INTERNATIONAL PACIFIC RESEARCH CENTER

VISION

We are a global leader in climate research for the Asia-Pacific region, fostering excellence in research, education, and international collaboration to solve one of humanity's most pressing challenges.

Leading climate research for the Asia-Pacific region since **1997**

MISSION

We provide a vibrant international research environment dedicated to improving our understanding of the nature and predictability of climate variations in the Asia-Pacific region and to the development of innovative pathways for leveraging climate science to benefit communities and stakeholders.

A key part of our work is providing understanding of past and future climate risks – such as El Niño events, monsoons, hurricanes, wildfires, Kona storms, atmospheric rivers, and droughts – and their expected impacts on communities in the Hawaiian Islands and elsewhere in the Pacific.

A unique strength of the IPRC is that it unites experts from the Departments of Oceanography, Atmospheric Sciences, and Earth Sciences, addressing the three components of the climate system – the ocean, atmosphere, and land – to provide critical new insights. Our faculty supports the educational missions of the Departments by teaching classes, and by mentoring students and postdoctoral scholars, who will be the future leaders in climate research of relevance to the Asia-Pacific region. We also maintain strong collaborations with longstanding international partners for much of our research.

11 professors and researchers in Oceanography, Atmospheric Sciences, and Earth Sciences

OUR WORK:
GLOBAL TO LOCAL CLIMATE RESEARCH

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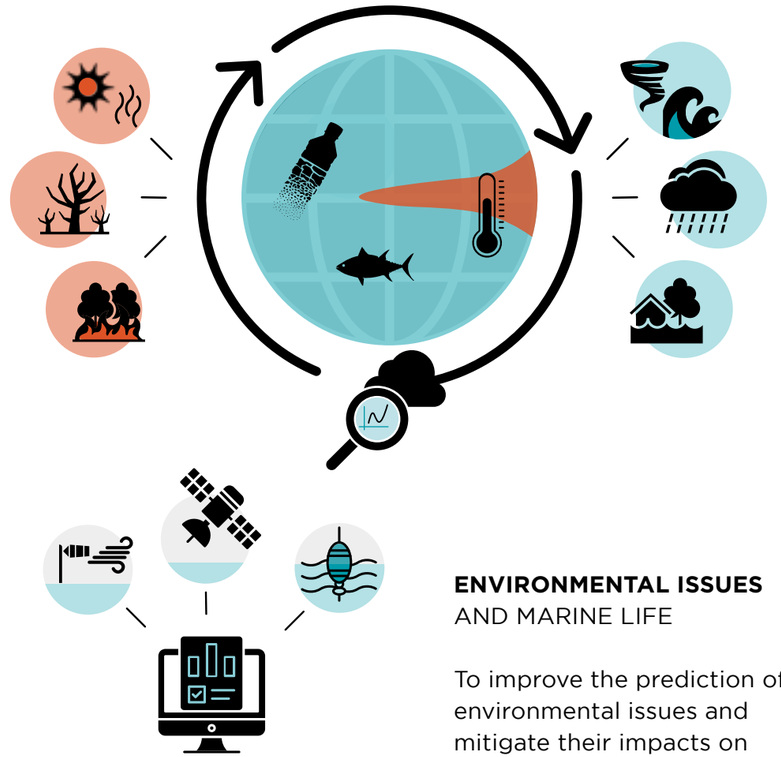
IMPACTS OF THE PACIFIC
ACROSS THE GLOBE:
EL NIÑO

El Niño, a prominent climate phenomenon centered in the Pacific, affects weather and climate extremes across the globe. These include droughts and wildfires in Hawai'i and California, hurricanes and typhoons in the Pacific and Atlantic, as well as heatwaves and cold surges in Asia. We conduct research on the atmospheric and oceanic processes that give rise to El Niño, working to improve its prediction and mitigate its regional impacts.

CLIMATE EXTREMES
AND REGIONAL IMPACTS

Climate extremes – such as hurricanes, wildfires, Kona storms, atmospheric rivers, and droughts – affect communities across the Pacific. Better understanding the origin of these phenomena and improving their predictability are key to our mission. We use cutting-edge techniques, including models with unprecedented granularity, state-of-the-art data science, and AI to provide actionable climate science at the local scale.



CLIMATE DATA
TO INFORM THE REGION:
THE ASIA-PACIFIC DATA-RESEARCH CENTER

Our data center provides critical climate data to researchers and stakeholders across the Pacific and the world, guiding mitigation and adaptation efforts.

MONSOONS
AFFECTING HALF OF THE GLOBAL POPULATION

The life and property of about half of the global population depends on seasonal rainfall of the monsoons. The strength of monsoons vary from year to year, and are linked to El Niño and other climate phenomena. Our research provides insights into the fundamental processes controlling monsoon variations, to provide impactful predictions for communities and stakeholders.

ENVIRONMENTAL ISSUES
AND MARINE LIFE

To improve the prediction of environmental issues and mitigate their impacts on marine life we are monitoring pathways of marine debris, studying the Great Pacific Garbage Patch and its counterparts in other oceans, and investigating the impacts of climate variations on marine life and fisheries.

Produced more than **1,600** peer-reviewed publications

Raised **21** million USD in research funding during the past decade

Design: Esther Gonstalla

INTERNATIONAL PARTNERS

Japan Agency for Marine-Earth Science and Technology (JAMSTEC, Japan), **Tohoku University** (Japan), **University of Tokyo** (Japan), **IBS Center for Climate Physics** (ICCP, South Korea), **Max-Planck-Institute for Meteorology** (MPI-M, Germany), **Laboratory of Space Geophysical and Oceanographic Studies** (LEGOS, France), among others.

CONTACT

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