AMERICAN SAMOA CORAL REEF ADVISORY

PROJECT LOTONUU

In collaboration with Samoan Studies Institute
American Samoa Community College

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Puipuiga Faatulafono 2018 Ofisa o A‘oa‘oga ma Su‘esu‘ega Samoa,
Kolisi Tuufaatasi o Amerika Samoa.
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American Samoa Coral Reef Advisory Group
Project Lotonuu

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1. Coral Reef related terminologies
2. Samoan language

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COVER: E tele ata matagofie i lenei tusi na ofo mai e le Tofa Namulauulu Togia atoa ai ma le ofisa o Auaunaga a Paka Faasao i Amerika Samoa. O nisi na tuufaatasia mo le Faava’a o lenei tusi.

Many of the photos in this book are from Namulauulu Tavita Togia and the National Parks Service. Some are in the collage for the cover photo.

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RESILIENT RESOURCES SAMOAN LANGUAGE GLOSSARY

CORAL REEF

Lead Agency: Coral Reef Advisory Group
Project Manager: Climate Change Specialist

Introduction

The culture and economies of the Samoan islands depend on healthy ecosystems. These environmental systems face stresses from unwise land and water use practices, as well as impacts of a changing climate. The Intergovernmental Panel on Climate Change (IPCC) indicates that the average global temperature has increased 1.3 degrees Fahrenheit over the past 100 years and is expected to continue to increase two to 11.5 degrees more over the next century. Human activities, particularly fossil fuel consumption and deforestation, are leading to an enhancement of the greenhouse effect by the emission of greenhouse gases. Like other small island developing states (SIDS) in the Pacific, the Samoan islands are highly vulnerable to rising sea surface temperatures, increases in ocean acidification, rising sea levels, intensifying storm systems, and changing rainfall patterns, due to the island's geographical characteristics, socioeconomic status, and dependence on natural resources. They are also at risk for impacts from unregulated land development, sand mining, overfishing, marine debris, and other ecological issues that are not caused by a changing climate, but can increase the impacts from climate change.

It is vital that Samoans are able to communicate about these human and environmental processes affecting the archipelago in a consistent manner, using the same English and Samoan terms and definitions. Only then can proactive measures be efficiently taken to maintain and improve the state of the islands' natural resources, helping to build resiliency and allow Samoan communities to flourish. This glossary establishes a common and accepted set of words and definitions to be used by all relevant agencies and organizations when discussing climate change and resilience issues in Samoan.

Sabrina Woofter
NOAA Coral Reef Management Fellow
American Samoa Coral Reef Advisory Group

RESILIENT RESOURCES SAMOAN LANGUAGE GLOSSARY

Faatomuaga

E faalagolago le aganuu ma tamaoaiga o le atu Samoa i ekosisitema maloloina, poo le maloloina o le taaviliga o le olaga faanatura o meaola ma le siʻosiʻomaga o iai. O loo feagai nei faatulagaga faasiʻosiʻomaga ma faafitauli mai i le faaaogāga faalētatau o le eleele ma le vai atoa ai ma aafiaga mai le suiga o le taumasina (Met Apia 17). Ua faailoa mai e le Laulauafono o le IPCC le siitia o le averesi o le mafanafana o le ea o le kelope i le 1.3 tikeri F i le 100 tausaga talu ai, ma e iai se manatu o le a siitia i le lua i le 11.5 tikeri F i le isi seneturi. O gaoioiga a tagata, aemaise le faaaogāga o faaolaafi fosili ma le tāina o le vaomatua, o loo agaʻi ai i le faateteleina o le aafiaga mai kasa oona ua lē mafai ona uʻunaia ese mai le atimosefia. E pei lava o isi atunuu laiti tau atia'e i le Pasefika, o motu o le atu Samoa, e matuā aafia gofie ona o le siitia o le maualuga o le vevela o le pitoaluga o le sami, siitia le oona o le asiti i le sami, siitia le maualuga o le sami, faatupulaʻia le malolosi o sisitema tau matagi afa (Apia) fesuisuiga o ituaiga timuga, ona o eseesega o eleele, tulaga tau tamaoʻaiga o tagata, ma le faalagolago i alagaʻoa faanatura. E ono aʻafia foi ona o faaaogāga lē aloaʻia o fanua mo atinae, ʻeliina o le oneone, soona fagota, otaota i le sami, ma isi faafitauli tau ekolosi e lē afua mai le suiga o le taumasina, ae mafai ona faatupulaʻia ai aafiaga mai le suiga o le taumasina.

E tāua tele le mafai e tagata Samoa ona fesootai e faatatau i faagasologa faaletagata ma faasiʻosiʻomaga e aafia ai le atumotu i se tulaga laugatasia, e faaaogā ai upu tutusa Faaperetania poo le Igilisi ma upu Samoa ma o latou uiga. O ʻiʻinā o le a mafai ai loa ona faatino ni tapenaga e tausisia ma faaleleia ai le tulaga o alagaʻoa faanatura o le motu, ma fesoasoani ai e atiaʻe se tulaga gafatiataulima ma mafai ai e alalafaga Samoa ona ola lauusiusi. O le a faataatia e lenei tusi ni upu taatele ma aloaʻia ma o latou uiga e faaaogā e ofisa eseese ma faalapotopotoga pe a faatalanoaina le suiga o le tau ma mataupu tau gafatia i le gagana Samoa.

Sabrina Woofter
NOAA Coral Reef Management Fellow
American Samoa Coral Reef Advisory Group

Project Summary

This glossary was developed for the Samoan language, in order to better explain concepts related to climate change, resilience and natural resource protection in the native Samoan language throughout the Samoan archipelago. Presently, words including “resilience” and “adaptation” are difficult to translate properly, and this is done differently from agency to agency, creating confusion when different agencies use different terminology to describe the same idea. A glossary will help in two ways: 1) it will assist community members in better understanding the various concepts in their own language ; 2) it will establish a common and accepted set of words to be utilized by all CRAG education and outreach (and natural resource agencies in general) when discussing climate change and resilience issues in Samoan.

A Climate Change glossary was created successfully in Fiji to assist in education and outreach, and was presented during the NOAA/USAID Climate Services Dialogue as one of the best practices in communicating climate change to the public. The Samoan Climate Change glossary will be created by natural resource managers in American Samoa and Samoa with help from the Samoan Studies Institute (SSI) through a participatory workshop wherein planning documents utilizing Samoan resilience language would be brought in to attempt to replicate and utilize the ideal words to describe climate and other terms. Once finalized, this glossary will be adopted by the Two Samoa’s Environmental Initiative creating a coherent vocabulary which will be used by all partners throughout the archipelago.

Otootoga

Na galueaina lenei lisi o upu mo le gagana Samoa, ina ia faamalamalama i se tulaga sili atu konesepi e fesootai ma le suiga o tau i masina poo vaitau, mafai ona taofia tulaga masani i le tuana‘i o faalavelave atoa ai ma le puipuiga o alagaoa faalenatura i le gagana Samoa i le atu Samoa. I le taimi nei, o loo faigatā ona faaliliu upu e pei o le “resilience” (gafatia) ma le “adaptation”(fetuunai), ma e eseese faaliliuga mai lea ofisa i lea ofisa, ma tula’i mai ai le nunumi ina ua faaaogā e ofisa eseese faaupuga eseese e faamatala ai le manatu e tasi.

E fesoasoani se tusi o upu i ni auala se lua: 1) o le a fesoasoani i sui o alalafaga ia malamalama atili i konesepi eseese i la latou lava gagana; 2) o le a faataatia ai ni upu masani ma ua talia, e faaaogā i aoaoga a le CRAG ma faasoa tau aoaoga i tua (ma soo se ofisa o alagaoa faalenatura) pe a faatalanoaina suiga o le tau/taumasina ma mataupu tau i le mafai ona toe maua tulaga masani i le mae’a o ni faalavelave faalenatura.

Sa manuia le taumafaiga e tuufaatasi se tusi faapenei i Fiti e fesoasoani i aoaoga ma faasoa i tua, ma na tuuina atu aloaia i le NOAA/USAID Climate Services Dialogue (Talanoaga o Auaunaga Taumasina a le NOAA/USAID), na avea o se tasi o faatinoga sili e taulogologo atu ai suiga o le tau poo le taumasina i tagata lautele. Ua tuufaatasia le galuega faasamoa e ta‘ita‘i o alagaoa faalenatura i Amerika Samoa ma Samoa, ma le fesoasoani mai le Ofisa o Aoaoga ma Suesuega Samoa (SSI) i le faaliliuina i le gagana Samoa talafeagai, o upu tonu e faamatala ai le tau o masina ma isi upu. A mae’a loa, ona faaaogā lea o lenei tusi o upu i taumafaiga tau le Si‘osi‘omaga a Samoa e lua, ina ia maua ai se utuvagana manino e faaaogā e paaga uma i le atu Samoa.

Faalauiloaga

Ua alagā tatau ma onomea le faaigoaina o lenei galuega o le **"Lotonuu"** ona o se upu e lē tau faamatalaina. O ni lagona fiafia e afua mai totonu o le loto o le tagata, e mafua ai ona ia faatino aga faapelepele i lona nuu. O lagona fiafia ia e lē utufia ai le soifua finau ma le mafaufau alofa e faaauau le tofi, faapea le loto fesoasoani e atia'e ai le aganuu a Samoa i soo se vaega o le soifuaga.

Ua mafai ona faatino lenei galuega o le faaliliuga o faamatalaga Peretania i le gagana Samoa e le Ofisa o Aoaoga ma Suesuega Samoa a le Kolisi Tuufaatasi, ona o se loto fia fesoasoani i tagatanuu o Amerika Samoa, ia maua'a le malamalama i suiga o le tau ua oo i ai le lalolagi. E faailoa atu ai ma le loto faafetai le American Samoa Coral Reef Advisory Group (CRAG), ae maise le tamaitai ia Sabrina Woofter i lona sogasogā na mafai ai ona faatupe lenei galuega. Malo le tauivi, faafetai mo le loto manino.

Na faigofie le faatinoga o lenei galuega ona o le faapalepale mai o le afioga i le Faatonu o le Matagaluega o Punaoa, Faigafaiva ma le Vaomatua (DMWR) susuga Vaamua Henry Sesepasara faapea fo'i le lagolago a le susuga i le fomai Rosevonne M. Pato, o le peresetene o le Kolisi Tuufaatasi o Amerika Samoa.

Matou te faaleo le agaga faafetai i sui eseese o Matagaluega nei a le Malo o Amerika Samoa mo le faasoa mai o lo latou tomai ma le silafia, ina ia mafai ona tonu ma tau lanutasi le faaliliuga: Susuga Carol Baqui ma June Taifane o le NOAA, Ofisa Vaaitau; Susuga ia i latou nei - Christina Mata'afa, Patisepa Atulu, Saumaniafaese Uikirifi, Toiata Apelu Uli o le Matagaluega o Punaoa, Faigafaiva ma le Vaomatua; Tōfā Apulu Veronika Mortenson ma le tamaitai o Alaese Tauofe o le National Marine Sanctuary o Amerika Samoa, o le Tōfā Namulauulu Tavita Togia o le National Parks, faapea le Susuga ia Sabrina Woofter, Kim A. Mc Guire ma Faasalafa Kitiona o le Coral Reef Advisory group.

Ua mutia le ala, ma e ui ina eseese faigamalo a Samoa na lua, ae na tali lava i lumā maota la matou faatalauula atu i Matagaluega faapea Faalapotopotoga Tuma'oti a Samoa Tutoatasi. E faailo ai lupe o fuifui i le mamalu i tamalii o Samoa na mafai ona faaavanoa o latou taimi ma faasoa mai lo latou silafia faapea a latou foi taumafaiga, ia malamalama Samoa i vaega o aoaoga ma upu faapitoa i mataupu faasaienisi ma le si'osi'omaga. Faafetai tele i lau Afioga Taigau Ausetalia Titimaea o le Pule lagolago Meteorology Office; Susuga Kosimiti Latu Pule Sili o le SPREP; Susuga Lave Tuiletufuga Ofisa o le Palemia, Susuga Heremoni Suapaia o le Matagaluega o Tupe; Susuga Fuatino Leota ma Maria Satoa o le Matagaluega o le Siosiomaga; Susuga Kereta Toomata o le Ofisa Faaliliu o le Palemene o Samoa; Tofa Fiu Mataese o le Peresetene o le Si'osi'omaga Society ma le Tōfā Teleiai Dr. Saifaleupolu; Afioga Magele Eteuatsi Ropeti ma le Susuga Sapeti Ti'iti'i o le Matagaluega o Faigafaiva. Faafetai tele mo le amanaia a o le lotonuu sagisagi.

Faafetai tele i le Tōfā Namulauulu Tavita Togia ma le Ofisa o Paka Faasao mo nisi o ata ua faaaogā i lenei tusi, e faamalamalama atili ai upu faasaienisi. Momoli atu le faamālō i le 'au faaliliu upu - Susuga Tupa'isiva Tamari Mulitalo-Cheung, Afioga Maseuli Mago Faleosalafai Tipa, ma le Tōfā Teleiai Fanaea Christian Ausage. Mālō le galulue punoua'i ia mae'a lenei galuega tāua.

E tuuina atu lenei galuega LOTONUU ma le agaga fiafia, ia avea ma alagā'oa aogā mo soo se tagata Samoa. E pei ona lagi i le viiga a le EFKS: "Lo ta nuu, na ou fanau ai. Ua lelei oe i le vasa, Ua e maua mai lugā, O le tofi aogā".

Soifua,

Keseta Okenaisa Fauolo-Manila.
Faatonu Ofisa Aoaoga ma Suesuega Samoa
Kolisi Tuufaatasi o Amerika Samoa

Acknowledgement

It is fitting and appropriate to name this project "Lotonuu or Patriotic", for it is a word that needs no explanation. Happiness that wells up from within the heart of a person, causes them to demonstrate great care towards their village. Such happiness gives rise to a desire to perpetuate one's heritage, and to help develop Samoan culture in any aspects of life.

This work was made possible, in particular, the translation of the English text to the Samoan language by the Samoan Studies Institute of the American Samoa Community College (ASCC), because of a desire to assist the people of American Samoa in being grounded in the knowledge of climate change now facing the world, in the Samoan language. We acknowledge with gratitude the American Samoa Coral Reef Advisory Group (CRAG), especially Ms. Sabrina Woofter for her perseverance enabling this translation project to be funded. You are commended for your perseverance, and thanked for your discernment.

The implementation of this project was made easier with support from the Director of Department of Marine and Wildlife Resources (DMWR) Vaamua Henry Sesepasara as well as the encouragement from the American Samoa Community College president Dr. Rosevonne Makaiwi Pato.

