



# NOAA SATELLITE CONFERENCE

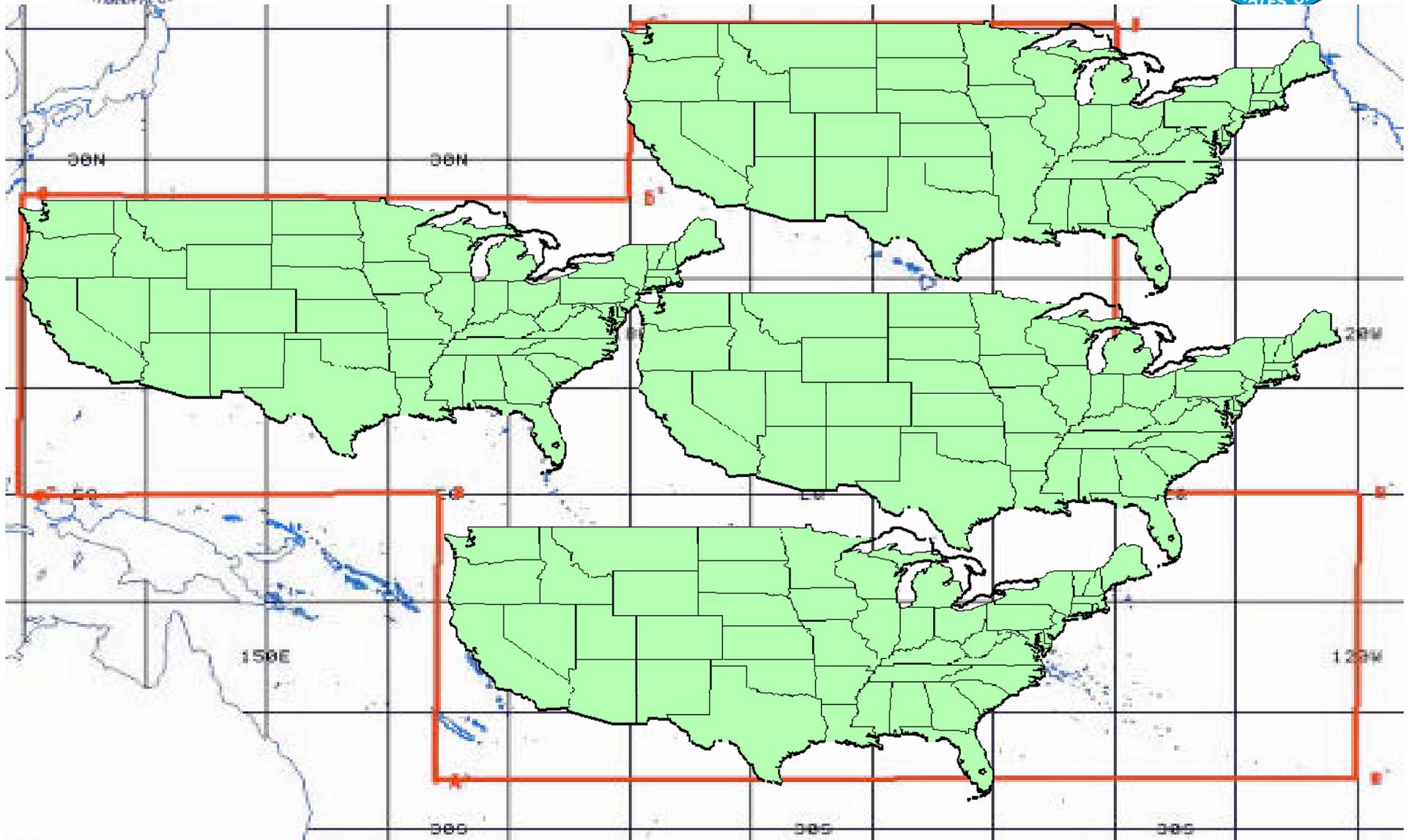


## Pacific Region's Satellite Products, Programs and Requirements

Pacific Region Headquarters  
Honolulu, Hawaii  
April 2013



# Area of Responsibility





# Area of Responsibility



- Pacific Region
  - covering > 30 million square miles
    - 2 Weather Forecast Offices
    - 6 Weather Service Offices
    - 2 Data Collection Offices
    - Central Pacific Hurricane Center
    - Pacific Tsunami Warning Center
    - International Tsunami Information Center



# PR Observing Program



- NWS PR supports numerous islands, such as Hawaii, American Samoa, Guam, CNMI, and Micronesia
  - Satellite Ground Stations (including L/X-band antenna)
  - Surface and upper air in-situ observations
  - GPS Sensors
- These provide:
  - Invaluable assistance for our Watch, Warning and Advisory programs
  - Verification
  - Support for our daily forecast services



