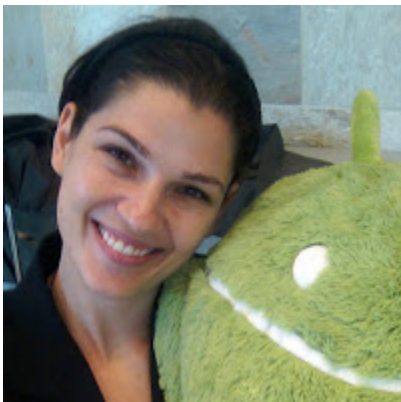




# Google Public Alerts

CAP Implementation Workshop  
23 September 2015

Google



**Meryl Stone**

Partnerships, Google Crisis Response



**Crystal Huang**

Partner Operations, Google Crisis Response



A low-angle photograph of several palm trees against a bright, overcast sky. The palm fronds are dark green and appear to be blowing in the wind. A semi-transparent dark grey horizontal band is positioned across the middle of the image, containing white text. At the very bottom of the image, there is a thin horizontal bar with segments of red, blue, green, and yellow.

Making critical information more accessible in times of crisis

What information do people need?



# Before

What is everyone else in my **neighborhood** doing?

**Where** would I evacuate to?

What do city/parish **officials advise** in terms of evacuating?

How **severe** is this storm?

What is the **path** of the storm?

What **supplies** do I need?

# During

Where are all of my **friends** and **family**?

Where can I get **medical care**?

How do I tap into **charities** to ease the **cost** of evacuation?

Where can I get news updates **specific to my area**?

Where should I store my **possessions**, like my car?

If my home floods, where is the nearest **safe place**?

# After

Where is everyone and what is their **status**?

Where can I get **medical help**?

What are the **announcements** by city/local officials?

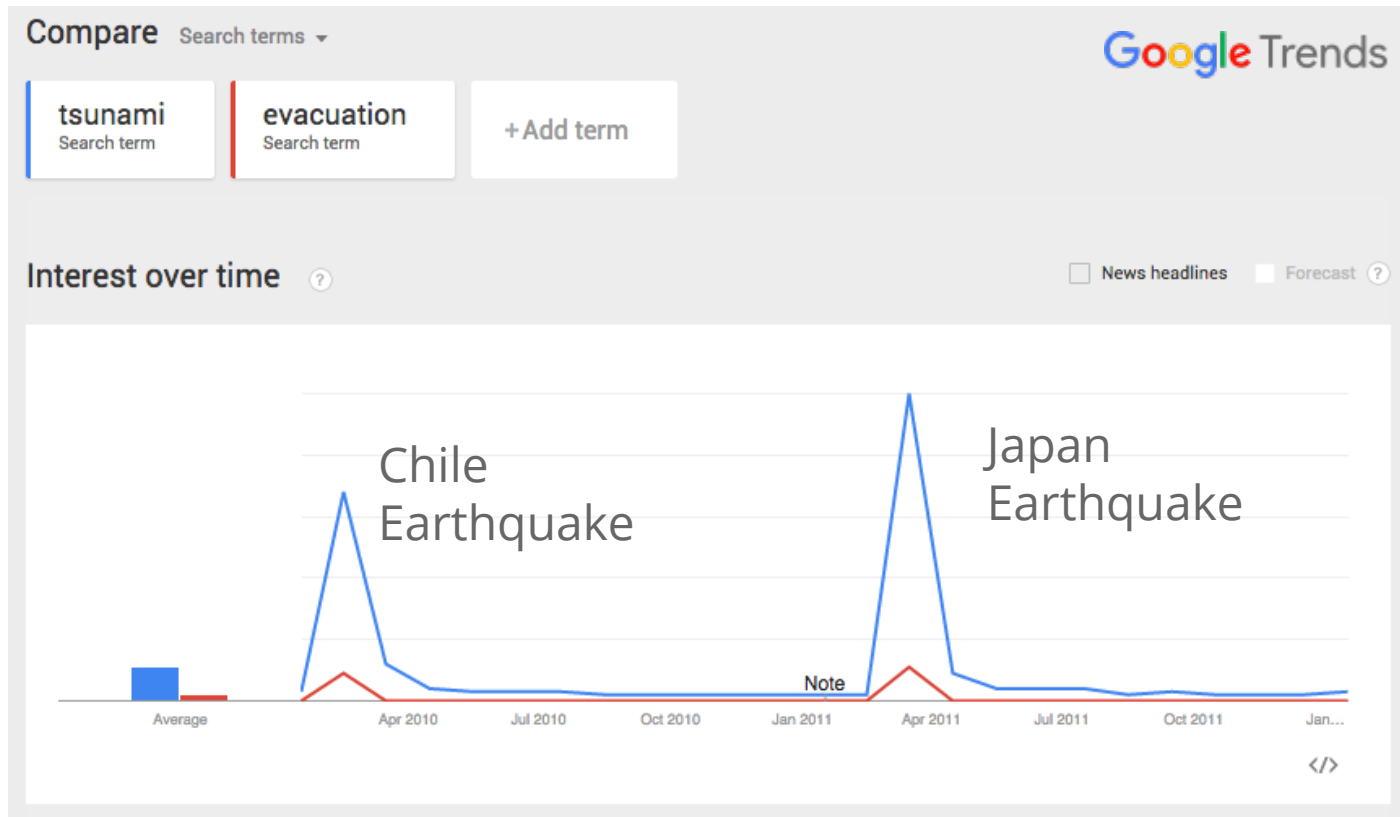
How **safe** are the conditions in my area?

