Grand Canyon River Alerts: An Emergency Alert System Designed for Satellite Texting Devices

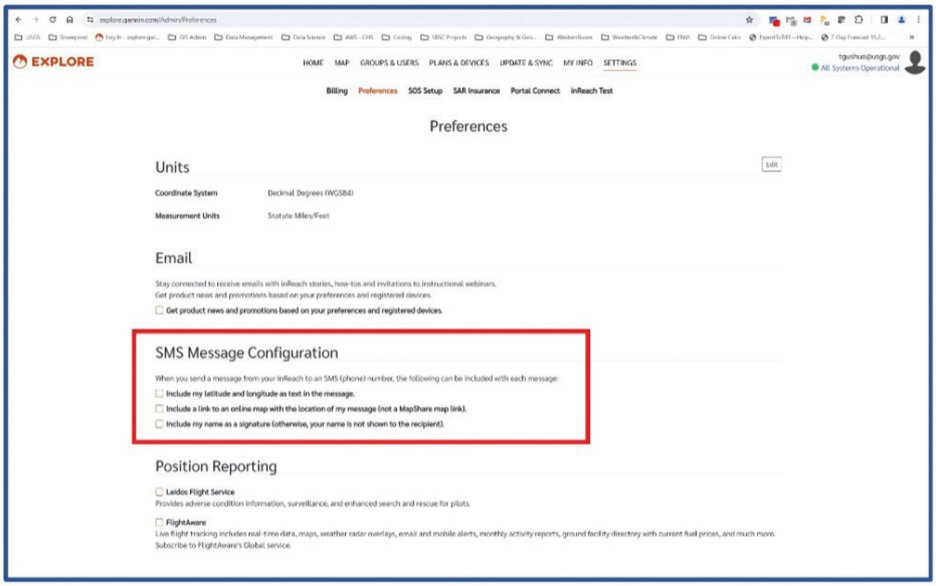
The Grand Canyon River Alert system is now *live*! The U.S. Geological Survey (USGS) Grand Canyon Monitoring and Research Center (GCMRC), in collaboration with Coconino County Emergency Management (CCEM), the National Weather Service (NWS) and the National Park Service (NPS), have developed and implemented a system for sending emergency alerts to boaters and hikers in Grand Canyon. Boating hazards, missing persons, critical dam related events, extreme weather, and flash flood hazards will be included in alert messages. The system is specifically designed to send alerts to satellite texting devices, such as those sold by Garmin and SPOT, and is a first of its kind in the nation. Alert messages will be provided by NPS, NWS, or the Bureau of Reclamation depending on the nature of the incident. CCEM will then disseminate alert messages to devices subscribed to the Grand Canyon River Alerts list.

The 2024 commercial boating season will be a test phase for the system. GCMRC is actively seeking feedback from users to further refine the content and nature of alerts. Instructions for providing feedback are described in more detail at the end of this article. Additionally, the USGS and NWS will be developing a community science application for reporting debris flow and flash flood events, which will ultimately provide the NWS with data to improve the accuracy of weather alerts.

To subscribe for alerts, text GCRIVERALERTS to 928-707-7842 to be added to the Grand Canyon River Alerts list from the device you wish to subscribe. This can be done from either a personal mobile phone or satellite texting device. Once subscribed, you will receive a confirmation message. ***If you do not receive a confirmation message do not assume that you are subscribed.*** Subscription to the list is temporary, so it is critical to confirm that you are signed up prior to leaving for any trip. You can also sign up for email versions of alerts at https://smart911.com.

Satellite texting devices generally have limitations on the number of custom messages that can be received

Device owners must remove formatting from Garmin InReach messages prior to subscribing. To do this, login to Garmin Explore website:

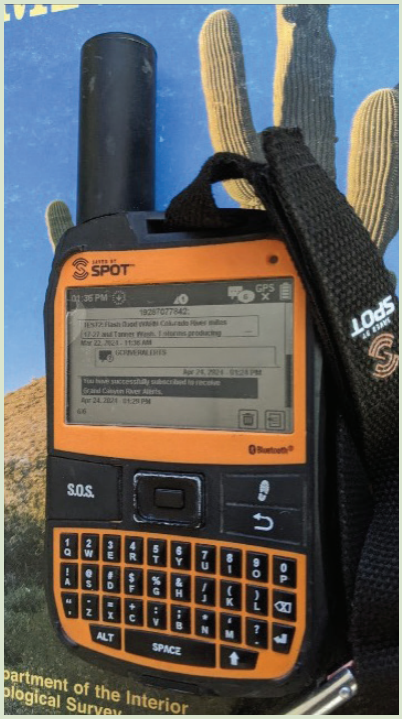


Under the SMS Message Configuration heading, make sure that All Checkboxes are UNCHECKED when going to subscribe to alerts.



IMPORTANT!
Test this by texting a personal cell phone from the device. Confirm the message is only text with no links or signatures. When subscribed, the device will receive a "**Welcome to GCRIVERALERTS...**" message.

This only works for Account Owners. Sub-accounts cannot disable the signature and will not be subscribed. USGS is working to address this issue directly with Garmin.



before additional costs are incurred. Messages from the Grand Canyon River Alert system, including signup and confirmation messages, will count towards the message limit for a device. Message frequency will vary. Depending on the season and what is happening in Grand Canyon, subscribed users may receive several messages during the length of a typical river trip. Subscribers will be automatically dropped from the list at the end of the commercial boating season to help prevent receiving unwanted messages. Users can unsubscribe at any time by texting "LEAVE GCRIVERALERTS" to be removed from the list or "STOP" to stop all messages.

Successfully subscribing to the alert system may require additional configuration of your satellite texting device, specifically if it is a Garmin/ InReach device. The Rave Mobile Safety alert system managed by CCEM can only accept the exact characters of GCRIVERALERTS during signup. If additional text or links are included in the message, subscribing (or unsubscribing) will fail, and a confirmation message will not be received. Unmodified Garmin text messages usually include two additional components: a link to the user's location and a signature. It is strongly recommended to test the content of your satellite message by sending a text to your personal cell phone first to ensure neither of these components are included. Both can be removed by modifying settings at https://explore.garmin.com (see image). Additionally, satellite texting devices must send out a message to a number before they can receive inbound messages, so getting the signup message format correct is the only method to receive alerts on these devices.

We hope that the Grand Canyon Alert system will serve as model for issuing emergency alerts to people recreating in any wilderness area, and that it promotes safety and communication between land management agencies, search and rescue units, and backcountry users. To help further refine this system, provide feedback, or report issues, please email Joseph Thomas (jthomas@usgs.gov) or Thomas Gushue (tgushue@usgs.gov). To provide feedback or to participate in the beta version of the flash flood reporting application, please email Erica Byerley (ebyerley@usgs.gov).

Joseph Thomas, Erica Byerley, & Thomas Gushue