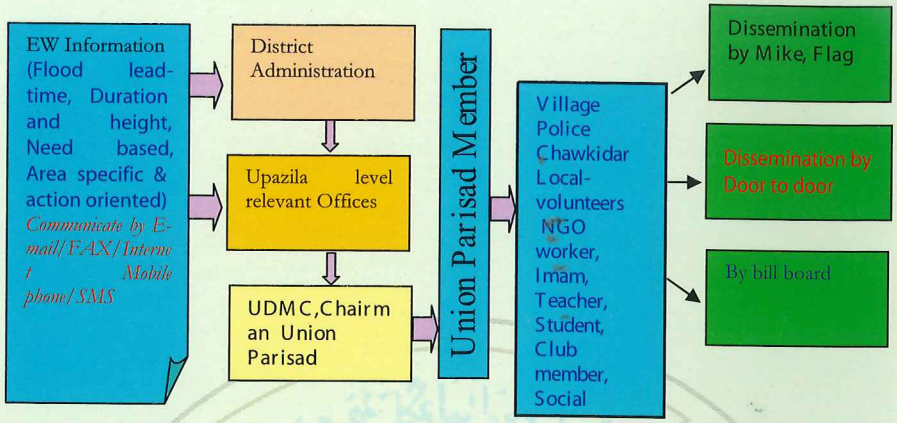
Expected Flood Warning Dissemination:



Limitations:

- In-sufficient Forecast Lead-time
- Limited Data from Upstream Station (outside Bangladesh)
- Updated DEM is not Available
- Quantitative Precipitation Forecast (QPF) is not Available
- Forecast in Major Rivers only
- Weak Dissemination upto Village level
- No Feedback Available

Need of Further Development:

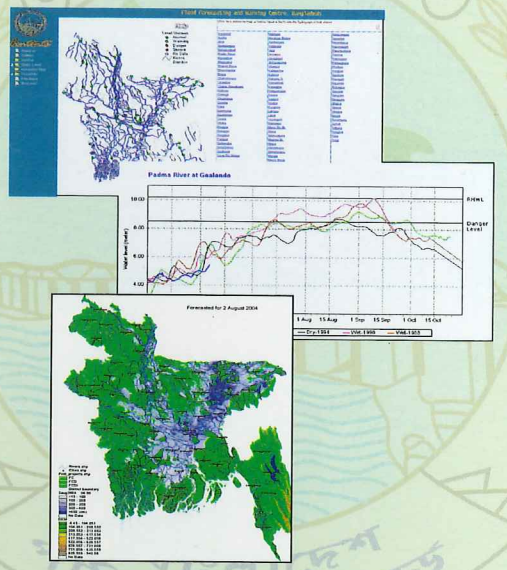
- Improvement of Lead Time & Accuracy
- Quantitative Precipitation Forecast
- Regional Level Flood Forecast
- Depth-Area Inundation Forecast
- Comprehensive Flood Preparedness Program
- Effective Dissemination to Vulnerable Communities
- Effective Response System

Priorities:

- Forecast products in "Bangla"
- To Increase Lead Time of Forecast
- To Prepare Flood Risk Mapping
- To Improve Community Level Forecast
- To Obtain QPF for longer duration
- Improved Dissemination
- To Review Flood Response System

Bangladesh Water Development Board

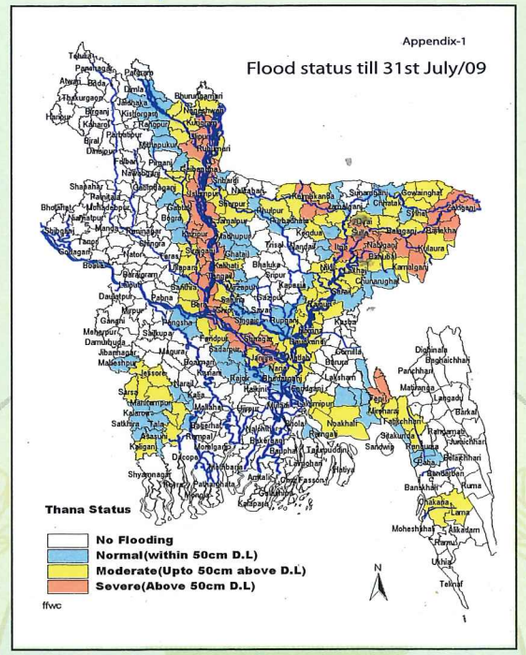
An e-service on Flood Forecasting & Warning in Bangladesh



