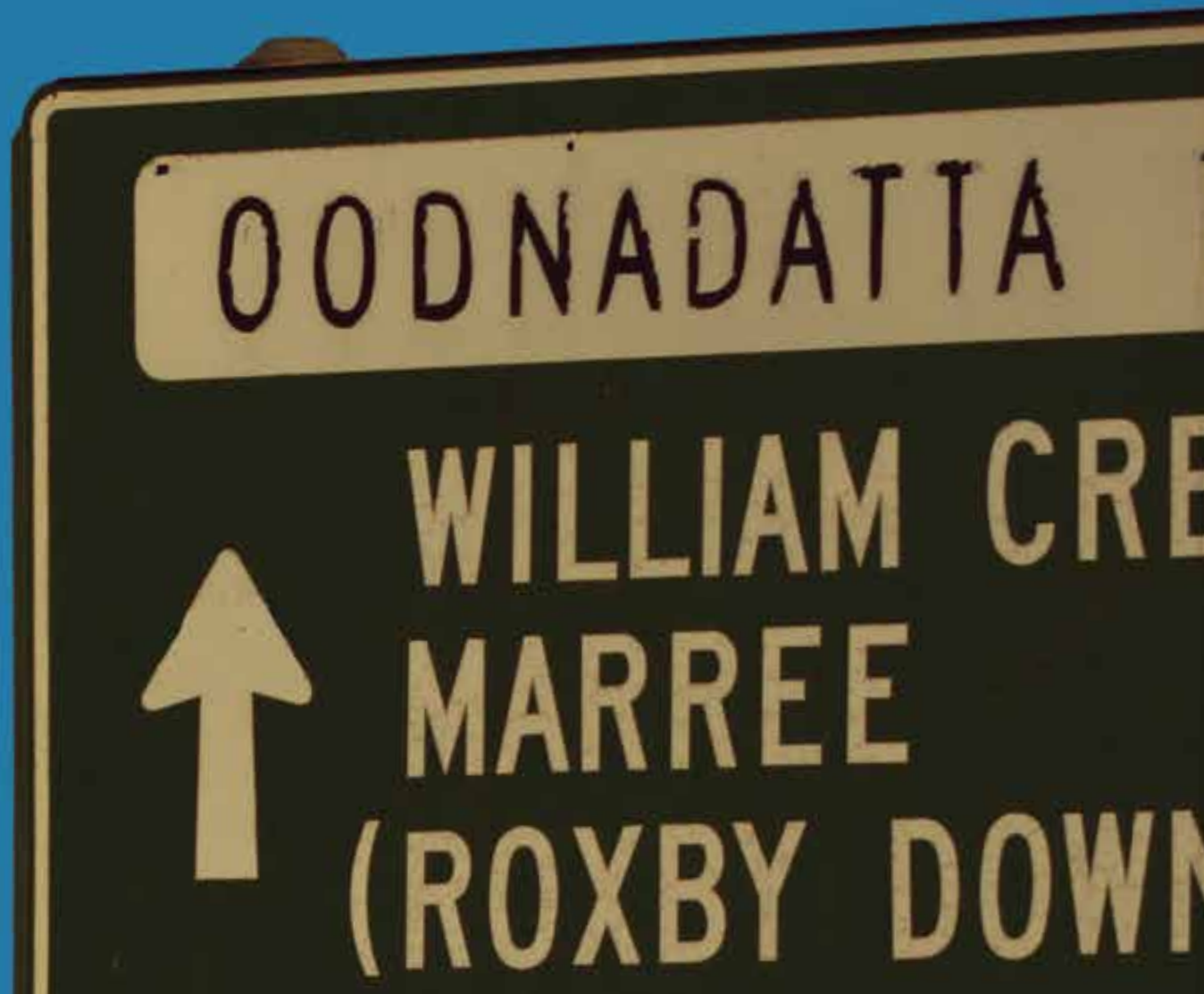
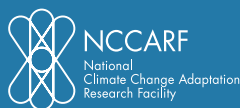


