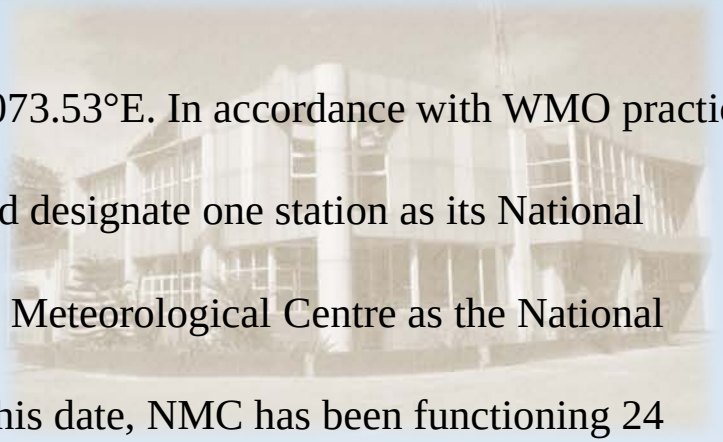
COUNTRY REPORT

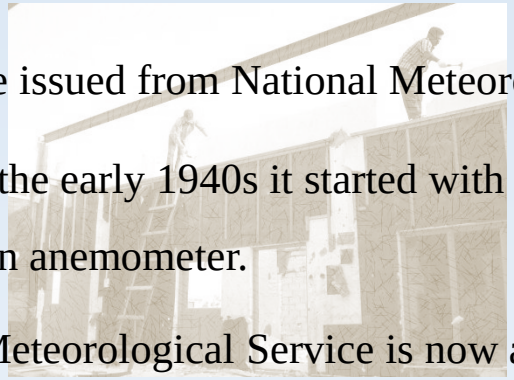
MALDIVES METEOROLOGICAL SERVICE

INTRODUCTION

- National Meteorological Centre



  - Geographical location of the station is 04.19°N 073.53°E. In accordance with WMO practices that every national meteorological network should designate one station as its National Meteorological Centre, Government renamed the Meteorological Centre as the National Meteorological Centre on 1 August 1980. From this date, NMC has been functioning 24 hours. Daily weather forecasts, all kinds of aviation forecasts, weather warnings and marine forecasts are issued from National Meteorological Centre.



  - Founded in the early 1940s it started with only maximum and minimum thermometers, a rain gauge and an anemometer.
  - Maldives Meteorological Service is now among the most reputed and technologically advanced organization in the government sector.

Maldives Weather Observation Network

- 5 Aviation / synoptic met stations in five airport
- 21 AWS (Automatic Weather Stations) currently operational throughout the country.
- 1 Doppler weather radar
- 2 High resolution satellite image receiving systems (KALPANA,FY2C)
- Our Meteorological Network is established with Regional Telecommunication Hub (RTH) New Delhi and RTH Melbourne to exchange meteorological data and tsunami information.

Maldives Weather Observation Network

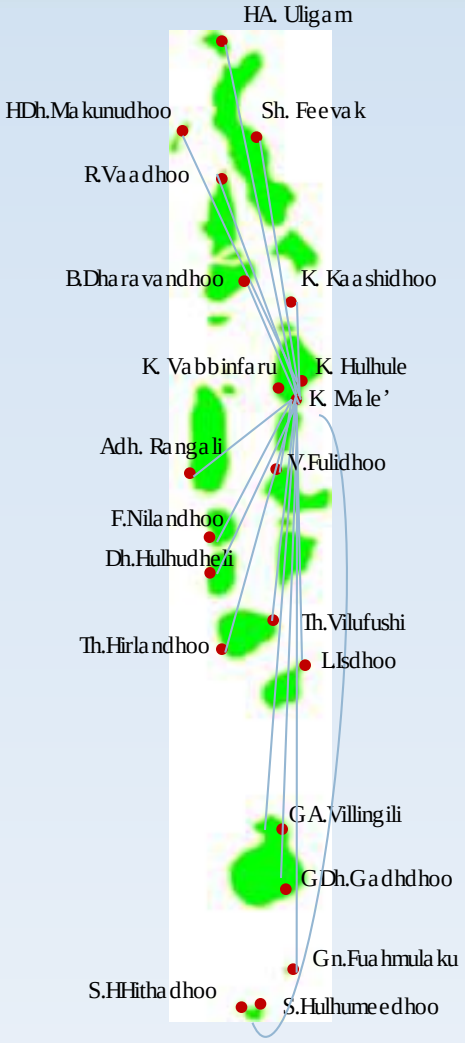
- The NMC has established redundant links for communicating with local, regional and international centers by using 256kbps VSAT, 10mbps Internet connection and satellite phones.
- Warnings are issued from the following media ;
  i. Hot lines
  ii. Telefax
  iii. Mass media (TV , Radio)
  iv. Public Alert (cell broadcast & fixed line phone)
  v. SMS to selected users
  vi. Email
  vii. Website

