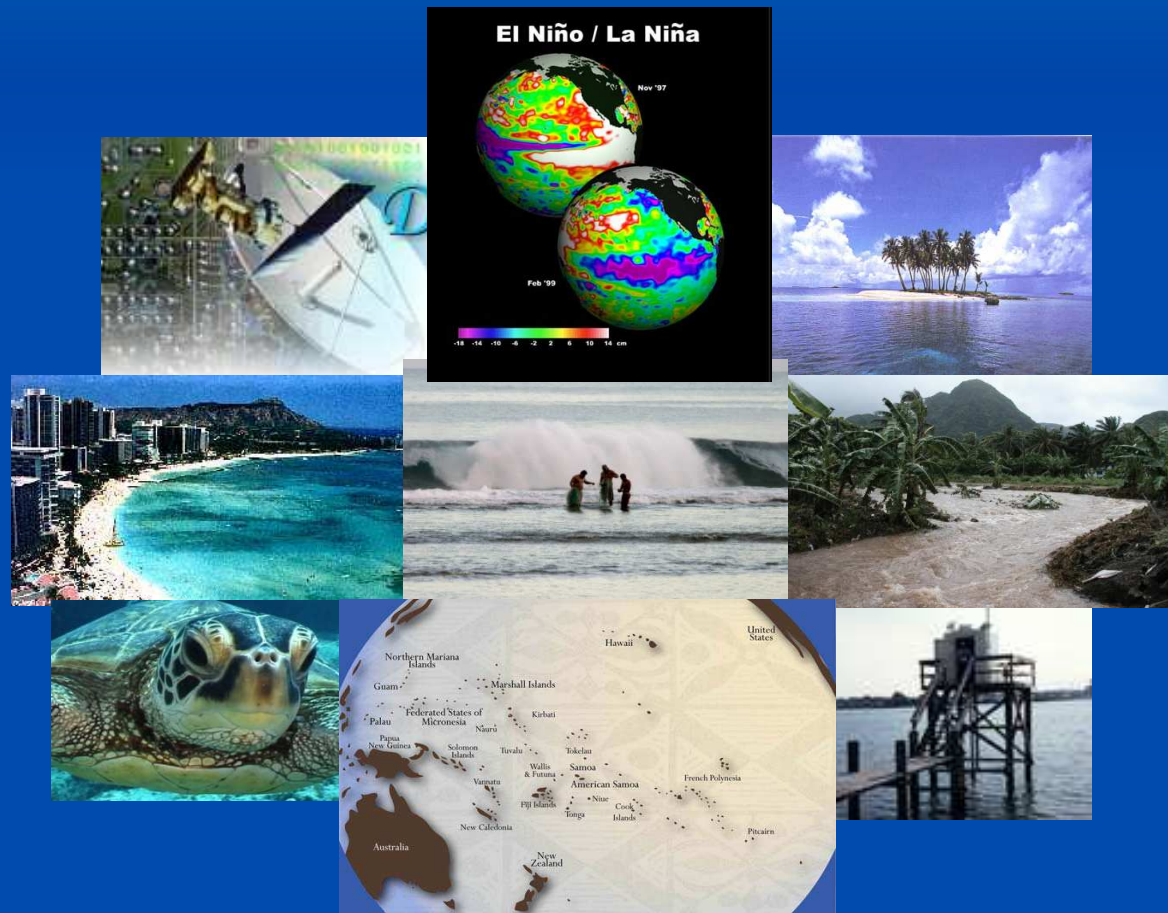


USA National Presentation on Pacific Climate Services



Presented by Howard Diamond, NOAA/National Climatic Data Center
Director, World Data Center for Meteorology



RA-V Regional Seminar on Climate Services – Pacific Climate Services (USA)

Honiara, Solomon, Islands 1-4 November 2011

PaCIS

The Pacific Climate Information System (PaCIS) provides a programmatic framework to bring together climate observations, operational forecasting services and climate projections, research, assessment, data management, outreach, and education – an integrated system of climate services – to address the needs of the Pacific Islands. It provides a forum for sharing the expertise, experience, and perspective needed to guide integrated program planning and product development.



VISION: Resilient and sustainable communities using climate information to manage risks and support practical decision-making in the context of climate variability and change.