We extend our heartfelt appreciation to the following representatives of these Departments of the American Samoan government for their contribution to our concerted effort to demonstrate accuracy and standardization in the translations given: Carol Baqui and June Taifane from NOAA, National Weather Station; Christina Mata'afa, Patisepa Atulu, Saumaniafaese Uikirifi, Toiata Apelu from DMWR; Apulu Veronika Mortenson and Alaese Tauofe of the National Marine Sanctuary of American Samoa; Namulauulu Tavita Togia from National Parks, and Sabrina Woofter, Kim A. Mc Guire and Faasalafa Kitiona of the Coral Reef Advisory Group.

Although it is established that the two Samoa have separate political affiliations, we were received with such willingness by government departments as well as Non Governmental Organisations in Independent Samoa. For such we want to recognize these leaders of Samoa for availing their time and sharing their Scientific and Environmental know-how and their awareness strategies so Samoans can understand this area. We wish to thank Taigau Ausetalia Titimaea Deputy CEO of the Meteorology Office; Kosimiti Latu, CEO of SPREP; Lave Tuiletufuga, Office of the Prime Minister; Heremoni Suapaia, Ministry of Finance; Fuatino Leota and Maria Satoa of MNRE; Kereta Toomata, Interpreter office Legislative Department of Samoa; Fiu Mataese, President of Environmental Society and Teleiai Dr. Saifaleupolu; Magele Eteuati Ropeti and Su'a Sapeti Ti'iti'i of the Department of Fisheries. Thank you for accepting our request.

Thank you so much Namulauulu Tavita Togia as well as the National Park office for your photos used in this booklet, to further clarify scientific terms. A word of commendation goes to our translators- Tupa'isiva Tamari Mulitalo-Cheung and Maseuli Mago Faleosalafai Tipa, as well as Fanaea Christian Ausage. Well done in completing this important work.

I hereby, present this LOTONUU project with a joyful heart, that it will be a valuable resource to any Samoan. As the words of the CCCS hymnal say: "My country, where I was born, Magnificent are you in the ocean, You have received from above, A heritage of value".

Soifua,

Keseta Okenaisa Fauolo-Manila
Director Samoan Studies Institute
American Samoa Community College

CRAG RESOURCES

Symbols, Abbreviations within the glossary

* Definitions are from the iTaukei Glossary of Climate Change Terms created by the Secretariat of the Pacific Community (SPC) and the Ministry of iTaukei Affairs, 2012: http://fiji-reddplus.org/content/itaukei-glossary-climate-change-terms

Definitions are from American Samoa Environmental Protection Agency's ASCA Title 24, Chapter 1, Environmental Quality Act: http://www.epa.as.gov/sites/default/files/documents/regulations/title24chapter1eqa.pdf

? Definitions are from the United Nation Framework Convention on Climate Change glossary: http://unfccc.int/resource/cd_roms/na1/ghg_inventories/english/8_glossary/Glossary.htm

NOAA http://oceanservice.noaa.gov/facts/shoreline-armoring.html

OE http://energy.gov/oe/services/technology-development/smart-grid

WB http://siteresources.worldbank.org/INTENVASS/214584-1115356570828/20480327/WorldBankPollutionPreventionandAbatementHandbookGlossaryofEnvironmentalTerms1998.pdf

'Enu Unpublished Samoan Studies Institute (SSI) Enugagana bilingual glossary.

CBS Central Bank of Samoa's bilingual glossary

I.Oke Dr. I.Okesene-naming his children using translations of chemical compounds

Leg Apia 04, Legi 1993 Glossaries of 1993 and 2004 from the Legislative of Samoa cited in this booklet.

Met Meteorology Apia office's translation from their recently published booklet

Mil G.B.Milner, author of second most popular dictionary in Samoan and English

Prat Rev.George Pratt author of the most popular Samoan dictionary

NOAA National Oceanic and Atmospheric Administration - American Samoa

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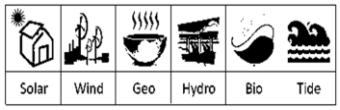
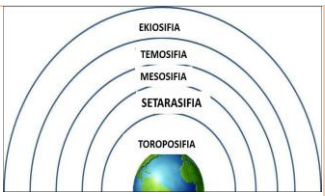
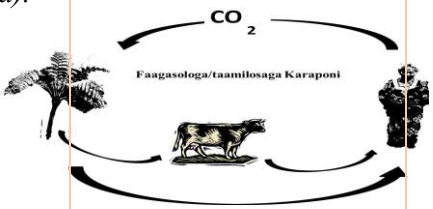
English Term	English Definition	Samoan Terms Upu Samoa	Samoan Definition Faauigaga Samoa
Acid **Acidification ocean) ***	A decrease in the pH of sea water due to the uptake of anthropogenic carbon dioxide.	**‘Āsiti** **Faa‘āsiti/faa‘āseti (sami) (*Enu*); ‘o‘ona; aseta (*Mil, Pratt*). Aseti; aseta (*Leg 04*). Faavaila-auoonaina o le atuvasa (*Met*)**	O le faaitiitia o le *pH* i le suasami ona o gaoioiga ma mea gaosi tau karaponi taiokesaita. *Note: pH – malosi,ꞌaga haitorosene*
Adaptation (to climate change)*	Adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.	**Fetu’una’iga (i le suiga o le tau/ vaitau/kalaimati); Auala e tali atu ai (i suiga o le tau/kalaimati)**	Fetu’una’iga o faatulagaga/sisitema faanatura pe tau tagata ina ia tali atu i le tau, poo foliga o le tau e ono foufou atu, poo o latou aafiaga, e taofiofia uiga faaletonu, pe faaaogā avanoa e penefiti ai.
Afforestation*	The direct human-induced conversion of land that has not been forested for a period of at least 50 years to forested land through planting, seedling and/or the human-induced promotion of natural seed sources. 	**Faavaomatuaina; ‘Afōlesi** *Faavaomatuaina o eleele e i luga atu o le 50 tausaga o tuufua. Ata 1: gettyimages.com. Ata 1: Namulauulu Tavita Togia, NPS*	O le suiga e tagata ma le liua o eleele sa tuufua mo se vaitaimi e le itiiti ifo i le 50 tausaga, ma ua faavaomatuaina lea eleele i laau totō, faamiliga ma/poo le uꞌunaꞌia e tagata le ola o fatu faanatura.
Agroforestry*	A collective name for land use systems and practices in which wood perennials are deliberately integrated with crops and/or animals on the same land management unit. The integration can be either in a spatial mixture or in a	**toꞌagavaomatua; toꞌagafolesi; ‘akorofolesi; faatoaga faavaomatua**	Igoa aofaꞌi mo faatulagaga/sisitema ma faatinoga o le faaaogāga o fanua, e tuufaatasia ai laau pereniale ma meatotō ma/poo meaola i le iunite e tasi o loo faatoꞌa. O ia tuufaatasiga e mafai ona fefiloi ai le totōina

	temporal sequence. There are normally both ecological and economic interactions between woody and non-woody components in agroforestry.		faavāvā poo le totōina faasolosolo. E masani ona iai fesootaiga tau natura/ekolosi ma le tamaoaiga i le va o laau malō (fai laupapa) ma ituaiga laau vaivai i to‘agavaomatua/ to‘agafolesi Akorofolesi/ faatoaga faavaomatua.
Albedo ?	The amount of solar radiation reflected from an object or surface, often expressed as a percentage.	**Alapeto**	O le malosi‘aga aofa‘i o le la na suluia mai se mea poo se pitoaluga, e tele ina faapasene.
Alternative energy ?	Energy derived from nontraditional sources (e.g., compressed natural gas, solar, hydroelectric, wind).  *Ata 3: Isi ituaiga Enetia/malosi,aga: mai le la; savili; vevela mai le manava o le eleele poo le teofoma; vai; paiomesi poo mea faanatura; ma le suasami*	**Isi Enetia; Malosi‘aga Faaleoleo**	Enetia e afua mai alaga ‘oa e lē masani ai (ftg. kesi faanatura ua taomia, mai le la, eletise mai le vai, matagi). *Ata 4: Solar panel in Manu'a (Tavita Togia NPS)*
Anthropogenic ?	Human made. In the context of greenhouse gases, emissions that are produced as the result of human activities.	**Anefiporokini** **Kasa fai**	Gaosi e tagata. I le tulaga tau kasa ua lē mafai ona u‘una‘ia ese mai le atimosifia, o nei ituaiga kasa e puaina mai ona o gaoioiga a tagata.
Aquifer*	A geological formation, group of formations or part of a formation, which contains sufficient, saturated permeable material to transmit and yield significant quantities of water.	**Vaipapa -*Leg04-Ap*** **Anavai -*Met Apia*** **Cited in *Enu***	O se fausaga papa, ni faaputuga papa poo se vaega o se papa, o loo lava ma iai mea/matirio e faamamā ma maua ai le tele o vai.
Atmosphere ?	The mixture of gases surrounding the Earth. The Earth's atmosphere consists of about 79.1 percent nitrogen (by volume), 20.9 percent oxygen, 0.036 percent carbon dioxide and trace amounts of other	**‘Ea; savili; asuasu (*Mil, Pra*); Atimosefia; Atimosifia (*Enu*); Atimosifia (*Leg Apia);* Vanimonimo, ‘ea (*Met*)**	O kasa eseese o loo si‘omia ai le lalolagi. O le atimosifia o le lalolagi e 79.1% naitorosene, 20.9% okesene, 0.036 % karaponi taiokesaita ma isi ituaiga kasa. E mafai ona vaevaeina le atimosifia i foga eseese (silasila i le ata) e

	gases. The atmosphere can be divided into a number of layers according to its mixing or chemical characteristics, generally determined by its thermal properties (temperature). The layer nearest the Earth is the *troposphere*, which reaches up to an altitude of about 8 kilometers (about 5 miles) in the polar regions and up to 17 kilometers (nearly 11 miles) above the equator. The *stratosphere*, which reaches to an altitude of about 50 kilometers (31miles) lies atop the troposphere. The *mesosphere* , which extends from 80 to 90 kilometers atop the stratosphere, and finally, the *thermosphere*, or *ionosphere*, gradually diminishes and forms a fuzzy border with outer space. There is relatively little mixing of gases between layers.	 *Ata 5: Foga o le atimosifia –SSI-ASCC*	tusa ma tuufaatasiga o kasa poo ona foliga faakemikale, e tele ona faatulaga mai e le fuataga o lona vevela.
Biodegradable [7]	Material that can be broken down into simpler substances (elements and compounds) by bacteria or other decomposers. Paper and most organic wastes such as animal manure are biodegradable.	**Pala;** **Faapala;** **Gasepala (*Apia legis/Env93*);** **Palafaanatura (*SSI*)**	O mea/matirio e mafai ona vaevae i ni vaega laiti (elemeni ma komepauni) e paketeria poo isi faamalū otaota. O pepa, aemaise otaota faanatura pei o otaota o manu e pala/gasepala/ palafaanatura.
Biodiversity	The variety of life in the world or in a specific habitat	**Ola felanulanua‘i faanatura;** **Paiotaivesi;** **Paio‘ese‘ese; Mea e ola eseese; eseesega o meaola ma o latou olaga (*CBS, Env 93-Leg*)**	O le felanulanua‘i o ola faanatura i le lalolagi poo i se vaega ma‘oti o loo ola ai.
Biofuel [7]	Gas or liquid fuel made from plant material (biomass). Includes wood, wood waste, wood liquors,	**Faaolaafi faanatura;** **Paiosuau‘u;** **Paiofaaolaafi;** **Paiokesi**	O kesi poo le faaolaafi suavaia e gaosi mai mea/matirio o laau (paiomesi). E aofia ai laau

	peat, railroad ties, wood sludge, spent sulfite liquors, agricultural waste, straw, tires, fish oils, tall oil, sludge waste, waste alcohol, municipal solid waste, landfill gases, other waste, and ethanol blended into motor gasoline.		fafie, alala, peguili, o vai e gaosi mai laau, faapalaga, faamau ala laupapa, otaota mai vai puipui laupapa, lekiua faaaogā e maua mai laau, otaota lafoa‘i mai faatoaga, vao mago, pa‘u taavale, suau‘u i‘a, suauu laau paina, otaota mai otaota lafoai, otaota mai ‘ava oona, otaota lafoai nofoaga lautele, kasa mai nofoaga lafoa‘i, isi ituaiga otaota ma le etanola o loo tuufaatasia ma kesolini o afi.
Biomass ?	Total dry weight of all living organisms that can be supported at each trophic level in a food chain. Also, materials that are biological in origin, including organic material (both living and dead) from above and below ground, for example, trees, crops, grasses, tree litter, roots, and animals and animal waste. *Ata 6: Tavita Togia -NPS*	**Paiomesi (*Env93*)** **Mamafa faanatura o mea e ola (*Env93*)** *Ata 7: Ituaiga Paiomesi*	Tuuaofaiga o le mamafa mātūtū o mea e ola uma o loo mafai ona feola i vaega eseese o le li‘o poo le faavasegaga o meaai. E le gata i lea o mea/matirio e faanatura lona afuaga, o mea o loo ola ma mea ua pepē i luga ma lalo o le eleele, mo se faataitaiga, laau, laau totō, vao, palagālaau, a‘a, ma manu ma otaota o manu.
Biomass energy ?	Energy produced by combusting biomass materials such as wood. The carbon dioxide emitted from burning biomass will not increase total atmospheric carbon dioxide if this	**Enetia faanatura/ Malosi‘aga faanatura/ Paiomesi (*Env cited Leg/Apia)***	Enetia/Malosi‘aga o loo gaosia mai le faamuina o mea/matirio paiomesi e pei o fafie. O le karaponi taiokesaita e maua mai le susunuina o paiomesi, e lē afaina ai le karaponi

