Meeting Agenda

- Welcome to CAWCR Tom Keenan
- Philippine Activities – Overview Delegation Leader
- Presentations:
  - BoM Disaster Mitigation Program Shannon McNamara
  - Australian Climate Change Science Program (ACCSP) Paul Holper
  - Pacific Climate Change Science Program (PCCSP) Gillian Cambers
  - Pacific Adaptation Strategy Assistance Program (PASAP) Mike Coughlan
  - Pacific Islands Climate Prediction (PICP) Janita Pahalad
- Meeting wrap up and close
Overview: Climate and Weather Research
Centre for Australian Weather and Climate Research

www.cawcr.gov.au

T. Keenan
CAWCR
Commonwealth Scientific and Industrial Research Organisation (CSIRO)

6400 staff located across more than 50 sites in Australia and overseas
CSIRO Marine and Atmospheric Research: Locations and approx. staff numbers

550 CMAR staff and over 150 visitors

Floreat (45)  Hobart (350)  Aspendale (135)

Cleveland (80)  Black Mountain (40)  Collins St,
CSIRO Marine and Atmospheric Research: Facilities

• The Cape Grim Baseline Air Pollution Station in Tasmania:
  • managed by the Australian Bureau of Meteorology
  • monitors and studies global atmospheric composition in a program led by CAWCR
  • Air Archive at CMAR Aspendale

• The Marine National Facility:
  • Ocean Research Vessel *Southern Surveyor*
  • Managed by CSIRO on behalf of Australia for use by the entire marine science community
  • 2009 Federal Budget delivered $120m for a new “blue-water” marine Research Vessel, to be commissioned in 2011-12
• The Australian Bureau of Meteorology is a world-class national meteorological agency providing expertise and services to assist Australians in dealing with the harsh realities of their natural environment, including drought, floods, fires, storms and tropical cyclones. Through regular forecasts, warnings, monitoring and advice spanning the Australian and Antarctic region, the Bureau provides one of the most basic and widely used services of government.

• The Bureau contributes to Australia’s national social, economic, cultural and environmental goals by providing critical weather, climate, hydrological and oceanographic services and by undertaking research into science and environment-related issues in support of its operations and services.
CAWCR: Goals and objectives

• A joint “centre” for earth systems science recognised for its innovation and scientific excellence nationally and as a world leader in its field
• To be recognised nationally for innovation and scientific excellence
• To be recognised internationally as a world leader in the field
• Achieve critical mass
• Consolidate and enhance status of the Participants in the area
• Grow capacity, improve the ability to deliver solutions
• Resolve potential duplication
• Effective use of funds
• Both organisations fulfil their own organisational charter
• Encourage other collaborative activities
• Improve research performance
Ocean Observation, Assessment and Prediction

- Large-scale field based observational programs
  - physical
  - biogeochemical
- Interpretation and synthesis of data applied to:
  - testing and improvement of ocean climate and biogeochemical models
- Theoretical oceanography
- Data for initialising operational ocean forecasting systems and ocean reanalyses
- Focus: Southern and Indian oceans, present state of Australia’s ocean territory.

- Ocean and marine weather modelling and prediction
- Satellite remote sensing
- Science for tsunami early warning
Atmospheric composition
- gases
- aerosol
Cloud, radiation and precipitation processes
Biogeochemical cycles (carbon & water)
Micrometeorology
Observing system technologies
Remote sensing and data assimilation

![Graph showing CO₂ emissions and scenarios](image-url)
Earth System Modelling (ACCESS)

• Atmospheric modelling
• Coupled ocean and climate modelling
• Coupled land-surface – carbon – water modelling
• Data assimilation
• Model evaluation
• Model systems
Climate Variability and Change-Seasonal-Interannual Prediction

- Dynamical prediction and applications
- Climate variability and predictability

- Climate change prediction & analysis
- Integrated assessment of climate change impacts and adaptation
  - Sea-level and coasts
  - Climate change detection & attribution
Weather and Environment Prediction

- Forecast systems
- Numerical weather prediction and applications
- Predicting high impact weather
- Very short term environmental forecasting
- Air quality & chemistry prediction