

Google

Google Crisis Response & the Common Alerting Protocol

Armond Zamanyan

June 2014

Keep people safe...

"I got the warnings on time to take the grandkids to school and **save me from having an accident** again."

"Thank you so much for the tornado warning. I was **able to get my family to safety** with time to spare."

"As a trucker, this increases my ability to **get home safely.**"

"I'm a school bus driver...and the weather alerts are so important to me. Thank you so very much for keeping us aware of all conditions we need to know about to **keep our children safe.**"

"I was in the affected area and was able to **seek shelter.**"

...and help keep people's property safe

"Absolutely love it because I have 2 very elderly neighbors who need help **taking care of their livestock and themselves in preparation** of a storm."

"Your storm warnings have helped me many times **get ready for flooding**... Because I was given a warning I was able to help with sandbags before the worst of it."

"Because of the warning we were able to get towels, tarps, and other stuff down in time to **keep the garage from flooding**."

"Helped me **save a lot of money** by keeping my car inside!"

Google Public Alerts

How Google Public Alerts Displays CAP

Quality of Content in CAP


CAP Tools

Deliver accurate, relevant, credible information to the public

Emergency events affecting life and property

Distribute information as quickly as possible

Across Google products

 **Winter Storm Warning in NYC and Southern NY State**
 Expired: Jan 22, 2014 6:00 AM EST
 Posted 46 days ago – National Weather Service



 Affected region [Open map in new window](#)

Locations: Bronx; Kings (Brooklyn); New York ... [More](#)

The [original text](#) for this alert has been automatically reformatted to correct capitalization.

Winter Storm to impact the region Tuesday and Tuesday night.

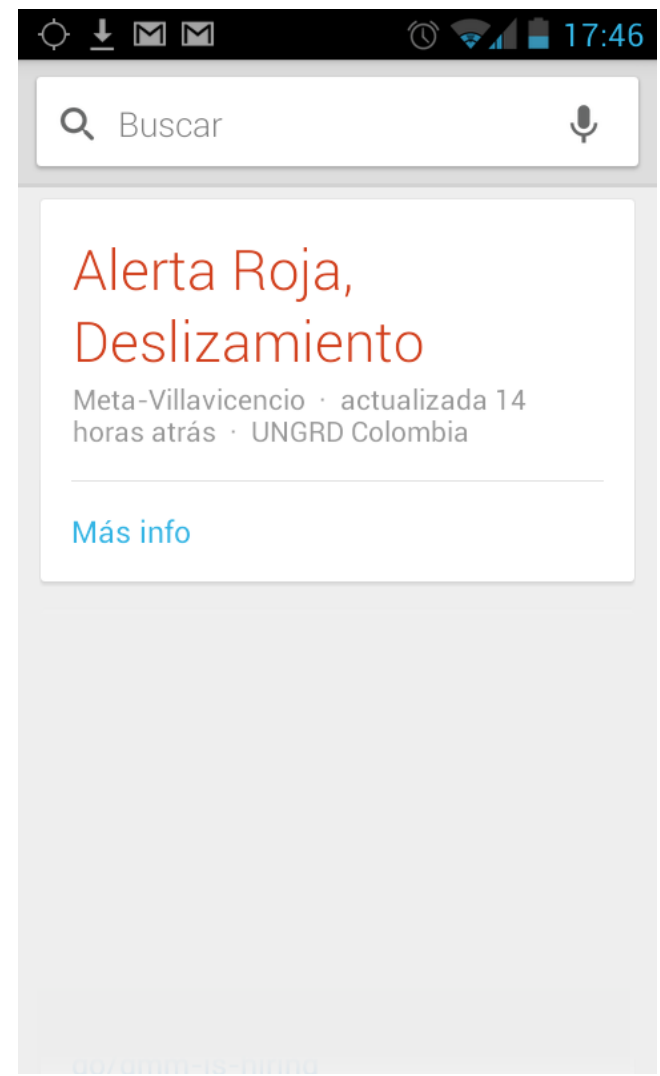
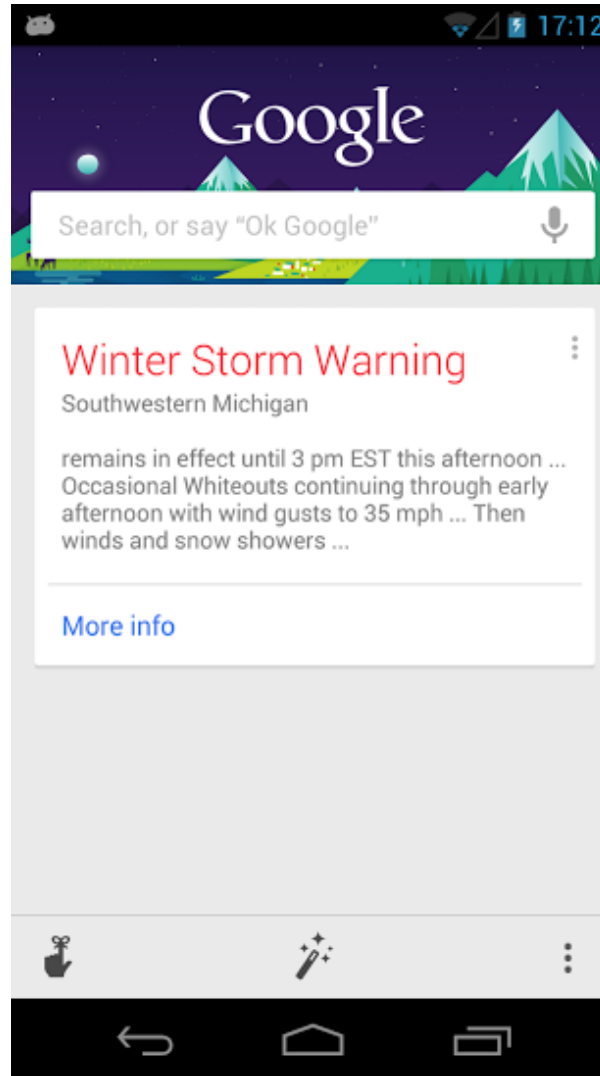
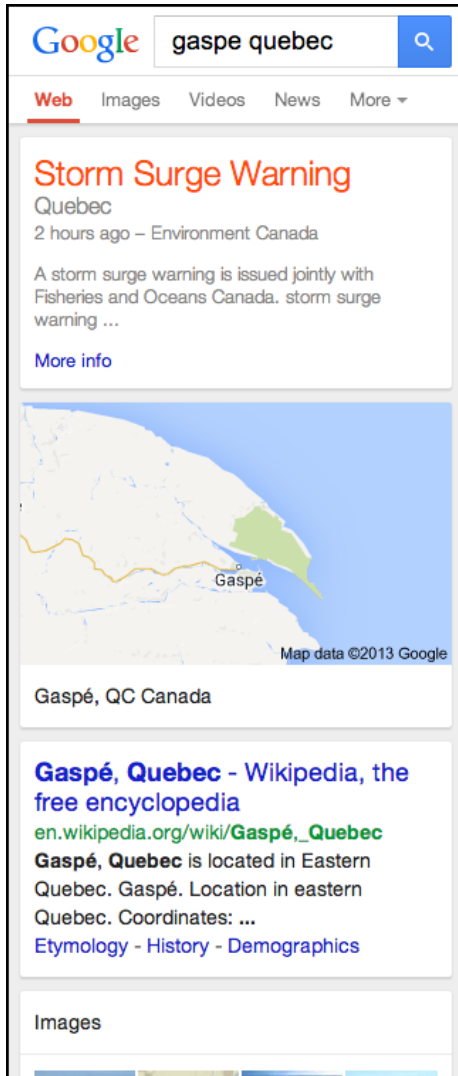
Winter Storm Warning in effect from noon Tuesday to 6 am EST Wednesday.

