



"Public Safety & Disaster Management"

GeoIntelligence Asia 11-12 June, 2015

Rahul Saxena

**भारत मौसम विज्ञान विभाग
INDIA METEOROLOGICAL DEPARTMENT**



Meteorological Services



STORM SURGE WARNING

- Storm Surge
- Astronomical tide
- Coastal bathymetry effects



Meteorological Services for Pilgrimage

- Amarnath Yatra
- Kumbh mela etc



METEOROLOGICAL SERVICES FOR DEFENCE

- Troop & logistic movements
- Upper air observations



Agro Meteorological Advisory

- Crop Management Advisories
- Pest & Disease Advisories
- District Level Meteorological Forecast



METEOROLOGICAL SERVICES TO ANTARCTIC EXPEDITIONS

- Comprehensive weather services



Navigational Advisory

- Adverse Weather
- Sea State (High Seas)

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ENVIRONMENTAL MONITORING

- Environmental clearances for industries etc
- Aerosol, Acid rain, Ozone, Atmospheric radiation



EARTHQUAKE DETECTION

- Location & Magnitude
- Seismic Zonation / Microzonation
- Seismic risk Assessment



METEOROLOGICAL SERVICES TO MOUNTAINEERS

- Warning for hazardous weather en-route



METEOROLOGICAL SERVICES FOR SPACECRAFT LAUNCHING

- Identification of favorable time window for launching



POSITIONAL ASTRONOMY

- Astronomical ephemeris
- Indian calendar & Rashtriya Panchang
- Eclipses & Astronomical phenomena

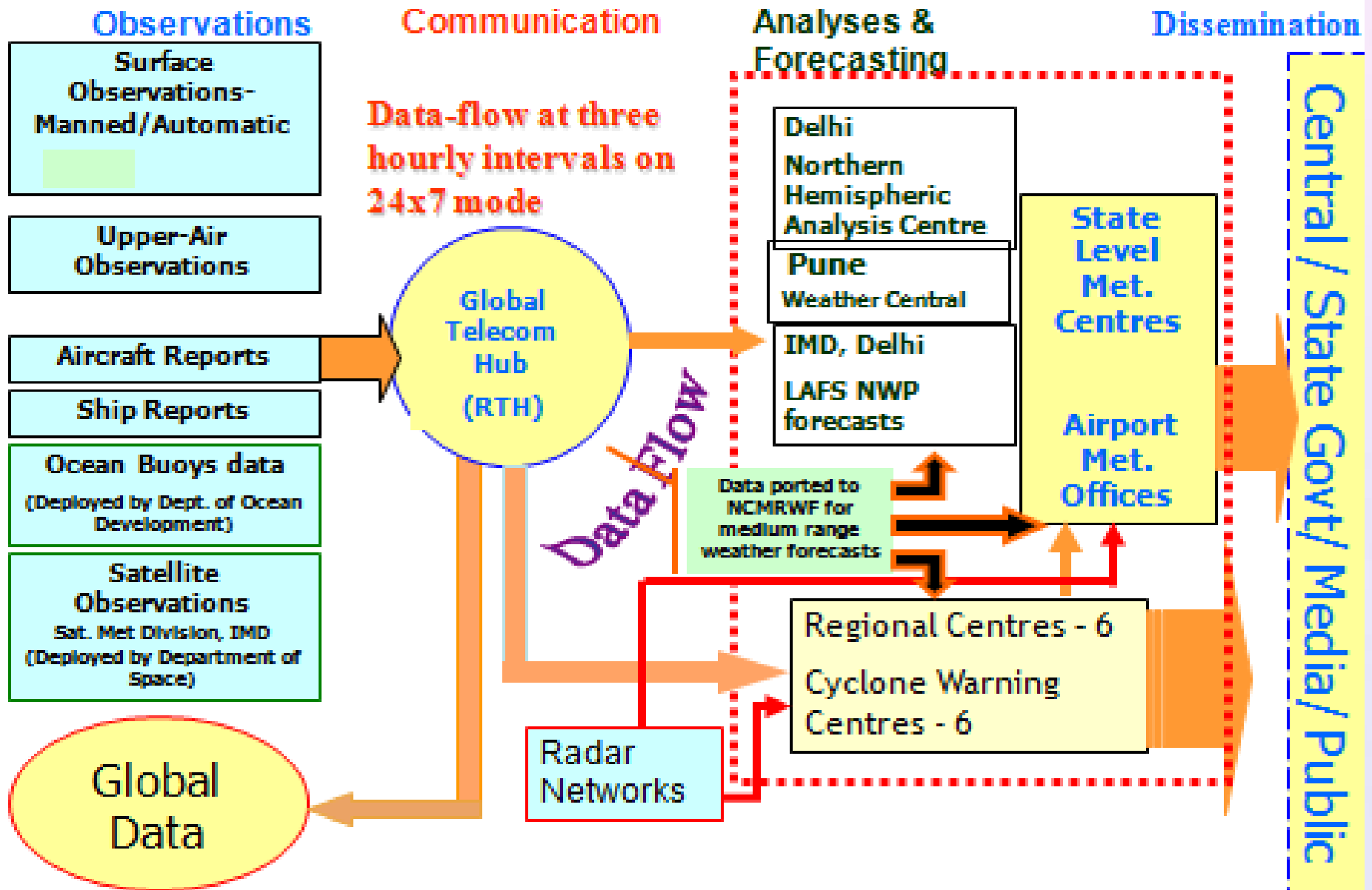


AVIATION METEOROLOGICAL FORECAST

- Route & Terminal Aerodrome Forecast
- Weather Hazards Warning
- Flight Planning Information

