

Our COOK ISLANDS STATE OF ENVIRONMENT REPORT

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Charting our Journey

All journeys must begin with a starting point.

Our Cook Islands State of the Environment (SoE) Report provides our starting point, helping to guide us as we journey towards our National Development Goals in Te Kaveinga Nui.

Our SoE examines the major drivers of change to our environment that emerge from global, regional and national factors. It evaluates the main environmental pressures created by these drivers, and examines their environmental impacts. Our SoE also provides us with recommendations, or actions that we can take as a nation to improve our environment as we voyage towards progress.

At all parts of our journey, we should refer to our SoE Report to help us make informed decisions to better our island nation. The more we understand the contents within these pages and refer to them in decision making, the closer we are to achieving our Te Kaveinga Nui, together, tatou katoatoa.

Drivers are what influence the changes in our environment, such as industries. These drivers can lead to **environmental pressures** occurring, or trends, such as population growth or pollution.

These **pressures** then influence factors in the **current environmental state**, or conditions, such as water and air quality.

The **current environmental state** then has impacts for animals, humans and the overall environment, such as biodiversity changes or health problems.



NATIONAL ENVIRONMENT SERVICE
TU'ANGA TAPOROPORO
COOK ISLANDS



SPREP
Secretariat of the Pacific Regional
Environment Programme

Cook Islands State of Environment Report

Our SoE provides us with the chart to:

- Make informed decisions to accurately report on key environmental issues.
- Develop and implement policies and programmes to improve environmental conditions in the Cook Islands.
- Understand financial implications for which the Cook Islands Government and other agencies can identify areas that require financial input.
- Work together to update the SoE Report every five years.

Wayfinding our Journey

Our SoE Report spans seven themes and 24 sub-topics. For example, the “Atmosphere and Climate Highlights” theme has the sub-topics of “Greenhouse Gas Emission and Ozone Depleting Substances”, “Physical Climate and Climate Trends” and “Climate Adaptation.”

Each of these sub-topics is measured against five drivers and three pressures to provide us with the ‘state’ of each theme, the ‘impact’, and our Cook Islands’ ‘responses and recommendations.’

Indicators then inform the sub-topics. Each indicator is given a status rating that lets us know if the indicator is in good, fair or poor condition. Another rating ranks the quantity and quality of the data that helped inform the indicator’s condition. If there are limited or low-quality data, then a low confidence rating is given.

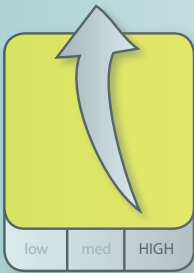
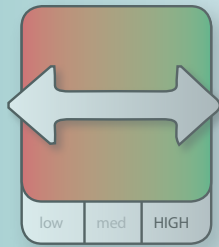
THEMES	SUB-TOPICS
Atmosphere and Climate	Greenhouse Gas (GHG) Emissions Ozone Depleting Substances Physical Climate and Climate Trends Climate Adaptation
Inland Waters	Streams
Land	Forests: Natural and Plantation Forests Agriculture: Land under cultivation Wetlands
Marine	Offshore Environment Inshore Environment Turtles and Cetaceans
Biodiversity	Endemic, native and threatened species Environmental Invasive Species Key species of concern. Terrestrial Protected Area
Culture and Heritage	Built Heritage and Indigenous Sites Language Traditional Production and Consumption of Food Traditional environmental knowledge
Built Environment	Energy Municipal Solid Waste Hazardous Wastes Potable Water Sewage and Sanitation

DRIVERS
Population Demographics and Migration
Globalisation and Geography
Economic and Technological Development
Traditional and Contemporary Values, Attitudes, Lifestyles and Governance
Climate Change and Variability

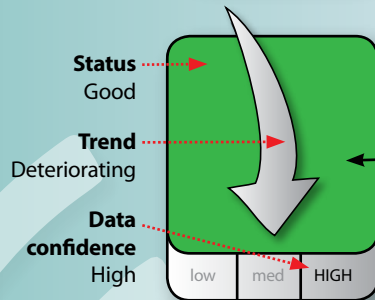
PRESSURES
Land Development
Resource Extraction
Consumption and Waste

Weaving our Legacy

We can use the assessment of these indicators to make informed decisions on development issues, or when creating national policy and legislation. Given the range of themes, their sub-topics and related indicators, our SoE Report can also assist with assessing and creating responses to cross-cutting issues outside of the environment.