# PR Observing Program



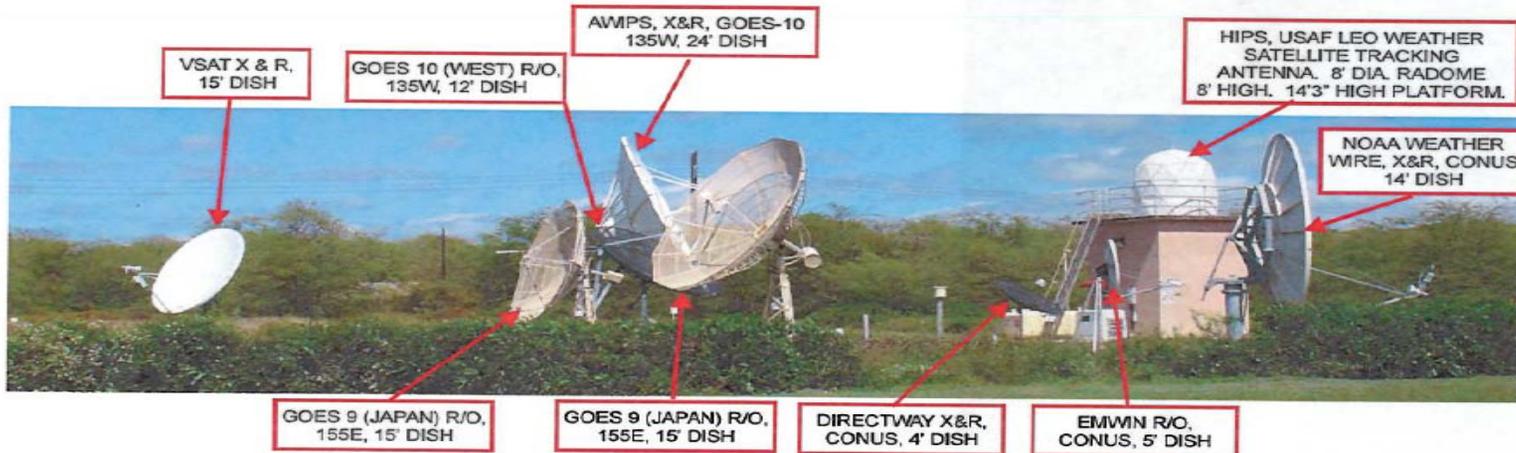
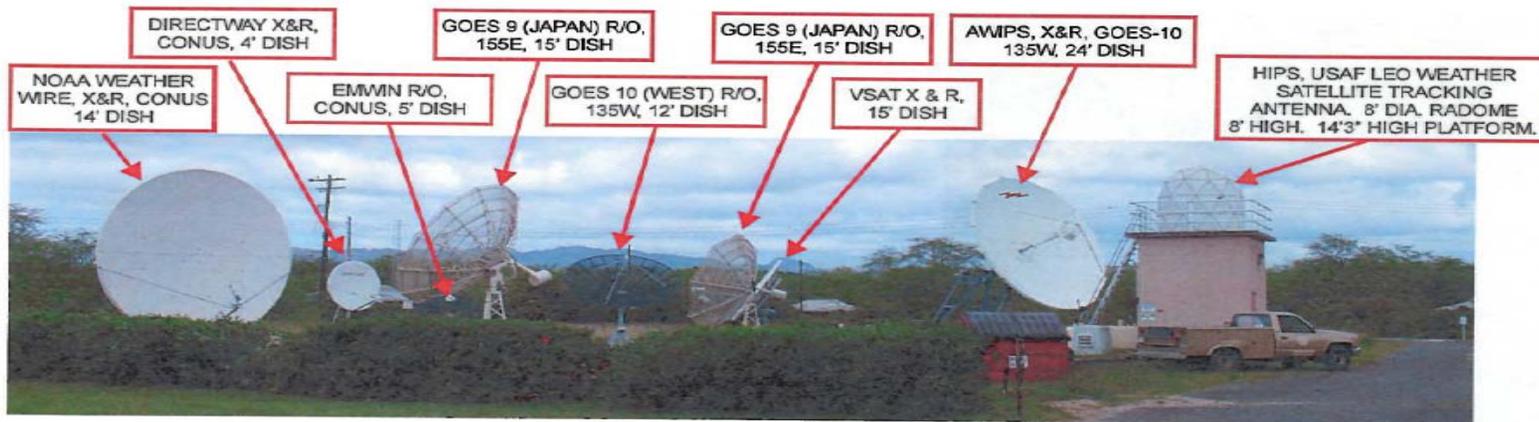
- Challenges
  - Communications and infrastructure
  - Limited resources for operations and maintenance
  - Highly corrosive environments
  - Time to travel to remote destinations (limited air and boat service)
  - High costs for equipment, contracts, travel and shipping
  - Limited personnel