When will **power** be back on in my area?

My home is destroyed - where can I find **shelter**?

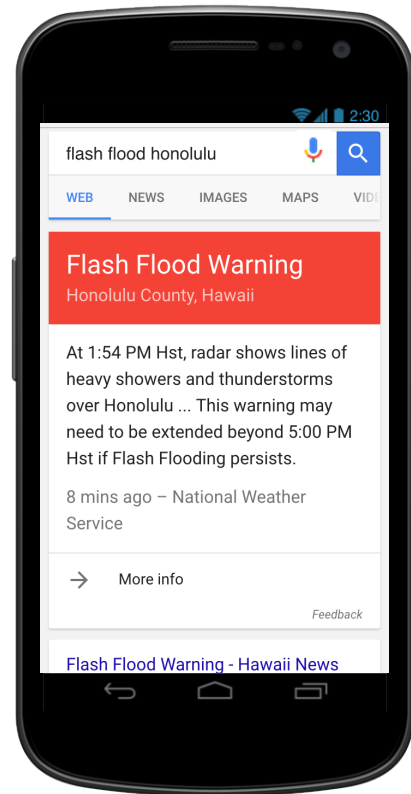
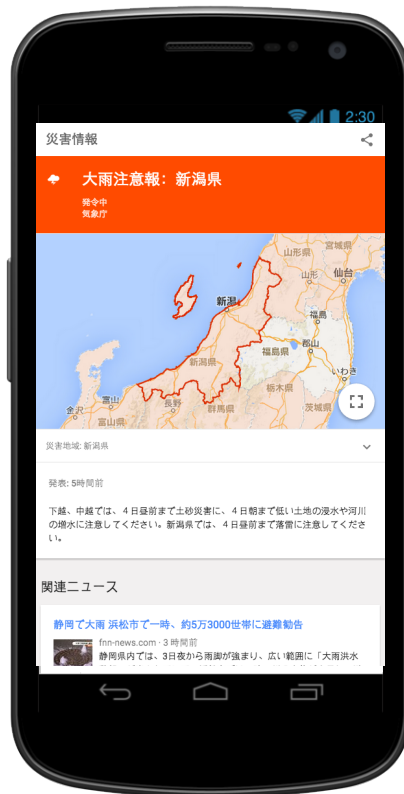
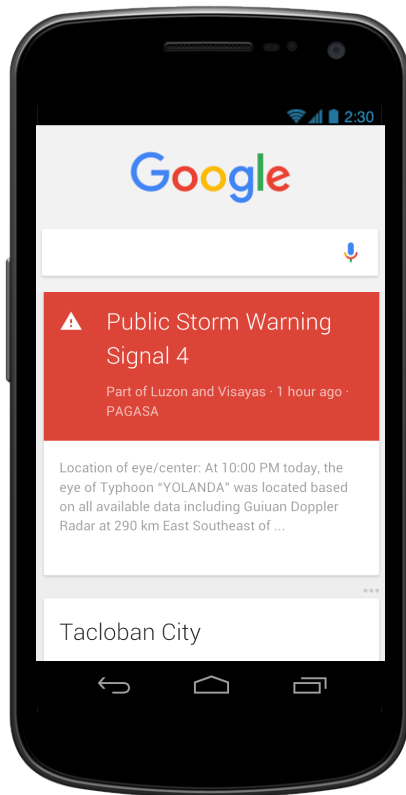
Where can I find **clean water**?

