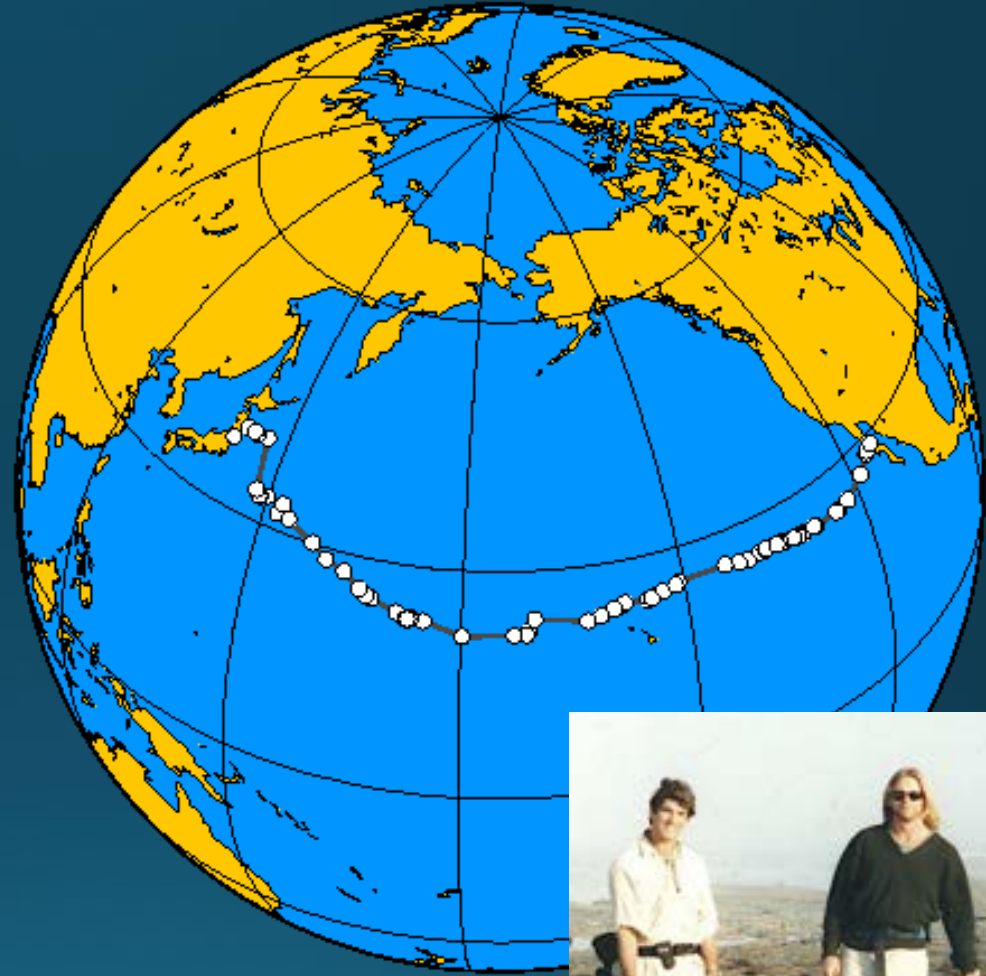




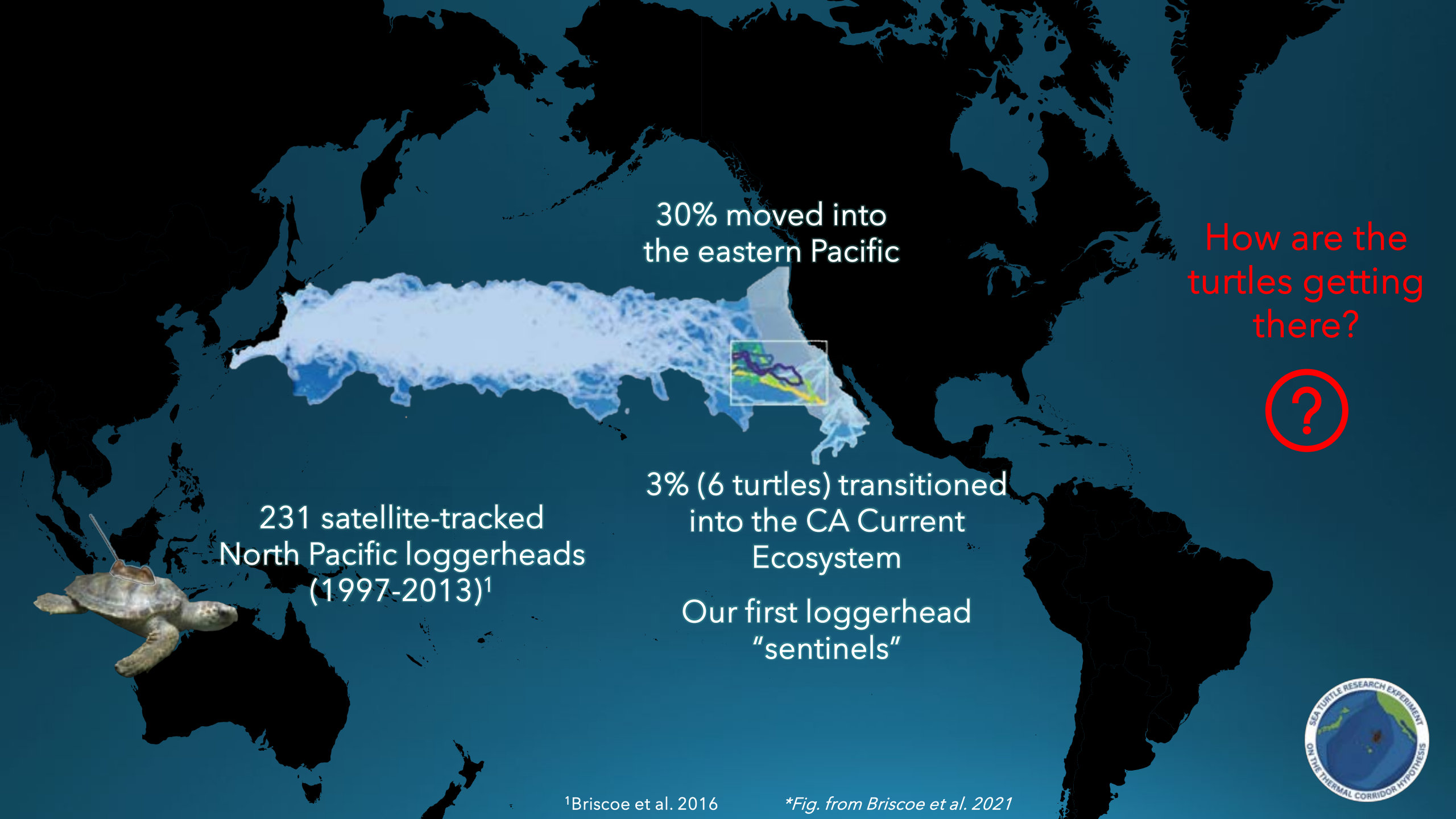
The Genesis and Evolution of Loggerhead **STRETCH**: What Sea Turtles Have to Teach Us About a Changing Ocean

Larry B. Crowder and George. H. Balazs



Wallace J. Nichols; <http://www.turtles.org/adelita.htm>





30% moved into the eastern Pacific

How are the turtles getting there?



