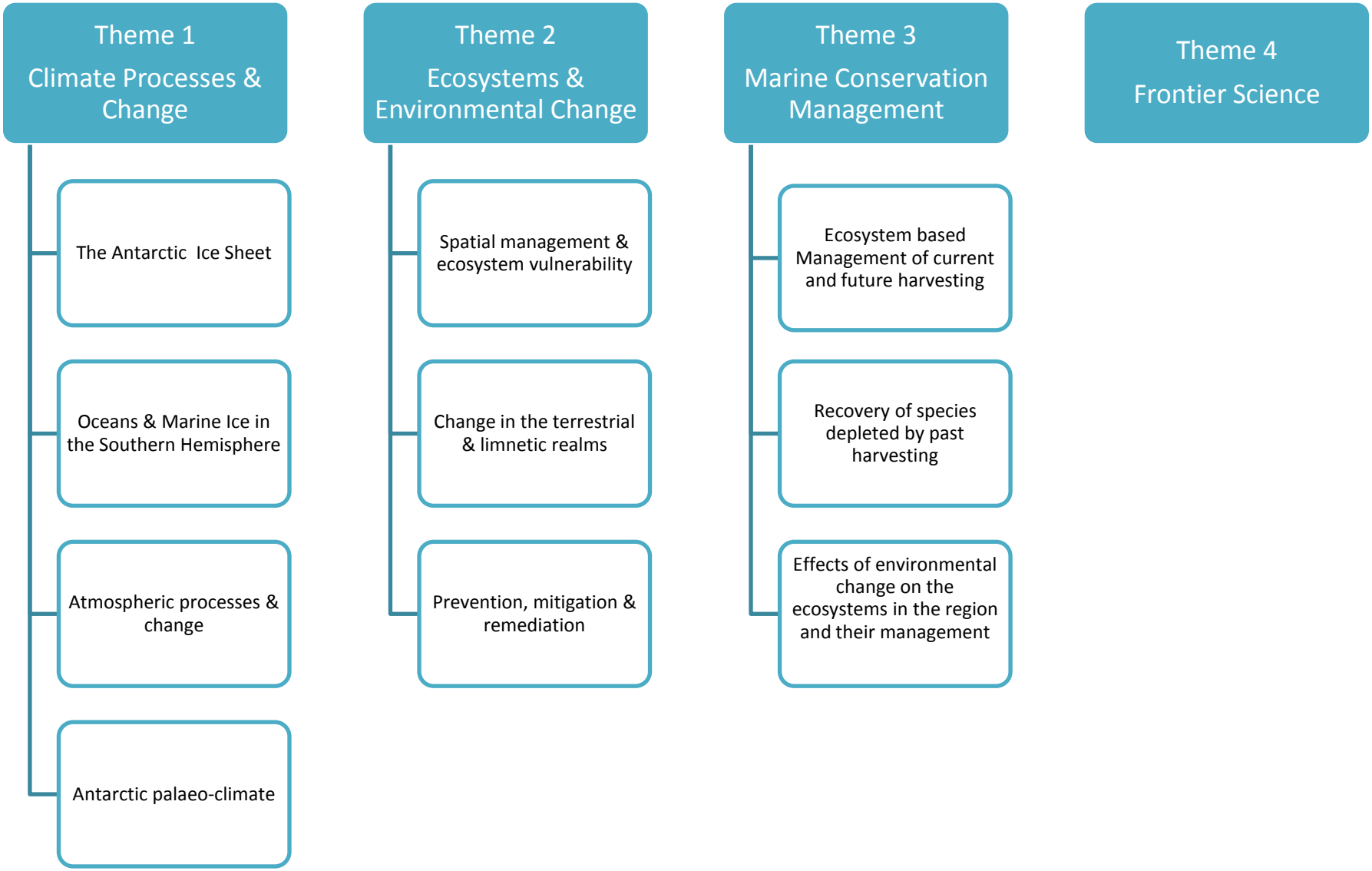
Australian Antarctic Science Strategic Plan 2011/12 – 20/21

- Antarctica and the Southern Ocean are especially relevant to Australia because of their proximity and their influence on regional climate processes.

- Uncertainties around the nature, extent and rate of change in polar systems as highlighted by the Intergovernmental Panel on Climate Change (IPCC)

- Scientific outputs from the Australian Antarctic Science Program should meet defined policy needs of Government – including national and international regulatory frameworks

- Policy makers from across the Commonwealth Government provided their priorities for science and information as input to the Plan


Theme 1
Climate Processes & Change
The Antarctic Ice Sheet
Oceans & Marine Ice in the Southern Hemisphere
Atmospheric processes & change
Antarctic palaeo-climate
Theme 2
Ecosystems & Environmental Change
Spatial management & ecosystem vulnerability
Change in the terrestrial & limnetic realms
Prevention, mitigation & remediation
Theme 3
Marine Conservation Management
Ecosystem based Management of current and future harvesting
Recovery of species depleted by past harvesting
Effects of environmental change on the ecosystems in the region and their management
Theme 4
Frontier Science

Priority areas of research

- ***Climate Processes and Change***
  - Ice sheet dynamics and sea level rise; records of past climate change
  - Climate feedbacks involving ocean circulation and global overturning circulation, including sea ice processes
  - Key high latitude atmospheric processes (e.g., ozone)

- ***Ecosystems and Environmental Change***
  - Identification of key terrestrial indicator species
  - Impacts ranging from local human activities within Antarctica to global processes of anthropogenic change
  - Remediation plan for all high-priority contaminated sites for which Australia

- ***Marine Conservation Management***
  - Research that informs catch limits, by-catch regulations for a range of fisheries
  - Identification of biological hotspots
  - Determination of population trends for key species (whales, seals, others)
  - Model-based assessments of the risks of climate change to SO ecosystems

Key policy drivers for each theme

- ***Climate Processes and Change***
  - Setting Australia's policy position within the UNFCCC
  - IPCC AR5 and beyond
  - Government Dept's (Climate change; Environment)

- ***Ecosystems and Environmental Change***
  - Antarctic Treaty / Madrid Protocol /Committee for Environmental Protection (CEP)
  - Other international agreements, national legislation and government initiatives and policies, such as National Environment Protection Measures

- ***Marine Conservation Management***
  - CCAMLR
  - IWC
  - ACAP
  - Australian Fisheries Management Assessment (Heard and MacDonald Islands)