# Satellite Ground Stations



PACIFIC TSUNAMI WARNING CENTER SATELLITE ANTENNAS

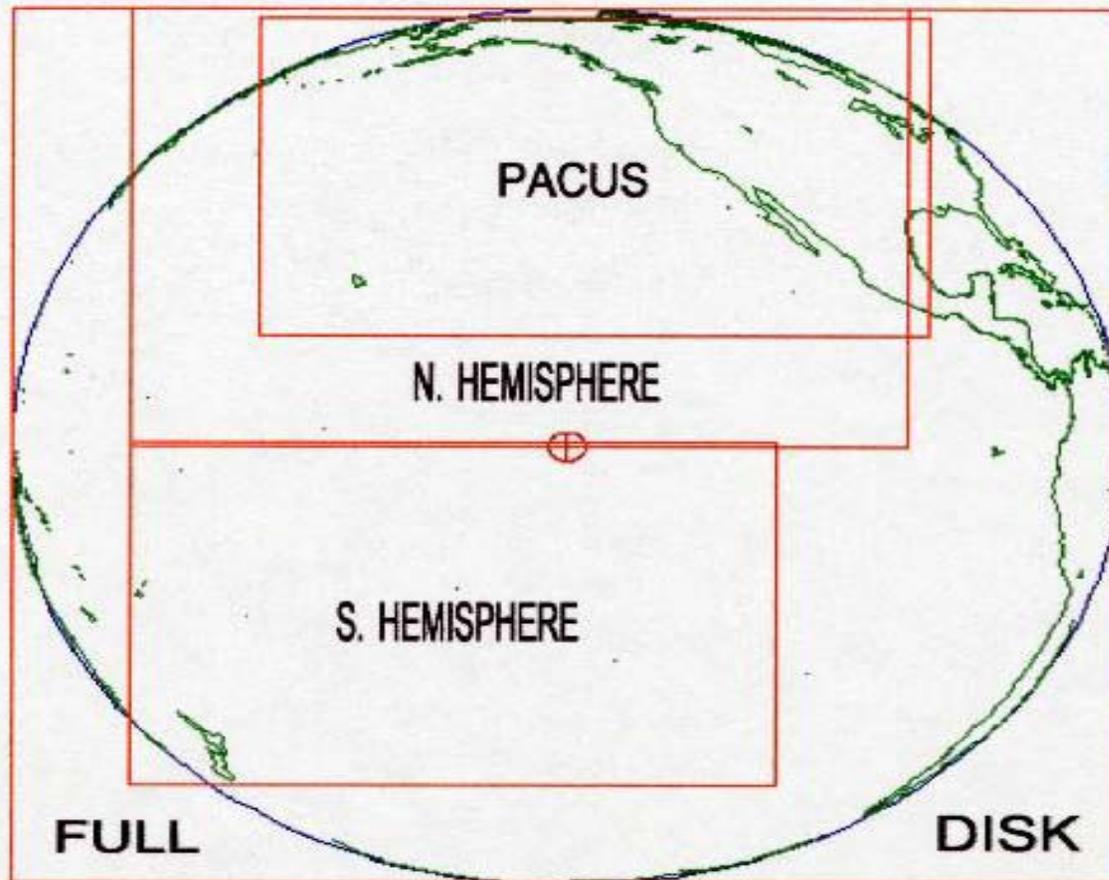




# GOES-W Footprint



GOES WEST IMAGER ROUTINE SCHEDULE SCANS

