



Country Report: Bangladesh Meteorological Department (BMD)



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Bangladesh Meteorological Department

GEOGRAPHY OF BANGLADESH

Bangladesh is vulnerable due to its position in the globe (South East Asian country)

- Area about 1,47,570 sq. Km.
- Lat: 20°45' to 26°40'N
- Long: 88°05' to 92°40'E
- Bangladesh is a land of about 230 rivers.
- But its 57 rivers originate from outside.
- The major rivers Meghan, Jamuna, Padma and Brahmaputra.



CLIMATE OF BANGLADESH

Seasons	Period	Weather Events	Rainfall
Summer (Pre-monsoon)	March to May	Nor'wester, Tornado, Hail, Cyclone, Heat Wave	19%
Rainy Season (Southwest Monsoon)	June - September	Heavy rain, Monsoon Depression, Flood	71%
Autumn (Post-monsoon)	October - November	Cyclone, Tornado	8%
Winter (Northeast Monsoon)	December - February	Abnormal Dryness (Drought), Cold Wave	2%

Current Observational Facilities of BMD

- **Synoptic stations (1st Class Obs.): 35**
- **Agro meteorological stations: 12**
- **Pilot Balloon stations: 10**
- **Radar stations: 05**
- **Seismic stations: 04**
- **Rawin Sonde stations: 03**