The National Weather Service in New York has issued a Winter Storm Warning for snow, which is in effect from noon Tuesday to 6 am EST Wednesday. The Winter Storm Watch is no longer in effect.

- Locations: New York City and western Long Island.
- Hazard types: Heavy snow.
- Accumulations: snow accumulation of 6 to 10 inches.
- Winds: north 15 to 25 mph with gusts up to 35 mph.
- Wind chills, as low as 10 below zero late Tuesday night.
- Temperatures: 12 to 22.
- Visibilities: one quarter mile or less at times.
- Timing: snowfall will begin late Tuesday morning and will continue through Tuesday night, tapering off early Wednesday morning. The Heaviest snowfall will occur Tuesday afternoon and evening.
- Impacts: falling, blowing, and drifting snow will cause hazardous travel and walking conditions across t

[Send feedback](#)

Google Search, Google Now, and Google Maps



Accurate, timely information when you need it



Coastal Flood Warning in Northern Virginia

Active for next 14 hours

Location: Arlington, Falls Church, Alexandria



Posted 1 hour, 11 minutes ago – National Weather Service

How likely: ■ ■ ■ ■ How soon: ■ ■ ■ ■ How severe: ■ ■ ■ ■

The [original text](#) for this alert has been automatically reformatted to correct capitalization.

Coastal Flood Warning In Effect Until noon EDT Thursday.

The National Weather Service in Sterling Virginia has issued a Coastal Flood Warning, which is in effect until noon EDT Thursday. The Coastal Flood Advisory is no longer in effect.

- Tidal anomaly: increasing to near 2 feet above normal through Thursday morning.
- Timing: within a couple hours of high tide through Thursday morning. High Tide at Alexandria is at 10:22 pm tonight and 10:31 am Thursday.
- Expected impacts: Minor tidal flooding near times of high tide through Thursday morning.

Recommended actions

A Coastal Flood Warning means that flooding is occurring or imminent. Coastal residents in the warned area should be alert for rising water, and take appropriate action to protect life and property.

Before: Excerpted from [ready.gov](#)

Build an [emergency kit](#) and [make a family communications plan](#).

Elevate the furnace, water heater and electric panel in your home if you live in an area that has a high flood risk.

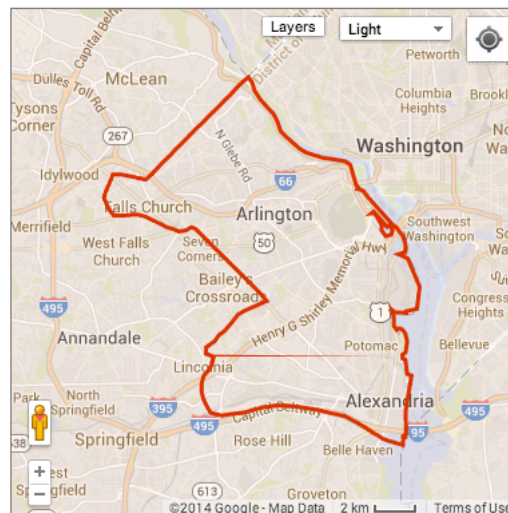
Consider installing "check valves" to prevent flood water from backing up into the drains of your home.