Focus Areas and Core Capabilities

Transportation and Energy

Tourism and Recreation

Public Safety and Health

Fisheries and Agriculture

Focus Areas

Freshwater Resources and Drought

Community Resilience to SLR, Inundation and Extreme Weather

Marine, Freshwater, and Terrestrial Ecosystems

Core Capabilities

Education, Outreach, and User Information Needs

- Outreach
- Education
- Training and Capacity Building

Operational Climate Observations, Products and Services

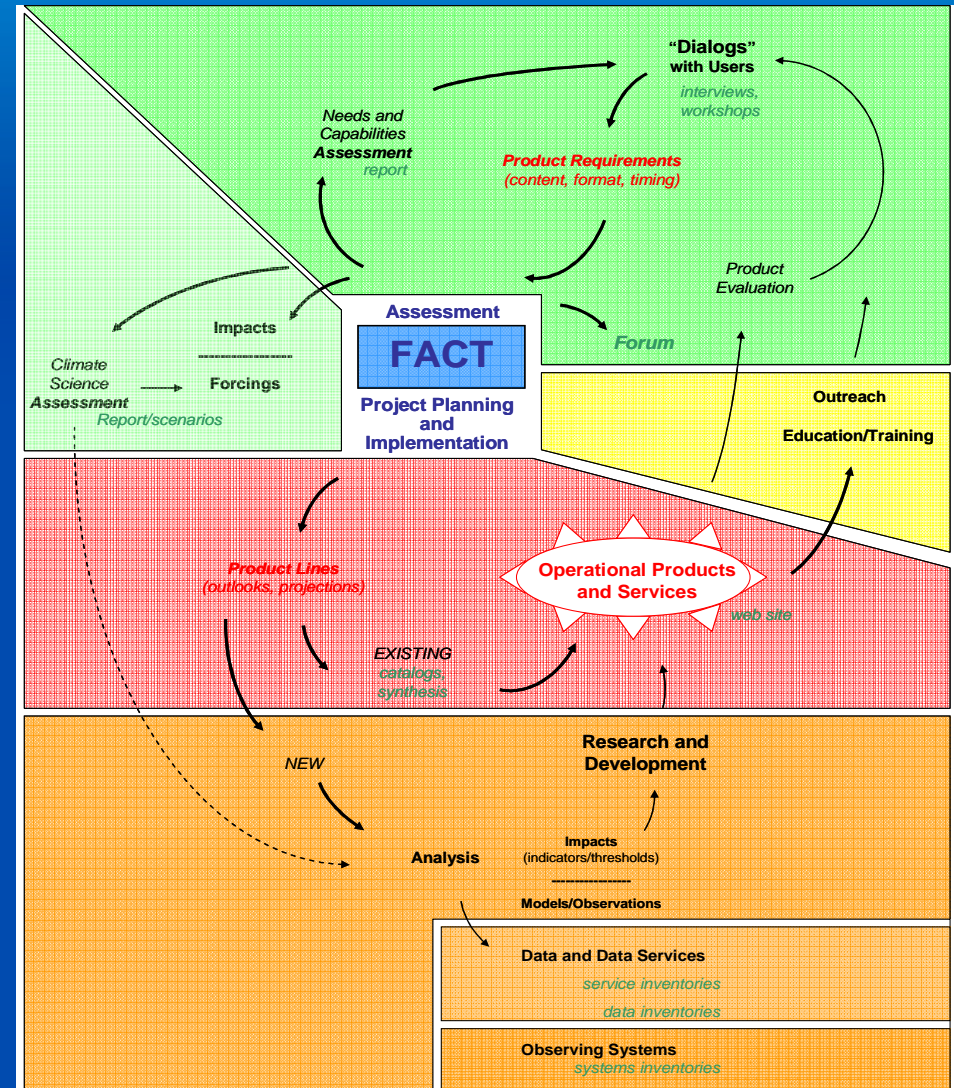
- Observing Systems, Data Stewardship, Data Services
- Climate Variability and Change
- Climate Impacts and Adaptation

Research and Assessment

- Climate Variability and Change
- Climate Impacts and Adaptation
- Assessment and Evaluation

Action Areas

- I. Building a Network of Networks
- II. Conducting Assessments as a Sustained Process
- III. Assembling and Advancing Core Capabilities to Develop and Deliver Products and Services Focused on Regional Issues



