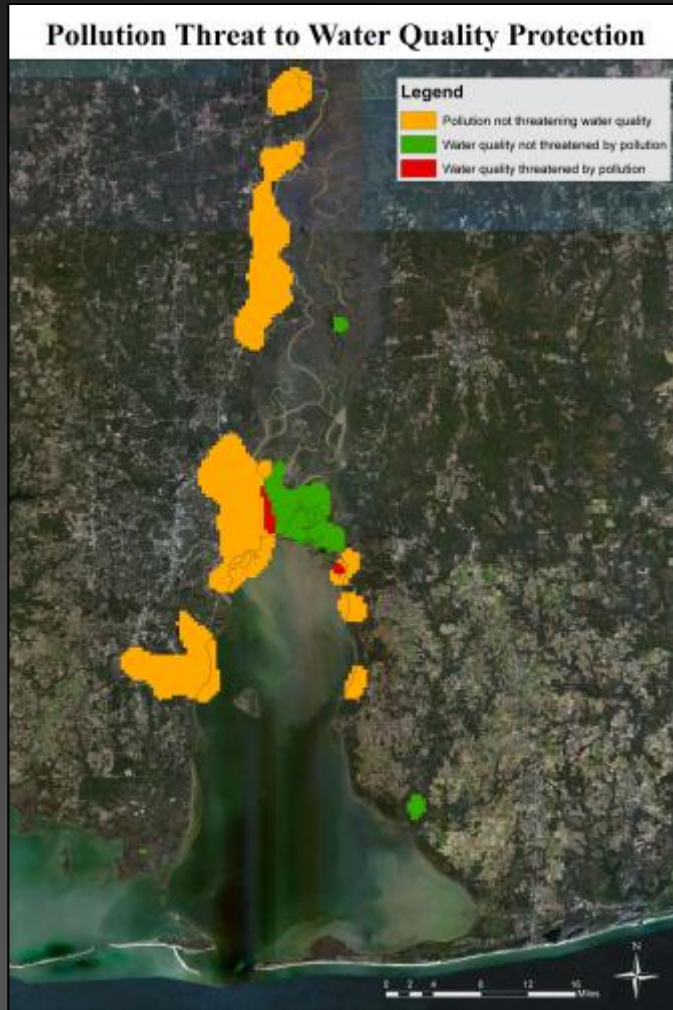
# Publicly Identified Pollution Threat



# Pollution Threat



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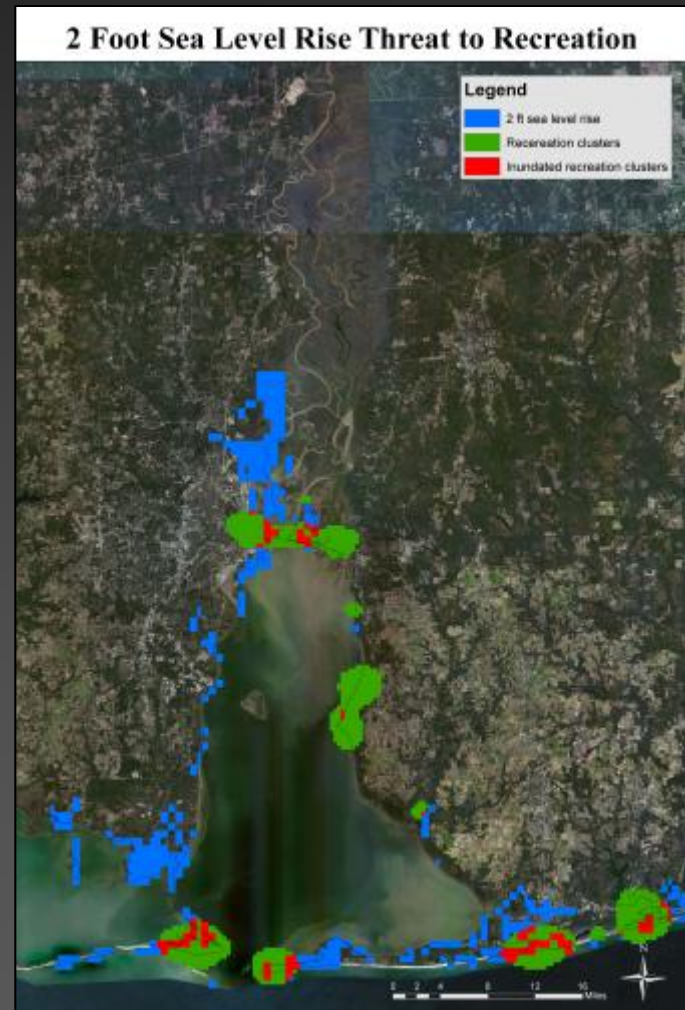


# Sea Level Rise





# Sea Level Rise



# Conclusions

- Spatial analysis of public perceptions provides important information for identifying hazard threats
- Allows identification of important places to stakeholders
- Facilitates spatial identification of threats to these places
- Management strategies can then be developed to address the threats to these places

# Acknowledgements

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