Climate Change Adaptation for Indigenous Communities: An overview

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Climate Change

Extra heat is kept in the air by 'greenhouse gases' produced from human activity.

Some sunlight is bounced back into space.

Less heat is able to be released into space.

Some heat is naturally kept in by gases in the air like water vapour.

Complex Web of Climate Change

Social-Ecological Systems

- Climate Change
- Impacts and Vulnerability
- Socio-Economic Development
- Mitigation
- Adaptation

Climate Process Drivers
Complex Web of Climate Change

Social-Ecological Systems

Climate Process Drivers

Socio-Economic Development

Impacts and Vulnerability

Colonisation

Mitigation

Adaptation

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Indigenous peoples and climate change

Impacts of climate change

- Sea level rise
- Coastal erosion
- Availability of plant and animal species
- Food security
- Water security
- Extreme weather events
- Human health

Photo: TSRA 2009
Sea Level Rise

- Inundation
- Coastal erosion
- Salinisation of water and soils
- Damage to built environment
- Damage to cultural heritage sites
- Changes in ecosystems
- Water and food insecurity
- Livelihoods options
Impacts on availability of flora and fauna

• Changes in distribution, quantity, and quality of marine, freshwater and terrestrial flora and fauna

• Interaction of climate and non-climate related factors

• Loss of traditional food sources

• Loss of cultural practices

• Loss of livelihoods (art, tourism etc)

• Flow on effects of human health, community cohesion

Photos: Kyle Taylor and codgoblog (CC)
Four principles to guide adaptation research for Indigenous communities

• Emphasise local and regional scales

• Forms collaborative research partnerships with Indigenous organisations

• Employs participatory and adaptive learning research methods

• Builds on national and international research
IC NARP: Research Priorities

- Interaction between climate and non-climate related risks
- Vulnerability
- Adaptive capacity
- Extreme weather events
- Population movement
- Biodiversity resources
Adaptation

- What are we adapting to?
- How do we adapt?
- What do we want to achieve?
- Who adapts?

Diagram adapted from Preston and Stafford Smith 2009

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Adaptation

What are we adapting to?

What do we want to achieve?

Who adapts?

How do we adapt?

Climate
Consequences
Vulnerability
Resilience
Scale

Diagram adapted from Preston and Stafford Smith 2009
Adaptation

What are we adapting to?

Who adapts?

Constraints

What do we want to achieve?

Adaptation

Limits

How do we adapt?

Diagram adapted from Preston and Stafford Smith 2009

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Scope
Benefit
Strategy
Foresight

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Adaptation

What are we adapting to?

Who adapts?

Constrains

Limits

What do we want to achieve?

How do we adapt?

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Adaptation: framing and options

- Impact specific
- Disaster risk reduction
- Mainstreaming
- Vulnerability reduction
Adaptation: framing and options

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- Vulnerability reduction

Sea level rise - seawalls, raised houses, beach replenishment, relocation
Adaptation: framing and options

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Adaptation: framing and options

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Heat waves - early warning system, social networks, housing design, household and workplace infrastructure
Adaptation: framing and options

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Adaptation: framing and options

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Climate change adaptation incorporated into local government policies and town
Adaptation: framing and options

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- Disaster risk reduction
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Adaptation: framing and options

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Community based adaptation: community-led process, enhancing livelihood options, increasing access to information and services, preventing and managing conflict over scarce resources, incorporating local values, prioritises, and needs into decision-making.
Adaptation: framing and options

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Adaptation strategies
Questions?