Aviation/synoptic met stations

- Daily observations like temperature, humidity, rain, wind speed and direction and visibilities are recorded.
- Minimun and maximum temperatures are taken daily at UTC 0300 and UTC1200 respectively.
- Sunshine records are taken at 1300hrs UTC. New cards for each day.
- Male'; NMC is the central met station in Maldives. Aviation and synoptic data from all stations are collected and distributed by NMC.

Observations

Automatic Weather Stations



- The stations use vaisala weather transmitter WXT520. It is a small and lightweight transmitter that offers six weather perimeters in one compact package.
- WXT520 measures windspeed and direction,precipitation, atmospheric pressure, temperature and relative humidity.



Station Select station From 2009-11-10 00:00:00 To 2009-11-10 23:59:59 Display AWS Viewer 1.1.1 beta

AWS data for :male:

Time	Wind Dir Min (Deg)	Win Dir Avg (Deg)	Win Dir Max (Deg)	Wind Speed Min (Kt)	Wind Speed Avg (Kt)	Wind Speed Max (Kt)	Temp(&degC)	RH (%)	Pressure(hPa)	TotalRain (Mm)	RainRate (Mm/hr)	Battery Voltage (V)	Logge Temp(
2009-11-09 13:15:51	282	96	192	2.527	13.0238	26.0475	25.2	90.3	1003.6	0.017	1		
2009-11-09 13:14:51	282	96	192	2.527	13.9957	32.851	25.2	90.1	1003.6	0.177	10.6		
2009-11-09 13:13:51	282	95	192	2.527	13.4125	32.851	25.2	90.3	1003.6	0.195	11.7		
2009-11-09 13:12:51	282	96	192	2.527	13.2181	32.851	25.1	90.2	1003.6	0.153	9.2	12.745	26.21
2009-11-09 13:10:51	282	97	229	2.527	12.8294	32.851	25.1	89.4	1003.6	0.095	5.7	12.801	25.61
2009-11-09 13:09:51	282	97	229	2.527	12.8294	32.851	25.1	89.1	1003.6	0.070	4.2		
2009-11-09 13:08:51	282	97	229	2.527	12.8294	32.851	25.2	89	1003.1	0.145	8.7	12.801	25.78
2009-11-09 13:07:51	282	97	229	2.527	12.635	32.851	25.3	89	1003	0.072	4.3		
2009-11-09 13:06:51	23	97	229	3.30454	13.4125	32.851	25.3	89.2	1003.3	0.035	2.1		
2009-11-09 13:05:51	23	96	229	3.30454	13.6069	32.851	25.4	88.7	1003.3	0.067	4		
2009-11-09 13:04:51	7	96	229	3.30454	13.2181	28.7689	25.5	89.5	1003.3	0.110	6.6		