	consumption is done on a sustainable basis (i.e., if in a given period of time, regrowth of biomass takes up as much carbon dioxide as is released from biomass combustion). Biomass energy is often suggested as a replacement for fossil fuel combustion.		taiokesaita o le atimosifia, pe a fuafua lelei lona faaaogāga (o lona uiga, ia tutusa le toe totoina ma le faaolaga o le paiomesi ma le karaponi taiokesaita e faamatuu mai, a ‘o susunuina le paiomesi). O le enetia/malosi‘aga paiomesi e masani ona fautuaina e sui tulaga i le susunuina o faaolaafi fosili.
Biosphere ?	The living and dead organisms found near the earth's surface in parts of the lithosphere, atmosphere, and hydrosphere. The part of the global carbon cycle that includes living organisms and biogenic organic matter.	**Paiosifia/mea e ola ma mamate faanatura**	O okenisi ola ma mamate e maua i le pitoaluga o le fogāeleele i vaega e pei o le litosifia, atimosifia, ma le haitorosifia. O le faagasologa o le karaponi a le kelope e aofia ai okenisi ola ma mea faanatura.
Capacity	The ability to do or understand something.	**Mafai**	O le mafai ona faatino pe malamalama i se mea.
Carbon*	A substance composed of carbon atoms, not to be confused with carbon dioxide.	**Kāponi (*Met*); Karaponi (*Leg*)** ***(Milner has both)***	O se elemeni e gaosi mai atome karaponi ma e lē fe‘avea’ia ma le kasa karaponi taiokesaita
Carbon balance*	The annual sum total of carbon emissions and sequestration within a given area (e.g. project, sector, country, region, or globally).	**Paleni Karaponi/ Kāponi**	O le tuuaofaiga faaletausaga o karaponi puaina atu ma aveesea mai se nofoaga faatulagaina. (ft. polōketi, vaega, atunuu, itulagi poo le kelope)
Carbon budget*	‘The balance of the exchanges of carbon between carbon pools or between one specific loop (e.g. atmosphere-biosphere) of the carbon cycle. The examination of the budget of a pool or reservoir will provide information about whether it is acting as a source or a sink.’	**Paketi Karaponi/ Kāponi**	O le paleni o le fesuiaiga o karaponi i le va o le faaputuga karaponi, poo le va ma se li‘o maoti se tasi (ft. atimosifia-paiosifia) i le faagasologa o karaponi. O le suega o paketi o faaputuga karaponi poo teugākaraponi, e mafai ona faailoa mai ai faamatalaga poo galue o se alagākaraponi poo se mitikaraponi.
Carbon cycle ?	All carbon reservoirs and exchanges of carbon from reservoir to reservoir by	**Faagasologa Karaponi/Kāponi**	O le faagasologa o le karaponi e faasino i fesuiaiga taukemikale, fisiki, o le fauga

	various chemical, physical, geological, and biological processes. Usually thought of as a series of the four main reservoirs of carbon interconnected by pathways of exchange. The four reservoirs, regions of the Earth in which carbon behaves in a systematic manner, are the atmosphere, terrestrial biosphere (usually includes freshwater systems), oceans, and sediments (includes fossil fuels). Each of these global reservoirs may be subdivided into smaller pools, ranging in size from individual communities or ecosystems to the total of *all living organisms (biota).*	 *Ata 8: Faagasologa Karapon – SSI-ASCC*	o le eleele ma le paiolo ma maua uma ai teugakaraponi e mafai ona feaveai ma fesuiai. O teugakaraponi nei e fa, o itulagi o le lalolagi e gaoioi ai le karaponi i se faiga maopoopo, o le atimosifia, paiosifia teresitila, (masani ona aofia ai suavai magalo), sami, ma toega (aofia ai faaolafi fosili). O ia teugākaraponi tau kelope taitasi, e mafai ona vaevaeina i ni faaputuga laiti atu, e fua i le telē mai nofoaga taitasi poo taaviliga faanatura o le olaga/ekosisitema i le aofaiga o okenisi ola uma (paiota).
Carbon dioxide*	A naturally occurring gas, and also a by-product of burning fossil fuels and biomass, as well as land-use changes and other industrial processes. It is the principal anthropogenic greenhouse gas that affects the Earth's radiative balance.	**Karaponi/ Kāponi taiokesaita**	O le kasa faanatura, ma e maua fo'i i le susunuina o fosili ma paiomesi, atoa ai ma le suiga o le faaaogāga o eleele ma isi faagasologa tau gaosimea. O se kasa autu ua lē mafai ona u'una'ia ese mai le atimosifia, ua aafia ai le paleni o le vevela o le lalolagi.
Carbon market*	A market instrument used in the context of emissions trading whereby carbon units are traded.	**Maketi Karaponi/ Kāponi**	O se meafaigaluega tau maketi, e faaaogā i taimi o fefaatauaiga karaponi e puaina atu, e ala lea i le fesuia'i o iunite karaponi.
Carbon pool*	A reservoir with the capacity to store and release carbon, such as soil, terrestrial vegetation, the ocean, and the atmosphere. The IPCC defines five carbon pools: aboveground biomass,	**Faaputuga karaponi/ Kāponi**	O teugākaraponi e mafai ona teu ma puaina atu, e pei o le palapala, laau e ola i le eleele, le sami ma le atimosifia. Ua faamatalaina e le IPCC teugakaraponi e lima: paiomesi i luga o le eleele,

	belowground biomass, dead wood, litter and soil organic matter which have to be measured and reported for greenhouse gas inventories.		paiomesi i lalo o le eleele, laau mate, otaota ma mea o loo gaosia faanatura mai ai le palapala, e tatau ona fua ma ripotia mo faitauga o kasa, e lē mafai ona u‘unaia ese ma le atimosifia.
Carbon sequestration ?	The uptake and storage of carbon. Trees and plants, for example, absorb carbon dioxide, release the oxygen and store the carbon. Fossil fuels were at one time biomass and continue to store the carbon until burned. See *carbon sinks*.	**Aveesegā Karaponi/Kāponi**	O le aoina ma le teuina o karaponi. Mo se faataitaiga, o laau tetele ma laau laiti atu, latou te miti‘ia le karaponi taiokesaita, puaina atu le okesene ma teuina le karaponi. Sa iai se vaitaimi sa avea ai faaolaafi fosili ma paiomesi, ma faaauauina ai le teuga o karaponi se‘ia susunuina. *Taga,i i le aokaraponi/mitikaraponi.*
Carbon sinks ?	Carbon reservoirs and conditions that take-in and store more carbon (i.e., carbon sequestration) than they release. Carbon sinks can serve to partially offset greenhouse gas emissions. Forests and oceans are large carbon sinks. See *carbon sequestration*. *Ata 9: O vaomatua ma sami, o ni nofoaga tetele aokaraponi/mitikaraponi –ata - NPS*	**Mitikaraponi/ Kāponi; Aokaraponi**	O teugākaraponi ma aiaiga e tapu’eina/aoina ma teuina karaponi e tele atu (o lona uiga o karaponi aveesea) nai lo karaponi e puaina atu. O mitikaraponi e mafai ona faaaogā e faapaleni ai se vaega o kasa e lē mafai ona u’una’ia ese ma le atimosifia. O vaomatua ma sami o ni aokaraponi/mitikaraponi tetele ia. *Taga‘ī i le aveeesegā karaponi.*
Carbon source*	Any process or activity which releases carbon dioxide into the atmosphere.	**Pogai karaponi/ Kāponi; Alagākaraponi/ Kāponi**	Soo se gasologa poo se gaoioiga e puaina atu le karaponi taiokesaita i le atimosifia.
Carbon stock*	‘The quantity of carbon in a ‘pool’, meaning a reservoir or system that has the capacity to accumulate or release carbon.	**Aofaiga karaponi/ Kāponi; Tele o le karaponi/ Kāponi**	O le tele o le karaponi i totonu o se faaputuga karaponi, o lona uiga o se teugākaraponi, poo se faatulagaga/sisitema e mafai

			ona faaputu pe puaina atu ai karaponi.
Climate*	The long-term average weather of a region, including typical weather patterns, the frequency and intensity of storms, cold spells and heat waves.	**Vaitau (*Met-Apia*); tau (*Mil, Prat, Met, Leg 93 from Obs*); ‘ea (*Mil*); kalaimati (*SSI*)**	O le averesi o le tau mo se vaitau umi a se itulagi, e aofia ai mamanu masani o le tau, le tupu soo ma le malosi o matagi, mālūlū ma le vevela e lē masani ai. *Note: Weather, season, climate are translated “tau” in Mil)
Climate change*	A change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and is in addition to natural climate variability observed over comparable time periods.	**Suiga o le vaitau/ tau / kalaimati**	O le suiga o le vaitau, e mafua sa’o mai pe leai foi ona o gaoioiga a tagata ua feseetai ai le atoaga o le atimosifia o le kelope. E le gata i lea a o suiga faanatura o le vaitau, e matauina i ni vaitaimi tutusa.
Climate change mitigation*	In the context of climate change, a human intervention to reduce the sources or enhance the sinks of greenhouse gases (GHG). Examples include using fossil fuels more efficiently for industrial processes or electricity generation, switching to solar energy or wind power, improving the insulation of buildings, and expanding forests and other ‘sinks’ to remove greater amounts of carbon dioxide from the atmosphere.	**Faamāmāina/ faafeoloolo (*Mil, Pra*)/ Faaitiitiga o le Suiga o le vaitau/ tau / kalaimati**	I le faauigaga o le suiga o le vaitau, o se taumafaiga faauilavea a tagata e faaitiitia alagākaraponi, pe faaleleia atili mitikaraponi o kasa ua lē mafai ona aveesea ma le atimosifia (GHG). E aofia i faataitaiga le faaaogāina tonu o faaolaafi fosili mo gaosiga o ‘oloa, poo le gaosiga o le eletise, suiga aga‘i le malosi‘aga o le la, poo le savili, faaleleiga o puipui o fale, faalautelega o vaomatua ma isi mitikaraponi e aveesea ai le tele o karaponi taiokesaita mai le atimosifia.
Climate sensitive diseases*	Diseases that may be influenced by climate change and diseases that may be more rapidly spread under certain climatic conditions, including childhood malnutrition, diarrhea illnesses, typhoid, leptospirosis, ciguatera and vector borne diseases, including dengue fever.	**Faama‘i ‘apogofie i suigā vaitau**	Faama‘i e ono aafia ai ona o le suiga o le vaitau ma faama‘i e mafai ona vave pepesi i ni tulaga faapitoa o le vaitau, e iai le faama‘i pa‘e‘e i tamaiti, manava tatā, taifoi, faama‘i mai otaota o pua‘a, ‘onā ona o ni i‘a ‘o‘ōna, faama‘i e feavea‘i e meaola faalafuā, e iai le dengue fiva.

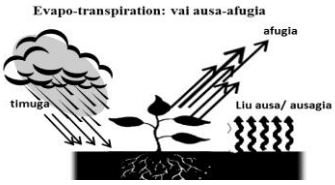
Climate system (or Earth system) ?	The atmosphere, the oceans, the biosphere, the cryosphere, and the geosphere, together make up the climate system.	**Faatulagaga/Sisitema o vaitau (poo le Faatulagaga /sisitema o le Lalolagi)**	O le tuufaatasiga o le atimosifia, sami, paiosifia, karaiosifia, ma le keosifia, e fausia mai ai le faatulagaga/sisitema o le vaitau.
Climate variability*	Climate variability refers to variations in the mean state and other statistics (such as standard deviations, the occurrence of extremes, etc.) of the climate on all spatial and temporal scales beyond that of individual weather events. Variability may be due to natural internal processes within the climate system (internal variability), or to variations in natural or anthropogenic external forcing (external variability).	**Fesuisuiaigā tau**	O le fesuisuia'iga o le vaitau, e faasino i le fesuisuia'iga i lona averesi ma isi fuainumera (e pei o le fua o le eseesega o numera masani, fua o vaitau ogaoga ma isi), fuataga uma tau nofoaga ma taimi, e ese mai i le tau o le asō. O fesuisuia'iga i le faatulagaga/sisitema vaitau e ono tutupu mai ona o faagasologa faanatura i le lotoifale, poo suiga o le natura o mea, poo fesuisuiaiga i fafo atu o le eleele ma lona atimosifia.
Coal ?	A black or brownish black solid, combustible substance formed by the partial decomposition of vegetable matter without access to air. The rank of coal, which includes anthracite, bituminous coal, subbituminous coal, and lignite, is based on fixed carbon, volatile matter, and heating value. Coal rank indicates the progressive alteration, or coalification, from lignite to anthracite	**Malala; Koale** **(*Prat/Milner*)** *Ata 10: Faaolafi koale poo le malala*	O se mea malō uliuli pe enaena uliuli e mafai ona susunuina na mafua mai i le faapalaga o meta tau laau, e aunoa ma se ea o filogia ai.
Coastal erosion*	A long-term trend of shoreline retreat and/or loss of beach sediment volume over several decades. 'Cutback' is a more suitable term for a dynamically 'stable' shoreline to describe the temporary loss of beach volume or shoreline retreat during a storm (before the	**Gataifale/ Talafatai 'āia (*Mil*);** **Gataifale/ Talafatai Tafia(*Milner*); Sōlōga**	O le tafia/'āia faaumiumi o le gataifale ma/poo le faaitiitia o le matafaga i se vaitaimi umi. O le 'faaitiitia' o se fuaitau sili ona talafeagai mo se talafatai mautū e faamatalaina ai le faaitiitia o le matafaga poo le solo i tua i taimi o se afa (ae le'i toe faafoisia le tele i vaiaso ma masina mulimuli

	volume gets replenished over ensuing weeks and months).		ane). Note: gatai o fale –ME of Fisheries.
Coastline / shoreline armoring (NOAA)	The practice of using physical structures to protect shorelines from coastal erosion	**Puipuiga o laina tuaoi o le talafatai/gataifale/ matāfaga(*NOAA, Milner*); Talafatai (*Env93*); Gataifale (*Met5*)**	O le faaaogāga o ni fausaga e puipuia ai le laina tuaoi o matafaga tafi'esea.
Combustion ?	Chemical oxidation accompanied by the generation of light and heat.	**Faamuina; Pa**	O le malamalama ma le vevela e tupu ona ua palu faatasi kemikale faaokesene.
Compost ?	Partially decomposed organic plant and animal matter that can be used as a soil conditioner or fertilizer	**Faapala/ga**	Laau okeni ma meta tau meaola ua faasolo ina pala ma e mafai ona faaaogāina o ni faamalū eleele poo fetialaisa.
Conservation	The act of conserving	**Faasao**	O le gaoioiga tau faasao
Coral bleaching*	The paling in color which results if a coral loses its symbiotic, energy-providing organisms.	**'Amu papa'e; Faapa'epa'eina o le 'Amu (*Fisheries Apia 2017*); Faa'amuteaina**	O le suiga o le lanu o le 'amu ona ua fai ifo lona malosi e ola ai.
Crude oil ?	A mixture of hydrocarbons that exist in liquid phase in underground reservoirs and remain liquid at atmospheric pressure after passing through surface separating facilities. See *petroleum.*	**Suau'u lē faamamāina**	O le palu haitorokaraponi suavaia i teusuau'u i le manava o le eleele. E tumau lona suavaia i le atimosifia, a 'o faasolo atu i nofoaga e tuueseese ai. *Taga,i i le peteroliuma*.
Decomposition ?	The breakdown of matter by bacteria and fungi. It changes the chemical composition and physical appearance of the materials.	**Faapalaga; Faamalūga** *Ata 11: Ponaivi na totoe o le puaa aivao ua pala atoa le tino: Ata mai a Tavita Togia NPS*	O le faapalaga o meta e paketeria/manu ninii ma lega. E suia ai le tulaga kemikale ma le foliga o matirio *(materialis Latin*). Ata 12: http://thenaturallivingsite.com...
Deforestation*	The conversion of forest to another land use or the long-term reduction of the tree	**Suia mai le tulaga vaomatua; tefolesi; tatuuina/taina o le vao.**	O le suiga o le vaomatua i se isi faaaogāga o fanua, poo le faaitiitia faaumiumi o le