Arabana Climate Change Adaptation Strategy



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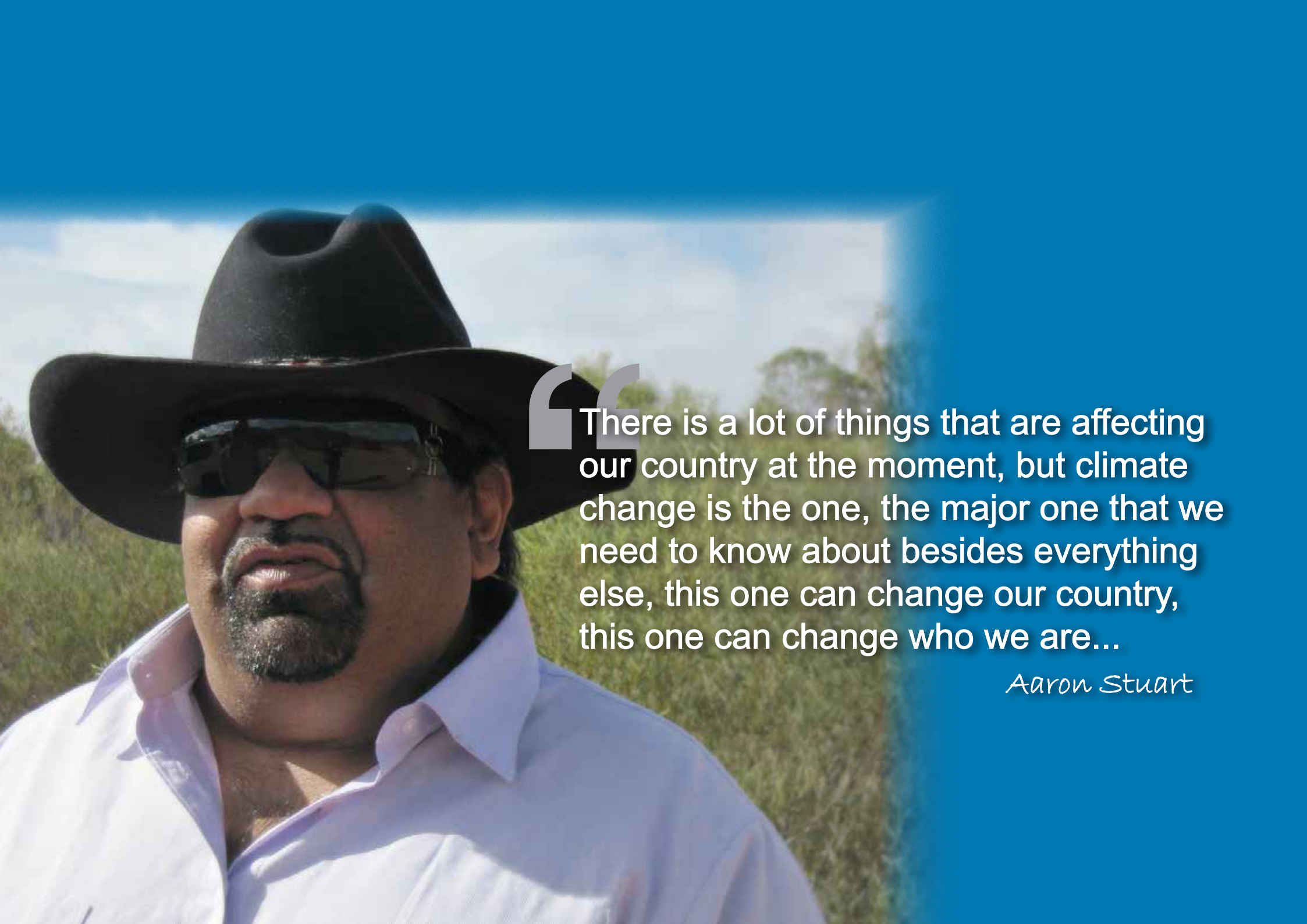
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Arabana

Climate Change Adaptation Strategy

February 2013



“There is a lot of things that are affecting our country at the moment, but climate change is the one, the major one that we need to know about besides everything else, this one can change our country, this one can change who we are...

Aaron Stuart

Introduction

Climate change is a major challenge facing the world. The United Nations has said that Indigenous peoples like the Arabana the whole world over will be affected by climate change. This means that Indigenous peoples will need to build adaptation strategies.

We the Arabana, are one of the peoples of the Lake Eyre. Due to colonisation, relocation, missionisation and the old Ghan Railway, we are now living across all of Australia, including Alice Springs, Oodnadatta, Maree, Adelaide. Some of us still work on country in the pastoral stations of Macumba, Peake, Anna and William Creeks.

