

### REFLECTION

- Have you ever considered a case study of the Torres Strait Islands when looking to integrate the *Cross-curriculum Priority Area: Aboriginal and Torres Strait Islander histories and cultures?*
- If you provided your students with a map of Northern Australia, could they successfully identify the Torres Strait Islands (TSI) and Australia's border with Papua New Guinea (PNG)?
- Can you answer these questions?
  - a. Who governs the Torres Strait Island (TSI)?
  - b. How far are the TSI from the coast of Papua New Guinea and Queensland?
  - c. What is the population of the TSI?
  - d. How did the islands in Torres Strait form?
  - e. What are the main sources of income for Torres Strait Islanders?
  - f. Name a feature of the physical environment that supports high biodiversity and the livelihoods of many Torres Strait Islanders?
  - g. What environmental changes (natural and human) threaten the future of the islands and the TSI people?
  - h. There is a treaty between Australia and Papua New Guinea. What is the purpose of that treaty?
  - i. What are the main cultural differences between Torres Strait Islander and Aboriginal peoples?
  - j. Describe features of the climate you would expect to experience if visiting the Torres Strait Islands.

### **SYLLABUS LINKS**

Activities to learn about the Torres Straits Islands and Torres Strait Islander peoples can be integrated into most topics for Geography 7–10.

- Landforms and Landscapes formation of Torres Strait Islands, cultural value of land and marine landscapes, landscape management
- Place and Liveability access to services and facilities, quality of life, cost of living, environmental quality, social connectedness, cultural identity
- Interconnections cultural connections to land and sea, trade connections, language
- Human Wellbeing liveability, GDP per capita, health, cost of living, employment
- Environmental Change and Management state of the environment, environmental change including climate change, managing land and sea
- Sustainable Biomes food security, sustainable use of marine biomes

### **Student Activities: Physical Geography**

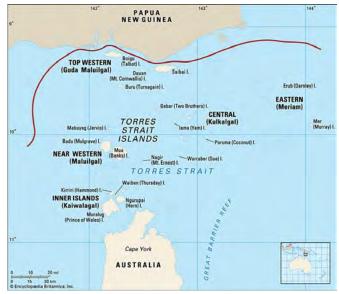
- Locate the Torres Strait Islands on a map of Australia. Include latitude, longitude, distance and direction. Figure 1.
- 2. What does the red line represent on Figure 1?
- 3. The Torres Strait Islands are an archipelago. What does this mean?
- 4. Investigate the physical environment of Torres Strait islands using Figure 2, Torres Strait Islands and Reefs and Figure 3 Interactive maps at Torres Strait eAtlas Map Highlights.

Click on any map to start an interactive version, such as shown in Figure 4, and investigate the layers. https://ts.eatlas.org.au/ts/map-highlights?\_ ga=2.69450323.233300229.1615698622-1942527912.1615698622

Use the following activities to begin your investigation:

- a. Describe the location and spatial distribution of the Torres Strait Islands.
- b. Use the Torres Strait Bathymetry map and imagery maps to draw a conclusion about the depth of water surrounding the islands and the relief of the islands.
- c. Use the Torres Strait Bathymetry map to draw a sketch map showing the possible location of the land bridge that once joined Australia and PNG. Figure 4.
- d. Using the Inhabited Islands map determine the latitude and longitude of Thursday Island and Mer Island. Calculate the difference in latitude

### Figure 1: Location map



Source: https://www.britannica.com/place/Torres-Strait-Islands

between the two islands and measure the distance between them using the interactive tools.

- e. Use the density and distribution maps for sea turtles and dugongs to describe the areas of highest marine biodiversity.
- f. Explain why the Torres strait Islands and their ecosystems are vulnerable to climate change?
- g. Predict how climate change could impact on the natural environment of the Torres Strait Islands over the next 50 years.
- h. Use Figure 5 to construct a Climatic Graph for Horn Island.

