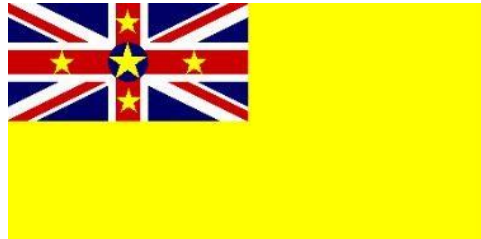


Version 1_September 2019

CLIMATE CHANGE PROFILE



NIUE

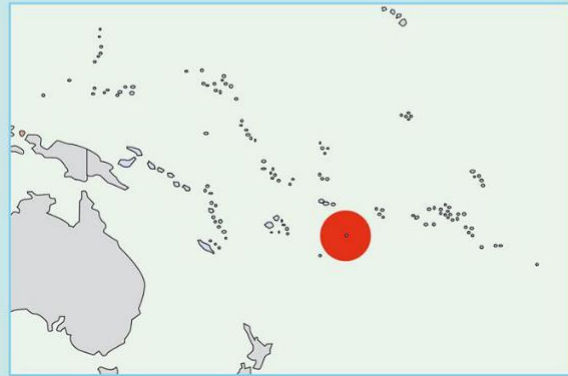
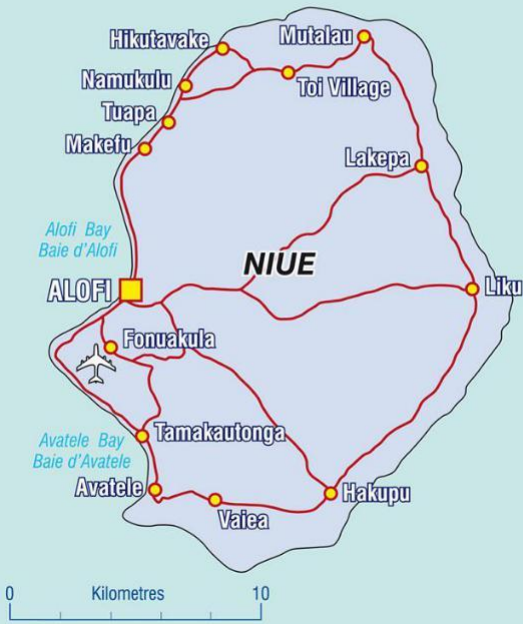
VERSION 1

THE PACIFIC COMMUNITY GLOBAL CLIMATE CHANGE ALLIANCE PLUS - SCALING UP PACIFIC ADAPTATION PROJECT *Funded by the European Union*

Disclaimer: This climate change profile was first prepared in 2013 to inform the Global Climate Change Alliance: Pacific Small Island States (GCCA: PSIS) project and updated in 2019 to inform the Global Climate Change Alliance Plus – Scaling Up Pacific Adaptation (GCCA+ SUPA) project. Reasonable care has been taken to ensure that the information presented herein is accurate however, it must be noted that the information may be subject to changes without prior notice. The Pacific Community does not accept any form of liability, neither legally nor financially, for loss (direct or indirect) caused by the understanding and/or use of this profile or its content.



Niue



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Abbreviations

CCA	Climate Change Adaptation
DRR	Disaster Risk Reduction
DRM	Disaster Risk Management
DOE	Department of Environment
GCCA: PSIS	Global Climate Change Alliance: Pacific Small Island States Project
GCCA+ SUPA	Global Climate Change Alliance Plus – Scaling Up Pacific Adaptation
GDP	Gross Domestic Product
GEF	Global Environment Facility
JNAP	Joint National Action Plan (for Climate Change Adaptation and Disaster Risk Management)
NCCCT	National Climate Change Country Team
NDMCC	Niue Department of Meteorology and Climate Change
NEMS	National Environment Management Strategy
NNSP	Niue National Strategic Plan 2009-2013
PEFA	Public Expenditure and Financial Accountability Assessment
SOE	State of the Environment Report
SPC	Pacific Community
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change

OBJECTIVE OF THE CLIMATE CHANGE PROFILE

This climate change profile for Niue has been prepared as part of the Pacific Community's (SPC) Global Climate Change Alliance Plus – Scaling Up Pacific Adaptation (GCCA+ SUPA) project.