This document sums up how we, the Arabana, are thinking about climate change, how it affects us, and what priorities we have decided are important in relation to climate adaptation. This document is a living document, that will be built on over time as we start to get actions happening. It is based on information we gathered during a year long project into climate change where we worked with University researchers to identify the science, risk, governance, technology and resilience dimensions of climate change for Arabana people and country. We learned that while Arabana people are very resilient and have a history of adaptation that the challenges of climate change are immense, and will affect our country and people. So we must work together to do something about it.

This document expresses our intent to build on our current strength, and our history of adapting to change over thousands of years to work together as a people to respond to this next challenge – that of climate change.

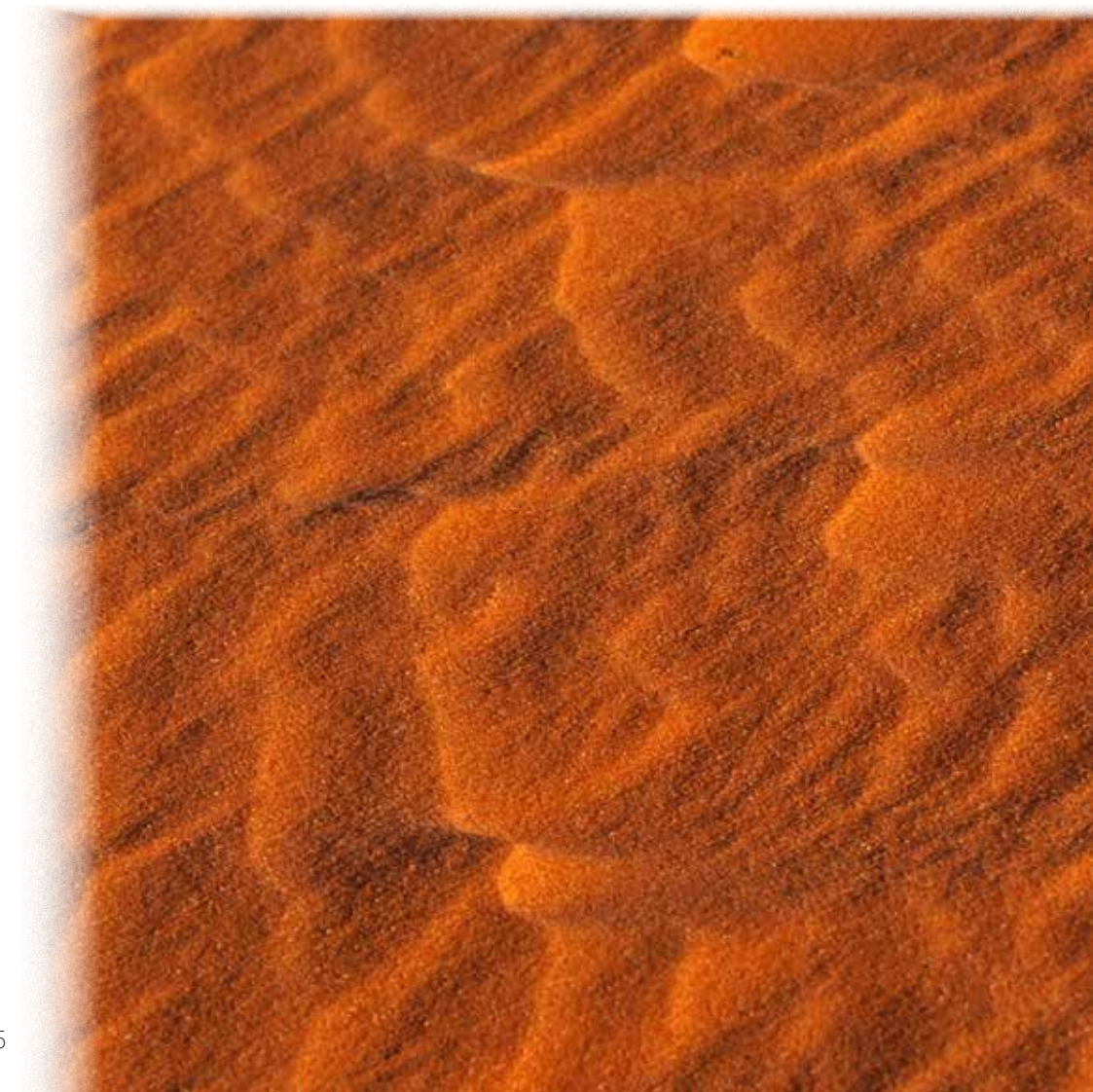
What do we mean by adaptation?

