the HUNGRY tide

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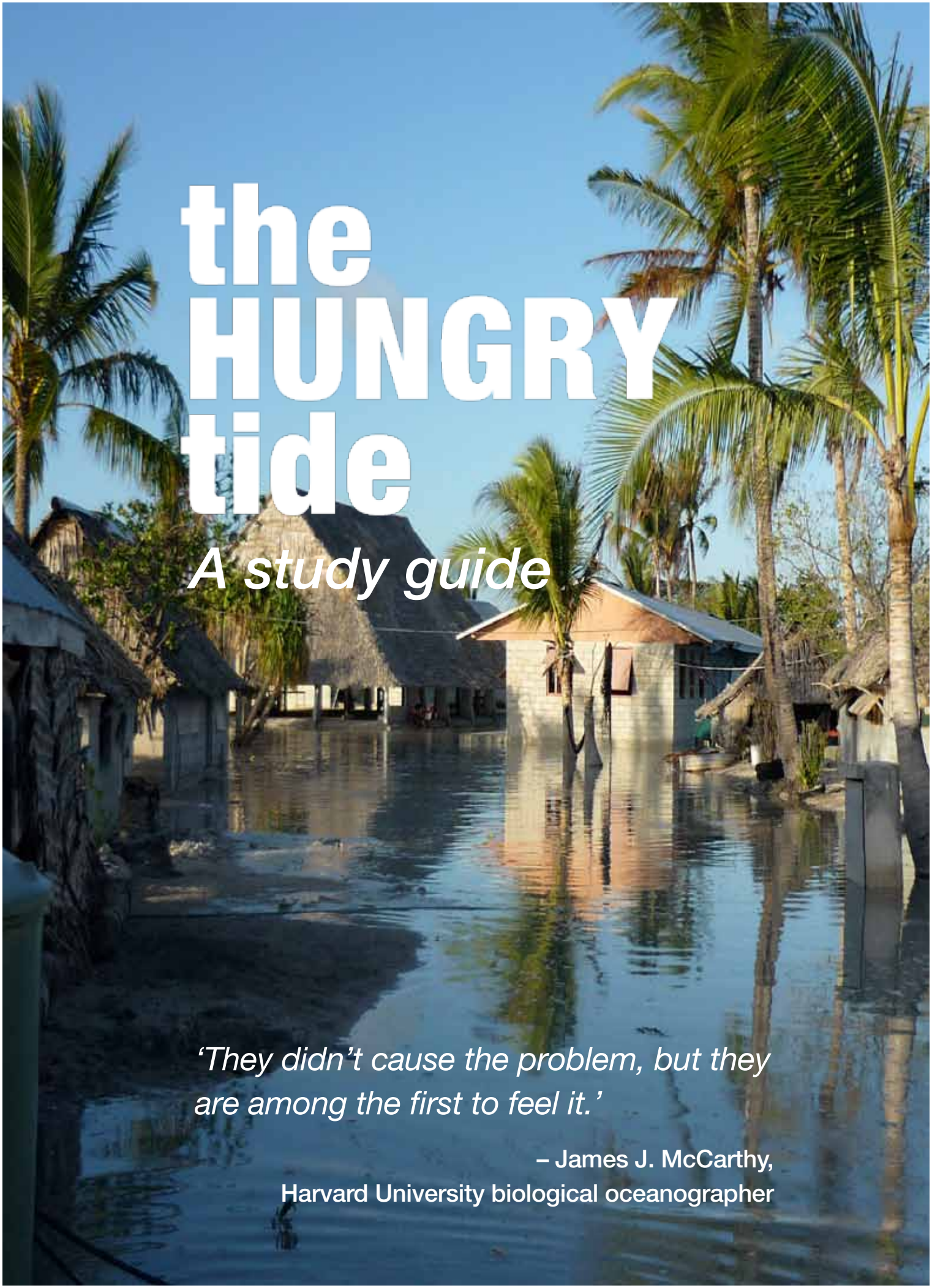


the HUNGRY tide

A study guide

'They didn't cause the problem, but they are among the first to feel it.'

– James J. McCarthy,
Harvard University biological oceanographer

INTRODUCTION

The Hungry Tide looks at the plight of low-lying Pacific countries by showing the 'human face' of climate change. The Pacific nation of Kiribati (pronounced *Kiri-bas*) is one of the countries in the world most vulnerable to climate change. Kiribati is composed of thirty-three atolls spread over 3.5 million square kilometres and is considered one of the least developed countries in the world. Global warming is causing the sea levels to rise, and these rising sea levels are threatening the lives of 110,000 people.