afforestation	canopy cover below the minimum 10 percent threshold.	**Faatama‘ia o vaomatua/afolesi**	faapaologa o laau, i lalo ifo o le 10 pasene faatulagaina.
Development	The act or process of developing, growth, progress eg, economic development	**Atina‘e/ Atiina a‘e**	O le faatinoga poo le faagasologa o atinae, tuputupu, ma le alualu i luma ftg. Atinaega tamaoaiga.
Diversify	To increase the variety of something.	**Faaeseese Faatele**	Ia faateleina/faatupulaia vaega eseese o se mea
Drivers*	Drivers refer to processes that cause something to occur. A driver of deforestation may be demand for agricultural land. A driver of reforestation might be demand for plantation timber.	**Faatupumea**	O faatupumea, o faasologa poo faatinoga e mafua ai ona tupu se mea. Atonu o le faatupumea o le tefolesi o le moomia o fanua mo faatoaga. E mafai ona avea le moomia o laupapa ma talaiva auā le toe totoina poo le rifolesi o le vaomatua.
Drought	A prolonged time with less than normal rainfall.	**Lāmala; (*Prat, Mil*) Mugalā;Tuiefu; Vaitau mago**	O le faaitiiitia lea o le timu mo se taimi umi
Economy	the wealth and resources of a country or region, especially in terms of the production and consumption of goods and services.	**Tamaoaiga**	O oloa ma alagaoa o se atunuu poo se itulagi, aemaise i le gaosiga o oloa ma le faaaogāina o oloa ma auaunaga.
Ecosystem ?	The complex system of plant, animal, fungal, and microorganism communities and their associated non-living environment interacting as an ecological unit. Ecosystems have no fixed boundaries; instead their parameters are set to the scientific, management, or policy question being examined. Depending upon the purpose of analysis, a single lake, a watershed, or an entire region could be considered an ecosystem.	**Taaviliga faanatura o le olaga; Ekosisitema** *Note: (*micro is translated maikoro –Apia Legislative: Trades)* *Ata 13: Ecosystem image - Tavita Togia NPS*	O le taaviliga faanatura o le olaga/sisitema lavelave o laau, manu, lega ma faapotopotoga/komiuniti maikorookenisi* ma o latou siosiomaga e lē ‘o iai ni ola, e fegalegaleai o se iunite faaekolosi. E leai ni tua‘oi mautū o ekosisitema; peitai o o latou tapulaa e faavae i i fesili faasaienitisi, tau pulega, poo fesili tau faavae/tulafono o loo suesueina. E fua aga’i i le faamoemoe o le iloiloga, e mafai ona ta’ua se vailepa, nofoaga tapu’e suavai, poo se itulagi atoa o se ekosisitema.

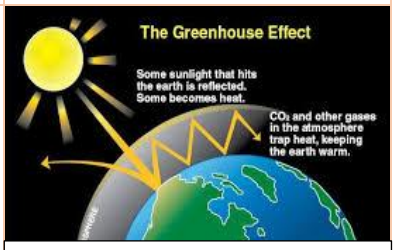
Emissions*	The release of substances (e.g. greenhouse gases) into the atmosphere.	**Puaina atu; Faamatuu atu**	O le puaina/faamatuu atu o ni kasa i le atimosifia (ftg. Kasa ua lē mafai ona u'una'ia ese ma le atimosifia).
Emission trading*	A market-based approach to achieving environmental objectives. It allows those reducing greenhouse gas emissions below their emission cap to use or trade the excess reductions to offset emissions at another source inside or outside the country. In general, trading can occur at the intra-company, domestic, and international levels.	**Fefaatauaiga emisione**	O se metotia faamaketi ia ausia ai sini tau le siosiomaga. E tuuavanoa i ai i latou o faaitiitia kasa e i lalo ifo o le aofaiga faatulaga, e faaaogā pe faatau atu pe a totoe, e faaitiitia ai fuainumera faataga i se isi nofoaga i totonu o le atunuu poo fafo atu fo'i. I se tulaga lautele, e mafai ona faatino fefaatauaiga i le va o tagata o se kamupani, lotoifale ma tulaga faavaomālō.
Endangered species	Animal or plant species that are at risk of going extinct (with no more living members).	**Meaola lamatia; Sipisi lamatia**	O meaola poo laau ua lamatia ola ma o le a mou atu (ma ua leai nisi ituaiga o ola).
Energy ?	The capacity for doing work as measured by the capability of doing work (potential energy) or the conversion of this capability to motion (kinetic energy). Energy has several forms, some of which are easily convertible and can be changed to another form for useful work. Most of the world's convertible energy comes from fossil fuels that are burned to produce heat that is then used as a transfer medium to mechanical or other means in order to accomplish tasks.	**Malosiaga; Enetia**	O le malosiaga galue e fua aga'i i le mafai ona faatino se gaoioiga (enetia ono maua), poo le faaliliuga o lenei malosiaga i se gaoioiga (enetia kaineti). E eseese le tino mai o le enetia, o nisi e mafai ona liliu i isi ituaiga mo ni galuega aogā. O le tele o le enetia sui i le lalolagi, e maua mai faaolaafi fosili e faamumū, ona maua ai le malosi e faaaogā ma faatino ai se galuega. Kaineti: malosi 'aga o mea e maua mai ona o loo gaoioi)
Energy efficiency*	Reducing the amount of energy used for a given service or level of activity in order to produce the same level of end-use service. For example, using compact fluorescent light bulbs	**Malosiaga alutonu** **Enetia alutonu**	Faaitiitia le tele o le enetia e faaaogā mo se galuega poo soo se faaaogāga ina ia gaosia mai ai le tautua lava e tasi. Mo se faataitaiga, o le faaaogāga o ituaiga molī sefeuila e faaitiitia ai le enetia

	reduces the amount of electricity required for lighting.		moomia mo le malamalama.
Enhancing removals by sinks*	Carbon sinks sequester carbon dioxide from the atmosphere. There are many natural carbon sinks. Incentive payments from carbon markets or carbon financing are commonly awarded for undertaking a management intervention that enhances the removal of atmospheric carbon dioxide by sinks. This is because incentive payments are not required for what nature would do anyway. Accordingly, management interventions seeking incentive payments need to demonstrate that the intervention enhances the rate of carbon sequestration by sinks. Examples of such interventions include a change in land use or a change on management practices.	**Faateleina le aofa‘i to‘ese o aokaraponi**	O aokaraponi latou te tapu’eina karaponi taiokesaita mai le atimosifia. E tele aokaraponi o le natura. E masani ona tuuina atu taui mai maketi karaponi, poo ē faatupea karaponi ina ia tele ai le aveeseina o karaponi taiokesaita mai le atimosifia. E mafua ona e lē moomia ni peimeni mo le galuega masani a le natura. E tusa ai ma lea tulaga, e tatau i taumafaiga faauilavea tau pulega, ona faailoa le faateleina o le aveeseina o karaponi taiokesaita mai le atimosifia, pe a faaaogā nofoaga aokaraponi. O faataitaiga o ia faauilavea, e aofia ai le suiga o faaaogāga o fanua, poo suiga o faatinoga a pulega.
Environment ?	All external conditions that affect an organism or other specified system during its lifetime.	**Si‘osi‘omaga**	O tulaga uma i fafo atu e aafia ai se meaola poo se isi ituaiga sisitema i lona olaga atoa.
El Niño-Southern Oscillation (ENSO)*	The term El Niño was initially used to describe a warm-water current that periodically flows along the coast of Ecuador and Perú, disrupting the local fishery. It has since become identified with a basin-wide warming of the tropical Pacific Ocean east of the dateline. This oceanic event is associated with a fluctuation of a global-scale tropical and subtropical surface pressure pattern called the Southern	**Oselate o le Ele Nino i le vaega i Saute (*Met*)** **Note: Osilata** (***Leg 04)***	Na mua‘i faaaogā le Ele Nino e faamatala ai le au mafanafana e tafe faavaitau, i le talafātai o Ecuador ma Perú, ma suia ai faigāfaiva i le lotoifale. Talu mai lena vaitaimi ua fai ma faailoga o le vevela o le Vasa Pasefika teropika i le itu i sasa’e o le laina faavāomālō. O lenei tulaga i le sami e fesootai ma le fesuisuia’iga o taaviliga o le ea teropika ma le saputeropika ua ta’ua o le Oselate o le Ele Nino i le

	Oscillation. This coupled atmosphere-ocean phenomenon, with preferred time scales of two to about seven years, is collectively known as the El Niño-Southern Oscillation (ENSO). It is often measured by the surface pressure anomaly difference between Darwin and Tahiti and the sea surface temperatures in the central and eastern equatorial Pacific. During an ENSO event, the prevailing trade winds weaken, reducing upwelling and altering ocean currents, such that the sea surface temperatures warm, further weakening the trade winds. This event has a great impact on the wind, sea surface temperature and precipitation patterns in the tropical Pacific. It has climatic effects throughout the Pacific region and in many other parts of the world, through global teleconnections. The cold phase of ENSO is called La Niña.		vaega i Saute. O lenei fesootaiga o le atimosifia ma le sami, e tula'i mai i le 2 i le 7 tausaga, ua ta'ua e le toatele o le Oselate o le Ele Nino i le vaega i Saute (ENSO). E matele ina fua i le eseesega o le mamafa o le ea i le va o Darwin ma Tahiti ma le mafanafana o le fogatai i le ogatotonu, ma le itu i sasa'e o le ekueta o le Pasefika. A tula'i mai se ENSO, e faaitiitia le agi a le matagi masani, ma vaivai le taaviliga o le sami ma au, ma mafanafana ai le fogatai, ma faavaivai atili ai matagi masani. E tele se aafiaga o le teropika Pasefika mai ona matagi, mafanafana o le fogātai ma timuga. E aafia ai foi le vaitau i le atu Pasefika ma isi vaega o le lalolagi, ona o fesootaiga tau le kelope. O le vaitaimi mālūlū o le ENSO e ta'ua o le La Niña.
Erosion	The process of wind or water wearing away at the land.	**'Āia (*Mil, Env93*); tafia; sologa; eleele tafia (*Met*)**	O le faasolosologa o le tafia i le matagi poo le 'āia i le vai o le fogā'ele'ele.
Evapo-transpiration ?	The loss of water from the soil by evaporation and by transpiration from the plants growing in the soil, which rises with air temperature.  *Ata 14: vai ausa-afugia –SSI-ASCC* **ref to suffix afugia*	**vai ausa-afugia***	O vai e aveesea mai le palapala e ala i le liu ausa atoa ma le afu o laau o ola i le palapala e siitia i le mafanafana o le ea.

Extreme weather events*	An event that is rare at a particular place and time of year. Definitions of 'rare' vary, but an extreme weather event would normally be as rare as or rarer than the 10th or 90th percentile of the observed probability density function.	**Mea ogaoga e tutupu o le tau***	O se mea e tupu e seāseā tula'i mai i se nofoaga patino ma se taimi o le tausaga. E eseese faauigaga o le "seāseā" ae o se "mea ogaoga e tupu o le tau", e mai le 10 e o'o lava i le 90 pasene le mafai ona taunuu.
Fertilizer ?	Substance that adds inorganic or organic plant nutrients to soil and improves its ability to grow crops, trees, or other vegetation.	**Fetilaisa; Faalelei-'ele'ele**	O se faaopoopo niutereni e lē faanatura pe faanatura i le palapala ma faaleleia ai le eleele, 'auā le totōina ai o fua o faaleeleaga, laau poo isi mea totō.
Fisheries	A place or industry where fish is raised or caught for commercial purposes.	**Faigafaiva (*Fishe Dept Apia*); Nofoaga o faigafaiva**	O se nofoaga poo se pisinisi e faafailele ai i'a pe tapu'e ai mo le faatau atu
Forest degradation*	Changes within the forest which negatively affect the structure or function of the stand or site, and thereby lower the capacity to supply products and/or services.	**Faaleagaina o le Vaomatua/ folesi***	O suiga i le vaomatua e aafia ai i se itu lē lelei i le faatulagaga poo le faaaogāga o se tulaga poo se nofoaga, ma faaitiitia ai le mafai ona sapalai ma/poo ni auaunaga e maua mai ai
Fossil fuel ?	A general term for buried combustible geologic deposits of organic materials, formed from decayed plants and animals that have been converted to crude oil, coal, natural gas, or heavy oils by exposure to heat and pressure in the earth's crust over hundreds of millions of years. See *coal, petroleum, crude oil, natural gas*.	**Faaolafi fosili**	O se faaupuga lautele mo faaputuga e maua ai le enetia, e tanumia i le eleele na mafua mai i laau ma meaola ua pala ma ua liua e avea ma suauu le mamā, koale, kasa faanatura, poo suauu mamafa ina ua velasia ma taomia i le fogā'ele'ele mo le faitau selau o miliona o tausaga. Silasila i le koale, peteroliuma, suauu le faamamāina, kasa faanatura.
Fossil fuel combustion ?	Burning of coal, oil (including gasoline), or natural gas. The burning needed to generate energy release carbon dioxide by-products that can include unburned hydrocarbons, methane, and carbon monoxide. Carbon	**Faamuina o le faaolafi fosili**	O le faamuina o le koale, suau'u (e aofia ai le kesolini), poo le kasa faanatura. O le faamuina o loo moomia e maua ai le enetia ae faamatuu ai fo'i ma karaponi taiokesaita, e mafai ona aofia ai ma haitorokaraponi, metane ma le monosai