The goal of the GCCA+ SUPA project is to support the governments of ten Pacific Island countries, namely Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Marshall Islands, Nauru, Niue, Palau, Tonga and Tuvalu, in their efforts to tackle the adverse effects of climate change. The logic behind the design of the project is to learn from the past in order to scale up Pacific adaptation and address capacity gaps.

This climate change profile is specific in nature and seeks to inform the GCCA+ SUPA project as well as the larger SPC climate change support team. It commences with a section on the country's background, including geography, economy, financial management and aid delivery. This is followed by a section focusing on the country's response to climate change, including climate change projections, institutional arrangements, ongoing adaptation activities and climate change priorities. The profile is a work in progress and will be revised and enhanced as the project develops.

COUNTRY BACKGROUND

Country Information	
Geographic coordinates	Lat. 19° S, Long. 169° W
Total land area	259 km ²
Length of coastline	64km
Exclusive economic zone	450,000 km ²
Resident population	1,792 (2015)
Average annual growth rate	-0.1%
Population density (2015)	7 per km ²
Access to improved water supply	100% of population
Improved sanitation facilities	100% of households
Infant mortality rate (2002-2006 est.)	7.8
Human development index	0.823 ¹

Introduction

Niue is the world's largest and highest single coral atoll with a land area of 259 km². It is situated in the southwest Pacific Ocean (19°S, 169°W) about 2,400km northeast of New Zealand. It is approximately 480 km east of Tonga, 930 km west of Rarotonga and 660 km southeast of Samoa. Within its exclusive economic zone (EEZ) of 450,000 km², Niue has two reef atolls, Antiope and Beveridge, visible only at low tide, from which commercial fishing is banned. Niue's marine region hosts a number of seamounts re-known for its high value fisheries productivity.

Niue is characterised by three terraces; the rim of the lower terrace averages 28 m above sea level, with the upper rim averaging 69 m above sea level. The slopes of the terraces are

¹ The human development index (HDI) is a comparative measure of life expectancy, literacy, education, and standards of living for countries worldwide. It is a standard means of measuring well-being, especially child welfare. It is used to distinguish whether the country is a developed, a developing or an under-developed country, and also to measure the impact of economic policies on the quality of life. The HDI score indicates that Niue is in the high human development category.

rough, with jagged coral outcrops. The island has a rugged, rocky coastline, featuring steep cliffs, caves, deep chasms and blowholes. The reef is continuous, and is breached at one small area opposite the Alofi wharf.

There are 14 villages scattered around the island's coast, one of which Alofi is the capital. Most villages are within walking distance of each other, especially the western coastal villages. A coastal road passes through all villages; it is sealed within each village and along the west and south coast. There are also two major cross-island roads, both of which are sealed.

There is no natural harbour. The open roadstead in Alofi Bay lies on the sheltered west coast, in the lee of the prevailing easterly trade winds, and has a wharf, which accommodates smaller vessels with other cargo being transferred by lighters. There is a 2,335 m runway which receives a twice weekly flight from Auckland.

There is no surface water on Niue, but artesian bores tap a subterranean reservoir of fresh water for domestic, commercial and agricultural purposes. Current land clearing and farming practices and an inadequate waste disposal system pose a potential threat to the present water quality.

Government

Niue is a self-governing country in free association with New Zealand since 1974. Under this arrangement, the New Zealand Government, in consultation with Niue, retains responsibility for external affairs, including defence. People from Niue are citizens of New Zealand, although Niue has assumed greater responsibility for its own foreign affairs since 1994, and has begun to establish formal diplomatic relations with sovereign states. Niue is recognised as a 'non-member state' by the United Nations, implying recognition of full treaty-making capacity. It is also a full member of the Pacific Islands Forum.