Maria Tiimon, originally from Kiribati, now lives in Sydney, where she works with schools and community groups raising awareness of climate change issues in the Pacific. Maria's spiritual home, however, is the small Kiribati atoll of Beru. This is where her father lives, a proud village elder, whom Maria idolises. Her family is poor and relies on Maria's meagre income for support. The pressures on Maria, not only from her needy family, but from her sinking nation, are enormous. Her aim is to take the message of the Kiribati people to the world.

The Hungry Tide traces Maria's efforts to raise awareness of the issues her country is facing on the international stage. The poignancy of a small non-government organisation (NGO) acting as advocates for Kiribati at the United Nations Climate Change Conferences in 2009 and 2010 is an important story that is relevant for all global citizens.

CURRICULUM RELEVANCE

The Hungry Tide could be used as a stimulus for student discussion to about the political, social and scientific issues associated with climate change. It is suitable for upper primary to senior secondary levels. It is most relevant to Science, Humanities, Religious Education, Geography, English, Media and Multidisciplinary Projects. The film allows educators to address all of the General Capabilities of the Australian Curriculum; detailed activities are described below.

Sustainability addresses the ongoing capacity of Earth to maintain all life. Sustainability is one of the three cross-curriculum priorities proposed within the Australian Curriculum.

In *The Hungry Tide*, climate change and rising sea levels are presented as critical threats for sustaining life in low-lying places such as Kiribati. *The Hungry Tide*, then, represents an authentic avenue through which to study sustainability. Students can initiate self-directed work around ideas like the connectedness of global ecosystems, the importance of a clear world view, and our own impact on the future.

AUSTRALIAN CURRICULUM, CROSS CURRICULUM PERSPECTIVE:

Sustainability

OI.1 The biosphere is a dynamic system providing conditions that sustain life on Earth.

OI.2 All life forms, including human life, are connected through ecosystems on which they depend for their well-being.

OI.3 Sustainability of social and economic systems is closely related to sustainability of the environment.

OI.4 All people are connected through social systems on which they depend for their wellbeing.

World view

OI.5 Communities throughout the world have a common interest in maintaining environments for the future and deserve to be treated equitably.

OI.6 A world view is important to ensure social justice and the effectiveness of action to improve sustainability.

Futures

OI.7 Sustainability action is designed to intervene in ecological, social and economic systems in order to develop more sustainable patterns of living.

OI.8 Sustainable futures are shaped by our behaviours and by the products, systems and environments we design today.

OI.9 Products, built systems and environments can be designed and/or managed to improve both people's well-being and environmental sustainability.

OI.10 Social and economic systems can be designed, managed and/or used to improve both people's wellbeing and environmental sustainability.

MARIA'S JOURNEY

The Hungry Tide follows Maria Tiimon's personal journey, as she becomes increasingly confident in her role of advocating for her people. We see her understanding of the connection with place, land and spiritual identity deepen when she returns from Sydney and spends time with her family. These feelings are further validated as her people face potential disaster due to climate change and she herself understands more fully the cause of this imminent disaster.

We also see Maria's personal journey as she deals with the sudden death of her mother and the illness of her father. These tragic events mean Maria needs to draw on her inner strength to continue working and fighting for justice for the people of Kiribati.

These emotionally turbulent times provide a catalyst for Maria to become more independent and confident in her own capacity to deal with the magnitude of issues the Kiribati people are fighting. While initially she feels lonely and disconnected living in Sydney, we see her understanding of her role and purpose deepen. We also see Maria experiment with a romantic relationship as she develops an online relationship with Chif-ang, a young policeman whom she met a year earlier in Tarawa. Maria's professional life is challenging. She represented the Pacific Calling Partnership (PCP) at the United Nations Copenhagen Climate Change Conference (COP15) in 2009 as a member of a non-government organisation. She also formed part of the delegation to the Cancun Climate Change Conference (COP16) in 2010.

THE GLOBAL POLITICAL CONTEXT

THE 2009 UNITED NATIONS CLIMATE CHANGE CONFERENCE (COP15)

The 2009 United Nations Climate Change Conference was held in Copenhagen from 7–18 December. According to the Bali Road Map, a legally binding framework for climate change mitigation beyond 2012 was to be agreed there.