If feasible, construct barriers to stop floodwater from entering the building and seal walls in basements with waterproofing compounds.

More:

[What to do before a flood.](#)

During:



■ Affected region [Expand map](#)

Other alerts in this area

[Flood Warning for Washington D.C.](#)
National Weather Service - updated 1 hour 27 mins ago

[Flood Warning in Northern Virginia](#)
National Weather Service - updated 1 hour 27 mins ago

[Flood Warning in Central Maryland](#)
National Weather Service - updated 1 hour 27 mins ago

[Flash Flood Watch in Northern Virginia](#)
National Weather Service - updated 41 mins ago

[AMBER Alert \(missing child\) for Washington, D.C.](#)

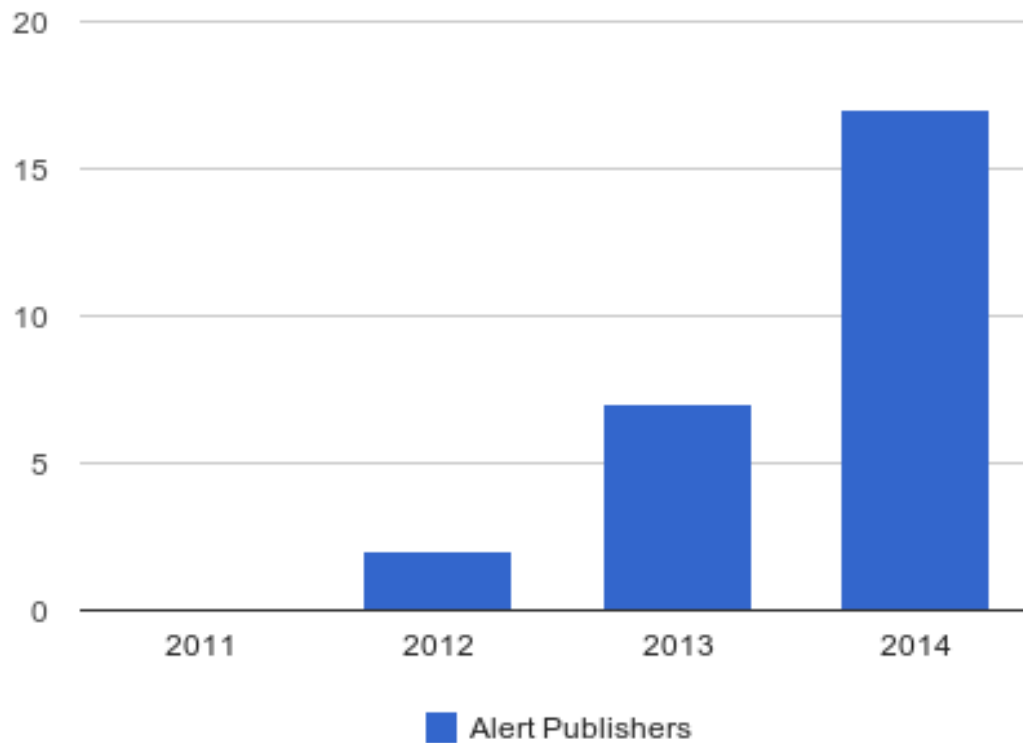
Send feedback

Google Public Alerts

- Launched in 2011
- 17 alert providers
- 7 countries
- 6 languages



Google Public Alerts continues to expand



Warnings in Google's products help citizens stay connected when traditional alert distribution channels may not be effective

"I rarely watch the news so **getting alerts on my phone** is an awesome thing."

"So very much appreciate this network service. Just **lost power to my TV** listening to the weather, then I received this message."

"Your information is valuable especially **when we lose our local broadcast** or late in evenings."

Google Public Alerts

How Google Public Alerts Displays CAP

Quality of Content in CAP

CAP Tools

Common Alerting Protocol

- What is happening?
- When is it happening?
- Who should be alerted?
- What should they do?