Doppler Weather Radar

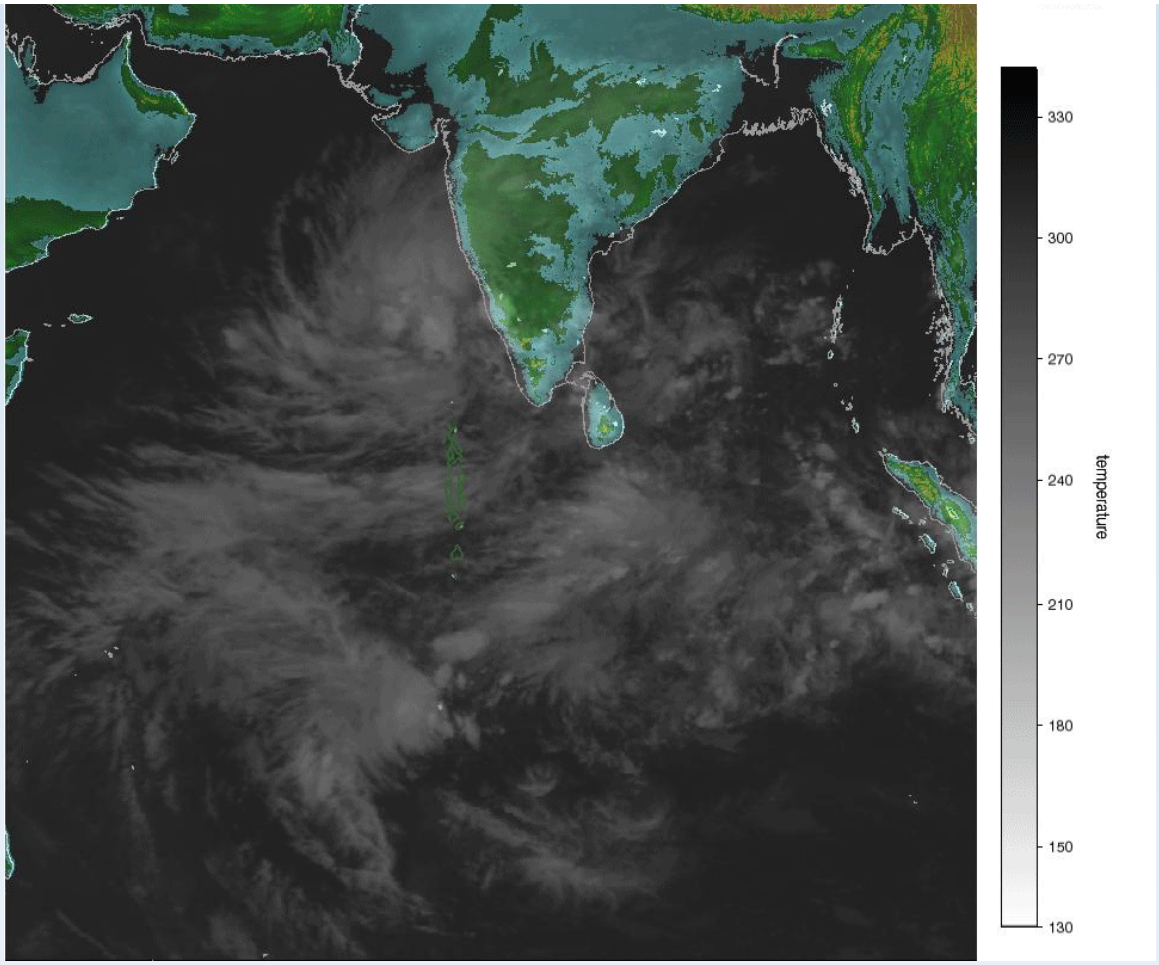
- Intorduction
  - The Maldives Meteorological Service is equipped with DWSR-8501S radar which is the world's most powerful S-Band Doppler weather surveillance radar.
  - DWSR-8501S provides the best clutter suppression and S-band range perfomance for observing multiple long range weather pehnomena.
  - The tansmitter provides 850 kW peak RF power pulse with duration of 0.2,0.4,1.0 and 2.0 micro seconds.
  - The radar is currently not operational due the problem with the cooling system of the hut & software. It needs to be calibrated.