### Figure 2: Torres Strait Islands and Reefs Map

### Torres Strait Islands and Reefs

This map shows satellite and aerial imagery of Torres Strait. The satellite image is a composite image made for the Torres Strait eAtias from the clearest Landsat 5 images over the last 25 years. The inserts of the islands are aerial images of some of the communities in Torres Strait made eaviable by the Queensland Government and the Torres Strait Regional Authority. This region neighbours with Papau New Guinea resulting in complex maritime boundaries. This map was produced using layers from the Torres Strait eAtias. Go to http://ts.eatias.org.au to discover more.

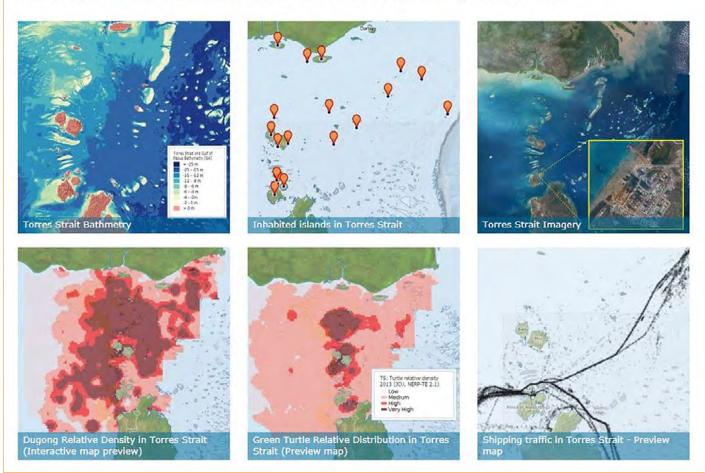




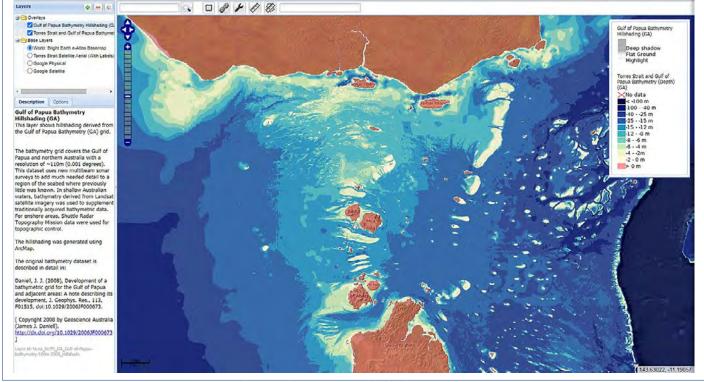
Source: https://eatlas.org.au/ts/maps/torres-strat-islands-reefs-poster

#### Figure 3: Torres Strait eAtlas map highlights

Click on any of the maps to start an interactive version and investigate the layers in more detail.



Source: https://ts.eatlas.org.au/ts/map-highlights?\_ga=2.69450323.233300229.1615698622-1942527912.1615698622



Source: https://ts.eatlas.org.au/ts/map-highlights?\_ga=2.69450323.233300229.1615698622-1942527912.1615698622

### **Figure 4: Torres Strait bathymetry**

### Figure 5: Torres Strait Islands climate

The Torres Strait Islands have a tropical climate with hot daytime and warm night-time temperatures all year. The wet season typically lasts from December to April though occasionally rain occurs during the dry season. The climate statistics for Horn Island are typical of the other islands.