Priority Actions

I. Building a Network of Networks

- Modified PaCIS Terms of Reference, Formation of an Executive Council and FACTs

II. Conducting Assessments as a Sustained Process

- A series of focus area climate science consensus dialogs or workshops;
- A regional **science synthesis report including scenarios** for each ECV for each sub-region.
- A **climate impacts forum** that brings together the diverse science service, and user communities that make up the PaCIS network to engage in a process of collaborative dialog.
- A regional impacts synthesis report consisting of an evaluation of climate impacts, as well as needs and capabilities, by focus area and/or sector for each sub-region.

III. Assembling and Advancing Core Capabilities to Develop and Deliver Products and Services Focused on Regional Issues

- A regional **web portal** that provides access to a broad range of information
- A web-based inventory of/guide to existing regional data by ECV, and station/platform type (i.e., in-situ versus remotely-sensed).
- A survey and assessment of regional observing assets by ECV with an initial focus on rainfall and sea level.
- Regional plans for the collection, management, recovery, and delivery of 'climate quality' data with an initial focus on rainfall and sea level.

Priority Actions

III. Assembling and Advancing Core Capabilities to Develop and Deliver Products and Services Focused on Regional Issues (continued)

- A **web-based climatology atlas** that integrates existing products describing historical ‘norms and storms’ of ECV’s such as air temperature, rainfall, and sea level.
- A web-based **catalog of existing regional seasonal outlooks** and multi-decadal projections by ECV and/or focus area with an initial emphasis on rainfall, sea level, and sea surface temperature.
- A **synthesis of regional operational outlooks and scenarios** leading to the development of **applications guidance** with an initial emphasis on rainfall, sea level, and sea surface temperature.
- **New enhanced outlooks** that target sub-regions and/or specific sectors.
- Support for **climate model down-scaling and coupled climate models** towards the creation of a regional model ‘test bed’.
- **Identification of data that is ecologically and socially relevant** with respect to diagnosing ‘climate sensitivity’ (i.e., so-called **indicators and thresholds**).
- A **web-based catalog of issue-related regional products**, including climate change **visualization and decision-support tools** that can be used to assess impacts and evaluate adaptation options.
- **Climate-related training** that includes **regionally-relevant and regionally-requested content**, as well as content that supports effective K-12 and Higher Education and informal education and outreach activities.

Pacific RISA

Goal: To integrate flexible processes for building adaptive capacity to climate variability and change in diverse island settings.

Main objectives:

- Assess risk and vulnerabilities and develop adaptation strategies (place-based)
- Support the implementation of adaptation strategies for PI communities
- Evaluate adaptation plans and policymaking in the Pacific region



Focus Area

Freshwater
Resources and
Drought

PRiMO



Enhancing Community Resilience To Hazards Through Collaboration

The Pacific Risk Management 'Ohana (PRiMO) is a coalition of organizations with a role in hazard risk management in the Pacific region. The agencies, institutions, and companies that comprise PRiMO recognize the value of collective action and are committed to enhancing cooperation, coordination, and collaboration to strengthen and sustain hazard resilient communities.

Focus Area

Community Resilience to SLR, Inundation and Extreme Weather

2012 Pacific Partners Meeting
March 2012 - Honolulu, HI

PICCC

Pacific Islands Climate Change Cooperative



The PICCC provides a range of scientific and technical tools to help managers in Hawai'i, the Mariana Islands, American Samoa, and other Pacific Island groups make informed decisions for landscape-scale conservation of natural and cultural resources including climate models at the archipelagic and island scales, ecological response models, and implementation and monitoring strategies for island species, resources, and communities. Our goal is to help managers reach explicit biocultural conservation objectives in the face of climate change and ongoing threats such as fire, land conservation, and invasive species.

