

The Antarctic Site Inventory – 2016 Annual Report



To all Oceanites supporters and friends . . .

It's been the best of years for our penguin conservation and climate change education efforts. But, sadly, it's also been the worst of years in terms of keeping the work going. Ever-tightening government and public foundation budgets have severely tightened our support options and opportunities, despite Oceanites' huge leaps forward.

And so, while happily reporting to you successes like the inaugural Future Of Antarctica Forum, guiding the krill fishing industry away from penguin colonies, and undertaking a major new study to sort climate-penguin-fishing interactions in the vastly warming Antarctic Peninsula, we truly — more than ever — need your help.

All of you, in previous years, have generously helped us maintain considerable progress. And now, as the work expands and becomes ever more critical to conserving penguins, championing science-based conservation, and nurturing further awareness about climate change, we trust your support will continue — and, if I might ask, we'd appreciate your helping us 'spread the word' about our work to an even larger audience of potential supporters and allies. Thanks!

Oceanites and the Antarctic Site Inventory remain *the only* non-governmental science project working in Antarctica and the *only* project monitoring and analyzing change across the vastly warming Antarctic Peninsula. We're positioned to make difference — and we are. But we're not done!

We are proud to be your Antarctic 'eyes and ears' and we're focused, more than ever, on securing the Future of Antarctica, for generations to come. As always . . . onward, upward, keep dreaming penguins!

With all best wishes,



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The 2016-17 Antarctic Site Inventory Field Season — Counting Penguins, Season 23

The 23rd field season of Oceanites' Antarctic Site Inventory has begun, once again working closely with One Ocean Expeditions and its two vessels, *Akademik Ioffe* and *Akademik Sergey Vavilov*, to achieve up to 100 visits at 'core sites' that we census regularly from season to season. This season's roster of researchers for our seven departures includes: Ron Naveen, Heather Lynch, Steve Forrest, Melissa Rider, Michael Schrimpf, Catie Foley, Maureen Lynch, Cecilia O'Leary, and Bento Goncalvez.

Over 22 seasons, Oceanites' Antarctic Site Inventory has made 1,713 site visits and collected data at 223 locations. The Antarctic Site Inventory continues monitoring penguin population changes across the significantly warming Antarctic Peninsula — where gentoo penguins are increasing their numbers and extending their range southward, while Adélie and chinstrap numbers are in decline across the region.

The Inaugural Future Of Antarctica Forum Oceanites' Climate Challenge Penguin Buffer Zones

Championing science-based decision-making, this has been a successful year in which Oceanites has significantly advanced the conservation of Antarctic penguins and Antarctica itself.

In February/March 2016, Oceanites convened the inaugural Future of Antarctica Forum in the Peninsula onboard *Akademik Ioffe*, bringing together leading Antarctic stakeholders, including governments, non-governmental organizations, tour operators, fishing interests, and scientists, to discuss issues — particularly, climate change — that are of great concern to Antarctic Treaty countries and the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), which oversees fishing activities in the Southern Ocean.

Important news is that Oceanites accepted the challenge of Forum participants to establish an international, interdisciplinary effort to *distinguish the direct and interactive effects of climate change, fishing, tourism, and national operations on the fragile Antarctic Peninsula ecosystem*. To that end, the Norwegian fishing company Aker Biomarine, the largest krill fishing company operating in the region, has agreed to furnish its catch and effort data to Oceanites so it may independently analyze fishing activities vis-à-vis penguin breeding/foraging locations and climate change in the Antarctic Peninsula.

As understood by all Forum participants, the future of Antarctica is . . . now. Literally. The great continent of ice and its marine ecosystem are changing before our eyes and it is a huge commitment by the fishing and tourism industries, governments, the scientific community, and environmental organizations to collaborate, bring data sets together, and help Oceanites sort which climate-related and other effects are real and how they might be managed. The analyses will be costly and take 3-5 years, but Oceanites is 'on the case' and taking this forward.

