

## Antarctica

On Wednesday, November 14, at 7:00pm in the Great Room of the 1912 Center, Moscow, Peter Meserve will present a program about Antarctica. Antarctica is the highest, coldest, windiest, and yes, the driest of the world's continents. Despite permanent ice and snow, average annual precipitation in the interior is only 2 inches (~8 inches on the coast). Antarctica holds 90% of the world's fresh water in ice reaching 1.2 miles thick. There are no trees or bushes in Antarctica, and only a few flowering plants, mosses, lichens and algae. The only warm-blooded animal that inhabits the interior is the Emperor Penguin; otherwise, birds and mammals are limited to coastal areas and offshore islands. Here, the Antarctic Convergence results in extraordinarily high nutrients from upwellings which in turn support enormous populations of krill and thus, marine mammals and birds. Extending from the southern tip of South America, the Andes form a broad arc east and south resulting in mostly volcanic subantarctic islands including the Falklands (Las Malvinas), South Georgia, and the South Sandwich, Orkney, and Shetlands Islands, and the Antarctic Peninsula.

As a result of living in Chile in 1973-1974, and further travels in South America, Peter and Jan Meserve had always wanted to visit Antarctica. Further, as concerned environmentalists, they wondered whether the effects of climate change would be evident even in this remote part of the world. Therefore, in late January 2018, they embarked from the southernmost Argentine city, Ushuaia, on a once-in-lifetime cruise which visited many of subantarctic islands as well as the Antarctic peninsula. They had the opportunity to view many birds and mammals from aboard ship as well as visit in small groups, extensive colonies of penguins, cormorants, albatrosses and other birds on land.

To the casual observer, there is little physical evidence of climate change in much of this area. But as Peter and Jan approached the peninsula, they started to see many icebergs and passed one of them (C28B), a tabular iceberg which broke off from the Mertz Glacier several years ago and is still approximately 250 mi<sup>2</sup> in size—some 10 mi long, 25 mi wide, and up to 300 ft. high (remember, 90% of an iceberg is below the surface). While icebergs frequently form this way, the rate seems to be accelerating with especially large cracks appearing in major glaciers as they extend beyond the continental shelf. Sea ice has also increased; along with icebergs near shore, this pushes feeding areas farther away from penguin colonies on land. Perhaps the most obvious consequence of climate change has been changes in seabird populations. The Adélie Penguin was formerly the most common penguin in the Antarctica, but Jan and Peter saw few of them; it is thought that the decline in their food, krill, may explain this decrease. Interestingly though, about the time of they returned from the cruise, a huge colony of an estimated 1 ½ million birds was discovered on the Danger Islands on the opposite (east) side of the peninsula. Hence, the birds may have shifted their nesting areas in response to decreasing krill populations on the west side.

Before moving to Moscow in 2013, Peter taught ecology, conservation biology and mammalogy at Northern Illinois University in DeKalb, IL for 35 years. Before that, he

was a temporary professor at the University of Idaho for a year and he is currently an adjunct professor in Biological Sciences. Peter also serves as treasurer of Palouse Audubon Society. In this presentation, Peter and Jan will share photographs, experiences, and impressions from their trip. This program is sponsored by Palouse Audubon Society and is free and open to the public.