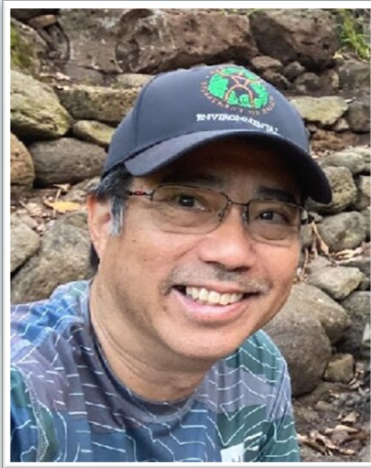


Water and Climate Changes
Watershed Management & Surface Water Protection in the Face of
Climate Change
Water Security & Climate Change – Global Perspectives



Scott Miyashiro
Hawaii Department of
Health
Surface Water Protection
Branch



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Network



Francis Wiese
Climate, Ocean & People
Anchorage, AK

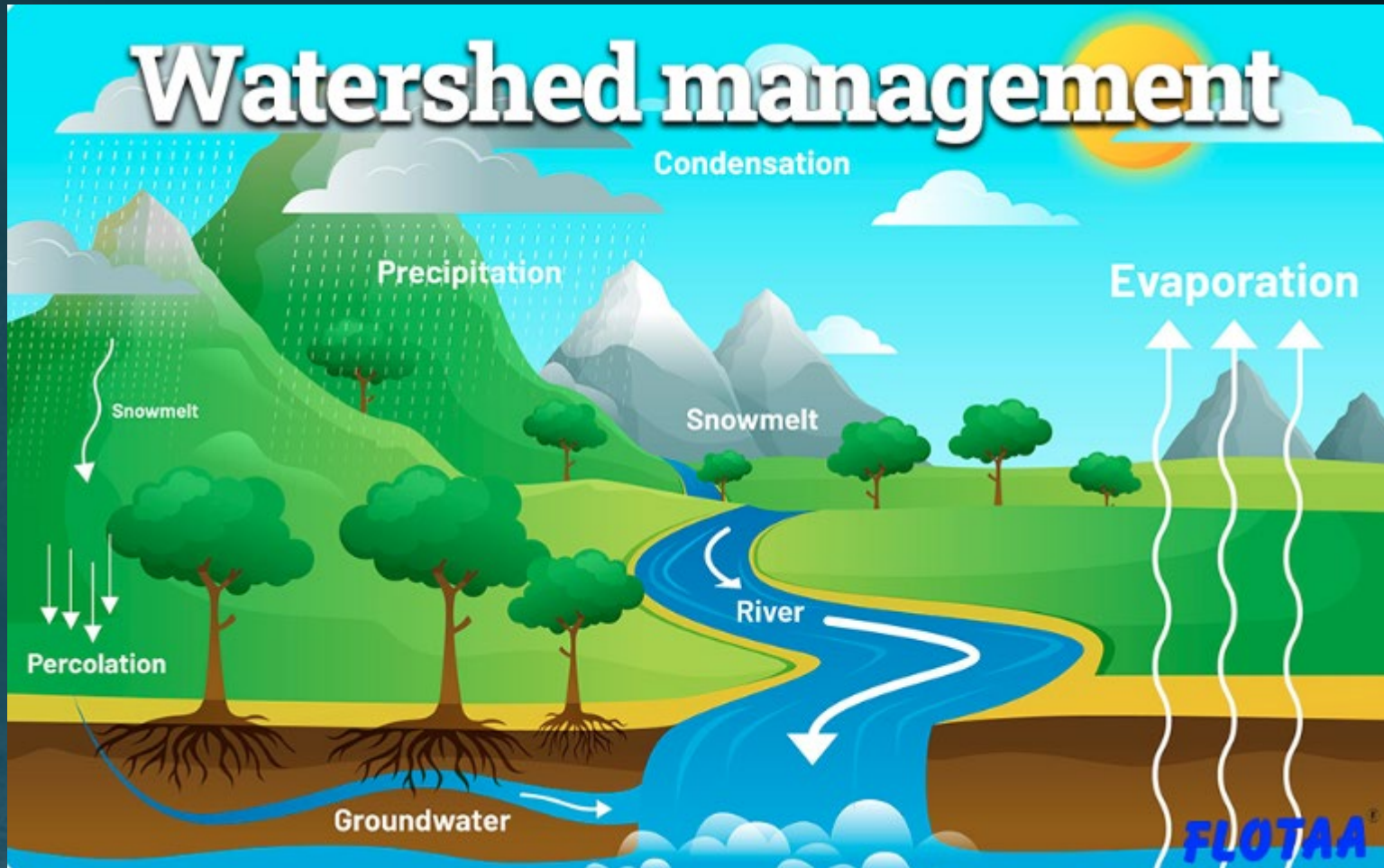


Watershed Management & Surface Water Protection in the Face of Climate Change

October 23, 2024

It's About the Water

What is a watershed?



<https://flotaa.com/watershed-management/>



What is nonpoint source pollution?

Nonpoint source (NPS) pollution occurs when runoff from stormwater carries pollutants into waterways such as the ocean, rivers, streams, lakes, wetlands, and even groundwater. Nonpoint source pollution is diffuse pollution that does not come from a single identifiable source.



Why is NPS pollution an important issue?

According to EPA's Office of Wetlands, Oceans & Watersheds, "Nonpoint source pollution is the leading source of water quality impairment in the nation."