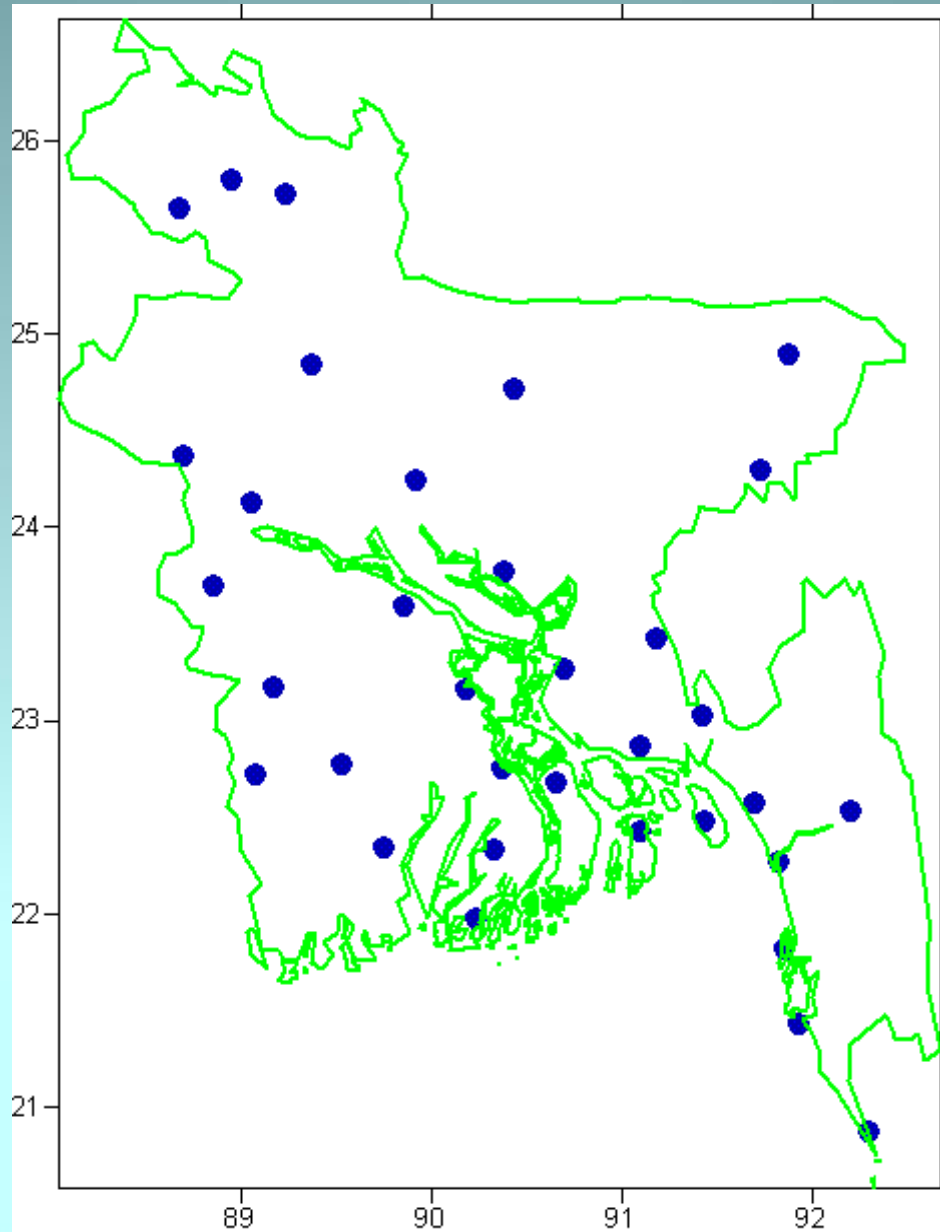
Surface Observation

Surface Observations of Bangladesh Meteorological Department are mainly manned. BMD takes synoptic observation routinely eight times in day throughout the year from installation of Observatory. Times of taking observation are:

- **0000 UTC.**
- **0300 UTC.**
- **0600 UTC.**
- **0900 UTC**

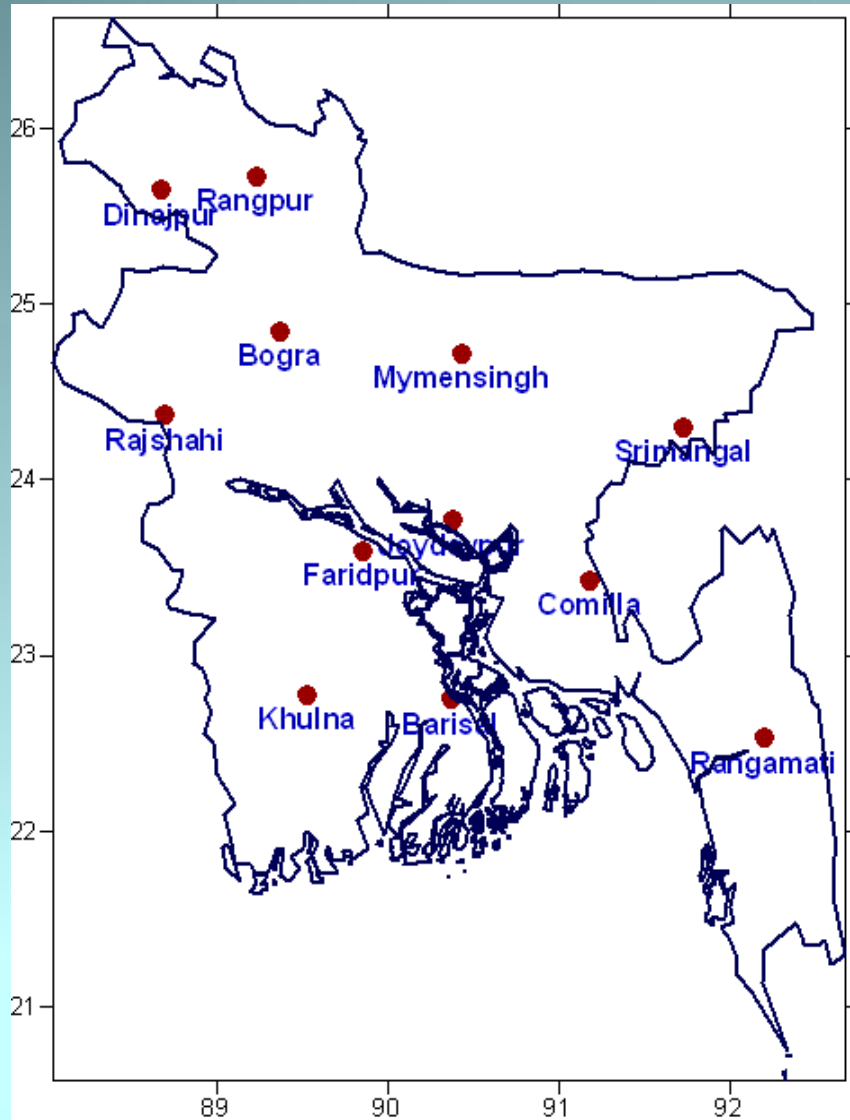
- **1200 UTC.**
- **1500 UTC.**
- **1800 UTC.**
- **2100 UTC**

