

Communication of weather forecasts / warnings for public:

- Interactive Voice Response System (Toll free No.1800 180 1717)
- All India Radio
- Doordarshan
- Press and Media
- Website

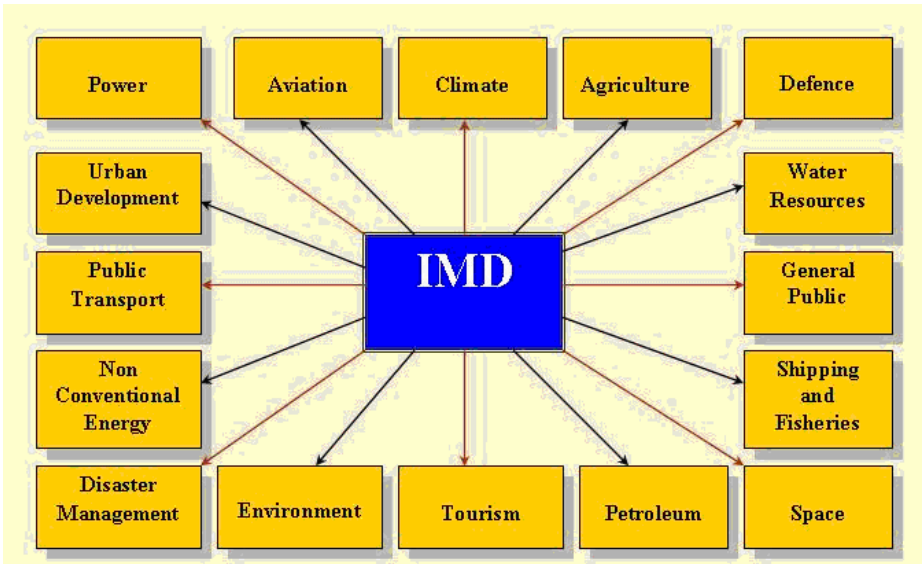
Important Websites:

- Website address of RMC Mumbai : www.imdmumbai.gov.in
- Website address of MC Ahmedabad : www.imdahm.gov.in
- Website address of IMD New Delhi : www.imd.gov.in

Weather Enquiry: (022) 22150431 / 22174735 / 22174719.

**Dy Director General of Meteorological Centre
Regional Meteorological Centre,
R.C.Church,
Colaba , Mumbai 400005**

**Weather Services
&
Forecasting Terminology.**



**Regional Meteorological Centre, Colaba,
Near R.C. Church, Mumbai-400005.**

Regional Meteorological Centre, Mumbai:

Regional Meteorological Centre, Mumbai is one of the six regional centers of India Meteorological Department. The other five regional centres are New Delhi, Chennai, Kolkatta, Nagpur and Gawhati.

The Regional Meteorological Centre, Mumbai was established in 1945 and is responsible for providing all weather related services to the state of Maharashtra (Excluding Vidarbha), Goa and Gujarat.

Mumbai Region



Weather and Climate:

Weather: It is the day to day state of atmosphere and is aggregate effect of various atmospheric parameters like temperature, pressure, humidity, precipitation, cloudiness, sun radiation, visibility and wind.

Climate: It is the weather of a locality /region averaged over a long period of at least 30 years and

Seasons

Seasons	Months
Winter Season	January – February
Pre Monsoon or Summer Season	March – May
Southwest Monsoon Season	June – September
Post Monsoon Season	October – December

Forecast

Forecast is the statement of expected future state of the atmosphere. For issuing forecast, the present state of atmosphere and the trend in the behavior of various meteorological parameters like pressure, temperature, wind direction and wind speed, relative humidity etc. is essential. This is achieved with the help of meteorological observations.

TERMINOLOGY

Types of forecast

Nowcasting	A short range forecast having a lead time/validity of less than 24 hrs. This applies mostly to the aviation forecasts.
Short range forecasts	Forecasts having a lead time / validity period of 1 to 3 days. The regional forecasts and state level forecasts come under this category.
Medium range forecasts	Forecasts having a lead time /validity period of 4 to 10 days. Meteorological forecasts for agricultural purposes come under this category.
Long range /Extended Range forecasts	Forecasts having a lead time /validity period beyond 10 days. Usually this is being issued for a season. IMD issues Long Range Forecast for southwest monsoon rainfall and onset date for Kerala, Northeast Monsoon Rainfall and Winter precipitation over Northwest India.