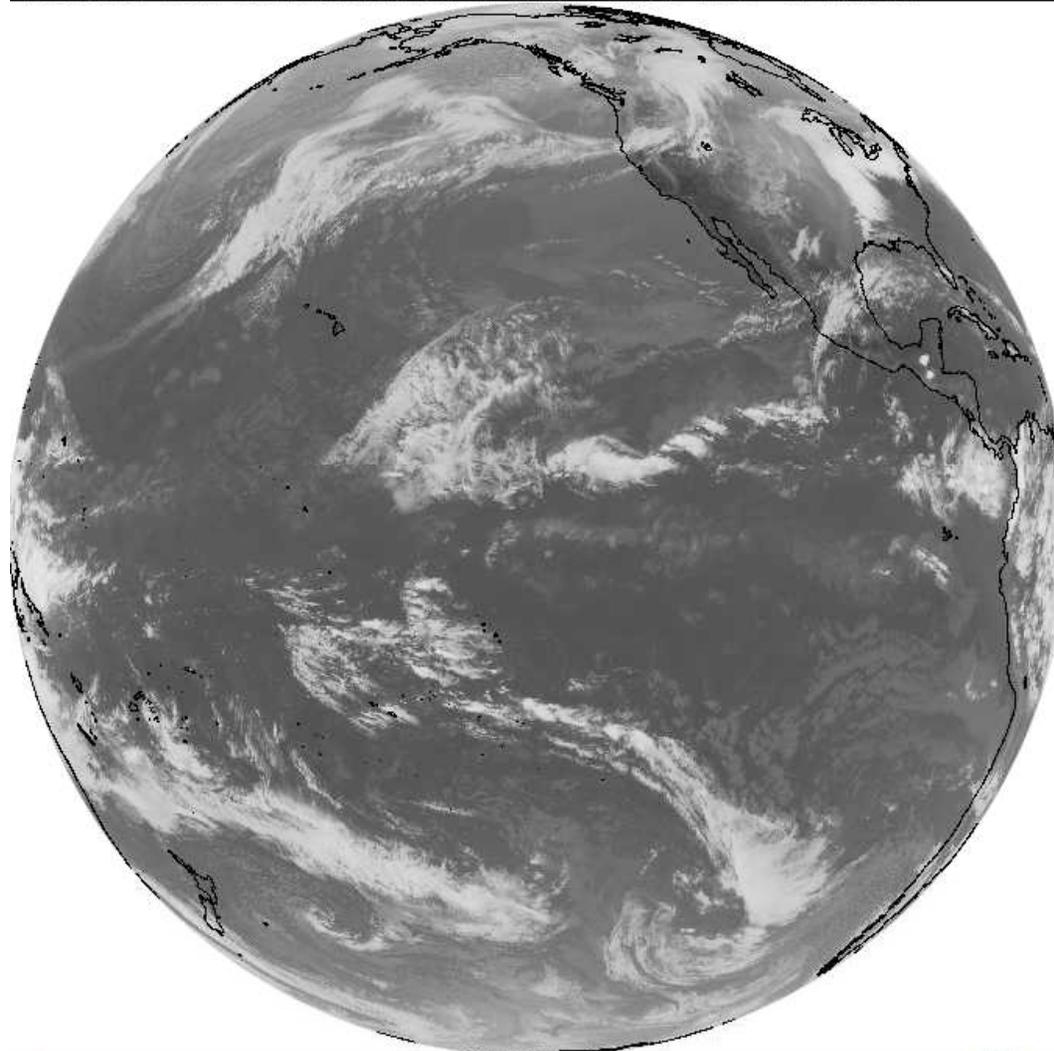




# GOES-W Footprint

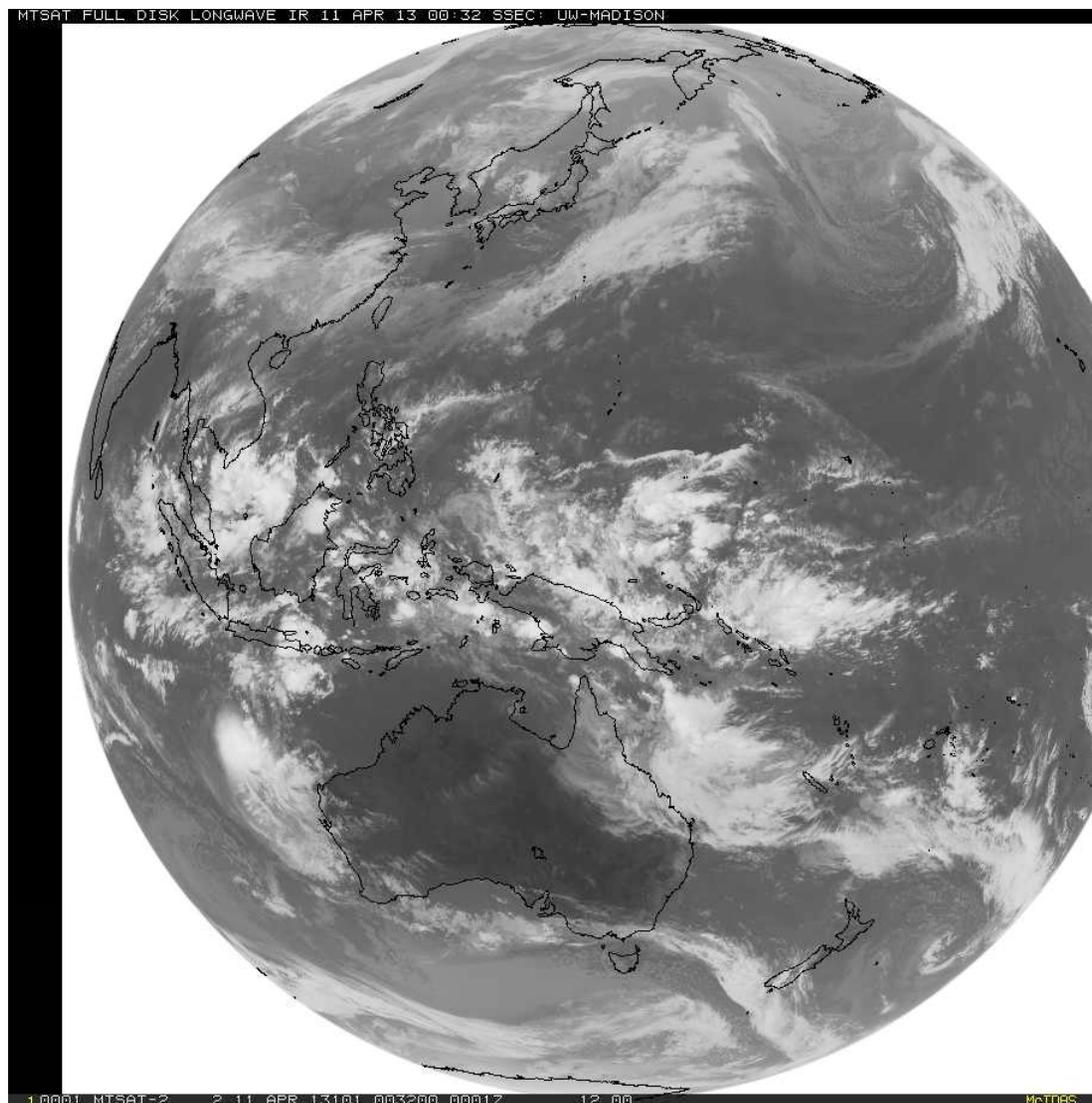


GOES WEST FULL DISK LONGWAVE IR 11 APR 13 00:00 SSEC: UW-MADISON



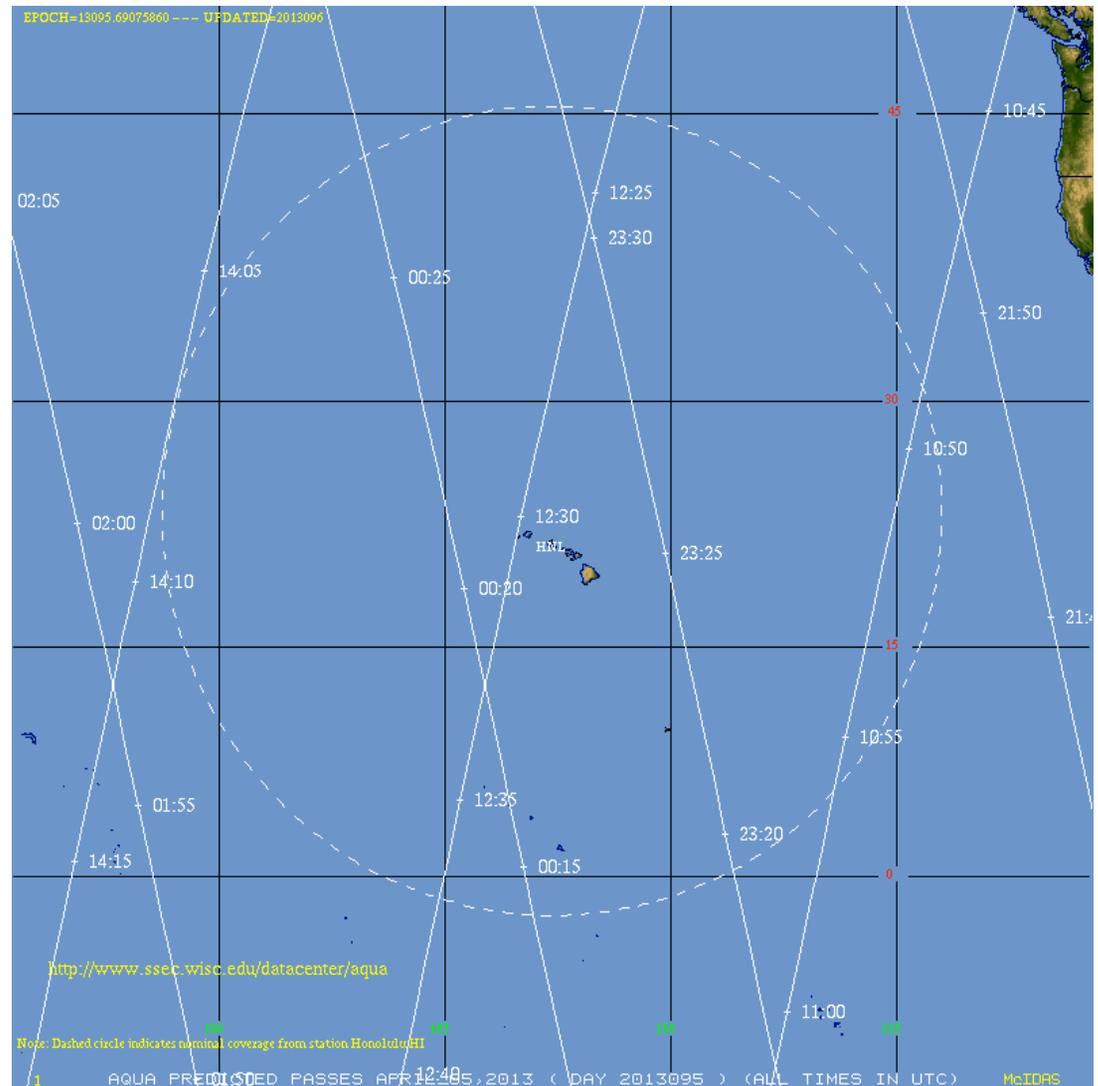