The Alliance of Small Island States (AOSIS) came to the COP15 Conference with a strong united voice and with high expectations. AOSIS is a coalition of small islands and low-lying coastal countries that share similar development challenges and concerns about the environment, especially their vulnerability to the adverse effects of global climate change.

The Tuvalu's chef negotiator Ian Fry proposed a framework for a new legally binding agreement to complement the Kyoto Protocol. The proposal supported by AOSIS argued that all countries – whether developed or developing – would be forced to cut emissions to keep average global temperature from rising more than 1.5 °C above pre-industrial levels. It is argued that any increase in temperature greater than this would cause a significant rise in sea levels and would spell disaster to a majority of these low-lying nations.

In the months leading up the conference, a number of western nations (in particular Australia) had agreed to support this position. However, as the conference progressed, they began to back away from earlier undertakings and instead decided to back measures to hold temperature rises to 2 °C . The Tuvalu proposal was dropped after it was considered unacceptable by fast developing nations like India and China. There were also suggestions of bullying and intimidation of Pacific nations by Australia and New Zealand.

In lieu of a summit collapse, the Copenhagen Accord was drafted by the US, China, India, Brazil and South Africa. It was 'taken note of', but not 'adopted', in a debate of all the participating countries the next day, and it was not passed unanimously. The document was not legally binding and did not contain any legally binding commitments for reducing CO2 emissions. Instead, it asked nations to voluntarily pledge carbon emission reduction targets. The agreement also pledged US$30 billion to the developing world before the end of 2012 rising to US$100 billion per year by 2020, to help poor countries adapt to climate change. By the time of the next United Nations Climate Change Conference (COP16) in Cancun in late 2010 less than 5 per cent of these funds had been committed, and none had reached Kiribati.

One of the main outcomes of COP16 was an agreement adopted by the states' parties calling for a large 'Green Climate Fund'. This fund, proposed to be worth $100 billion a year by 2020, is to assist poor and developing nations adapt to the adverse effects of climate change. However there was no agreement on how the money for the fund will be raised, or whether developing countries should

have binding emissions reductions or whether rich countries would have to reduce emissions first. There was widespread criticism over the deferral of decisions on the legally binding treaty specifying level of emission reductions required.

ABOUT THE DIRECTOR

For the last thirty years Tom Zubrycki has mapped Australia's changing social and political landscape. He has directed fourteen documentaries, many of them feature length, and has produced another twelve with emerging filmmakers.

As a director, Zubrycki is respected for his observational storytelling style and ability to get close to his subjects. His key associates include long-time collaborator, editor Ray Thomas.

Zubrycki's most celebrated films include *Kemira – Diary of a Strike* (1984), a blow-by-blow account of an underground sit-in strike in a mine near Wollongong. The film won an AFI award for Best Film. He also directed *Billal* (1996), and *The Diplomat* (2000); the latter secured two AFI awards, for Best Film and Best Direction. In 2003, Zubrycki directed *Molly & Mobarak*.

In 2010, the Australian International Documentary Conference presented Zubrycki with the Stanley Hawes Award, which recognises outstanding contribution to documentary filmmaking in Australia.

PRE-VIEWING ACTIVITIES

Ask students to visualise a tropical island.

- Would there be local people?
- Where would the local people live?
- What would the vegetation look like?
- What would the local people do?

Ask students to make a quick sketch of these images. These can be compared with what is actually shown in the film, once they have viewed it.

- Look up a map of Kiribati using Google Maps. What is unusual about this country?
- What is the capital of Kiribati?
- How many people live there?
- As a class, develop a concept map (or have a brainstorming session) with climate change at the centre. Use this to ascertain students' prior knowledge.
- Ask students to develop a poster or cartoon strip that explains the enhanced Greenhouse Effect.

Many students will only have vague ideas about the science behind the so-called greenhouse effect. This clip may be useful to help build their understanding: <http://earthguide.ucsd.edu/earthguide/diagrams/greenhouse/>.

THE OZONE LAYER AND THE GREENHOUSE EFFECT

Teachers may need to explain explicitly the difference between the 'hole' in the ozone layer and the greenhouse effect.

Both the greenhouse effect and depletion of the ozone layer are environmental problems that we have contributed to and that are related to the sun. An enhanced greenhouse effect is linked to the Earth's infrared (heat) rays, while the damage to the ozone layer is related to the sun's ultraviolet (burning) rays. The greenhouse effect seems to be accelerating while the hole in the ozone layer is slowly being reduced.