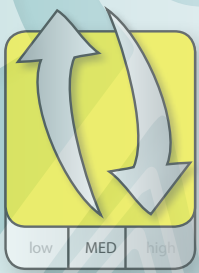
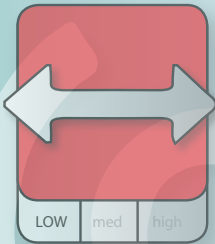


Colour indicates state of Good, Fair and Poor (can be a range)








Arrow indicates trend of Improving, Stable, Deteriorating, Undetermined and Mixed

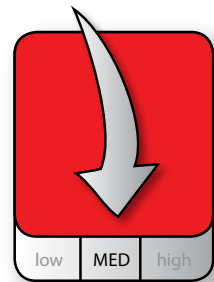
Bottom bar of Low, Medium and High indicates confidence in data and assessment



COOK ISLANDS STATE OF ENVIRONMENT REPORT 2018

Status: Poor Trend: Deteriorating Data Confidence: Medium



Status
Poor

Trend
Deteriorating

Data confidence
Medium

IMPACT: LAGOON WATER QUALITY

1. Poor lagoon water quality has environmental, social and economic impacts.
2. Reef habitats in lagoons are susceptible to smothering from algal growth, which is often stimulated by excess organic and nutrient matter. Economically, impaired lagoons can lead to a decline in tourism and reduced visitor enjoyment.
3. The degradation of lagoon habitats can negatively impact people who rely on the inshore marine environment for subsistence and income.
4. Health impacts are also associated with lagoon water quality.

STATUS: LAGOON WATER QUALITY

1. Water quality monitoring started on Rarotonga in 2004 because of reported irritations and infections in Takitumu from exposure to high bacteria levels in lagoon water. Long-term water quality monitoring began on Aitutaki in 2006.
2. Rarotonga has the highest median levels of nitrates of all islands tested, with 41% of water quality samples above nitrate guidelines for marine inshore environments.
3. Aitutaki has the highest levels of ammonia and Total Suspended Solids (TSS)—solid, undissolved particles present in water that would not pass through a filter—of all sampled islands, and significantly high median bacteria levels. There is anecdotal evidence from residents that water clarity is deteriorating in the lagoon; however, further data and analysis are required to assess this issue.
4. In most cases for Rarotonga and Aitutaki, poor lagoon water quality is associated with poor stream water quality. High pollution events often occur after heavy rainfall as chemicals and bacteria are flushed into the lagoon.

RESPONSE: LAGOON WATER QUALITY

1. The Ministry of Infrastructure's Water, Waste and Sanitation Unit's (WATSAN) donor-aided programme is upgrading septic systems in the Muri area, which now extends to all of Rarotonga. Lessons learned from the WATSAN project include a reticulated system and off-site disposal.
2. The Cook Islands has public health regulations for sewage systems and land-based activities, such as piggeries, to help decrease nutrient loading of lagoons.

RECOMMENDATIONS: LAGOON WATER QUALITY

1. To date, lagoon water quality monitoring has been useful in Rarotonga; however, it would be useful to expand this to Pa Enea and more key sites.
2. Detailed source monitoring, such as through the use of isotope or trace signature chemicals to rank relative pollution source contributions, may help ensure that mitigation activities are within project scopes.
3. A reticulated system for sewage should be started in Muri and extended to the rest of Rarotonga. Care should be taken to ensure that the outlet travels sub-reef to prevent breakage at the reef crest.
4. Citizens should be kept informed. Awareness programmes, such as the report card programme, could be expanded and would help people understand lagoon water quality issues and the impacts associated with poor water quality.