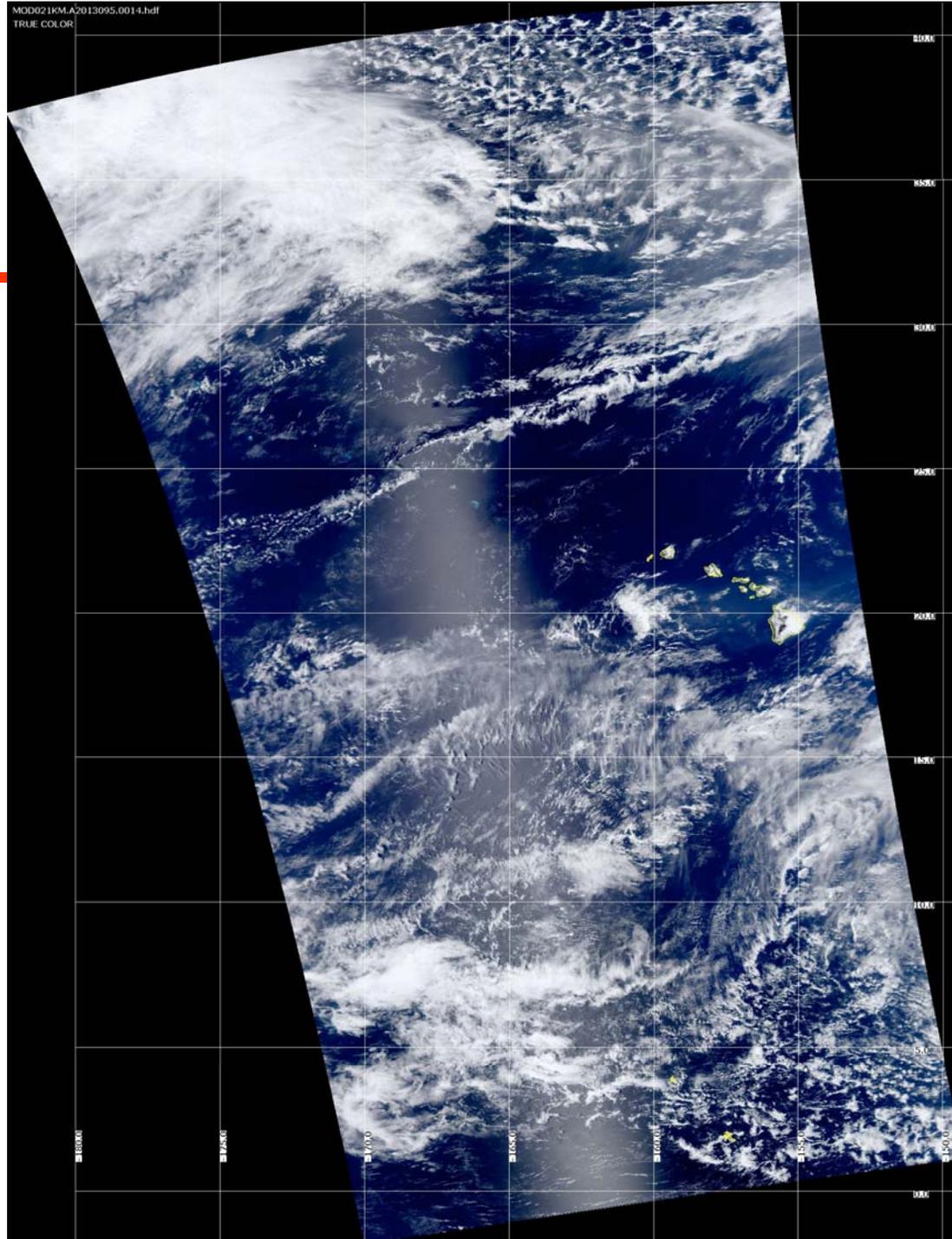
# MTSAT Footprint





# L/X Band Antenna, Range





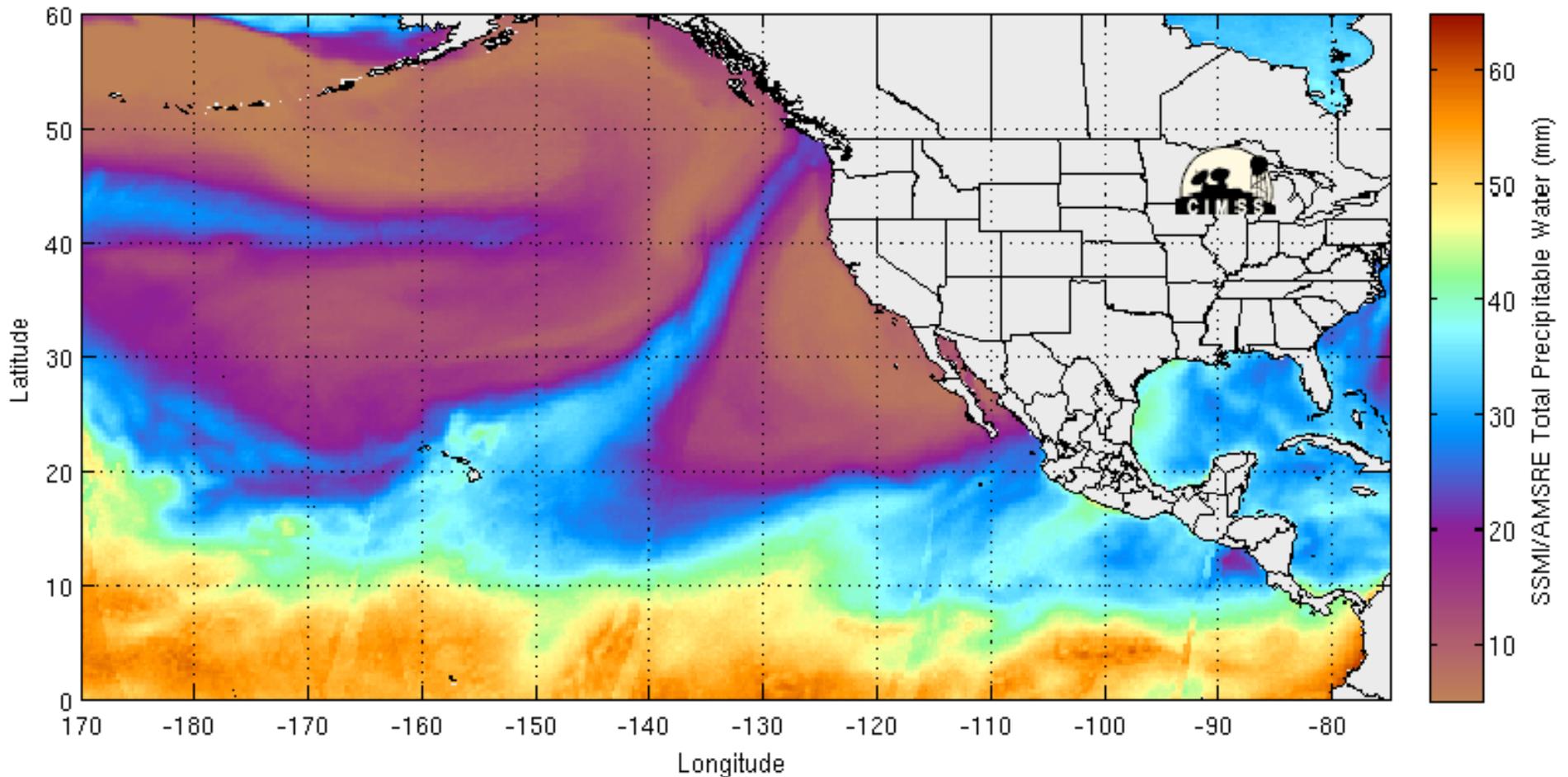
April 5, 2013  
00:14 UTC  
Aqua MODIS