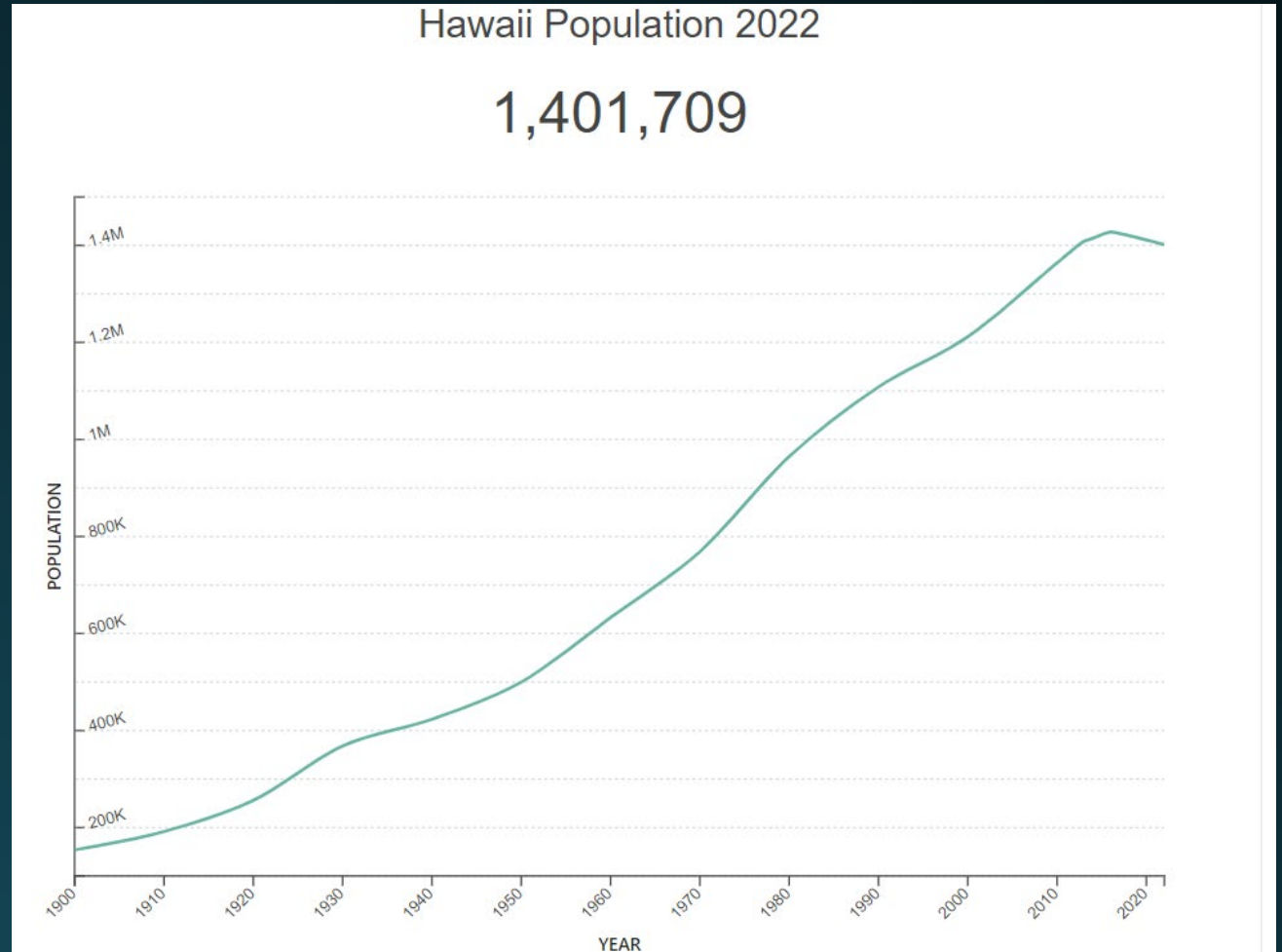
<https://www.epa.gov/aboutepa/about-office-water#wetlands>

States report that nonpoint source pollution is the leading remaining cause of water quality problems. The effects of nonpoint source pollutants on specific waters vary and may not always be fully assessed. However, we know that these pollutants have harmful effects on drinking water supplies, recreation, fisheries and wildlife.

<https://www.epa.gov/nps/basic-information-about-nonpoint-source-nps-pollution>

Hawaii History

- Mid-1900s to late 1900s
 - Statehood (1959)
 - Peak then Fall of Sugar and Pineapple Industry
 - Massive Population, Tourism and Urbanization grew
 - Massive Defense Industry Growth
 - Significant hydromodifications
 - Construction of WWTPs
 - Implementation of CWA for point source discharges- mostly non-storm water focus



Worldpopulationreview.com

The background of the slide features a vertical strip on the left side showing a close-up of ocean waves with white foam, transitioning into a dark teal gradient that covers the rest of the slide.

Background

- In 1987, Federal Water Quality Act Amendments (the amended Clean Water Act) placed **new emphasis on nonpoint source pollution management** and contained specific requirements and responsibilities for state nonpoint source pollution programs.
 - A nonpoint source assessment report and a management plan were submitted to the **U.S. Environmental Protection Agency (EPA) for approval.**
 - The Polluted Runoff Control Program under the Clean Water Branch administers the state's **Clean Water Act Section 319(h) grant** and implements **Hawaii's Nonpoint Source Management Plan.**

Background

- In 1993, the Hawaii State Legislature enacted **Chapter 342E** of the Hawaii Revised Statutes (HRS) relating to Nonpoint Source Pollution Management and Control.
 - HRS 342E provided DOH with authority to develop “a **nonpoint source pollution management and control program** to administer, enforce, and carry out all laws, rules, and programs **relating to nonpoint source pollution** in the State.”
 - DOH has been **working to further develop** its Nonpoint Source Program.



