

Have Your River Text “U”!

USGS releases *WaterAlert* to deliver data users want, when they want it.

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Whether you subscribe to your favorite news sources via RSS feed, download apps for your phone, or use Twitter and Facebook, the Internet age we live in is ripe for all kinds of customized, instantaneous information services. The U.S. Geological Survey (USGS), the Federal agency that monitors the Nation’s rivers, lakes, and groundwater resources, recently released a new service that can better connect us to the natural world.

The new service, *WaterAlert*, allows users to set notification thresholds of their own choosing for any USGS real-time streamgage, raingage, water-quality, or groundwater monitoring site. The system then sends emails or text messages to subscribers whenever the threshold conditions are met, as often as the user specifies.

WaterAlert could serve a variety of needs. For example, emergency managers could find it useful to set thresholds for floods or other crucial water conditions; water supply managers would value knowing when groundwater falls below levels requiring shutdown of supply pumps; or recreational boaters or fishermen could use the service to monitor streams for the best boating or fishing.

The USGS has long operated a network of real-time hydrologic monitoring locations in cooperation with over 1,300 Federal, State, and local agencies —over 9,000 streamgages and more than 1,400 water-quality sensors monitor the stage, flow, or quality of the Nation’s rivers and almost 1,300 observation wells monitor groundwater levels. The USGS network has existed since the late 1880s and is a crucial

information resource for managing the Nation's stressed water resources, forecasting floods and droughts, improving the design of, and more efficiently operating, bridges, dams, and water and wastewater treatment and hydropower facilities, protecting and renewing fragile wetlands and fisheries, and understanding of our changing climate.

While the network has long been a foundational enterprise for water-resource and environmental managers, engineers, and scientists, it has only recently become an everyday tool for millions of citizens interested in the rivers and ground-water aquifers which course through or underlie the Nation's forests, farms and cities. Data from this network is automatically posted every hour to the USGS webpage at <http://waterdata.usgs.gov/nwis/rt>. The site has achieved overwhelming popularity with millions of visits each month by both water professionals looking for data or citizens checking on their favorite stream.

Signing up for the service is easy. *WaterAlert* users start at <http://water.usgs.gov/wateralert>. The website provides an easy to use map interface (see Figure 1). Users select a state, and then zoom into the map to locate the type of data site they are interested in (streamflow, groundwater, or water-quality). Refined searches on key words, such as a river basin name, help the user find specific sites. Multiple states can be searched by holding the <CNTL> button (on Windows) and clicking on desired states in the list.

Clicking on a particular station displays the site information, including the latest data reported from that location. To set up a notification request, users click on the "subscribe" button, which opens a new window (Figure 2). In this window, users select the preferred delivery method (email or text); how often they want to receive the notifications while the threshold is met (hourly or daily); which data parameter they are interested, and the threshold for which they want the alerts. There are four thresholds available to choose from—above or below a value and between or outside of a range of values.

After reading the “Provisional Data Statement and Disclaimer”, the user clicks on the “Submit” button. In a few minutes, the user will receive a *WaterAlert* confirmation email. The user must reply to this email within two days to activate the subscription. Once the user replies, *WaterAlert* sends an activation notice and the subscription is activated. Within a matter of minutes, the user has established the equivalent of a personal water alarm that will alert them to whatever hydrologic conditions interest them!

There is no limit to the number of subscriptions a user can have. However, there is no ability to modify a notification—it must be deleted and a new one created.

Once the desired threshold is exceeded, the notifications will start arriving according to the user’s preferred frequency. An example of a notification email is shown in Figure 3. It compares the current data to the user’s threshold and lists other site information. The notification also includes a link to a website summarizing other recent or historic data for the sites that the user might need. The message also contains commands that allow the user to suspend or delete notifications, as well as the ability to see a listing of all subscriptions they currently have.

Making earth and biological data freely and effectively available is a USGS priority. *WaterAlert* extends that commitment by actively informing users of hydrologic conditions of interest or concern to them using email and text media.