Flood Forecasting & Warning Center

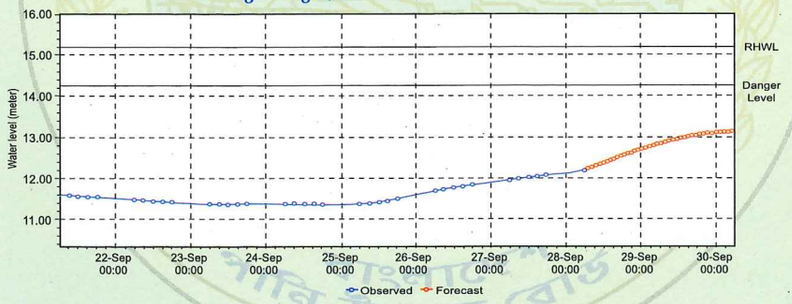
WAPDA Building, 8th Floor
Motijheel C/A, Dhaka-1000
Tel: 9553118, 955075, Fax: 9557386
E-mail: ffwc@ffwc.net, ygffwc@gmail.com

Upazila Flood Status Map:

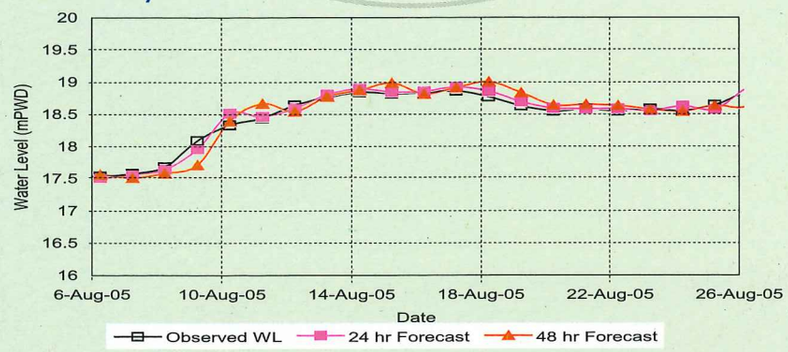


3 days deterministic forecast:

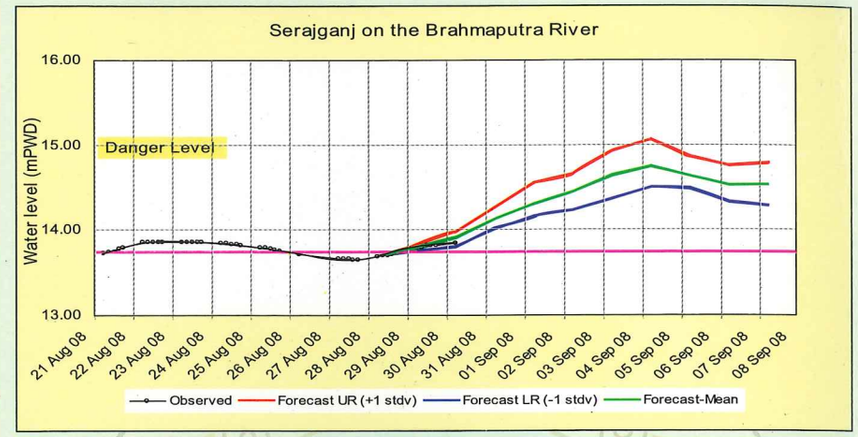
Padma River at Hardings Bridge (Year 2008)