Surface Water Protection Branch


- In 2021, DOH established the Surface Water Protection Branch.
 - A **reorganization was approved** to establish the new branch and assign positions.
 - The **Polluted Runoff Control Program was moved** from the Clean Water Branch to the Surface Water Protection Branch.
 - The new administrative rules **Chapter 11-56, Nonpoint Source Pollution Control** were adopted.



How can climate change impact NPS pollution?

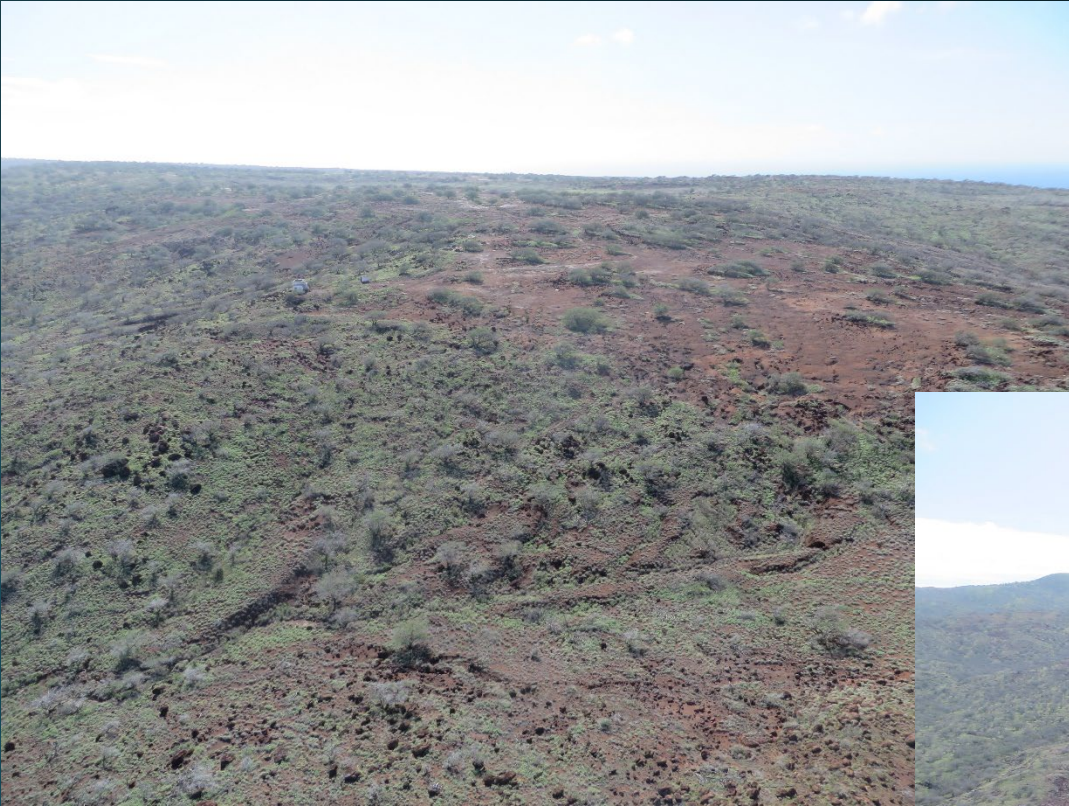
Climate change can increase the impacts of pollution by releasing chemical, microbial pathogen contaminants, and other pollutants into the environment and various water bodies of the State.

- Changes in precipitation (intensity and frequency)
- Natural disasters (heavy rainfall, flooding, hurricanes, wildfires)
- Erosion
- Sea level rise (cesspools along the coastline)



The problem, moreover, is already severe--more than 40,000 waters are currently impaired primarily by nonpoint sources and the situation will only deteriorate as more intense rainfall events associated with climate change produce more polluted runoff and more wildfires caused by higher temperatures and dryer conditions produce more erosion.

Office of Wetlands, Oceans & Watersheds, EPA, *supra* note 22, at 13.



It's About the Water



It's About the Water



It's About the Water



It's About the Water



It's About the Water

What is the SWPB doing?

Using Federal Clean Water Act Section 319 funds, the SWPB distributes grant funding to implement watershed based plans developed to restore or protect waters impaired or threatened by nonpoint source pollution.

Environmental Health PORTAL SWP Surface Water Protection System Sign In

Viewer Export

Polluted Runoff Projects

Island (All)

56 results

- "Curbing" NPS Pollution in Wahikuli & Honokowai Watersheds: Installation of Curb Inlet Baskets COMPLETED
- Agricultural District Erosion Control in Wahikuli & Honokowai Watersheds: Assessment & Installation COMPLETED
- Agricultural Stewardship and Stream Restoration in Kaukonahua ACTIVE NO LOCATION
- Agricultural Stewardship and Stream Restoration in Kī'iki'ī and Paukaiua Watersheds ACTIVE
- Agricultural Stewardship in the Ma'ili'i'i Watershed COMPLETED
- Buffers and BMPs for Windward O'ahu COMPLETED
- Coastal Water Quality Monitoring in West Maui and Southwest Maui Watersheds COMPLETED
- Conservation on Agricultural Lands in the Honouliuli Watershed COMPLETED

HAWAIIAN ISLANDS

Map locations: Puuwaia, Hanapepe, Koloa, Pūhāhā, Kapāhā, Kapa'a, Kāunā, Līhue, Māka, Hono, Kapolei, Moloka'i, Lāna'i, Kāuāi, Hana, Kīhei, Kailua-Kona, Waikoloa Village, Captain Cook, Island of Hawaii, Volcano, Pahoa, Hawaiian Paradise Park, Honokaa, Laupahoehoe, Hilo, Waipahoehoe, Pahala, Ocean View, Naalehu.



What can we do?

