Meeting Minutes: Drones in the Coastal Zone Community of Practice

https://secoora.org/drone-network/
Date: July 23, 2026

Key Takeaways

- The meeting was the quarterly virtual session of the "Drones in the Coastal Zone" Community of Practice, hosted by Whitney Jenkins (NC NERR).
- Guest speaker Johnnie Sabin (Indian River County Department of Natural Resources) presented on coastal monitoring, UAS-based outreach, and the Sector 5 Beach Renourishment Project in Vero Beach, Florida, with emphasis on public engagement and misinformation management.
- A drone platform survey summary compiled by Marianna Coppola (Florida International University) was shared with attendees: https://secoora.org/wp-content/uploads/2026/07/Drone-Platforms-and-Sensors-for-DITCZ-CoP-summary.docx.pdf. If you would like a contact for any of the platforms listed, email ditcz@secoora.org
- The group conducted interactive polling to gather input on agenda topics, formats, technical challenges, and workshop priorities for the upcoming in-person meeting scheduled for March 2–4, 2027, at the GTM National Estuarine Research Reserve near Ponte Vedra Beach, Florida.
- The next virtual CoP meeting is scheduled for October 22, 2026, featuring presentations on alligator/crocodile and python monitoring from University of Florida researchers. Registration required: https://us06web.zoom.us/meeting/register/aA6-233PQj214R_gvdaoIQ#/registration
- Key technical challenges identified by attendees include AI/machine learning for imagery, data processing and storage, NDAA/Blue UAS compliance, and the rising cost of non-DJI gear.

Discussed Topics

Welcome and Introductions

Approximately 40+ attendees joined from a wide geographic range, primarily from the Southeast U.S. coastal region, including representatives from NC NERR, University of Georgia, Indian River County, NOAA/NMFS, Jekyll Island Authority, Delaware NERR, IOOS Program Office, Florida Fish and Wildlife, Apalachicola NERR, Rookery Bay NERR, SC Department of Natural Resources, UNC Chapel Hill, Maryland Sea Grant, Stevens Institute of Technology, The Nature Conservancy, Naval Research Laboratory, FDEP, US Fish and Wildlife Service, and others.

Presentation: Coastal Monitoring and UAS-Based Outreach — Johnnie Sabin

Johnnie Sabin presented on the Indian River County Department of Natural Resources' use of UAS for coastal monitoring and public outreach, with a focus on the Sector 5 Beach Renourishment Project and the development of an interactive 3D landscape model.

- **Details**
  - Provided background on Indian River County's Coastal Division, which handles beach nourishment, dune repair, sea turtle habitat conservation, and artificial reef deployment across approximately 22.4 miles of shoreline.
  - Emphasized that the department is unique in combining beach construction management with natural resources stewardship, and that it was only established in 2024.
  - Discussed the social science framework for UAS outreach, referencing a study by Chakravarti et al. from McGill University on strategies to improve social acceptability of drones. Key barriers include negative media portrayal and public association of drones with military use.
  - Noted that approximately three-quarters of his public interactions while flying are positive, but privacy concerns — particularly from oceanfront homeowners — are common.
  - Highlighted the importance of proactive community engagement: distributing business cards, alerting HOA heads and city managers, and going beyond LAANC notifications.
  - Described the Sector 5 Beach Renourishment Project and the misinformation surrounding it, including public skepticism about reef damage and wasted funds. A short Coastal Resiliency PSA video was produced with a local filmmaker to address these misconceptions.
  - Presented the workflow for creating an interactive 3D landscape model of Tracking Station Beach Park using approximately 350 nadir photos and 50 oblique shots captured with an Inspired Flight IF800 paired with a Sony LR1-ILX camera, processed in Metashape, cleaned in Blender, and hosted on Sketchfab.
  - Noted that the entire workflow can be replicated using open-source tools, and that grey literature and online forums (including Reddit and drone forums) are valuable resources.
  - Outlined future steps including small stakeholder workshops, virtual showcases, expanding models to other beach parks, enabling citizen data contributions, and exploring Gaussian splatting and extended reality (XR) integration.
- **Details — Audience Q&A**
  - Taryn: Asked whether education product ideas resulted from direct public interactions. Johnnie confirmed the model is still being finalized and that non-profits in the community lack capacity for such tools, but partnerships are being explored.
  - Steve: Asked about the reliability of the IF800 and whether automated flight plans use a native or third-party app. Johnnie responded that the IF800 has had reliability issues (controller, batteries, camera overheating) but Inspired Flight's tech support has been responsive. The IGC native app is used for flight planning; missions are pre-drawn in Google Earth and loaded via KMZ files.

    - RCOAST Team: Asked about the institutional history of the department and about obstacle avoidance with Inspired Flight compared to DJI. Johnnie explained the department's evolution from public works and noted that the IF800 lacks DJI-level automated obstacle detection; the team uses a spotter with FlightRadar to monitor airspace, particularly due to low-flying mosquito control aircraft in the area.
    - Andrew: Asked whether the data would be used to demonstrate beach restoration effectiveness to homeowners. Johnnie confirmed that aerial content is regularly used for condition updates, internal communications, and presentations, and cited an example where drone footage revealed unauthorized sea grape clearing by a golf course.
    - Justin: Suggested the 3D models could be integrated into interactive educational kiosks. Johnnie agreed and expressed interest in participatory GIS approaches.
- **Conclusion**
    - UAS is now a core operational tool for Indian River County's Beach Management Program, supporting compliance monitoring, internal communications, and intentional public outreach.
    - The Sector 5 interactive 3D model is a key deliverable aimed at combating misinformation and environmental amnesia among seasonal residents.
    - The full workflow is replicable using open-source tools; Johnnie offered to share detailed notes upon request.

In-Person Meeting Planning — March 2 - 4, 2027, GTM Reserve

- This will be the third in-person conference; the first went virtual in October 2020 due to COVID, and the second was held in Beaufort, NC in February 2024.
- The meeting will be held at the GTM National Estuarine Research Reserve near Ponte Vedra Beach, Florida, March 2 - 4, 2027 (Tuesday–Thursday). The exact meeting timing is TBD.
- Registration fees will be kept low by using free space at the reserve, and sponsorships from drone vendors and other partners are being pursued.
- Please reach out if interested in presenting or contributing.
- The meeting agenda will be informed by a survey conducted during this meeting and sent out to the listserv for those unable to attend today.