Niue is a parliamentary representative democracy, where the premier is the head of government. The constitution vests executive authority in the Crown, currently Her Majesty Queen Elizabeth II, and specifies that in everyday practice this authority is exercised by the premier of Niue and a cabinet of three other ministers. The premier and ministers are members of the Niue Legislative Assembly (*Fono Ekepule*), the nation's legislature which has descended from what was previously the Island Council, which was established in 1915. The Assembly assumed greater power in 1974 after the Constitution Act was adopted.

The assembly consists of 20 democratically elected members, 14 of whom are elected by village constituencies and six by all registered voters in all constituencies. The members of the legislative assembly elect a speaker who then calls for nominations for premier; the candidate with the most votes from the 20 members is elected to lead the government. The premier selects three other members to form a cabinet of ministers, the effective executive arm of government. The other two organs of government, following the Westminster model, are the legislative assembly and the judiciary. The judiciary is independent of the executive and the legislature.

General elections take place every three years, most recently on 6 May 2017. As there are no political parties currently active in Niue, every candidate runs as an independent. There have been no political parties in Niue since 2003.

Oversight of the 7 listed department portfolios is distributed amongst the three cabinet ministers. Each minister is responsible for a number of departments, and also oversees state corporations and agencies.

Local governments are established under the provisions of the Village Council Act, 1967. Each of the 14 villages has a council that elects its chairman. The village council serves a three-year term. The villages also serve as electoral districts so that each village is also represented in the Niue Legislative Assembly. The capital, Alofi, consists of the villages of Alofi North and Alofi South.

Table 1: Government ministries, state corporations and agencies

Ministry of Infrastructure
<ul style="list-style-type: none"> • Transport • Utilities
Ministry of Natural Resources
<ul style="list-style-type: none"> • Agriculture, Forestry and Fisheries • Environment • Meteorological Services
Ministry of Social Services
<ul style="list-style-type: none"> • Education • Health • Justice, Lands, Surveys and Community Affairs • Tāoga Niue

National and sector policies and strategies

The Government of Niue demonstrated its commitment to Agenda 21 by adopting international legal instruments, which were strengthened by the adoption of regional agreements. Despite the pressure placed on a limited workforce, Niue has achieved various stages of implementation of the various agreements.

The Environment Act 2003 provided a mechanism for the development of environmental policy and law, and established an Environment Department. The vision for protection of the environment is sustainable use and management of Niue's natural environment for present and future generations, with the aim to utilise the abundant natural resources in a way that not only maximises the economic benefit but also ensures that future generations will be able to enjoy them to the full. It emphasises that all residents of Niue are responsible for the management and sustainable use of the environment. Environmental impact assessments are compulsory for all development programmes.

Niue has a number of strategies that facilitate development in the various sectors underpinned by *Ko e Tohi Fakatokatoka Gahua ha Niue (Niue National Strategic Plan - NNSP) 2016-2026* which provides a vision for the people of Niue: 'Working together to protect the people and the environment.' The achievement of the vision is aided by seven national development pillars, each with specific strategic initiatives, activities and targets that will be implemented and achieved during the plan period. The seven development pillars are:

- 1) Finance and Economic Development – Sufficient financial resources are secured, and responsible fiscal management is prudent, sustainable and in support of development strategies.
- 2) Governance – Good governance is practised at all levels of society.
- 3) Infrastructure – Sustainable use and management of key infrastructure that is climate proof and resilient.
- 4) Social Services – Harmonious and healthy lifestyle in a thriving, educated and safe community that has access to a wide range of quality social services.
- 5) Environment and Climate Change – Sustainable use and management of Niue's natural resources and environment for present and future generations.
- 6) *Tāoga Niue* – Promote, strengthen and integrate Tāoga Niue cultural heritage, language, values and identity.
- 7) Private Sector – A prosperous and skilled island nation, underpinned by a thriving and entrepreneurial private sector.

The critical importance of financial stability and environmental integrity feature in the current plan period. It is also imperative that all sectors develop their strategies and policies in line with the development objectives outlined in the NNSP.

The Strategic Roadmap for Emergency Management in Niue (2015-2019) will promote a shared responsibility and a ‘whole of nation’ approach to emergency management. Implementation of programs to support the roadmap have led to streamlining of governance and structures, increasing capability within all levels of society and stronger engagement between communities, government and agencies.