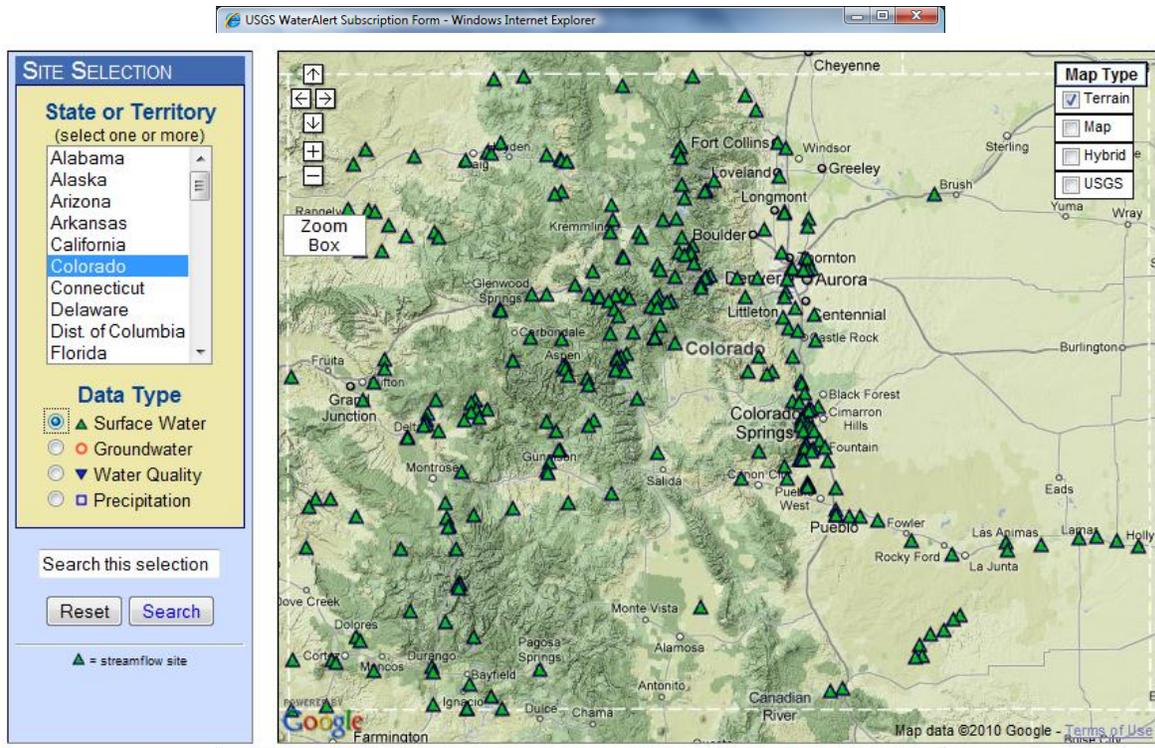


Figure 1.—USGS *WaterAlert* map interface showing surface water stations in Colorado.

Figure 2.—USGS *WaterAlert* subscription window.

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Streamflow of 9140 cfs exceeds subscriber threshold of 5000 at 2010-05-03 06:45:00 EST
02336000 00060 CHATTAHOOCHEE RIVER AT ATLANTA, GA
Notification interval, no more often than: Hourly

For Realtime Data at this station:
http://waterdata.usgs.gov/nwis/uv/?site_no=02336000

To Delete this Specific Alert
  reply with Subject:  SIGNOFF hni-X3hrp

To Pause this Specific Alert for 5 days
  reply with Subject:  PAUSE hni-X3hrp 5

To List Settings
  reply with Subject:  LIST hni-X3hrp

To List Settings for all Notifications of the Same Address
  reply with Subject:  LISTALL hni-X3hrp

For Help
  reply with Subject:  HELP hni-X3hrp

To Sign up for New Notifications
  http://water.usgs.gov/rt-hns

To Modify a threshold, set a "new" notification with
the same email address, site number and parameter

Send Questions to: GS-W_RT-HNS_Feedback@usgs.gov
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Figure 3.—Example of a USGS *WaterAlert* email notification.