Torres Strait Regional Adaptation and Resilience Plan Summary

2016-2021

Australian Government

TSRA
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Torres Strait Island
REGIONAL COUNCIL

Summary

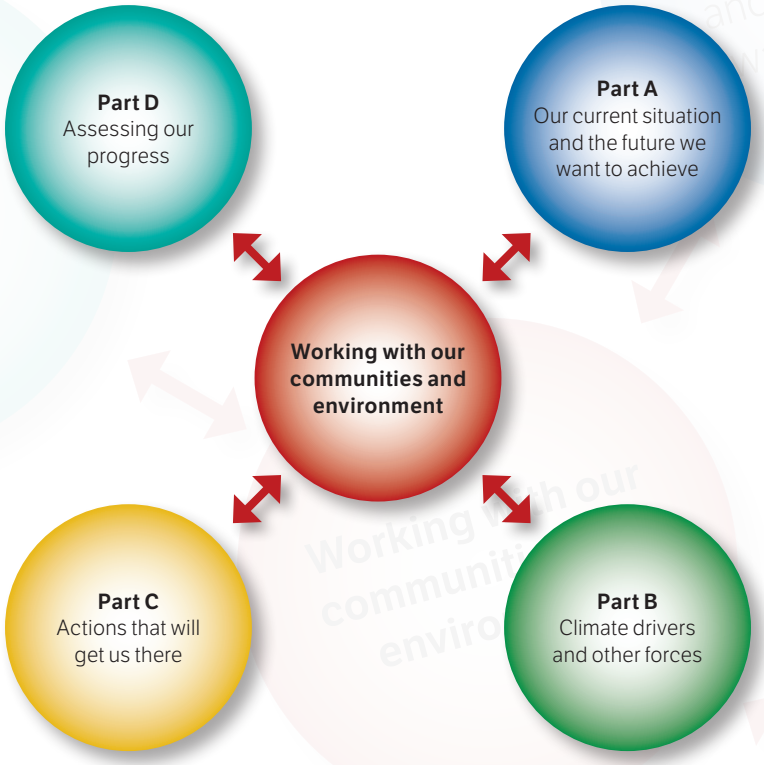
What is this document?

This Torres Strait Regional Adaptation and Resilience Plan details how climate change will impact the region's communities and land and sea country, and what steps can be taken to reduce the likely impacts in order to ensure the region has a strong viable future. This summary outlines the key elements and findings from the Plan.

What is in the Plan?

This diagram illustrates the key elements of the plan. Part A examines our current situation and discusses the future we want to achieve. Part B examines the climate forces and other drivers that are shaping our region into the future. Part C details the actions and activities we will undertake in response to those changes that will deliver the future we want. Part D outlines how we will measure our progress towards our desired future.

At the heart of the Plan is our communities and our environment. The Plan has been developed in conjunction with the communities of the Torres Strait, and with an understanding of the environment and its role in supporting the future of the region.



What can I do?

You can support climate adaptation and resilience action in the region by.

- Reading the Plan and becoming familiar with the climate impacts (copies can be downloaded from www.tsra.gov.au)
- Tell others about this Plan (see the Key Messages section below)
- Contribute to the actions in the Plan where you can
- Participate in your Community level climate adaptation and resilience planning and actions

Core proposition

The plan begins with a statement that embodies the philosophy of what we seek to achieve. It is called the core proposition:

> *Torres Strait is the ancestral homeland of our people and is inseparable from our culture. Therefore we strive to remain here, to retain the achievements of the present and regain the good ways of the past for a future that is resilient to change, in particular to the effects of climate change. The ability to be responsive and adaptable is important in attaining the goals of individual and community happiness and wellbeing.*

Adapting to climate change is an ongoing learning process. It will require a different way of thinking that better appreciates how all parts of the Torres Strait are inter-connected. It will require bold thinking and decision making to choose a path that is in the best long term interests of the region. Fast-tracking community sustainability and resilience will need to be high level strategic priorities for communities and governments alike.

What are the key climate change and other forces of change happening in our region?

The increasing concentration of greenhouse gases in the atmosphere is driving changes in the skies and oceans. Apart from climate, there are other forces in the economy and society that are shaping our future. For the Torres Strait the most important changes are:

Rising sea levels – Sea levels in the region are currently increasing at a rate of between 6-8 mm per year, and will continue to rise into the future.

Changes to the ocean environment – The oceans are becoming warmer, which also reduces how much oxygen the water can hold. As carbon dioxide (CO_2) levels in the atmosphere increase, more CO_2 is taken up by the oceans, causing the oceans to become more acidic.

Poruma Island. Photo: John Rainbird

Community efforts helped to protect the historic All Saints Anglican Church, Erub, from coastal erosion. Photo: John Rainbird

More hotter days – As global average temperatures increase, we will continue to see an increase in periods of hotter than normal days and more hot days per year.