# People come to Google for information





# Today: Authoritative alert data across Google products



# Broad distribution to maximize reach and impact

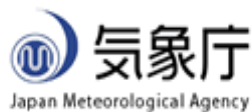
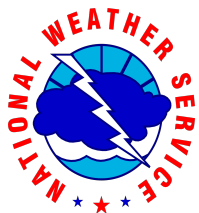
1 billion+ views

2 million+ unique alerts

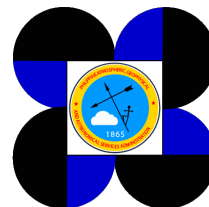
10 countries

6 languages

# Our partners



Unidad Nacional para la Gestión del Riesgo de Desastres  
Sistema Nacional para la Prevención y Atención de Desastres



# Most recently: India Meteorological Department



FROM: INDIA METEOROLOGICAL DEPARTMENT (Fax No. 24699216/24623220)

To: PRIME MINISTER'S OFFICE (FAX. No.23010233)  
CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 23093750)  
CONTROL ROOM NDMA (FAX.NO. 26701729)  
CABINET SECRETARIAT (FAX.NO.23793144)  
PS TO HON'BLE MINISTER FOR S & T AND EARTH SCIENCES (FAX NO.23316745)  
SECRETARY, MoES, (Fax No. 24629777)  
SECRETARY, DST (Fax No. 26863847/-2418)  
H.Q. (INTEGRATED DEFENCE STAFF AND CDS) (FAX NO. 23005137/23005147)  
DIRECTOR GENERAL, DOORDARSHAN (23385843)  
DIRECTOR GENERAL, AIR (25843825)  
PIB MoES (FAX NO. 23389042)  
UNI (FAX NO. 23355841)  
D.G. NATIONAL DISASTER RESPONSE FORCE (NDRF) (FAX NO. 26105912)  
DIRECTOR OF PUNCTUALITY, INDIAN RAILWAYS (FAX NO. 23385503)  
CHIEF SECRETARY, GOVT. OF ANDAMAN & NICOBAR ISLAND (FAX NO. 03192-232656)  
CHIEF SECRETARY, GOVT. OF ODISHA (FAX NO. 0674-2536660, 07712221242)  
CHIEF SECRETARY, GOVT OF ANDHRA PRADESH (FAX NO. 040-23453700)  
CHIEF SECRETARY, GOVT OF PUDUCHERRY (FAX No. 0413-2337575)  
CHIEF SECRETARY, GOVT. OF CHATTISGARH (FAX NO. 07712221242)

Time of issue: 2030 hours IST

Dated: 10.10.2014

Bulletin No.: BOB03/2014/26

Sub: Very Severe Cyclonic Storm, 'HUDDUD' over westcentral Bay of Bengal,  
Cyclone Warning for north Andhra Pradesh & south Odisha coasts (Orange Message)

The Very Severe Cyclonic Storm 'HUDDUD' over westcentral Bay of Bengal moved northwards during past six hours and lay centered at 1730 hrs IST of 10<sup>th</sup> October 2014 near latitude 15.2°N and longitude 86.7°E about 460 km east-southeast of Visakhapatnam and 490 km south-southeast of Gopalpur. The system would move west-northwestwards and cross north Andhra Pradesh coast around Visakhapatnam by the forenoon of 12<sup>th</sup> October 2014.

Date/Time(IST)	Position (Lat. °N/long. °E)	Maximum sustained surface wind speed (kmph)	Category of cyclonic disturbance
10-10-2014/1730	15.2/86.7	120-130 gusting to 145	Very Severe Cyclonic Storm
10-10-2014/2330	15.5/86.3	125-135 gusting to 150	Very Severe Cyclonic Storm
11-10-2014/0530	15.8/85.8	130-140 gusting to 155	Very Severe Cyclonic Storm
11-10-2014/1130	16.2/85.2	135-145 gusting to 160	Very Severe Cyclonic Storm
11-10-2014/1730	16.6/84.7	140-150 gusting to 165	Very Severe Cyclonic Storm
12-10-2014/0530	17.5/83.6	140-150 gusting to 165	Very Severe Cyclonic Storm
12-10-2014/1730	18.4/82.5	90-100 gusting to 110	Cyclonic Storm
13-10-2014/0530	19.5/81.7	45-55 gusting to 65	Depression

