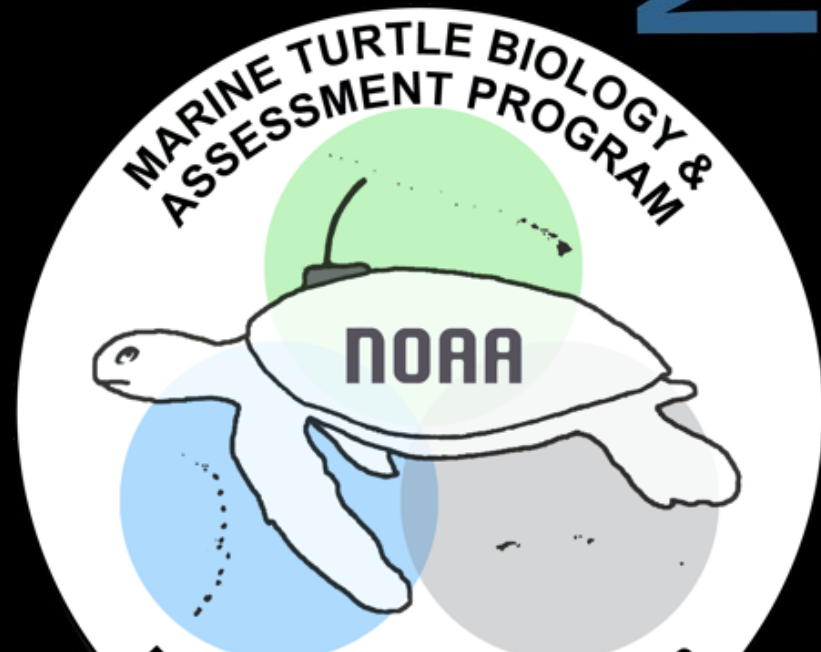




# Update on 2019 field season for marine turtle research in the Northwestern Hawaiian Islands

NWIMFS

Northwestern Hawaiian Islands  
Coral Reef Ecosystem Reserve  
Reserve Advisory Council Meeting  
January 9, 2020



# 2019 NWHI Field Season Preliminary Data

- FFS Season totals:
  - 583 total turtles identified
    - 370 female, 212 male, 1 juvenile
  - 251 females identified on Tern
  - 263 females nested on Tern
    - Tagged on Tern (242), East (16), Gin (2), Little Gin (2), Oahu (1 – “Motherload”)
    - trend or displacement?
  - 106 females identified on East
    - 2-4 basking surveys/wk
- Additional turtle research
  - Counted egg production of females
  - Deployed temperature loggers in nests (N=37)
  - Conducted nest excavations (N=99)
  - Deployed satellite-linked GPS tags (N=3 females)
  - Mapped nesting activity



# 2019 NWHI Field Season Preliminary Data

## Summary of Effort at other NWHI

- New in 2019: MTBAP staff member on deployment and recovery cruises to increase tagging effort throughout the archipelago.
- Noteworthy finds:
  - Large basking population at PHR (over 100 moto'd!)
  - Large basking population at Midway (91 and counting...)
  - Significant nesting activity at Lisianski



# 2019 NWHI Field Season Preliminary Data

## Atoll Surveys

- Boat-based surveys around the atoll were conducted in partnership with the monk seal team to survey the smaller islets for basking and nesting activity
- Larger islets were mapped (GPS tracks) regularly to help track their changes
- Some movement of turtles between Tern and the Gins observed



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# Tern Island in May 2018 (pre-storm)