231 satellite-tracked North Pacific loggerheads (1997-2013)¹



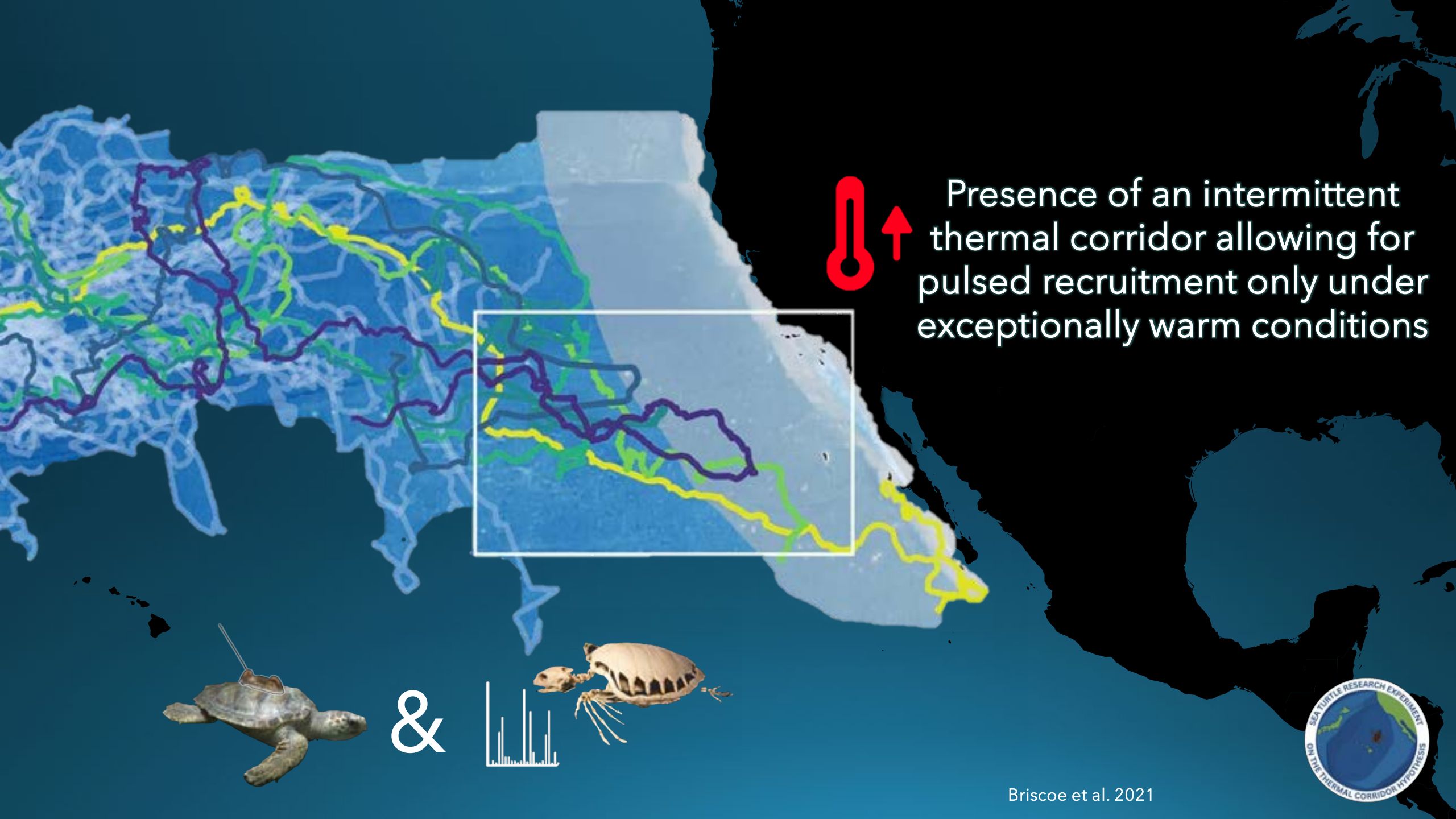
3% (6 turtles) transitioned into the CA Current Ecosystem

Our first loggerhead "sentinels"

¹Briscoe et al. 2016

*Fig. from Briscoe et al. 2021

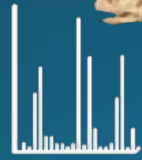




Presence of an intermittent thermal corridor allowing for pulsed recruitment only under exceptionally warm conditions



&



Sea Turtle Research Experiment on the Thermal Corridor Hypothesis (STRETCH)

