

1-B. How is it related to the NOAA Strategic Plan?

Strategic planning occurs at all levels of government and academe, unfortunately at differing time scales. The time scale for JIMAR planning is the cooperative agreement cycle (currently five years). Nevertheless, JIMAR themes can be adjusted at other intervals via administrative board action. Historically, JIMAR themes have been defined in fairly broad terms. This has served us well. Additionally, JIMAR themes involve close cooperation between the JIMAR scientists and collaborators in the variety of NOAA units with which we interact.

Our host laboratory is the Pacific Marine Environmental Laboratory (PMEL) within the Office of Oceanic and Atmospheric Research (OAR), but our major partners include the National Marine Fisheries Service (NMFS) and the National Weather Service (NWS). Additionally, we are neighbors of two other OAR units, the Hawaii Sea Grant College Program and the Hawaii Undersea Research Laboratory. Thus, there is constant dialogue upon many fronts.

The current NOAA Strategic Vision was formulated after the latest cooperative agreement was approved. Nevertheless, JIMAR's vision maps nicely into the current Strategic Plan. First, we can compare our efforts to the stated Benefits to the Nation (page 1, New Priorities for the 21st Century). NOAA is "committed to maximizing the benefits of its products and services in terms of improvements to our Nation's:

Environment

Public Safety

Economy"

JIMAR research addresses environment through our efforts in Fisheries Oceanography, Climate, Equatorial Oceanography, Coastal Research, and Tropical Meteorology. Tropical Meteorology, Tsunami Research, and Coastal Research all address public

safety. Each JIMAR theme benefits the economy, though some connections may seem less obvious. Equatorial Oceanography is the historic root of fundamental understanding of the El Nino Southern Oscillation (ENSO), the proper monitoring and prediction that has now been widely-advertised as a national economic benefit.

If we examine the stated strategies which permeate the NOAA plan, we find:

Monitor and Observe

Understand and Describe

Assess and Predict

Engage, Advise and Inform

The first three statements are variations upon the fundamental statement of the scientific method. The University of Hawaii has a rich tradition of interest in Monitoring and Observation. UH established the Indo-Pacific Sea Level Network, collaborated with PMEL in the establishment of the TOGA/TAO array, supports acoustic Doppler current profiling on the R/V Ka'imimoana, and collaborates with PMEL in the ARGO float program. These efforts epitomize traditional values of oceanographic institutions. Likewise, JIMAR's efforts incorporate Understanding and Description and Assessment and Prediction to the degrees appropriate to the themes.

We "engage, advise and inform" through a number of venues. They range from participation in public forums on fisheries management as well as council meetings, state and national committees and boards (Hawaii Hurricane Advisory Committee), special media events (UH press conference on the 2002-2003 El Nino, May 2002), special presentations by the Pacific ENSO Applications Center (PEAC) staff to Pacific region associations and local governmental bodies, to participation in the biennial SOEST Open House. We assist other NOAA offices in these efforts. PEAC is a cooperative venture that includes the NWS Pacific Region. The NWS Honolulu Forecast Office participates in the SOEST Open House.

If we examine the broad mission goals of the Strategic Plan we find:

Ecosystems

Climate

Weather and Water

Commerce and Transportation

Cross-cutting Priorities

The Pelagic Fisheries Research Program (PFRP) is managed by a steering committee composed of NMFS scientists (2), the Western Pacific Fisheries Management Council (2), and UH (2). This committee was appraised of the evolving role of the ecosystems approach to fisheries assessment and management and initiated requests for projects using this approach as well as organized workshops focused on this approach. The recent creation of a Northwest Hawaiian Island reserve by former President Clinton has opened a broad range of ecosystem needs to be addressed for that region. These issues incorporate the interests of NMFS, the Western Pacific Fisheries Management Council, and the State of Hawaii. JIMAR created its sixth theme (Coastal Research) prior to the Clinton action but in anticipation of the increase in interest in coastal ecosystem research interests among NOAA and UH scientists.

Climate and Equatorial Oceanography themes have resided within JIMAR since 1977. The origins were the efforts of Klaus Wyrtki in physical observations and description of ENSO and the efforts of theoreticians such as Dennis Moore (JIMAR Director from 1979-1998) in understanding equatorial ocean dynamics. These efforts were complemented by the atmospheric analyses of James Sadler and Colin Ramage. Efforts persist through research in climate monitoring (UH Sea Level Center, ARGO, TAO), basic processes, prediction, and societal impacts (The Pacific ENSO Applications Center). Additionally, JIMAR assisted in the creation of the International Pacific Research Center, a joint Japan-UH climate research center. NOAA is a major

supporter of this center through the Office of Global Programs and the National Environmental Satellite and Data Information Service (NESDIS).

Tropical Meteorology represents the weather element of JIMAR, established in 1995 with the collocation of the NWS Honolulu Forecasts Office with the UH Department of Meteorology. JIMAR also facilitates research involving UH scientists and scientists at the Hurricane Research Division (HRD) of the Atlantic Oceanic and Meteorological Laboratory (AOML). Two HRD scientists are JIMAR Senior Fellows. Tsunami research preceded the creation of JIMAR and is an element of NOAA's weather and water theme.

JIMAR's efforts also incorporate several of the cross-cutting priorities. JIMAR supports the development of an integrated coastal observing system. One unsuccessful proposal has been developed on this front. Our ocean and atmospheric scientists perpetually contribute to discussions predicated on developing integrated global climate observing systems. Our tradition extends to the development of the ENSO Observing system. JIMAR has supported the development of the Asia-Pacific Data Research Center housed within the International Pacific Research Center.

We have a variety of diverse efforts in environmental literacy, outreach and education. Often our efforts are not uniquely ours but are incorporated within University initiatives such as the Research Experience for Undergraduates or other summer apprenticeship programs. Some specific JIMAR efforts include:

1. The NWS Pacific Region Fellowship Program has funded graduate students in meteorology, oceanography, and geology and geophysics. These students conduct MS (primarily) thesis research in topics of relevance to the NWS mission. A number of these students have graduated and are now NWS employees.

2. Development of the UH fisheries and aquaculture degree program. This initiative originated with the creation of SOEST but was jump-started by an infusion of support from PFRP at the urging of the steering committee.

3. PEAC has an outreach officer (NOAA Corps). PEAC provides training workshops throughout its region of responsibility (US-affiliated Pacific Islands) as well as the broader Pacific basin (World Meteorological Organization [WMO] Regional Association 5 [RA5]).

4. JIMAR staffs the Pacific International Training Desk at the Honolulu WFO. This is similar to desks at the National Centers for Environmental Prediction for Africa and South America. Trainees come from RA5 (see above) and are exposed to modern NWS methodologies and technologies as well as special opportunities provided by the UH/ JIMAR including exposure to PEAC.

JIMAR and UH have always been leaders in international cooperation and collaboration. The history extends back to the International Indian Ocean Expedition (1963-1965) through the Line Islands Experiment (1967), Atlantic Tropical Experiment (1974), Tahiti Shuttle (1978-79), Monsoon Experiment (1978-1979), Tropical Oceans Global Atmosphere Program (TOGA) through the present. The International Pacific Research is a current example of our international collaborations.

Although the words may not be identical, JIMAR's themes are in step with NOAA strategic mission.