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IMD's Operational Weather Forecasting System



Forecast IMD's spectrum



- ❖ **Public Weather Local Forecast**
- ❖ **Sub-Divisional short range Forecast**
- ❖ **Tropical Cyclone Forecast & Warnings**
- ❖ **Forecasts related to all other Natural Disasters**
- ❖ **Long Range Forecast of Monsoon**
- ❖ **Climate Forecast services/ Regional Forum**
- ❖ **Sea State Forecast -Shipping & Fisheries**
- ❖ **Coastal Zone Forecasts**
- ❖ **Forecasts to Aviation**
- ❖ **Forecasts for Agriculture- Agro-advisory Services, Crop-Yield forecast**
- ❖ **Flood & Drought Forecasts**
- ❖ **Customized Forecasts to different Sectors- Power, Tourism, Defense, Adventure, Road/Railway transports, Public Utility, VIP functions, Strategic operations, Space, etc**

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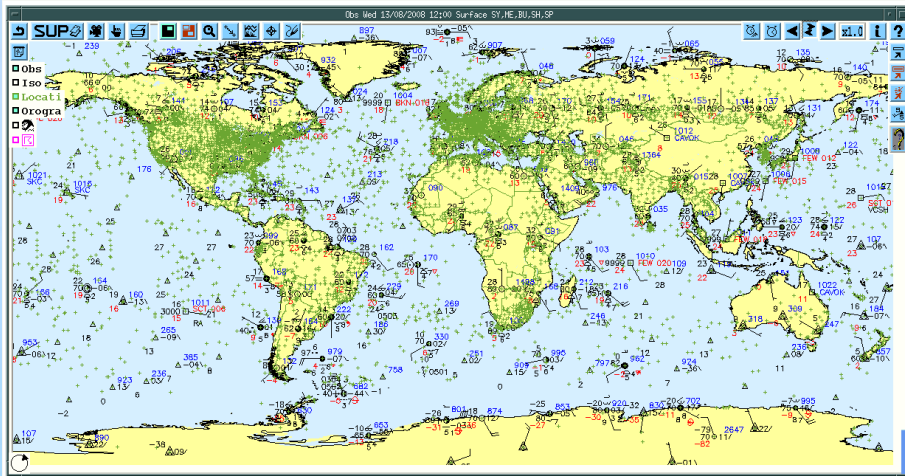
Weather data and forecast has become an important guidance in dealing with emergency situations both in pre and post events . The societal impact in terms of saving man and material is virtually incalculable as has been highlighted in the recent high impact weather events **Uttarkashi and phailin Cyclone** . The trend proves that weather data will not only remain an important factor in the decisions that are made at an individual level but would also affect the Governmental policies at the micro and macro level especially in the field related to agriculture and social sector.

The application of geospatial technology **in weather monitoring specially climatic changes** , analysis and planning cannot be undermined. The GIS based **decision support systems** have achieved a fair amount success in Disaster mitigation programs of the Government. So the development has it's implications on society.

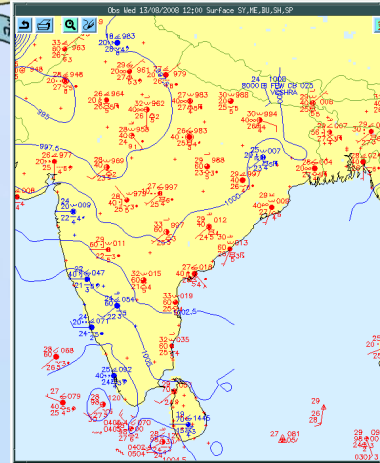
. IMD has initiated lot of geospatial activities in the recent years that have proved beneficial of the people across spectrum.

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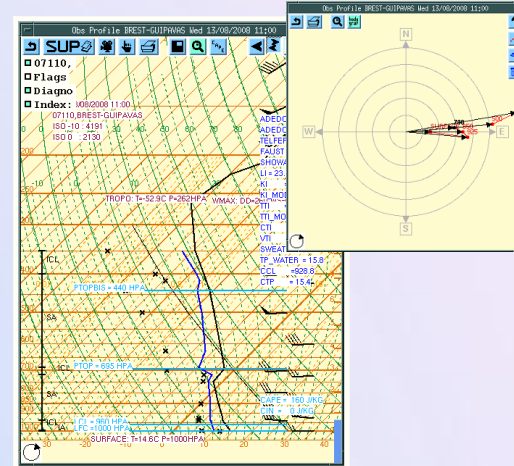
Modernisation of Forecasting System : Synergie



