

Jinks Creek/Tubbs Inlet Shoaling Study Outline

3rd Party Contributors:

- Charter Captain Tim Disano
- Chief Ken Klamar, SBPD drone photography
- Mickey Cochran, OIB Mickey drone photography
- John Wells, Sunset Beach property owner drone photography
- Dr. Mariko Polk, NC Sea Grant consultant

Background:

2023 Timeline of the ERC Climate Subcommittee study of shoaling in Jinks Creek/Tubbs Inlet

- March 9 - SBPD drone video
- April 18 - Tim Disano boat tour of Jinks Creek
- May 15 - Mickey Cochran drone video
- July 3 - John Wells drone videos/photos
- July 9 - John Wells drone videos/photos
- July 14 - John Wells drone videos/photos
- August 1 - John Wells drone videos/photos
- September 28 - John Wells drone videos/photos
- September 30 - John Wells drone videos/photos
- October 28 - John Wells drone videos/photos
- October 29 - John Wells drone videos/photos

Reference information:

- Dr. Mariko Polk 2019 LIDAR data analysis elevation maps
- Dr. Mariko Polk Palm Cove shoreline horizontal erosion map
- 1938-2023 Tubbs Inlet aerial photograph collection
- Palm Cove 2014 permitting information
- Palm Cove April 3 Presentation to Town Council
- 2023 drone photographs
 - 9 days from March through October at low tide
 - 1 day in October at high tide
 - 16 videos
 - 169 photographs

Observations:

1. Jinks Creek behind Sunset Beach is no longer the dominant flow through Tubbs Inlet. Literature says when the dominant flow is from behind Ocean Isle Beach the Tubbs Inlet channel migrates toward Sunset Beach, which can be observed from aerial and drone photos.
2. Shoaling in the area behind Palm Cove has created an island where marsh grass has grown and spread as the island enlarges.
3. Drone photos show that the Palm Cove sand bagged shoreline, which was severely eroded in 2020, has filled in with sand so as to make it too shallow to navigate at low tide.
4. Drone photos show that shoaling has resulted in the Palm Cove docks being filled with sand at low tide.
5. The spit of land at the end of Sunset Beach has been eroding on the Tubbs Inlet channel and Jinks Creek shorelines, as well as in elevation as high tides wash over the spit.
6. Flood tides flowing through Jinks Creek are eroding the shoreline East of the Palm Cove sandbags in such a way as to pose a risk to the Palm Cove properties.
7. The flood tide delta (shoaling behind the Sunset Beach island) has grown noticeably in area and height in 2023.
8. The October photos show what appears to be an ebb tide breach starting across the spit at the end of the Sunset Beach island from Jinks Creek to the Tubbs Inlet flood channel. In 2023, there will be 7 King Tide events ranging in duration from 2 to 10 days. The longest duration event was from September 25 to October 4. There are also 5 additional events with expected higher and lower than normal water levels.
9. The next King Tides are forecasted for November 25-28. Higher and lower than normal tides are also forecasted for December 13-15.
10. Storm surges associated with Hurricanes Isaias, Ian and Idalia did not cause major impacts in Jinks Creek and Tubbs Inlet. Changes that are occurring are associated with tidal flows.

Going forward:

1. NC Sea Grant was engaged to help with this study. They reviewed the issues, provided LIDAR elevation analysis, and recommended that the Town of Sunset Beach hire a coastal engineering firm to further evaluate the changes that are taking place.

2. Tubbs Inlet is classified under CAMA as an Inlet Hazard Area that has unique regulations. Considering the changes that are taking place in Jinks Creek and Tubbs Inlet, we believe this study should be shared with the NC Division of Coastal Management staff.