More intense rainfall – While overall annual rainfall is unlikely to change very much, when it does rain it is likely to come in more intense shorter bursts. If we are not prepared for this, it can lead to localised flooding and damage.

A longer dry season – Conversely the period when it does rain is likely to shrink and the dry season is likely to be longer. Overall variability in the weather and seasons is likely to increase.

Increasing oil prices – As the amounts of available oil diminishes, the long-term prices of fuel for the region will continue to rise. This will impact how the region produces electricity and fuels transport. It will have flow on effects to the costs of transporting goods and services into the region.

Neighbouring PNG – The Western Province village communities of Papua New Guinea share many marine resources with people of the Torres Strait. Besides poor health, low living standards, rapid population growth and food security challenges, they are also highly exposed to climate change impacts being remote, low-lying coastal communities.

Demographic and social changes – increased education, access to technology and better communications have all changed how we live in the Torres Strait. These forces will continue to drive change in our communities and the region.

The broad trend of increasing demand on state and Commonwealth government budgets: This has implications for the region to maintain key services at desired levels as well as the capacity of the region to adapt to the above forces of change.

Aspects of the region most exposed to climate change impacts include low-lying settlements, water security, community health and ecosystem health.

Children on Saibai playing on the old seawall during calm weather king tides. Photo: John Rainbird

What are the main climate change impacts for the Torres Strait?

Impacts in our region

The impacts below come mostly from within or close to our region. There are also likely to be impacts that come from how climate change affects Australia and the broader global community.

The way these forces will affect the region is examined from five perspectives. This is a methodology called the Five Capitals approach.

Human Capital – The outlook for health and wellbeing

- Increased heat stress from more hotter days.
- Increased transmission of diseases, such as mosquito borne diseases, and increased reliance on better hygiene standards.
- Mental stress arising from the possibility of future displacement from some islands or other climate stressors.
- Broader disruptions to economies and infrastructure that divert resources from the health sector and undermine heath resilience.

Financial Capital – The outlook for enterprise and the economy

- Declines in local availability and or productivity of key fisheries species.
- Storm and sea-level impacts on infrastructure that underpins economic activities.
- Increased cost burden for replacement, repair and maintenance of infrastructure.
- Damage to potential tourism assets (natural and built).
- Impacts on productivity from health impacts.

Natural Capital – The outlook for land and sea

- Changes in ocean temperature and chemistry will negatively impact many marine species and ecosystems, in particular coral reefs, seagrass meadows (and therefore dugong) and turtles.
- Increased rainfall in PNG catchments may lead to reduced water quality in the northern Torres Strait.
- Changes in rainfall and seasons and hotter days and increased risk of bushfires will negatively impact terrestrial (land) plants and animals.
- Sea-level rise is a major threat to mangroves, coastal areas, coastal ecosystems and coastal amenity.

Physical Capital – The outlook for infrastructure and services

- Extreme weather is likely to disrupt services and damage infrastructure.
- Changing temperatures, increased variability and changes in air and ocean chemistry will decrease the lifespan of infrastructure.
- Sea-level rise and storm surge threatens some key maritime, aviation and road transport infrastructure.
- Warmer temperatures and mosquito borne disease pose a risk to water security.
- Increased fire risk is also a threat to some infrastructure.

Social Capital – The outlook for community and *Ailan Kastom*

- Outdoor activities will become increasingly restricted to cooler times or cooler locations.
- The number of people experiencing financial stress will increase without substantial efforts to reduce cost of living and expand local economies.
- The demand for emergency services will continue to increase in response to direct and indirect impacts of climate change.
- Access to some key marine food resources are likely to decline over time and increased climate variability may impact local food production.
- There is a risk community services may suffer due to increased demand coupled with reduced financial and human resources to support effective delivery.

What are the outcomes we want to see?

The approximately 120 proposed actions in the Plan are grouped under outcomes statements. Each outcome statement describes an element that will improve the resilience of the region and reduce the impacts of climate change. The Plan highlights the need for both adaptive and transformative actions. Actions tables consider priorities, lead and supporting agencies, timeframes to implementation and group actions under business activities of *Information, Implementation, Education and Awareness, Policy and Planning and Monitoring*. Adaptation and resilience pathway maps are included.

Adaptation Outcome 1: Coastal communities and infrastructure are protected from sea-level rise and coastal impacts, and communities have options in responding to long-term sea-level rise.

Adaptation Outcome 2: Communities and infrastructure are protected from extreme weather impacts (disaster risk management).

Adaptation Outcome 3: Reduced the impacts of hotter days and more hot days on community health and wellbeing.

Resilience Outcome 1: The governance arrangements for the Torres Strait Region and for each community enable development of responsive, resilient and sustainable communities with climate change and resilience fully integrated into development planning and policy development.