Satellite Image receiving system

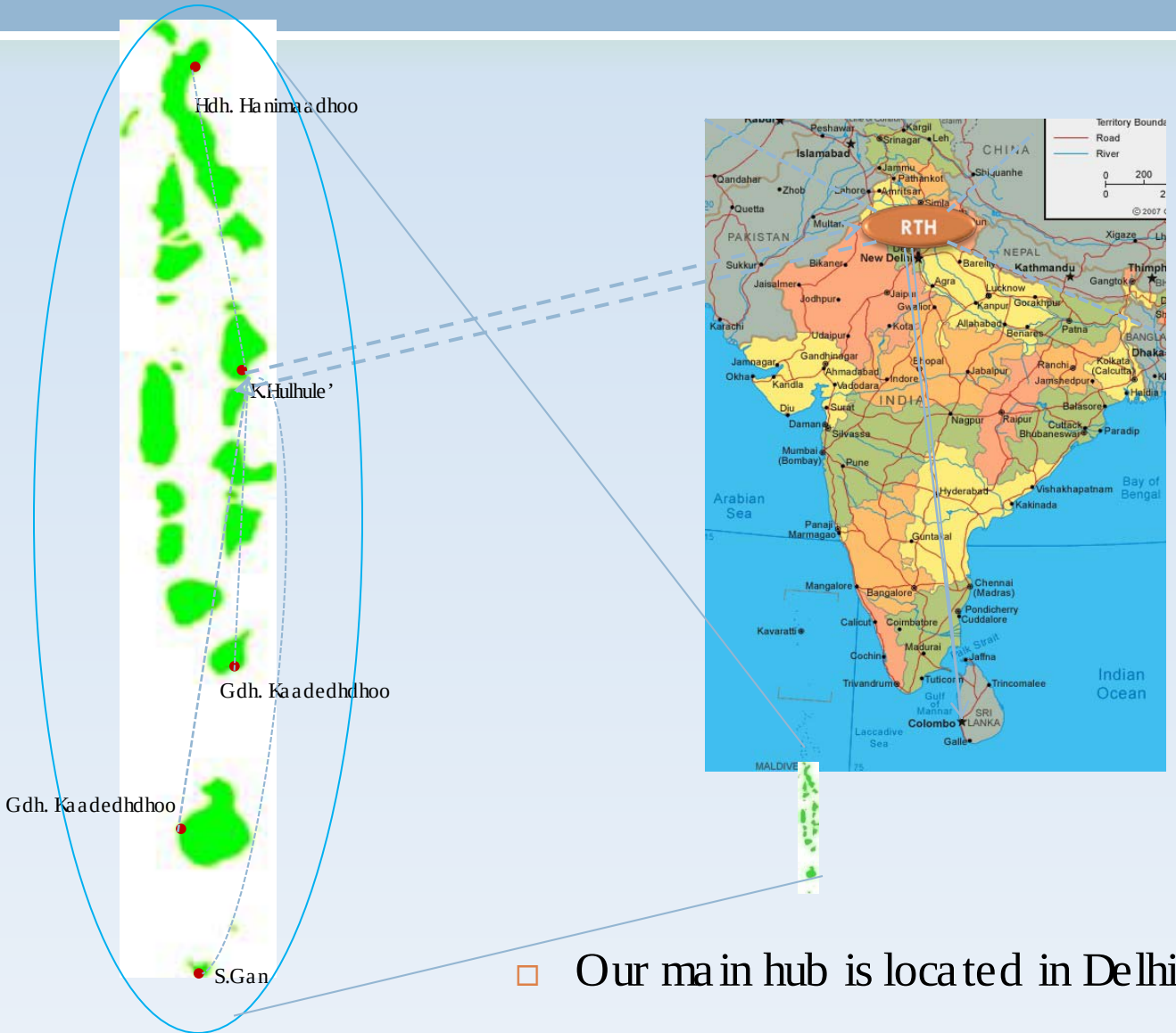
- ES&S GEOSAT500 ground station
  - High performance system that receives and processes downlinks from Chinese Meteorological satellite ; Fengyun-2C satellite.
  - The satellite provides regular images of the earth, allowing forecasters to make weather predictions and to follow path of cyclones.
  - The system components include parabolic dish, satellite receiver , Acquisition , processing and display workstation, GEOSAT500 processing software and METEOR image display and analysis software.