## Warning for north Andhra Pradesh and south Odisha

- (c) **Heavy rainfall warning:** Under the influence of the system, rainfall at most places with heavy (6.5 – 12.4 cm) to very heavy falls (12.5 – 24.4 cm) at a few places and isolated extremely heavy falls ( $\geq 24.5$  cm) would occur over west & east Godavari, Visakhapatnam, Vijayanagaram & Srikakulam districts of north Andhra Pradesh and Ganjam, Gajapati, Koraput, Rayagada, Nabarangpur, Malkangiri, Kalahandi, Phulbani districts of south Odisha commencing from 11<sup>th</sup> onwards. Rainfall would occur at most places with heavy to very heavy rainfall at isolated places over Krishna, Guntur & Prakasam districts of Andhra Pradesh and north coastal Odisha during the same period.
- (ci) **Wind warning:** Squally wind speed reaching 50-60 kmph gusting to 70 kmph would commence along & off north Andhra Pradesh and south Odisha coasts from 11<sup>th</sup> morning onwards. The wind speed would gradually increase to 140-150 kmph gusting to 165 kmph from 12<sup>th</sup> morning along & off north Andhra Pradesh (East Godavari, Visakhapatnam, Vizianagaram and Srikakulam districts) and 80-90 kmph along and off adjoining districts of south Andhra Pradesh (West Godavari, Krishna districts) and south Odisha (Ganjam, Gajapati, Koraput and Malkangiri districts).
- (ciii) **Sea condition along and off north Andhra Pradesh and south Odisha coasts:** Sea condition would be rough to very rough from 11<sup>th</sup> morning. It would gradually become phenomenal from 12<sup>th</sup> morning onwards along & off north Andhra Pradesh coast and very rough to high along & off south Odisha coast.
- (ciiv) **Storm surge warning:** Storm surge of about 1-2 meters above astronomical tide would inundate low lying areas of Visakhapatnam, Vijayanagaram and Srikakulam districts of north coastal Andhra Pradesh at the time of landfall.
- (civ) **Damage expected:**
- E) **North Andhra Pradesh (East Godavari, Visakhapatnam, Vizianagaram and Srikakulam districts):** Under the influence of system, extensive damage to kutcha houses. Uprooting of big trees. Partial disruption of power and communication lines. Minor disruption of rail and road traffic. Potential threat from flying debris. Flooding of escape routes. Damage to agricultural crops.
- F) **South Andhra Pradesh (West Godavari, Krishna districts) and south Odisha coasts (Ganjam, Gajapati, Koraput and Malkangiri districts):** Damage to thatched huts. Breaking of tree branches causing minor damage to power and communication lines. Uprooting of small trees. Damage to agricultural crops.
- (cv) **Action suggested:**
- E) **North Andhra Pradesh (East Godavari, Visakhapatnam, Vizianagaram and Srikakulam districts):** Suspension of fishing operations in area of influence of cyclone. Judicious regulation of aviation, navigation, rail and road traffic. People in affected areas to remain at safe places around landfall period. Mobilise evacuation from coastal areas.
- F) **South Andhra Pradesh (West Godavari, Krishna districts) and south Odisha coasts (Ganjam, Gajapati, Koraput and Malkangiri districts):** Total suspension of fishing operations. People in affected areas to remain at safe places.

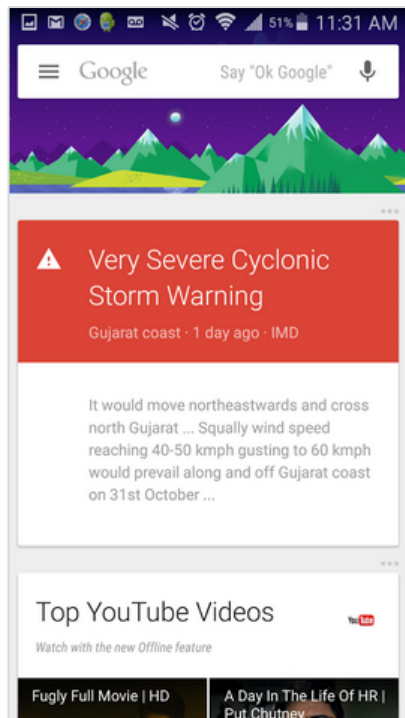
**The next bulletin will be issued at 2330 hrs IST of 10<sup>th</sup> October, 2014.**

(M. Mohapatra)  
Scientist 'E'

Ph: 011-24631913, 24652484



# Mobile-friendly cyclone alerts from IMD in Google products



Web News Images Maps Videos More Search tools

About 180,000 results (0.47 seconds)

## Very Severe Cyclonic Storm Warning

Andhra Pradesh, Odisha

The system would cross north Andhra Pradesh coast around Visakhapatnam by the forenoon of 12th October 2014 ... Squally wind speed reaching 50-60 kmph gusting to 70 kmph would ...