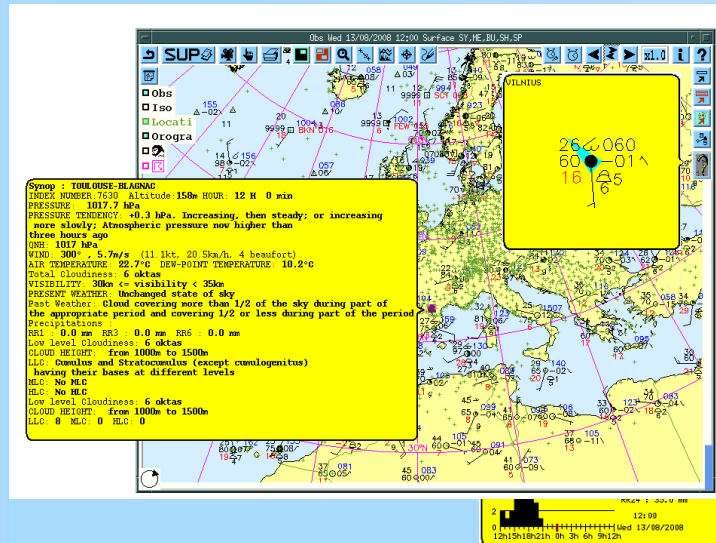
Global plotting



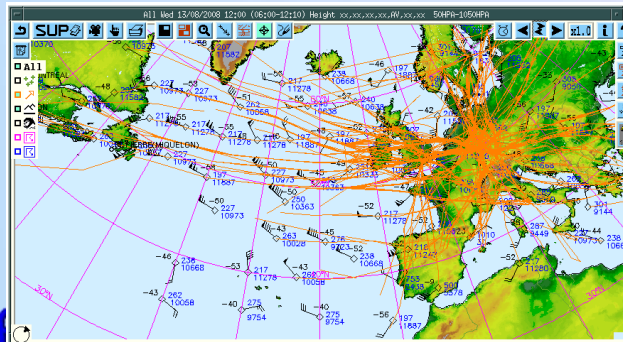
Conditional plotting



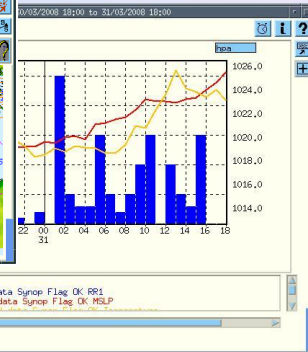
Profile



Gauges



Plane trajectories





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पृथ्वी विज्ञान मंत्रालय

India Meteorological Department
Ministry of Earth Sciences

Friday 12 June 2015



12 June (Day 1): ♦ Heavy to very heavy rainfall would occur at a few places with extremely heavy fall at isolated places over Assam & Meghalaya. Heavy to very heavy rainfall would occur at isolated places over Odisha, West Bengal, West Orissa and