See also <http://www.csiro.au/science/Climate-Change.html> for more information on the science of climate change.

GENERAL CAPABILITIES FOR THE TWENTY-FIRST CENTURY

Complex twenty-first century issues such as climate change require students to master a set of multi-dimensional abilities for global readiness. The imminent Australian Curriculum terms these abilities 'general capabilities'. There are seven general capabilities proposed in the Australian Curriculum:

- literacy
- numeracy
- information and communication technology (ICT) competence
- critical and creative thinking
- ethical behaviour
- personal and social competence
- intercultural understanding.

The questions and activities suggested are structured around the general capabilities as a progressive example of twenty-first century learning. Furthermore, *The Hungry Tide* addresses one of the Australian Curriculum's cross curricular priorities, Sustainability, which explores the ongoing capacity of Earth to maintain all life.

Literacy

Students become literate as they develop the skills to learn and communicate confidently at school and to become effective individuals, community members, workers and citizens. (Australian Curriculum, 2011)

Practical examples of sea-level rise, most noticeably in Kiribati, can go relatively unacknowledged in the media. The documentary *The Hungry Tide* illustrates that while climate change is often presented as a complex theoretical model whose impact may occur over long periods of time and in remote places, it is also real and tangible. *The Hungry Tide* attempts to raise the plight of low-lying Pacific countries by portraying the 'human face' of change within these countries. A focus, for example, is placed on individual characters and their stories within *The Hungry Tide* as a way to connect with the pending tragedy.

QUESTIONS AND ACTIVITIES

Go to the film's website <http://www.thehungrytide.com.au> and read about the various characters contained within the film.

- From a media literacy perspective, explore the ways *The Hungry Tide* has attempted to put a 'human face' to the sea-level problems in Kiribati.
  (Australian Curriculum: students begin to interpret, analyse, evaluate, respond to and construct increasingly complex texts [Comprehension and composition])

- Hold a debate on the topic 'Kiribati people need to take control of their own destiny'

- Write formal correspondence in the form of a letter to the prime minister of Kiribati, the United Nations or your own government, expressing your views about the situation in the Kiribati.
  (Australian Curriculum literacy: students begin to understand, use, write and produce different types of text [Texts])

Numeracy

Students become numerate as they develop the capacity to recognise and understand the role of mathematics in the world around them and develop the confidence, willingness and ability to apply mathematics to their lives in ways that are constructive and meaningful. (Australian Curriculum, 2011)