Satellite Image receiving system

- Below is an image acquired from GEOSAT500 system



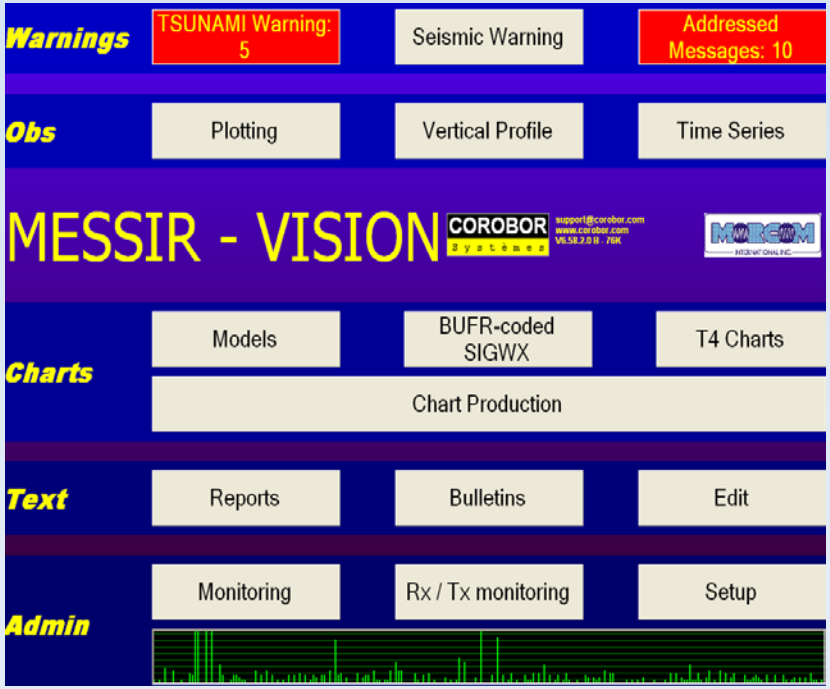
Global Telecommunication System



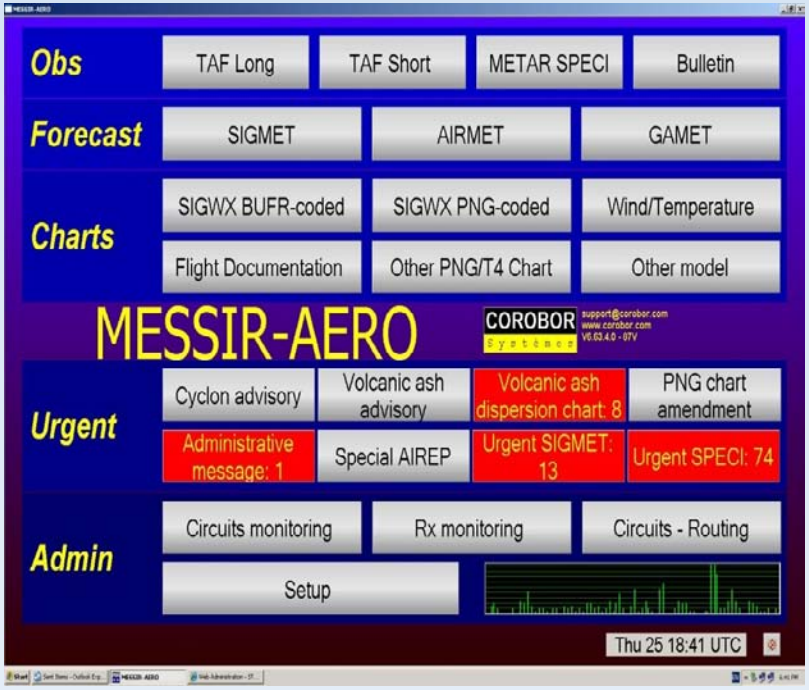
- Our main hub is located in Delhi, India.

Global Telecommunication System

- We receive Meteorological and tsunami information via Global Telecommunication System (GTS)
- Below is a screen shot from two of our GTS terminals



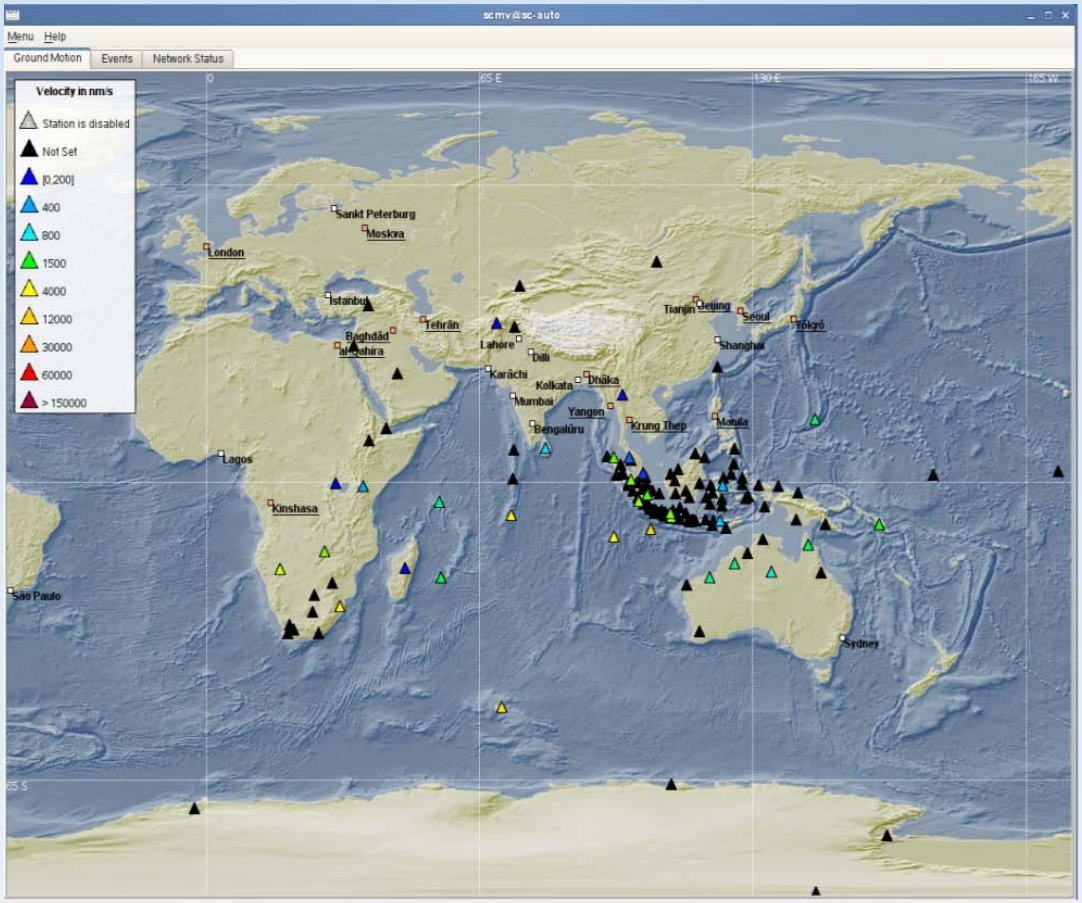
The MESSIR-VISION Forecaster's Workstation integrates this vast amount of information into a single system. MESSIR-VISION provides the Forecasters with a comprehensive range of tools to display, manipulate and combine all the available data and products, make decisions and produce outputs such as maps and forecasts.