Adaptation is the process we use to respond to changes in our lives once the effect has occurred.

What do we mean by climate change?

Climate change is occurring when there is a change in the long term (over years) weather patterns, such as in rainfall, or storm/cyclone events, and which can cause impacts such as flooding, drought or sea level rise.

This is different from the weather which is the day to day climate – the temperature, wind, rain or sun we get on a day to day basis.



Climate Change - what is likely to happen in Arabana country and places where Arabana people live? Why do we need to adapt?

A climate science report written by Dr. John Tibby (2012) shows that whether we live in Darwin, Alice, Adelaide, Port Augusta or Marree, our people will experience the impacts of climate change. Our country too, is going to be affected.

What are the main impacts that Arabana need to prepare for?

Projected changes to Arabana Country

The report has found that a significant degree of climate change across Arabana Country now seems inevitable, and is likely to become increasingly apparent during the second half of the 21st century.

The report says this is a big challenge for Arabana people because the changes to climate might not be gradual but could happen in a series of steps, starting in the next twenty years.

For Arabana people living in Country, this is more challenging as we already live in a place with a very unreliable climate. This means Arabana people will have to adapt to the double challenge of dealing with natural variability plus climate change.

In population centres such as Marree and Coober Pedy, the climate is projected to warm by between 1.0 and 1.5°C.

This amount of warming is equivalent to the current temperature difference between Port Augusta and Roxby Downs. For Port Augusta, change is more moderate and likely to be between 0.5 °C and 1.0°C.

It is probable that the degree of warming that will be experienced in the period 1990 to 2030 will be greater than that experienced in the 20th Century.

Arabana Country cont...

This highlights that it is not only the degree, but the rate and manner, of warming that will present adaptation challenges for Arabana people in Country.

By the year 2070, the next step in change is projected with temperature increases in Arabana Country by between 1.2 and 4.7°C. Warming will be greatest in Summer and Spring with warming of 1.3°C to 5.1°C and 1.3°C to 5.3°C depending on how much carbon people keep polluting the atmosphere with.

In Marree the number of really hot days above 40°C will rise from 28 to 37°C. In Oodnadatta, the number of really hot days above 40°C will increase from 37 to 47 by 2030. By 2070, projections indicate a doubling of the number of days above 40°C.

Predicting rainfall changes is more difficult. Some scientists suggest more, others less. However, when combined with predicted increases in temperature, substantial declines in the availability of surface water, run off and soil moisture can be expected as a result of substantial increases in evaporation.

Projected changes to Adelaide

In many ways the projected changes predicted for Adelaide are similar but more moderate than those that are projected for Arabana Country.

Under moderate scientific models the number of days predicted to exceed 40°C is likely to double (from 2.3 to 4.8).

Rainfall is projected to decrease 4% by 2030. By 2070, based on average model outcomes, a decrease in rainfall of between 4% and 7% is projected.

Projected changes to Alice Springs

Annual average temperatures in Alice Springs are projected to increase by between 0.8 and 1.6°C by the year 2030.

Under moderate scientific models the number of days above 35°C will increase from 90 per year to 109 per year.

Scientists are less certain about the rate of temperature change in Alice Springs by 2070. Some suggest increases from 1.9 to 3.7°C, whilst others indicate a warming of 5.2°C.

Rainfall in Alice Springs by 2030 could decrease by 6%.

By 2070, the level of rainfall could decrease by 7% or increase by 6%.

Projected changes to Darwin

By 2030, annual average temperatures in Darwin are projected to rise by 1.0°C, with an increase of up to 1.4°C possible.

Median climate model predictions for Darwin indicate the number of days where the maximum temperature exceeds 35°C could rise from the current rate of 18 to 44.

By 2070, Darwin could see temperature increases in the range of 1.7 to 3.2°C.

Although this increase in temperature is less than other areas where Arabana people live, because Darwin is already a very hot place, the number of extreme days over 35°C could increase between 89 and 227 days depending on the level of carbon emissions humans continue to pollute the atmosphere with.