Economy

The economy of Niue suffers from many binding constraints, including its size, geographic isolation, few resources, and a small population. Government expenditure regularly exceeds revenue, and the shortfall is made up by critically needed grants from New Zealand used to pay wages to public employees. The agricultural sector consists mainly of subsistence gardening, although some cash crops are grown for export. Industry consists primarily of taro, noni, honey and vanilla beans. Past industries in the 1970s and 1980s included small factories to process passion-fruit, lime oil, honey and coconut cream. The sale of postage stamps to foreign collectors is an important source of revenue. The island in recent years has suffered a serious loss of population because of emigration to New Zealand. Efforts to increase the gross domestic product (GDP) include the promotion of tourism and financial services, although the International Banking Repeal Act of 2002 resulted in the termination of all offshore banking licenses. Fishing licenses and the international lease of Niue’s unique four-digit telephone numbers are important income earners for the country.

The government’s long-term policy for economic development and financial stability is to encourage national self-reliance. In the short- and medium-term, the government aims to maximise available funds to invest in high priority areas. One of the strategies is to target development of eco-tourism and the expansion of export products such as vanilla and noni. Niue imports more four times more than it exports. In 2018 goods exported to NZ amounted to NZD 450,000 while goods imported from NZ amounted to NZD 21.5 million. The five major import items are non-cruse petroleum oils, waste oil and biodiesel, construction materials, heavy machinery, beverages and electrical equipment. The private sector contributes 20% of total GDP and employs an estimated 20% of workers. Government accounts for the other 80% of employees.

Economic Information	
GDP per capita (2016 est.)	USD 15,586
Real GDP growth (2009 est.)	0.1%
Inflation rate (2016 est.)	2.2%
Unemployment rate (2006 est.)	0.9%

Financial management

Niue has been operating both trade and operational budget deficits for many years. These are offset by recurrent funding from New Zealand, which is mostly used to subsidise the public service payrolls. A number of fiscal and taxation reforms were introduced to increase internal revenue. A consumption tax was introduced and changes were also made to income tax and some import duties. These tax reforms were fully implemented in February 2009. A Public Expenditure and Financial Accountability (PEFA) assessment was undertaken for Niue in 2011. The assessment noted that improvements in current procurement procedures would address both issues of transparency and value for money. The assessment also highlighted that the private sector’s ability to respond to procurement opportunities, and the public’s ability to hold the government to account, is affected by the limited public access to financial information. Given the significance of donor funding, notification of planned funding ahead of the start of the fiscal year and predictability of disbursements is of major importance for the government’s planning, budgeting and cash flow forecasting.

Some departments comply with their budget ceilings and reporting requirements, and their sector plans clearly reflect the national priorities outlined in the NNSP. However, the overall challenge for public financial management is how it can function to maintain budget credibility. Public financial management is guided by the NNSP, Revenue Treasury Rules 1960, Treasury Instructions, and the Public Revenues Act 1969. Financial priorities reflect key social and economic projects envisaged in the NNSP. Fiscal policies are targeted towards implementation of the key pillar pertaining to financial stability. For example, the introduction of the Consumption Tax Act in 2009 levied a 12.5% tax on goods and services, and the benefits are slowly materialising. Income tax has been lowered and import taxes have been reduced, except for those on tobacco, alcohol and soft drinks. Secondary income tax was also lowered from 35% to 10%, a move aimed at stimulating labour productivity.

The financial year for the Government of Niue is from July to June. Government of Niue does not have its own external audit office and the Audit Office of New Zealand is the Government's auditor. The financial management information system (Greentree) was introduced in 2010 and has gradually improved financial management and reporting. Two thirds of the government budget is funded by tax and other (non-tax) revenues, with the remaining third being funded by donor contributions, mainly from New Zealand.

The Niue International Trust Fund also plays an important role in terms of fiscal stability. The NITF fund was established in 2006 with assistance from New Zealand and Australia, and its primary aim is to provide the Government of Niue with an additional source of revenue to cushion the effects of economic shocks.