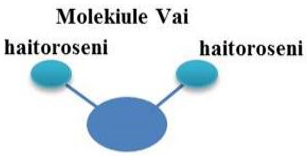
	monoxide, methane, and many of the unburned hydrocarbons slowly oxidize into carbon dioxide in the atmosphere. Common sources of fossil fuel combustion include cars and electric utilities.		karaponi. O le karaponi monosai, metane ma le tele o haitorokaraponi e lē mafai ona mu, e i'u ina liu karaponi taiokesaita i le atimosifia. O nisi o vaega taatele e faamu ai fosili, e aofia ai taavale ma meafaigaluega eletise.
Geothermal energy ʔ	Heat transferred from the earth's molten core to under-ground deposits of dry steam (steam with no water droplets), wet steam (a mixture of steam and water droplets), hot water, or rocks lying fairly close to the earth's surface.	**Enetia/Malosiaga tauteofema (*Metr*)**	O le vevela mai le ogatotonu suavaia o le eleele aga'i atu i faaputuga o asu mago (asu e aunoa ma ni mataua vai), asu suavaia (fefiloi le asu ma mataua vai), vai vevela, poo papa o taatitia lata ane i le pitoaluga o le fogā'ele'ele.
Global warming ʔ	The progressive gradual rise of the earth's surface temperature thought to be caused by the greenhouse effect and responsible for changes in global climate patterns.	**Vevela tau kelope (*Enu; Apia Legis*)**	O le faatupulaia o le siitia o le vevela o le pitoaluga o le foga'ele'ele ua manatu nisi e mafua mai aafiaga o kasa ua lē mafai ona u'una'i ese ma le atimosifia ma ua mafua ai suiga o le vaitau o le kelope.
Global Warming Potential (GWP) ʔ	The index used to translate the level of emissions of various gases into a common measure in order to compare the relative radiative forcing of different gases without directly calculating the changes in atmospheric concentrations. GWPs are calculated as the ratio of the radiative forcing that would result from the emissions of one kilogram of a greenhouse gas to that from the emission of one kilogram of carbon dioxide over a period of time (usually 100 years).	**Vevela Tau kelope Ono 'ausia**	O le ta'iala e faaaogā e fua ai le tulaga o le kasa faamatuu ia mafai ai ona laugatasia ma faatusatusa ma isi ituaiga kasa e aunoa ma le faaopoopo sa'o iai o le tele o le suiga o iai i le atimosifia. E fua le ono 'ausia o le vevela tau kelope i le tele o le malamalama o le la e mitiia e le eleele ma toe fo'i atu i le vanimonimo, e maua mai le kilokarama o le kasa ua lē mafai ona u'una'i ese ma le atimosifia, faatusatusa i le faamatuu atu o se kilokarama o le kasa karaponi taiokesaita i se vaitaimi (e masani ona 100 tausaga).
Greenhouse effect ʔ	Trapping and build-up of heat in the atmosphere (troposphere) near the earth's surface. Some of the heat	**Aafiaga o le lē mafai ona u'unaia ese o kasa mai le atimosifia (*Leg, Milner, Pra)***	O le mau ma le faatupulaia o le vevela i le atimosifia (teropesifia) i le pitoaluga o le fogā'ele'ele. O se vaega o

	flowing back toward space from the earth's surface is absorbed by water vapor, carbon dioxide, ozone, and several other gases in the atmosphere and then reradiated back toward the earth's surface. If the atmospheric concentrations of these greenhouse gases rise, the average temperature of the lower atmosphere will gradually increase.		lenei vevela e toe fo'i i le vanimonimo, e mitiia e ausa o vai, karaponi taiokesaita, osone ma isi kasa i le atimosifia ona toe faafo'i mai lea i le eleele. Afai e faatupulaia le mafiafia o nei kasa, o le a faasolo ina maualuga le vevela o le teropesifia.
Greenhouse gases*	Greenhouse gases are those gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and emit radiation at specific wavelengths within the spectrum of infrared radiation emitted by the Earth's surface, the atmosphere and clouds. This property causes the greenhouse effect. Water vapor (H2O), carbon dioxide (CO2), nitrous oxide (N2O), methane (CH4) and ozone (O3) are the primary greenhouse gases in the earth's atmosphere. Moreover, there are a number of entirely human-made greenhouse gases in the atmosphere, such as the halocarbons and other chlorine and bromine-containing substances, dealt with under the Montreal Protocol. Besides carbon dioxide, nitrous oxide and methane, the Kyoto Protocol deals with the greenhouse gases sulphur hexafluoride, hydrofluorocarbons, and perfluorocarbons.'	**Kasa ua lē mafai ona u'una'ia ese ma le atimosifia (*Apia Legis*)** **Kasa puaina vevela lē fo'ia (*Env93 -Apia Legi/Envir)*** **Kasa o le falelanuvao (*Met)***	 *Ata 15: http://clipart-library.com/greenhouse -gases-cliparts.html* O kasa ua lē mafai ona u'una'ia ese ma le atimosifia, o kasa ia faanatura ma ituaiga na mafua mai tagata, e mafai ona mitiia ma puaina atu mai le atualuga o le fogā'ele'ele, le atimosifia, ma ao. O kasa faanatura, o le ausa (H_20), karaponi taiokesaita (CO2), naiterusi okesaita (N2O), metane (CH4) ma le osone (O3). O kasa na fausia e tagata o i le atimosifia, e pei o halokaraponi ma isi mea tau kolorini ma poromini, o loo i lalo o le Faatulagaga mai Montreal. E ese mai le karaponi taiokesaita, naiterusi taiokesaita ma le metane, o loo aofia foi i lalo o le Faatulagaga i Kyoto, kasa e pei o le hetafolorite teiō, haitofolokaraponi ma peforokaraponi.

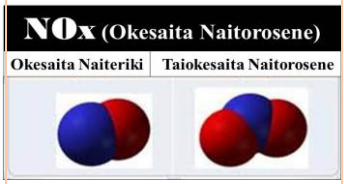
Habitat (WB)	The place where a population (e.g., human, animal, plant, or microorganisms) lives, and its surrounding, both living and nonliving.	**Nofoaga e ola ai**	O le nofoaga o nofoia e se faitau aofai (faataitaiga o tagata, meaola, laau, poo maikorookenisi), ma lo latou siosiomaga, o mea e iai le ola pe leai fo'i.
Heat ?	Form of kinetic energy that flows from one body to another when there is a temperature difference between the two bodies. Heat always flows spontaneously from a hot sample of matter to a colder sample of matter. This is one way to state the second law of thermodynamics. *See temperature.*	**Vevela**	O se ituaiga enetia kaineti e sosolo mai le isi tino i le isi tino pe a iai se eseesega o le vevela. E sosolo atu le vevela mai se mea o loo vevela i se meta (matter) e mālūlū atu. O le isi lea auala e mafai ona faaupu ai le tulafono lona lua o le temotainami. *Silasila i le fua vevela.*
Hydrocarbons ?	Substances containing only hydrogen and carbon. Fossil fuels are made up of hydrocarbons. Some hydrocarbon compounds are major air pollutants.	**Haitorokaraponi**	O mea e maua ai na 'o le haitoroseni ma le karaponi. O faaolaafi fosili e gaoisia i haitorokaraponi. O nisi faaputuga o haitorokaraponi, o ni vaega pito faaleaga ea ia.
Hydropower ?	Electrical energy produced by falling or flowing water. *Ata 15: Nadarivatu Hydropower Station in Fiji. www..mwhglobal.com* *O le faatanoa i le nuu o Nadarivatu i Fiti o loo tapu,ɐ ma gaosi ai le eletise mai le suavai.*	**Paoa tau eletise mai suavai**	Enetia/malosiaga tau eletise e gaosia mai se afu poo se vai e tafe. *Ata 16: Vai o loo fafagaina le faatanoa i Afulilo (image on talamua.com)*
Improved forest management*	Activities related to improved forest management are those done on forest lands that are managed for wood products such as sawn timber, pulp wood and fuel wood, and are included in the IPCC category 'forests remaining as forests'. Improved forest management includes	**Faaleleia le puleaina o le vaomatua/folesi. Faaleleia le ola o le vaomatua (*AS*)**	O faatinoga e fesootai ma le faaleleia o le pulega tauvaomatua o loo faatino i fanua, o loo vaavaaia ona o oloa tau laau e maua mai ai e pei o laupapa 'ili, toegalaau, ma fafie, ma o loo aofia i le tulaga IPCC lea e ta'ua o "vaomatua e tumau faavaomatua". O le faaleleiga

	conversion from conventional logging to reduced impact logging (e.g. sustainable forest management), and conversion of logged forests to protected forests.		o pulega tau folesi e aofia ai le suiga ma faiga masani i iliga laau i le faaitiitia o le tatuuina o laau (ftg. o le pulega gafatiataulima o vaomatua faasao), ma le suiga mai iliga laau i vaomatua puipuia.
Infrared radiation ?	The heat energy that is emitted from all solids, liquids, and gases. In the context of the greenhouse issue, the term refers to the heat energy emitted by the Earth's surface and its atmosphere. Greenhouse gases strongly absorb this radiation in the Earth's atmosphere, and re-radiate some of it back towards the surface, creating the greenhouse effect.	**'A'aveuila e lata i le mūmū**	O le enetia vevela e maua mai i mea faitino, mea e suavaia ma kasa. A tuu i le mataupu tau kasa ua lē mafai ona u'una'ia ese mai le atimosifia, ona faauiga lea i le vevela mai le fogaeleele ma le atimosifia. E matua mitiia e kasa ua lē mafai ona u'una'ia ese mai le atimosifia lenei vevela, ma toe faafo'i mai ai i le fogā'ele'ele, ma maua ai le kasa ua lē mafai ona u'una'ia ese mai le atimosifia.
Infrastructure	Organizational and physical structures needed for a society to function.	**Atinae tetele**	Atinae ma fausaga tetele o fesootaiga e moomia e soo se atunuu
Inter-annual variability*	Variability between years.	**Eseesega faaletausaga**	Eseesega o le tau faaletausaga.
Intergovern-mental Panel on Climate Change (IPCC)*	The IPCC surveys world-wide scientific and technical literature and publishes assessment reports that are widely recognized as the most credible existing sources of information on climate change. The IPCC also works on methodologies and responds to specific requests from the UNFCCC's subsidiary bodies. The IPCC is independent of the Convention.	**Vaega Faavaomalo i Suiga o le vaitau/tau /kalaimati (*IPCC*).**	E suesue e le IPCC tusitusiga ma faamaumauga faasaienitisi ma tekinale i le lalolagi, ma lolomi lipoti ua talia e le lautele e mafua atu i faamaumauga pito talitonuina e faatatau i suiga o le kalaimati. E galue foi le IPCC i metotia e faatino ai suesuega ma tali atu i talosaga ma'oti mai vaega eseese o le UNFCCC. E tutoatasi le IPCC mai le Fonotele.
Invasive species	Plants or animals that outcompete native species and cause harm to the environment.	**Mea e ola/Sipisi faalafuā**	O laau poo manu e saoasaoa atu lo latou ola nai lo meaola o le lotoifale ma faaleagaina ai le siosiomaga.

Land-based sources of pollution	This includes waste that is deliberately dumped at sea as well as effluent wastes from industrial, domestic and agricultural sources as run-off through drains or rivers.	**Otaota leaga mai le fanua**	E aofia ai otaota ua lafoai ma le mautinoa i le sami, otaota lafoai mai nofoaga gaosioloa, mai aiga, tauala mai faatoaga ma tafe atu i ‘autu poo vaitafe.
Landfill ?	Land waste disposal site in which waste is generally spread in thin layers, compacted, and covered with a fresh layer of soil each day.	**fanua e lafoa‘i ai lapisi**	O le fanua e lafoa‘i ai lapisi e masani ona faamafolafola ai otaota, faamalō ma tanu i ni palapala fou i aso taitasi.
Marine debris	Litter that is in the ocean.	**Otaota i le sami** *Ata 17: Se vaaiga i le sami i gatai o Fagatogo i le mae'a o le galulolo/sunami o le 2009 i Samoa na lua, na tafea iai taavale, vaega o fale ma le tele o isi otaota.*	
Marine Protected Area (MPA)	Areas set up to protect the significant natural and cultural resources within the marine environment for the benefit of present and future generations. https://oceanservice.noaa.gov/facts/mpa.html	**Ogasami Faasao; Nofoaga Faasao i le gataifale (MPA); Nofoaga malupuipuia i le gataifale**	Nofoaga faasao/faatulaga mo le puipuiga o alagaoa faanatura ma faaleaganuu i le gataifale mo le manuia o tupulaga o nei ma a taeao.
Methane (CH_4) ?	A hydrocarbon that is a greenhouse gas with a global warming potential estimated at 21. Methane is produced through anaerobic (without oxygen) decomposition of waste in landfills, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion.	**Mefane (kasa CH_4)**	O se haitokaraponi e lavea i kasa ua lē mafai ona u’una’ia ese mai le atimosifia, tusa ma le 21 lona vevela tau kelope. E maua mai le mefane i faapalaga tau anaeoropi (e aunoa ma se okesene), fanua e lafoa‘i ai lapisi, otaota o manu, o le faamalūina o meaai e manu, gaosiga ma le faasoaina o le kasa faanatura ma le peteroliuma, koale ma faaolafi fosili ua lē uma ona faamu.
Metric ton ?	Common international measurement for the quantity of greenhouse gas emissions. A metric ton is	**Fua i Tone**	O le fuaga masani faavaomālō mo le tele o le kasa e lē mafai ona u’una’ia ese ma le atimosifia. O le fua

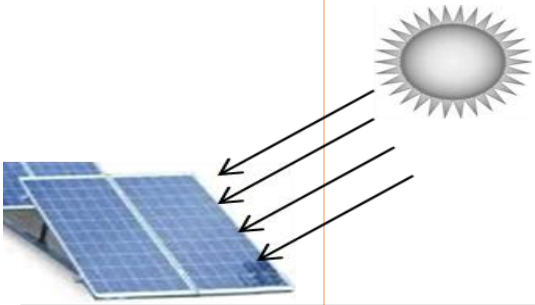
	equal to 1000 kilograms, 2204.6 pounds, or 1.1023 short tons. A short ton, used in the US, equals 2,000 lbs. or .907 metric tons.		i tone e tutusa ma le 1,000 kilokarama, 2204.6 pauna poo le 1.1023 tone iti. O le tone iti, i le faaaogāga i le Iunaite Setete, e tutusa ma le 2,000 pauna poo le .907 fua i tone.
Mitigate/ mitigation (WB)	Measures taken to reduce adverse impacts on the environment.	**Faaitiitia, Faaitiitiaga faamāmā**	Laasaga ua faatino e faaitiitia ai le ogaoga o ni aafiaga o le siosiomaga.
Molecule ?	Chemical combination of two or more atoms of the same chemical element (such as O_2) or different chemical elements (such as H_2O).	**Molekiule (*Enu*)**  *Ata 18:SSI- Molukiule Vai –SSI-ASCC*	O le tuufaatasia o ni atoma se lua pe sili atu o se elemeni kemikale se tasi (e pei o le O2) poo ni ….. elemeni kemikale eseese (e .. … pei o le H2O)
Motor gasoline ?	A complex mixture of relatively volatile hydrocarbons, with or without small quantities of additives, obtained by blending appropriate refinery streams to form a fuel suitable for use in spark-ignition engines. Motor gasoline includes both leaded and unleaded grades of finished gasoline, blending components, and gasohol.	**Kesolini afi; afi moto (like 'motokā')**	O se tuufaatasiga lavelave o haitokaraponi, pe iai pe leai foi nisi mea faaopoopo, e maua i le faafefiloi, faalelei, ma gaosi ai se faaolaafi talafeagai mo ni afi e faaola i le sipaka. O kesolini o afi e aofia ai ma ituaiga kesolini ua faamamā pe leai fo'i, isi vaega ua tuufaatasia, ma le kasaolo (gasohol).
Municipal solid waste (MSW) ?	Residential solid waste and some non-hazardous commercial, institutional, and industrial wastes. This material is generally sent to municipal landfills for disposal. See *landfill.*	**Otaota lafoa'i a le lautele**	O otaota mai fale o aiga, ma nisi o otaota e lē ono lamatia ai mai pisinisi, nofoaga lautele ma fale gaosimea. E tele lava ina ave i le fanua e lafoa'i ai lapisi. *Silasila i le* fanua e lafoa'i ai lapisi
Natural disaster*	Any event or force of nature that has catastrophic consequences, such as avalanche, earthquake, flood, forest fire, hurricane,	**Faalavelave faanatura**	Soo se mea e tupu poo se malosi faanatura e iai sona aafiaga ogaoga, e pei o se sōlōga kiona, mafui'e, lolo, vaomatua ua mu, afā, uila,