Dr. John Tibby

Key issues

Our people have seen much change over many decades. The information in the table overleaf and the quotes on this page are the key issues raised when the University people talked with Arabana about climate change.

“The old people say that if the land is sad, the people are sad. If you look at it now it’s not like I it was when they were growing up, so they are sad”

“Changes are mainly around where we went hunting and camping around Lake Eyre – now it’s all dead, even the trees and bushes even around Finnis Springs, all dead, and here at four mile sand hills, much less, Another one the Bubbler – water today hardly any water there. Used to be birdlife, ducks and swans it sad to see that. Belly button plants don’t see them so much on sand hills – parachelia too – another plant cattle used to thrive on, live on it, so could live on sand hills for weeks on end – couldn’t find it now, but maybe cos of climate change, maybe cos of lack of rain”

“All the time I visit country – there’s been a big change. Everything has changed, Completely changed. In my days when I was there, when I was a child, well, there seemed to be lots of plants and animals around – now they are dying out and there hardly any animals left and there are other animals there now like cats and stuff. They moved in. That’s a big change –when I lived in Kurdimurka, it was a big sandy creek with gum trees, but there no trees or sand anymore. Even Kurdimurka itself we used to gather lots of yams and stuff nothing there now salt and sand killed it all”

“With climate change – the whole cycle of bush food as in kangaroos, you know, ...we can’t get enough of that bush food and I know roos going into national park getting sanctuary – our country was good place years ago, lots of roos, turkeys, emus, and lots of goannas, lots of Perentie. . Where now it’s like hard to find – you know there is supposed to be fruit ready for this time of year but they not ripe at right time or even there to fruit. Climate change is affecting growing of things and also affecting trees”



Water

"Water is a big issue for us. Over the years we have witnessed many changes to the water courses and flows. Overall we have seen there is less water, whether from mining or climate change. If we are to move forwards as a people, we need to work out how to respond to the issue of less water, more intense storms, flooding and sea level rise".

"We could find water in soakages in old days – that's what we grew up on – nowadays hard to find water even in those soakages. That kept us alive then! What a marvellous job the old people done! We done hard yakka like the old people then, we started off with nothing. Everything done special way. Old people prepared for everything, had to work in with the land, the weather, the climate and we had watering points, bores, water holes, the rain was far apart, so we'd go from spring to spring..happen no more, water going..."

Flora

"As a people we have relied on plants and animals for food, medicine and for our traditions and culture. We have noticed many changes to the land, our plants and our animals. We need to work out how to bring some for plants and animals to come back, how to look after them and how to continue our cultural traditions and stories that relate to them. For example, the Perentie, the Perentie monitor is one of our totems, important for our dreaming but they are harder to find these days".

"When we used to go to creek and get spring onions out – yonkas used to eat all those berries- thunka – wild tomato – you see them sometime now but used to be thick eh, and those poppers we used to step on them eh. No more. And the trees are not really shady now eh, they are starting to die off, mulla – mulgas going, used to be thick but now these here now you can look straight through them"

Fauna

"Lizards we had, big and used to be lots and in great numbers, big goannas and stuff like that hardly any now except for little ones, bearded dragons hardly any round now. See them everywhere, the shingleback, the sleepy lizard – hardly any more, in olden days they were in great numbers."

"In Marree, Mum used to go hunting for Perentie. Our dreaming. One of the things in our stories. Used to get them and eat them but not sure you get them so much today."

Weather

"Over time, wherever we live we have seen a big change in the weather. This has included feeling it get hotter, but colder in winter, from seeing ice to not seeing it any more, to experiencing more intense rains and floods, but also it being dryer than it used to be, for longer".

"Used to be cold like it is now, and used to get a lot of wind and stuff, now the wind doesn't seem to be as strong, ground is all eroded, even camp at Kurd-umurka, plenty of sand, level, now more or less on a sand hill, high! Country sand hills all gone, sunk down earth or soil there before all blown away! Wind has had effect and it's hotter now too in summer time, and winter time bloody cold. Hotter now, hotter for longer maybe, always hot but more days now that are hot"

"Big dust storms and droughts those days -such big red dust you couldn't see anything wind just blew everything"

"You know there is some change – weather in as changed when I first came here used to get ice on the windscreen a lot haven't noticed that so much, used to be regular thing you know."