Location of 35 Surface/Synoptic Observatory of BMD

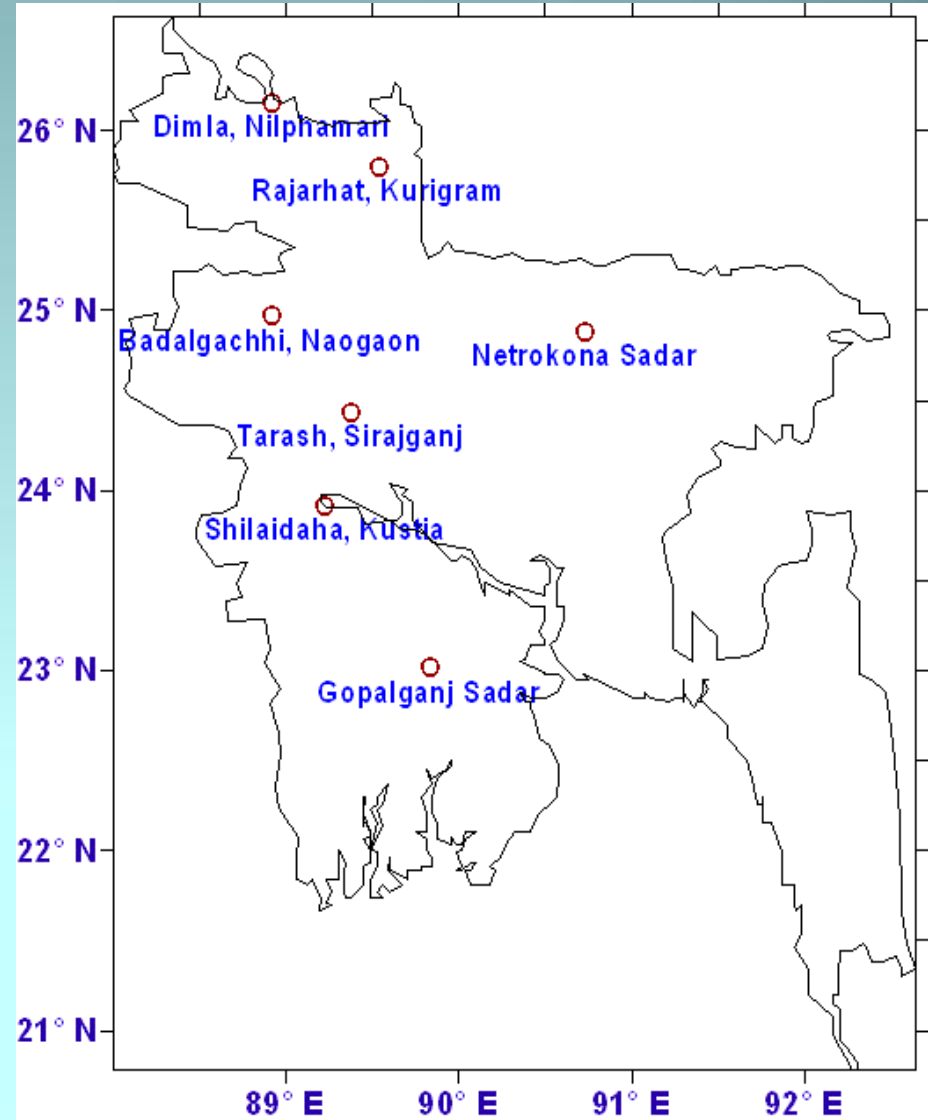


Agro meteorological Observatory

Location of Existing agro met obs.



Location of Proposed Agro met obs.