# Atmospheric Rivers

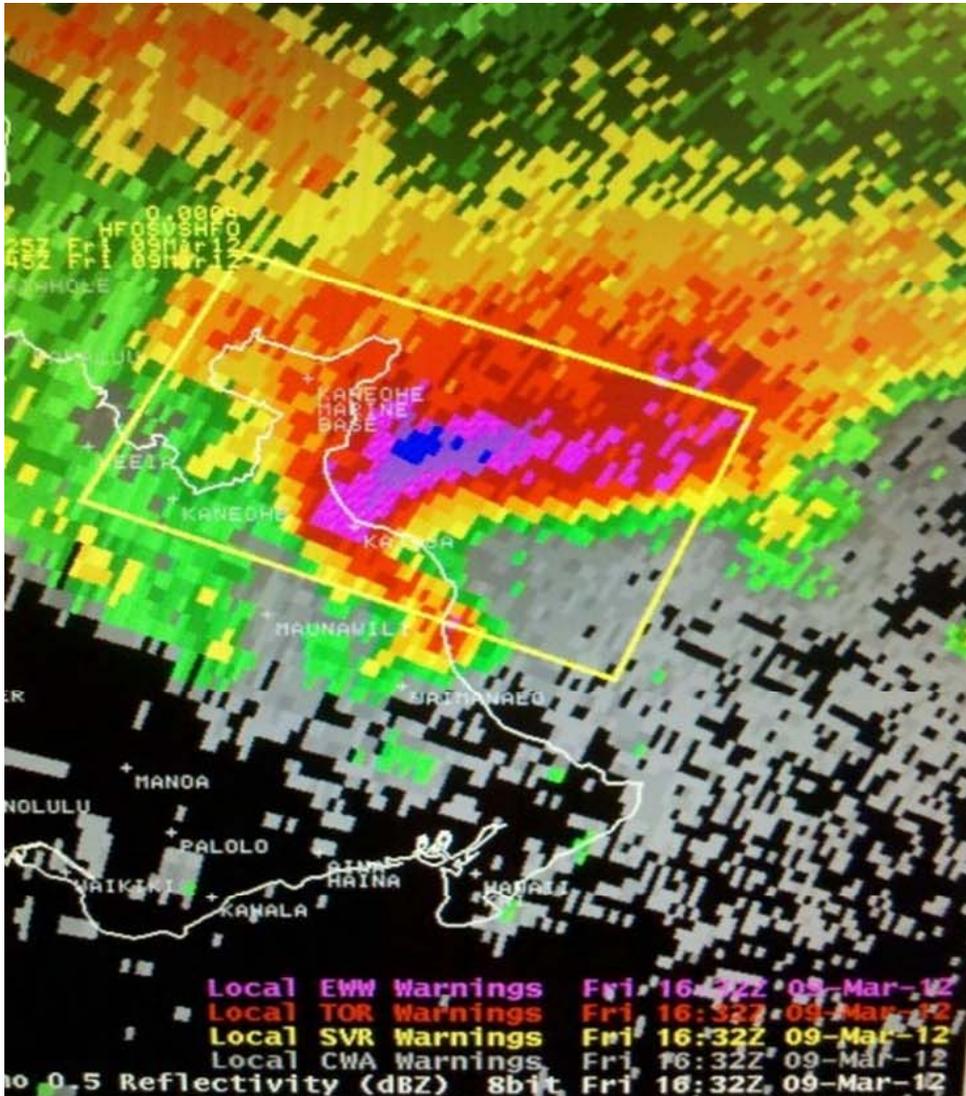


Morphed composite: 2012-03-09 12:00:00 UTC





# It's not always paradise here



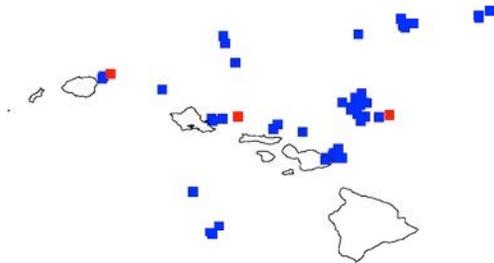


