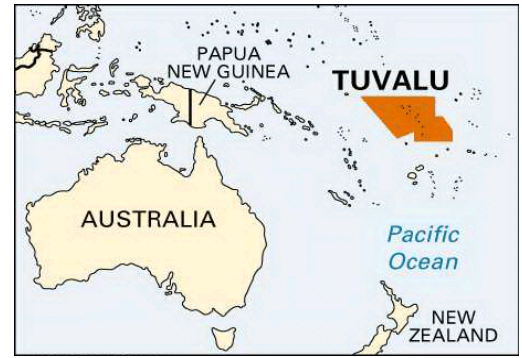


Knowledge Organiser #19: Tuvalu

Where? **Tuvalu, small atoll of islands in the Pacific Ocean**
 What's the problem? **They are a series of small, low lying islands which are susceptible to sea level rise. They are also an LIC.**

How does this link to climate change? **Sea level rise is linked to climate change due to increasing temperatures causing melting ice caps. This causes sea levels to rise. Low lying islands, like Tuvalu are most at risk.**



Tuvalu

- 9 low-lying islands (average height above sea level is 2m)
- Capita: Funafuti
- Population: 10,500
- 26% of people live below the poverty line
- It is estimated that sea levels are rising by 5mm per year.

Economic Impacts:

- Tuvalu is a relatively poor island nation and climate change is having a huge impact on their way of life.
- Many of the residents rely on agriculture as a way of life. When salt water floods the land it can poison the soil and crops. Many plants can't tolerate salt therefore they die. If farmers cannot plant crops their livelihoods are at risk.
- Until recently Tuvaluans were fairly self-sufficient, the failing crops has led to the government having to buy in more imported goods to ensure that the islands have enough food.
- Bottled water is imported.
- Increased health problems, due to poor water quality, the increased spread of disease and increased obesity levels (due to imported food) may put pressure on hospitals and doctors.
- The rising temperatures will also considerably reduce the shellfish and available fish resources. A reduction of this valuable resource will have a disastrous impact of the livelihoods and, thus, also on development.

Environmental Impacts:

- Water shortages are common.
- The water supply on the island is at risk as well, salt water is leaching into the groundwater supply and therefore contaminating the water.
- When salt water floods the land it can poison the soil and crops. Many plants can't tolerate salt therefore they die. If farmers cannot plant crops their livelihoods are at risk.
- Residents have to rely on rainwater storage as a means of getting uncontaminated water.
- As the islands are regularly flooded the rubbish can be washed out into the oceans, this is also having an adverse impact on the environment, with lots of plastic waste ending up within the coral reefs.
- Traditional foods (e.g. pulaka, bananas, breadfruit) are being affected by the poor soils and are running out.
- Climate change heats the ocean water and impacts the corals and consequently the marine fauna. The biodiversity of the ocean and of the atolls will decrease.
- Sewage water spills are increasingly causing algal blooms in the lagoon, killing the small reef fishes and thereby threatening the lives of larger fishes depending on them.

Social Impacts:

- People have had to move from their homes as a result of the rising sea levels.
- Mass migration may have to occur if a solution is not found. This will be the first of its kind as a result of climate change.
- If this occurs, families will be split up.
- The pigs on the island are running out of food and the residents are finding it increasingly difficult to keep livestock.
- Mosquito (and other biting insects) and tick breeding grounds will have an increasing availability in the next years and decades because of higher tides and tropical cyclones. The increased availability will exacerbate the exposure of the Tuvaluans to water borne diseases and will increase the epidemic potential of the islands.

Are there any solutions?

- Forced migration is a last resort so other strategies are encouraged.
- Improved and increased water collection and water conservation techniques.
- The United Nations Food and Agriculture Organization has financed an effort to introduce salt-resistant banana plants to the islands, and another involving salt-resistant taro root is in the works.

How much are sea levels predicted to rise?

These figures show the predictions dependent on the amount of emissions being emitted around the world. It shows the predicted levels between 2030 and 2090.

	2030 (cm)	2055 (cm)	2090 (cm)
Low emissions scenario	4-14	9-25	16-45
Medium emissions scenario	5-14	10-29	19-56
High emissions scenario	4-14	9-28	19-58

Key terms

- Salinisation – when salt water infiltrates/contaminates fresh water.
- Lagoon - a stretch of salt water separated from the sea by a low sandbank or coral reef.