Embracing our Resilience

Two indicators in our SoE Report highlight current environmental conditions and potential responses in the Cook Islands.

THEME: ATMOSPHERE AND CLIMATE – SUBTHEME: OZONE DEPLETING SUBSTANCES (ODS)

Status: Fair Trend: Improving Data Confidence: Medium

IMPACT: ODS

1. ODS are both harmful to the ozone layer and a potent source of Greenhouse Gases (GHGs).
2. As a signatory to the Montreal Protocol, there are trade implications if the Cook Islands accepts, or illegally trades, in ODS.
3. Phasing out ODS is important for the Cook Islands' environment and its economy to protect against adverse trade implications, and ensure compliance and good global standing as a signatory to the Montreal Protocol.

STATUS: ODS

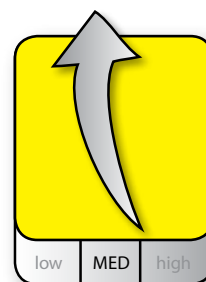
1. Four types of ozone-depleting substances are estimated to have been imported to the Cook Islands since the 1980s: Chlorofluorocarbons (CFCs), Hydrochlorofluorocarbons (HCFCs), methyl bromide and halons.
2. CFCs began to rapidly decline in 1995 and were completely phased out by 2010 in the Cook Islands.
3. Data collected since 2008 show a decline in HCFCs from 2010 to 2013, with the Cook Islands still working to phase out all HCFCs.
4. By 2015 no HCFCs were imported. This means the Cook Islands is 15 years ahead of the phase-out schedule set by the Montreal Protocol, whose goal is to globally phase out 97.5% of all HCFCs by 2030.

RESPONSE: ODS

1. The National Ozone Unit (NOU) updated the Environment Act to provide an ODS import quota system and include a Technician's Licence to legally service equipment containing ODS, which required technicians to undergo training.
2. Between 2010 and 2013, the number of certified ODS recovery technicians increased from 16 to 24.
3. A Memorandum of Understanding (MOU) between the NOU and Customs provides training to customs officials to identify and report illegally imported ODS.
4. CusPac Customs system software helps track and detect tariff codes for ODS, which assists with monitoring and management measures.

RECOMMENDATIONS: ODS

1. Currently, records are not kept for ODS exports for disposal from Cook Islands. Recording ODS exports, as well as imports of ODS alternatives such as propane (HCs) and HFCs, would assist in the overall monitoring and management of ODS.
2. Holding regular refresher training courses for NOU technicians would ensure their skills are current.



Status
Fair

Trend
Improving

Data confidence
Medium

Navigating our Future

Our voyage does not end here, it is only beginning.

Our SoE can assist Government, individuals, civil society and the private sector to make better informed decisions regarding their relationship to and use of our environment.

Building on our SoE Report, the Cook Islands National Environment Service is establishing a data portal and additional reporting tool to integrate our SoE Report indicators with our Te Kaveinga Nui, Sustainable Development Goals, Multilateral Environment Agreements and regional conventions.

Through these tools, we will have information available for our people to make informed decisions. We will also be able to provide timely reports on the SoE while meeting our reporting obligations as Parties to many environmental conventions.

As we begin, so we end: The more we all open our SoE Report pages and make use of its contents in all aspects of decision making, the closer we become to achieving our Te Kaveinga Nui, together, tatou katoatoa.

Akamaroiroi.



Cook Islands Environment Data Portal
Environmental Information for Decision Making

<https://cookislands-data.sprep.org/>



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Our vision: A resilient Pacific environment sustaining our livelihoods and natural heritage in harmony with our cultures.



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