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आदित्याय जयते

[Current & Hourly Forecast \(Delhi & NCR\)](#) **NEW!**

[Hourly Forecast \(Others\)](#) **NEW!**

Counter : **00003021**

DELHI & NCR: CURRENT WEATHER AND HOURLY FORECAST

Map Satellite Terrain

Current Wx HourlyForecast

Games Village

Lat : 28.6162 Long : 77.2724

Hour : 12IST19OCT

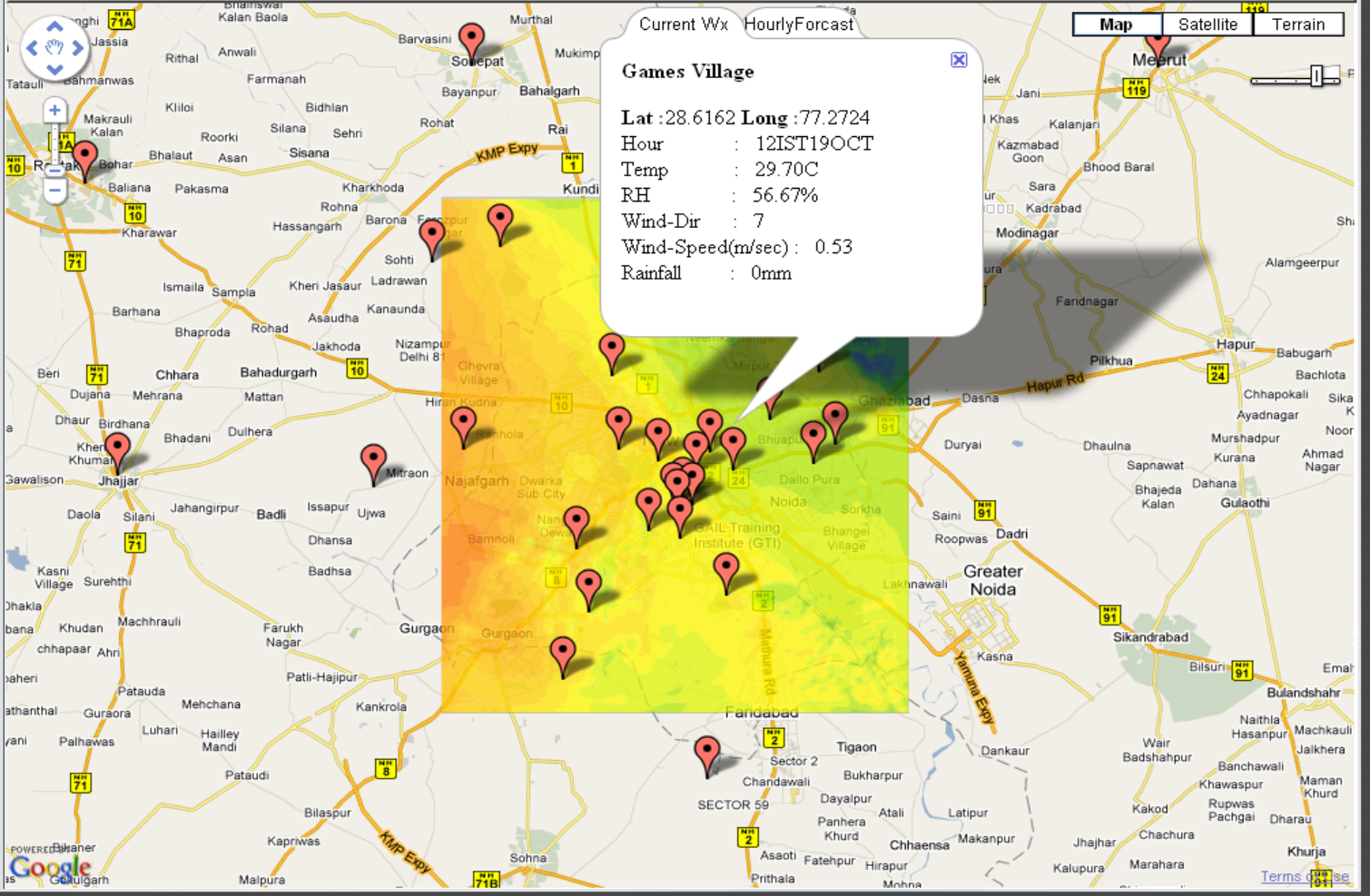
Temp : 29.70C

RH : 56.67%

Wind-Dir : 7

Wind-Speed(m/sec) : 0.53

Rainfall : 0mm



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Map Satellite Terrain

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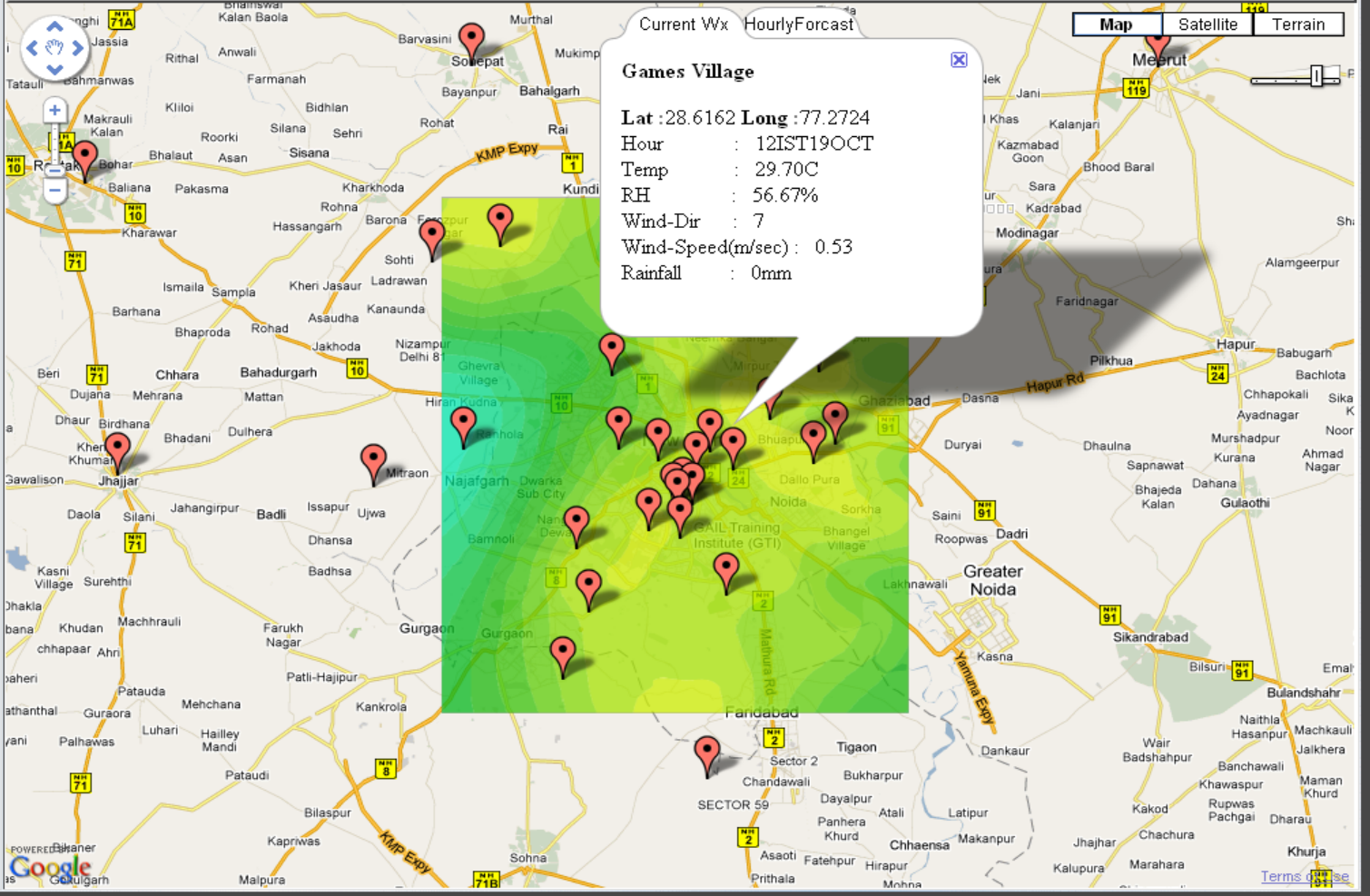
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[Map](#) | [Satellite](#) | [Terrain](#)

