

# **Integrated Climate Information System: Lessons Learned and Future Plans**

*Jim Weyman*

*Director, RSMC Honolulu Hawaii*

*Director, Pacific ENSO Application Center*

*Chairperson, WMO RA V WG on Climate*

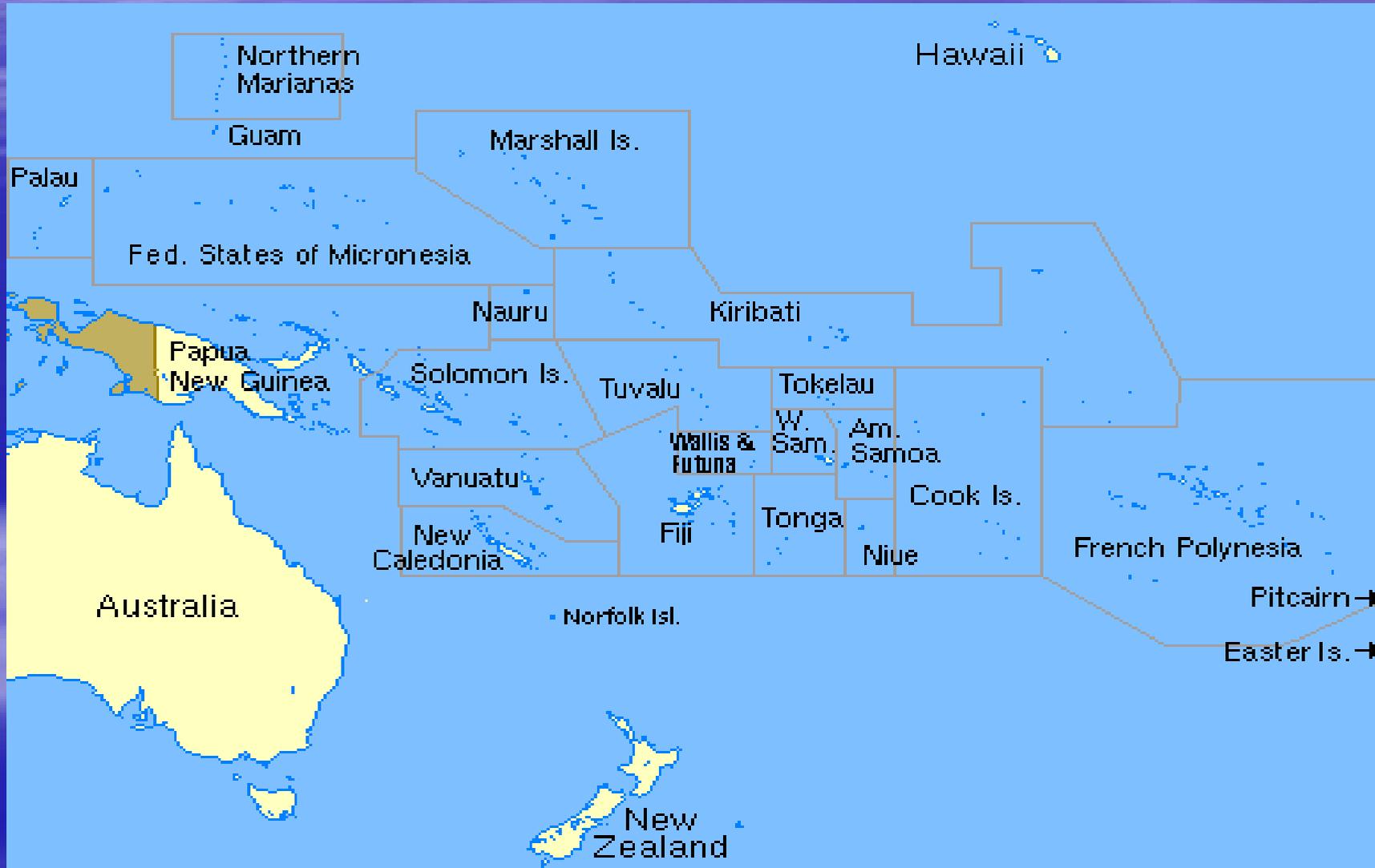
# Climate – International Stage

- “Climate Change is threatening to frustrate poverty eradication efforts and making the prospect of meeting the Development Millennium goals less certain.” President of Kenya
- Global climate change must take its place alongside the threats of conflict, poverty, and proliferation of deadly weapons that have traditionally monopolized first-order attention.” Kofi Annan, former UN Secretary-General

# Overview

- Linking National, Regional, and International Activities
- Integrated climate information system concept
- US Pacific Climate Information System (PaCIS)
- PaCIS as US contribution to WMO Pacific Oceanic Regional Climate Centre (RCC)

# Climate Forecasting in the Pacific Region



# WMO RA V Climate Survey

- November 2004, WMO RA V Task Team on Regional Climate Centre Services Surveyed WMO RA V Members
- Survey Results Used With 2001 Pacific Needs Analysis and 2002 PI-GCOS Action Plan