Focus Area

Marine,
Freshwater, and
Terrestrial
Ecosystems

The Way Forward

Achieving the desired outcomes will require adequate fiscal and dedicated human resources. Leads for the multiple and complex actions that need to be carried out will vary depending on respective agency, institution, and organization mission, interests, expertise. Effective coordination of activities among partners and stakeholders that includes a **harmonization of portfolios is required.**

| Core Capability | NOAA | | | | | Other Federal Agencies | Academic Institutions | International | Private Sector | NGO's |
|--|----------|----------|----------|----------|----------|------------------------|-----------------------|---------------|----------------|----------|
| | NESDIS | NWS | OAR | NOS | NMFS | | | | | |
| Outreach | Low | Low | High | Low | Low | Low | Low | Low | Low | Low |
| Education | Low | Low | High | High | Low | Low | High | Low | Low | Low |
| Training and Capacity Building | Low | High | Moderate | High | Low | High | Low | Low | Moderate | Moderate |
| Observing Systems, Data Stewardship and Data Services | High | Low | Low | Moderate | Low | High | Moderate | High | Moderate | Low |
| Climate Variability and Change Operational Products and Services | Moderate | High | Low | Moderate | Low | Moderate | Low | Moderate | High | Low |
| Historical Observations | Low | High | Low | Moderate | Low | Moderate | Low | Moderate | High | Low |
| Projections | Low | Low | Low | Low | Low | Moderate | Low | Moderate | High | Low |
| Research and Development | High | Moderate | High | Low | Low | Moderate | High | High | Moderate | Low |
| Historical Observations | High | Moderate | High | Low | Low | Moderate | High | High | Moderate | Low |
| Projections | High | Moderate | High | Low | Low | Moderate | High | High | Moderate | Low |
| Climate Impacts and Adaptation | High | Low | Low | High | Low | High | High | Moderate | High | High |
| Climate Impacts | Low | Moderate | Low | High | Low | High | High | Moderate | High | High |
| Historical Observations | Low | Moderate | Low | High | Low | High | High | Moderate | High | High |
| Projections | Low | Moderate | Low | High | Low | High | High | Moderate | High | High |
| Climate Adaptation | Low | Low | Moderate | High | Moderate | Moderate | Moderate | High | High | High |
| Assessment and Evaluation | High | Moderate | High | Moderate | Moderate | Moderate | Moderate | Moderate | Low | Low |



Take Away Message for PaCIS

The U.S. wants to work with all of our partners in the Pacific towards implementing climate services that will benefit the entire region

We believe that the various efforts going on (e.g., PCCSP, the work done by New Zealand, etc.) should be harmonized in order to improve the efficiency and effectiveness of what is done.

Resources are scarce, and so we should synergize our activities in order to make them work well together

For example, a regional and ***Integrated Water Level Service*** to monitor sea level in region is being discussed between folks in Hawaii as well as at the Australian Bureau of Meteorology

Efforts such as these feed into a Regional Climate Center concept that RA-V can benefit from

NOAA Is Vital to the American Economy

A third of the GDP (\$4 trillion) is reliant on accurate weather and climate information

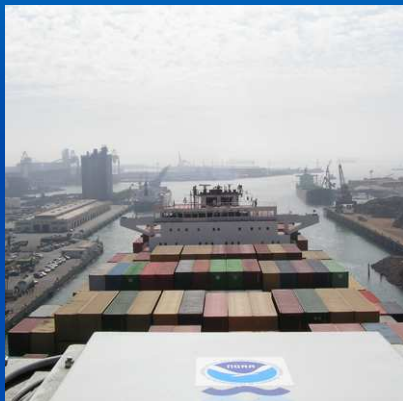
Example of NOAA's role:

NOAA provides weather, water, and climate forecasts and warnings for the private and public sectors. Annually, from its 90 observing systems NOAA provides **76 billion observations, 1.5 million forecasts, and 50,000 warnings**



NOAA's climate services provides economic benefits of \$300 million per year in a new air freezing index estimated by the home builders association.

The Rising Demand for Climate Services



Commerce



Coasts



Recreation



Ecosystems



Hydropower



Farming



Wind Energy



Private Sector

Federal Regional Climate Service Enterprise

Connecting Science, Services and People

State and Local Engagement, Education & Service Delivery

- Weather Forecast Offices
- Sea Grant Education & Extension
- Marine Sanctuaries, Monuments & Estuarine Reserves
- River Forecast Centers
- Data Centers
- DOC Commerce Connect (in development)
- Other agencies (e.g., National Science Foundation, Dept. of Education, Health & Human Services, Dept. of Energy, Dept of Interior, Dept of Agriculture)
- Dept. of Agriculture Extension
- State Climatologists
- Federal Protect Area Programs
- USGCRP Climate Literacy Programs
- Etc...