Climate feature	J	F	М	Α	М	J	J	A	S	0	N	D
Mean Rainfall mm	407.5	430.5	350.7	224.4	65.1	14.7	8.9	5.5	5.0	12.9	39.1	174.4
Mean minimum Temperature °C	25.2	25.1	25.1	25.3	24.9	24.0	23.2	23.1	23.9	24.8	25.8	25.8
Mean maximum Temperature °C	30.9	30.6	30.5	30.6	30.1	29.4	28.9	29.1	30.1	31.1	32.0	32.0

Horn Island Latitude: 11 degrees South, Longitude:142 minutes East; Elevation 4 metres

Source: http://www.bom.gov.au/climate/averages/tables/cw\_027058\_All.shtml

See also Figure 10: The Masigalgal Seasonal Calendar

#### Figure 6: Torres Strait Islands. Land and Sea

**Area:** Approximately 48 000 km<sup>2</sup> between Cape York and Papua New Guinea. Of this area 2.6% is terrestrial land, 6.2% tidal reef flats and 91.2% mostly shallow open seas.

**Extent:** 150 km North to South (narrowest point); up to 300 km East to West. There are more than 100 islands and a multitude of cays, sandbanks and coral reefs scattered through the region.

**Formation:** The Torres Strait was a land bridge connecting Australia with Papua New Guinea. More than 8,000 years ago world sea levels were about 100 metres lower than today. Since much of the Torres Strait was covered by only 20 metres of water, people at that time could easily walk between Cape York and southern New Guinea. The land bridge was submerged by rising sea levels to form Torres Strait and connecting the Arafura and Coral seas. Many of western Torres Strait Islands are remaining peaks of this land bridge.

'Geographically, the islands in the Torres Strait can be divided into four main groups: an eastern group of high volcanic islands; a central group of low sandy islands; a western group of high islands composed of volcanic and granitic rocks; and a northern group of low islands composed of mangrove muds and peats.'

Source: http://www.tsirc.qld.gov.au/our-communities/our-geography

**Marine ecosystems:** The islands and their surrounding waters and reefs contain a diversity of land and marine ecosystems, with niches for many rare or unique species. Marine animals include dugongs, the Green, Hawksbill and Flatback sea turtles and saltwater crocodiles. The waters are sustainably managed to support Torres Strait Islanders and the protect the marine environment on which they depend.

### Figure 7: People, Community & Culture

Torres Strait Islanders are of Melanesian origin with a distinct cultural identify, traditions, language and history. They believe in Ailan Kastom (Island Custom), the link between the land, the sea, the environment and culture. It is the basis of the Torres Strait Islander people's way of life.

Culture is strongly based on maritime trade and interactions with coastal communities in Papua New Guinea and Australian. TSI people have an intimate knowledge of the environment, its islands, reefs, weather, tides and currents. The islanders are firstly agriculturalists who supplemented their farming with seafood.

The region has approximately 8,500 people with the size of island communities depending the ability of the environment to support them. A number of different native languages are spoken.

Source: https://www.tsra.gov.au/\_\_data/assets/pdf\_file/0005/2012/01-introduction.pdf

#### Figure 8: Tagai: the creator

A key figure in the creation stories of the Torres Strait Islander people is the Creator being named Tagai. Tagai, a great fisherman, was out with his crew of 12 on their cance. They were having no luck catching any fish so Tagai left the group and went searching for fish in a nearby reef. Tagai had left the group for a long time and as the day grew hotter, the remaining crew of 12 became tired and frustrated. They consumed all their own water supplies and eventually drank all of Tagai's water. When Tagai returned and saw his supplies consumed, he flew into a rage and killed all 12 of his crew. He sent six of the crew to Usal (the Pleiades star cluster) and the other six he sent to Utimal (Orion) and there he told them to wait, never to bother him again.