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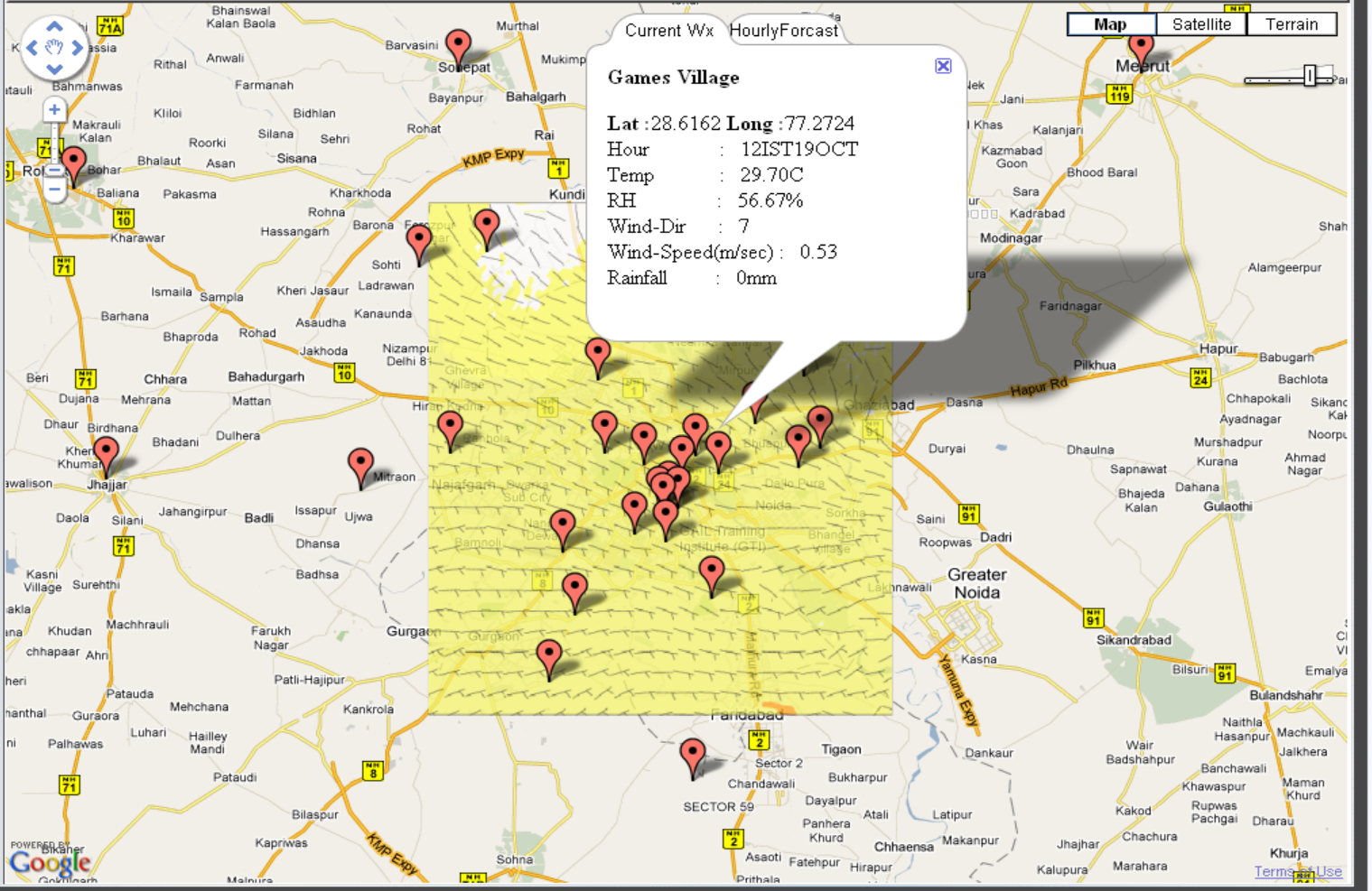
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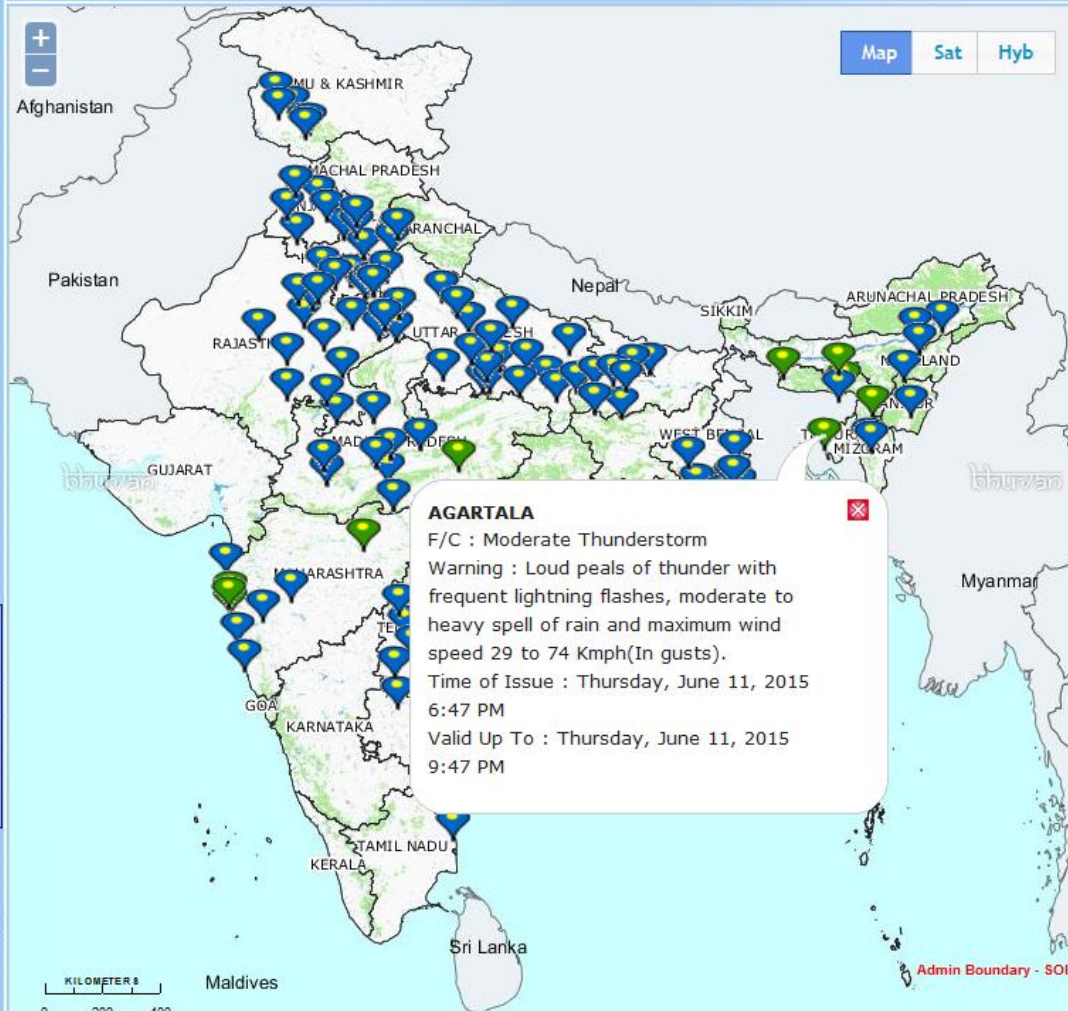
[WDSSII REFLECTIVITY
FORECAST FOR DELHI AND
NEIGHBOURHOOD](#)

