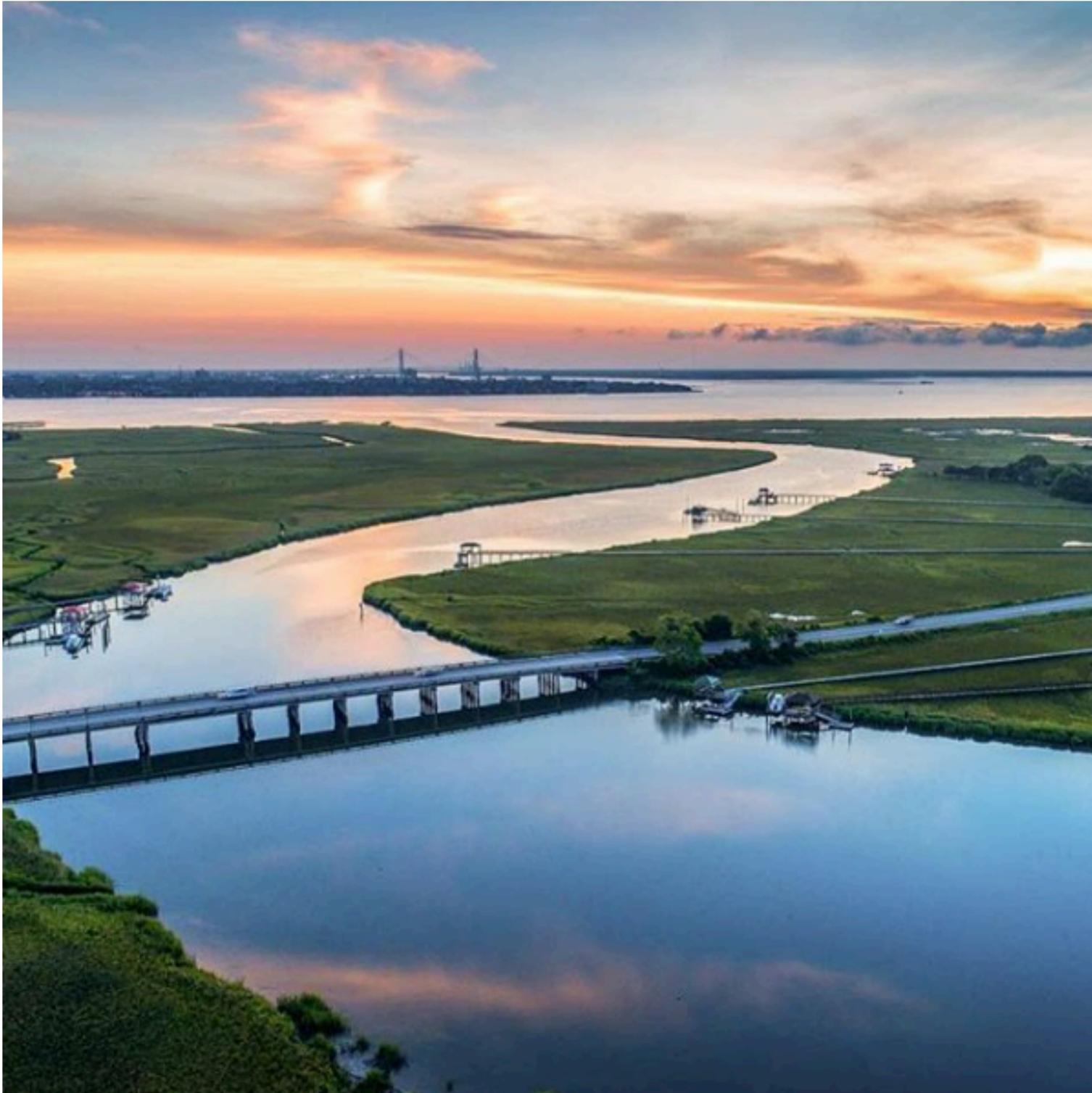




South Carolina  
Aquarium





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Charleston, South Carolina

**explorecharleston** #SundaySunrise scenes via @donniewhitaker. 🌞 Are you an early bird sunrise lover or do you prefer chasing the Southern sunsets? #ExploreCharleston

