

# Exercise 1: How to Order a BARC

## What is a BARC?

The Geospatial Technology and Applications Center (GTAC) provides **Burned Area Reflectance Classification (BARC)** products for U.S. Forest Service **Burned Area Emergency Response (BAER)** teams. The USGS EROS center provides a similar service for DOI BAER teams. BARCs come in two flavors: the **BARC256** and the **BARC4**. The **BARC256** is a continuous raster dataset that contains values from 0 to 255. It is developed by analyzing the difference between pre- and post-fire satellite imagery. Specifically, the process analyzes changes that occur following a fire in the near-infrared and short-wave infrared portion of the electromagnetic spectrum. By measuring the magnitude of these post-fire changes, we can estimate the effects of the fire on the vegetation and soils of the burned area. BAER teams use this knowledge to guide their assessment of post-fire damage and risk.

The second BARC product is the **BARC4**. The **BARC4** is a simplified version of the **BARC256**. It is a thematic raster dataset that has been classified into 4 categories, or severity classes: unburned to very low, low, moderate, and high. The **BARC** is considered a preliminary product and should be validated and modified, if needed, by a BAER team before it is used for any damage assessment. A trained analyst at GTAC or EROS provides a best estimate of the threshold values for the four burn severity classes, but those thresholds vary from fire to fire and are dependent on many different factors. Therefore, the actual soil conditions on the ground must be documented and the **BARC256** modified as necessary to create a final **soil burn severity (SBS)** dataset.

The process for using a BARC product in a BAER team assessment generally follows the sequence below:

1. Request a BARC product (described in this exercise)
2. Download the BARC data bundle
3. Collect soil burn severity field data
4. Adjust the BARC based on ground samples (described in a separate exercise)
5. Provide the final soil burn severity dataset to GTAC or EROS, as appropriate, for distribution and archiving

## How Do I Obtain a BARC?

BARC products can be ordered for any official BAER team assessment. BARC products may also be ordered, on a limited and case-by-case basis for non-BAER team activities. Official BAER team requests will always have priority. Requests should be made through the BAER Imagery Support website at: <https://burnseverity.cr.usgs.gov/rfmapp/baer>. Note that a user account is required to access the request form and that this information is different than your Active Directory account. An account can be requested and is processed instantaneously.

## Exercise Overview

- Part 1. Create an account (if needed) and login
- Part 2. Create a request for an existing fire
- Part 3. Create a blank request for a fire not shown on the map

### Part 1: Create an account (if needed) and login

The BAER Imagery Support request tool, RFMapp, is available from the main BAER Imagery Support website (<https://burnseverity.cr.usgs.gov/baer/>), or directly at <https://burnseverity.cr.usgs.gov/rfmapp/baer.>


1. Open the request website.
  - a. Click the link above or copy and paste into a web browser to open the site.

**RFMapp**
Incident Map
Request Queue
Login

To submit a BAER support request you must login first. For user that doesn't have .gov email, please reach out to

- For DOI BAER contact: [knelson@usgs.gov](mailto:knelson@usgs.gov)
- For USFS BAER contact: [sm.fs.baerimagery@usda.gov](mailto:sm.fs.baerimagery@usda.gov)