"Tides and everything changes, coming up higher all the time – washing the grass areas and have to put matting stuff up where we sit, it is changing, ocean levels are rising in Indonesia places are sinking"

"Look here when I was a kid it would rain for months, even when it slowed down it still sprinkles – doesn't happen anymore."

Livelihoods

"A key priority for us is to work out how Arabana people, especially young people, can find work – wherever we live, and especially on and in country. If we want Arabana people to return to country, there has to be something there to assist them to live. A key way of us adapting successfully is being able to live sustainably and within our country. We need to find ways of living and earning a living via some form of livelihood".

"I think Arabana are vulnerable to climate change – when you go out there - there is nothing there, if there was something there for people to live in Marree, Finnis Springs but there is nothing there- no working in the area, there is work in the mines if you want that sort of thing eh? ... persons like me may want to go sit down there, can't do that unless you are on a pension got a decent car, yeah and our traditional people, that's not there, there is no water, old people too hard for them, same as those two houses built at Dalhousie – employment too -why would you want to go live way out there unless you are working as a ranger unless there is work there? Got to be some kind of work you know, If there is work there, you don't mind going living there. It does matter - work creates need for schools, health services...."

Keeping culture

"Arabana people need to maintain culture and cultural tradition. We also need to keep our sites. Climate change has the potential to damage and in some cases erode our sacred and cultural sites altogether. This is something we need to think about and develop strategies to manage this issue".

"I think it's the loss of culture and traditions, the language, I don't know any language I tried to learn it and it is hard – a lot of this will be lost and that is a real shame."

"Dreamtime sites, including the Bubbler, are changing rapidly threatening the whole creation story for Arabana people".



He found its tunnel and, at last, the snake. He pulled it from the ground and killed it...



Bidalina... the snake's writhings are the water movements in this spring ('The Bubbler')



Building on past strength by adapting forwards

“Arabana are strong, we’ll be resolute, whatever we need to do we will do” (Syd Strangways 2012).