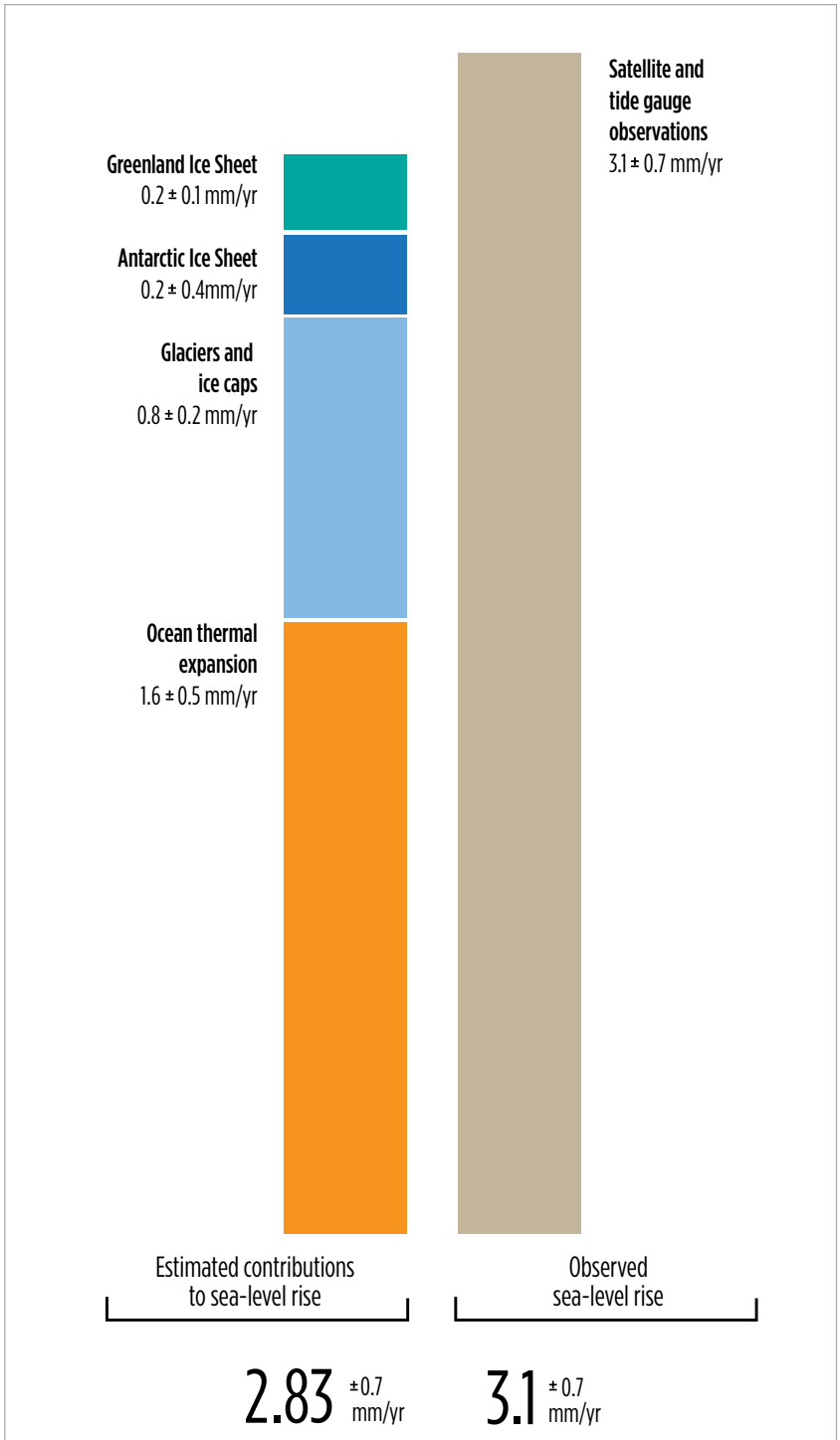
The Hungry Tide talks of the rise in sea level and king tides over a number of years. This could potentially be a result of human-induced global warming or simply of natural cycles. Effective interpretation of data is important in the analysis of the problem.

QUESTIONS AND ACTIVITIES

Why is the sea level rising?

Scientists are still discovering the reason for the rise in the sea levels.

- Look at the graph below and try and calculate what is believed to be the main contributor to sea levels rising.



Source: IPCC (2007). Climate Change 2007: The Physical Science Basis. Contribution of Working Group 1 to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (eds. S. Solomon, D. Qin, M. Manning, Z. Chen, M.C. Marquis, K. Averyt, M. Tignor and H.L. Miller). Intergovernmental Panel on Climate Change, Cambridge and New York; <http://www.unep.org/geo/ice_snow>. Cartographer/designer: Hugo Ahlenius, UNEP/GRID-Arendal.

It is believed that there are three potential factors contributing to rising sea levels.

1. Ocean thermal expansion. Due to greenhouse-gas-induced warming of the atmosphere and ocean, the temperature of the sea is becoming warmer. As substances become warmer they increase in volume. This is due to the particles moving more quickly and therefore taking up more space.

2. Melting of glaciers and ice sheets on large land masses.

3. Melting of polar ice sheets in Greenland and Antarctica. The ice is melting and is adding to the overall volume of the ocean. The ice sheets of Greenland and Antarctica have the potential to make the largest contribution to sea-level rise, but they are also a source of uncertainty.

How high will the sea rise?

Scientists differ in their predictions of how high the sea level will rise. More conservative scientists suggest it will rise around 50 to 88 centimetres based on the data collected so far. However, it is difficult to predict the impact of the melting of the polar and Greenland ice sheets and some scientists believe the sea level could rise up to 1.9 metres above the current level.

- Describe some damage you observed on Kiribati due to the higher tides.

- Why do you think it is difficult to grow crops in those areas that are now covered by high tides?

  Kiribati is an archipelago of atolls. Each atoll is a ring-shaped coral reef that surrounds a central lagoon. The land rarely rises more than two or three metres above high tide level. Beneath the surface of most atolls, there is a lens shaped body of fresh water. The source of this fresh water is rainfall. Kiribati has experienced a significant drought over the last few years.