Approaches to reducing nonpoint source pollution:

- Implementing green infrastructure (bioswales, rain gardens, rain barrels, pervious pavements)
- Improved agricultural practices (cover crops, buffer strips)
- Community engagement and education
- Participating in restoration efforts throughout the state (removal of invasive plants, outplanting native plants)

Policy Recommendations

- Enhanced regulations for managing nonpoint source pollution
- Support for climate resilient urban planning
- Funding for research on climate impacts on water quality
- Support for various state, local and community organizations
- Wastewater reuse?



MAHALO

Department of Health
Surface Water Protection Branch
2827 Waimano Home Road, Rm 225
Pearl City, HI 96782
(808) 586-4309

Email: doh.swpb@doh.hawaii.gov

Website:

<https://health.hawaii.gov/cwb/swpb/>



Human Health, Sustainable Development, and the Water that Connects Us All: Challenges, Management Trends, and Engagement Opportunities in the Pacific

Erin M. Derrington, Local2030 Islands Network, Global Energy and Water Communities of Practice Coordinator

Panel Presentation for the Hawai'i State Department of Health
Climate & Health Conference, Oct. 23, 2024



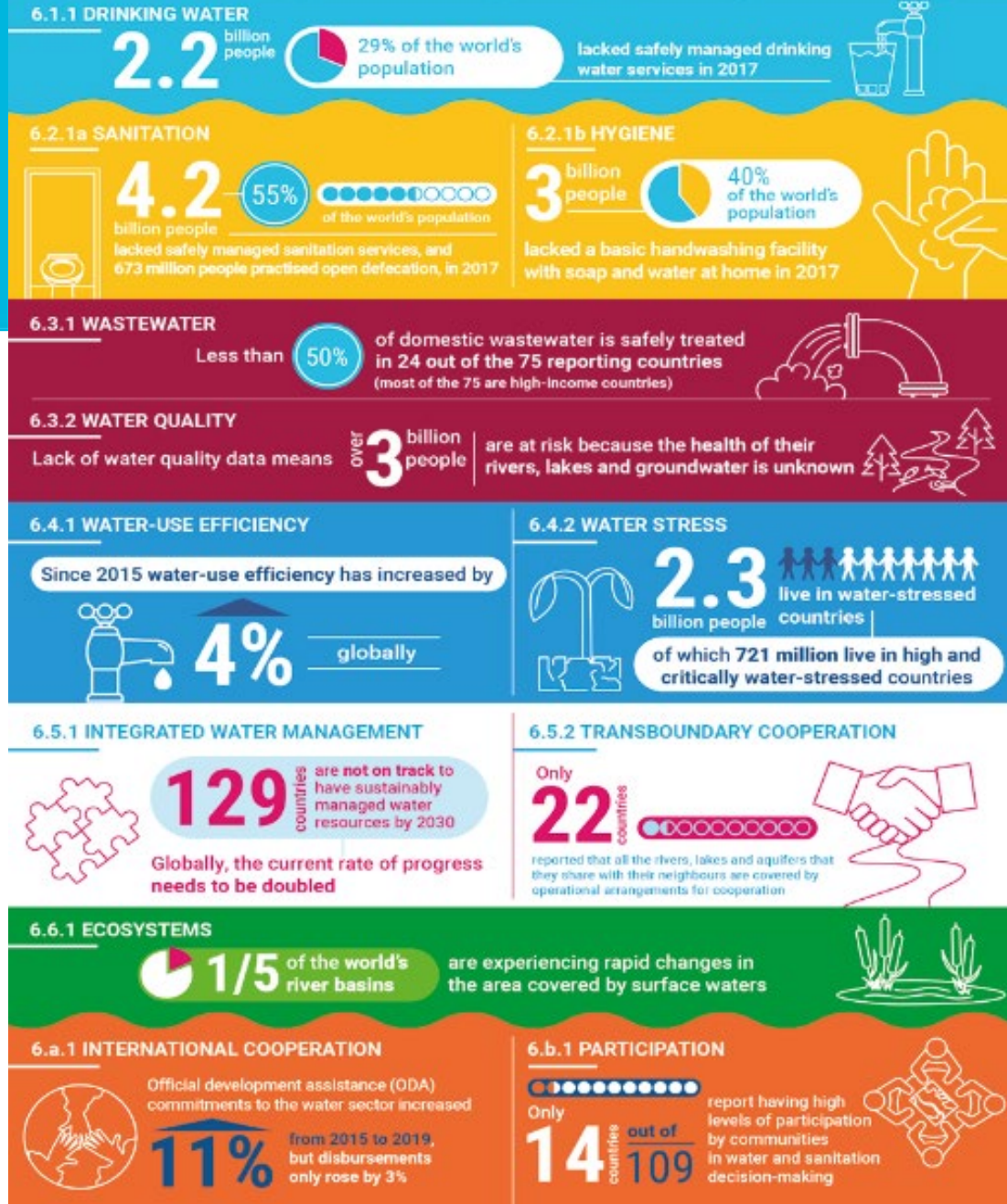
HAWAI'I GREEN GROWTH
UN LOCAL2030 HUB



ENSURE AVAILABILITY AND SUSTAINABLE MANAGEMENT OF WATER AND SANITATION FOR ALL



- The world is not on track to meet the targets of SDG 6
- Global data gaps make tracking progress towards wastewater treatment and water quality management goals challenging
- One fifth of the world's river basins are experiencing rapid changes in surface coverage areas, indicative of flooding and drought events associated with climate change
- Water stress and scarcity are increasing disproportionately in some regions
- Access to improved drinking water is lagging in rural area in particular, including remote Pacific Islands



