

The background of the slide is a photograph of two beaked whales breaching the surface of the ocean. The whales are dark in color and their distinctive beaks are visible as they rise above the water. The water is a deep blue with some white foam from the whales' breaching.

Beaked whale distribution and seasonality in Southern California

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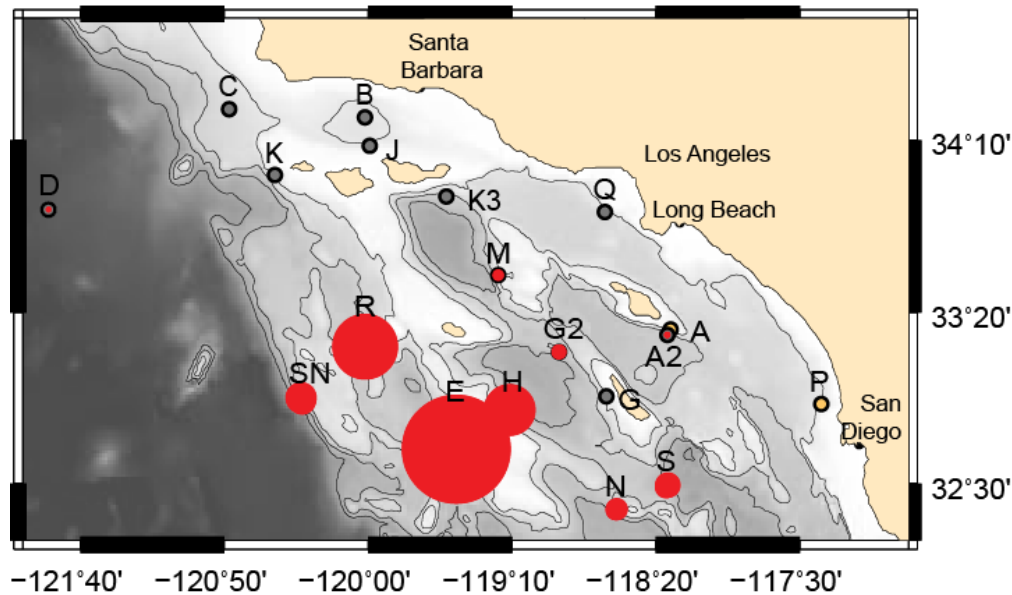
(3) San Diego State University, San Diego, CA, USA

