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## FAQ

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# The Science Behind the 2015 Walrus Haul-out FAQ

## **Why is the USGS interested in studying walruses?**

The Pacific walrus is one of four marine mammal species managed by the U.S. Department of the Interior (DOI). The U.S. Geological Survey, as the research arm of DOI, conducts research on walruses to provide information needed for conservation and management of this species.

## **What is the focus of current USGS research on walruses?**

The USGS is conducting research to understand how a rapidly changing arctic ecosystem is affecting key biological resources, including the Pacific walrus. USGS seeks to understand how continued summer sea ice loss affects the walrus population. Toward this end, USGS researchers are attaching satellite radio tags to walruses to study changes in their movements and foraging habits as a consequence of reduced sea ice over the continental shelf.

## **Why are the walruses hauling out on the Chukchi Sea coastline?**

Typically, female walruses and their young forage over the shallow continental shelf of the Chukchi Sea in U.S. and Russian waters throughout the summer, using sea ice as a platform to rest between foraging bouts to the seafloor. Walruses haul out onto the shores of the Chukchi Sea in both Alaska and Russia when sea ice recedes past the continental shelf into the deep waters of the Arctic Basin where walruses are unable to feed effectively.

## **When and where do the walruses haul out on the Chukchi Sea coastline?**

Walruses haul out onto the shores of the Chukchi Sea in large numbers when the sea ice recedes north of the continental shelf, usually near the end of summer in August and September. This has occurred during all but two of the recent years, beginning in 2007. During 2008 and 2012, walruses did not come ashore in Alaska, because sparse remnant sea ice persisted over the shelf.

Locations used in Alaska include Icy Cape and Point Lay. In Russia, large walrus haul-outs have occurred in the vicinity of Ryrkarpiy, Vankarem, and Cape Serdtse-Kamen on the Chukotka Peninsula and on the western shores of Wrangle Island.

## **How do scientists track the walruses as they haul out?**

Scientists track walruses with radio transmitters that transmit data on the walrus's location, and behavior information, to polar orbiting satellites. Tracking information is available online and is updated approximately every week. Tracking information can be found here:

<http://alaska.usgs.gov/science/biology/walrus/2015animation.html>

### **How are the sea ice conditions compared to past years?**

Sea ice over the continental shelf in the northern Chukchi Sea melted entirely again this summer (2015). The complete melt of sea ice in this region was first observed in summer 2007 and has been observed nearly every summer since (with the exceptions of 2008 and 2012). To assess the daily status of sea ice, USGS interrogates near-real-time images and maps derived from satellite data that are available from 1979 to present. Satellite sensors that record microwaves are the most useful instruments for monitoring sea ice because microwaves penetrate through darkness and cloud cover. As the summer ice melts, walrus continue to use the very last remnants for resting which makes the daily marginal ice zone maps produced by the U.S. National Ice Center (NIC) especially relevant. USGS incorporates the NIC marginal ice zone charts into our near-real-time walrus tracking updates at <http://alaska.usgs.gov/science/biology/walrus/>.

### **What are the implications of climate change to walrus?**

The ice-free period in the Chukchi Sea is currently about a month long, however, global climate models suggest the ice-free period could become as long as 4 or 5 months by century's end if rising levels of greenhouse gas emissions continue unabated. USGS is currently developing bioenergetic models that will estimate the potential impacts of reduced summer ice cover on the health and status of the walrus population. Products from this research will be used by the US Fish and Wildlife Service in 2017 when deciding if the Pacific Walrus should be listed under the Endangered Species Act.

### **Where can I find images of the walrus hauled out and on sea ice?**

The USGS Multimedia gallery has images available for public use:

<http://gallery.usgs.gov/sets/Walruses>

### **Is it possible to view and/or film the walrus haulout?**

Walrus are highly sensitive to the sight, sound, and odor of humans and machines and may stampede into the water when disturbed. Disturbance events can result in injuries and mortalities, particularly amongst calves. Aircraft and marine vessels should avoid operating near coastal walrus haulouts. For more information on walrus conservation and management efforts in Alaska, contact the US Fish and Wildlife Service, Marine Mammals Management office at 1 800 896-3075, or visit their website at:

<http://alaska.fws.gov/fisheries/mmm>.

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