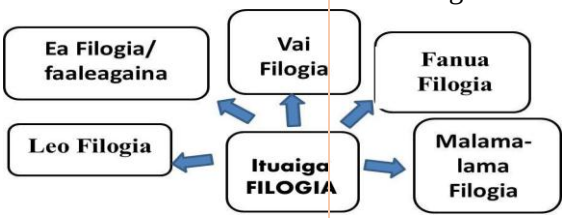
	lightning, tornado, tsunami, and volcanic eruption.		asiosio, sunami/galulolo, ma mauga mu.
Natural gas ?	Underground deposits of gases consisting of 50 to 90 percent methane (CH_4) and small amounts of heavier gaseous hydrocarbon compounds such as propane (C_3H_4) and butane (C_4H_{10}).	**Kasa faanatura (*SSI; Env93*); Kasa- faanatura (*Met*)**	Faaputuga kasa i totonu o le eleele e iai le 50 i le 90 pasene o le metane (CH4) ma vaega laiti o kasa mamafa atu o haitokaraponi e pei o le poropane (C3H4) ma le potane (C4H10).
Natural resources	Materials not produced by humans that can be used to benefit people. *Ata 19: Upega o tafailagi*	**Puna'oa faanatura**	O mea/matirio e lē gaosia e tagata soifua ae mafai ona faaaogā e penefiti ai tagata. **Nisi o Puna'oa poo Alaga'oa Faanatura** *Malosiaga/Enetia La* — *Laau* — *Minerale* — *Suauu* *Koale* — *Sami* — *Kasa Faanatura* — *I'a* *Palapala* — *Malosiaga (La)* — *Atimosifia* — *Laupapa* *Ata 19: Nisi o Puna'oa faliliu -SSI-*
New permanent forest*	Forests established on non-forested lands and maintained as permanent forests into the future. New permanent forest can include plantation forest that is replanted after felling and the land is maintained as forest land in perpetuity. Carbon stocks will rise and fall with the growing and harvest cycle and will remain higher (on average) than in non-forest land that preceded it. Other forms of establishing new permanent forest include the re-establishment of natural forests through rehabilitation, where there is no intention to remove forest in the future.	**Vaomatua fou e tumau**	Vaomatua ua faatino i eleele e le o ni vaomatua ae ua tausia e avea ma vaomatua tumau i le lumanai. O vaomatua fou, e mafai ona aofia ai le faatoaga vaomatua ua toe toto ina ua maea ona tatuu laau ma ua tausia ai loa faavaomatua. O le a siitia ma faaitiitia le aofaiga o le karaponi e fua i le totōina ma le vaitau selesele, ma o le a tumau pea le maualuga (i le averesi) i lo eleele e lē ni vaomatua na iai muamua. O isi auala o le faatuina o vaomatua tumau fou, e aofia ai le toe faatuina o vaomatua faanatura e ala i le toe tapu'eina, i nofoaga e le o fuafua e aveese ai le vaomatua i le lumana'i.

Nitrogen oxides (NO_x) ?	Gases consisting of one molecule of nitrogen and varying numbers of oxygen molecules. Nitrogen oxides are produced, for example, by the combustion of fossil fuels in vehicles and electric power plants. In the atmosphere, nitrogen oxides can contribute to formation of photochemical ozone (smog), impair visibility, and have health consequences; they are considered pollutants.	**Naitorosene okesaita (NOx);** **Okesaita Naitorosene**  *Ata 20: NOx –Okesaita Naitorosene -SSI-ASCC*	O kasa e iai le molekiule e tasi o le naitorosene ma ni molekiule okesene. E maua naitorosene okesaita mai faataitaiga, faamuina o faaolafi fosili i taavale ma nofoaga e gaosi eletise. I le atimosifia, e mafai ona pipii le naitorosene okesaita i le fauga o le osone fotokemikale (puao leaga), lē manino ai le vaai, ma aafia ai le soifua maloloina; ma e ta'ua o faaleaga siosiomaga/polutani.
Nitrous oxide (N_2O) ?	A powerful greenhouse gas with a global warming potential evaluated at 310. Major sources of nitrous oxide include soil cultivation practices, especially the use of commercial and organic fertilizers, fossil fuel combustion, nitric acid production, and biomass burning.	**Okesaita naitorosi**	O se kasa malosi e lē mafai ona u'una'ia ese ma le atimosifia ma lona aafiaga vevela tau kelope ua fuaina e 310. O alagāokesaita naitorosi e aofia ai metotia totō, aemaise ai le faaaogāga o faalelei eleele faaporofiti ma lē faanatura, faamuina o le faaolaafi fosili, gaosiga o le asiti naiteriki, ma le susunuina o le paiomesi.
Non-point source ?	Large land area such as crop fields and urban areas that discharge pollutant into surface and underground water over a large area. See *point source* and *land-based sources of pollution.*	**nofoaga e lē faapogai**	Fanua tetele e pei o faatoaga ma nofoaga i taulaga o loo alu atu ai faaleaga siosiomaga/polutani i vai i luga o le eleele ma lalo ifo. *Silasila i le ,ea eleelea ma polusi faavae mai le eleele*.
Oil	See crude oil, petroleum.	**Suauu**	Silasila i le suauu lē faamamāina, peteroliuma
Ore Mineral ?	Mineral deposit containing a high enough concentration of at least one metallic element to permit the metal to be	**Minerale 'oa**	Faaputuga minerale e lava le maualuga o le tasi pe sili atu o ni ona elemeni apamemea e mafai ai ona vavae ese le apa,

	extracted and sold at a profit.		ma faatau mo se porofiti.
Organic fertilizer ?	Organic material such as manure or compost, applied to cropland as a source of plant nutrients.	**Faalelei ‘ele‘ele mai otaota o mea e ola** *Ata 22: (lona lua) e maua ai niutereni mo laau.*	Faalelei ‘ele‘ele e maua mai i le natura o mea e pei o otaota o manu ma faapalaga, e faafetilaisa ai laau. *Ata 21: Ata muamua: o loo iai otaota e pala faanatura e mafai ona faapala i se pusa.*
Ozone ?	A colorless gas with a pungent odor, having the molecular form of O_3, found in two layers of the atmosphere, the stratosphere and the troposphere. Ozone is a form of oxygen found naturally in the stratosphere that provides a protective layer shielding the Earth from ultraviolet radiation’s harmful health effects on humans and the environment. In the troposphere, ozone is a chemical oxidant and major component of photochemical smog. Ozone can seriously affect the human respiratory system.	**Osone** **osone, kasa o lo o avea ma āfei o le lalolagi mai ave malolosi o le la (*Env93*)**	O se kasa lē lanu e fai sina malosi o lona manogi, o lona tulaga molekiule o le “O_3”, e maua i foga e lua o le atimosifia, le setarasifia ma le toroposifia. O le osone o se ituaiga okesene e maua faanatura i le setarasifia ma o se ‘afu‘afu e puipuia le foga‘ele‘ele mai ‘ave malolosi i tuāviolē e ono a‘afia ai le ola maloloina o tagata ma le siosiomaga. I le teropesifia, o le osone e iai lona kemikale oketani, ma o se vaega tele o le fotokemikale (puao leaga). E mafai ona aafia le mānava i le osone.
Ozone depletion*	Accelerated chemical destruction of the stratospheric ozone layer by the presence of substances produced by human activities.	**Faaitiitia o le osone**	Televave le faaleagaina faakemikale o le fogāosone sitaratosifia ona o aafiaga mai kasa leaga e mafua i gaoioiga a tagata.
Particulate matter (PM) ?	Solid particles or liquid droplets suspended or carried in the air.	**Meta Patikale**	Patikale malō poo mataua vai ua opeopea poo tauave i le ‘ea.

Parts per million (ppm) or billion (ppb) ?	Number of parts of a chemical found in one million or billion parts of a particular gas, liquid, or solid mixture. A measure of the concentration of a material in a gas, liquid, or solid mixture.	**Fua tau miliona poo le piliona.**	Fua o se vaega o se kemikale e maua i le miliona pe piliona o se kasa faapitoa, suavai, poo se meamalō fefiloi.
Pathogens (WB)	Microorganisms that can cause disease in other organisms or in humans, other animals, and plants. They may be bacteria, viruses, or parasites and are found in sewage, in runoff from animal farms or rural areas populated with domestic or wild animals, and in water used for swimming. Fish and shellfish contaminated by pathogens, or the contaminated water itself, can cause serious illness.	**Patokeni** **Faatupuma‘i (*Med in Leg)***	Maikorookenisi e mafai ona faatupu faama’i i isi okenisi/meaola poo tagata fo‘i, isi manu ma laau. Atonu o ni paketeria, vairusi, parasaite ma e maua i otaota lafoa‘i, vai lafoa‘i mai lafumanu, poo nofoaga e tele ai fagaga poo manu aivao, ma vai e faaaogā mo taelega. O i‘a ma figota ua oona ona o nei maikorookenisi faatupuma‘i, poo se vai ua faaleagaina, e mafai ona ma‘i tigaina ai se isi.
Petrochemicals ?	Chemicals obtained by refining (i.e., distilling) crude oil. They are used as raw materials in the manufacture of most industrial chemicals, fertilizers, pesticides, plastics, synthetic fibers, paints, medicines, and many other products. See *crude oil.*	**Peterokemi-kale**	Kemikale e maua mai i le faamamāina (vaimamā) o le suauu lē faamamaina. E faaaogā o ni totoga faavae o le fausia o kemikale i fale gaosi‘oloa, fetilaisa, vailaau tapē-manu-faalafua, palasita, ‘iegaosi, vali, vai falema‘i, ma isi oloa. *Silasila i le suauu le'i faamamaina*
Petroleum ?	A generic term applied to oil and oil products in all forms, such as crude oil, lease condensate, unfinished oils, petroleum products, natural gas plant liquids, and non-hydrocarbon compounds blended into finished petroleum products. See *crude oil.*	**Peteroliuma; Petelamu; Penisini ma suauu (*Pert Ord 1928 Leg*)**	O se upu lautele e faatatau i suauu, ma oloa e gaosi mai ai i soo se ituaiga fausaga, e pei o le suauu le’i faamamaina, mafiafia o le suauu, suauu le’i mae’a, oloa peteroliuma, kesi faanatura ma vai mai laau, ma vaega haitokaraponi e fefiloi faatasi ma oloa tau peteroliuma. *Silasila i le suauu le,i faamamaina* (*Online Etymology Dictionary. early 15c. "petroleum, rock oil" (mid-14c. in Anglo-French), from Medieval Latin petroleum,*

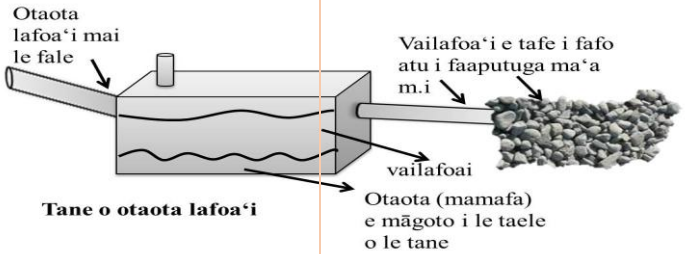
			from Latin petra "rock" (see petrous) + oleum "oil" (see oil (n.).
Phenology	The study of how the biological world times natural events. (NWF)	**Fenolo**	O le suesuega faapaiolo o le fuaga o le taimi o mea e tutupu i le natura.
Photosynthesis ?	Complex process that takes place in living green plant cells. Radiant energy from the sun is used to combine carbon dioxide (CO_2) and water (H_2O) to produce oxygen (O_2) and simple nutrient molecules, such as glucose ($C_6H_{I2}O_6$).	**Fotosinifesi (gaoioiga a laau e maua ai meaai mai le malamalama o le la) (*Env93*)**	O se faasologa lavelave e tupu i sela ola o laau meamata. E faaaogā ‘a‘avemalosi o le la ma le karaponi taiokesaita (CO_2) ma le vai e gaosi ai le okenese(O_2) ma molekiule niutereni e pei o le ituaiga suka ua ta‘ua o le kulukousu ($C_6H_{I2}O_6$).
Photovoltaic and solar thermal energy ?	Energy radiated by the sun as electromagnetic waves (electromagnetic radiation) that is converted into electricity by means of solar (i.e., photovoltaic) cells or useable heat by concentrating (i.e., focusing) collectors.	**Enetia/malosi‘aga fotovotei ma le la**	O sela poo le vevela e mafai ona faaaogā e ala i le tuufaatasia (sagatonu) o masini tapue enetia, e maua mai le malosi o le la, e pei o ni galu e aave ma uilā e liu eletise o le la (o lona uiga o le fotovotei).  *Ata 23: Enetia mai le la o loo tapu'e ma liliu eletise. O se metotia e mafai ona faaaogā ma saga faaaogā pea. SSI-ASCC*
Point source ?	A single identifiable source that discharges pollutants into the environment. Examples are smokestack, sewer, ditch, or pipe. See *non-point source*.	**Nofoaga faapogai; pogai**	O se faapogai ua iloa o loo lafoai mai ai poluteni i le sosiomaga. O faataitaiga e aofia ai ālāasu, paipa otaota lafoai, ‘autu poo paipa. *Silasila i le “nofoaga lē faapogai”.*
Pollutant#	Solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, hazardous	**Poluteni; mea faaleaga mea**	Otaota malō, toega taigaafi, otaota lafoai, lapisi, palapala o le otaota lafoai, meatau militeri, otaota lafoai mai