13 mins ago – IMD

→ More info

Feedback

[Kakinada, India Forecast | Weather Underground](#)  
[www.wunderground.com/weather-forecast/IN/Kakinada.html](http://www.wunderground.com/weather-forecast/IN/Kakinada.html) **flash-flood-warnin...**

Weather Underground provides local & long range Weather Forecast, weather reports, maps & tropical weather conditions for locations worldwide.

## Very Severe Cyclonic Storm Warning for Andhra Pradesh, Odisha, Chhattisgarh, Telangana

Active for next 3 hours - IMD

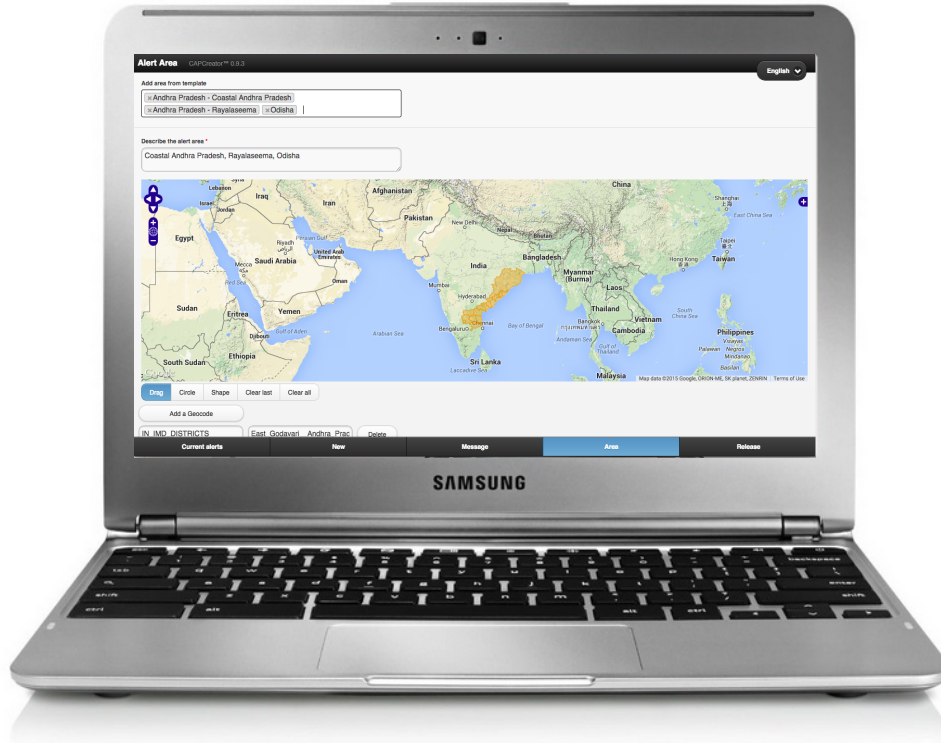
Posted 2 hours ago

The Very Severe Cyclonic Storm 'HUDHUD' is now lying within the range of Doppler Weather Radar, Visakhapatnam. Hence it is being tracked by Visakhapatnam Radar since early morning of today in addition to satellite and other observational tools. In association with the system, light to moderate rainfall has commenced over coast to the north of Kalingsapatnam in Andhra Pradesh and over coastal Odisha.

According to latest observations, the Very Severe Cyclonic Storm 'HUDHUD' over westcentral Bay of Bengal moved westwards during past six hours and lay centered at 0830 hrs IST of 11th October 2014 near latitude 15.9°N and longitude 85.4°E, about 300 km southeast of Visakhapatnam and 380 km south-southeast of Gopalpur. The system would move west-northwestwards for some more time. It would then move northwestwards and cross north Andhra Pradesh coast around Visakhapatnam by the forenoon of 12th October 2014.