Regional Climate Services Partnerships

- NOAA Regional Climate Service Programs
- Weather Service Regions
- Regional Climate Centers
- Coastal Services Center
- River Forecast Centers
- Regional Collaboration Teams
- Data Centers
- Relevant Regional Offices from other agencies (e.g., Environmental Protection Agency, Dept. of Agriculture, Dept. of Interior, Health and Human Services, Dept. of Transportation, Dept of Energy, etc.)

Regional Climate Science

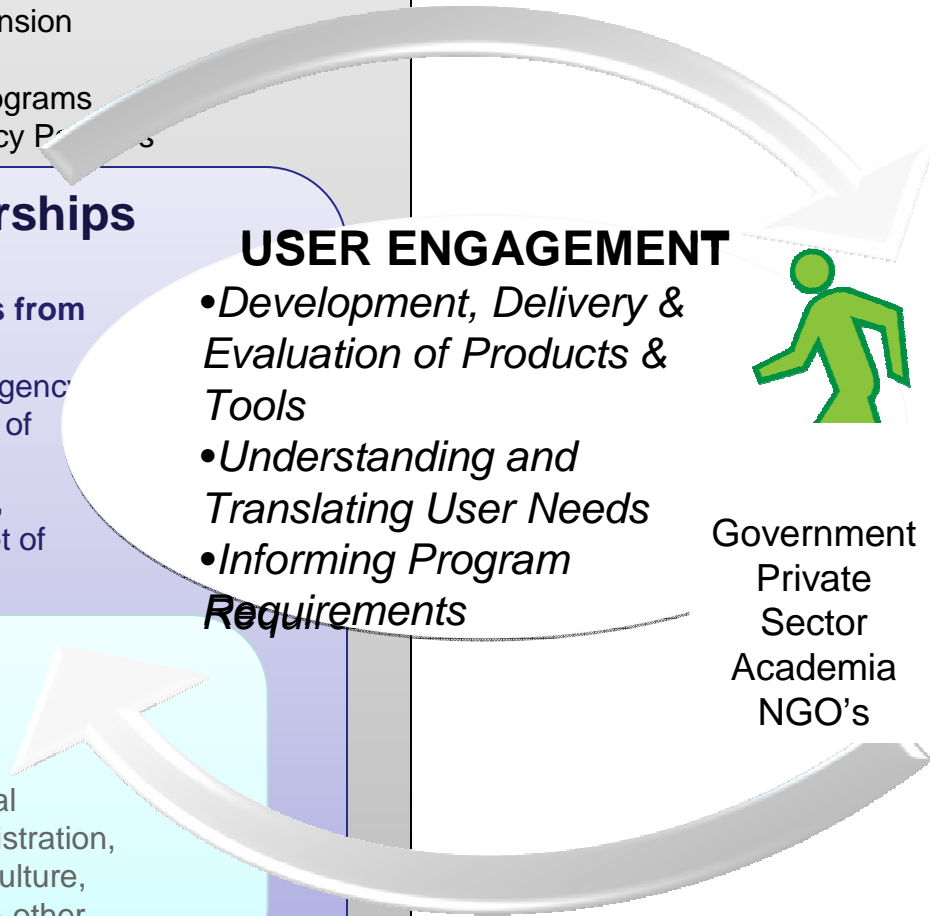
- Regional Integrated Science & Assessments (RISA)
- NOAA Labs
- Sea Grant
- Cooperative Institutes
- Applied Research Centers
- Data Centers
- Other agencies (e.g., National Aeronautics and Space Administration, Dept. of Interior, Dept. of Agriculture, National Science Foundation & other USGCRP agencies)
- Etc...