Source: Deadly Story - https://www.deadlystory.com/page/culture/articles/World\_s\_Indigenous\_ Peoples\_Day/Torres\_Strait\_Islander\_people



Tagai Constellation

### **Student Activities: Human Geography**

- Refer to Figure 3 Torres Strait eAtlas Map Highlights

   https://ts.eatlas.org.au/ts/map-highlights?\_ ga=2.69450323.233300229.1615698622-1942527912.1615698622
  - a. Using the Torres Strait imagery map describe the spatial pattern of settlement on Thursday Island.
  - b. What can you infer about Thursday Island from the shipping traffic map?
- 2. Use the following resources to make brief notes about the liveability of Torres Strait Islander communities and the human wellbeing of the Torres Strait Islanders.
  - a. Figures 5, 6, 7, 8, 9 and 10
  - b. Video: Back Roads: Thursday Island
  - c. Website: Creative Spirits

### ABC Back Roads: Thursday Island

Viewing options:

- Enhance TV: Back Roads Thursday Island. Season
   2 | Episode 4 | ABC | December 19, 2016 https:// www.enhancetv.com.au/video/back-roads-thursdayisland/34462
- Back Roads ABC iview Season 2 | Episode
   4 | ABC | December 19, 2016 https://iview.abc.net. au/show/back-roads/series/2/video/FA1527V004S00
- Clickview https://online.clickview.com. au/exchange/categories/290/geography/ videos/3466702/thursday-island

### **Creative Spirits**

https://www.creativespirits.info/aboriginalculture/ people/torres-strait-islander-culture



Thursday Islands, Inner Group of Torres Strait Islands. Source: http://oceancolor.gsfc. nasa.gov/cgi/landsat\_extract.pl?path=99&row=67&x=1244&y=2473&n=0&t=321

- 3. Use the following weblinks to investigate **Environmental Change and management**:
- State of the Environment on the Torres Strait Islands

   https://ts.eatlas.org.au/sites/default/files/ts/articles/ TSRA%20Land%20and%20Sea%20Strategy%20 Table%202.pdf
- Land and Sea Management Strategy– http://www. tsra.gov.au/the-tsra/programmes/env-mgt-program/ the-land-and-sea-management-strategy-for-torresstrait-2016-2036
- Managing islands and sea country http://www.tsra. gov.au/the-tsra/programmes/env-mgt-program/ managing-our-islands-and-sea-country
- China's plan to build a fish processing facility in the Torres Strait raises alarm over fishing, border security – https://www.abc.net.au/news/2020-12-15/ trepidation-as-china-prepares-to-move-into-thetorres-strait/12985504

- 4. Use these weblinks to investigate the impacts of climate change:
- For these Torres Strait Islanders, climate change is already here — and they're urging the government to do more – https://www.abc.net.au/news/2021-04-19/ torres-strait-islanders-climate-change-impacts-uninha bitable/100069596?fbclid=lwAR0jkjlRI8T98cPjJZKUm2b Ghqrt1D2fNWeWUhx84xGFRTgRC6exyZvpvrA
- TIME: The Mayor Fighting to Save Her Island Home from Climate Change – https://time.com/5572445/ torres-strait-islands-climate-change/
- Torres Strait Islander complaint against climate change inaction wins backing of UN legal experts

   https://www.abc.net.au/news/2020-12-11/torresstrait-islander-complaint-against-climate-changeinaction/12972926
- Torres Strait Island Regional Council Climate Change Adaptation – http://www.tsirc.qld.gov.au/changingregion/projects/climate-change-adaptation
- Climate Change and Torres Strait: Adapting to CC

   http://www.tsra.gov.au/the-tsra/programmes/envmgt-program/adapting-to-climate-change

### Figure 9: Thursday Island

### Location and spatial dimensions

Thursday Island (Wai Ben), also known as TI, is an island of the Torres Strait Islands archipelago in the Torres Strait. Thursday Island is also the name of the town in the southwest of the island, that is the administrative and commercial centre for the Torres Strait Shire and local government area of Torres Strait Island Region.

TI is located approximately 39 kilometres north of Cape York Peninsula in Far North Queensland, covering an area of approximately 3.5 square kilometres. The highest point on Thursday Island is Milman Hill at 104 metres above sea level.