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (kmph)	Category of cyclonic disturbance
11-10-2014/0830	15.9/85.4	130-140 gusting to 155	Very Severe Cyclonic Storm
11-10-2014/1130	16.1/85.3	140-150 gusting to 165	Very Severe Cyclonic Storm
11-10-2014/1730	16.4/85.0	150-160 gusting to 175	Very Severe Cyclonic Storm
11-10-2014/2330	16.7/84.6	160-170 gusting to 185	Very Severe Cyclonic Storm
12-10-2014/0530	17.1/84.1	170-180 gusting to 195	Very Severe Cyclonic Storm
12-10-2014/1730	18.1/82.9	90-100 gusting to 110	Cyclonic Storm
13-10-2014/0530	19.3/81.5	50-60 gusting to 70	Deep Depression
13-10-2014/1730	21.0/80.5	45-55 gusting to 65	Depression

# Open source CAP tool for easy message authoring



[github.com/CAPTools](https://github.com/CAPTools)

Designed by Art Botterell at Carnegie Mellon, contributions from Google

Several features improve ease of use and promote CAP best practices

## Message template

7. Super Cyclonic Storm Warning ▼

Templates for faster alert generation

## Type of message\*

Test ▼

Alert ▼

Public ▼

## Type of hazard threat\* and Recommended protective action

Weather ▼

Make preparations ▼

Validation for elements required by CAP v1.2 spec

## Message priority\*

Expected ▼

Extreme ▼

Likely ▼

Current alerts

New

Message

Area

Release



## Event \*

Cyclone Warning

## Short-text headline (106 characters left)

Very Severe Cyclonic Storm Warning

## Describe the event or hazard

The Very Severe Cyclonic Storm Hudhud over east central Bay of Bengal moved west-northwestward and lay centered at 1130 hrs IST of 9th October 2014 near latitude 13.9°N and longitude 88.8°E about 720 km southeast of

## What should affected people do

Suspend fishing operations in area of influence of cyclone. Regulate aviation, navigation, rail and road traffic. Remain at safe places around landfall period.

[Current alerts](#)[New](#)[Message](#)[Area](#)[Release](#)



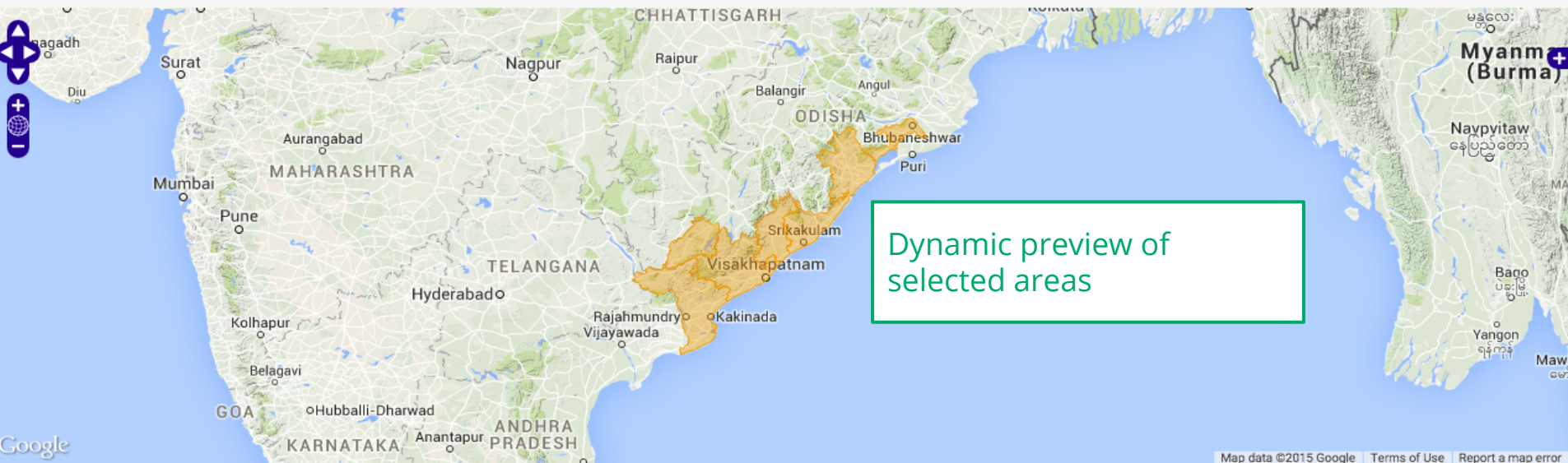
Add area from template

- ✕ Andhra Pradesh - East Godavari
- ✕ Andhra Pradesh - Srikakulam
- ✕ Andhra Pradesh - Vishakhapatnam
- ✕ Andhra Pradesh - Vizianagaram
- ✕ Odisha - Ganjam
- ✕ Odisha - Khordha
- ✕ Odisha - Malkangiri

Optional templates for faster selection of alerting area

Describe the alert area \*

Andhra Pradesh - Vishakhapatnam, Andhra Pradesh - Vizianagaram, Andhra Pradesh - Srikakulam, Andhra Pradesh - East Godavari, Odisha - Ganjam,