Direct budget support

Niue receives direct budget support from New Zealand as part of its obligations under the constitution for economic and administrative purposes. Through budget support, New Zealand provides 57% of Niue's recurrent budget and provides around two-thirds of the remainder of aid received by Niue. There has been a shift in focus for Niue in recent times, with budget support from New Zealand being geared towards increasing social and economic activity through investment in economic development initiatives such as tourism. This change was brought about by the Government of New Zealand.

The aid relationship between Niue and New Zealand is strengthened further by a joint commitment between New Zealand and Niue (2019–2023), where both parties are committed to the following priority areas for cooperation:

- partnership - maintaining a strong working relationship by sharing knowledge and collaborating;
- prosperity - supporting a resilient and prosperous economy based on sound business principles;
- resilience, environment and climate change - working together to protect and manage Niue's environment and address the impacts of climate change in the Pacific;
- peace and security - working towards a safer Pacific community; and
- people - protecting Niue's Tāoga and growing Niue's human capital.

Key lessons from an evaluation of New Zealand's aid programmes in Niue in 2015 found that recipient government capacity constraints have a significant impact on the sustainability of results and need to be the focus of long-term capacity building strategies. Additionally, to influence reform in small island contexts, close and ongoing relationships between recipient and donor country technical staff/advisors are required over the long-term (Adam Smith International, 2015).

Aid management

A peer review of Niue's national development planning, public financial and aid management systems and processes was undertaken in June 2011, as part of the Compact on Strengthening Development Coordination in the Pacific, agreed to by Forum Leaders and key development partners in 2009. The peer review team reviewed and made

recommendations on a number of salient issues relating to improving systems and processes for development planning, public financial and aid management.

At present, there is no aid management policy *per se* as aid is channelled through a variety of mechanisms, including budget support, programme support, technical assistance, contributions to the Niue International Trust Fund and projects. Some aid resources are held by donors in trust within Niue as in the case of New Zealand with its special trust fund to fund tourism infrastructure. Additionally, a large number of projects, with the associated monitoring and reporting burden, are managed by a small number of departments, making disproportionate demands on Niue's public service.

The peer review found that the cost of managing external assistance within public sector resources is unsustainable, and is made worse by the fact that there is no centralised mechanism for aid coordination. Thus, in line with the objective of NNSP — to set up an aid coordination unit for internal and external aid harmonisation — and based on the findings of the peer review, it was recommended that an aid management unit be established, whose first task is to develop an aid management policy as in Nauru, Samoa and Tuvalu.

RESPONSE TO CLIMATE CHANGE

Activities in response to climate change began in Niue after the ratification of the United Nations Framework Convention on Climate Change (UNFCCC) on February 28 1999, five years after the entry into force of the UNFCCC on March 21 1994. Awareness on climate change and sea-level rise issues began with the preparation of its initial national communication under the UNFCCC between 1998 and 2001. The preparation provided the avenue for discussing climate change issues and also undertaking some capacity building and awareness on climate change in Niue. Niue's second national communication under the UNFCCC (2014) highlighted information on the national greenhouse gas inventories, impacts and vulnerability assessments of climate change, measures to adequately adapt to climate impacts and measures aimed at reducing the growth of greenhouse gas emissions.

A number of recent policies have integrated climate change considerations into the decision-making process. These include the Forest Policy, Niue National Energy Policy, Niue National Integrated Strategic Plan, Climate Change Policy, and the Ecosystems Approach to Fisheries Management. A number of government departments have also incorporated climate change considerations into their corporate plans.

Current and future climate

Current climate

Niue has a tropical maritime climate, with a seasonal range of about 4⁰C between the warmest and coolest months. There are two distinct seasons in Niue: the hot or wet season from December to March and the cool dry season from April to November. The average annual rainfall is approximately 2,180 mm, but it can vary from 810 mm to 3,300 mm. The bulk of rainfall is concentrated in the hot season and is often delivered in torrential downpours; it accounts for 68% of the total annual rainfall. The cool season is characterised by warm, sunny days and cool nights, with temperatures averaging 24⁰C. The annual average temperature does not vary greatly throughout the year due to the influence of the sea on a small low-lying island. The annual rainfall pattern is erratic, with very dry or very wet months possible at any time of the year.