# UW-CIMSS Cloud Top Cooling

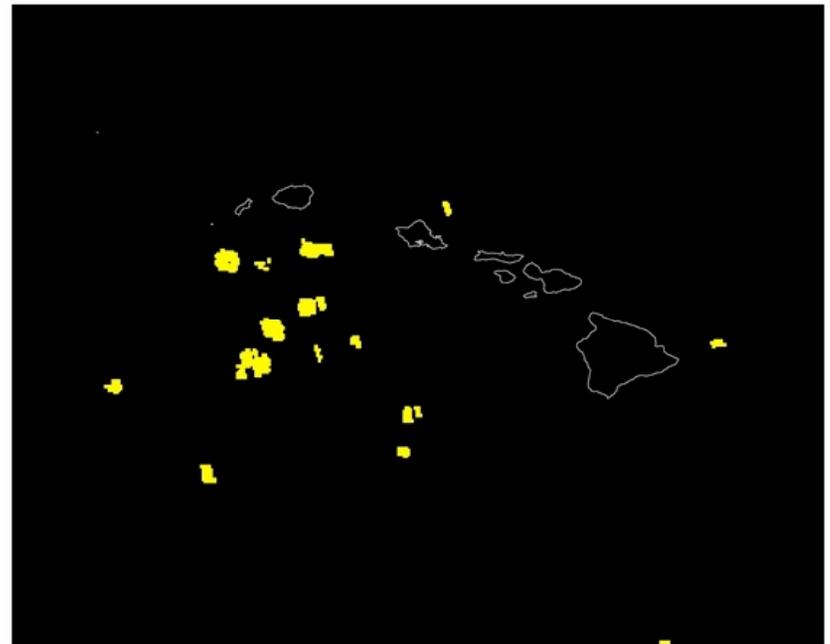


Assesses vertical convective cloud growth using cloud top cooling rates based on boxed average 11 micron band brightness temperatures and GOES Imager data