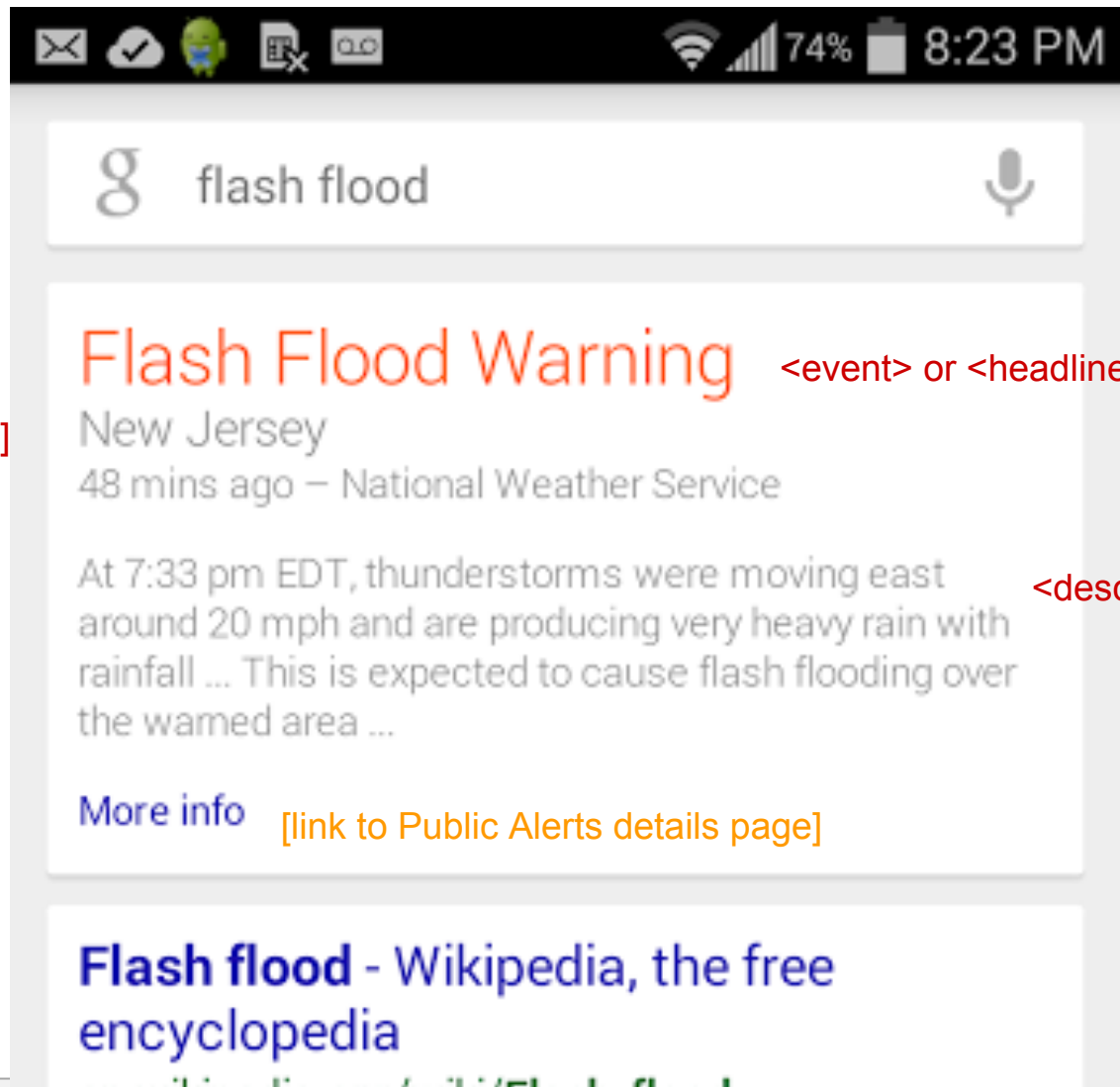
```
<alert xmlns="urn:oasis:names:tc:emergency:cap:1.1">
  <identifier>AL20110412020900TornadoWarning</identifier>
  <sender>w-nws.webmaster@noaa.gov</sender>
  <sent>2011-04-11T21:18:07-05:00</sent>
  <status>Actual</status>
  <msgType>Alert</msgType>
  <scope>Public</scope>
  <info>
    <language>en-US</language>
    <category>Met</category>
    <event>Tornado Warning</event>
    <urgency>Immediate</urgency>
    <severity>Extreme</severity>
    <certainty>Observed</certainty>
    <effective>2011-04-11T21:09:00-05:00</effective>
    <expires>2011-04-11T21:30:00-05:00</expires>
    <headline>Tornado Warning issued April 11 at
      9:30PM CDT by NWS Birmingham</headline>
    <instruction>Do not wait to see or hear the tornado.
      For your protection, move to an interior room on the
      lowest floor of your home or business.</instruction>
    <area>
      <areaDesc>Cleburne</areaDesc>
      <polygon>33.61,-85.58 33.65,-85.58 33.72,-85.58
        33.81,-85.36 33.7,-85.34 33.7,-85.33 33.68,-85.33
        33.61,-85.58</polygon>
    </area>
  </info>
</alert>
```

Common Alerting Protocol

- Urgency
- Severity
- Certainty

```
<alert xmlns="urn:oasis:names:tc:emergency:cap:1.1">
  <identifier>AL20110412020900TornadoWarning</identifier>
  <sender>w-nws.webmaster@noaa.gov</sender>
  <sent>2011-04-11T21:18:07-05:00</sent>
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  <msgType>Alert</msgType>
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  <info>
    <language>en-US</language>
    <category>Met</category>
    <event>Tornado Warning</event>
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    <severity>Extreme</severity>
    <certainty>Observed</certainty>
    <effective>2011-04-11T21:09:00-05:00</effective>
    <expires>2011-04-11T21:30:00-05:00</expires>
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    <area>
      <areaDesc>Cleburne</areaDesc>
      <polygon>33.61,-85.58 33.65,-85.58 33.72,-85.58
        33.81,-85.36 33.7,-85.34 33.7,-85.33 33.68,-85.33
        33.61,-85.58</polygon>
    </area>
  </info>
</alert>
```

How Google Displays CAP: Summary



<areaDesc> [modified]

<event> or <headline>

<description>

[link to Public Alerts details page]

<string> elements are from CAP
[string] elements are non-CAP
content independent of CAP feed

How Google Displays CAP: Details Page

+You Web Images Videos Maps News Shopping Gmail more -

« Google Public Alerts



Coastal Flood Warning in Northern Virginia

Active for next 14 hours

Location: Arlington, Falls Church, Alexandria

<areaDesc> [unmodified]

<expires>

<sent> or
<effective>

Posted 1 hour, 11 minutes ago –

[National Weather Service](#)

URL links to <web>

How likely:

How soon:

How severe:

<certainty>, <urgency>, <severity>

The [original text](#) for this alert has been automatically reformatted to correct capitalization.

Coastal Flood Warning In Effect Until noon EDT Thursday.

The National Weather Service in Sterling Virginia has issued a Coastal Flood Warning, which is in effect until noon EDT Thursday. The Coastal Flood Advisory is no longer in effect.