Cyclones strike Niue at irregular intervals, the most recent one being Cyclone Heta in January 2004, which caused devastation to people, properties, government and industry, infrastructure, agriculture and the economy with an estimated damage cost of more than USD 60 million (or NZD 89.1 million). Since 1863, when records began, more than 30 tropical cyclones have affected Niue with a frequency of one severe cyclone within 2–15 years.

Droughts occur from time to time, affecting agriculture, particularly, as there is no irrigation system. Year-to-year variability is often strongly influenced by the El Niño Southern Oscillation. The rate of sea-level rise since 1993 measured by satellite is 5 mm per year.

Expected future climate of Niue

Projections for all emission scenarios show that temperatures will continue to rise in Niue, as will sea level. (refer to Table 2). The increase in temperature will result in an increase in the number of hot days and warm nights and an increase in the average annual and seasonal rainfall over the entire course of the 21st century.

Projected increases in rainfall are consistent with the expected intensification of the South Pacific Convergence Zone, the Intertropical Convergence Zone and the West Pacific Monsoon. However, not all model results show consistent results, giving rise to some uncertainty in rainfall projections. Less frequent droughts are projected for Niue over this century.

Projections of sea-level rise under the high emissions scenario (A2) indicate that, by 2030, Niue will have experienced sea-level rise in the range of 6 cm to 27 cm. Ocean acidification is likely to continue throughout the current century in waters around Niue.

Table 2: Climate change projections for Niue for 2030 and 2055 under the high emissions scenario (A2).

Climate Variable	Expected Change	Projected Change by 2030 (A2)	Projected Change 2055 (A2)	Confidence Level
Annual surface temperature	Average air temperature will increase	+0.3 to +1.1°C	+0.9 to +1.7°C	Moderate
Maximum temperature (1 in 20 year event)	More very hot days	NA	+0.9 to +2.1°C	Low
Minimum temperature (1 in 20 year event)	Fewer cool nights	NA	-0.2 to +3.2°C	Low
Annual total rainfall (%)	Annual rainfall will increase	-7 to +17%	-10 to +24%	Moderate
Wet season rainfall (%)	Wet season rainfall will increase	-8 to +18%	-6 to +24%	Moderate
Dry season rainfall (%)	Dry season rainfall will increase	-8 to +18%	-12 to +22%	Low
Sea-surface temperature (°C)	Sea surface temperature will increase	+0.3 to +1.1°C	+0.9 to +1.7°C	Moderate
Annual maximum acidification (aragonite saturation)	Ocean acidification will continue to increase	+2.3 to +2.7 Ωar	+2.9 to +3.1 Ωar	Moderate
Mean sea level (cm)	Sea level will continue to rise	+6 to +27 cm	+10 to +50 cm	Moderate

Institutional arrangements for climate change

The preparation of the initial national communication of Niue to the UNFCCC provided a platform for the creation of a national climate change country team (NCCCT), which provided oversight for the implementation of the project. The NCCCT included technical working groups, which carried out the various tasks and activities relating to the preparation of the communication, which was completed and submitted to the UNFCCC Secretariat in 2001. The preparation of the second national communication commenced in 2006 (and was submitted in 2014), essentially following the country team approach and institutional arrangements similar to those used for the first national communication. The main agency responsible for the two projects is the Niue Department of Meteorology and Climate Change (NDMCC) which is also the UNFCCC Focal Point for Niue and the Secretariat of the JNAP. Thus all climate change-enabling activities, including the top-up phase and technology needs assessment, have been facilitated by and coordinated through NDMCC and NCCCT.

While climate change-enabling activities are facilitated and coordinated by the NDMCC, all other environmental programmes and projects are managed and coordinated by the Department of Environment (DOE) which also serves as the Operational Focal Point of the Global Environmental Facility. As such, it manages many of the United Nations Development Programme – Global Environment Facility (UNDP-GEF)-funded projects and programmes in Niue. Additionally, DOE developed in 2009 the policy: *National Climate Change Policy: A safer, more resilient Niue to impacts of climate change and towards achieving sustainable livelihood*, in line with the NNSP. The development of the national policy was spearheaded by the DOE, which is responsible for coordinating the implementation of the policy.