ENSURE AVAILABILITY AND SUSTAINABLE MANAGEMENT OF WATER AND SANITATION FOR ALL



TARGET 6-1 SAFE AND AFFORDABLE DRINKING WATER	TARGET 6-2 END OPEN DEFECATION AND PROVIDE ACCESS TO SANITATION AND HYGIENE	TARGET 6-3 IMPROVE WATER QUALITY, WASTEWATER TREATMENT AND SAFE REUSE
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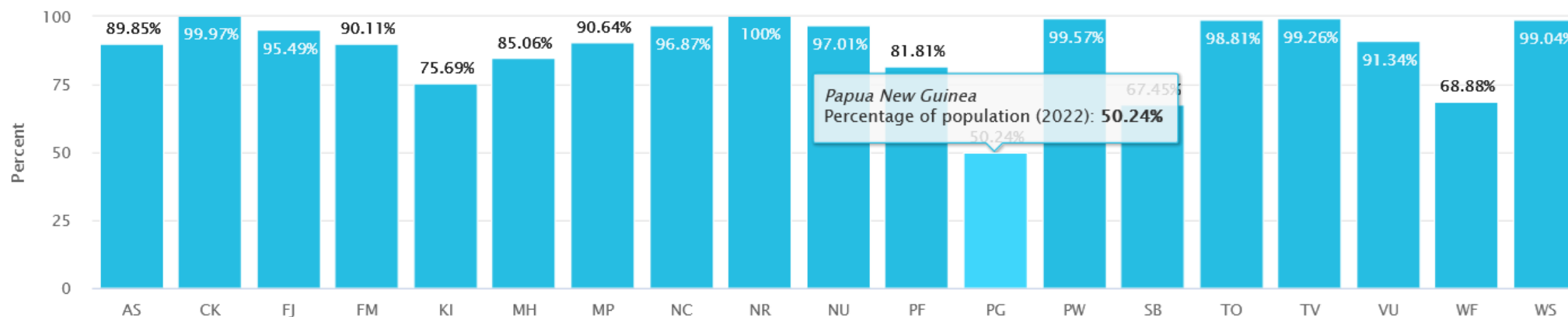
Target 6.1

By 2030, achieve universal and equitable access to safe and affordable drinking water for all

Indicator 6.1.1: Proportion of population using safely managed drinking water services.

6.1.1: Proportion of population using safely managed drinking water sources

Source: PDH.Stat



Please note this data is not the full SDG indicator of 'safely managed' drinking water (free from contamination and available on the premises), which is being developed as Pacific Islands complete the MICS survey.

[Download Metadata for indicator 6.1.1](#)

Source: <https://pacificdata.org/dashboard/sdg-6-clean-water-and-sanitation>

ENSURE AVAILABILITY AND SUSTAINABLE MANAGEMENT OF WATER AND SANITATION FOR ALL

6 CLEAN WATER AND SANITATION



TARGET 6-1 SAFE AND AFFORDABLE DRINKING WATER	TARGET 6-2 END OPEN DEFECTION AND PROVIDE ACCESS TO SANITATION AND HYGIENE	TARGET 6-3 IMPROVE WATER QUALITY, WASTEWATER TREATMENT AND SAFE REUSE
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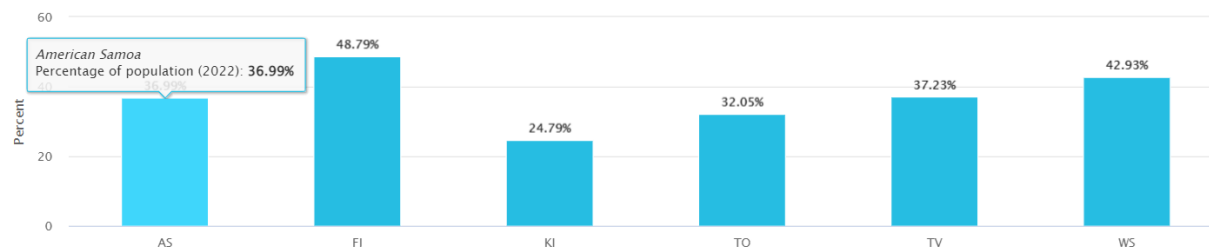
Target 6.2

By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations

Indicator 6.2.1: Proportion of population using safely managed sanitation services including a hand washing facility with soap and water

6.2.1: Population using safely managed sanitation services

Source: PDH.Stat



Target 6.3

By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally

Indicator 6.3.1: Proportion of domestic and industrial wastewater safely treated

Visualisation(s) not yet available
View 6.3.1 data on PDH.stat

Download Metadata for indicator 6.3.1

Indicator 6.3.2: Proportion of bodies of water with good ambient water quality

NOTE: this indicator is not one of the 132 indicators in the Pacific SDG indicator subset

Target 6.4

By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity

Indicator 6.4.1: Change in water-use efficiency over time

NOTE: this indicator is not one of the 132 indicators in the Pacific SDG indicator subset

Indicator 6.4.2: Level of water stress; freshwater withdrawal as a proportion of available freshwater resources

NOTE: this indicator is not one of the 132 indicators in the Pacific SDG indicator subset



Climate change in the Pacific

Climate change-related phenomena in the Pacific

- Increasing air temperatures
- Altered rainfall patterns
- Accelerating sea-level rise
- Changing ocean salinity & acidity
- Altered frequency and/or severity of extreme weather events (including extreme heat, floods, storms and associated phenomena)

Mediators of climate change-attributable impacts:
– socio-political strategies
– environmental measures
– health systems resilience

Potential pathways for health impacts of climate change in the Pacific

- Direct exposures
 - storms, floods, inundation, extreme heat
- Indirect exposures
 - compromised safety and/or supply of food, water & clean air
 - potential loss of land & livelihoods
 - potential for population displacement
 - altered disease exposure risk (e.g. due to spread of vectors/hosts, population movement/overcrowding)
 - compromised health systems
- Social disruption
- Detrimental impacts on economic and human development

Potential health effects of climate change in Pacific island countries

- Increasing incidence of vector-borne disease & zoonoses
- Water insecurity & increasing incidence of water-borne diseases
- Increasing risk of food-borne diseases (including ciguatera)
- Malnutrition (including increasing dependence on imported foodstuffs)
- Increasing morbidity and mortality due to non-communicable diseases
- Traumatic injuries and deaths
- Increasing risk of mental health disorders
- Disruption to health services

Health impacts of climate change in the Pacific





LOCAL2030
ISLANDS
NETWORK

Islands Working Together
for a Sustainable World



Our Vision

A sustainable Island Earth
inspired by island leadership
and values.