USER ENGAGEMENT

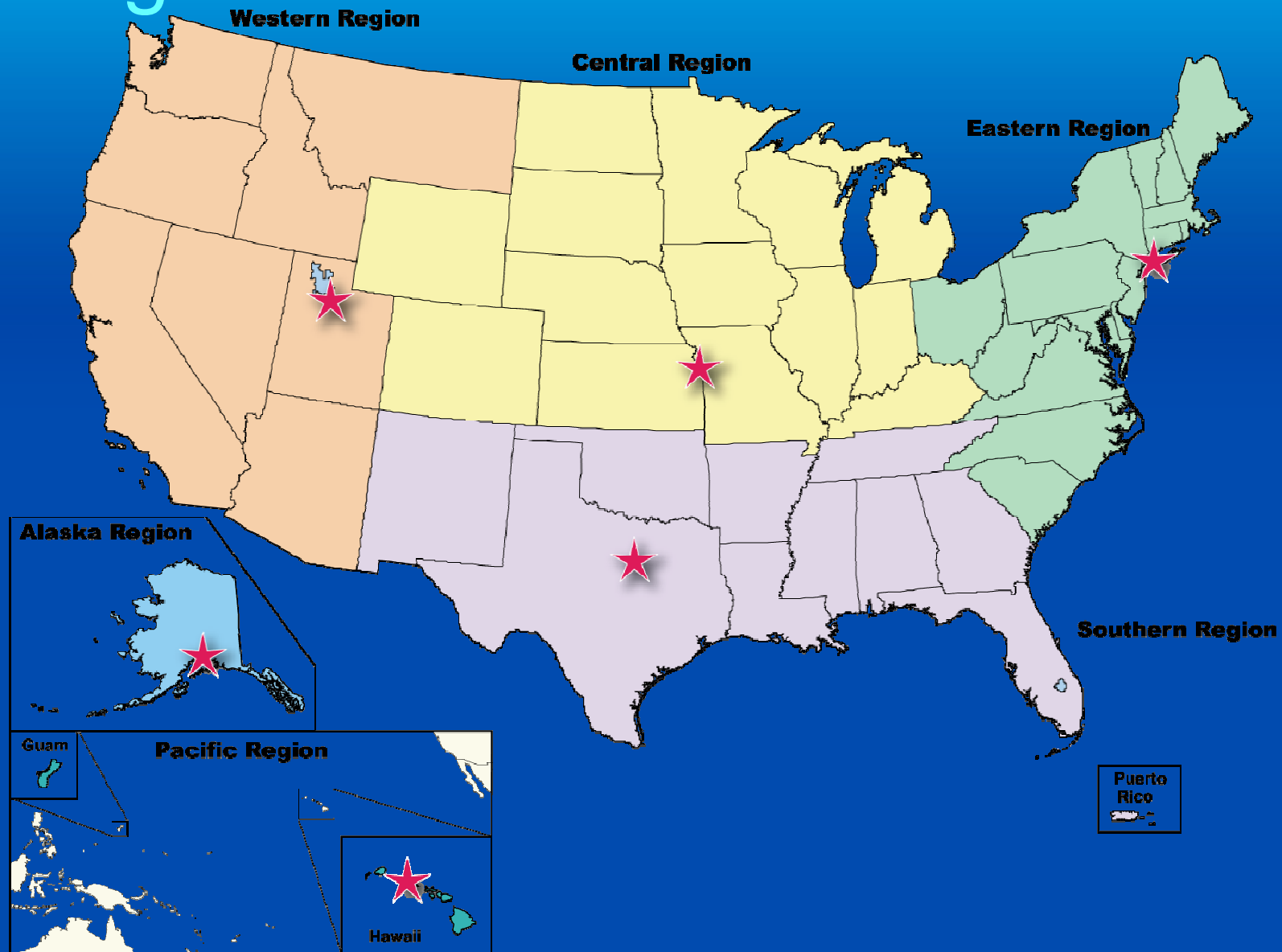
- Development, Delivery & Evaluation of Products & Tools
- Understanding and Translating User Needs
- Informing Program Requirements



Government
Private
Sector
Academia
NGO's



Regional Climate Service Directors



Thank you! Any Questions?

My thanks to Dr. John Marra, NOAA's Pacific Climate Services Regional Director and Executive Director of PaCIS

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Howard J. Diamond,

Program Manager, U.S. GCOS and NOAA IPRC

[\[http://www.ncdc.noaa.gov/oa/usgcoss/index.htm\]](http://www.ncdc.noaa.gov/oa/usgcoss/index.htm)

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[\[http://www.ncdc.noaa.gov/oa/wdc/\]](http://www.ncdc.noaa.gov/oa/wdc/)

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