This study predicts how habitat use by beluga whales has changed as sea ice cover has diminished. Satellite-tagging data from 1990-2014 was analyzed to examine July to October changes in habitat use of the Chukchi Stock and the Beaufort Stock of beluga whales. Data was also analyzed for changes in Chukchi Stock beluga diving behavior between periods with different sea ice cover, 1998-2002 versus 2007-2012. Similar diving records were not collected from tagged Beaufort Sea belugas.

**Conclusions**

- In both populations, males use deeper water, farther from shore, and closer to the sea ice edge. Water depth and slope, as well as features like Barrow Canyon, often had more effect in determining the offshore feeding habitat of Beaufort and Chukchi belugas than sea ice characteristics.
- Chukchi belugas tagged during 2007-2012 dove deeper and for longer periods than those tagged during 1998-2002, presumably due to changing prey distribution or availability occurring with sea ice changes. Deeper diving behavior takes more energy, but it is unclear what these behavioral changes mean for the health of the population.
- Few shifts in distribution from the 1990s, 2000s, and 2010s were noted using the tagged whale locations, and there were no significant changes in the amount of “optimal” habitat available to beluga whales during 2010-2014. These results suggest that sea ice cover is not as important in determining summer-fall habitat use as ocean features, which may allow belugas to adjust to sea ice loss.

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