- Tidal anomaly: increasing to near 2 feet above normal through Thursday morning.
- Timing: within a couple hours of high tide through Thursday morning. High Tide at Alexandria is at 10:22 pm tonight and 10:31 am Thursday.
- Expected impacts: Minor tidal flooding near times of high tide through Thursday morning.

<description>

Recommended actions

A Coastal Flood Warning means that flooding is occurring or imminent. Coastal residents in the warned area should be alert for rising water, and take appropriate action to protect life and property.

<instruction>

Before:

Excerpted from [ready.gov](#)

[Build an emergency kit](#) and [make a family communications plan](#).

Elevate the furnace, water heater and electric panel in your home if you live in an area that has a high flood risk.

Consider installing "check valves" to prevent flood water from backing up into the drains of your home.

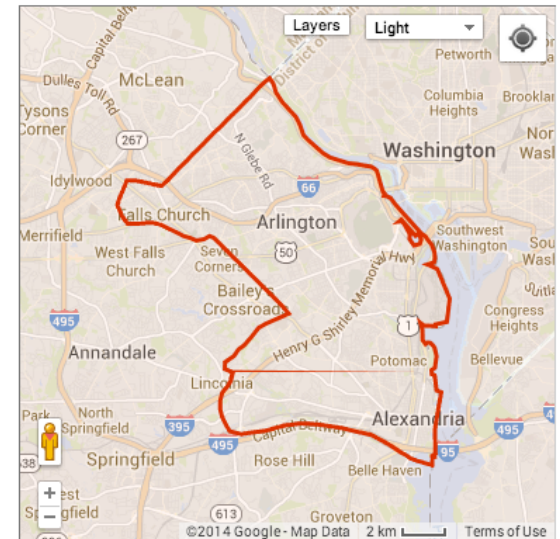
If feasible, construct barriers to stop floodwater from entering the building and seal walls in basements with waterproofing compounds.

More:

[What to do before a flood](#).

After:

<polygon> or <geocode> from <area>



Affected region

Expand map

Other alerts in this area

[Flood Warning for Washington D.C.](#)

National Weather Service - updated 1 hour 27 mins ago

[Flood Warning in Northern Virginia](#)

National Weather Service - updated 1 hour 27 mins ago

[Flood Warning in Central Maryland](#)

National Weather Service - updated 1 hour 27 mins ago

[Flash Flood Watch in Northern Virginia](#)

National Weather Service - updated 41 mins ago

[recommended actions]

How Google Displays CAP: Details Page

- Secure your home. If you have time, bring in outdoor furniture. Move essential items to an upper floor.

Be aware of stream, drainage channels, canyons and other areas known to flood suddenly. Flash floods can occur in these areas with or without typical warnings such as rain clouds or heavy rain.

If you have to leave your home, remember these evacuation tips:

- Do not walk through moving water. Six inches of moving water can make you fall. If you have to walk in water, walk where the water is not moving. Use a stick to check the firmness of the ground in front of you.
- Do not drive into flooded areas. If floodwaters rise around your car, abandon the car and move to higher ground if you can do so safely. You and the vehicle can be swept away quickly.
- Do not camp or park your vehicle along streams, rivers or creeks, particularly during threatening conditions.

More:

[What to do during a flood.](#)

[recommended actions]

What is a Coastal Flood Warning?

Statement Watch **Warning**

A Coastal/Lakeshore Flood Warning informs users that coastal/lakeshore flooding which poses a serious threat to life and property, is occurring, imminent, or highly likely in the first to second forecast periods (first 12 to 24 hours). National Weather Service offices may occasionally issue warnings valid after the second forecast period when a strong likelihood of the event exists or when a longer advance notice is needed for public response. Source: nws.noaa.gov

[event definitions]

Google Public Alerts

How Google Public Alerts Displays CAP

Quality of Content in CAP

CAP Tools

What do Google users ask to see in alert descriptions?

- “Exactly **what neighborhoods?**”
- “Who are the **most affected** sites?”
- “**When** is it going to start?”
- “**How long** will it last?”
- “What’s the percentage [**likelihood**] of it to happen?”
- “**How much** snow is expected?”
- “What about **road conditions?**”

What do Google users ask to see in recommended actions?

- “What should I do in such a situation?”
- “Is it safe to travel?”
- “Where should I go?”
- “What should I be hoarding [collecting] now?”
- “What safety precautions to take?”
- “Do we bring in the dogs from outside tonight?”

Users find alerts most helpful when alerts are updated in a timely manner

"My alerts are not being updated. This one says 14 hours old. **Please fix so I can have current info.**"

"Please **send me updates.**"

"**Would help to get an 'all clear!'** text when it is over. We're hunkered in the basement now."

"Please update your alert. **Old weather reports are useless.**"

"18 hours ago information [is] **not helpful.**"

More detailed location information, whether in the alert description or area description, is a top user request

*"I would like to know exactly which is the **area most affected**."*

*"It would be good to know more closely **the specific sites to prevent risk**."*

*"But where in Villavicencio [a city and municipality in Colombia], or **which neighborhoods** of this town?"*

When overly large areas are alerted, people may become frustrated or ignore alerts because they find them irrelevant

"Really? The entire Riverside County is affected by a wildfire? **Much too vague** and no details."

"I live in northern Ohio. This is a good warning system but **need to fine tune the area** to include the area the person is currently in."

"Area of warning is too broad. Most of the alerts I received today were **not near me and it gets pretty annoying.**"

"**This doesn't apply to me...**The snow warning is for the mountains. I live 45 mins away from those locations."