Accuracy of Forecast:



Probabilistic CFAN Forecast:



10 days Probabilistic forecast

Reports:

- Daily Monsoon Bulletin
- Daily River Situation
- Deterministic forecasts and warning message
- Extended Qualitative Outlook
- Special Flood Report
- Monthly Flood Report
- Annual Flood Report
- Dry Season Bulletin
- Low Flow Monitoring

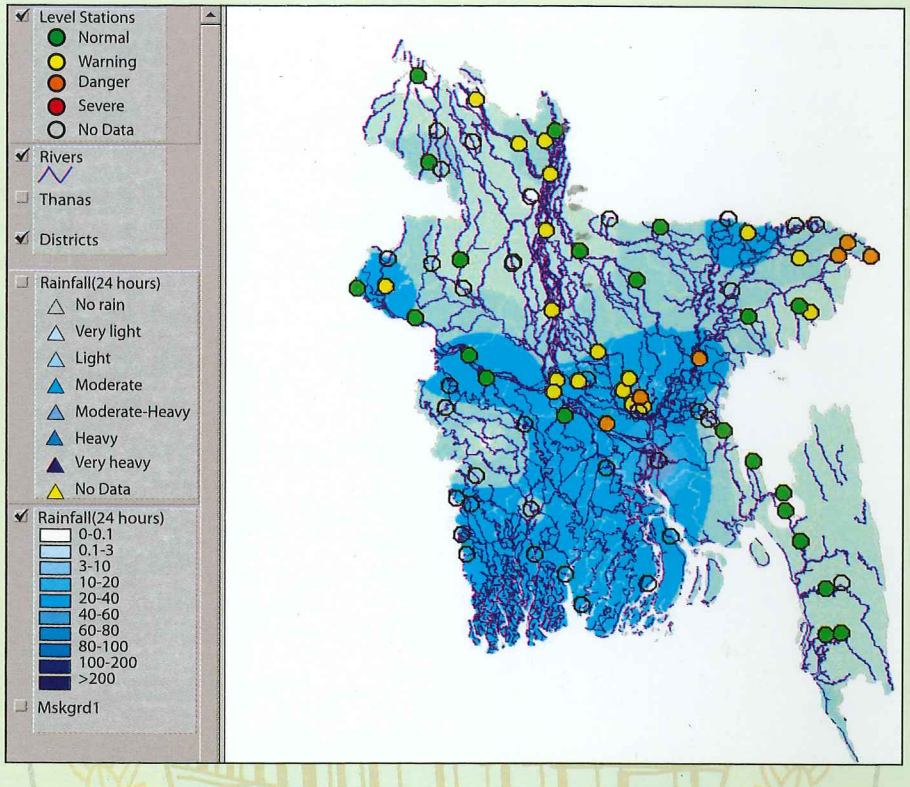
Dissemination:

- President's & PM's Secretariat.
- News Agencies
- Radio and TV
- Concerned Ministries
- Public Information Department
- Disaster Management Bureau
- Concerned Government Officials
- Concerned BWDB Officials
- Field Wireless Stations
  NGO's & Local Administration

Mode of Dissemination:

- E-mail
- Website
- Wireless
- Telephone/Mobile
- Fax, Messenger

Rainfall Surface Map:



An overview of Rainfall Intensity

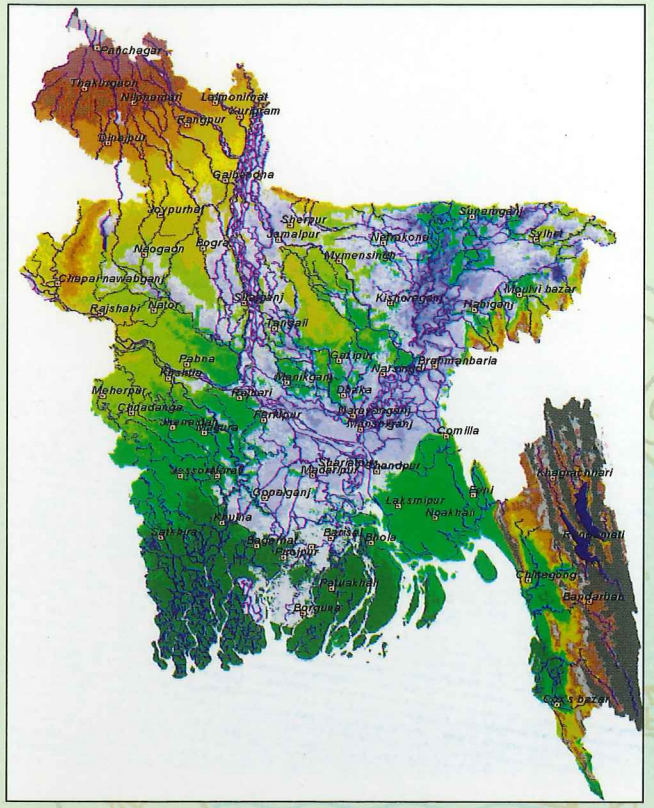
FLOOD WARNING MESSAGE:

An example of flood warning message on July 27 2007:

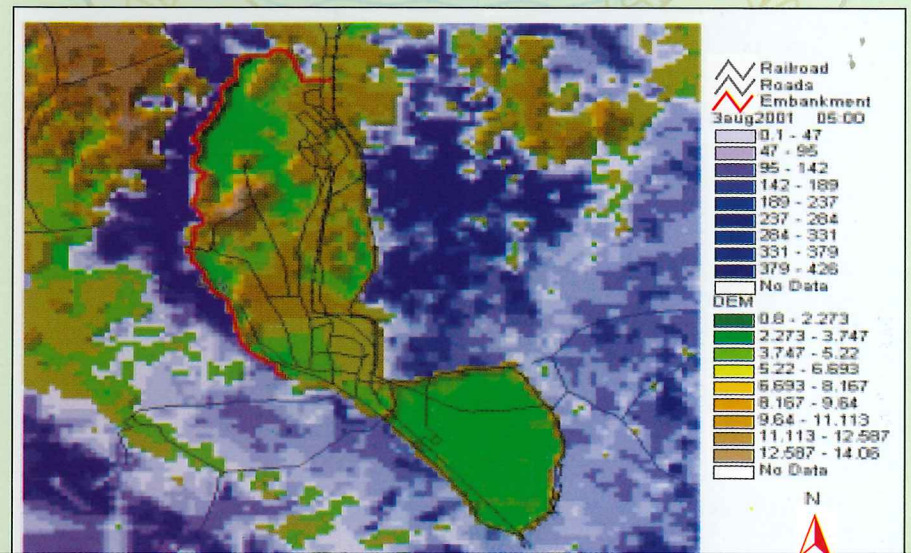
- Flood situation in the district of Serajganj is deteriorating and is likely to deteriorate further. More areas in the districts of Pabna and Tangail are also likely to inundate by next 2/3 days.
- The Meghna at Bhairab Bazar continued rising and may cross danger level by next 48/72 hrs. Inundation of low lying areas in the districts of Narshingdi, Brahmanbaria and Narayanganj are likely to start by next 2/3 days. 2/3 days.

DEPTH-AREA INUNDATION MAP:

Flood Inundation Map using Coarse Digital Elevation Model (DEM)



Dhaka City Flood Map:



INTRODUCTION:

Flood Forecasting in Bangladesh is the responsibility of the Flood Forecasting and Warning Center (FFWC) of Bangladesh Water Development Board (BWDB). This center was established in 1972 and is fully operative in the flood season, from 1st April to 31st October, as directed by the Standing Orders for Disaster (SOD) of the Government of Bangladesh.

