

## The Jellyfish Buffet



### Researchers:

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Jellyfish are taking over the world's oceans! Maybe. Blooms, events where jellyfish populations grow rapidly, have been observed in tropical and polar oceans. During a bloom in the Bering Sea scientists observed on average 11 individual jellyfish per cubic meter. What is the impact of all of these jellyfish on marine life? A group of Japanese scientists travelled to St. George Island in the Bering Sea equipped with state-of-the-art data-loggers to find out how jellyfish affect seabirds.

Nobuhiko Sato is a graduate student at the Graduate University for Advanced Studies in Japan. As part of his research he deployed (attached) two different types of data-loggers to thick-billed murres. Thick-billed murres are a fish-eating seabird that uses its wings to “fly” underwater to chase down prey. They have very small wings for their body-size, which makes them able to dive to depths of over 80 meters, but makes flying more of a challenge. During the summer they congregate on St. George to lay their eggs and raise their young.

In August of 2014 Nobu and his team captured murres and attached two different tags to the backs of the murres. One was an accelerometer which measures the temperature, depth, and the bird's movements, such as wing beats and speed it's traveling at. The other tag his team used was a very small video-recorder, which had never been attached to murres before. Using these two types of tags Nobu and his team were able to observe the feeding behaviour of murres.

While analysing the video from the birds Nobu noticed something curious. Murres ran into jellyfish while foraging and actually used the jellyfish! Many jellyfish captured in the video recordings had small fish hanging out in their long tentacles. Nobu thought that maybe the fish were attracted there by zooplankton captured by the jellyfish, or that they were using the tentacles as a place to hide from predators.

The long tentacles of the jellyfish did not deter (keep away) the murres. In 20% of the feeding events observed, murres captured fish from the tentacles of jellyfish. The behaviour Nobu observed suggests that jellyfish may help to concentrate forage fish in one location and may make it easier for murres and other predators to find food. Perhaps jellyfish provide a fish buffet for the birds.