

# Female northern elephant seals spend 18 hours a day foraging in deep sea

May 13 2021, by Bob Yirka

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Illustration of the foraging elephant seal with bio-logging electronic tags. Credit: ©Danielle Dube

A team of researchers from the National Institute of Polar Research, the University of California, Santa Cruz and the University of North Carolina has found that adult female northern elephant seals dive deep into the ocean to forage for small fish for up to 18 hours a day. In their paper published in the journal *Science Advances*, the group describes their study of the large sea creature, which involved capturing specimens and attaching a camera and sensors to their bodies.

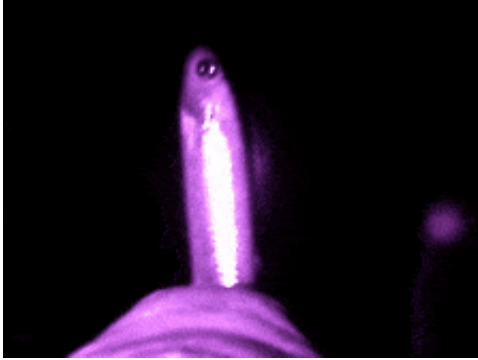
Northern elephant seals live in eastern and central parts of the North Pacific Ocean and, as their name implies, they are known for their size—males can grow to weigh up to 2,300 kg and females up to 900 kg. Because of their large size, the seals must consume a lot of food. Prior research has shown that male northern elephant seals forage along the continental shelf looking for crustaceans, squid, small sharks and fish. The eating habits of the females is less well known because they spend most of their time in the open [ocean](#). In this new effort, the researchers sought to learn more about what they do out there.

To gain a better view of the female northern elephant seals' foraging habits, the researchers captured several specimens and attached devices to their bodies—an infrared camera with a built-in sensor, a GPS tracker and a special device that counted the number of times the seal opened its mouth.

The data revealed that the seals were spending almost all of their time in the part of the ocean known as the transition or twilight zone—the part of the ocean that lies 200 to 1000 meters below the surface. The sensors showed the seals spent approximately 80% of their day down below foraging for very small fish, which were on the order of just two centimeters long. This activity means the seals hold their breath for up to an hour and a half for each dive. The researchers also found that the females slept for just over an hour each day. The monitors also showed that the hard work paid off—the female seals consumed approximately

2,000 of the [fish](#) each day—enough to gain back the weight they lost after giving birth and tending to their offspring.

Video file#18 (16/30 frames)



Prey capture scene, playing in slow motion. Credit: Adachi et al.

**More information:** Taiki Adachi et al. Forced into an ecological corner: Round-the-clock deep foraging on small prey by elephant seals, *Science Advances* (2021). [DOI: 10.1126/sciadv.abg3628](https://doi.org/10.1126/sciadv.abg3628)

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