The objectives of flood forecasting and warning are to enable and persuade people and organizations to be prepared for the flood and take action to increase safety and reduce damage. Its goal is to alert the 'combat' agencies to enhance their preparedness and to motivate vulnerable communities to undertake protective measures.

The basis of flood forecasting is measurements of rainfall and water level which are used to interpret the present flood situation and generate flood forecasts. The measurements upon which the flood monitoring and forecasting depend comprise:

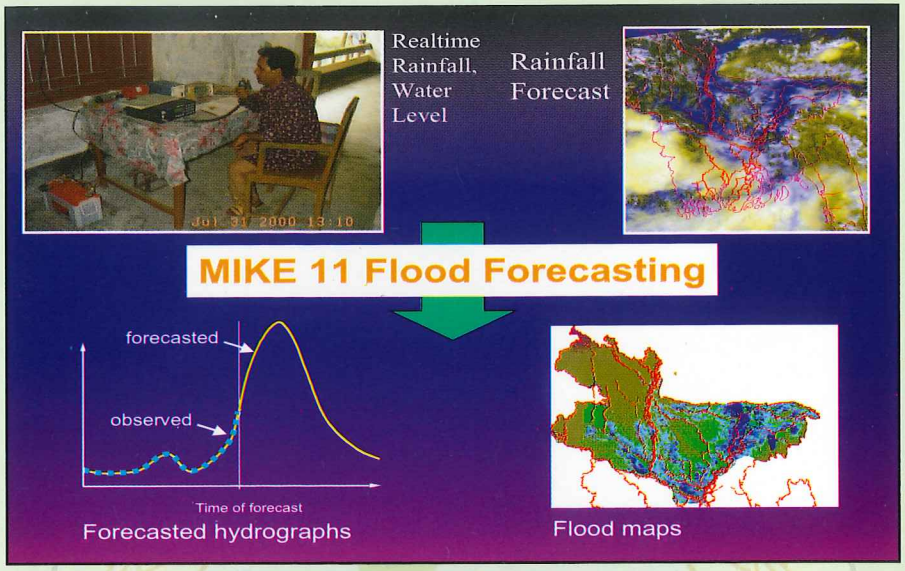
- a real time hydrological monitoring system covering Bangladesh
- a data exchange agreement with India through which FFWC obtains additional rainfall and water levels measurements from outside its national borders
- meteorological data from Bangladesh Meteorological Department (BMD)
- Satellite and radar images.

The hydrological data collected through the monitoring are used as input to a numerical model which forms a core component of the forecasting system. The results of the model computations are used as the basis for the preparation of a range of flood warning products, including warning bulletins and inundation maps. FFWC disseminates these through a variety of media, including email, fax and the Internet via its own dedicated web site (www.ffwc.gov.bd)

BRIEF HISTORY:

- 1972 – FFWC Established
  - 10-Real Time Flood Monitoring Stations
  - Forecasting done by Gauge-to-gauge Correlation
- 1992 – MIKE11-FF Model Introduced
  - 16 – Flood Forecasting Points
- 1995-96 – MIKE11 Super Model with GIS
  - 30 – Flood Forecasting Points
- 2000-04 – Strengthening FFWS
  - Flood Forecast to all Flood prone areas
  - Improved Accuracy and Lead Time
  - Improved Dissemination
- Till 2009 – Further extension of FFWS
  - Mike 11 Super Model with GIS introduced.

MAIN ACTIVITIES OF THE CENTER:



- Data management & Processing
- Collecting Satellite Rainfall Information
- Weather Analysis
- Model operation and forecasting
- Deterministic Water level forecast
- Flood warning message generation
- Generation of flood maps.
- Website update.
- Dissemination.

PRODUCTS OF THE CENTER:

- Rainfall Distribution Map.
- Daily bulletin & River summary
- Forecast bulletin & Hydrograph
- Warning message
- River situation map
- Thana Status map
- Countrywide coarse flood inundation map
- Dhaka city flood inundation map