Our Mission

Catalyze island partnerships and action to achieve the Sustainable Development Goals (SDGs) by connecting local leadership and sharing solutions.

Members and Partners



Members

- Antigua and Barbuda
- Aruba
- Bonaire
- British Virgin Islands
- Curaçao
- Commonwealth Of The Northern Mariana Islands
- Federated States of Micronesia
- Fiji
- Gibraltar
- Grenada
- Guam
- Guinea-Bissau
- Republic of Seychelles
- Republic of the Marshall Islands
- Ibiza
- Ireland
- Netherlands
- Palau
- Saba
- Sint Eustatius
- Sint Maarten
- Trinidad and Tobago
- United States of America
- Republic of Palau
- Guam
- Federated States of Micronesia
- Republic of the Marshall Islands
- Fiji
- Niue
- Saba
- Sint Eustatius
- Sint Maarten
- United States of America
- Hobart, Tasmania

Partners

- Caribbean Climate Adaptation Network, University of Puerto Rico (Puerto Rico)
- Center for Music Ecosystems
- Climate Strong Islands Network
- East-West Center
- DRI
- Greening The Islands National Renewable Energy Laboratory
- NOAA (US Department of Commerce)
- Pacific Disaster Center (Maui, Hawaii)
- Sinto Sustainable
- Smithsonian Institution Office of Global Affairs
- Tasmanian Way
- The Climate Strong Islands Network
- UNESCO (Bangkok, Thailand)
- UNICEF for the
- Mediterranean (Barcelona, Spain)
- United Nations Foundation
- US Department of Energy
- US Department of Interior
- US Department of State
- US Environmental Protection Agency
- USAID



Guiding Principles for Impact



Political Leadership
and Local Goals



Public - Private
Partnerships



Measurement



Concrete Action

Local2030 Islands Network Portfolio

**LEADERSHIP AND
PARTNERSHIPS TO
LOCALIZE AND
CONTEXTUALIZE
GLOBAL GOALS**

**COMMUNITIES OF
PRACTICE FOR
KNOWLEDGE
SHARING AND
SOLUTIONS
SCALING**

**DASHBOARDS TO
MEASURE
PROGRESS AND
ANALYZE DATA
FOR POLICY-
MAKING**

Communities of Practice (CoP)

Data for Climate Resilience



Building capacity to measure progress on local sustainability and climate goals



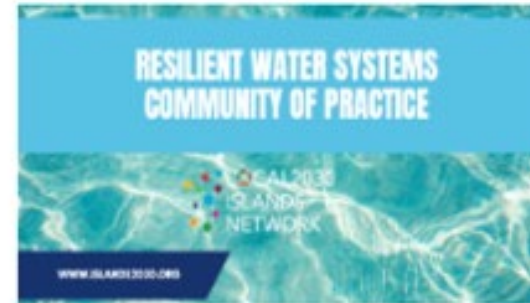
Resilient & Clean Energy Systems



Supporting island economies in achieving clean energy futures



Resilient Water Systems



Advancing resilient watershed systems through holistic management



Sustainable & Regenerative Tourism



Supporting island economies in developing regenerative tourism



To learn more or sign up for a CoP Listserv, visit <https://www.islands2030.org/community-of-practice>

ENSURE AVAILABILITY AND SUSTAINABLE MANAGEMENT OF WATER AND SANITATION FOR ALL

6 CLEAN WATER AND SANITATION



Water CoP



The Resilient Water Systems Community of Practice (CoP)

The Local2030 Islands Network's Resilient Water Systems CoP provides peer-to-peer learning opportunities, targeted technical assistance for island-led initiatives, and fosters collaboration with various experts to support sustainable integrated water management solutions to achieve local and global island resilience goals.

<https://www.islands2030.org/water-cop>



Draft Regional
Engagement Strategy for
Water Security 2024 - 2030



Strengthening engagement in **water security** as a key determinant of **Pacific resilience**

Vision:

“Water Security is embedded as a cornerstone in Pacific or Pasifika resilience initiatives and dialogs through championing by a diverse and collaborative community of leaders”



DATA & PUBLIC ENGAGEMENT

G3 AF → G3 DASHBOARD

Action Framework is a compilation of hundreds of goals, objectives, metrics, action items, action leads, and partnerships. Amongst these goals, primary indicators were identified by each working group, to stand as metrics on the G3 Dashboard.

