

Councils Collaborating on Climate Change

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Background to HCCREMS

- Hunter & Central Coast Regional Environmental Management Strategy (HCCREMS)
- 14 member councils
- Established since 1994
- 12 full time staff
- Regional environmental project management, research, education, data management, strategy & policy
- Funded primarily through grant programs & council contributions

The Region



Key Program Areas

- Climate Change
- Biodiversity Conservation
- Sustainability Education and Capacity Building
- Sustainability Compliance
- Roadside Environmental Management
- Weeds Management
- Integrated Water Cycle Management
- Community Education
- Data and Mapping



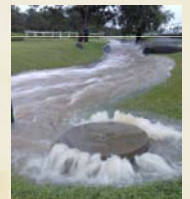
Climate and the Region

- Historically variable climate and extremes that have shaped the region
- Diversity of landscapes, ecosystems, communities and industries
- Impacts of climate change likely to be considerable and wide ranging due to the region's diversity and climate variability



Climate Change & Councils

- Councils at the coal face in responding to climate change, yet capacity and progress in doing so varies widely
- Potential to be affected across a wide range of operations and programs:
 - infrastructure & property services;
 - recreational facilities;
 - health services;
 - planning and development;
 - natural resource management;
 - water & sewerage services.



Working together

- Long history of councils working together in the region.
- Collaboration brings considerable benefits:
 - resource efficiencies
 - addressing cross boundary issues
 - consistency
 - access to information, funding and resources
 - addresses unique gap between state and local levels of government

Collaborating on Climate Change

- Key climate change initiatives include:
 - Research
 - Awareness and capacity building
 - Risk Assessment and Adaptation Planning
 - Information sharing
 - Education



Research

- Given historic climate variability across the region, expected that impacts of climate change would also vary
- Lack of available data to reflect this variability and inform local and regional scale planning
- 2 year research program to identify regional scale impacts of climate change
- University of Newcastle commissioned to complete research
 - Assoc Prof Ian Goodwin & Dr Karen Blackmore

Research Methodology

- Adopted a weather typing approach rather than applying broad scale GCM outputs
- Historical analysis identified relationship between key synoptic types and regional climate variability
- Sea Level Pressure output from the CSIRO Mk 3.5 GCM used to project future changes in synoptic types and their subsequent impact on regional climate patterns



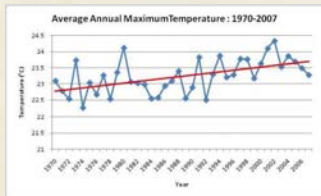
Climate Zones



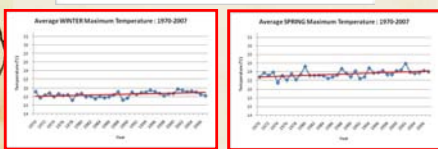
The results

- Provide a more detailed analysis of climate variability than previously available or that can be provided by GCM's alone. This includes:
 - analysis at much finer scales (ie *seasonal* and *sub regional* levels)
 - analysis of extreme events and additional climate variables (eg evaporation and water balance)
- Confirm that the impacts of climate change will vary across the region and across seasons
- Often tells a different story to broader scale projections. For example.....

Maximum temperature (historic) – coastal zone

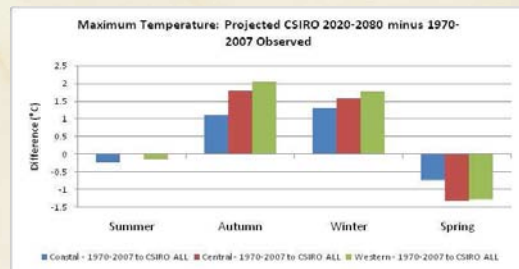


- Statistically significant increase of $\sim 0.9^{\circ}\text{C}$
- Only winter and spring seasonal trends are statistically significant

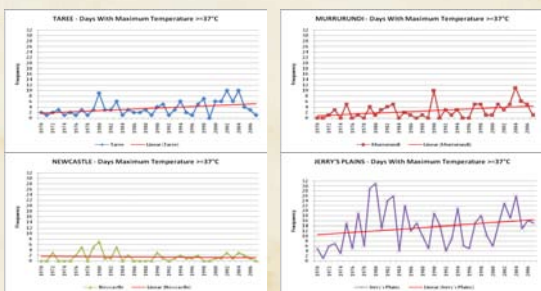


Maximum temperature (projected)