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**pashaellisr** Beauty

**bottssmith** @minorsmith @ikie\_smith @jmsmith

**tiff\_luvs\_josh** @pamsnyder47

**egrogan1** Ooooooh love this!

**luparkerla** See you soon beautiful Charleston. Will be there Thursday!!!! 🍷

**monica\_e\_vb** Both.

**paigegehrlich** Early bird

**dichillvbarbados** Have a great day!

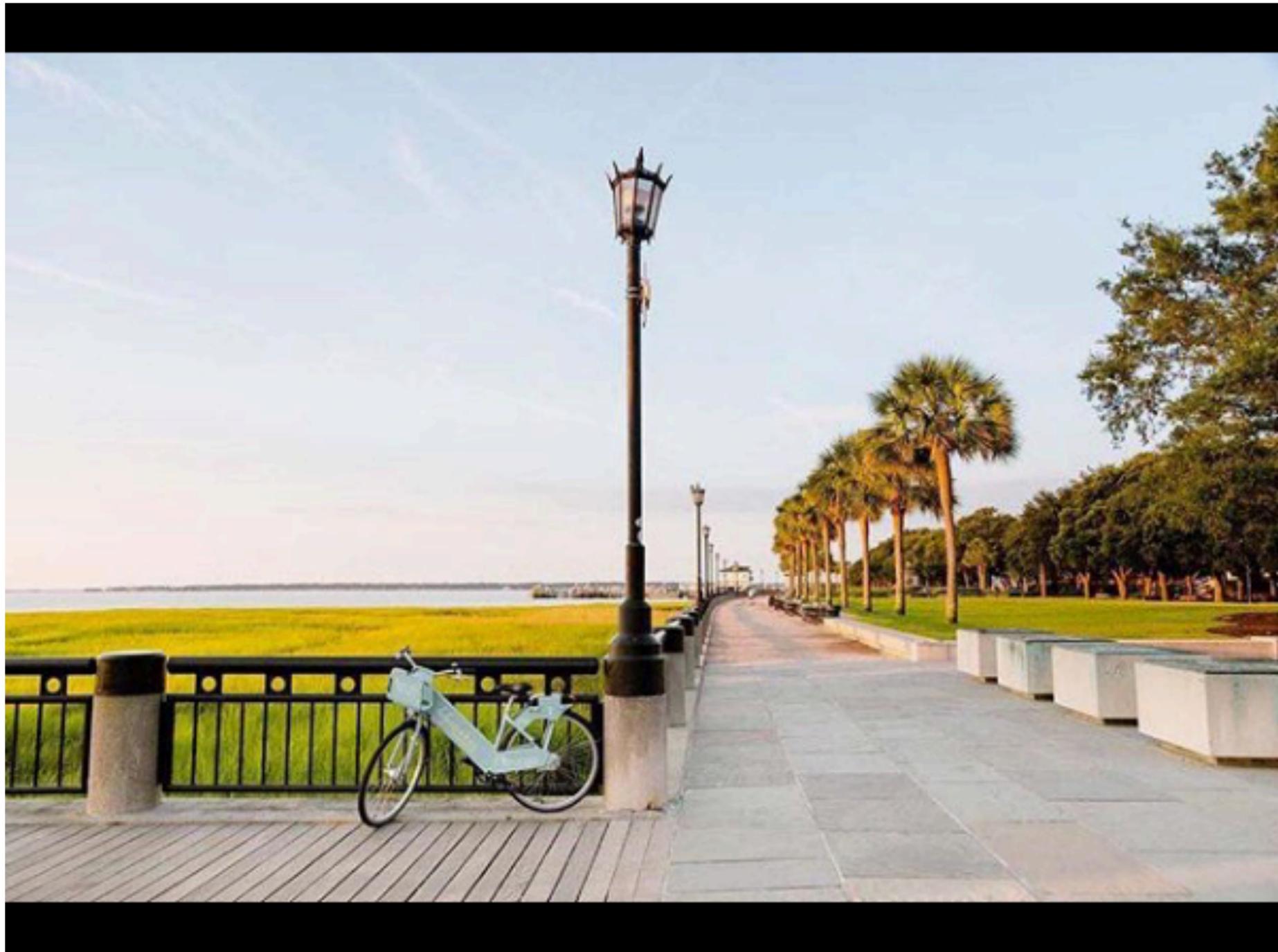


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JULY 22

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Riley Waterfront Park

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**soniacgobor** [@moacir.gobor](#) vamos pedalar?