Implementation of climate change activities in Niue is carried out by a number of different organisations. Such arrangements pose potential problems for coordination and jurisdiction. However, under the JNAP, the Department of Environment and other key stakeholders will coordinate and facilitate adaptation activities in Niue.

Ongoing climate change adaptation activities

A number of climate change adaptation activities are ongoing in Niue:

Title	Description
Global Climate Change Alliance Plus – Scaling Up Pacific Adaptation (GCCA+ SUPA) 2019 – ongoing	EU-funded 4.5-year project working in ten Pacific Island countries (nine small island states plus Fiji). The GCCA+ SUPA focuses on scaling up climate change adaptation measures in specific sectors supported by knowledge management and capacity building. Implementing partners: SPC (lead agency), SPREP and USP.
Global Climate Change Alliance Plus Intra ACP – Pacific Adaptation to Climate Change and Resilience (GCCA+ Intra ACP PACRES) 2018 – ongoing	EU-funded 4.5-year project working in 15 Pacific Island countries. The GCCA+ Intra ACP PACRES focuses on implementing activities that are directly relevant to the implementation of national climate change adaptation and mitigation priorities, NDCs and other elements of the Paris Agreement relevant to the region. Implementing partners: SPREP (lead agency), SPC, PIFS and USP
Umbrella Programme for National Communication to the UNFCCC 2001 – ongoing	A GEF-funded project that provides financial and technical support for the preparation of Niue’s National Communication to the UNFCCC. The project strengthens the information base and institutional capacity of the national institutions involved in the development of national communications in order to integrate climate change priorities into development strategies and relevant sector programs.

Title	Description
<p>Programme for Implementing the Global Framework for Climate Services (GFCS) at Regional and National Scales</p> <p><i>2015 – ongoing</i></p>	<p>Implementing organisation: United Nations Environment Programme</p> <p>The GFCS aims to enhance resilience in social, economic and environmental systems to climate variability and climate change through the development of effective and sustainable regional and national climate services under the GFCS in selected regions and countries.</p>
<p>EU Adapting to Climate Change and Sustainable Energy (ACSE)</p> <p><i>2014 – 2019</i></p>	<p>The ACSE programme works in 15 Pacific ACP countries to strengthen the countries' capacity to adapt to the adverse effects of climate change and to enhance their energy security at national, provincial and local/community level.</p> <p>Implementing partners: GIZ, SPC and USP</p>
<p>ACP-EU Building Safety & Resilience in the Pacific (BSRP)</p> <p><i>2013 – 2019</i></p>	<p>The project's purpose is to strengthen the capacity of Pacific Island countries to address existing and emerging challenges with regard to the risks posed by natural hazards and related disasters, while maximising synergies between disaster risk reduction strategies and climate change adaptation.</p> <p>Implementing organisation: SPC</p>
<p>Synergistic Impacts of Global Warming and Ocean Acidification on Coral Reefs</p> <p><i>2013 – ongoing</i></p>	<p>This project is developing equations that describe changes in coral growth rates in response to increased temperature and ocean acidification. These data are necessary for developing and refining models evaluating the future impact of climate change on Pacific coral reef communities. Results will help define appropriate management responses and prioritize interventions at the most vulnerable sites.</p>
<p>Climate and Oceans Support Program in the Pacific (COSPPac)</p> <p><i>2012 – ongoing</i></p>	<p>COSPPac works with Pacific Island stakeholders to analyse and interpret climate, oceans and tidal data to produce valuable services for island communities. This information helps island communities to prepare for and mitigate the impacts of severe climate, tidal and oceanographic events.</p> <p>Implementing partners: Australian Bureau of Meteorology and SPREP</p>
<p>The Pacific Islands – Global Ocean Observing System (PI-GOOS)</p> <p><i>2009 – ongoing</i></p>	<p>PI-GOOS aims to assist sustainable development in 16 Pacific Island countries and territories by facilitating the establishment and implementation of coastal and open ocean observing programmes, and in helping to improve uptake and use of the data, information and products being generated. Implementation of PI-GOOS is primarily through capacity building at the local and regional level.</p> <p>Implementing organisation: SPREP</p>