Regional forecast

The regional forecast is issued twice in a day for the area covering Gujarat state, Maharashtra (excluding Vidarbha) and Goa state. These contain forecast for any weather phenomena and warning if any for meteorological subdivisions.

Meteorological Subdivisions of Maharashtra (excluding Vidarbha):

Met Sub Divisions		Districts
Konkan-Goa	North Konkan	Thane , Raigad, Greater Mumbai
	South Konkan-Goa	Sindhurg, Ratnagiri, Goa
Madhya Maharashtra	North Madhya Maharashtra	Pune, Nasik, Ahmednagar, Jalgaon, Dhule, Nandurbar
	South Madhya Maharashtra	Satara, Sangli, Sholapur, Kolhapur
Marathwada	Marathwada	Aurangabad, Jalna, Beed, Nanded, Osmanabad, Latur, Parbhani, Hingoli,

Terminologies used for spatial distribution and Intensity of rainfall .

Spatial Distribution of Rainfall:

Distribution	No. of Places	Description
Isolated	One or two Places	<25% of stations get rainfall
Scattered	At a few Places	(26–50)% of stations get rainfall

Probability of Forecast: Recently the department has started including probability of occurrence of weather also in the forecast. The terminology for the same follows:

Terminology	Probability of occurrence	Terminology	Probability of occurrence
Could Occur	<25%	Would Occur	51-75%
May Occur	26-50%	Will Occur	76-100%

Intensity of Rainfall

Descriptive Term used	Rainfall amount in mms
No Rain	0.0
Very light Rain	0.1- 2.4
Light Rain	2.5 – 7.5
Moderate Rain	7.6 – 35.5
Rather Heavy	35.6 – 64.4
Heavy Rain	64.5 – 124.4
Very Heavy Rain	124.5 – 244.4
Extremely Heavy Rain	>244.5
Exceptionally Heavy Rain	When the amount is a value near about the highest recorded rainfall at or near the station for the month or season. However, this term will be used only when the actual rainfall amount exceeds 12 cm.

Sky Conditions

Reported in terms of Octa wherein the sky is divided into 8 equal parts

Clear sky	0 Octa
Mainly clear	1-2 Octa of sky covered
Partly cloudy	3-4 Octa of sky covered
Generally cloudy / Mainly cloudy	5-7 Octa of sky covered
Cloudy	> 7 Octa of sky covered

Local Forecast:

Local Forecast contains the information regarding any weather phenomenon expected, its intensity, frequency and time of occurrence for any particular station like Mumbai.

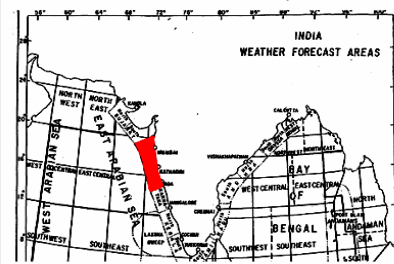
It also contains the information about maximum and minimum temperatures, strong wind and special weather phenomena, also when the situation demands .In case of absence of any weather phenomenon, the local forecast describes the anticipated sky conditions. Local forecast is valid for a radius of 50 Km around the station and is updated four times in a day at 0200 hrs IST, 0800 hrs IST, 1400 hrs IST, and 2000 hrs IST.

Cyclone Warning Services

The regional Meteorological Centre Mumbai is responsible for monitoring Cyclone formation in Arabian Sea and Cyclone Warning work for Maharashtra -Goa coast. The Meteorological Centre at Ahmedabad coordinates cyclone warning work under this centre. Various bulletins / warnings are issued by this centre:

- Coastal bulletin for Maharashtra - Goa coast.
- Sea Area Bulletin (for North East, Central and South Arabian sea)
- Fleet forecast for Indian Navy (for Arabian Sea to the north of 5 deg N & between 60 deg E - 80 deg E, Persian Gulf, Gulf of Oman.
- Fishermen warning for Maharashtra - Goa coast.
- Port warning for Maharashtra - Goa coast
- GMDSS Bulletins for Area VIII N
- Cyclone warning bulletin (for Arabian Sea as and when required).