INTRUMENTS IN OPERATIONAL USE AT BMD

Atmospheric pressure measuring/ recording instruments:

1. Mercury barometer
2. Aneroid Barometer
3. Barograph (Graphical Instrument)

Mercury Barometer used In BMD:

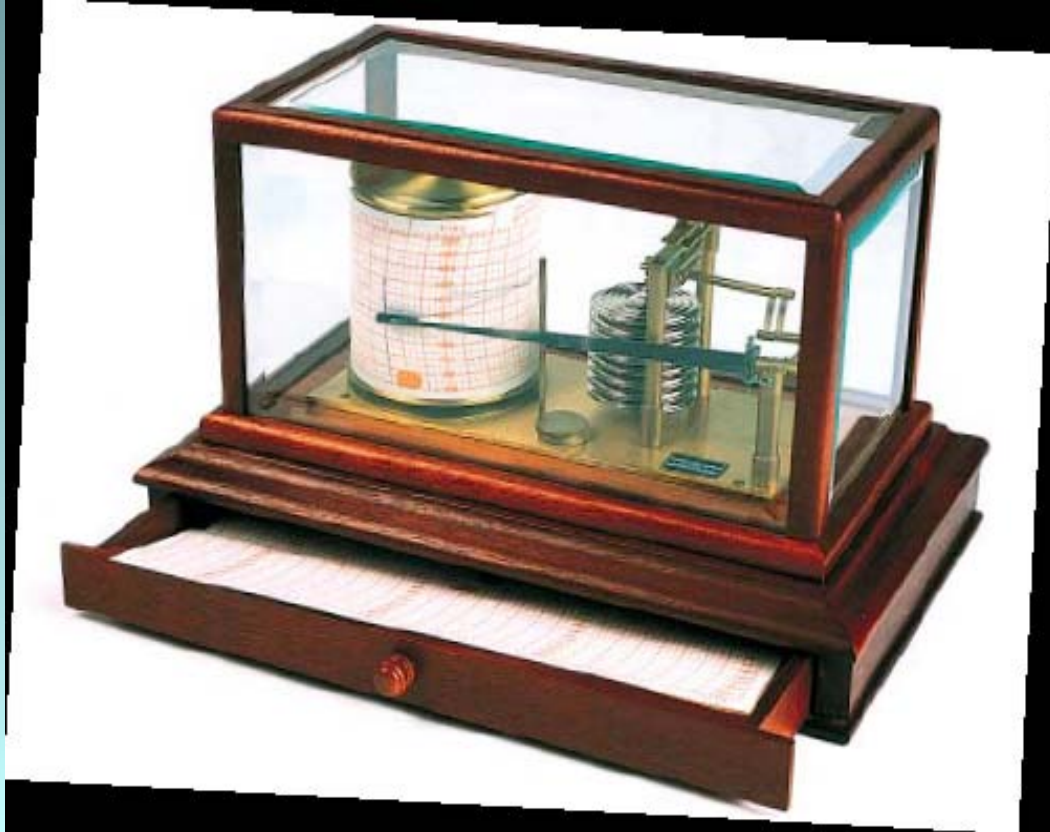
Kew pattern Barometer



Fortin Barometer



Air Pressure Measuring Another Instruments:



Barograph



Aneroid Barometer

Manufacturer & Model No. of Pressure Measuring Instruments:

Instruments	Manufacturer	Model
Mercury Barometer	➤ F. Darton & Co. Ltd., England	K-60
	➤ ADOLF THIES GmbH & . Co KG, Germany.	3.1550.17.000
Barograph	➤ Casella London Ltd.UK.	M 110002
	➤ Isuzu seisakusho co. Ltd., Japan.	3-1070
	➤ Changchun Meteorological Instrument Factory, China	DJYI-1
Aneroid Barometer	➤ OTA KEIKI SEISAKUSHO, JAPAN.	TN-9A
	➤ Theodor Friedrichs & Co, Hamburg, Germany	5020.0000

Temperature Measuring Instruments In BMD.

