



NATIONAL SCIENCE FOUNDATION
2415 EISENHOWER AVENUE
ALEXANDRIA, VIRGINIA 22314

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Dear Colleague Letter: Update on Science Support and Infrastructure in Antarctica

April 29, 2022

Dear Colleagues:

This letter provides an update on the status and future of science support and infrastructure recapitalization in Antarctica as affected by the COVID-19 pandemic.

To date, protocols intended to prevent COVID-19 transmission to the stations and continent, such as extended periods of quarantine, careful monitoring of COVID-19 exposure, and reductions in personnel, have successfully prevented COVID-19 outbreaks at United States Antarctic research stations and vessels. These precautions, necessitated by the limited medical facilities on station, have constrained the U.S. Antarctic Program's (USAP) capacity to support funded science projects, and halted some construction and maintenance activities, creating a substantial backlog in both.

Despite these challenges, the USAP successfully supported science projects in the 2021-22 season at approximately 30-40% of 'normal' levels, in accordance with a [tiered system of prioritization](#). The highest priority science projects included fieldwork involving international collaborations, projects with critical time-series data, and projects involving instrument maintenance to prevent irreversible damage to, or loss of, science infrastructure.

Assuming pandemic restrictions ease in the coming season, the USAP will prioritize efforts to support already-funded science projects, to the greatest extent possible. Working through the extensive backlog may take several years to complete, and will require continued vigilance, thoughtful execution, and patience.

While OPP will continue to accept proposals involving fieldwork, the USAP's ability to support new field deployments will be limited in certain sectors, as described below. OPP also continues to encourage the submission of proposals that promote discovery and innovation but do not require Antarctic deployment. Examples include projects that emphasize model development and validation, advance technology and cyberinfrastructure, or include analysis

of [already-collected data and/or samples](#). Under limited circumstances, proof-of-concept projects, e.g., testing instrumentation, may include fieldwork at non-polar sites that offer comparable conditions.

Before the pandemic, the USAP had developed plans (see [Blue Ribbon Panel](#) report) to maintain or replace critical infrastructure at all stations through the [Antarctic Infrastructure Modernization for Science](#) (AIMS) program, and its successor, the [Antarctic Infrastructure Recapitalization](#) (AIR) program. These plans also were disrupted by the COVID-19 pandemic. In the upcoming season, work is expected to continue on these activities, including replacement of a lodging facility and the development of a new Vehicle Equipment and Operations Center at McMurdo Station.

The imperative to address the backlog of funded projects and to improve critical infrastructure at McMurdo will make it difficult to accommodate new initiatives with a large field footprint in some sectors. Specific information concerning the availability of field assets is below:

McMurdo Station will be unable to accommodate new, large field teams until the second half of the decade. However, new smaller efforts involving helicopter support from McMurdo Station, starting in the 2023-2024 field season, are potentially supportable. Likewise, new near-field initiatives based out of McMurdo and requiring small fixed-wing support can be implemented starting in the 2024-2025 field season. LC-130 airlift support and both science traverse platforms are highly constrained through the 2026-27 season, due to support of already-funded deep field and South Pole Station activities.

South Pole Station is saturated with already-funded projects, and required critical infrastructure and maintenance activities that can no longer be deferred, until late in the decade. South Pole Station will continue to host its current suite of large-scale science projects, such as the IceCube Neutrino Observatory; however, proposers seeking support for new projects at South Pole Station should consult the cognizant program officer to discuss alternative pathways to accomplish science goals.

Palmer Station is fully allocated from January to mid-February through 2024, but is able to support smaller projects in the early and late season in 2022-2023, 2023-2024 and 2024-2025, and larger projects overwinters for all seasons.

The **R/V Nathaniel B. Palmer** is fully allocated during the peak summer (November - February) through 2023-2024, but availability exists during the shoulder seasons (i.e., April/May and September/October), and thereafter, for new science proposals. There are opportunities for the **R/V Laurence M. Gould** to support additional science on planned cruises around the Antarctic Peninsula in 2022-2023 and 2023-2024.

As we navigate the COVID-19 pandemic's impacts, OPP will provide regular updates about resource capabilities. OPP encourages prospective investigators to consult program officers

concerning projects requiring field support. In addition, we will soon launch, with input from the scientific community, a South Pole Station Master Planning effort, similar to the master planning effort that established infrastructure renewal priorities for McMurdo and Palmer Stations. More information will be available at [USAP.gov](https://www.usap.gov), through the OPP quarterly newsletter, Antarctic Community Office Hours, and the [OPP Advisory Committee](#).

Sincerely,

Alexandra R. Isern
Assistant Director for Geosciences