# Roles of NMHSs and RCC

- Overall
  - RCC: Broad Regional Interest Items
  - NMHSs: Tailoring, Local Products, Interact with National and Local Users
- Operational Activities for RCC:
  - Interpret and Assess Global Products
  - Regional Climate Analysis and Monitoring
  - Provision of Regional Climate Advisories

# Roles of NMHSs and RCC

- Coordination Functions by RCC
  - Facilitate Use of Multiple Models/Products
  - Assist Harmonizing of Regional/Local Products
  - Assist Introduction of Climate Into EWS/DPP
- Data Services from RCC
  - Assist in Rescue of Data
  - Assist in Data Management and Software
  - Advise on Data Quality Management

# Roles of NMHSs and RCC

- Training and Capacity Building by RCC
  - Train NMHSs Staff in Seasonal Forecasting
  - Identify Decision Models (Probabilities)
  - Training in Outreach/Education for Society to Assess Impacts/Adaptation and to Transform
- Research and Development by RCC
  - Regional Climate Variability and Predictability
  - Combined Use of Products from Multi-Sources
  - Climate Impacts and Economic Value

# **Pacific ENSO Application Center (PEAC)**

## **Lessons Learned: Climate Information Services**

- ***Focus on Integrated Climate-Society System***
- ***Decision-Makers Interested in Information on a Continuum of Timescales***
- ***Early and Continuous Partnership with Users Essential: “Eyeball to Eyeball”***
  - *Shared Learning and Joint Problem-Solving*
  - *Building Trust and Credibility a Long-Term Endeavor*

# Lessons Learned for Climate Information Services

- ***Collaborative, Participatory Process with Users:***
  - *Continuous, Interactive Dialogue*
- ***Problem-Focused Approach:***
  - *Understand Place, Context, History and Decision Making Process;*
  - *Useful and Usable Information Responsive to User*
  - **Climate Information System vs. Event Forecasting (Continuum of Timescales)**

# Lessons Learned for Climate Information Services

- ***Address Both Process and Products:***
  - *Integrated Observations, Monitoring, Forecasting, Assessment, Education and Applications – with Continuous Evaluation and Adjustment*
- ***Build on Existing Systems, Institutions, Relationships and Networks:***
  - *Partnerships Between Science and Operations*

# Evolution of a US Pacific Climate Information System

- *Pacific Regional Meteorological Service Directors (1999) -- General Agreement on PaCIS Vision, Goal and Objectives*
- *Discussions Among Likely Partners:*
  - *Initiation of Monthly Forecast Calls*
  - *Planning for WMO RA V Regional Climate Centre*
- *US NWS Climate Services Division Activities*
- *PEAC Lessons Learned*
- *Related Regional Activities:*
  - *PI-GCOS*
  - *NOAA IDEA Center (in Hawaii)*
  - *International Activities*

# PaCIS Vision

***Resilient and Sustainable  
Pacific Communities Using  
Climate Information to Manage  
Risks and Support Practical  
Decision-Making in the Context  
of Climate Variability and  
Change.***

# PaCIS Mission

- *Clarify Climate Information Needs to Guide Monitoring, Research, Forecasting and Assessment*
- *Provide Access to Critical Data, Research and New Climate Information products and services*
- *Translate Research and Assessment Results into Useful and Usable Climate Information*

# PaCIS Mission

- *Interpret Global and Regional Climate Forecasts for Local Applications*
- *Enhance Regional and Local Capabilities to Manage Risks and Support Sustainable Development in the Context of Climate Variability and Change*
- *Enhance Collaboration Among National, Regional and International Institutions and Programs*

# PaCIS Program Elements

- ***Education, Outreach and User Needs:***
  - *User Dialogue and Feedback*
  - *Educational/Outreach Materials*
  - *US Weather Offices as Local Experts/Coordinators in Partnership with Experts in Key Sectors*
  
- ***Operational Products and Services:***
  - *Develop and Evaluate PaCIS Services (Testbed)*
  - *Cross-Regional Coordination*
  - *Support Regional Observations and Data Management Systems (e.g., PI-GCOS, PI-GOOS, CLIMSOFT)*

# PaCIS Program Elements

- ***Research and Assessment to Enhance Resilience:***
  - *Regional Downscaling/Local Applications*
  - *Enhanced Understanding of Nature/Consequences of Climate Variability and Change with Focus on Extreme Events*
  - *Support for Regional Vulnerability Assessment and Adaptation Programs*

# Emergence of PaCIS: Next Steps and Timeline

- *Prepare Draft Action Plan (Feb 2007)*
- *Convene Regional Steering Committee and Working Groups (Summer 2007)*
  - *Education, Outreach, User Needs*
  - *Operational Products and Services*
  - *Research and Assessment*
- *Steering Committee and Working Groups Complete Initial Action Plan (Fall 2007)*
  - *Living Document with Routine Evaluation and Revision*
- *US Contribution to WMO RA V RCC*

# Sustainable Development



Observations, science & information services

Engagement  
Empowerment

Individual, Institutional,  
Community Capacity Building

Education  
& Training  
Equipment  
(tools & technology)