Getting Started: Citizen Science in Antarctica

Travelling to Antarctica with an IAATO operator gives us and our guests the time, access and resources to participate in citizen science and to contribute valuable information to the scientific community for a better understanding and protection of the Southern Ocean and Antarctica.

What is citizen science and why should we participate?

Citizen science is scientific research conducted (in part) by non-professional scientists. It is a way to utilize the power of thousands of travellers around the globe to observe, record, and report on natural phenomena. This is particularly important in remote and difficult to access destinations, like the Southern Ocean and Antarctica. Research in these areas is extremely expensive and limited by its remoteness and seasonal accessibility. The scientific community studying these regions is therefore often facing data scarcity. The Antarctic Peninsula, which is the main operating area for the majority of operators, is also considered a hotspot of climate change, putting the polar tourism industry in a unique position: our expedition vessels make fantastic platforms for science. With extended access to these remote regions and expedition teams often equipped with research backgrounds, we have the potential to participate and engage our guests in citizen science projects and to provide valuable data to the scientific community.

By having guests participate in these programmes and by using citizen science projects to educate guests about the Antarctic ecosystem, they gain a greater understanding of the region in which they travel. This heightened level of understanding can invoke the desire to become Antarctic Ambassadors, returning home to champion for the protection of one of our planet's most fragile ecosystems.

In the Supporting Science section of the IAATO Field Operations Manual, you will find information on how to run successful citizen science programmes. IAATO is collaborating with the Polar Citizen Science Collective to bring you a selection of projects from different disciplines that have proved to work well in the field, are globally recognised and excite polar travellers. The Polar Citizen Science Collective *www.polarcollective.org* is a non-profit that works collaboratively with IAATO and the science community to help develop and implement citizen science projects on polar expeditions.

Everyone is invited to participate – it is fun, engaging and educational. Let's make a difference together.

How to deliver successful citizen science

Citizen science works well when it is considered as an activity in the same way as kayaking or camping and incorporated into the company's programme. It is recommended to assign one expedition staff member to act as "Citizen Science Coordinator" for each expedition. His/her primary duties would be to:

- Oversee and coordinate the citizen science programme;
- To discuss the project scheduling with the Expedition Leader;
- Assign "Project Leads" to the individual citizen science projects;
- Ensure data collection protocols are met and data are delivered to respective scientific partners; and
- Serve as the go-to expedition staff member for guests interested in participating.

Here are a few tips on how to make citizen science successful during your expedition:

- Consider an introductory power point presentation to introduce the citizen science programme you offer during your expedition (many projects listed in the following provide power point material).
- Consider creating a citizen science expedition plan; some projects are excellent for sea days, others for in the field, some are site specific, and some can be done throughout the entire trip.
- Create a citizen science notice board, where you post information about each project (additionally other relevant information from the scientific community).
- Post citizen science activities in the daily programme.
- Mention citizen science activities/findings at the daily recap.
- Invite guests to an end of trip citizen science recap where you summarize the projects you ran during the trip, show preliminary results, and discuss the concept of being an Antarctic Ambassador.
- Include citizen science information in the post-trip information package that guests receive, such as information about the projects you offered including important project websites, or about science projects guests can participate in when back at home (e.g. *www.penguinwatch.org/*).

Project overview

In the section 'Supporting Science' in the IAATO Field Operation's Manual, you will find descriptions of several projects supported by IAATO and the Polar Citizen Science Collective. For detailed information about each project please refer to the downloadable resources provided via IAATO (specific links are mentioned in each project description).

IMPORTANT NOTE: The projects listed in the FOM do not require special permitting in Antarctica. However, if you are developing your own project or in collaboration with scientists, always check if it might require a permit or authorization to proceed in Antarctica, engaging with your National Competent Authority if necessary. Please remember to add activities to your Post Visit Report form.