	wastes, biological materials, air pollutants, radioactive materials, oil, grease, wrecked or discarded equipment, industrial, municipal or other waste discharged into or upon the land, air or water. Dredge spoil, rock, sand, dirt and agricultural materials shall also constitute a pollutant when discharged into waters of American Samoa.		kemikale, otaota ono lamatia ai, mea tau paiolosi, poluteni ea, mea e iai le malosiaga e afaina ai, suauu, ga‘o, masini malepe pe tia’i, otaota mai fale gaosi oloa, otaota aotele poo isi otaota e tiai i totonu poo luga o le eleele, ea ma le vai. Palapala mai eliga faaloloto o le vai, papa, oneone, palapala ma mea tau faifaatoaga ua ta’ua o poluteni pe a lafoai i vai o Amerika Samoa.
Pollution[#]	The presence in the outdoor environment of air pollution, water pollution, or one or more pollutants in such quantities as is or tends to be injurious to human health or welfare, plant or animal life, or the use and enjoyment of life, property, or the environment.	**Filogia (*Legis Apia*)**  *Ata 24: faaliliu e le SSI-ASCC mai le www.pollutionpollution.com*	O le iai i le siosiomaga o fafo o fale, o le ‘ea filogia, vai filogia, poo se tasi pe sili atu o polutani, i se aofaiga e afaina ai le soifua maloloina o tagata, ola o laau poo manu, poo le faaaogāga ma fiafiaga i le olaga, mea totino poo le siosiomaga.
Population ?	Group of individual organisms of the same species living within a particular area.	**Faitau Aofai**	Kulupu o okenisi taitasi o se sipisi/ituaiga o ola i se nofoaga se tasi.
Population density	The amount of living things in a unit of area.	**Mafiafia poo le putuputu o le faitau aofai**	O le aofaiga o mea e ola o nofoia se iunite o se nofoaga.
Population growth	The increase in the amount of living things in a population.	**Siitia le faitau aofai**	O le siitia o le numera o mea e ola i se faitau aofai.
Preserve	To maintain the current, usually natural or original, condition of something	**Tausi**	Ia tausia le tulaga o iai, e tele lava i le faanatura poo le tulaga na muai iai se mea.
Radiation ?	Energy emitted in the form of electromagnetic waves. Radiation has	**‘A‘aveuila, ‘a‘ave malamalama**	Enetia/Malosi‘aga faamatuu mai i galu eletomāneta (aave ma le uilā). E eseese uiga

	differing characteristics depending upon the wavelength. Because the radiation from the Sun is relatively energetic, it has a short wavelength (e.g., ultraviolet, visible, and near infrared) while energy re-radiated from the Earth's surface and the atmosphere has a longer wavelength (e.g., infrared radiation) because the Earth is cooler than the Sun.		faaalia o ‘a‘āveuila e fua i le va o peau poo le galugalu o peau. Talu ai o ‘a‘āveuila mai le la e matele ina tele le malosiaga e maua mai ai, e pupuu le vā o galu o ona peau (ftg. tuāviolē, lanu e vaaia, ma lanu e lata i le mumū) a e o le enetia e toe aave atu mai le pitoaluga o le eleele ma le atimosifia, e ‘u‘ūmi atu le va o ona galu poo peau (ftg. ‘A‘āveuila e lata i le mumū) ona e malū atu le Eleele nai lo le La.
Radiative forcing ?	A change in the balance between incoming solar radiation and outgoing infrared (i.e., thermal) radiation. Without any radiative forcing, solar radiation coming to the Earth would continue to be approximately equal to the infrared radiation emitted from the Earth. The addition of greenhouse gases to the atmosphere traps an increased fraction of the infrared radiation, reradiating it back toward the surface of the Earth and thereby creates a warming influence.	**‘A‘āveuila fosi; ‘A‘ave enetia fosi**	O le suiga i le paleni i le va o ‘a‘āveuila la o loo agai mai i le eleele ma le vevela o agai i fafo (ea mafanafana ua siitia). A leai se ‘a‘āveuila fosi o le a faaauau pea ona tutusa le ‘a‘āveuila la o loo agai mai i le eleele ma le ‘a‘āveuila enetia vevela o faamatuu atu e le eleele. O le faaopoopo o kasa vevela e lē mafai ona u’una’ia ese ma le atimosetia e taofia ai se vaega faaopoopo o le ‘a‘ave enetia vevela ma toe faamatuu atu i le pitoaluga o le fogā’ele’ele ma i‘u ina vevela ai.
Recycling ?	Collecting and reprocessing a resource so it can be used again. An example is collecting aluminum cans, melting them down, and using the aluminum to make new cans or other aluminum products.	**Toe faaaogā/ toe fausia o mea fou mai mea tuai (*Env93-Leg.Ap*) Risaiko**	Aoina ma toe gaosia o ni mea aogā e toe faaaogā. O se faataitaiga, o le aoina o apa alumini, faaliusuavai, fai ai nisi oloa fou alumini.

Reforestation*	The direct human-induced conversion of non-forested land to forested land through planting, seeding and/or the human-induced promotion of natural seed sources, on land that was forested but that has been converted to non-forested land.	**Toe totō vaomatua** **Rifolesi/Faafolesi; toe faato'a (*Enu*)**	Suiga e tagata o se eleele e fai ma vaomatua e ala i le toe totōina, faamiliga poo le faaauau e tagata o faiga faanatura o fatu laau.
Renewable energy*	Is obtained from the continuing or repetitive currents of energy occurring in the natural environment and includes non-carbon technologies such as solar energy, hydropower, wind, tide and waves and geothermal heat, as well as carbon-neutral technologies such as biomass.	**Malosi'aga/Enetia e mafai ona faafou** *Ata 26: O le malosiaga tau la o se tasi o malosi'aga e mafai ona faaauau.* *Ata: upega o tafailagi*	E maua mai i le faaauauina poo au enetia faisoo e tupu i le siosiomaga faanatura, ma e aofia ai tekonolosi e lē o ni karaponi, e pei o enetia Ia malosiaga mai le vai, savili, tai, galu ma le vevela teofoma, atoa ai ma tekonolosi e lē moomia le karaponi e pei o le paiomesi.
Resilience*	The ability of a social or ecological system to absorb disturbances while retaining the same basic structure and ways of functioning, the capacity for self-organization, and the capacity to adapt to stress and change.	**gafatia**	O le mafai e se sisitema tau tagata pe faaekolosi ona gafatia ni faalavelave a o tumau pea lona faavae ma auala e ola ai, o le mafai ona faamaopoopo lava ia, ma le mafai ona ola fetu'una'i i faafitauli ma suiga.
Restore/ restoration	To repair or bring back to a previous condition.	**Toe faaleleia/ faafo'isia**	Toe faalelei pe toe faafoi i le tulaga na iai muamua
Runoff (WB)	The part of precipitation or irrigation water that runs off the land into streams or other surface water; can carry pollutants from the air and land into the receiving waters.	**Tafega; taumasuasua (*Env93-Leg*)**	O le vaega suavai poo le vaita'i ua tafe atu ma le fanua i vaiālia po o se isi vaialuga, e mafai ona tafea ai ni poluteni mai le ea ma le fanua i vai e tafe atu iai.

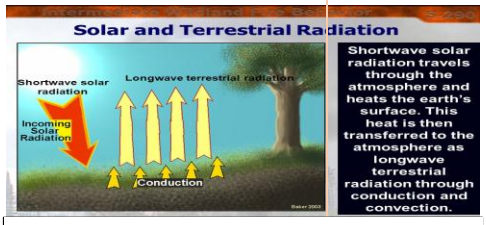
Saltwater intrusion / encroachment*	Displacement of fresh surface water or groundwater by the advance of salt water due to its greater density. This usually occurs in coastal and estuarine areas due to reducing land-based influence (e.g., either from reduced runoff and associated groundwater recharge, or from excessive water withdrawals from aquifers) or increasing marine influence (e.g., relative sea level rise).	**Vaimai sopo**	Suia o le vaimagalo fou i luga poo lalo o le palapala ona o le sopo o le vaimai, ona e mafiafia atu. E matele ina tupu i talafatai ma mulivai ona o le faaitiitia o aafiaga tau eleele (ftg. mai le faaitiitia o tafega ma magāvai mai lalo o le eleele, pe mai le soona faaaogā o vai mai faatanoa/papavai), poo le si‘itia o aafiaga mai le gataifale (ftg. Si‘isi‘i le suasami)
Sand mining	The removal of large amounts sand from the environment, especially beaches in the Pacific Islands	**La‘u‘eseina o oneone; Eligā oneone**	O le aveesea o le tele o le oneone mai le siosiomaga, aemaise ai i matafaga i motu o le Pasefika
Sea level rise*	Sea level can change, both globally and locally, due to (i) changes in the shape of the ocean basins, (ii) changes in the total mass of water and (iii) changes in water density. Factors leading to sea level rise under global warming include both increases in the total mass of water from the melting of land-based snow and ice, and changes in water density from an increase in ocean water temperatures and salinity changes. Relative sea level rise occurs where there is a local increase in the level of the ocean relative to the land, which might be due to oceanrise and/or land level subsidence.	**Siitia le maualuga o le suasami (*Env93.Leg*); siitia le maualuga o le fogātai (*Met)*** *Ata 27: Aafiaga o le Pasefika ona o le siitia o le maualuga o le suasami - -neti*	E mafai ona suia le tulaga o le sami i le lalolagi ma le lotoifale ona o 1) suiga i foliga o o le fola o le ilititai 2) suiga i le tele o le suavai ma 3) suiga i le mafiafia o le vai. O nisi o mafuaaga e suia ai le suasami: vevela faakelope, e siitia le maualuga o le suavai ona ua liusuavai le kiona ma le aisa, suia le mafiafia o le vai ona ua maualuga lona vevela ma ua faaitiitia le oona.
Sediments (WB)	Soil, sand, and minerals washed from land into water, usually after rain. Sediments pile up in reservoirs, rivers, and harbors, destroying fish-nesting areas and holes of	**‘A‘alu; to‘a (*Prat)*To‘a (*Leg.Apia*); Eleele lusi (*Met*); taei‘a (*Mil*)**	O palapala, oneone ma minerale e tafe mai le fanua i le vai ae maise lava pe a māe‘a timuga. E faaputu le to‘a lea i faatanoavai, vaitafe ma uafu e faaleagaina ai

	water animals and clouding the water so that needed sunlight may not reach aquatic plants. Careless farming, mining, and building activities will expose sediment materials, allowing them to be washed off the land after rainfalls.		nofoaga e tuufua ai iʻa ma nofoaga e feinu ai manu, ma faanenefu ai le vai ia le oo ai ʻave o le la i laau e ola i le vai. O faiga faatoaga faatalalē, o elieliga ma soo se ituaiga faugafale e mafai ona aliali mai ai matirio o le toʻa, ma faigofie ai ona tafi esea mai le fanua pe a maeʻa timuga.
Septic system ʔ	Underground system for treatment of wastewater from a home in rural and suburban areas. Bacteria in the tank decompose organic wastes and the sludge settles to the bottom of the tank. The effluent flows out of the tank into the ground through a field of drainpipes.	**Faiga/ faagasologa o le falelētaʻua; Faiga(*Env93*)**	O le faiga poo le faagasologa i lalo o le eleele mo otaota lafoai mai aiga i nuu i tua ma nofoaga taulata i le taulaga. E faapala e paketeria ma magoto ai i le taʻele o le tane le otaota. E tafe atu mai le tane le vai lafoai i le palapala e ala atu i paipa.  *Ata 28: Tu SSI-ASCC*
Sequestration*	Carbon storage in terrestrial or marine reservoirs. Biological sequestration includes direct removal of CO2 from the atmosphere through land-use change, afforestation, reforestation, carbon storage in landfills and practices that enhance soil carbon in agriculture.	**Aveesea po o le tuu eseeseina, alu ese (Leg) Aveesea/tuuesea o karaponi**	O le teuga o le karaponi i laufanua ma le gataifale. O le tuueseina faapaiolosi e aofia ai le aveeseina saʻo o le kane o Otaota Lraponi taiokesaita mai le atimosifia e ala i suiga o le faaaogāga o le fanua, afolesi, toe faafolesi pe toe toto faavaomatua, teuga o karaponi i le eleeletanu ma faatinoga e uʻunaʻia ai karaponi i le palapala mo faatoaga.
Sewage treatment	Mechanical treatment of sewage in which large solids are filtered out by screens and	**Uluaʻi faamamāina o le otaota lafoaʻi**	Faamamaga o otaota lafoaʻi e ala i le vaimama ese o otaota lapopoʻa, ma o vaega

(primary) ?	suspended solids settle out as sludge in a sedimentation tank.		lapopo‘a e apilitia, e avea ma palapala to‘a i le tane.
Sink*	Sink: Any process, activity or mechanism that removes a greenhouse gas, an aerosol or a precursor of a greenhouse gas or aerosol from the atmosphere.	**To‘esega o kasa**	Soo se faiga e aveesea ai le kasa ua lē mafai ona u’una’ia ese ma le atimosifia, se aerosolo o se kasa ua lē mafai ona u’una’ia ese ma le atimosifia poo se aerosolo mai le atimosifia.
Smart grid (oe)	A class of technology people are using to bring utility electricity delivery systems into the 21st century, using computer-based, remote control and automation.	**Faatonutonu eletise/upega atamai**	O se vasega o tekonolosi o loo faaogā e tagata e momoli mai ai le eletise i le seneturi 21, e faaaogā ai le komepiuta, faiga faatonutonu ma faiga otomeki.
Soil ?	Complex mixture of inorganic minerals (i.e., mostly clay, silt, and sand), decaying organic matter, water, air, and living organisms.	**Palapala**	Tuufaatasiga lavelave o minerale lē ‘okeni (e tele i le omea/‘ele, palapala to‘a ma le oneone) meta okeni pala, vai, ‘ea ma okenisi ola.
Solar energy ?	Direct radiant energy from the sun. It also includes indirect forms of energy such as wind, falling or flowing water (hydropower), ocean thermal gradients, and biomass, which are produced when direct solar energy interact with the earth. See *solar radiation.*	**Malosi‘aga/Enetia la**	Malosi‘aga/Enetia pupula tuusa‘o mai le la. A tuufaatasia le enetia tuusa’o mai le la ma le elelele ona maua lea o enetia lē tuusa’oa e aofia ai le savili, afu, poo vai tafe (eletise mai le vai) ea mafanafana mai le sami, ma le paiomesi. *Silasila i le ,a,aveuila o le la*
Solar radiation ?	Energy from the Sun. Also referred to as short-wave radiation. Of importance to the climate system, solar radiation includes ultra-violet radiation, visible radiation, and infrared radiation.	**‘A‘aveuila o le la**	Malosiaga/Enetia mai le la. E faaigoa foi o ‘a‘āveuila peau-puupuu. E tāua i le sisitema o vaitau, e aofia i le ‘a‘aveuila o le la, ‘a‘aveuila tuāviolē, ‘a‘āveuila iloa, ma ‘a‘āveuila e lata i le mūmū.
Source ?	Any process or activity that releases a greenhouse gas, an aerosol, or a precursor of a greenhouse gas into the atmosphere.	**Faapogai; pogai**	Soo se faatinoga e faamatuu ai se kasa ua lē mafai ona u’una’ia ese ma le atimosifia, e pei o le aerosolo.