Liquid In Glass Thermometer:

01. Ordinary Thermometer:
02. Maximum Thermometer.
03. Minimum Thermometer.



Ordinary Thermometer



Maximum Thermometer



Minimum Thermometer

Temperature Measuring Graphical Instrument

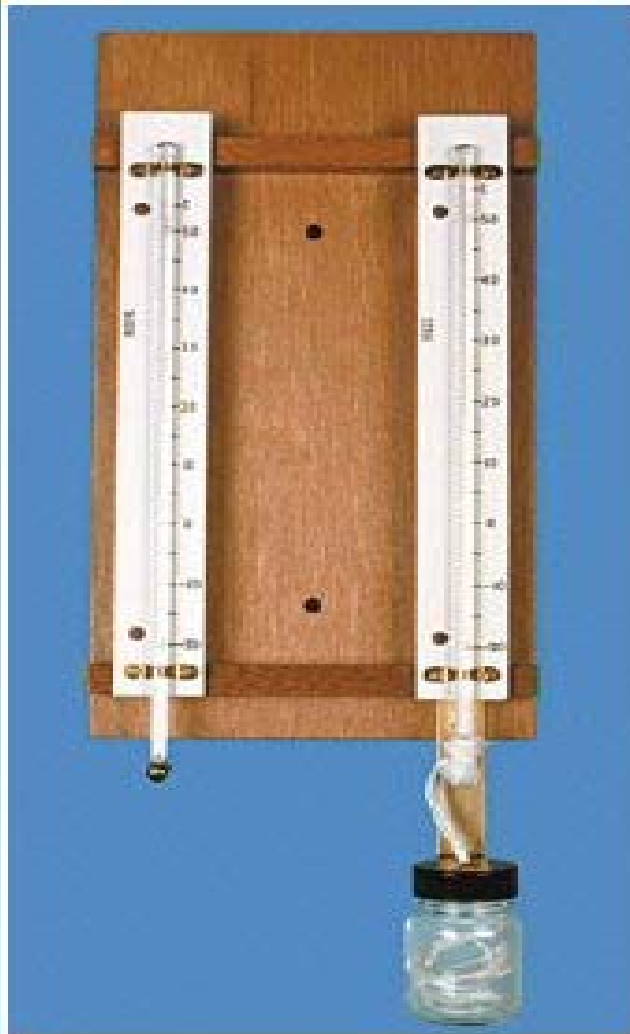


Thermograph

Manufacturer & Model No. of Temperature measuring instruments:

Instrument	Manufacturer	Model
Ordinary Thermometer	❖ Casella London Ltd.UK.	B6886/11
	❖ Tientsin Meteorological and Marin Instrument Works, China.	MC 9004
	❖ G.H. Zeal Limited, England.	17144
Maximum Thermometer	❖ Casella London Ltd.UK.	C7209/18
	❖ G.H. Zeal Limited, England.	17074
	❖ Venus ,India.	IMD No-2A
Minimum Thermometer	❖ Casella London Ltd.UK.	C7711/15
	❖ G.H. Zeal Limited, England.	YHP2803
	❖ Venus ,India.	IMD No-3A
Thermograph	❖ Casella London Ltd.UK. .	T6550
	❖ Adolf Thies GmbH & Co.KG, Germany.	2.0601.00.015
	❖ Isuzu seisakusho co. Ltd.,Japan.	3-1090