Healthy and Prosperous Communities

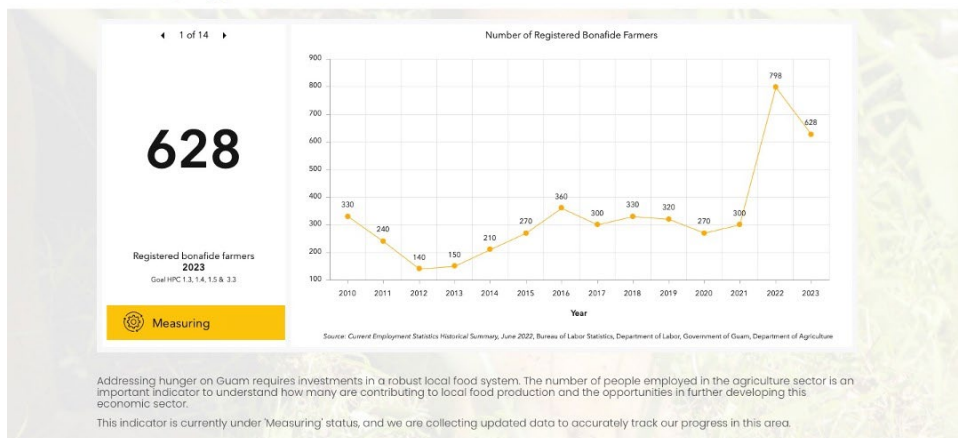
01 | Zero Hunger

Increasing food security and accessibility to local, nutritious food through community gardens, sustainable agriculture and aquaculture.

HOW WE'RE TRACKING PROGRESS: The Department of Labor tracks the number of people employed in agriculture and contributes to the local food economy. Average earnings and gender diversity in the agriculture sector and SNAP eligibility and participation provide more context of Guam's progress in addressing food insecurity and hunger on the island. These goals can be found in the Guam Green Growth Action Framework (G3 AF), which is Guam's comprehensive 10+ Year plan of Action towards a sustainable Guam.

SPOTLIGHTS for ZERO HUNGER

- Third G3/GSC Community Garden established in November 2022 to support the Northern region of Guam at the Deddedo Sports Complex.
- Increased grant funding for agriculture and aquaculture projects and initiatives: \$500,000 in grant funding allocated for Farmers.
- The number of bonafide farmers registered with the Department of Agriculture since 2020 increases from 375 to 628.



HEALTHY & PROSPEROUS COMMUNITIES

WORKING GROUP

17
Members

21
Goals

41
Objectives

68
Action Items

47
Metrics

Guáhan is the indigenous CHamoru name for Guam, meaning "we have", signifying abundance.

As an island abundant in resources, our communities have the abilities to be healthy and prosperous. Sustainable development requires the reduction of poverty and hunger, addressing the health and well-being of all population groups, and being innovative in the ways our society can promote local industries.

Traditionally, our communities are centered around *afarmaolek*—the value of making things good using a sense of reciprocity. This cultural value is essential in order to lift up a healthy and prosperous community.

Main Actions: Increasing food security and expanding accessibility to local, nutritious food (community gardens, sustainable agriculture and aquaculture); Creating an environment for innovative local industries that can help us reduce reliance on imports and reduce waste generation; Strengthening prevention efforts and programs that decrease substance use while promoting better health decisions, wellness and affordable care.



Healthy and Prosperous Communities					
<p>1 of 6</p> <p>Farmers</p> <p style="font-size: 2em; font-weight: bold;">628</p> <p><small>Registered bonafide farmers 2023</small></p> <p><small>Goal HPC 1.3, 1.4, 1.5 & 3.3</small></p> <p style="background-color: #ffc107; padding: 2px;">Measuring</p>	<p>1 of 12</p> <p>Infant Mortality</p> <p style="font-size: 2em; font-weight: bold;">9.81</p> <p><small>deaths per 1000 births 2019</small></p> <p><small>Goal HPC 2.1</small></p> <p style="background-color: #ffc107; padding: 2px;">Measuring</p>	<p>1 of 8</p> <p>Obesity Rate</p> <p style="font-size: 2em; font-weight: bold;">32.7%</p> <p><small>adults, based on BMI 2022</small></p> <p><small>Goal HPC 3.4</small></p> <p style="background-color: #dc3545; padding: 2px;">Not on track</p>	<p>1 of 8</p> <p>Traffic Fatalities</p> <p style="font-size: 2em; font-weight: bold;">28</p> <p><small>total fatalities 2022</small></p> <p><small>Goal HPC 2.2</small></p> <p style="background-color: #dc3545; padding: 2px;">Not on track</p>	<p>1 of 12</p> <p>Prevalence of Tobacco Use</p> <p style="font-size: 2em; font-weight: bold;">19.8%</p> <p><small>adults who are current smokers 2022</small></p> <p><small>Goal HPC 3.5</small></p> <p style="background-color: #28a745; padding: 2px;">Improving</p>	<p>1 of 11</p> <p>Alcohol Use</p> <p style="font-size: 2em; font-weight: bold;">19.3%</p> <p><small>adults who binge drink 2022</small></p> <p><small>Goal HPC 3.2</small></p> <p style="background-color: #ffc107; padding: 2px;">Measuring</p>
<p>1 of 11</p> <p>Small Businesses</p> <p style="font-size: 2em; font-weight: bold;">3,556</p> <p><small>businesses with less than 500 employees 2020</small></p> <p><small>Goal HPC 3.4</small></p> <p style="background-color: #ffc107; padding: 2px;">Measuring</p>					

GUAM GREEN GROWTH ACTION FRAMEWORK **Explore the Healthy & Prosperous Communities Component**
Each Focus Area aligns with Sustainable Development goals as a Category of Action.