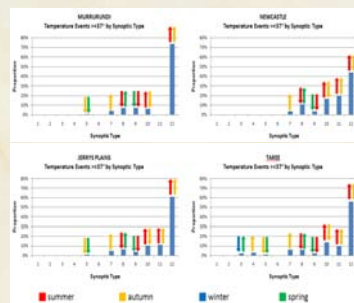
- Projected increases in maximum temperature vary across the region and by season



Extreme Heat Events (historic)



Extreme Heat Events (projected)



Projected increases in ST12 during summer and autumn are likely to result in increased frequency of extreme heat days (EHDs) in the region

Case Studies

- Four case studies being developed to:
 - further interrogate overall research data to issue / industry / sector levels
 - demonstrate process for applying the research findings to risk assessment & adaptation planning
- Focus of initial case studies includes:
 - Hunter Valley Wine Industry
 - Human Health (Extreme Heat)
 - Bushfire Risk
 - Extreme Events in the Coastal Zone

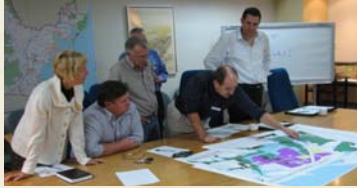


Additional resources

- Sub regional climate profiles
 - provide historical and projected climate for each of the 3 climate zones
- LGA profiles
 - summary of historical and projected climate change relevant to each LGA
- Climate parameter profiles
 - temperature, precipitation, water balance etc
- Additional case studies
 - agricultural sectors, biodiversity, catchment water balance etc

Awareness and Capacity Building

- Councillor Induction Program
 - Delivered to 84 elected Councillors across 9 councils
 - Integration of ESD into governance responsibilities
 - Focus on climate change as a risk management and planning issue



Awareness and Capacity Building

- Briefings and Presentations
 - Delivered to Senior Managers including GM's and Directors on a range of climate change issues
 - Instrumental in raising awareness, sharing information and facilitating action in councils
- Regional Climate Change Forums
 - Addressing research, legal and risk implications, adaptation planning and implementation
 - Targeting wide cross section of staff and other regional stakeholders

Adaptation Planning – Sea Level Rise

- All coastal councils have either formally adopted or are applying a SLR Planning Figure of 0.91 m by 2100
- Regional approach pursued and facilitated through HCCREMS to promote consistency and because of 'safety in numbers'
- Minimal resistance from community
- Considerable work still required to translate planning level into everyday practice (eg planning tools, emergency management, asset management plans)
- Considerable opportunities for aligning implementation strategies and tools across councils

Risk Assessment & Adaptation Planning - Rural Councils

- Individual organisational risk assessments and adaptation plans for 8 councils
- Build the capacity of staff to implement risk assessment processes on an ongoing basis
- Facilitate integration of climate change in corporate risk management systems
- Identification of regional scale risks and adaptation responses to:
 - increase capacity and resources of councils
 - facilitate consistent adaptation planning responses


Risk Assessment & Adaptation Planning - Coastal Councils

- Identify and prioritise areas of common risk
- Identify and prioritise the nature and focus of adaptation strategies with the potential for collaborative implementation
- Build the capacity of staff to implement risk assessment processes across council operations on an ongoing basis



Education Resources

- Products and resources to assist councils with engagement & education activities
- Facilitate timing and focus of region wide campaigns
- Regional consistency and resource efficiencies for councils
- Product examples:
 - Presentation templates (risk assessment & community education)
 - Councillor training manual
 - Research products (sub regional, LGA & climate parameter profiles)



Conclusions

- Considerable benefits in collaborative action
 - Resource efficiencies, funding opportunities, consistency and certainty, stakeholder engagement, peer pressure & shared knowledge & experiences.
- Importance of language, focus & target audience
 - risk management a key way of engaging stakeholders and difficult to argue against
- Data
 - Appropriate scale
 - Value of 'real' historic climate data
- There's still plenty to do and many challenges ahead



More information



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