Jane Rumble, UK CCAMLR Commissioner and Head of the UK Delegation to the Antarctic Treaty Consultative Meeting commented: "*Ongoing monitoring programmes are vital if we are to piece together how climate impacts upon penguins and other seabird species in Antarctica, and to ensure that human activities, including science, tourism and fishing, do not cause significant additional stresses. That is why the UK continues to support the work of Oceanites. Identifying critical risks to wildlife and managing human activities is a key responsibility of the Antarctic Treaty System, including helping to focus international commitments to ensure the protection of Antarctica's unique wildlife.*"

Subsequently, at the 35th meeting of the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) in October, Aker Biomarine and the Association of Responsible Krill Harvesters (ARK), whose operations comprise 80% of all krill fishing in the Antarctic Peninsula, announced an initiative to voluntarily avoid fishing where penguins are breeding or foraging. Oceanites has jumped into this initiative and is providing maps and penguin location reports to Aker Biomarine and ARK to assist this voluntary effort.

Oceanites at the ATCM and CCAMLR

Ron Naveen again participated as a nongovernmental adviser to the US delegation at the most recent Antarctic Treaty Consultative Meeting (ATCM), held in Santiago, Chile, May 23–June 3, 2016. The United Kingdom, along with Argentina, the Antarctic and Southern Ocean Coalition (ASOC) and the International Association of Antarctica Tour Operators (IAATO), jointly submitted and co-sponsored an Information Paper about the Future Of Antarctica Forum that Oceanites had convened, noting the importance of the Antarctic Site Inventory's 22-year history monitoring the sensitive Antarctic Peninsula region, and highlighting Oceanites' accepting the challenge of sorting climate-penguin-krill interactions in the Peninsula.

In October, Oceanites attended the 35th CCAMLR meetings, once again as an invited, independent observer. Oceanites submitted three papers for consideration.

One concerned the outcomes of the first Future of Antarctica Forum.

A second described the ongoing development of the Mapping Application for Penguin Populations and Projected Dynamics tool (MAPPPD), which The Lynch Lab for Quantitative Ecology (Stony Brook University) and NASA have developed for Oceanites (see p.4 of this Report).

And the third reported on the history and ongoing data collection of Oceanites and the Antarctic Site Inventory, highlighting Oceanites' recent agreement with the Norwegian company Aker BioMarine to independently analyse the company's krill fishing catch/effort data vis-a-vis data on penguin breeding/foraging locations and climate change impacts in the Antarctic Peninsula.

The CCAMLR meeting produced a number of excellent outcomes:

- Establishing the world's largest marine protected area in the Ross Sea
- Establishing 100% observer coverage in the krill fishery
- Adopting a 5-year extension of existing krill fishing limits in the Antarctic Peninsula
- Enabling special scientific study areas where ice shelves have retreated or collapsed

In addition, as noted above, with the announcement by the Association of Responsible Krill Harvesters (ARK) to voluntarily avoid fishing where penguins are breeding or foraging, Oceanites began providing maps and penguin location reports to ARK that will assist this voluntary effort — and, hopefully, further penguin conservation in the vastly warming Antarctic Peninsula region.



MAPPPD

The penguin population tool — MAPPPD (Mapping Application for Penguin Populations and Projected Dynamics), which the Lynch Lab at Stony Brook University & the US National Aeronautics and Space Administration (NASA) have developed for Oceanites, is now live.

Go to: <http://www.penguinmap.com>

MAPPPD keeps Oceanites and the Antarctic Site Inventory on the ‘front lines’ of Antarctic science. No question, the Inventory is the only project effectively monitoring penguins and flying bird population changes across the entirety of the vastly warming Antarctic Peninsula. This new tool takes things even further, assembling as best as possible, all known penguin population data across the whole of the Antarctic continent.

MAPPPD will assist everyone in the Antarctic Treaty system in assessing and analyzing Antarctic environmental changes; and will greatly assist Oceanites with its new climate challenge of sorting and distinguishing among the various, interactive effects of climate change, fishing, tourism, and other potential stressors in the sensitive Antarctic Peninsula ecosystem.

All researchers will now have instant access to the latest, most current data needed to analyze potential and detected changes in Antarctica. MAPPPD is publicly and freely available and will immediately assist a wide range of Antarctic stakeholders, from governments and the Antarctic research community to non-governmental organizations and the public at large. From this point forward, no one will be able say that we don’t know how Antarctic penguins are doing!



All photographs by Ron Naveen, ©2016 Oceanites, Inc.

- p.1 Adélie penguins riding ice, Paradise
- p.2 Resting gentoo penguins at Petermann Island.
- p.3 Sunning gentoo penguins at Petermann Island.
- p.4 Gentoo penguins on sea ice, Penola Strait.