Relative Humidity Measuring Instruments

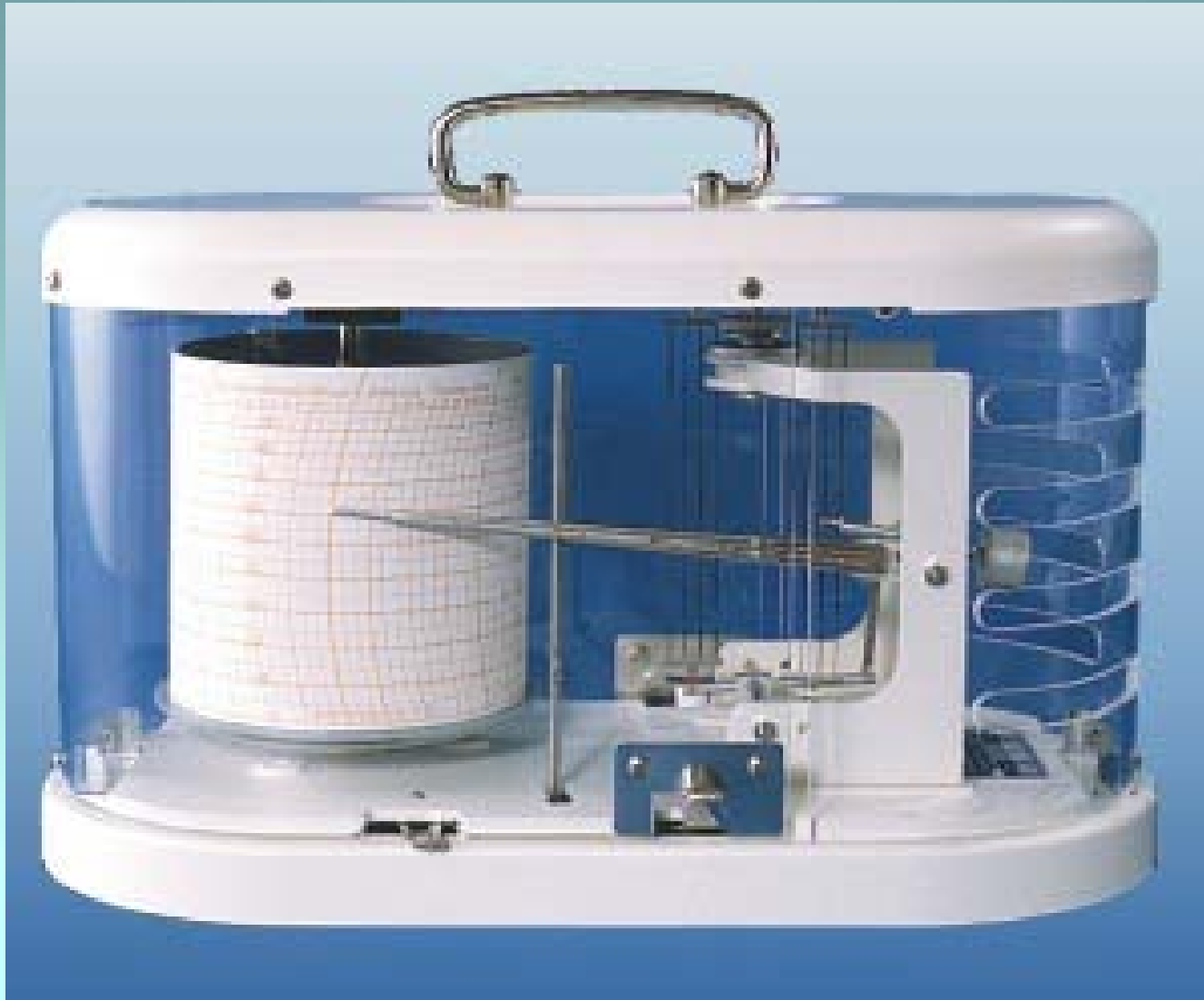


Kew Pattern Hygrometer



Whirling Psychrometer

Relative Humidity Measuring Graphical Instrument



Hair hygrometer

Manufacturer & Model No. of Humidity Measuring Instruments:

Instruments	Manufacturer	Model
Kew Pattern Hygrometer	Casella London Ltd.UK.	M113011
	Perfect Instruments Corporation, India.	JRM
Whirling Phychrometer	Casella London Ltd.UK.	M105334
	Perfect Instruments Corporation, India.	JRM
Hair hygrograph	Casella London Ltd.UK.	T9200
	Weather Measure Corporation, Japan.	H321
	Hisamatsu mfg co , Japan.	-