"Not even close to my location...If all cell users in Georgia got this alert, **I don't see its value.**"

"**Wrong area...**I live in Covina, where we're a good 25 miles south of any chance of snow."

Sample Alerts with Positive User Feedback

Winter Storm Warning remains in effect until 1 pm EST Monday.

- Locations: the Interstate 95 corridor from the Philadelphia metro area to Central New Jersey and across to coastal Northern New Jersey.
- Hazard types: mainly snow with some sleet and freezing rain possible at the start this evening.
- Accumulations: snow accumulation of 4 to 8 inches, along with around a trace of ice.
- Timing: any rain this afternoon will change to a period of sleet or freezing rain early this evening then to all snow by late evening. Snow will be moderate to heavy at times early Monday morning before ending early Monday afternoon.
- Winds: North 5 to 15 mph with gusts up to 25 mph.
- Visibilities: briefly one quarter mile or less Monday morning.
- Temperatures: plunging from the mid 30s late this afternoon into the upper teens to around 20 by Daybreak Monday.
- Impacts: The snow, sleet and freezing rain will create hazardous driving conditions tonight. Monday Morning's commute will be particularly difficult.
- Following the storm, Near Record cold is forecast late Monday night as temperatures drop to between zero and 10 above.

A Winter Storm Warning in effect for mainly the West and Northwestern forecast area from 9 pm CST Monday through 11 am CST Tuesday.

A winter advisory is in effect for the surrounding counties within the Winter Storm Warning through 11 am CST Tuesday.

An area of freezing rain, sleet, and rain accompanied by Thunder will move across Southeast Texas this morning. The bulk of the precipitation will end during the mid and late morning.

Temperatures will be at or below freezing over all but the immediate coastal counties and portions of the Houston metro area toward Galveston Bay and downtown. Ice accumulations will likely exceed one tenth to one quarter of an inch across most areas in the warning. Locations toward the coast and Galveston Bay that experience a wintry mix that do experience icing will likely see amounts under one eighth of an inch. Locations across Houston, Trinity also likely experience amounts under one eighth of an inch. Temperatures by early afternoon are expected to warm to above freezing across the area.

Winter Storm Warning remains in effect until 11 am CST this morning.

- Event: freezing rain accumulations between a tenth to a quarter of an inch is possible.
- Timing: through 11 am.
- Main impact: treacherous driving conditions on many roads. Especially bridges and elevated roadways.
- Other impacts: possible isolated power outages over regions that receive higher ice accumulations.

The National Weather Service in Pleasant Hill has issued a Severe Thunderstorm Warning for: Southeastern Johnson County in east central Kansas. Northeastern Miami County in east central Kansas. Northwestern Cass County in West Central Missouri.

- Until 5:00 pm CDT.
- At 4:31 pm CDT, a severe thunderstorm was located near Cleveland. And moving northeast at 35 mph. Hazard, 60 mph wind gusts and quarter size hail. Source, radar indicated. Impact: hail damage to vehicles is expected. Expect wind damage to roofs, siding and trees.
- Locations impacted include: peculiar, Harrisonville, Belton, Raymore, Cleveland, Freeman and Stillwell.

1.00IN Wind, 60mph.

Comprehensive information in one place, in everyday tools people already use, saves time and makes a difference

*"Perfect. Learned about the recent warning through Google Now, and **got absolutely every piece of information I needed.**"*

*"If I didn't have Google Now, I never would have received the flood warning. Obviously I noticed the rain, but **I wouldn't have known the extent of the flooding.**"*

*"I am not one with very much time. I have 2 kids and I am a single father so **these alerts help me out because my time is limited** to my two boys."*

To summarize, our users tell us that they care about several areas

- Create **alert descriptions** telling users what to expect, when, and where
- Provide **recommended actions** informing people what to do to prepare
- Distribute **timely updates** to alerts
- Include **specific alerting area** to target relevant and impacted users

Google Public Alerts

How Google Public Alerts Displays CAP

Quality of Content in CAP

CAP Tools

Tools for the CAP Community

- <http://cap-validator.appspot.com>
- <http://alert-hub.appspot.com>
- <http://code.google.com/p/cap-library>

google.org Common Alerting Protocol Validator

The [Common Alerting Protocol](#) validator is a free messages and Atom and RSS feeds of CAP mes

Input feed

```
<?xml version="1.0" encoding="UTF-8"?>
<cap:alert xmlns:cap="urn:oasis:names:tc:en
<cap:identifier>tag:www.rfs.nsw.gov.au201
<cap:sender>webmaster@rfs.nsw.gov.au</cap:
<cap:sent>2011-10-05T23:04:00-00:00</cap:
<cap:status>Actual</cap:status>
<cap:msgType>Alert</cap:msgType>
<cap:scope>Public</cap:scope>
<cap:code>urn:oasis:names:tc:emergency:ca

<cap:info>
<cap:language>en-AU</cap:language>
<cap:category>Fire</cap:category>
<cap:category>Met</cap:category>
<cap:event>Fire</cap:event>
<cap:responseType>Evacuate</cap:respons
<cap:urgency>Expected</cap:urgency>
<cap:severity>Minor</cap:severity>
<cap:certainty>Observed</cap:certainty>
<cap:eventCode>
  <cap:valueName>urn:oasis:names:tc:eme
AU:1.0:AUEvent:IST:1.0</cap:valueName>
<cap:value>Fire</cap:value>
</cap:eventCode>
<cap:effective>2011-10-05T23:04:00-00:00<
<cap:expires>2011-10-06T23:04:00-00:00<
<cap:senderName>NSW Rural Fire Service<
<cap:headline>Yerong Creek Structure Fi
```

Type an alert or [upload a file](#).

