Google Public Alerts

CAP Implementation Workshop
23 September 2015
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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**?
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

Comparison of search terms:
- tsunami
- evacuation

Interest over time:
- Chile Earthquake
- Japan Earthquake
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
Most recently: India Meteorological Department

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 (24.5 cm) would occur over west & east Godavari, Vizianagaram & Srikakulam districts of north Andhra Pradesh and Ganjam, Gajapati, Koraput, Rayagada, Nabarangapur, Malkangiri, Kaushambi, Phubani districts of south Odisha commencing from 11th 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.

(c) 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 11th evening onwards. The wind speed would gradually increase to 140-150 kmph gusting to 165 kmph from 12th morning along & off north Andhra Pradesh (East Godavari, Vizianagaram, Srikakulam and Gajapati 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).

(c) Sea condition along and off north Andhra Pradesh and south Odisha coasts: Sea condition would be rough to very rough from 11th morning. It would gradually become phenomenal from 12th morning onwards along & off north Andhra Pradesh coast and very rough to high along & south Odisha coast.

(c) Storm surge warning: Storm surge of about 1-2 meters above astronomical tide would inundate low lying areas of Vizianagaram, Vijnanagaram and Srikakulam districts of north coastal Andhra Pradesh at the time of landfall.

(c) Damage expected:

F) South Andhra Pradesh (West Godavari, Krishna districts) and south Odisha coasts (Ganjam, Gajapati, Koraput and Malkangiri districts): Damage to farmland. Uprooting of trees branches causing minor damage to power and communication lines. Uprooting of small trees. Damage to agricultural crops.

(c) Action suggested:

E) North Andhra Pradesh (East Godavari, Vizianagaram, Srikakulam districts): Suspension of fishing operations in areas 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 10th October, 2014.

(M. Mohapatra)
Scientist "E"
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FROM: INDIA METEOROLOGICAL DEPARTMENT (Fax No. 2486921262462322)

To: PRIME MINISTER'S OFFICE (FAX. NO.23010203)
CONTROL ROOM, NDMA, MINISTRY OF HOME AFFAIRS (FAX.NO. 23093759)
CONTROL ROOM, NDMA (FAX. NO. 26701272)
CABINET SECRETARIAT (FAX NO.23791544)
PE TO HON'BLE MINISTER FOR S & T AND EARTH SCIENCES (FAX NO.23216745)
SECRETARY, MoES, (Fax. No. 24826777)
SECRETARY, DST (Fax No. 26983874-014)
H.Q. (INTEGRATED DEFENCE STAFF AND CDS) (Fax NO. 23001372-23001547)
DIRECTOR GENERAL, DOORDARSHAN (23358543)
DIRECTOR GENERAL, AIR (26843925)
PIB MoES, (Fax NO. 23859042)
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D.G. NATIONAL DISASTER RESPONSE FORCE (NDRF) (Fax No. 26105121)
DIRECTOR OF PUNCTUITY, INDIAN RAILWAYS (Fax NO. 23868503)
CHIEF SECRETARY, GOVT. OF ANGAMALA & NICOBAR ISLAND (Fax NO. 03192-232656)
CHIEF SECRETARY, GOVT. OF ODISHA (Fax NO. 0674-2536900, 0771221422)
CHIEF SECRETARY, GOVT. OF ANDHRA PRADESH (Fax No. 0464-23453700)
CHIEF SECRETARY, GOVT. OF CHATTISGARH (Fax NO. 0777-2219092)

Time of issue: 2030 hours IST
Dated: 10.10.2014
Bulletin No: BOB003/2014/26

Sub: Very Severe Cylonic Storm ‘HUDHUD’ over westcentral Bay of Bengal. Cyclone warning for north Andhra Pradesh & south Odisha coasts (Orange Message)

The Very Severe Cylonic Storm ‘HUDHUD’ over westcentral Bay of Bengal moved northwards during past six hours and lay centered at 1700 hrs IST of 10th October 2014 near latitude 15.23°N and longitude 88.76°E about 480 km east-southeast of Vizianagaram and 400 km south-southeast of Gopalpur. The system would move west-northwestwards and cross north Andhra Pradesh coast around Vizianagaram by the forenoon of 12th October 2014.

<table>
<thead>
<tr>
<th>Date/Time (IST)</th>
<th>Position (Lat. N° long. E°)</th>
<th>Maximum sustained surface wind speed (kmph)</th>
<th>Category of cyclonic disturbance</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-10-2014 1730</td>
<td>15.246.1</td>
<td>120-135 gusting to 140</td>
<td>Very Severe Cyclonic Storm</td>
</tr>
<tr>
<td>12-10-2014 0330</td>
<td>15.526.3</td>
<td>120-135 gusting to 140</td>
<td>Very Severe Cyclonic Storm</td>
</tr>
<tr>
<td>11-10-2014 0530</td>
<td>15.805.6</td>
<td>130-140 gusting to 150</td>
<td>Very Severe Cyclonic Storm</td>
</tr>
<tr>
<td>11-10-2014 1130</td>
<td>16.208.2</td>
<td>130-145 gusting to 160</td>
<td>Very Severe Cyclonic Storm</td>
</tr>
<tr>
<td>11-10-2014 1730</td>
<td>16.604.7</td>
<td>140-150 gusting to 165</td>
<td>Very Severe Cyclonic Storm</td>
</tr>
<tr>
<td>12-10-2014 0330</td>
<td>17.503.6</td>
<td>140-150 gusting to 165</td>
<td>Very Severe Cyclonic Storm</td>
</tr>
<tr>
<td>12-10-2014 0930</td>
<td>18.248.6</td>
<td>90-100 gusting to 110</td>
<td>Cylonic Storm</td>
</tr>
<tr>
<td>13-10-2014 0530</td>
<td>19.561.7</td>
<td>45-55 gusting to 65</td>
<td>Depression</td>
</tr>
</tbody>
</table>
Mobile-friendly cyclone alerts from IMD in Google products
Open source CAP tool for easy message authoring

github.com/CAPTools

Designed by Art Botterell at Carnegie Mellon, contributions from Google

Several features improve ease of use and promote CAP best practices
Alert Details

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
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.
Optional templates for faster selection of alerting area

Dynamic preview of selected areas
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 68.8°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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  <sender>unverified</sender>
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  <status>Nest</status>
  <msgType>Alert</msgType>
  <scope>Public</scope>
  <info>
    <language=en-us>/language>
    <category>Severe</category>
    <event>Cyclone Warning</event>
    <responseType>Prepare</responseType>
    <urgency>Warning</urgency>
  </info>
</alert>
```
Authentication to control who can publish alerts
Very Severe Cyclonic Storm Warning

Sender Name: IMD

Area Desc: 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.

Event: Cyclone Warning

Ability to update or cancel previous alerts
<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" rel="alternate"/>
   <id>uuid:a8f38f31-7fe6-4f38-9e2f-48ef4b88b68b</id>
   <cap:urgency>Expected</cap:urgency>
   <cap:severity>Extreme</cap:severity>
   <cap:certainty>Likely</cap:certainty>
   <cap:category>Met</cap:category>
   <cap:responseType>Prepare</cap:responseType>
   <cap:expires>Sept. 3, 2015, 5:59 p.m.</cap:expires>
   <cap:areaDesc>
Andhra Pradesh - Vishakhapatnam, 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
Username and password: test

Setup information: github.com/CAPTTools
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
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.

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.
What we’re working on

Bring CAP alerts to more countries & users

Continue to make alerts more actionable
Thank you