Wind Measuring Instruments



Cup Counter Anemometer



Wind Vane

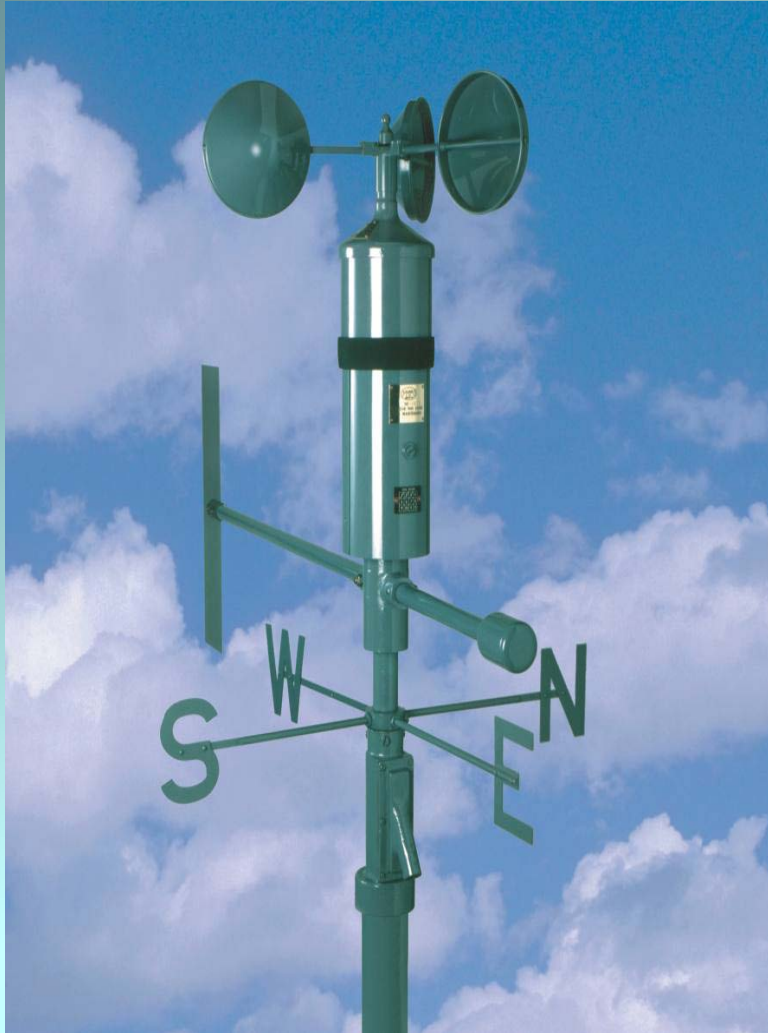


Pressure Tube Anemograph



Mechanical Wind Recorder

Electrical Anemometer



Manufacturer & Model No. of Wind Measuring Instruments:

Instruments	Manufacturer	Model
Cup counter Anemometer	Casella London Ltd.UK. .	D7204/Z
	Adolf Thies GmbH & Co. KG, Germany.	4.3018.10.000
	Lawrence & Mayo Private Limited, India.	Un known
Pressure tube Anemometer	R W Munro Limited, UK.	IM 100
Mechanical Wind Recorder	Adolf Thies GmbH & Co. KG, Germany.	4.3900.20.000
Electrical Anemometer	R W Munro Limited, UK.	IM 124
Wind Vane	BMD Workshop, Bangladesh.	W 2010

