

National Weather Service

Service Description Document

Experimental Service Acquiring Spotter Reports via Twitter

Part I - Mission Connection

1. Standards Description- The National Oceanic and Atmospheric Administration's (NOAA) National Weather Service (NWS) is charged with protecting life and property. One of the primary methods of doing so is through the issuance of watches, warnings, and advisories. Although advanced automated observations systems are used extensively in NWS forecast office operations, ground truth in the form of reports from the public are invaluable in the process. Leveraging third party methods for collecting such data such as micro-blogging and social networking sites provides the public many more ways to provide near real-time information on significant weather events to the weather enterprise, Emergency Management (EM) and other partners.

Twitter can receive content contributions from a wide variety of sources – mobile or otherwise, and the technology to accomplish that already exists. A wide variety of micro-blogging sites – including Twitter – output their contents in widely accepted and cost effective means: eXtensible Markup Language (XML) feeds in either Real Simple Syndication (RSS) or Atom format via the Internet. As a result, spotter reports submitted in a pre-established way can easily be extracted and utilized to assist in the warning and dissemination process.

2. Purpose/Intended Use – For the purposes of this project, Twitter will serve as one source of critical weather reports. The public will submit critical weather reports including a short description of their location (e.g. “corner of 10th and Taylor fort worth tx”), and optionally photographs using the Twitter web interface, any number of 3rd party Twitter interfaces, or via a form set up on the NWS web farm. Raw reports received via these methods are unofficial and will not be posted on NWS web pages unless they are released via an official Local Storm Report (LSR). Twitter weather reports are unofficial, unverified and the NWS is not responsible for data accuracy. Use of the Twitter reports are at your own risk. Using industry-standard information feeds output by advanced search techniques in the Twitter Application Programming Interface (API), these weather report data may be accessed in their raw form by the National Weather Service (NWS), Emergency Management officials, and other interested parties.

This project includes the development of software that will allow NWS offices the ability to not only view incoming weather tweets in their raw form for their County Warning Area (CWA) via a web interface, but also the ability to quality control the content before electing whether or not to disseminate the information via an official NWS product (e.g. LSR).

3. Audience – Storm report submission may be conducted by any Twitter account holder. The primary submission candidates will be local emergency managers, spotters, media.

Raw weather report data submitted to Twitter will be readily-accessible in real-time to everyone via Twitter.com in an industry standard format (XML, ATOM, JSON, etc.) that is inherently platform neutral.

Once an office decides that a posted report is reliable and applicable, it will be added to an LSR report. LSR reports are available both via RSS feed and web pages directly from NWS web sites.

A valid user account is required to submit reports. Use of this service constitutes an agreement to the Terms of Service of the provider.

4. Presentation Format – The NWS web farm will provide a web page that describes the format needed in their Twitter post, in order for the post to be considered. This includes instructions that Twitter posts will include the searchable term “#wxreport” (which has been established as unique at this point in time) as well as instructions as how to properly include location information. In addition, the NWS web farm will host a form allowing the public to post their observation. Other posting methods like Twitter’s web page, 3rd party mobile device applications, etc., will be independent of NWS control or maintenance.

Raw (unofficial) Twitter reports will be readily available to NWS partners and the general public via standard format from Twitter’s API or directly from Twitter.com by utilizing the “#wxreport” search term (<http://search.twitter.com/search?q=%23wxreport>)

5. Feedback Method - User feedback is extremely important in our effort to improve the quality and usefulness of products and services. As initial testing will be conducted through a small subset of NWS Southern Region forecast offices, user feedback collected through this initial testing will be invaluable in improving the interface prior to a national release. Comments on accepting critical weather condition posts via Twitter will be collected through December 31, 2010

Please submit your comments at:

<http://www.weather.gov/survey/nws-survey.php?code=pmsbr>

Part II - Technical Details of Standard

Format and Science Basis – All information that is posted to Twitter following the format of this project will be available via a number of industry standard, platform neutral formats:

- Twitter’s web page (<http://search.twitter.com/search?q=%23wxreport>),

- web feed (ATOM, RSS, JSON. i.e <http://search.twitter.com/search.atom?q=%23wxreport>)
- Twitter's API interface (<http://apiwiki.twitter.com/>).

Because these formats are in an internet accessible, vender neutral form, they can be integrated and used by all interested parties – including other micro-blogging services.