Storm surge*	The temporary increase, at a particular locality, in the height of the sea due to extreme meteorological conditions (low atmospheric pressure and/or strong winds). The storm surge is defined as being the excess above the level expected from the tidal variation alone at that time and place.	**Galu fafati o‘oo‘o; Galu afā (*Met*)**	O le siitia faavaitaimi, i se nofoaga o le maualuga o le sami talu ai le tulaga o le tau (maulalo le fua o le ea/poo matagi malolosi). O le to faata‘uta‘u, o se faasiliga o se malosi e lē masani ai, mai fesuiaiga na‘o le tai, i le taimi ma le nofoaga lena.
Stormwater (runoff) (WB)	The part of precipitation or irrigation water that runs off the land into streams or other surface water; can carry pollutants from the air and land into the receiving waters.	**(Tafega) o aso matagi /loulouā** **Timuga fuafua/vai fuafua (*Elect/Ter.Leg*)**	O le vaega suavai poo le vaita’i ua tafe atu ma le fanua i vaiālia po o se isi vaialuga, e mafai ona tafea ai ni poluteni mai le ea ma le fanua i vai e tafe atu iai.
Strip mining ʔ	Cutting deep trenches to remove minerals such as coal and phosphate found near the earth's surface in flat or rolling terrain. See *surface mining*.	**Maina ‘eli**	‘Eli lolotoina o le fogā’ele’ele i nofoaga mafola pe mati‘e, e au ese ai minerale e pei o le koale, ma le fosefeite. *Silasila i le eliina o le fogā'ele'ele*
Sulfur dioxide (SO_2) ʔ	A compound composed of one sulfur and two oxygen molecules. Sulfur dioxide emitted into the atmosphere through natural and anthropogenic processes is changed in a complex series of chemical reactions in the atmosphere to sulfate aerosols. These aerosols are believed to result in negative radiative forcing (i.e., tending to cool the Earth's surface) and do result in acid deposition (e.g., acid rain).	**Taiokesaita teiō (*Mil, TPaia*)**	O se komepauni e maua mai i le molekiule teiō e tasi ma molekiule okesene e lua. O taiokesaita teiō, e puaina atu i le atimosifia i le faiga faanatura ma gaoioiga a tagata, ma e suia i ni faiga lavelave tau kemikale, e mafua ai ona maua faaputuga asiti (ftg. timu asiti).
Surface mining ʔ	Removal of soil, sub-soil, and other strata and then extracting a mineral deposit found fairly close to the earth's surface. See *strip mining.*	**Maina/eliina o le fogā’ele’ele.**	Aveesea o le palapala, vāega palapala, ma isi foga ona aueseina lea o se faaputuga minerale o lata i le pitoaluga o le fogā’ele’ele. *Silasila i le maina ,ɛli.*

Sustainable development*	Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.	**Atinae gafatiataulima (*Env93.Legis Ap*); Atinae Gafatia-taulimaina (*Heal.Leg04*); gafataulima (*Legis*)**	Atinae e gafatia manaoga o le taimi nei, e aunoa ma le aʻafia ai o le mafai e tupulaga fai mai ona ausia o latou foʻi manaʼoga.
Sustainable forest management*	A dynamic and evolving concept intended to maintain and enhance the economic, social, and environmental value of all types of forests, for the benefit of present and future generations.	**Pulega o vaomatua gafatiataulima**	O se konesepi faaalualu e tausia ma faaleleia atili ai le tamaoaiga, soifua lelei, tāua faasiosiomaga, o soʻo se vaomatua mo tupulaga nei ma le lumanai.
Synthetic fertilizer ?	Commercially prepared mixtures of plant nutrients such as nitrates, phosphates, and potassium applied to the soil to restore fertility and increase crop yields. See *organic fertilizer*.	**Fetilaisa; faalelei eleele gaosi**	Gaosiga o faalelei eleele mai naiterei, fosefate, potasi e faaleleia ai le eleele ma faatele ai le fuata. *Silasila i le faalelei eleele faanatura*
Tar sand ?	Swamp-like deposit of a mixture of fine clay, sand, water, and variable amounts of tar-like heavy oil known as bitumen. Bitumen can be extracted from tar sand by heating. It can then be purified and upgraded to synthetic crude oil.	**Oneone ta**	Faaputuga pei o le eleele mai le pala, o se tuufaatasiga fefiloi o le ʻele lelei, oneone, vai ma se vaega tele o suauu mamafa e pei o se ta ua faaigoaina o le pitumeni. E mafai ona au ese le pitumeni mai le oneone ta pe a faavevela. Ona mafai lea ona faamamā ma siitia lona tulaga i le suauʻu sineti lē faamamāina.
Temperature ?	Measure of the average speed of motion of the atoms or molecules in a substance or combination of substances at a given moment. See *heat*.	**Fua o le vevela (*SSI, Met*); fua o le ʻea (*NOAA-/NWS*)**	Fua averesi o le saoasaoa o le migoi o atoma poo molekiule i se mea poo se tuufaatasiga o ni mea i soʻo se taimi – *Silasila i le vevela*
Terrestrial radiation ?	The total infrared radiation emitted by the Earth and its atmosphere in the temperature range of approximately 200 to 300 Kelvin. Terrestrial radiation provides a major part of the potential energy changes necessary to drive the atmospheric wind system and is responsible for maintaining	**ʻAʻāveuila mai le lalolagi/teresetila**	O le atoaga o le ʻaʻāveuila e lata i le mūmū e puaina atu e le eleele ma lona atimosifia, i le fua o le vevela 200 i le 300 Kalavini. O ʻaʻāveuila mai le laueleele e maua mai ai se vaega tele o le suiga o le malosiaga/enetia moomia, e uʼunaʼia le faatulagaga/sisitema o matagi i le atimosifia, mo le

	the surface air temperature within limits of livability.	 *Ata 28: 'A'āveuila mai le lalolagi/teresetila -upega o tafailagi*	faapaleniina o le ea mafanafana o le fogā'ele'ele, ina ia mafai ona nofoia.
Thermal expansion*	In connection with sea-level rise, this refers to the increase in volume (and decrease in density) that result from warming water. A warming of the ocean leads to an expansion of the ocean volume and hence an increase in sea level.	**Faateleina le mafanafana**	E fesootai ma le siitia o le maualuga o le suasami (ma le faaititia o le mafiafia) e mafua mai ona ua vevela le vai. O le mafanafana o le sami e oo ai ina faateleina le suasami, ma i'u ina siitia ai le maualuga o le sami
Trace gas ?	Any one of the less common gases found in the Earth's atmosphere. Nitrogen, oxygen, and argon make up more than 99 percent of the Earth's atmosphere. Other gases, such as carbon dioxide, water vapor, methane, oxides of nitrogen, ozone, and ammonia, are considered trace gases. Although relatively unimportant in terms of their absolute volume, they have significant effects on the Earth's weather and climate.	**Kasa faalēiloga**	O soo se kasa lē taatele e maua i le atimosifia o le lalolagi. Naitaroseni ma le okesene ma le arakoni e fausia ai le silia ma le 99 pasene o le atimosifia o le eleele. O isi kasa e pei o le karaponi taiokesaita, aūsa, metane, okesaita o naitorosene, osone ma amonia e ta'ua o kasa faalēiloga. E ui e lē ta'atele ae e iai lona sao tāua i le tau ma vaitau o le eleele.
Ultraviolet radiation (UV) ?	A portion of the electromagnetic spectrum with wavelengths shorter than visible light. The sun produces UV, which is commonly split into three bands of decreasing wavelength. Shorter wavelength radiation has a greater potential to cause biological damage on living	**'A'āveuila tuāviolē**	O se vaega o le faataatiaga o eletomaneta e puupuu atu va o ona galugalu, nai lo le malamalama e iloa e mata. E gaosia e le la le 'a'āveuila tuāviolē, ma e tele ina vaetolu. O 'a'āveuila pupuu, e tele ina faatama'ia ai okenisi ola. O tuāviole e 'u'ūmi atu, UVA, e lē miti'ia e le osone i le atimosifia. E tele ina

	organisms. The longer wavelength ultraviolet band, UVA, is not absorbed by ozone in the atmosphere. UVB is mostly absorbed by ozone, although some reaches the Earth. The shortest wavelength band, UVC, is completely absorbed by ozone and normal oxygen in the atmosphere.		mitiʻia le UVB e le ozone, e ui e i ai ni ona vaega e taunuu i le eleele. O le peau pito puupuu o le UVC e matua mitiʻia e le osone ma okesene masani i le atimosifia.
Urbanization	The process by which a place becomes more like a city.	**Faataulagaina** ***Note: Laumua: capital, Taulaga: city***	O le suiga o se nofoaga e avea ma foliga o se taulaga.
Vector borne diseases*	Diseases that result from an infection transmitted to humans and other animals by blood-feeding arthropods, such as mosquitoes, ticks, and fleas. Examples of vector-borne diseases are dengue fever, viral encephalitis, Lyme disease and malaria.	**Faamaʻi e feavea'i e meaola faalafuā**	Faamaʻi e mafua ona ua inifeti le tagata ma meaola mai manu niniʻi e aai i le toto e pei o namu, utupua'a ma utufiti. O faataitaiga o ia faamai e aofia ai le dengue fiva, faamaʻi taufaiʻai; malaria ma isi.
Volatile organic compounds (VOCs) [7]	Organic compounds that evaporate readily into the atmosphere at normal temperatures. VOCs contribute significantly to photochemical smog production and certain health problems.	**Komepauni okeni lē taofiofia**	Komepauni faanatura e liu ausa gofie i le vevela e masani ai. E telē lona sao i le fausia o fotokemikale puao leaga ma isi faafitauli tau soifua maloloina.
Vulnerability*	The degree to which a system is susceptible to, or unable to cope with, adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the character, magnitude, and rate of climate variation to which a system is exposed, its sensitivity, and its adaptive capacity. Similar to the term "susceptible."	**Aʻafia gofie**	O le tulaga mafatia e o ʻo i ai se faatulagaga/sisitema, poo lona lē mafai ona tatālia aafiaga faigata o le suiga o le tau, ma ona suiga matautia. O le aʻafia gofie, o se tasi lea o tulaga masani e fua iai le gafatia e se faatulagaga/sisitema. E tai tutusa ma le upu "taia gofie".

Wastewater ?	Water that has been used and contains dissolved or suspended waste materials.	**Vai lafoa‘i**	O le vai ua mae‘a faaaogā.
Water vapor ?	The most abundant greenhouse gas; it is the water present in the atmosphere in gaseous form. Water vapor is an important part of the natural greenhouse effect. While humans are not significantly increasing its concentration, it contributes to the enhanced greenhouse effect because the warming influence of greenhouse gases leads to a positive water vapor feedback. In addition to its role as a natural greenhouse gas, water vapor plays an important role in regulating the temperature of the planet because clouds form when excess water vapor in the atmosphere condenses to form ice and water droplets and precipitation.	**Aūsa; susū o le ‘ea (*NOAA*)**	O le vai ausa, o le kasa aupito tele lea i kasa ua lē mafai ona u’una’i ese ma le atimosifia. O le vai ausa o se vaega taua o le a‘afiaga faanatura o kasa, ua lē mafai ona u’una’i ese ma le atimosifia. E ui e le o faatupula‘ia le vai ausa e tagata, ae o gaoioiga a tagata ua faatupula’ia ai le mafanafana, ma avea ma tulaga lelei i le faateleina o le vai ausa. O le aogā o le vai ausa e faatonutonu ai le mafanafana o le lalolagi, ae maise le fauga o ao e maua ai le ‘aisa ma matāua vai, ma timuga.
Weather	The conditions of the atmosphere at a specific time and location	**Tau (*Mil*); tau mo aso uma (*Met*);**	O le tulaga o le atimosifia i se taimi ma se nofoaga ma‘oti.
Wetlands ?	Areas regularly saturated by surface or groundwater and subsequently characterized by a prevalence of vegetation adapted for life in saturated-soil conditions.	**Palapala susu/pala/taufusi**	O nofoaga e masani ona lofia i vaialuga poo vai mai lalo o le eleele, ma e iloa gofie i le tele o laau ua gafatia ona ola i le palapala matuā susu.
Wildlife	All animals that are not kept in captivity.	**Meaola/ Manu tata‘a**	O meaola /manu uma e ta‘aloa ma lē tuuina i totonu o se pa.
Wood energy ?	Wood and wood products used as fuel, including roundwood (i.e., cordwood), limbwood, wood chips, bark, sawdust, forest residues, and charcoal.	**Malosi’aga/Enetia fafie**	Fafie ma oloa tau laau faaolaafi, e aofia ai ma laau lapotopoto (laau koti) ma laau malō, pa‘ulaau, penu‘ili, toega otaota vaomatua ma malala.

Fafie mo le umu | Toega Laau | Penu‘ili | Malala La‘au

Ata 29: Malosi'aga/Enetia fafie -Neti, tuufaatasia ma faaliliu e le SSI-ASCC

Glossary Miscellanous

Gases and metals: Kasa ma ‘Apa Memea

ammonia: amonia
argon: arakoni
carbon dioxide: karaponi taiokesaita
greenhouse gases (ghg): kasa ua lē mafai ona aveesea ma le atimosifia
nitrogen: naitorosene
oxygen: okesene
butane (C_4H_{10}): potane (C4H10)
carbon atoms: atome karaponi
carbon monoxide: monosai karaponi
chemical oxidation: kemikale faaokesene
halocarbons: halokaraponi
hydrocarbons: haitorokaraponi
hydrofluorocarbons: haitofolokaraponi
methane (CH4): metane (CH4)
nitrous oxide (N2o): naiterusi okesaita (N2o),
ozone (O_3): osone
perfluorocarbons: peforokaraponi
propane (C_3H_4): poropane
sulfur dioxide (SO_2): taiokesaita teiō
sulphur hexafluoride: hetafolorite teiō
water vapor (H2o): ausa

Glucose

glucose ($C_6H_{I2}O_6$): kulukousu ($C_6H_{I2}O_6$).

Metals

metal: apamemea
aluminum: alumini
ore: minerale ‘oa

Fuel: Faaolaafi

ethanol: etanola
anthracite: anetarasaite
bituminous coal:
subbituminous coal:
lignite: linite
petroleum: peteroliuma
coal: koale
phosphate: fosefeite

Atmosphere: Atimosifia

troposphere: toroposifia
stratosphere: setaratosifia
mesosphere: mesosifia
thermosphere: temosifia
ionosphere: aionosifia

lithosphere: litosifia
atmosphere: atimosifia
hydrosphere: haitorosifia
biosphere: paiosifia
cryosphere: karaiosifia
geosphere: keosifia

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