Warning Colors

■	No Thunderstorm
■	Moderate Thunderstorm
■	Severe Thunderstorm
■	Thunderstorm with Squall
■	Thunderstorm with Hail

hit counter

[Counter reading since 24 May 2013](#)





202.54.31.51/fog/



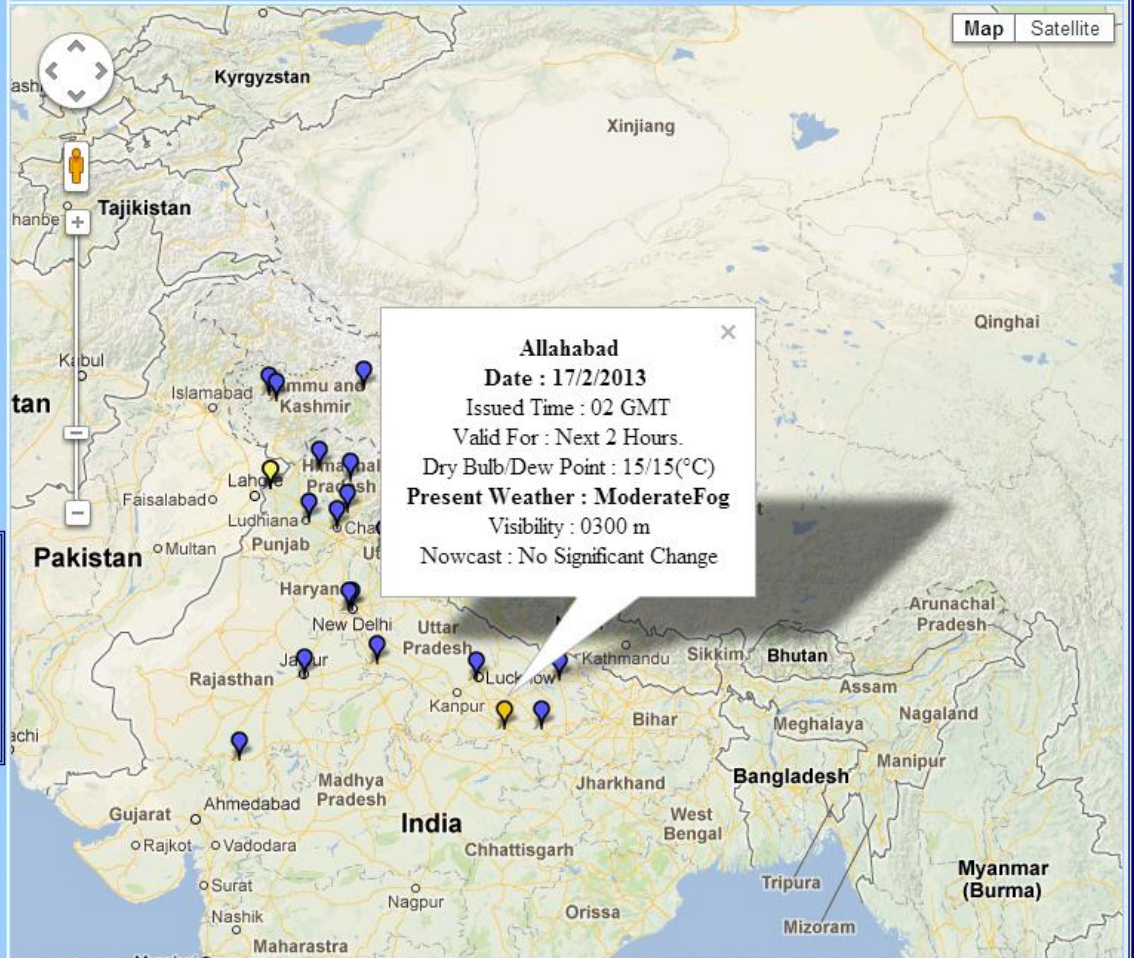
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Visibility Range for FOG