What do we know about sea levels in the past?

Sea level has varied by over 100 metres during past glacial-interglacial cycles. (See the graph below.)

- Describe the main changes that have occurred in sea level over the last 140,000 years?
- What started happening 20,000 years ago?

Access the NASA website at <http://climate.nasa.gov/keyIndicators/>. The site presents a range of graphs and charts depicting CO_2 and sea-level changes. Interrogate the figures and interpret the patterns. What do the charts tell you?
(Australian Curriculum: As they become numerate, students develop and use mathematical skills related to: Calculation and number, Patterns and relationships.)

- What effect would this have on their fresh water supplies?
- Rising sea levels, storms and tsunamis have the potential to contaminate the fresh water lens. Research how this may occur. (Hint: look at some images and diagrams of a freshwater lens first.)
- Rising sea levels on Kiribati threaten more than the buildings and infrastructure. What other problems could the rising sea levels cause for the Kiribati people?
- Why is Kiribati more vulnerable to the rising seas than other countries?
- Describe the effect on Kiribati if the seas rise by one metre.

Information and Communication Technology (ICT) competence

In the Australian Curriculum students develop ICT competence as they learn to use ICT effectively and appropriately when investigating, creating and communicating ideas and information at school, at home, at work and in their communities (Australian Curriculum, 2011).

The Hungry Tide shows a community that is isolated by distance. The use of ICT is critical to breaking down geographical barriers and communicating across distances.

QUESTIONS AND ACTIVITIES

Go to the Hungry Tide website <http://www.thehungrytide.com.au> and read about Linda Uan. How has she communicated to the people of Kiribati?

How does Linda support Maria throughout the film?

- Contact the Kiribati Government online and ask how to communicate with any interested schools in the region. Investigate the possibility of using Skype or email to communicate with Kiribati children of a similar age to you to get a first-hand account of the climate change pressures facing the community.
(Communicate with ICT: using ICT to communicate ideas and information with others adhering to social protocols appropriate to the communicative context [purpose, audience and technology])
- Join an online Kiribati climate change support group or start a Facebook page (for example) to raise awareness of the plight of the Kiribati people.
- Access Google Earth and find the Kiribati. Navigate around the main island to gain a visual sense of the orientation of islands to waves and tides, and look at potential sites for repair and defence against sea level rises.
(Investigate with ICT: using ICT to plan and refine information searches; to locate and access different types of data and information and to verify the integrity of data when investigating questions, topics or problems.)

Critical and Creative thinking

Students develop critical and creative thinking as they learn to generate and evaluate knowledge, ideas and possibilities, and use them when seeking new pathways or solutions. In learning to think broadly and deeply students learn to use reason and imagination to direct their thinking for different purposes (Australian Curriculum, 2011).

The Hungry Tide poses a difficult problem to solve. The problem for the Kiribati of rising sea levels is multifaceted, with many possible contributing factors. The physical action of waves hitting the shoreline is a major problem in terms of water entering the inland areas. The Kiribati government has tried many approaches to combating sea-level rises, from sandbagging to building concrete walls and large break walls.

QUESTIONS AND ACTIVITIES

- If you were able to communicate with an expert climate change scientist, what questions would you ask about sea-level rise?
  (As they develop critical and creative thinking students learn to: pose insightful and purposeful questions)

- Electronically, using free software such as Google SketchUp, or by physically manipulating materials, design and make a model of the shoreline of the main island of Kiribati with your solution to the problem. Consider materials, shape, strength, height, aesthetics and effectiveness in your solution.
  (Generate and develop ideas and possibilities, evaluate ideas and create solutions and draw conclusions, assess the feasibility, possible risks and benefits in the implementation of their ideas.)

- The concept of carbon debt for wealthy industrialised countries is now being explored. Should this debt for carbon debt be based on a country's relative wealth or its rates of carbon emissions?

Ethical behaviour

Students develop ethical behaviour as they learn to understand and act in accordance with ethical principles. This includes understanding the role of ethical principles, values and virtues in human life; acting with moral integrity; acting with regard for others; and having a desire and capacity to work for the common good (Australian Curriculum, 2011).

The Hungry Tide indicates that while it is mainly the low-lying countries that are currently suffering the brunt of climate change, we have all contributed to the problem through the burning of carbon. In fact, one could argue that developed countries like Australia, which are the biggest carbon polluters, have caused the problems for countries such as the Kiribati.