National climate change priorities

The Government of Niue developed a climate change policy in response to the need for addressing climate change issues in a more coherent and whole-of-government manner in line with the NNSP. The DOE spearheaded the development of the policy, which was endorsed by government in 2009. The policy has as its goal: 'to promote understanding of and formulate appropriate responses to the causes and effects of climate change in support

of national sustainable development objectives'. A number of objectives and associated strategies are outlined in the policy:

- 1) Awareness-raising – climate change communication strategy, awareness campaigns, climate change integration into school curricula, awareness-raising on specific topics.
- 2) Data collection, storage, sharing and application – database management, research, analysis and use for decision support, capacity building for analysis, interpretation, application and dissemination of data and information.
- 3) Adaptation – identify vulnerabilities and appropriate adaptation options, build capacity for adaptation, use appropriate adaptation technologies, including traditional knowledge.
- 4) Mitigation – renewable energy technology, energy efficiency, technology, and building capacity to update GHG inventories.
- 5) Governance and mainstreaming – mainstream climate change issues into development and budgetary processes.
- 6) Regional and international cooperation – effective implementation, participation and collaboration with regional and international partners, donors and development agencies.

An adaptation component of the climate change policy was integrated with disaster risk management in the JNAP (2012) which provides a plan of action to address existing gaps relating to vulnerability to climate change impacts and disasters.

As with other Pacific Island countries, Niue has used the national communication process to identify climate change and adaptation priorities. For instance, a list of 44 adaptation activities were identified during the preparation of the second national communication of Niue under the UNFCCC. These priorities relate to agriculture, fisheries, human health, settlement and infrastructure, coastal zones and tourism.

Key Challenges

The biggest challenge Niue faces is lack of human resources which is exacerbated by emigration. Addressing climate change is a long-term development problem as there are a large number of constraints, gaps, needs and priorities that need addressing in order to facilitate adequate adaptation. Thus the other main challenge for Niue is to ensure that there is adequate human, technical and financial support from the regional and international community to help with addressing the climate change issues and concerns embodied in the climate change policy.

The Government of Niue highlighted its priority needs for adaptation to climate change in the JNAP and in its First and Second National Communication to the UNFCCC. Although Niue has made some progress since 2001 in addressing climate change issues with the support of its regional and international development partners, key challenges still remain and will compromise future long term-efforts unless effectively addressed.

Of particular note are capacity constraints relating to the lack of highly skilled personnel, in permanent positions, to take on the task of managing climate change risks over the near and long term. Short term personnel and project personnel only go some way to addressing this gap. Climate change education at primary, secondary and tertiary levels, short term training, on-the-job training and job attachments are critical to address the capacity gap. So too is the need to develop innovative ways to retain skilled personnel in country through appropriate levels of remuneration and other means.

Raising public awareness about climate change risks is another important activity that needs to be implemented through a planned process thereby moving away from ad hoc approaches.

Given that many climate change activities implemented in Niue are project-based, with 3-5 year timeframes, the results and outcomes may not always be sustainable. Niue is already making efforts to prepare a financing strategy for climate change adaptation and disaster risk reduction activities and to tailor new projects to address specific gaps in their national agenda, and this approach needs to be maintained and expanded.

Integration of climate change into national, sector and community programmes, projects and activities is needed on a continual basis over the long term and there is a need to create an enabling environment for engaging with both local communities and national level government.

Niue's infrastructure is also a constraint: there are only two flights a week in and out of Niue so when there are regional and international meetings outside of Niue, at least 1.5 weeks of staff time is consumed (depending on flight schedules) and this is not conducive for a country with existing human resource constraints.

Another key challenge for Niue is to ensure that gender-sensitivity and disability inclusiveness is addressed in its climate change programmes, projects and activities. Climate change affects communities and individuals in different ways and it is important to ensure that climate change activities are fully inclusive of these special groups.

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