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**lyndisaalfrank** [@johnnagetkd](#)

sabra511 With so much to do there.. I didn't see kayak tours. Where does one begin to research all these? I'm coming



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JULY 29, 2017

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# Search

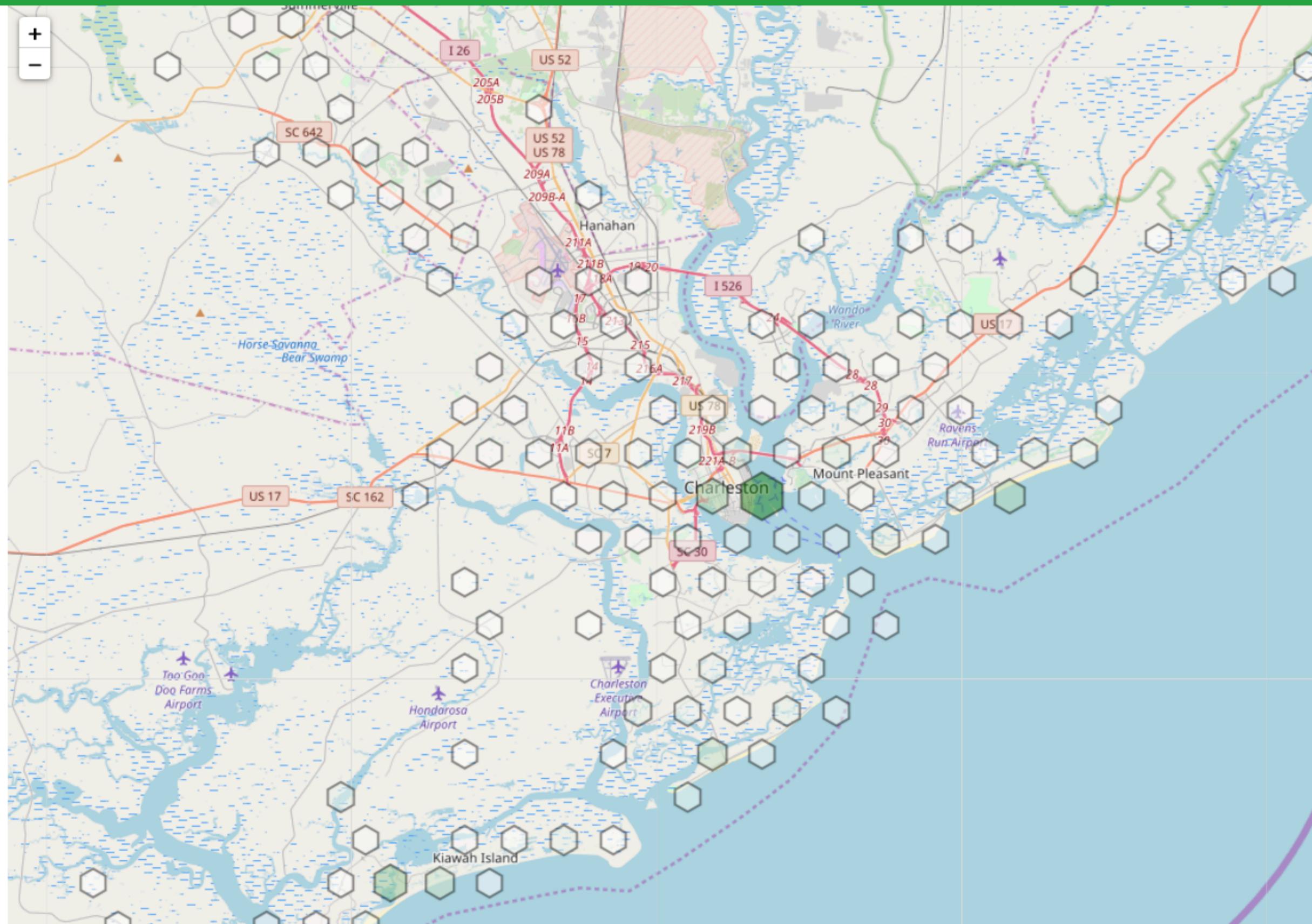
Search projects

Search users

Start date

End date

Observation has images







# South Carolina Aquarium

# Plastic Pollution Facts

- Over 300 million tons of new plastic is produced annually
  - > 40% is single use plastic (SUP)<sup>1</sup>
  - > ~9 MT enters the ocean every year = 1 garbage truck/min<sup>2</sup>
- More than 100 billion SUP plastic bags are used in US annually
  - > ~300 per person/year (conservative)
  - > Used for only 12 minutes on average
- SUP bags found to be 2<sup>nd</sup> most harmful to marine life next to ghost fishing gear<sup>3</sup>
- Plastic is being consumed by marine animals from zooplankton<sup>5</sup>, the basis of the food chain, to whales<sup>4</sup>



# SOURCES:

<sup>1</sup>Geyer R., Jambeck J.R., Lavender Law K. (2017). Production, use, and fate of all plastics ever made. *Science Advances*. Volume 3, no. 7, e1700782.