Resilience Outcome 2: Health risks are managed and reduced through holistic health and well-being strategies and interventions.

Resilience Outcome 3: The community is strong, confident and capable and has increased its capacity to respond positively to change and impacts.

Resilience Outcome 4: The infrastructure and services in the Torres Strait are fit for purpose, systems have built-in redundancy, have low operation and maintenance costs and meet the needs of the local and regional community .

Resilience Outcome 5: The land and sea are healthy and are able to adjust to the changing climate without losing diversity or productivity.

Resilience Outcome 6: Enterprise in the region and in each community aligns with community values and is meeting the majority of the communities' local needs.

Community adaptation workshop. Photo: John Rainbird

Key recommendations – early actions

Part C of the plan details the full list of actions that will be undertaken to address these issues and build the desired future for the region. Some of these actions are already underway or about to commence in the region. These include:

- Develop a pilot project that uses a sustainable development approach to community development that targets key vulnerabilities to build self-reliance, resilience and sustainability.
- Develop a sustainability and adaptation decision making framework to inform future planning and investment decisions. Key adaptation and resilience principles should be actively incorporated into local decision making processes.
- Initiate a Resilience Champions program to be based on each community to provide local capacity for development and delivery of adaptation and resilience planning and associated actions.
- The role of land tenure and its role in enabling or blocking certain adaptation options needs to be more closely examined.
- Work with communities, local and state governments to address climate change risks to water security and supply.
- The legal implications of climate change on native title rights and the legal ramifications of climate change impacts on island communities needs to be investigated to gain a clearer understanding of these issues.
- Monitoring processes need to be established or continued in key areas such as health and environment in order to track change that may have a climate component. This will also help inform the risk levels as well as potential effectiveness of adaptation strategies.
- Adaptation planning should link in with disaster risk reduction/disaster management arrangements to ensure alignment off effort and approaches.
- Whilst a number of impacts are likely to only occur in a significant way in the mid to long term, planning and preparation should begin now to ensure communities and agencies are prepared and to help ensure investment can be secured.

Coastal erosion, Poruma island. Photo: John Rainbird

The values expressed by regional leaders and communities include:

Healthy environment: A healthy environment underpins every aspect of the Torres Strait – its community, economy and culture. Anything done in the region must not compromise the health of this asset.

Local decision making: This is the foundation for cultural maintenance and self-determination. By empowering the people of the region, there will be greater motivation to participate and better integration of local knowledge in decisions.

Strong and healthy community: Having a strong community leads to the best outcomes for the Torres Strait. The best way for us to respond to the future is to focus on building the strengths of our community to work together.

Resilient economy: A resilient economy reflects the values, capacity and resources of the region. It is diverse, innovative and resourceful, flexible and able to withstand and recover from internal and external shocks. Such an economy would have reduced welfare dependence, increased training and education opportunities, would actively support innovation, and would develop diverse and appropriate economic activities.

Key messages – What can I tell others about this Plan?

These key messages provide the overarching story about what climate change means for the region, and why we need to take action.

1. The Torres Strait does face risks due to climate change, but the region still has a strong future.
2. The region will respond proactively to climate change and relocation of communities will be a last resort.
3. Important climate related impacts on the region might also come from outside the region such as security and migration and impacts on the price and availability of food.
4. Integration of climate adaptation, resilience and community development will benefit the region.
5. Building community resilience through building local adaptive capacity, fostering appropriate local economies, improving health and well-being standards and building greater self-reliance should be a priority.
6. Remoteness, extensive low-lying coastal zones, Indigenous disadvantage and modest economic base are key contributing factors to island community vulnerability to climate impacts.
7. Adaptation can reduce the impacts of climate change, but there are limits to the reduction of risks and to the scale of changes to which human and natural systems can adapt.
8. Infrastructure and land use planning should factor in possible migration of people and communities within the region in response to sea-level rise and other climate change impacts.
9. Community members have highlighted cultural renewal, local sustainable food production, water security and increased use of renewable energy technologies as issues of importance.
10. We should learn from the experiences of other regions facing these challenges and where appropriate consider collaboration where it delivers benefits to the region.
11. We cannot assume the resources required to implement longer term adaptation strategies will easily be available in coming decades as demand for government support to respond to climate impacts across Queensland and Australia increase.

We would encourage you to use these key messages when talking about the Plan.

For more information or for copies of the Plan, please visit **www.tsra.gov.au**, or contact TSRA Climate and Coasts Project Manager John Rainbird at **john.rainbird@tsra.gov.au** or TSRA Senior Liaison Officer Vic McGrath at **vic.mcgrath@tsra.gov.au**.

Green turtle coming up to nest. Photo: Tristan Simpson