- (Optional) Validate against common CAP profile
- [US IPAWS Profile v1.0](#)
 - [CAP Canadian Profile v1.0](#)
 - [CAP Australian Profile v1.0](#)

Validate

Google Crisis Response

a google.org project

Alert Hub

Google.org created Alert Hub to aggregate all data feeds with er and other kinds of emergency information here, publishers can r and distribute relevant data to users.

Alert Hub implements PubSubHubbub, a simple, open, server-to their alert feeds to Alert Hub, and it will push the updates in that

This hub is supported and run by [Google.org's Crisis Response](#)

How to publish

You start with an [Atom](#) or [RSS](#) feed of alerts. Don't have Atom or want to write code? [Ask us](#). We can periodically poll your feed f

You'll also want to include a link in your feed to tell your users th pushed to them instead of polling your feed. This reduces traffic faster.

Atom:

```
<?xml version="1.0"?>
<feed xmlns:atom="http://www.w3.org/2005/Atom"
  <link rel="hub" href="//alert-hub.appspot.com"
  ...
</feed>
```

RSS:

```
<?xml version="1.0"?>
<rss xmlns:atom="http://www.w3.org/2005/Atom"
  <channel>
    <atom:link rel="hub" href="//alert-hub.appspot.com"/>
```

cap-library

Common Alerting Protocol Library

[Project Home](#)
[Downloads](#)
[Wiki](#)
[Issues](#)
[Source](#)

Repository: default [Checkout](#) [Browse](#) [Changes](#) [Clones](#)

Source path: hg/ Branch: default

Directories	Filename	Size	Rev	Date
hg	Alert.java	75.6 KB	rea6cb161576e	Mar 18,
java	AlertOrBuilder.java	2.5 KB	rea6cb161576e	Mar 18,
config	Area.java	45.0 KB	rea6cb161576e	Mar 18,
lib	AreaOrBuilder.java	1.7 KB	rea6cb161576e	Mar 18,
src	Cap.java	13.0 KB	rea6cb161576e	Mar 18,
com	CapException.java	9.4 KB	r9a4947cf7d0d	Mar 28,
google	CapJsonBuilder.java	4.4 KB	rea6cb161576e	Mar 18,
publicalerts	CapUtil.java	8.7 KB	rea6cb161576e	Mar 18,
cap	CapValidator.java	6.2 KB	rf14603ebe9d1	Apr 15,
feed	CapXmlBuilder.java	6.9 KB	rea6cb161576e	Mar 18,
profile	CapXmlParser.java	24.2 KB	re01a985814ce	Nov 22,
test	Circle.java	17.1 KB	rea6cb161576e	Mar 18,
proto	CircleOrBuilder.java	562 bytes	rea6cb161576e	Mar 18,
schema	Group.java	13.0 KB	rea6cb161576e	Mar 18,
testdata	GroupOrBuilder.java	426 bytes	rea6cb161576e	Mar 18,
tools	Info.java	112 KB	rea6cb161576e	Mar 18,
validator	InfoOrBuilder.java	3.8 KB	rea6cb161576e	Mar 18,
	NotCapException.java	1.2 KB	rea6cb161576e	Mar 18,

Common Alerting Protocol Validator

google.org Common Alerting Protocol Validator

The [Common Alerting Protocol](#) validator is a free service that checks the syntax of CAP XML messages and Atom and RSS feeds of CAP messages. It supports CAP v1.0, v1.1 and v1.2.

Input feed

```
<?xml version = "1.0" encoding = "UTF-8"?>
<alert xmlns = "urn:oasis:names:tc:emergency:cap:1.2">
  <identifier>KSTO1055887203</identifier>
  <sender>KSTO@NWS.NOAA.GOV</sender>
  <sent>2003-06-17T14:57:00-07:00</sent>
  <status>Actual</status>
  <msgType>Alert</msgType>
  <scope>Public</scope>
  <info>
    <category>Met</category>
    <event>SEVERE THUNDERSTORM</event>
    <responseType>Shelter</responseType>
    <urgency>Immediate</urgency>
    <severity>Severe</severity>
    <certainty>Observed</certainty>
    <eventCode>
      <valueName>SAME</valueName>
      <value>SVR</value>
    </eventCode>
    <expires>2003-06-17T16:00:00-07:00</expires>
    <senderName>NATIONAL WEATHER SERVICE SACRAMENTO CA</senderName>
    <headline>SEVERE THUNDERSTORM WARNING</headline>
    <description> AT 254 PM PDT...NATIONAL WEATHER SERVICE DOPPLER RADAR
INDICATED A SEVERE
THUNDERSTORM OVER SOUTH CENTRAL ALPINE COUNTY...OR ABOUT 18 MILES SOUTHEAST OF
KIRKWOOD...MOVING
SOUTHWEST AT 5 MPH. HAIL...INTENSE RAIN AND STRONG DAMAGING WINDS ARE LIKELY
WITH THIS
```

Type an alert or [upload a file](#).

(Optional) Validate against common CAP profiles:

- [US IPAWS Profile v1.0](#)
- [CAP Canadian Profile v1.0](#)
- [CAP Australian Profile v3.0, Committee Specification 02](#)
- [Google Public Alerts CAP v1.0](#)

Validate

Try these examples:

[CAP 1.2 Severe Thunderstorm Warning](#)

[CAP 1.2 Homeland Security Advisory](#)

[CAP 1.1 Earthquake Atom feed](#)

[CAP 1.1 Amber Alert RSS feed](#)

Common Alerting Protocol Validator

Result

Valid!