QUESTIONS AND ACTIVITIES

- What construction materials are used in the houses on Kiribati?
- Are the people of Kiribati rich in material goods?
- During the film we see the water flowing into the houses. What is the people's reaction to the damage to their homes and buildings?
- What do you think brings joy and happiness to the Kiribati people?
- What is role does religion play?
- What do you think is meant by the term 'climate change refugee'?
- What responsibility do we have to assist low-lying Pacific Island nations? Is it just bad luck for them? Do we have a responsibility to our fellow global citizens? Or as a country that has arguably contributed to the problem, do we have a responsibility to fix it? Would you help the Kiribati people? What practical measures could you undertake to assist the Kiribati people?
- How does our world ensure that smaller nations have a say in world decisions?
- How do you think Maria and her team felt when they went to the Copenhagen climate change summit and Kiribati wasn't even on the map?

- Write an argumentative essay around the statement: 'We have a moral responsibility to assist the Kiribati fight sea-level rise.'

Personal and Social Competence

Students develop personal and social competence as they learn to understand and manage themselves, their relationships, lives, work and learning more effectively. This involves recognising and regulating their emotions (Australian Curriculum, 2011).

In *The Hungry Tide*, a number of characters show great persistence in the face of adversity. The prime minister of Kiribati, Anote Tong, tried a multitude of avenues to raise awareness and support for the plight of his people. Maria herself pushed through great adversity in relation to her family to pursue her advocacy work. Phil Glendenning, Maria's boss who accompanies the group to Copenhagen, played an important role in monitoring the political manoeuvring of countries and attempting to keep them accountable and honest to the goals of the summit. The Tuvalu's chef negotiator Ian Fry proposed a framework for a new legally binding agreement to complement the Kyoto Protocol, and pushed and pressured governments with great tenacity.
(Manage their emotions and behaviour, persevere in overcoming obstacles, set personal and academic goals, and develop self-discipline, resilience, adaptability and initiative [self-management])

QUESTIONS AND ACTIVITIES

- Can you recall a time when you showed great persistence in the face of adversity?
- Where does Maria find the energy to keep fighting for awareness of the problems Kiribati is facing?
- It has been said that 'Industrialised nations have ignored their responsibility towards humanity.' What does this statement mean? Do you agree?
- Two uninhabited islands that were part of the Kiribati atoll have already disappeared under water. Describe your reaction to this fact.

Intercultural Understanding

Students develop intercultural understanding as they learn to understand themselves in relation to others. This involves students valuing their own cultures and beliefs and those of others, and engaging with people of diverse cultures in ways that recognise commonalities and differences, create connections and cultivate respect between people (Australian Curriculum, 2011).

The Hungry Tide talks about the relocation of the population to another country as a possible solution to the problem. This is a drastic measure – a nation's culture and history is almost inextricably linked to the land and water upon which it was formed. Indeed, *The Hungry Tide* illustrates Maria's innate need to stay linked

with her homeland through the story of her relationship with her boyfriend. The relationship symbolised her close emotional and spiritual commitment to her country.
(Consider what it might be like to 'walk in another's shoes', take responsibility for developing and improving relationships between people from different cultures in Australia and in the wider world)

QUESTIONS AND ACTIVITIES

- Indigenous Australians have a strong connection with Australia, the land and their sacred places. How would they cope if they were moved to another country?
- What things about Australia would you miss if our whole population was relocated?

In the film we see Maria aaccompany a delegation to Kiribati led by Australian indigenous leader Pat Dodson.

- Why do Indigenous Australians feel so much empathy for the people of Kiribati?
- Step inside the shoes of the Kiribati people and imagine what it would be like to lose your country. What would they miss most?
- How much of a nation's identity is connected to the actual place and landscape?
- How does a group form a unique identity?

REFERENCES

The film's website: http://www.thehungrytide.com.au

Kiribati Government website: http://climate.gov.ki

Science continuum – movement of particles: http://www.education.vic.gov.au/studentlearning/teachingresources/science/scicontinuum/l6moveparticles.htm

Sea-level rise: http://www.cmar.csiro.au/sealevel/index.html

The director: http://www.tomzubrycki.com

NOVA Science in the news: http://www.science.org.au/nova/082/082key.htm

The Greenhouse Effect explained: **http://earthguide.ucsd.edu/earthguide/diagrams/greenhouse/**

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