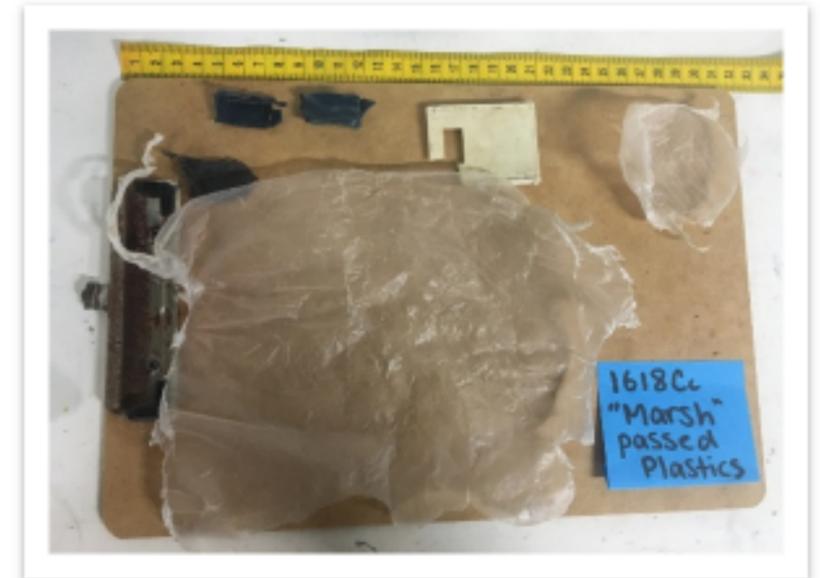
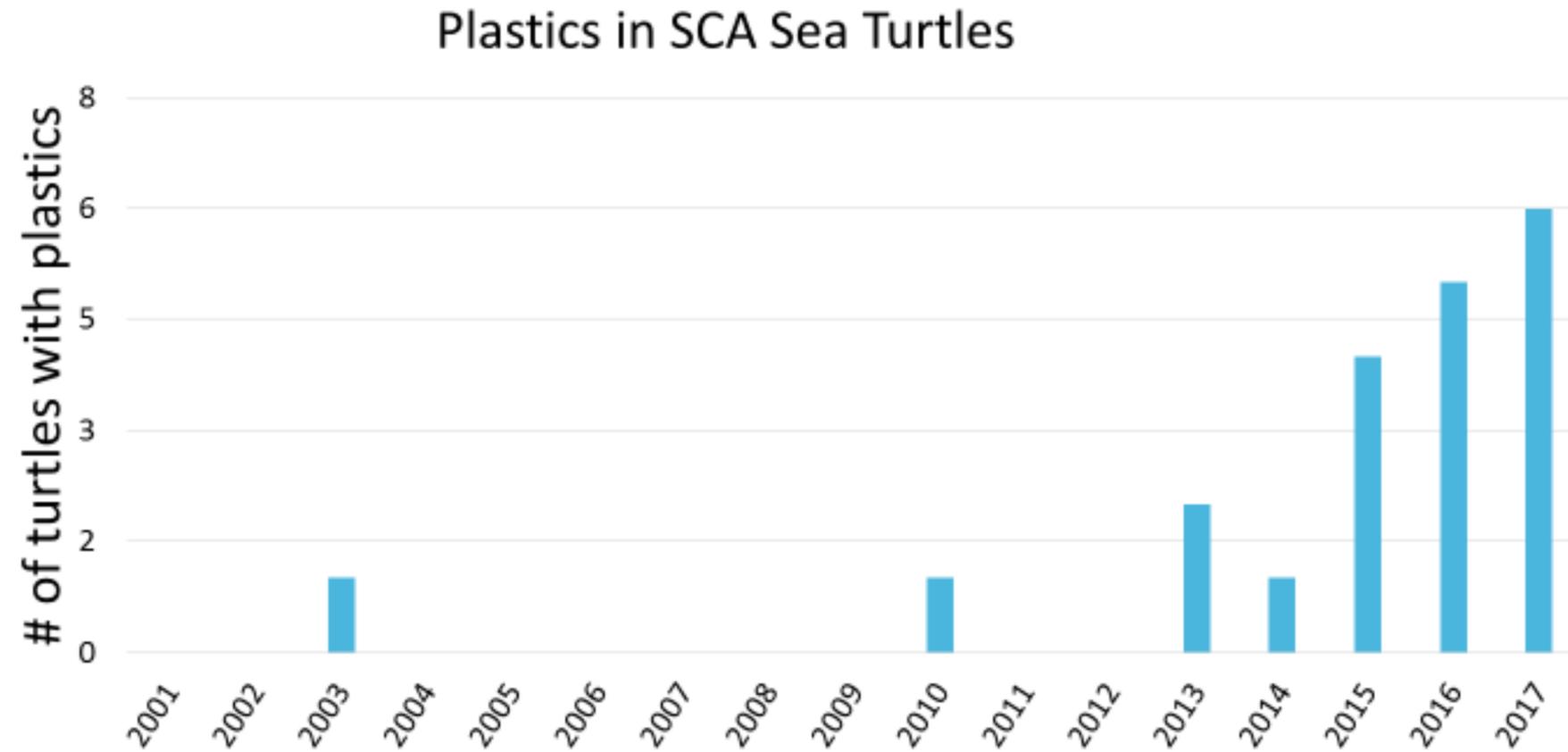
<sup>2</sup>Jambeck, J.R., Andrady, A., Geyer, R., Narayan, R., Perryman, M., Siegler, T., Wilcox, C., Lavender Law, K. , (2015). Plastic waste inputs from land into the ocean, *Science*, 347, p. 768-771.