Event: SEVERE THUNDERSTORM
Sent: 2003-06-17T14:57:00-07:00
Expires: 2003-06-17T16:00:00-07:00
Area: EXTREME NORTH CENTRAL TUOLUMNE COUNTY IN CALIFORNIA, EXTREME NORTHEASTERN CALAVERAS COUNTY IN CALIFORNIA, SOUTHWESTERN ALPINE COUNTY IN CALIFORNIA
Web:
Sender: KSTO@NWS.NOAA.GOV

Map data ©2014 Google 5 km Terms of Use Report a map error

File

```

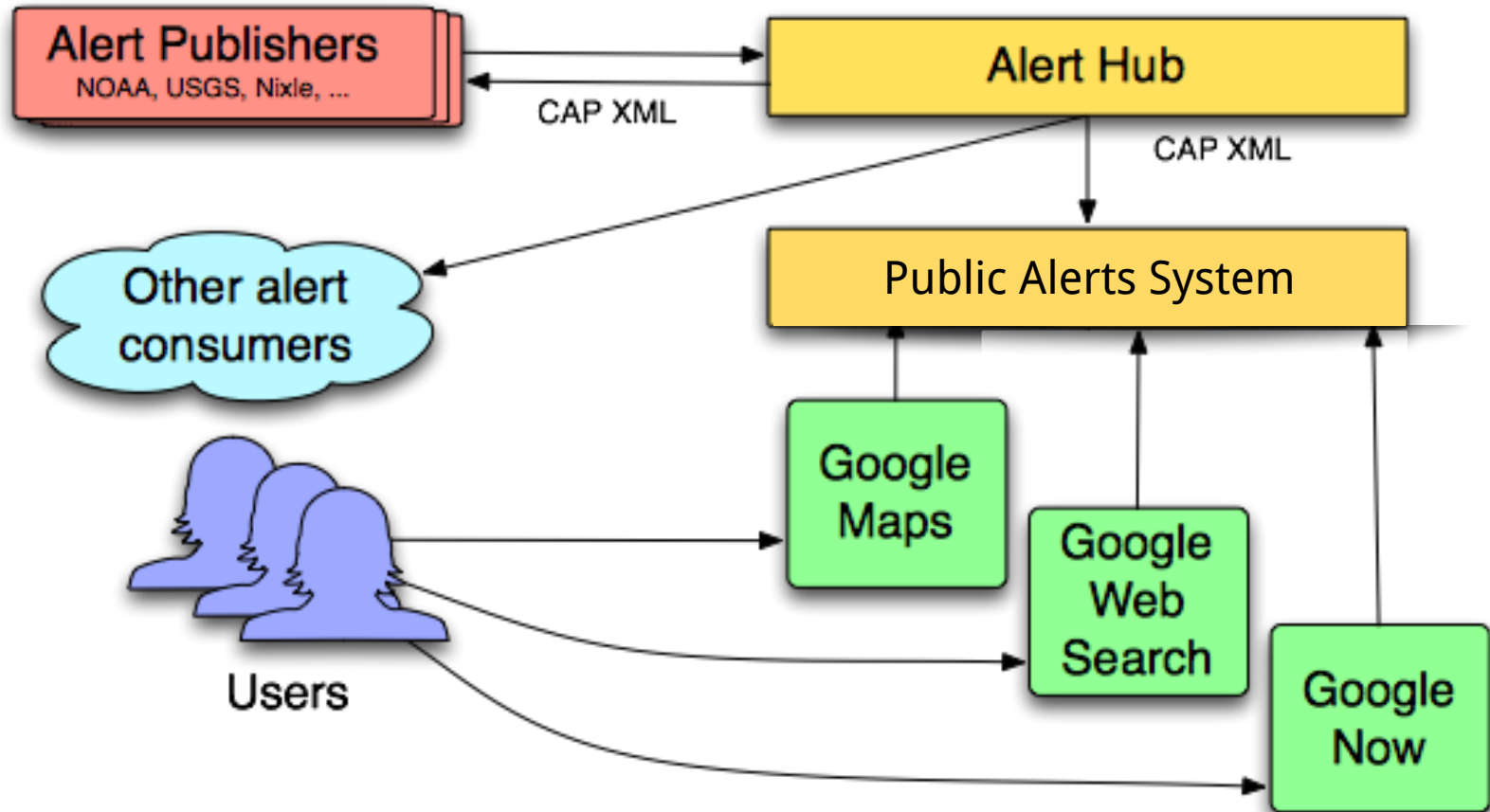
1 <?xml version = "1.0" encoding = "UTF-8"?>
2 <alert xmlns = "urn:oasis:names:tc:emergency:cap:1.2">
3 <identifier>KSTO1055887203</identifier>
4 <sender>KSTO@NWS.NOAA.GOV</sender>
5 <sent>2003-06-17T14:57:00-07:00</sent>
6 <status>Actual</status>
7 <msdType>Alert</msdType>

```


CAP Java Library Recap

- Easy-to-use, well-tested Java library for parsing and creating messages in CAP format
- Support for validating messages against common CAP profiles
- Includes simple web application that validates the correctness of CAP messages
- <http://code.google.com/p/cap-library/>

End to End Workflow with Alert Hub



Summary and Next Steps

- Google Public Alerts aims to improve access to emergency information from authoritative, trustworthy, credible sources
- Write quality CAP content well-suited for displaying on web
- Make sure CAP is valid
- Make access to CAP feed secure and verifiable

Thank you!