Dynamic preview of selected areas

Drag Circle Shape Clear last Clear all

Add a Geocode

Current alerts

New

Message

Area

Release

Review message content

▼ Summary preview

## Very Severe Cyclonic Storm Warning

Posted a second ago · IMD · Expires 23 hours from now

The Severe Cyclonic Storm 'HUDHUD' over eastcentral Bay of Bengal moved west-northwestward and lay centered at 1130 hrs IST of 9th October 2014 near latitude 13.9°N and longitude 88.8°E about 720 km southeast of Gopalpur and east-southeast of Visakhapatnam. The system would continue to move west-northwestwards, intensify further into a very severe cyclonic storm during next 24 hours. The system would cross north Andhra Pradesh coast around Visakhapatnam by the forenoon of 12th October 2014.

### Instructions

Suspension of fishing operations in area of influence of cyclone. Judicious regulation of aviation, navigation, rail and road traffic. People in affected areas to remain at safe places around landfall period.

### Locations

Andhra Pradesh - Vishakhapatnam, Andhra Pradesh - Vizianagaram, Andhra Pradesh - Srikakulam, Andhra Pradesh - East Godavari, Odisha - Ganjam, Odisha - Khordha, Odisha - Malkangiri

▼ CAP XML preview

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<alert xmlns="urn:oasis:names:tc:emergency:cap:1.2">
  <identifier>pending</identifier>
  <sender>unverified</sender>
  <sent>2015-09-02T18:09:39-05:00</sent>
  <status>Test</status>
  <msgType>Alert</msgType>
  <scope>Public</scope>
  <info>
    <language>en-us</language>
    <category>Met</category>
    <event>Cyclone Warning</event>
    <responseType>Prepare</responseType>
    <urgency>Expected</urgency>
```

Current alerts

New

Message

Area

Release

```
Malkangiri</areaDesc>
<geocode>
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  <value>Vishakhapatnam__Andhra_Pradesh</value>
</geocode>
<geocode>
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</geocode>
<geocode>
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  <value>Srikakulam__Andhra_Pradesh</value>
</geocode>
<geocode>
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</geocode>
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  <valueName>IN_IMD_DISTRICTS</valueName>
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</geocode>
<geocode>
  <valueName>IN_IMD_DISTRICTS</valueName>
  <value>Malkangiri__Odisha</value>
</geocode>
</area>
</info>
</alert>
```

Authorize release

Authentication to control  
who can publish alerts



Release alert

Current alerts

New

Message

Area

Release

Very Severe Cyclonic Storm Warning

FOR: Andhra Pradesh - Vishakhapatnam, Andhra Pradesh - Vizianagaram, Andhra Pradesh - Srikakulam, Andhra Pradesh - East Godavari, Odisha - Ganjam, Odisha - Khordha, Odisha - Malkangiri  
ACTION: Prepare ( Expected / Moderate / Likely )  
2015-09-02T18:09:39-05:00 FROM imd@weijing-dot-imd-cap.appspot.com: IMD

headline

Very Severe Cyclonic Storm Warning

senderName

IMD

sender

imd@weijing-dot-imd-cap.appspot.com

status

Test

urgency

Expected

response

areaDesc

Andhra Pradesh - Vishakhapatnam, Andhra Pradesh - Vizianagaram, Andhra Pradesh - Srikakulam, Andhra Pradesh - East Godavari, Odisha - Ganjam, Odisha - Khordha, Odisha - Malkangiri

description

The Severe Cyclonic Storm 'HUDHUD' over eastcentral Bay of Bengal moved west-northwestward and lay centered at 1130 hrs IST of 9th October 2014 near latitude 13.9°N and longitude 88.8°E about 720 km southeast of Gopalpur and east-southeast of Visakhapatnam. The system would continue to move west-northwestwards, intensify further into a very severe cyclonic storm during next 24 hours. The system would cross north Andhra Pradesh coast around Visakhapatnam by the forenoon of 12th October 2014.

instruction

Suspension of fishing operations in area of influence of cyclone. Judicious regulation of aviation, navigation, rail and road traffic. People in affected areas to remain at safe places around landfall period.

expires

2015-09-03T17:59:00-05:00

identifier

a8f38f31-7fe6-4f38-9e2f-48ef4b88b68b

category

Met

sent

2015-09-02T18:09:39-05:00

msgType

Alert

severity

Moderate

certainty

Likely

event

Cyclone Warning

Update This Alert Cancel This Alert View Alert XML

Ability to update or cancel previous alerts

About CAPCreator™