<sup>3</sup>Wilcox, C., Mallos, N. J., Leonard, G. H., Rodriguez, A., and Hardesty, B. D. 2016. Using expert elicitation to estimate the impacts of plastic pollution on marine wildlife. *Marine Policy* 65:107-114.

<sup>4</sup>Lusher, A. L., Hernandez-Milian, G., Berrow, S., Rogan, E., and O'Connor, I. 2018. Incidence of marine debris in cetaceans stranded and bycaught in Ireland: recent findings and a review of historical knowledge. *Environmental Pollution* 232:467-476.

<sup>5</sup>Archives of Environmental Contamination and Toxicology. JW Desforges, M Falbrakth, P Ross. Ingestion of Microplastics by Zooplankton in the Northeast Pacific Ocean. Volume 69, Issue 3, pp 320-330.

# Treating more turtles than ever with plastic ingestion









# In Conclusion

- Compared to most other consumer plastic items, plastic bags pose one of the greatest impacts to ocean wildlife and warrant the specific attention they have received from governments and advocates to address their use.
- Research suggests that legislation such as banning plastic bag bans, is likely to reduce individual and, possibly, population level impacts to marine wildlife.



Wilcox, C., Mallos, N. J., Leonard, G. H., Rodriguez, A., and Hardesty, B. D. 2016. Using expert elicitation to estimate the impacts of plastic pollution on marine wildlife. *Marine Policy* 65:107-114.



**SURFRIDER**  
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Charleston Chapter

# Local Ordinances Work!

## Folly Beach S.C.

- Ordinance passed October 2016
- Pre-ordinance plastic bags collected (avg.): 33 Bags
- Post-ordinance plastic bags collected (avg.): 7 Bags
- That's an average of 25 fewer bags being collected during sweeps.

**Massive Reduction in plastic bag waste!**

# Resolutions Don't Work!

## Sullivan's Island

- Passed August 18, 2015
- “Support for voluntary efforts”
- Average bags collected on Sullivan's Island per Sweep: 75!
- Compared to 7 on Folly where there is an ordinance

# City of Charleston- No Ordinance

## City of Charleston

- Avg. number of bags picked up per sweep:

**178**

# Ordinances in Cities Work

- Monterey, CA:
  - Pre Ordinance: 35 bags per sweep
  - Post Ordinance: 8 bags per sweep
- San Francisco CA: 72% reduction in plastic bags found
- Alameda, CA: 80% reduction in plastic bags found



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