

Implications of the COVID-19 pandemic for Antarctica

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Synthesis Paper

Implications of the COVID-19 pandemic for Antarctica

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Coronavirus at the end of the world: Antarctica matters

Bob Frame^{*}, Alan D. Hemmings

Isolation Protects Antarctica

- COVID-19 declared a pandemic as austral summer was drawing to a close
- Some operators ended season early, to avoid international travel restrictions for personnel
- Many personnel still faced long homeward delays, operators brought some back by ship
- At least one Antarctic cruise ship carried passengers who became covid-positive
- Antarctic continent isolated by physical distance, and marine and atmospheric barriers
- Remains only continent virus-free



National Operator Logistics

- Most Antarctic operators running much reduced 2020/21 season, resupplying stations, exchanging personnel
- Some ‘summer only’ national operators have cancelled current season entirely
- Severely limited by closure or strict quarantine requirements of ‘gateway’ countries and ports, and international travel restrictions and uncertainty
- Stations and vessels do not have medical facilities for critical care; medevac capability and routes also reduced
- Arctic stations and settlements open, but access mostly limited to national citizens and residents
- Virtually all cruise and international tourism cancelled

Scientific Programmes

- Most polar science seasons cancelled or postponed, though some maintenance of long-term data series
- Some Antarctic ‘gateways’ operating with very strict quarantine and testing requirements
- Some countries limiting participation in science operations (cruises, stations, field science) to nationals/residents, again strict quarantine; some collaborative support being offered
- Prognosis for northern 2021 and austral 2021/22 summers poor
- Funded grants subject to extensions/delayed start, some lost; participation in international programmes such as INTERACT, SCAR Fellowships, delayed
- Concern for potential for ‘lost generation’ of graduate students and ECRs, and premature loss of ‘late career’ expertise

International Collaboration

- Long been central to polar research, and allows positive and productive interaction even through geopolitically challenging times
- Immediate consequence of covid has been loss of direct international meetings
- Has accelerated use of web-based platforms, but many limitations and a shadow of face-to-face meeting
- Some researchers/institutions report a surge in collaborative writing, taking advantage of existing data/materials
- Some major international polar activities successfully completed despite the restrictions (e.g. MOSAIC – Germany/Russia), others postponed (e.g. Thwaites – US-UK)

Tourism

- Largely cruise-based in both polar regions, with older (more vulnerable) demographic, and need for international travel to departure points
- 2020/21 Antarctic season virtually completely lost, ditto 2020 Arctic summer
- Limited 'within country' tourism in some Arctic locations, winter 2020/21
- Prognosis for next 1-2 years, if not longer, extremely uncertain; depends on international travel restrictions, opening of gateway ports, insurance industry, and return of customer confidence

Implications for Polar Environment

- Short- to mid-term reduction in human presence and activity, research and tourism
- Will reduce human pressure on ecosystems (e.g. disturbance, damage, invasions); however polar ecosystem processes are generally slow, so short-lived reduction unlikely to have significant impact
- Conversely, reduced ability to respond to environmental incidents (e.g. pollution, shipping or air accidents, SAR capacity)
- Operators have been forced to consider more urgently remotely operated technology, reducing long-term human footprint
- Concern as to whether covid can/will enter wildlife populations (with or without human assistance)
- Short-term impact on global carbon emissions miniscule compared with human impact on climate to date

Governance

- Different systems north and south: sovereign nations vs. consensus governance through international treaty
- Lack of international governance meetings impacting decision processes – 2020 ATCM cancelled, CCAMLRL online and made limited or no progress on contentious issues
- Funding implications of expected global and national recessions, combined with pandemic recovery costs
- Future food and energy security may lead to greater pressure on environmental management mechanisms from fisheries and extraction industries

Future Recovery?

- Initial hopes of the major impacts being restricted to a single season or year are now fading
- Operational rescheduling of cancelled plans already likely to have major impact over next 2-3 years at least, even up to 6-8 years
- Polar tourism industry, largely cruise-based in both polar regions, faces almost complete loss for up to 3-4 years, exacerbated by its older demographic
- Pandemic trajectory still rising globally, duration of international travel and border restrictions extremely uncertain; likely to affect resource sharing and use (e.g. stations, ships, direct collaborative activity) for extended period
- Key challenge to maintain environmental research funding (including climate change); governmental focus must look beyond covid

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