Recent scientific advances in climate prediction and the study of the ENSO (El Niño-Southern Oscillation) cycle have enabled scientists to generate ENSO forecasts with significant skill, leading to improved understanding and seasonal weather predictions. However, the social and economic impacts of ENSO are complex and require a comprehensive approach to identify and mitigate risks.

The Pacific ENSO Update provides tailored climate forecasts for the United States-Affiliated Pacific Islands (USAPI). The newsletter offers a "user-friendly" climate summary of expected local climate variability for each island, based on the ENSO cycle, its impacts, and the application of ENSO-based climate forecasts at various lead times. The newsletter also provides a forum to discuss climate-related issues such as water management, property protection, and health issues.

PEAC review and workshops
A comprehensive review of the PEAC program is being conducted by Eileen Shea of the West-East Center. The objectives of the review are:
- Assess the effectiveness of PEAC’s approach to establishing and sustaining an interactive process of working among scientists, forecasters, and users.
- Identify critical information gaps and areas where future climate research should be conducted.

Research
Sea level variability and predictability
Currently, PEAC is studying the correlation between ENSO indices and sea level variability. The goal is to provide forecasts of sea level variability in the USAPI.

Rainfall forecast modeling
Research in rainfall forecast modeling led to the development of the Pacific-Ensemble Correlation Analysis Forecast Model (Yu et al.). This model uses sea surface temperatures (SSTs) in the Pacific Ocean as predictors to forecast the seasonal rainfall variability in the major USAPI islands. The model helps in understanding how changes in SSTs influence rainfall patterns.

Fisheries
Anecdotal evidence indicates that ENSO events have an impact on economic fish distribution in the USAPI. PEAC research has shown a correlation between ENSO events and the migration and species mix of economic fish in the region.

Cyclone research
The location of tropical cyclone activity is strongly affected by the ENSO state. PEAC research investigates the effects of ENSO on hurricane distribution, sea level, and rainfall in the USAPI.

References

PEAC: the Pacific ENSO Applications Center
PEAC is a collaborative effort between the United States government (NOAA-NVS), academic research institutions with regional expertise (University of Hawaii and University of Guam), and a regional association of Pacific island jurisdictions (Pacific Basin Development Council, which includes the governments of Hawaii, Guam, American Samoa, and CNMI) to provide climate information for the USAPI and its surrounding region.