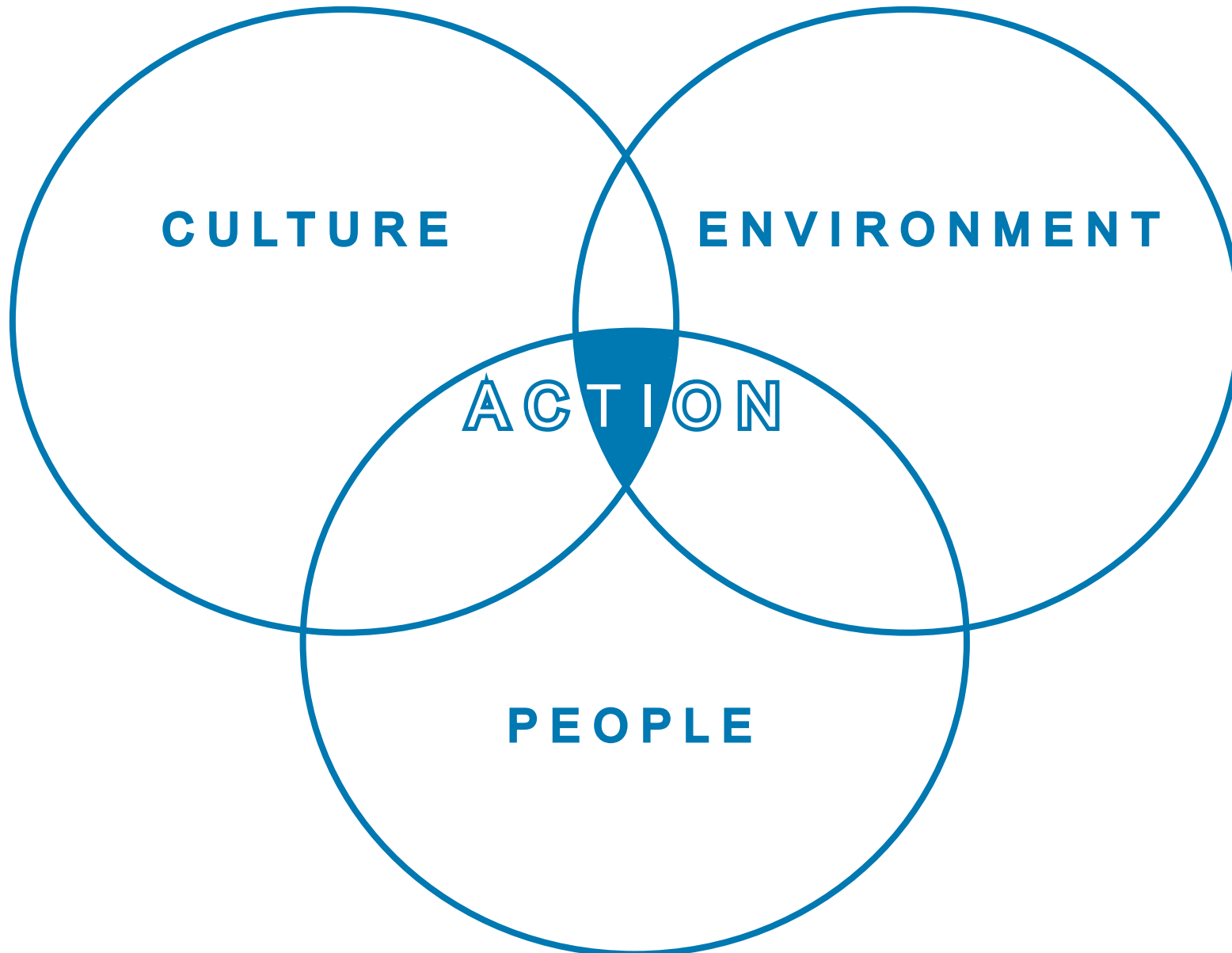
Goals

Based on the science, the consultation and the key issues that we are facing we have identified a number of key priorities.

These are:

1	To keep connection to country as a pathway to building community, cultural regeneration and adaptation
2	To ensure that any action on climate change will also build the Arabana community
3	To ensure that our governance and communication of the issue of climate change represents Arabana across all of Australia, and covers not Arabana country but builds the resilience of and connection between all Arabana, wherever they live

As a result of the above priorities we assert that action on climate change needs to be via the bringing together of three key issues:
culture; environment; and people.



Adaptation Actions

“You definitely need adaptation for the country. To keep it to be the beautiful place that it is. The place is changing so need to keep up with the change. That place is my heritage is my family – I want to take my kids out one day to show it to them “

1. CULTURE (Rekindling the Spirit)

Actions:

- Establish an annual May 22nd on-country gathering.
- Undertake a cultural audit (in partnership with universities).
- Prepare a cultural development plan.
- Establish a Cultural Keeping Centres in Arabana Country and the places where Arabana people live..
 - o Initially for Arabana people to promote culture.
 - o Access to others (for a fee) to follow.
- Establish an Elders Sub-Committee.
- Support people returning to country by engaging them in cultural activities.
- Undertake cultural camps for young people on country.
- Establish an Arabana genealogy.
- Promote Arabana language.
 - o Arabana dictionary.
 - o Teach young people (e.g. on Summer cultural camps).





ENVIRONMENT (Taking Control of Country)

Actions:

- Develop an Environmental Management Plan incorporating:
 - o Covering all country, not just Finniss.
 - o Environmental monitoring.
 - o Revegetation (focus on bush tucker plants).
 - o Establishment of a ranger station with rangers to implement the plan.
 - o Engagement with adjoining national parks.
- Establish a Land Management Sub-Committee.
- Have a caretaker at Finniss.
- Improve physical access to country including:
 - o Developing more tracks in Finniss.
 - o Develop access to other places (e.g. graves).
- Protect, restore and put plaques on sites of cultural importance.
- Establish infrastructure at Finniss to encourage more Arabana to visit including:
 - o Systems for rainwater collection/storage.
 - o Toilets.
 - o Power.
- Initiate political engagement with mining industry relating to water extraction
- Purchase more country through ILC
- Tourism development
- Lobby for place names to be returned to the Arabana names.

PEOPLE

Actions:

- Build or adjust housing so that it is designed for climate change impacts.
- Encourage healthier living that will help Arabana people cope with a hotter climate and other climate change impacts.
- Establish education initiatives that will:
 - o Reinforce Arabana culture.
 - o Enable meaningful work to be undertaken.
 - o Access scholarship opportunities to support our brightest.
- Promote young people by:
 - o Understanding respect needs to go both ways.
 - o Encouraging them to continue the fight for country.
- Record the history of elders while they are still here.
- Generate and seek employment and livelihood opportunities.
- Make country more financially accessible to all Arabana.
- Establish a digital communication sub-committee.