- “Localization” - Green Growth Goal Setting
- Data Collection - Public / Private Partnerships
- Visualization - Regular tracking of progress and reporting through the “G3 Dashboard”

CLEAN ENERGY

70% clean energy :
40% from renewables & 30% from efficiency



Electricity: Renewable / Efficiency	Average Fuel Use	Statewide Net Greenhouse Gas Emissions	Total Energy Use	Transportation	Business Sector Energy Efficiency
39.97%	\$3,371.18	13.77	33,806	463 M	6.7%
Renewable Energy Statewide in 2021 ✓ On track	Spent per Person on Petroleum in 2019 ✓ On track	Million Metric Tons of Carbon Dioxide Equivalent Emissions in 2017 ✓ On track	Thousand Barrels of Oil Consumed in 2020 ✓ On track	Gallons of Petroleum Used for Ground Transportation in 2021 ✗ Needs Improvement	Average Percent Reduction in Energy Use in the Business Sector in 2021 📊 Measuring

LOCAL FOOD

At least double local food production :
20-30% of food consumed is grown locally



Local Food Production & Consumption

Local Foods Production	Labor & Land Resources	Processing	Distribution	Consumption
104,635,130	1,100,000	10	90	578,595,000
Pounds of Food Locally Produced in 2018 ✗ Needs Improvement	Acres of Farmland in Use in 2021 ✗ Needs Improvement	Number of Commercial Kitchens in 2018 📊 Measuring	Number of Farmers Markets in 2018 📊 Measuring	Agricultural Products Sold in USD in 2016 📊 Measuring

NATURAL RESOURCE MANAGEMENT

Reverse the trend of natural resource loss mauka to makai by increasing freshwater security, watershed protection, community-based marine management, invasive species control and restoration of native species



Natural Resource Management

Increase Fresh Water Capacity	Watershed Forest Area	Marine Managed Areas	Invasive Species Control	Native Species Managed
12	173,000	6.17%	68%	5.5%
Million Gallons per Day of Water Recharge, Conservation, and Reuse in 2022 ✗ Needs Improvement	Acres of Protected Watershed as of 2022 ▶ Near target	Nearshore Waters Designated as Marine Managed Areas in 2022 ✗ Needs Improvement	Action Items in Implementation as of January 2023 ▶ Near target	Native Species Managed Listed as Threatened or Endangered as of 2016 📊 Measuring

WASTE REDUCTION

Reduce the solid waste stream prior to disposal by 70% through source reduction, recycling, bioconversion and landfill diversion methods



Solid Waste Reduction

Total Solid Waste Diversion	Total Solid Waste Generation	Recycling	Source Reduction	Reuse
27%	2,570,478	695,931	Coming Soon	Coming Soon
Solid Waste Diverted from Landfills in 2021 ✗ Needs Improvement	Tons of Solid Waste Generated in 2021 ✗ Needs Improvement	Tons of Recycled and Composted Materials in 2021 ✗ Needs Improvement	Coming Soon 📊 Measuring	Coming Soon 📊 Measuring

SMART SUSTAINABLE COMMUNITIES

Increase livability and resilience in the built environment through planning and implementation at the state and county levels



Smart Sustainable Communities

Mobility & Accessibility	Affordable Housing	Economic Prosperity	Resilience & Disaster Management	Land Use Impacts	Open, Public, and Green Spaces	Connection to Place	Greenhouse Gas Mitigation
9,014	82.2	34.7%	▲ 0.414	7.183	1,019.2	15%	19.13
Annual Vehicle Miles Traveled per Vehicle in 2019 ✗ Needs Improvement	Housing Affordability Index as of 2021 Q4 ✗ Needs Improvement	Households Below the Self-Sufficiency Standard (SSS) ✗ Needs Improvement	Hawaii Overall Social Vulnerability Index Rating as of 2018 📊 Measuring	Number of People per Acre of Urban Land in 2021 📊 Measuring	Sq. Feet of State Parks per Capita in 2020 📊 Measuring	Ahupua'a Managed with Community Based Plans in 2018 📊 Measuring	Percent Reduction of CO2 Emissions since 2015 📊 Measuring

GREEN WORKFORCE & EDUCATION

Increase local green jobs and education to implement these targets



Green Workforce and Education

'Aina-Based Education & Community Engagement	Transformational Learning & Education Attainment	Equitable Access to Education	Workforce & Professional Development	Innovation & Entrepreneurship	Sustainable Tourism	Economic Diversity
20	85.9%	13.4%	3.6%	47.6%	46	-1%
School Community Sites in 2017 📊 Measuring	Hawaii's Students Graduated High School On Time in 2021 📊 Measuring	Youth (Ages 16-24) Not Attending School and Not Working in 2021 📊 Measuring	Workforce Unemployed in August 2022 ✗ Needs Improvement	Survival Rate of Start Up Business after 5 Years in 2013 📊 Measuring	Number of Certified Ecotourism Businesses in 2021 ✗ Needs Improvement	Growth of Hawaii's Strong Traded Economic Clusters in 2016 📊 Measuring

ALOHA+ CHALLENGE DASHBOARD

Accountability & Action on Hawai'i's Sustainable Development Goals



- "Localization" - Green Growth Goal Setting
- Data Collection - Public / Private Partnerships
- Visualization - Regular tracking of progress and reporting through the "Aloha+ Dashboard"

info@hawaiiingreengrowth.org

THANK YOU!



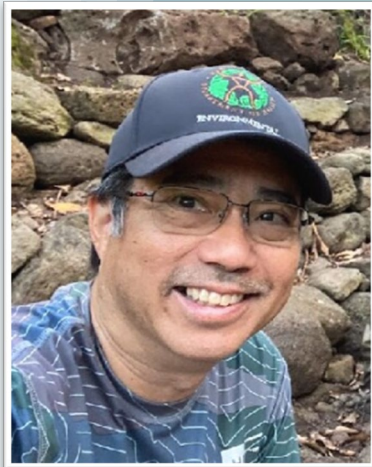
**LOCAL2030
ISLANDS
NETWORK**

Islands working together for a sustainable world

www.islands2030.org | info@islands2030.org
erin@islands2030.org



Continuing the Conversation: Water Quality & Climate Changes – How the work interconnects and can be integrated moving forward



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Surface Water Protection
Branch



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Anchorage, AK