# Tern Island Vegetation cover (2018)



# 2018 Tern Island Nests (pre-storm)



**2018 Nests**

# Tern Island in May 2019 (post-storm)



**2018 Nests**



# Tern Island Vegetation Cover (May 2019)



# Tern Island in May 2019 (post-storm)



**2018 Nests**

# Tern Island 2018 & 2019 Nests



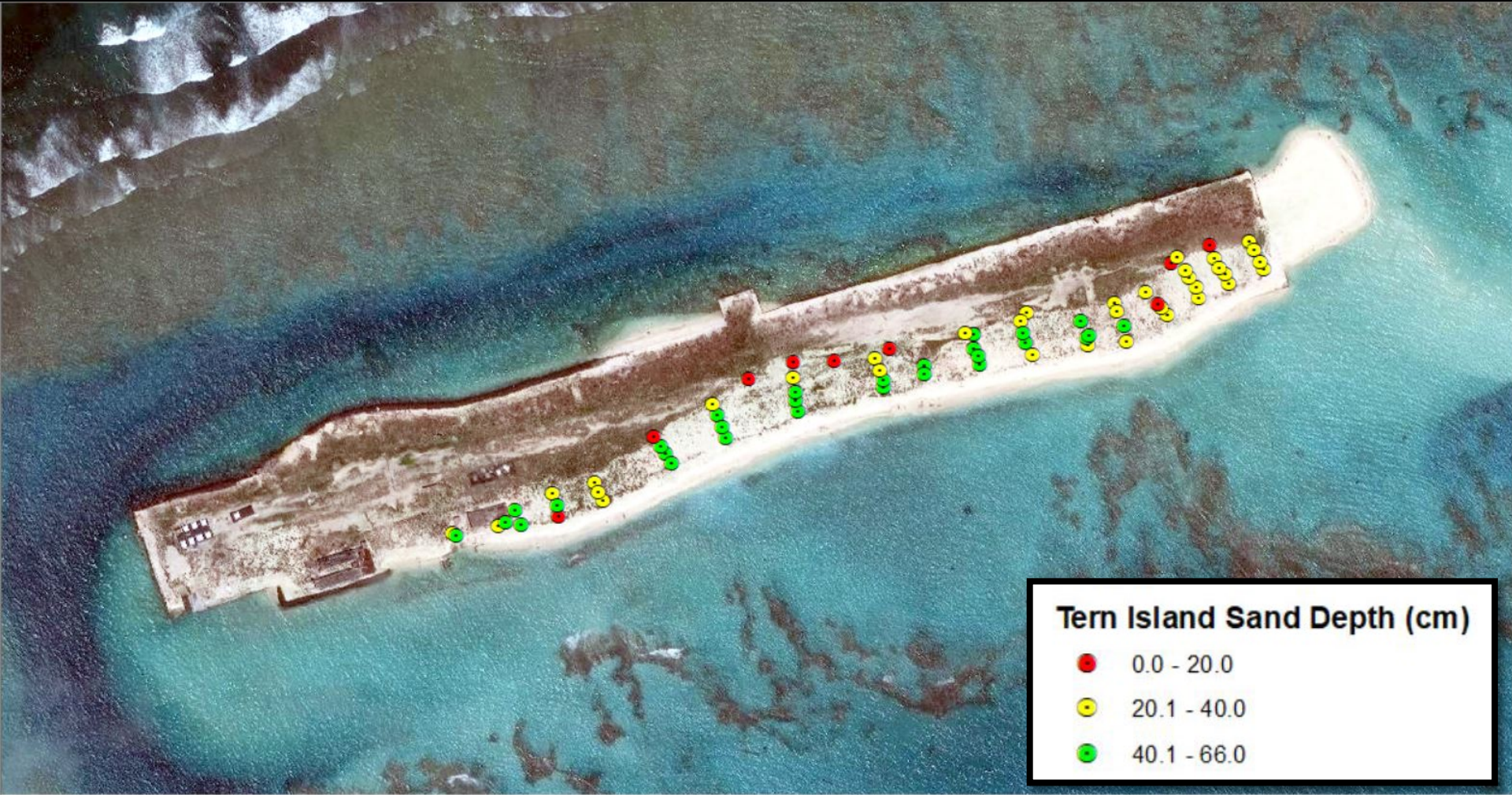
# Tern Island 2018 & 2019 Nests

1-2 entrapments per week



**2019 Nests**  
**2018 Nests**

# Tern Island Nesting Beach Sand Depth



# Tern Island 2019 Nests with Emergence



2019 Nests

2019 Hatch Craters

# East Island in May 2019



# 2019 East Island Nesting Activity (May imagery)





# 2019 East Island Nesting Activity (December Imagery)



# 2019 East Island Washed Out Nests



# Turtle Take Home Messages for 2019

- Tern Island: loss of vegetation increased entrapment of nesters
- Tern Island: nesting occurred in larger area, but suboptimal habitat
- East Island: nests frequently being washed out
- East Island: loss of 30+ year index site for monitoring trend



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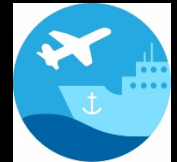
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# ACKNOWLEDGEMENTS

All previous FFS Field Researchers and other staff members that supported this research over the past 45 years.

The PIFSC Marine Turtle Biology and Assessment Program and the Joint Institute for Marine and Atmospheric Research for funding this research.

Additionally, this study could not have been conducted without support and permission from the Papahānaumokuākea Marine National Monument, the US Fish and Wildlife Service, the Hawaii Department of Land and Natural Resources, the National Weather Service, and the NOAA Office of Marine and Aviation Operations.



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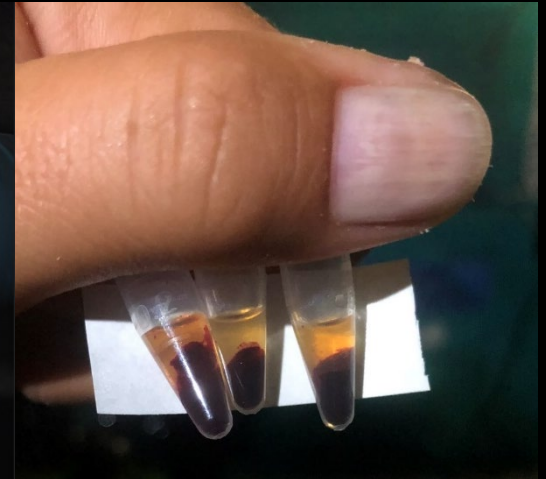


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# 2019 NWHI Field Season Preliminary Data

## Hatchling Multiple Paternity & Sex Ratio Pilot Study

- 1134 skin samples (from 26 nests)
- 403 blood samples (from 18 nests)



# 2019 NWHI Field Season Preliminary Data

## Status of East Island

- Initially larger than post-Walaka
- Island eroded throughout the summer
- Nests washed out of the berm



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# 2019 NWHI Field Season Preliminary Data

## Status of Tern Island – New primary MTBAP camp & Honu nesting site

- May 2019: Big effort with USFWS to remove storm debris, HAZMAT, and entrapment hazards
- May-August 2019: Mitigation of 1-2 entrapped turtles/week, in addition to birds and seals, plus daily morning entrapment prevention walks for nesters



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**“Motherload”  
the fertile  
turtle**







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