



Australian Government

Department of the Environment,
Water, Heritage and the Arts
Australian Antarctic Division

WP 2: Management implications of climate change in the Antarctic region – an initial Australian assessment

**Antarctic Treaty Meeting of Experts on Climate Change and
Implications for Antarctic Management and Governance**

Svolvær, Norway, 6 to 9 April 2010

Working Paper submitted by Australia

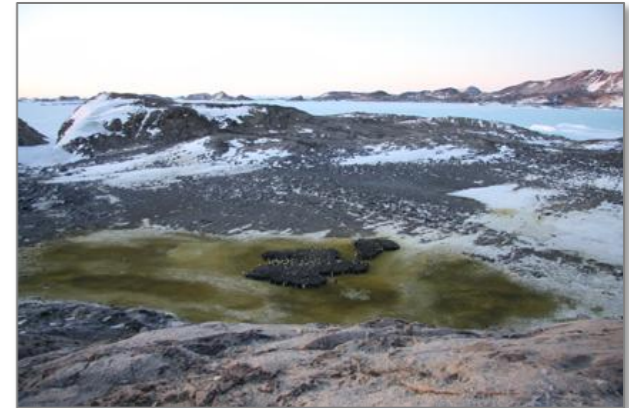
Context

- Risk assessment framework
 - *Climate Change Impacts and Risk Management: A Guide for Businesses and Government*
- Climate scenarios
 - referred to SCAR ACCE report
- Scope of assessment
 - area and activities addressed under Antarctic Treaty and Environmental Protocol
- Key elements
 - environmental values, access / transport, infrastructure



Environment

- High risk of substantial ecosystem-scale changes
- Need to:
 - employ protection and management measures while seeking to resolve or reduce uncertainty
 - identify and protect vulnerable regions, habitats, species, heritage values and scientific values
 - implement systematic approach to spatial management (also consider temporal aspects)
 - prioritise measures to prevent introduction of non-native species
 - consider environment when responding to implications for management of human activities
 - identify, monitor and respond to extreme events



Access / transport & infrastructure

- Overall, implications can be managed, but probably with considerable effort and lead times, and at higher cost
- Likely changes in the mix of logistic support, with implications for associated infrastructure
 - high risk for air transport reliant on ice / snow infrastructure
 - implications for shipping unclear – need to better understand regional / local changes in sea ice
 - high risks for surface transport, resupply and field access reliant on snow and ice surfaces
- High risks for key infrastructure located on permafrost, or subject to inundation, flooding or physical isolation



Monitoring, scenario planning & risk assessment

- Require better basic understanding of Antarctic biodiversity and ecosystem function
- Protect climate monitoring reference areas
- Consider operational monitoring information
- Sound data management required
- Useful to consider 10-25 year planning horizon
- Need information about relative timing, rate and linearity of expected climate changes



Photo: Todor



Recommendations

1. That the ATME draws on the findings of this initial Australian assessment
2. That other Parties undertake and report on similar assessments
3. That the Parties consider developing a system-wide risk assessment process involving all relevant organisations

