

Integrated Pacific Coastal Climatology
Data and Information Products
Expert Team Planning Workshop

Summary and Next Steps Forward

Heavy Rain Report-Out

David Levinson

Nicole Colasacco

Nezette Rydell

Mark Lander

Annette Hollingshead

Pao-Shin Chu

Geographic Foci

- Initial focus regions:
 - Hawaii
 - Alaska
 - Tropical Pacific:
 - Guam, CNMI, FSM, Palau, Marshalls, etc.
 - American Samoa
- Expand beyond as resources permit

Most common user requests

- Extreme event return periods
 - Rain/Drought
 - Wind
 - Typhoons/TCs
 - Erosion and landslides
 - Sediment runoff and coral reef impacts
- ENSO related products:
 - Historic impacts
 - Long-lead rainfall outlooks (1-2 years out!)

Users (cont.)

- Identify Users:
 - Leverage existing needs assessments
- Partition by level of sophistication:
 - Some user groups fall into multiple categories
 - High-end technical:
 - Public/Academic/Federal
 - USDA, University, etc.
 - Private:
 - Engineers, public utilities managers, large-scale contractors, etc.
 - Moderate-end Technical:
 - Fire weather support, emergency management, farmers
 - Low-end Technical:
 - Insurance agencies, tourism, concert/event promoters, farmers.

Product Line - General

Hawaiian Datasets:

- HSCO tabulated data (CDMP data rescue Pineapple Res. Inst.)
 - 1800's to 1970s/1980s and even more recent (fewer stations)
 - HARP data early 90's
 - SPD and hourly data
- NWS
 - HYDRONET
 - COOP/1st order
- Micronesian Data (Chip Guard)
 - Tabulated Daily/Monthly data early 20th cent.
 - Typhoon measurements (a few)
- Accounting for Extreme Events:
 - Missing Typhoon Rainfall (W. Pac)
 - “Special” Data (3 yrs USGS sponsored data in Pohnpei, etc.)

Near-Term Data/Products

- NWS COOP and 1st Order Stations:
 - Need to improve number of NRT and available stations
 - Development of baseline precip and extremes climatologies
- NWS HYDRONET
 - Highest potential for short-term product
 - 15 min back 1994
 - Daily data for some stations back 1979
 - Issues to be addressed:
 - Verification and “coarse” QC
 - Combine NRT with Wind Data to support gridded QPF and climatology

Near Term Data/Products (cont.)

- Remote Sensing Datasets:
 - Despite obvious systematic and resolution issues!
- NEXRAD:
 - HPD and Storm Total Precip (watershed scale)
- Satellite:
 - CAMS_OPI
 - TRMM

Diagnostic vs. Prognostic

- Conditional Climatologies based on ENSO
 - Climate Services Composite 3-Month Outlook
 - Rainfall Atlas for Pacific Islands Update
- Suite of Dynamic and Statistical Models
 - Users need more than 3 month (seasonal) lead
 - UKMET, ECMWF, CPC, etc.

PRIDE 05

Hawaii Extreme Rainfall Events

- P.S. Chu (PI)
- Based on NWS COOP Stations
 - Daily Data
 - Applied different thresholds and methods for determining Heavy Rainfall
- Potential Users:
 - Local/State planners and decision makers
 - Eg., Insurance Companies (vulnerability assessment)
- Primary Short-term Need:
 - Blend State Data with COOP data
 - Improve spatial coverage and data reliability

Potential Data Rescue

QC and Updates

- CDMP:
 - Hawaii State Data

- West Pac
 - Guam WFO

Issues of Concern/Follow-up

- Data Quality and Calibration
 - More effort to maintain/calibrate rain gauges
 - Especially important for “extreme” events
 - Localized convective events
- Historical Datasets:
 - QC/QA efforts to extract “good” from “bad” periods within the record (fix
- Delayed Mode Problem must be fixed:
 - 3-6 month delay in hourly data
 - SPD record from NCDC
 - COOP data 3-6 month delays

Products & Near-term Action Items

- Rain Gauge/Instrumentation Maintenance and Calibration:
 - NWS-PRH / U of Guam for West Pac
- Reporting and Archiving (NWS/NCDC):
 - Update requirements for reporting
 - Set up a general system for archiving “developing” stations (ad hoc sites)
 - Insuring that there is support for these activities
- QC and Data Rescue (NCDC):
 - CDMP digitization
 - CMB/CAB for digitized COOP and 1st order

Aloha and Mahalo

