

Interactive!
Click on any of
these bubbles to
jump to each
section

SMALL ISLANDS, BIG IMPACT

Fiorenza Micheli¹, Natalie Arnoldi¹, Louw Claassens², Collin Closek¹, Robert Dunbar¹, Caroline Ferguson¹, Yimnang Golbuu², Eric Hartge¹, Staci Lewis¹, Stephen Monismith¹, Robert Richmond³, Colette Wabnitz¹
Stanford University¹, Palau International Coral Reef Center², University of Hawaii³

Abstract

Potential
Impacts

Non-
Traditional
Science

International
Collaboration

Next
Generation

Island states, including Hawaii, have sovereignty over most of the extraordinary seascapes of the Pacific Ocean. For millennia, these societies have successfully managed their resources. However, global declines in ocean health combined with the upheaval of COVID-19 are unraveling the social, economic, and cultural fabric of Pacific Island states.



Our Ocean-Shot is **to co-develop science innovation and ocean solutions** that foster crisis readiness and are scalable to multiple geographies.



Interactive!
Click on any of
these bubbles to
jump to each
section

SMALL ISLANDS, BIG IMPACT

Fiorenza Micheli¹, Natalie Arnoldi¹, Louw Claassens², Collin Closek¹, Robert Dunbar¹, Caroline Ferguson¹, Yimnang Golbuu², Eric Hartge¹, Staci Lewis¹, Stephen Monismith¹, Robert Richmond³, Colette Wabnitz¹
Stanford University¹, Palau International Coral Reef Center², University of Hawaii³



Abstract

The Pacific Ocean makes up 46% of Earth's ocean surface and is larger than all area combined

While substantial shifts are underway, there is still time to halt and reverse resource depletion, support sustainable development and strengthen local resilience to global shocks. Yet capacity for ocean exploration and resource management remain limited in the Pacific.

Our vision is to integrate cutting edge science and technology with traditional knowledge to equip Small Island / Large Ocean states across the Pacific Ocean to discover, reclaim, and support resilient marine ecosystems, communities and livelihoods.

Potential Impacts

Non-Traditional Science

Harnessing eDNA and chemical tracers, drone and imaging technologies, and scalable oceanographic sensor technologies to monitor the health of ecosystems



Examples include:



Capturing biophysical and marine use information through hand-held applications, combining remote sensing and vessel monitoring systems with artificial intelligence to track coral reef health and curb illegal fishing

Launching voyages of discovery exploring and rekindling connections of Pacific Islanders' with their oceans and ocean resources across the region



International Collaboration

Next Generation

Interactive!
Click on any of
these bubbles to
jump to each
section

SMALL ISLANDS, BIG IMPACT

Fiorenza Micheli¹, Natalie Arnoldi¹, Louw Claassens², Collin Closek¹, Robert Dunbar¹, Caroline Ferguson¹, Yimnang Golbuu², Eric Hartge¹, Staci Lewis¹, Stephen Monismith¹, Robert Richmond³, Colette Wabnitz¹
Stanford University¹, Palau International Coral Reef Center², University of Hawaii³

Abstract

SCIENTIFIC/TECHNOLOGICAL SECTORS ENGAGED OUTSIDE OF TRADITIONAL OCEAN SCIENCES

Our Ocean-Shot spans knowledge to impact
through multi-stakeholder collaboration and
engagement with key actors.

Potential
Impacts

Non-
Traditional
Science

International
Collaboration

Next
Generation



We will create new tools and approaches that
combine traditional knowledge with cutting-edge
science, to **support local leaders and enable
communities to take ownership and successfully
manage the challenges that lie ahead.**



Interactive!
Click on any of
these bubbles to
jump to each
section

SMALL ISLANDS, BIG IMPACT

Fiorenza Micheli¹, Natalie Arnoldi¹, Louw Claassens², Collin Closek¹, Robert Dunbar¹, Caroline Ferguson¹, Yimnang Golbuu², Eric Hartge¹, Staci Lewis¹, Stephen Monismith¹, Robert Richmond³, Colette Wabnitz¹
Stanford University¹, Palau International Coral Reef Center², University of Hawaii³

Abstract

Potential
Impacts

Non-
Traditional
Science

International
Collaboration

Next
Generation

INTERNATIONAL PARTICIPATION AND COLLABORATION



Our Ocean-Shot concept builds on **existing collaboration among institutions across the Pacific**, including Stanford, University of Hawaii, Palau International Coral Reef Center (PICRC) and several others.



However, capacity remains limited across the Pacific. **Palau's vision and leadership and efforts such as the Micronesia Challenge provide unique opportunities and tools** to chart a course to sustainable and crisis-resilient marine resource use for present and future generations across multiple Pacific Island states.

Interactive!
Click on any of
these bubbles to
jump to each
section

SMALL ISLANDS, BIG IMPACT

Fiorenza Micheli¹, Natalie Arnoldi¹, Louw Claassens², Collin Closek¹, Robert Dunbar¹, Caroline Ferguson¹, Yimnang Golbuu², Eric Hartge¹, Staci Lewis¹, Stephen Monismith¹, Robert Richmond³, Colette Wabnitz¹
Stanford University¹, Palau International Coral Reef Center², University of Hawaii³

Abstract

BUILDING GLOBAL CAPACITY & DEVELOPMENT OF THE NEXT GENERATION OF OCEAN SCIENTISTS



Potential
Impacts

One of the key ambitions of the Ocean-Shot is to train and empower next generation of ocean leaders. Building on existing programs and partnerships, students and early career professionals will be embedded in research and impact activities through a variety of mechanisms and opportunities.

Non-
Traditional
Science

International
Collaboration

Next
Generation



Examples include a Pacific Ocean Leaders program co-led by Stanford, University of Hawaii and PICRC, participation of youth in voyages of discovery and research, and engagement in multi-stakeholder networks for research, education and impact.