Beaked whale distribution in SOCAL

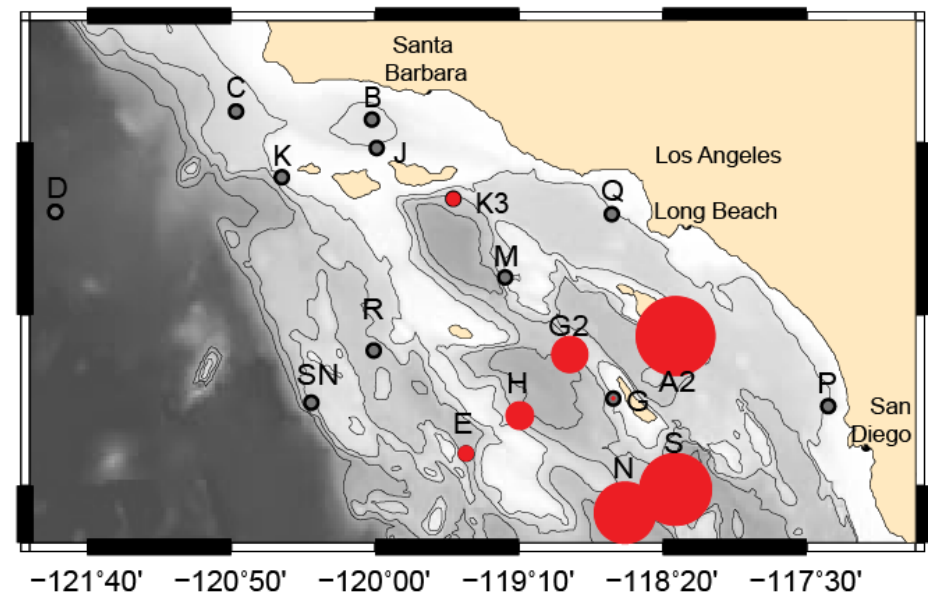
19 sites


36 years of cumulative recordings


Cuvier's beaked whale



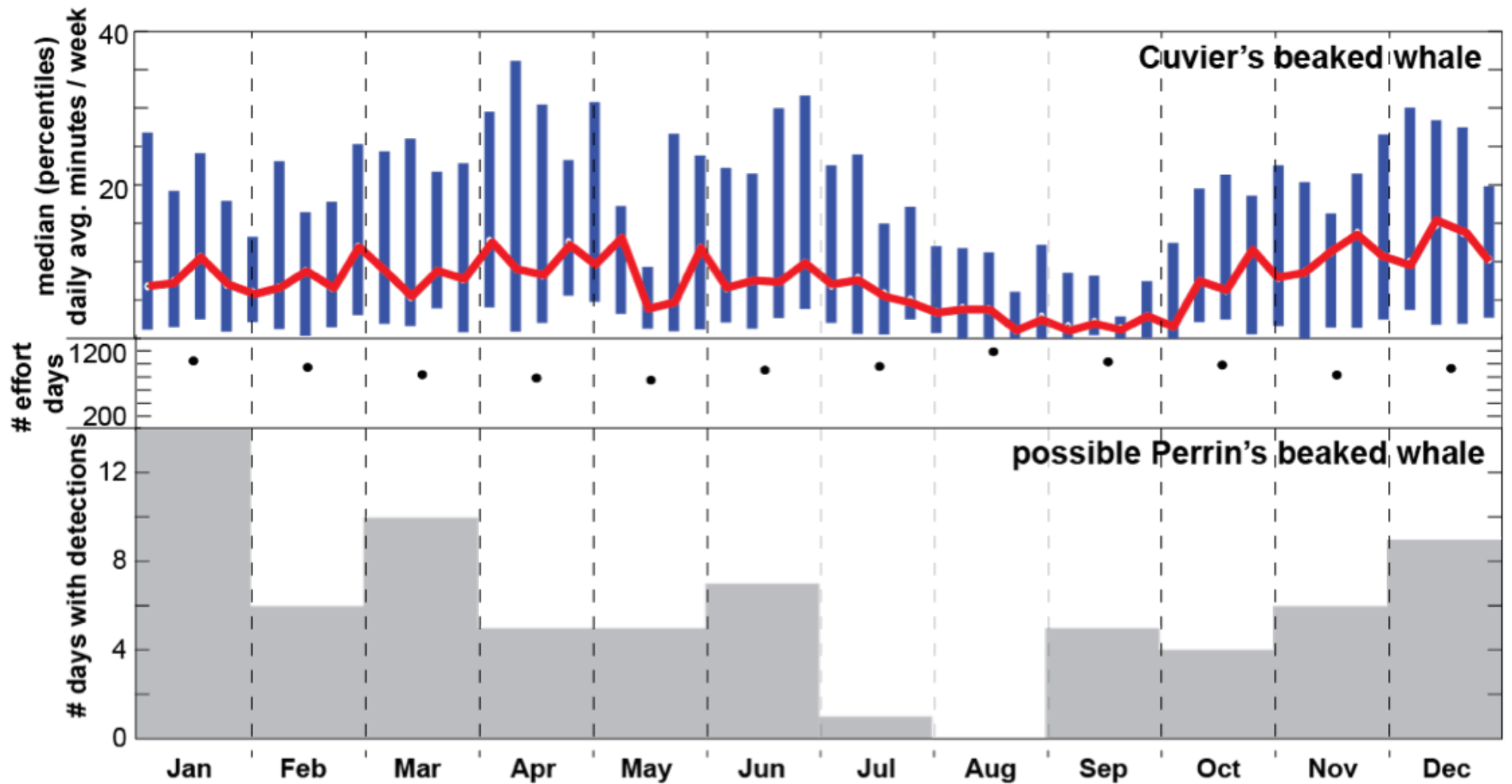
possible Perrin's beaked whale (BW43)