Daily Cumulative OT/TC Detects: 20120309 at 1645 UTC

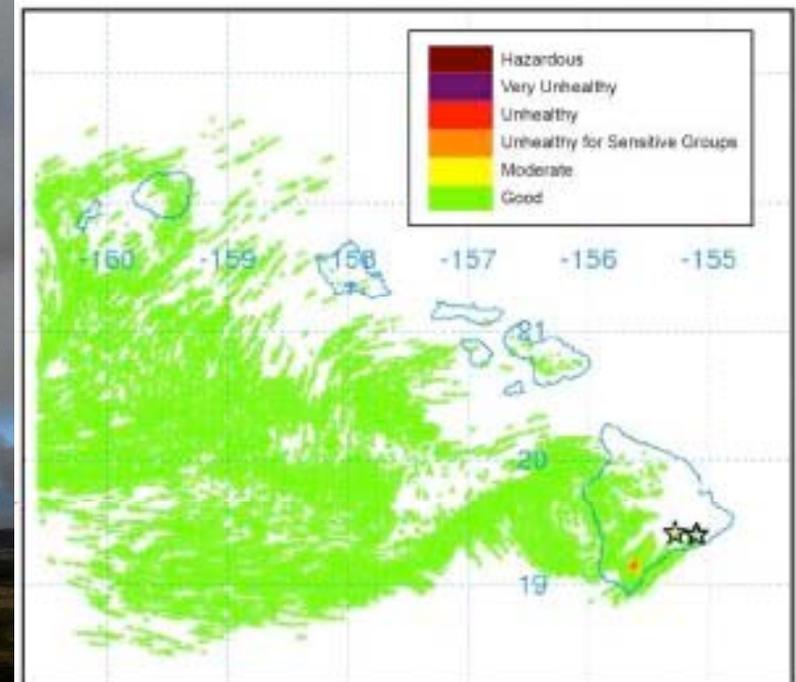
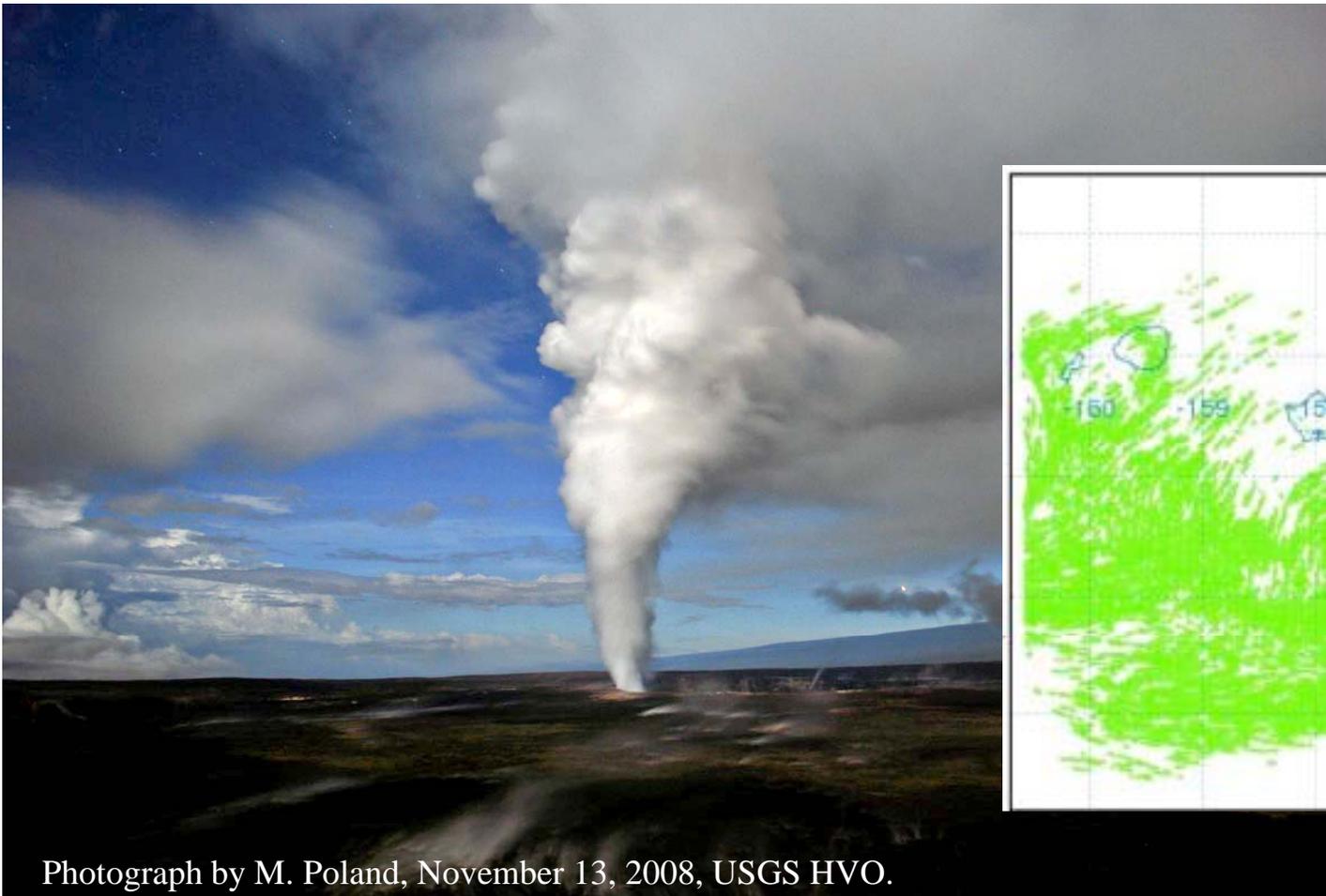


Daily Cumulative CI Hits: 20120309 at 1645 UTC





# Hawaii Volcanoes SO<sub>2</sub> issues



Photograph by M. Poland, November 13, 2008, USGS HVO.



# Summary



- Pacific Region covers a vast area void of observations
  - Satellite data is vital to our mission
    - Ground stations located in Hawaii and Guam
- Unique region in the NWS in diversity of comms and variety of offices/services
- Complex resources reflect a customized and innovative approach to meeting mission requirements



# PR's Satellite Future



- GEO
  - Himawari 8/9 data reception uncertainties
    - Temporal and spatial availability
  - GOES-R (as GOES-West!)
    - Antenna costs
    - Data delivery to American Samoa forecasters
    - GOES-15 coverage of southern Pacific post GOES-R?
- LEO
  - Model and forecast supplements a very data sparse region
  - Additional valuable data
    - OSVW, Altimetry, tropical, etc...



# Questions



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