Rainfall Measuring Instruments



Natural Siphon Rainfall Recorders

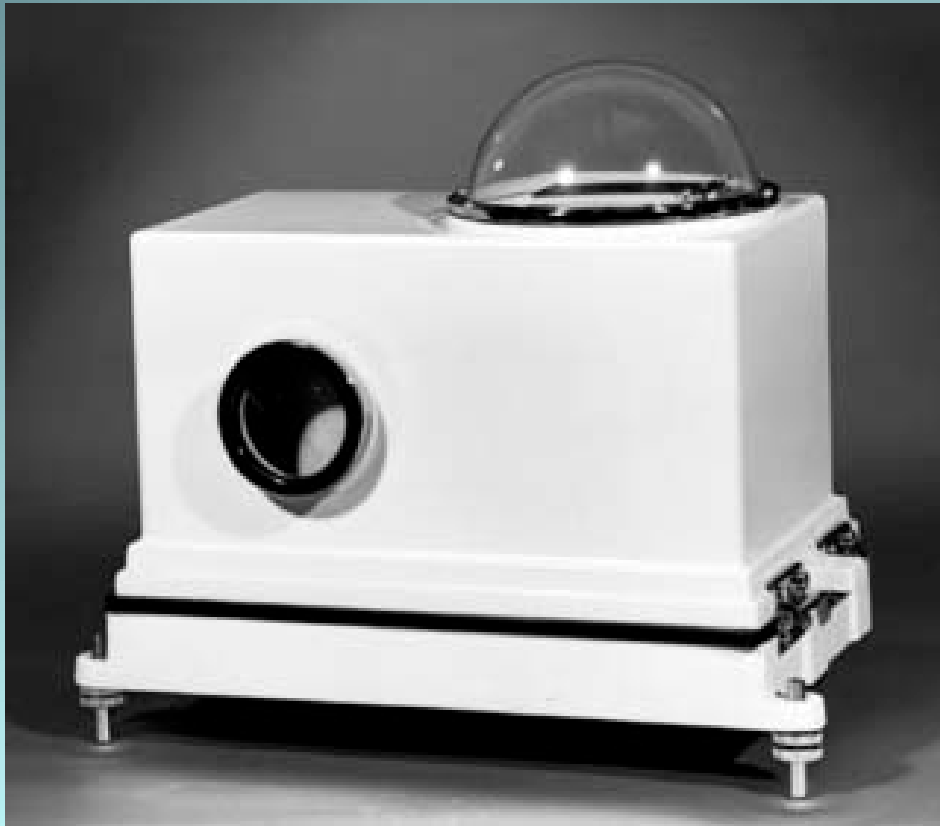


Snowdon Rain gauge

Manufacturer & Model No. of Precipitation measuring instruments:

Instruments	Manufacturer	Model
Natural Siphon Rainfall Recorder	➤ Casella London Ltd.UK.	M114019
	➤ Lawrence & Mayo Private Ltd, India.	LYNX
Snowdon Rain gauge	➤ Casella London Ltd.UK. .	M114001

Radiation Measuring Instruments



Pyranograph



Pyranometer /Radiometer

Manufacturer & Model No. of Radiation measuring instruments:

Instruments	Manufacturer	Model
Pyranograph/ Actinograph	➤ HISAMATSU MFG CO, JAPAN.	TN44
	➤ WEATHER MEASURE CORPORATION, JAPAN.	R401-S
Radiometer	➤ THE EPPLEY LABORATORY.INS, USA.	PSP

Sunshine duration measuring Instrument:

**Casella London Ltd.UK.
Model No. 102271D**



Campbell-Stokes sunshine recorder

Automatic Weather Station(AWS): BMD Campus, Dhaka.



Ongoing Development Projects of BMD

JICA's Technical Cooperation Project for Development of Human Capacity on Operation of Weather Analysis and Forecasting (Sep. 2009- Dec 2013)

Projects Purpose:

Weather information for natural disaster management is strengthened in terms of *time and quality* through human capacity development and dissemination of weather information among various stakeholders.

□ SARRC STORM Project

➤ **24 Automatic Weather Stations will be installed covering severe thunderstorm and tornado prone areas to increase the lead time issuance of related warnings and improve the modeling capacity.**

- **Govt. of India (ISRO) will be supply (AWS) sensors**
- **RIMES/ADPC is rendering technical assistance in the installation and communication infrastructure**
- **Maintenance support by BMD's budget.**

Manufacturer & Model
R. Fuess Berlin-Steglitz,
Germany.
Model No-1110



National Standard Barometer

MANUFACTURER: THEODOR FRIEDRICHS & CO, GERMANY.

MODEL NO : 8221



Thermometer Test Bath



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About BMD

“Bangladesh Meteorological Department is the authorised Government organisation for all meteorological and hydrological services in the country. It maintains a network of surface and upper air observatories, radar and satellite stations, agro-meteorological observatories, geomagnetic and seismological observatories and meteorological telecommunication system. Its Headquarters are in Dhaka with two regional centres i.e. Storm Warning Centre (SWC), Dhaka and Meteorological Centre (M & GC), Chittagong.”

<http://www.bmd.gov.bd>

Conclusion

- ❖ Bangladesh is one of the highly disaster prone countries of the world.
- ❖ BMD is trying heart and soul to improve the prediction and monitoring facilities of impending disasters.

Thank you