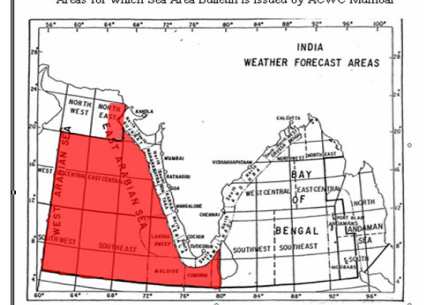
Areas for which Coastal Bulletin is issued by ACWC Mumbai



Routine frequency: 2 times in a day for Maharashtra-Goa coast.

Contents: wind speed and wind direction, weather, visibility, state of sea.

Areas for which Sea Area Bulletin is issued by ACWC Mumbai



Routine frequency: 2 times in a day

Contents: wind speed and wind direction, weather, visibility, state of sea.

Agricultural Forecast

This forecast is issued two times in a week: on Tuesday and Friday for the districts of Maharashtra –Goa states which comes under the meteorological subdivisions of Konkan-Goa, Madhya Maharashtra and Marathwada. The forecast includes the expected values of the following meteorological parameters:

- Rainfall (in millimeters)
- Maximum temperature (in ° C)
- Minimum temperature (in ° C)
- Total cloud cover (in octas)
- Maximum relative humidity (in %)
- Minimum relative humidity (in %)
- Wind speed (in kmph) and Wind directions (in degrees w.r.t. true north).

It also includes weather summary for the previous week and synoptic situation prevailing in the region. The forecast is issued for next 5 days' period.

These forecasts are passed to AMFUS coming under the area of responsibility of Mumbai office by e-mail .Based on the forecast issued by Mumbai office; these AMFUS issue agromet advisory bulletins for the benefit of the farmers.

Forecast for ONGCL operations

RMC Mumbai is maintaining a separate section for issuing forecast for ONGCL operations.

Frequency of forecast: Three times a day at 0830 hrs IST, 1230 hrs IST and 2000 hrs IST

Validity of forecast: 72 hours from the time of issue.

Area coverage: Mumbai high, Tapti, Gulf of Kutch and south Andhra coast.

The contents of the forecast:

- Synoptic situations affecting the area
- Wind direction and wind speed
- Visibility
- Wave height
- Wave directions and wave period
along with NCEP wave model outputs for marine forecast for 72 hrs.

In addition to routine forecasts, special forecasts for rig movement, monsoon advance and withdrawal, cyclone warning bulletins are also provided to ONGCL as and when required.

Types of Weather Phenomena

Drizzle: Liquid precipitation in the form of water drops of very small size (by convention, with radius of water drops between about 100 and 500 μm).

Rain: Liquid precipitation in the form of water drops of radius between about 500 and 2500 μm . Depending upon the frequency, rain can be classified as follows:

▪ **One or two spells of rain:** In 24 hrs time, rainfall occurring with a frequency of one or two spells.

▪ **A few spells of rain:** In 24 hrs time, rainfall occurring with a frequency of more than two spells but with well defined dry spells in between.

▪ **Intermittent rain:** In 24 hrs time, rainfall occurring with a frequency, more than that defined in "A few spells" but is discontinuous and without presenting the character of a shower.

Shower: Solid or liquid precipitation from a vertically developed cloud is designated as shower and is distinguished from the precipitation, intermittent or continuous, from layer clouds. Showers are often characterized by short duration and rapid fluctuations of intensity (by convention, with radius of water drops more than 2500 μm .)

Thunder Storm: One or more sudden electrical discharges manifested by a flash of light (Lightning) and a sharp rumbling sound (thunder), with or without rain / shower.

Squally weather: Squally weather is meant to cover occasional or frequent squalls with rain or persistent type of strong gusty winds (mean wind speed not less than 20 knots) accompanied by rain. Such conditions are associated with low pressure system or onset and strengthening of monsoon.