- Experimental release of 25+ satellite-tagged loggerheads over 4 years (2023-2026)
- Novel field test of the TCH
- Understand drivers of change in migratory pathways under climate variability
- Set the stage for predictive species distribution models and evaluation of risks to this critically endangered population under climate change





Port of Nagoya
Public Aquarium



Timeline To Release



2 years





Port of Nagoya
Public Aquarium



Timeline To Release

2 years



2 weeks





Timeline To Release

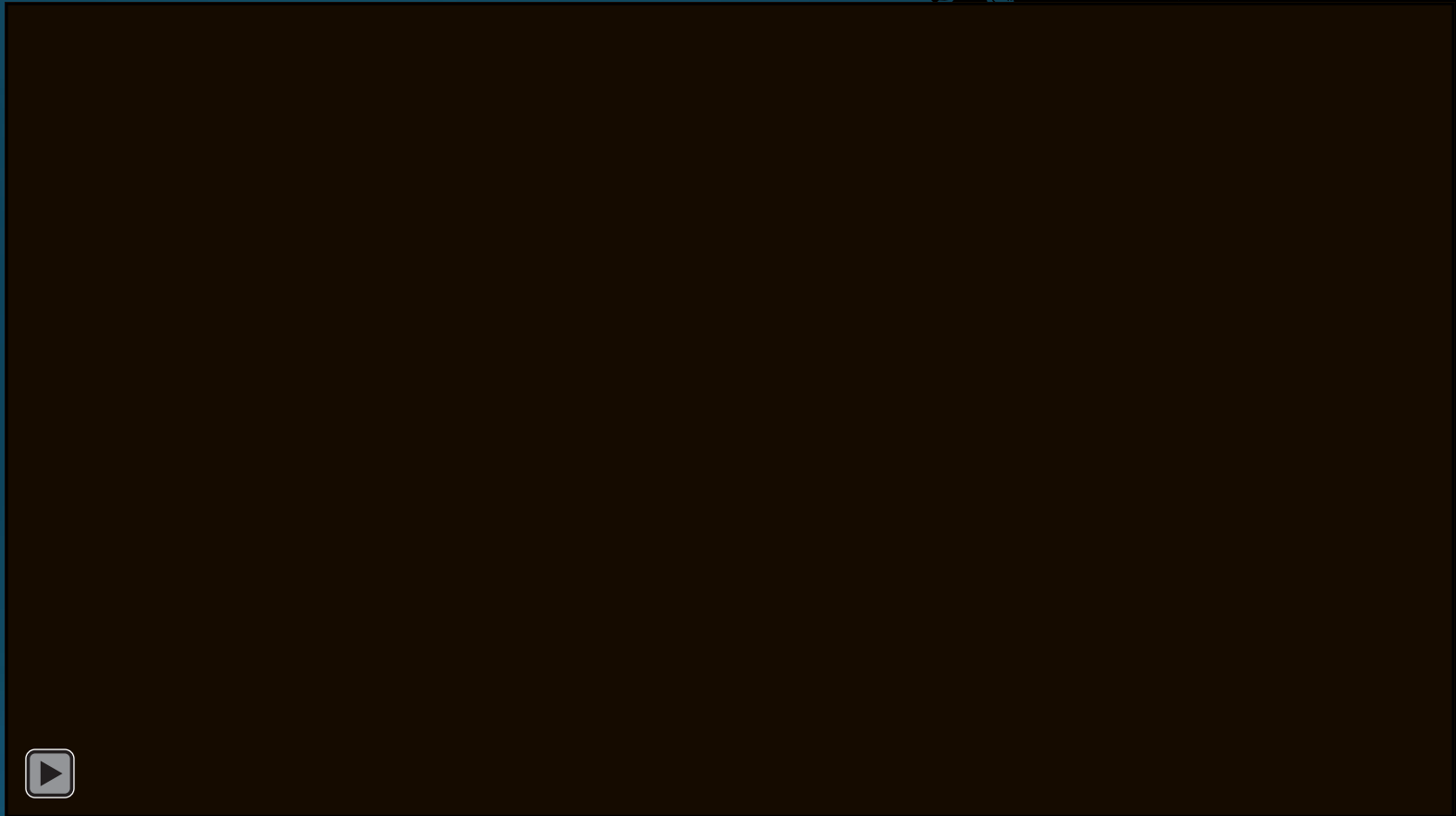