	No Fog (>1000 m)
	Shallow Fog (500-1000 m)
	Moderate Fog (500-200 m)
	Dense (200-50 m)
	Very Dense (<50 m)

IST (Hrs) = GMT + 5:30

ALL INDIA NOWCAST



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Still Images

Animation (3-Hours)

[National Mosaic](#)

PCAPPI

PPIZ

SRI

[Select Station Name](#)

Agartala

[Select Type of Product](#)

PCAPPI - 1 KM

Plan Position Indicator(Z)

Surface Rainfall Intensity

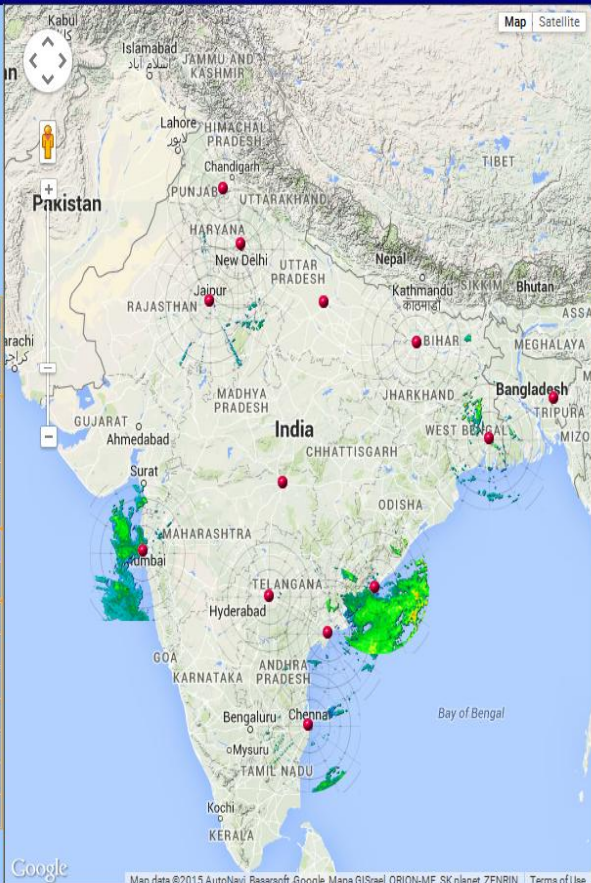
MAX(Z) Product

Volume Velocity Processing

Winds - 1 KM

000080965

Counter reading since 30 May 2013



Date/Time In UTC



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PCAPPI

PPIZ

SRI

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Mumbai

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PCAPPI - 1 KM

Plan Position Indicator(Z)

Surface Rainfall Intensity

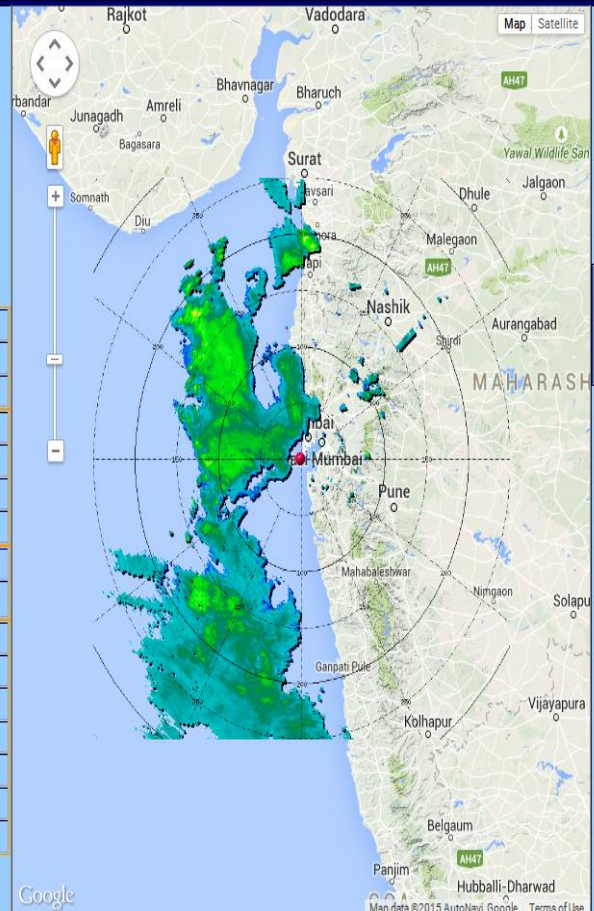
MAX(Z) Product

Volume Velocity Processing

Winds - 1 KM

000080965

Counter reading since 30 May 2013



MUMBAI

Date/Time In UTC

12.06.2015

04:24:55



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Highway Forecast- India Meteorological Department

IMD Websi



Map Contents

- Highway Forecast
 - Cities
 - Forecast
- 24 Hourly Warning
 - No Weather Warning
 - ☘ Heavy Rainfall
 - ❄ Heavy Snowfall
 - ⚡ Thunderstorm with Squall
 - ⚡ Thunderstorm with Hail
 - ☁ Dense Fog
 - ☀ Heat Wave
 - ☀ Hot Day
 - ❄ Cold Wave
 - ❄ Cold Day
 - 💧 Frost
 - 🌀 Cyclonic Storm
- 3 Hourly Warning
 - ▲ Moderate Thunderstorm
 - NoThunderstorm
 - ▲ Severe Thunderstorm
 - ▲ Thunderstorm with Hill
 - ▲ Thunderstorm with Squall
- Current Weather
 - ★
- National Highway





mkisan.gov.in/nowcastreport/NowcastConsume.aspx

Google

IMD - Weather on Web Google GFR2005.pdf (applicati... ecmwf login page jQuery Mobile Tutorial eso council - rahulsaxe... Indian Ocean - 24hr Sh... Georeferencing Ima... Ra

