



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

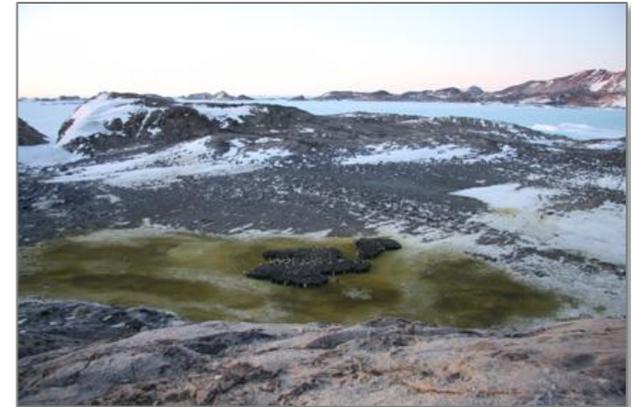
# Context

- 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



Australian Government

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

# 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