MESSIR-AERO enables you to receive, store, display and print all the OPMET and charts needed by pilots, aeronautical briefing offices, and airline operators.

Seismic Network

- Earth Quake monitoring – SeisComp3

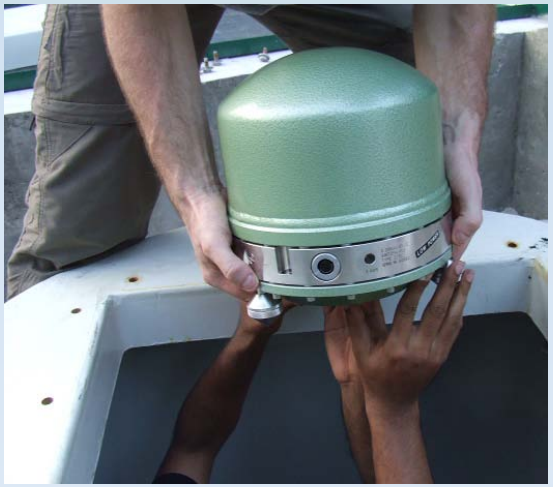


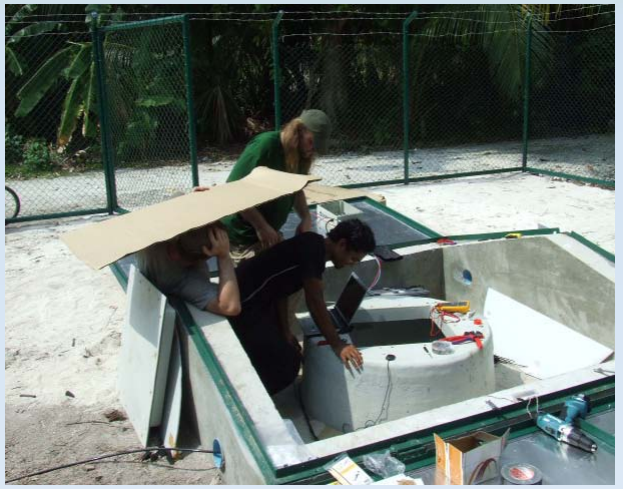
•The Seiscomp 3 software is used to locate and calculate the epicenter, magnitude and other parameters. Immediately after the occurrence of an earthquake over the Indian ocean, Geological observers will locate epicenter and calculate Magnitude by using SeisComp3. We also get the earthquake information from U.S. Geological Survey & JMA.

• The seiscomp 3 communicates via dedicated 512kb/s satellite link to Jakarta, Indonesia.

• There are two broadband seismometers in the Maldives.