Priorities for Adaptation Actions

We cannot do everything at once, so we have to make some decisions about what is most important and build slowly to undertaking all the adaptation actions suggested above. It is also important to remember that a lot of the things we might do about climate change will also help us overall as a people, so we need to prioritise actions that bring together and help people, culture and the environment.

For now, we have identified a few pressing issues that we think represent people, culture and environment and which would be important first steps to working towards climate adaptation. They are not in order of priority of importance as they are all important to us. Some of these will be easier for us to do on our own or lead – such as getting back to country or developing land management, while others, such as the water situation will take a lot of work from us, in partnership with other groups and organisations.

Our strategy now is to maximise opportunities that become available to us. This could be accessing grant schemes, exchange programs, access to expertise and researchers and participation in research, climate change, cultural, environmental or Indigenous networks..



P R I O R I T Y

Setting up land management centres

Set up outstations, rangers, monitoring programs for our country

This includes programs to undertake monitoring, fire burning, setting up nurseries, developing plans to develop heat management programs

“Need to be on country to actually monitor changes and other things”

P R I O R I T Y

Building connection and culture - bringing people back on/to country

“Need to strengthen people to withstand climate change, get them to look after that country, respect that land. Lots of people would jump on the opportunity to go back to country”

P R I O R I T Y

Sorting out the water situation

“Water is the crucial thing. Finding ways of keeping water in country – you see mound springs drying up, it’s really sad. Huge vulnerability. Need food for plants, shelter, not just about finessing modern options it’s about survival out here. Not just putting in air conditioning there’s a lot more to it that putting in an air con and getting petrol to fuel it”

P R I O R I T Y

Getting young people involved

“You up against a lot of things with young people- they got TV, football, discos, games, hard to drag them away but when you get them up there they love it- the ones that are interested they really good. They love going out once they here. It’s getting them here. We should get busload of youth up here every fortnight – not years apart, but regular, then they know, finish jobs off, see the country. We got to be there to look after country and then hand over to the young people. Otherwise it will fall away, As soon as it starts they will click then”

“Get young kids to go out on camps to country, get young kids taken out by old folks”

P R I O R I T Y

Building local economies

“I think we need to get something like tourism back on country there now we have native title. There has to be something back there, whether in Marree or Finnis Springs, something so that people can visit it, a cultural centre there, something big for the tourists to see, if you got tourists visiting it gets all over the world.

Some good ideas

No we have thought about climate change, understand the impacts of climate change, what we might experience and how we have adapted to change over thousands of years, we can now think about adapting forwards.

Based on the priorities we have just outlined, here are some good ideas about groups and programs we might use and access to help us start implementing our adaptation actions and build connection between Arabana people, our culture and the environment.

Drought prevention:	www.drought.unl.edu/Planning/PlanningProcesses/Drought-ReadyCommunities.aspx 4 9/26/11:sw
Climate adaptation	http://www.ukcip.org.uk/wizard/
Engaging communities	wwf.panda.org/about_our_earth/all_publications/?uNewsID=162722
Adaptation database and planning tool	www.icleiusa.org/programs/climate/Climate_Adaptation/adaptation-database-and-planning-tool-adapt
The Traditional Knowledge Revival Pathways Project	http://www.tkrp.com.au/
Tribal Climate Change toolkit	www4.nau.edu/itep/index.asp
Grant options	The Christensen fund: http://www.christensenfund.org/
Working on Country	http://www.environment.gov.au/Indigenous/workingoncountry/index.html and http://www.environment.gov.au/Indigenous/grants.html
Ranger and Land Management Training options	http://www.environment.gov.au/Indigenous/workingoncountry/training-providers/tafesa.html
Setting up Indigenous Protected Areas	http://www.environment.gov.au/Indigenous/ipa/background.html
Urban Adaptations	http://www.c40cities.org/about
Climate Friendly Building Design	Centre for Appropriate Technology: http://www.icat.org.au/

Not the end...

We have started the journey of adapting to climate change. This document sums up some of our issues and plans for how we could deal with it. It will be a long journey but we are a resilient people and this is an opportunity for us to continue to build ourselves, our country and our traditions.

We got to talk together, stick together and try to do something there... work together, and everybody can get success.

Ken Buzzacott