NowCast Report

Station :

ALL

Warning :

ALL

Issue Date From : - 15/05/2015

To :- 12/06/2015

Filter

Total 2172 Records Found

S.No	Station_Name	Warning	IssueDate	IssueTime	ValidDate	ValidTime	Message	TotalFarmers
1	MUMBAI SANTA CRUZ	F/C : MODERATE THUNDERSTORM	12/06/2015	11:20AM	12/06/2015	2:20PM	आपल्या विभागामध्ये वीजांच्या कडकडाटासह मध्यम वादळाची आणि पावसाची शक्यता आहे। वीजांच्या कडकडाटासह मध्यम ते जोरदार पावसाची शक्यता आहे तसेच वार्यागचा वेग २९-७४ किलो मीटर प्रति तास राहू शकतो। हा हवामान अंदाज 2:20PM वाजेपर्यंत ग्राह्य राहिल।	3541
2	GUWAHATI	F/C : MODERATE THUNDERSTORM	12/06/2015	11:37AM	12/06/2015	2:37PM	आपके क्षेत्र में बिजली की गरज के साथ मध्यम गति की आंधी व बारिश की संभावना है। गरज व बिजली के चमकने के साथ मध्यम से भारी दर्जे की बारिश के झोंके आर्येंगे तथा इस समय हवा की गति 29 से 74 किमी प्रति घंटे तक हो सकती है। यह पूर्वानुमान 2:37PM बजे तक मान्य है।	15
							Aaepanar Qaft mDYmlya giter	



							Total 2172 Records Found	
				eTime	ValidDate	ValidTime	Message	TotalFarmers
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3	GUWAHATI	F/C : MODERATE THUNDERSTORM	12/06/2015	11:37AM	12/06/2015	2:37PM	Aaepanar Qaft mDYmlya giter Dumuha brxuN ehawar sm`Bawna AaeC ZaMr ibjull eDerknley mDYmlyar pra tlb\ brxuN Aaru plvit GN`qat 29 r pra 74 ikelaimqar giter btah bilb paer	2212
4	DHUBRI	F/C : MODERATE THUNDERSTORM	12/06/2015	11:37AM	12/06/2015	2:37PM	आपके क्षेत्र में बिजली की गरज के साथ मध्यम गति की आंधी व बारिश की संभावना है। गरज व बिजली के चमकने के साथ मध्यम से भारी दर्जे की बारिश के झोंके	36



- ❖ The technological advancement especially in the telecommunication sector has given a new impetus to providing Weather services in public. It has opened new vistas for handshaking with the new technologies like mobile - android applications to bridge the “last mile connectivity “ by providing instant location specific weather-related information in textual as well as graphic format to the man on the move .

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Here are some suggestions:

- [Reload](#) this webpage later.
- Check your Internet connection. Restart any router, modem, or other network devices you may be using.
- Check your DNS settings. Contact your network administrator if you're not sure what this means.
- Try disabling network prediction by following these steps: Go to **the Chrome menu > Settings > Show advanced settings...** and deselect "Predict network actions to improve page load performance." If this does not resolve the issue, we

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IMD launches weather application for smartphones, tablet

PTI Jan 15, 2013, 09:41PM IST

0 0

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Tags: Tablet | Smartphones | minister | Kolkata | Jaipal Reddy | India Meteorological Department | IMD | Google | application | APP

NEW DELHI: Weather information in four metros is now just a tap away.

The weather office today launched an application that enables smartphone and tablet computer users access near-real time weather-related information in Delhi, Chennai, Kolkata and Mumbai.

The 'Indian-weather' app can be downloaded free of cost from Google Play.

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S & T - SCIENCE NEW DELHI, January 14, 2013

IMD launching mobile application for weather forecast

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P. SUNDERARAJAN SHARE COMMENT (5) PRINT T+

India Meteorology Department (IMD) is all set to enter a new field of activity. On Tuesday, the apex weather agency will launch a mobile application through which current weather observations and four-day forecasts for weather stations in the four metros – Delhi, Chennai, Kolkata and Mumbai can be accessed on near real time basis through mobile phones..

A team of experts at IMD have developed an application called 'Indian-weather' that can be downloaded free of cost from Google Play, available on android-based smart phones and tablets.

Once downloaded, the application will enable the user to access the current weather observations along with four-day forecasts from meteorological stations in the four metros.

Speaking to *The Hindu*, IMD Director General, L.S. Rathore, said more value added services like weather bulletins, alerts, and agro-meteorological advisories would be added over the coming months based on feedback from users.

Noting that location-specific weather information and forecast were already available on IMD's website, he said the new application has been thought of to help reach a larger number of people considering there are a lot more people who have access to smart phones than to computers.

Over the next eight to 10 months, the IMD would try to not only expand the repertoire of services but also strive to cover all types of phones apart from android based smart phones, he added.

The new application will be launched by Union Minister for Science and Technology, Jaipal Reddy, on the occasion of IMD's 138th foundation day.

Keywords: India Meteorology Department, mobile application, Indian-weather, weather observations, metro weather stations, Google Play

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Thank You

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