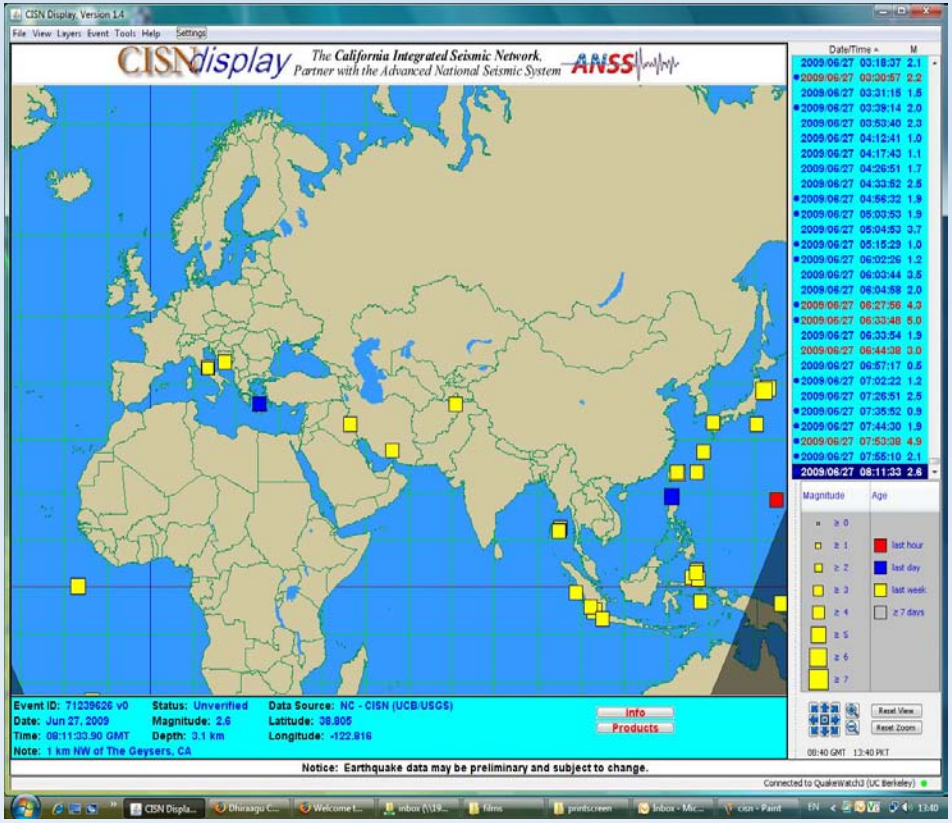
Seismometers in Maldives

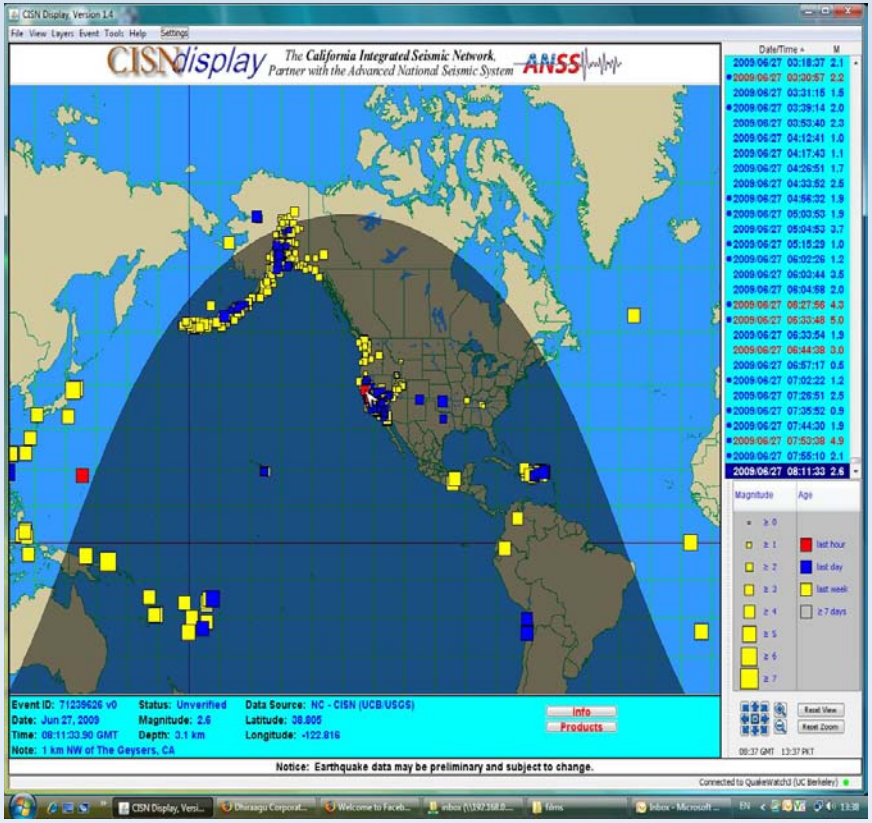




Seismic Network

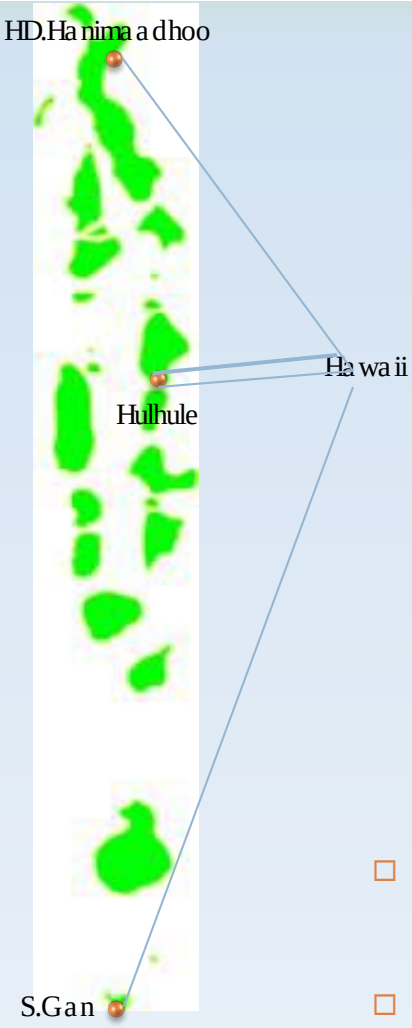
- Earthquake monitoring by CISN (California Integrated Seismic Network)

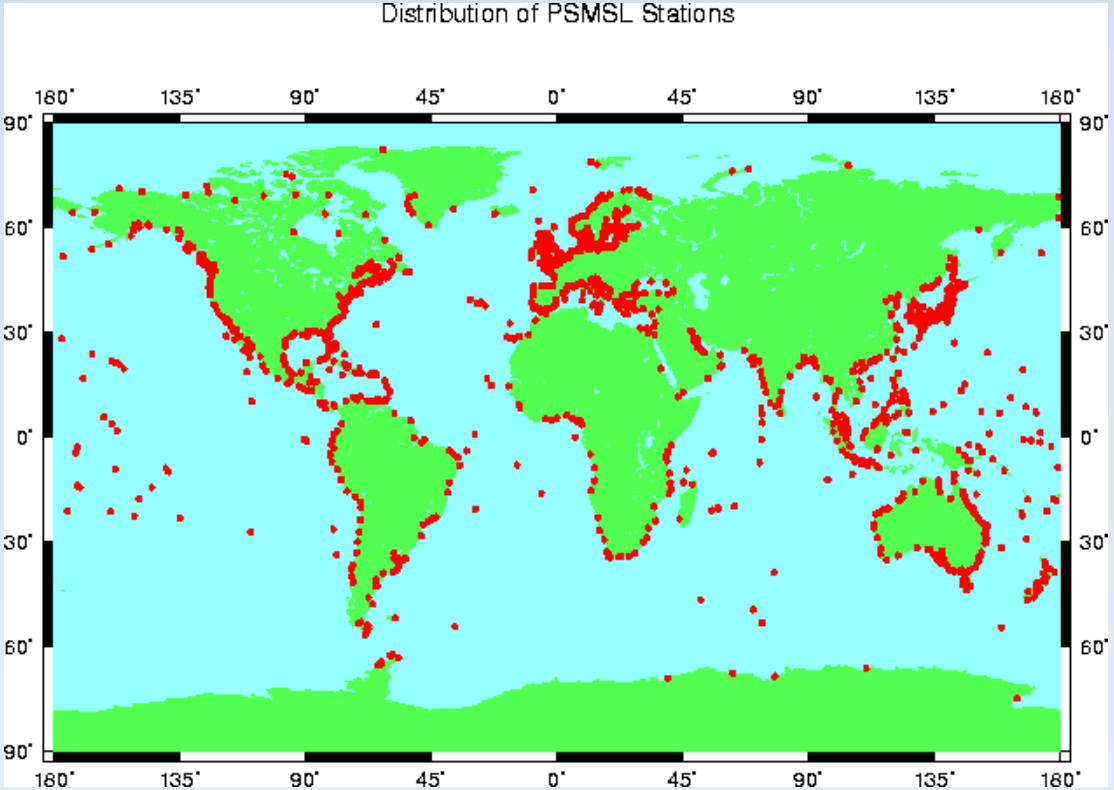




We also observe the California Integrated Seismic Network [CISN], to monitors earthquakes across the world

Sea-level data network





- The sea-level data network is established in Maldives in callobration with Hawai sea level center
- There are 3 tide gauges situated at three different locations in the Maldives.

WE NEED HELP-SO DOES EVERYONE !

- We believe there is always room for improvement.
- The Maldives Meteorological Service is really short of trained staffs in areas like ;
  - System Softwares
  - Seismology
  - Forecasting
  - Observation
  - Calibration
- Currently No staff trained in Doppler radar operations as well as it's maintenance.

THANK YOU…