 Avg. 44 minutes / day
TOTAL: ~2,600 hours with detections

 Avg. 0.03 minutes / day
TOTAL: ~10 hours with detections

Beaked whale seasonality in SOCAL



Cuvier's beaked whale GAMM

- Generalized Additive Mixed Model

Explanatory variables ->

MODEL: MITgcm-CCS

- Long-term state estimate model <http://sose.ucsd.edu/CASE/>
(Cornuelle, Mazloff, et al. Scripps Institution of Oceanography)
- Sea Surface Height, Sea Surface Temperature, Salinity, Current Direction, Current Speed
- Depths: Surface (5 m), Midwater (300 m), Deep water (1000 m)

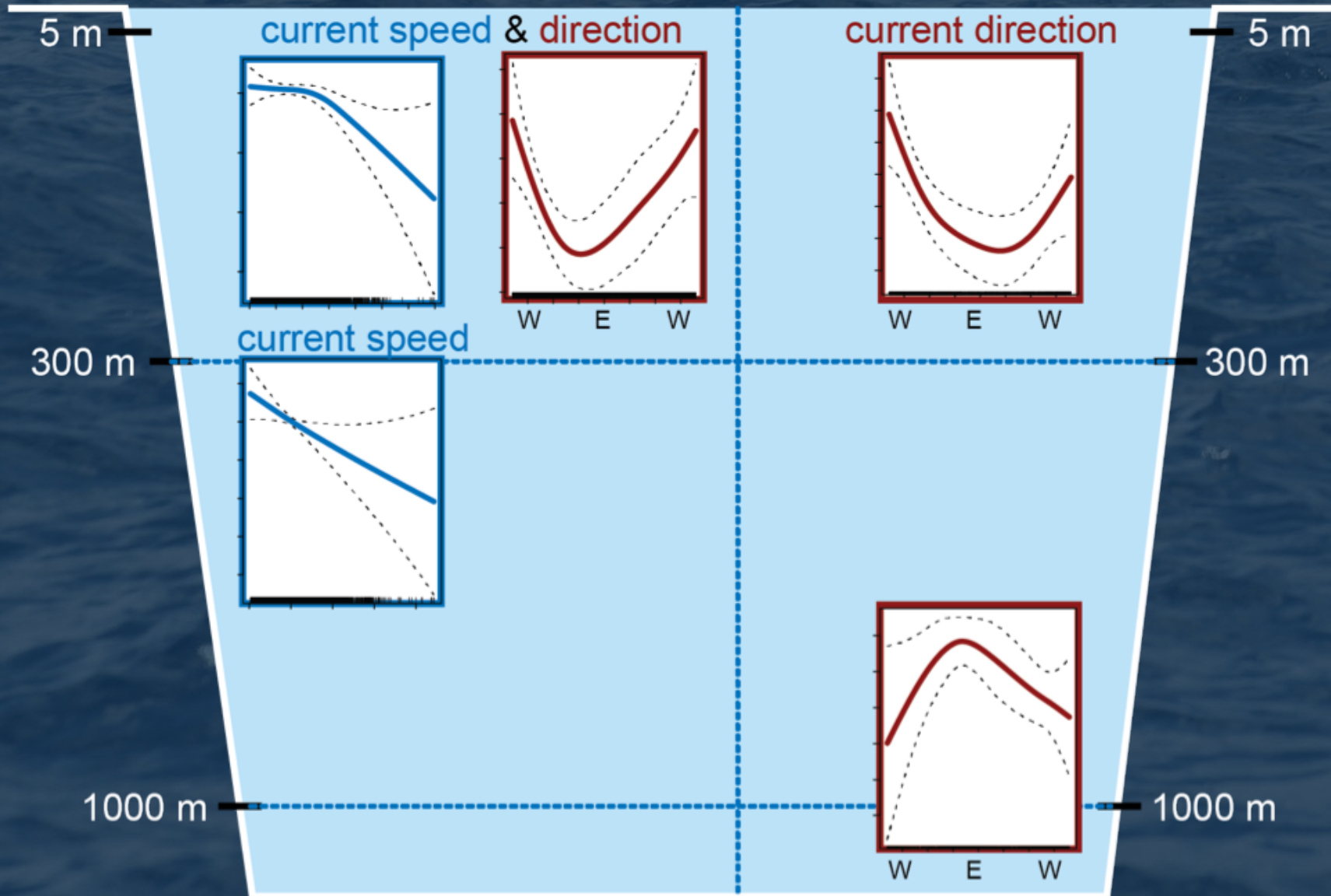
Cuvier's beaked whale GAMM

WEST

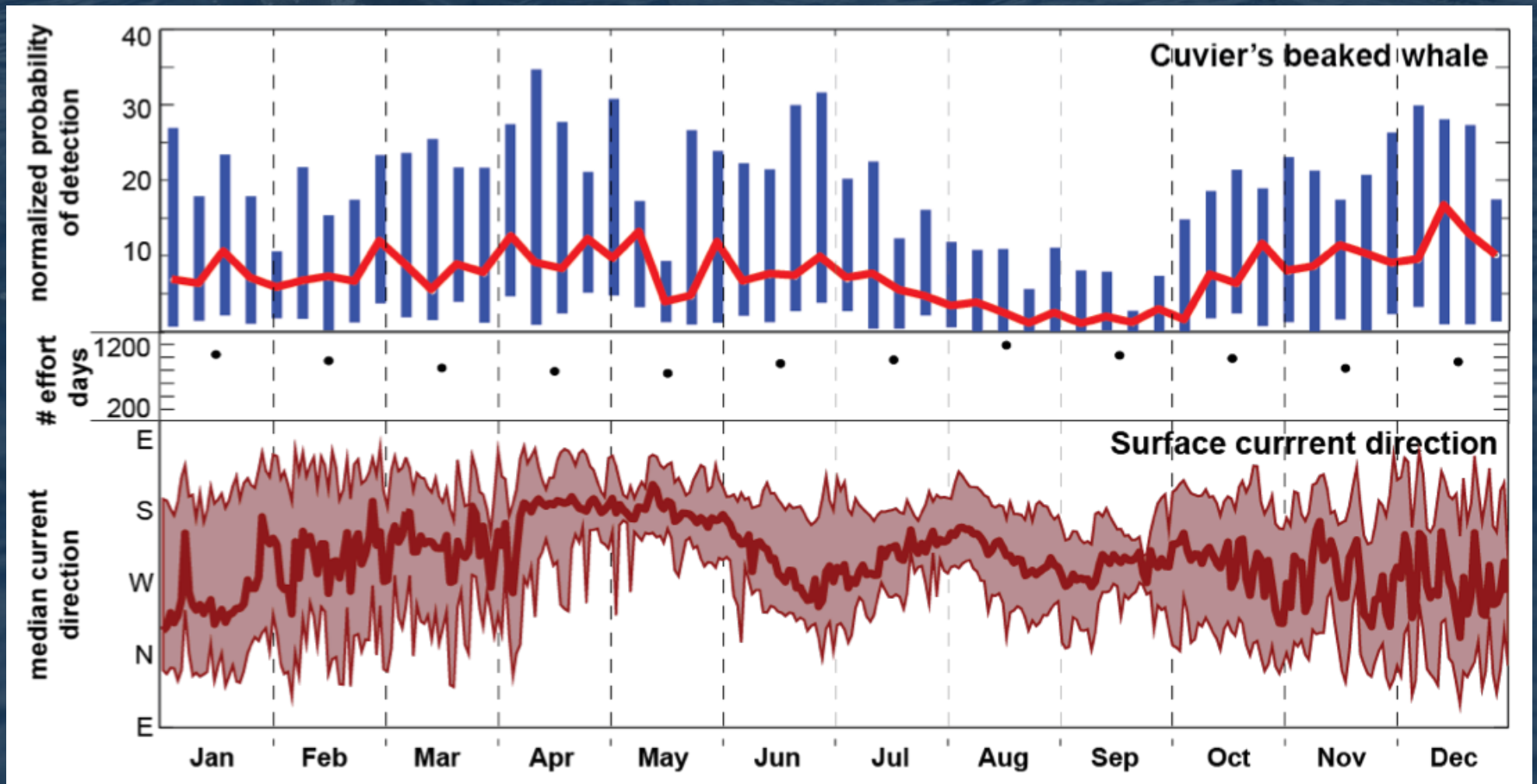
Eastward-Facing Sites

Westward-Facing Sites

EAST



Beaked whale seasonality and currents



Thank you