```
<?xml version="1.0"?>
<feed xmlns="http://www.w3.org/2005/Atom" xmlns:cap="urn:oasis:names:tc:emergency:cap:1.2">
  <title>Current Alerts</title>
  <link href="https://cap-tools.appspot.com/feed.xml" rel="self"/>
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  <updated>2015-09-03T00:17:02+00:00</updated>
  <generator>CAPCollector v1.0</generator>
  <entry>
    <author>
      <name>test@cap-tools.appspot.com</name>
    </author>
    <title>Very Severe Cyclonic Storm Warning</title>
    <updated>2015-09-02T18:09:39-05:00</updated>
    <link href="https://cap-tools.appspot.com/feed/a8f38f31-7fe6-4f38-9e2f-48ef4b88b68b.xml"
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    <cap:severity>Extreme</cap:severity>
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    <cap:areaDesc>
Andhra Pradesh - Vishakhpatnam, Andhra Pradesh - Vizianagaram, Andhra Pradesh - Srikakulam, Andhra
Pradesh - East Godavari, Odisha - Ganjam, Odisha - Khordha, Odisha - Malkangiri
</cap:areaDesc>
  </entry>
</feed>
```

Demo: [cap-tools.appspot.com](https://cap-tools.appspot.com)

Username and password: test

Setup information: [github.com/CAPTools](https://github.com/CAPTools)

# How we measure the impact of Google Public Alerts

1

## **User research in the field**

Home visits and interviews in Brazil, Indonesia, Mexico, Philippines, US

---

2

## **Online user surveys**

Quantifying the impact of seeing alerts on likelihood to take action

---

3

## **User feedback**

Direct voice of our users through Google's written feedback channels

# What users are telling us

“ The page u sent me was Wonderful! It first gave me the actual info about the tornado (watch vs warning), where & that it WAS a CONFIRMED SIGHTING,& from when till when. Then came the pages of **what to do-b4, during & after**. All the stuff I'd completely forgotten in the moment. THANK YOU!

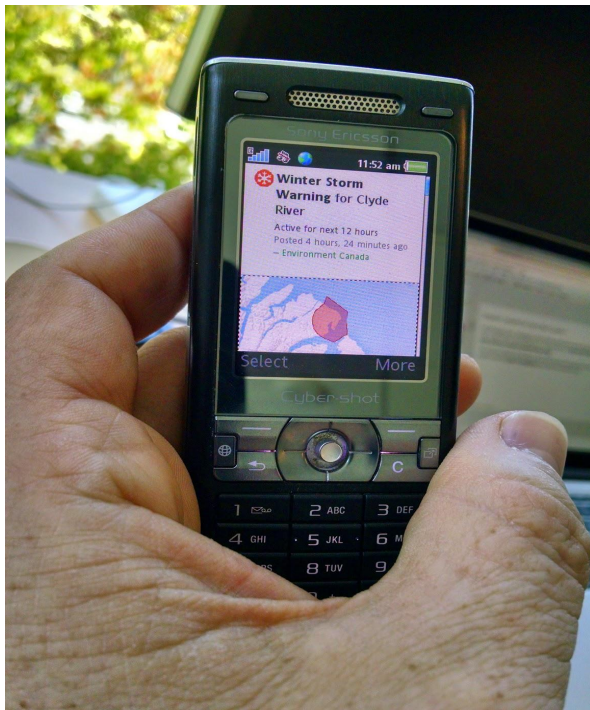
”

“ We are at our cottage which is on a small island in Muskoka. Needed to be told to unplug electrical items and stay alert. Which is what we did and glad to read the chance of BAD BAD weather a **wonderful help** and then reading of the chances of the weather weakening. **We will stay alert** thanks to your warning. ”

“ For residents of the Philippines, the number 1 we are looking for when there's a bad weather, it's the Storm Signal. And having that **straightforward information at first sight** has already helped me plan my day and my appointment - and that's what matters most. ”



# What we're working on




Bring CAP alerts to more countries & users

Google hurricane virgin islands

Web News Images Shopping Maps More Search tools

About 44,600 results (0.40 seconds)



**Hurricane Local Statement**  
Virgin Islands

Dangerous winds (55 mph+) from Erika may arrive near St Thomas around this evening.

**Ways to prepare and stay safe now**

Turn on your TV/radio, or check your local government's website frequently. You'll get the latest weather updates and emergency instructions.

Sources: National Weather Service, ready.gov

→ What to expect, timing, and updates

Continue to make alerts more actionable



Google

Thank you