#### **Population and settlement**

In the 2016 census, Thursday Island had a population of 2,938 people having been populated for thousands of years by the Torres Strait Islanders, the indigenous people of the Torres Strait Islands. Archaeological evidence suggests that the area has been inhabited from before the end of the last Ice Age.

The European settlement of Torres Strait began at Somerset, on the south-east of Cape York in 1864. Somerset proved too dangerous for a port due to poor channel conditions between the cape and the islands, so the port was transferred to the southern side of Thursday Island. The new port was called Port Kennedy renamed Thursday Island in 1862.

### Pearls, seashells and shipping

A profitable pearling industry was once found on the Thursday Island using workers from Asia. The pearling industry has since declined in importance however, a mix of cultures remains. Trochus shells were also harvested and exported to London. In the late-19th and early-20th centuries Thursday Island was a regular stop for vessels trading between the east coast of Australia and Southeast Asia. Thursday Island was also used as the military headquarters for Australian and US forces during World War II,

### Town services and facilities

- Sporting complex and gym
- Public library
- Parks and ovals
- Community pharmacy, general store, butcher, bank, phones
- Catholic Church and primary school
- Hospital
- Courts

- Regional centre for higher education, TAFE Institute
- K–12 schools including two of 17 island campuses of Tagai State College
- Research centre organisations
- Administrative base for the local, state and federal governments.
- Torres Straits Pilots base (pilot ships through the Straits and reefs down to Cairns).

**Economy today**: Islanders are fishermen, agriculturalists, hunters and gatherers. Thursday Island is dependent on its role as an administrative centre, pearling and fishing, and a growing tourism industry and marine pilot base.

Sources: Wikipedia; Queensland government https://www.qld.gov.au/atsi/cultural-awareness-heritage-arts/ community-histories/community-histories-s-t/community-histories-thursday-island

#### Figure 10: The Masigalgal Seasonal Calendar

'Masigalgal, are the people from Masig Island, a small coral cay 160km northeast of Thursday Island with a population of 270 people. **Masig Island** and the surrounding eleven islands within the Masigalgal Native Title determination are part of the Kulkulgal nation of the **central Torres Strait**. They speak Kulkalgau Ya, an endangered dialect of the Kala Lagaw Ya language of the western Torres Strait.'

**The Masigalgal Seasonal Calendar** is based on Traditional Ecological Knowledge (TEK) with input from Masigalgal elders and Rangers. It aims to preserve the traditional seasonal knowledge of Masig elders and promote the preservation of Kulkalgau Ya language.



Image source: http://www.bom.gov.au/iwk/images/Masig/MasigHiRes.jpg

The calendar shows **four distinct seasons**: Naigai, Zei, Kuki and Woerr. The timing and duration of the seasons varies. Natural signs in the wind, weather, sea life, plants and animals tell islanders when season will change. Islanders harvest and use a variety of resources from land and sea In all seasons.

'Community celebrations, hunting, gardening and cultural activities are based around this annual cycle of resource availability and renewal.'<sup>2</sup>

Masigalgal reliance on natural resources continues. The conservation philosophy is based on Gud Pasin and Mina Pawa (good ways and appropriate behaviours) – respecting the wisdom and knowledge of the elders. It is important that the wisdom and knowledge of their ancestors is passed down to younger generations to keep Masig culture rich and strong into the future.



Masig is a very small low-lying coral cay in the Central Islands Cluster of the Torres Strait about 160km northeast of Thursday Island. The topography of Masig is very flat with ground level generally less than three metres above local mean sea level. More than half the Island is covered in undisturbed vegetation including dense trees on the eastern and western parts of the Island. Native Title is recognised over Masig and is held in trust by the Masigalgal (Torres Strait Islander) Corporation.

Image source: https://www.flickr.com/photos/ailanpair/504297393

- 1. Bureau of Meteorology: Indigenous Weather Knowledge http://www.bom.gov.au/iwk/
- 2. Bureau of Meteorology: Indigenous Weather Knowledge http://www.bom.gov.au/iwk/