2 years

2 weeks



10 days





Timeline To Release

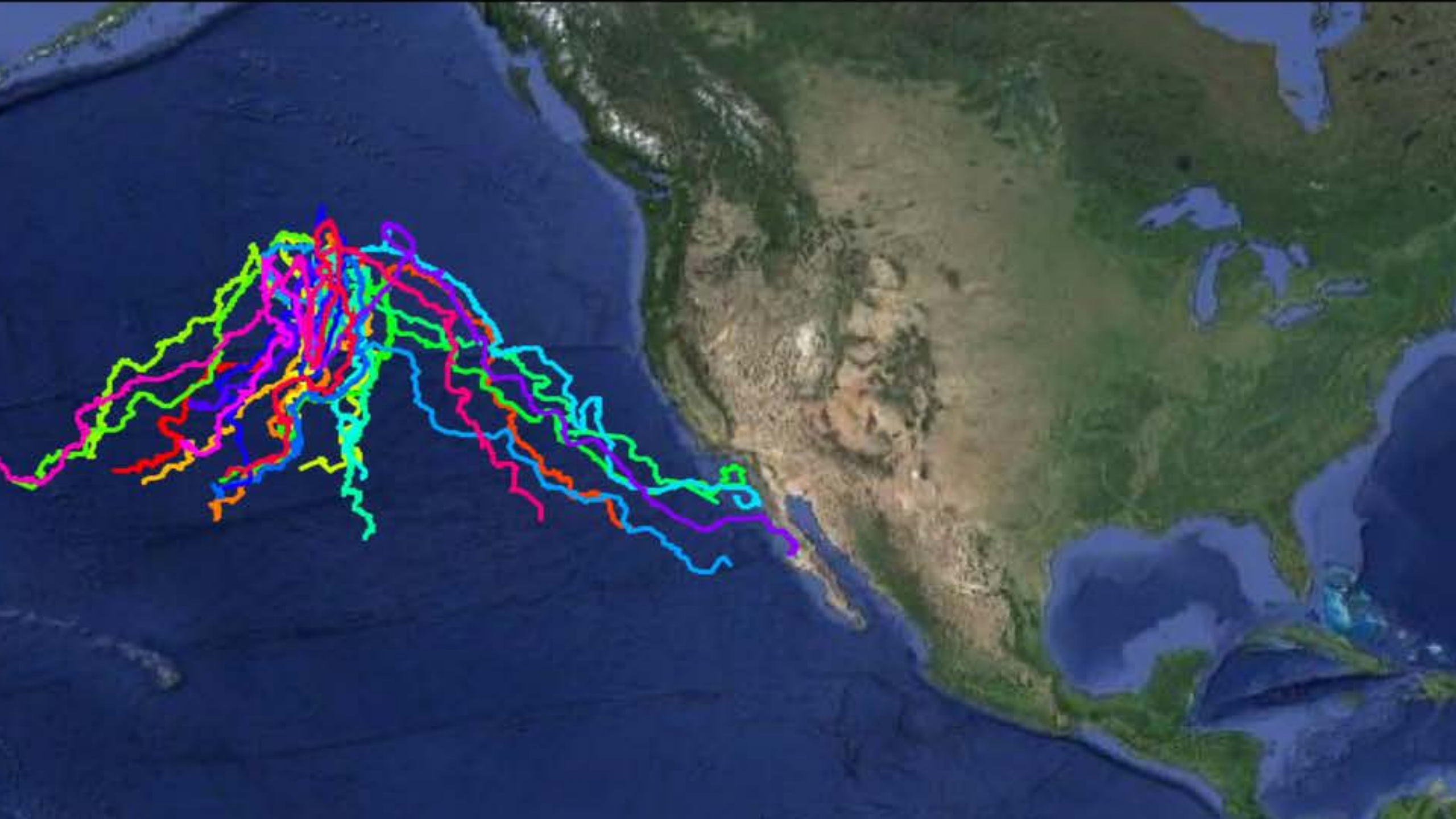
2 years

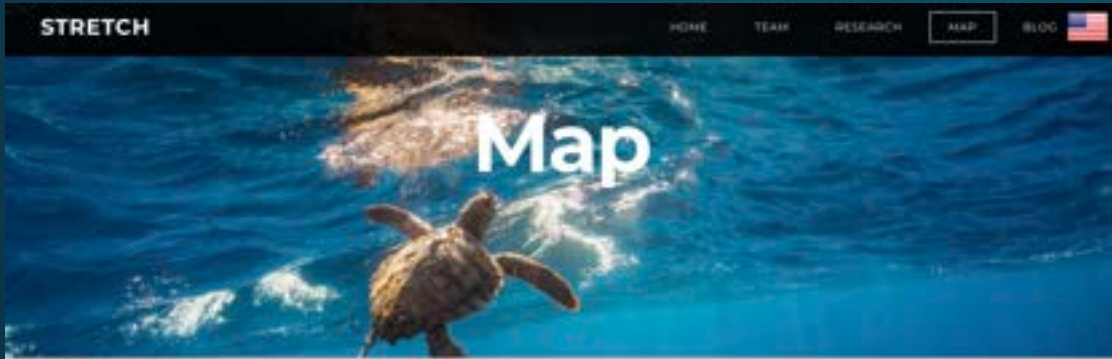
2 weeks

10 days

Release



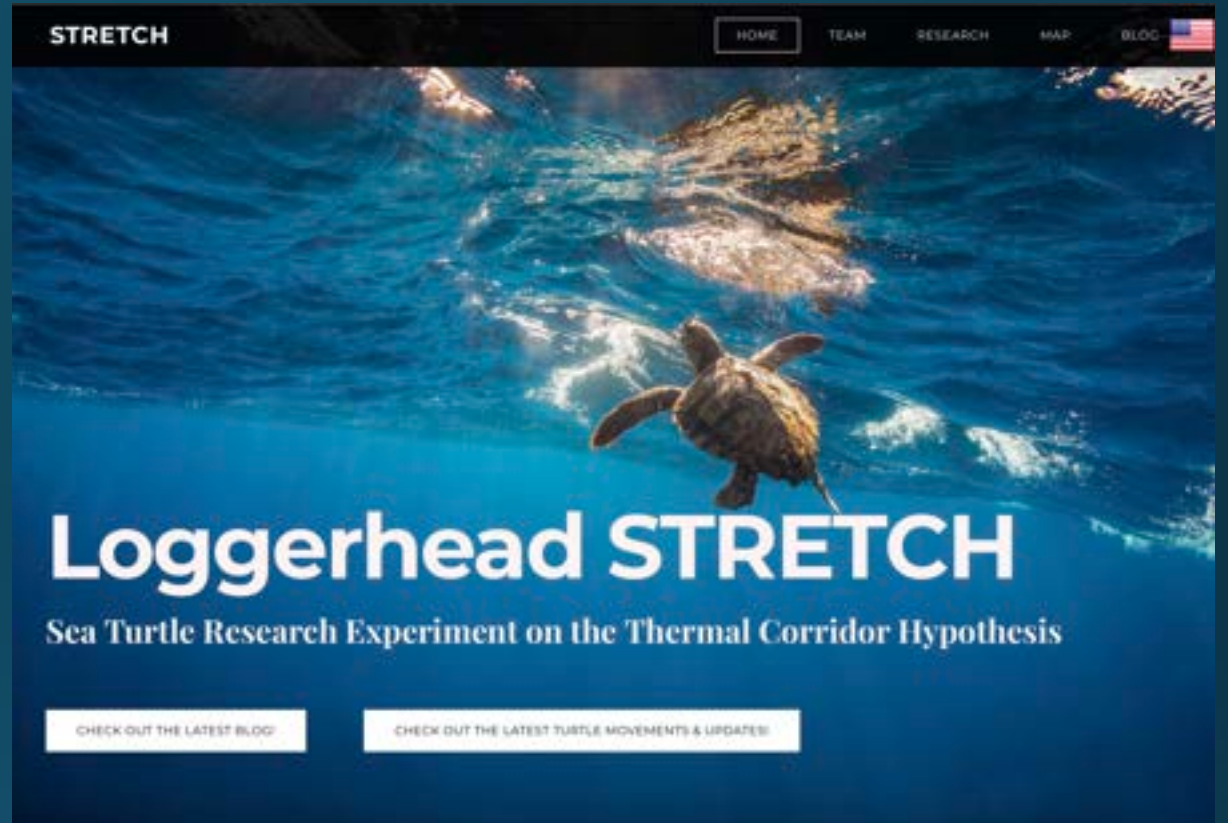
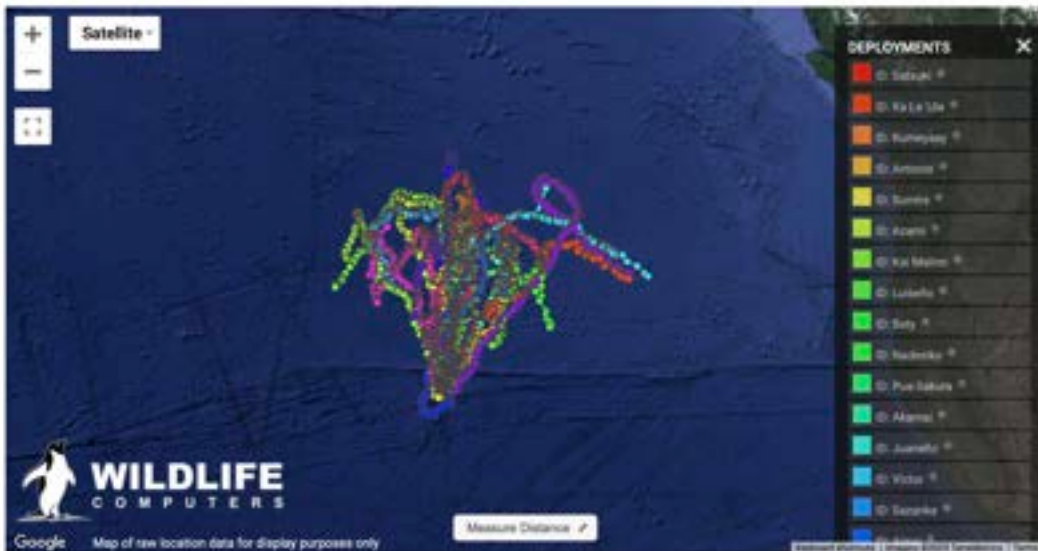




Follow the Satellite Tracking of 25 Loggerhead Sea Turtles

On July 10, 2023, we released 25 juvenile loggerheads into the North Pacific Ocean. Track their movements on the map below! Dates and times are displayed in UTC format.

For each turtle, we have adopted names originating from the regions that share their conservation: Japan, Hawaii, Mexico, and USA.



Scan me!



www.loggerheadstretch.org

Looking ahead

- Exciting research directions
 - Analysis on movements of turtles relative to highly variable 2023-25 oceanographic conditions
 - Relate daily individual tracks to local oceanographic conditions to expose a common “behavioral program” that could explain variation in response among individuals
 - Deployments thus far have included an El Nino year, a marine heatwave year, and perhaps an upcoming La Nina year
 - Potential conservation, management, and governance implications
 - ...and much more!
- Important information for managing and maintaining healthy marine ecosystems in a changing climate



Photo credit: Ralph Pace



Thank you!

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Partners: Port of Nagoya Public Aquarium, [Mitsui O.S.K. Lines](#)

Collaborators: Gran Acuario Mazatlan



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 Loggerhead STRETCH

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