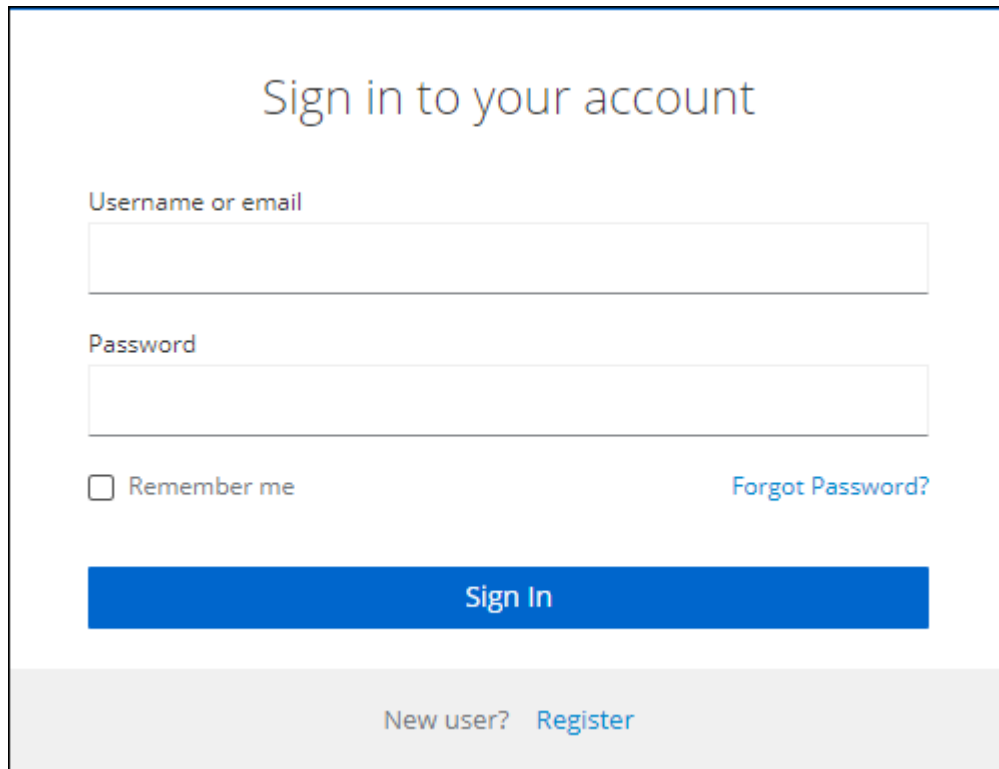
Choose Fire
▼



Having trouble? If your request is related to a Dept. of Interior fire, contact Kurtis Nelson at [knelson@usgs.gov](mailto:knelson@usgs.gov). If your request is related to a US Forest Service fire, or if your request is not related to an active BAER incident, please send an email to [sm.fs.baerimagery@usda.gov](mailto:sm.fs.baerimagery@usda.gov)

The red balloons, representing currently active fires, are updated daily. A balloon with an 'R' inside of it indicates that someone has already requested a BARC product for that fire. If your fire of interest is on the map, you can simply click on it and enter some additional information to make a BARC request. If no balloon is present for your fire of interest, it must first be added to the map. In this exercise, we will perform both of the aforementioned tasks to illustrate the possible ways of making a formal BARC request.

2. Click **Login** to login to an existing account or register for a new account.
3. If you have an account, login with your current username and password. If not, click **Register** and fill in the requested information. Once you receive a confirmation email, which should happen within a few minutes, login with the new username and password.



Sign in to your account

Username or email

Password

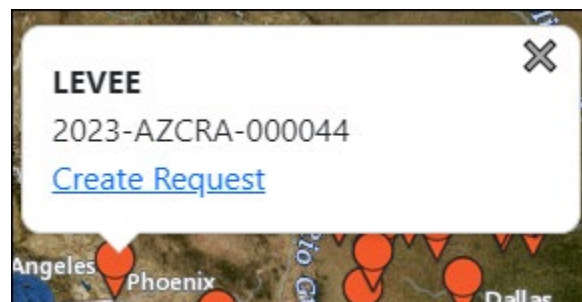
☐ Remember me [Forgot Password?](#)

**Sign In**

New user? [Register](#)

## Part 2. Create a request using an existing fire

1. Locate your fire of interest using the map interface and click **Create Request**. (For this exercise, choose any existing fire).





2. Review the information on the request form (graphic below). Some of the fields describe the incident, including the fire name, ignition date, ignition location (latitude and longitude), and size (acres burned). Others are used to identify you (the requester), and information about the BAER team. Many fields will be pre-populated by the application.
3. Provide any missing contact information, the anticipated BAER assessment start date, the name of the BAER team leader, and any comments that will help GTAC (or EROS) understand and respond to your needs. Specifically, we need to know when the BAER team needs a BARC and whom to contact. For this exercise, use a hypothetical BAER team to fill in the areas outlined in red below. In the comments area, you can add the names of anyone you want to be copied on email correspondence or any other pertinent information about the request or the BAER team. Being as specific and as realistic as possible as far as timing on when the BARC products will be needed can help optimize the quality of the imagery used for creating the BARC.
4. Normally, after entering this information you would click the 'Submit' button, but since this is an exercise, click the **Incident Map** link at the top of the webpage to return to the map.

Create BAER Request

Email Address*	Name*	Phone*
smokey.bear@usda.gov	Smokey Bear	1234567890
Fire Id	Latitude (in DD xx.xxx)*	Longitude (in DD -xxx.xxx)*
2023-AZCRA-000044	33.874	-114.494
Fire Name*	Agency	Ignition Date*
LEVEE	BIA	02/06/2023
Burned Acres	Expected Containment Date	
509	02/15/2023	
Assessment Start Date*	Assessment Team Leader*	
mm/dd/yyyy		
Comments		
Submit		



*Note: For these exercises, do not click 'Submit'. Click 'Cancel' to exit the request form.*

### Part 3. Create a blank request (for a fire not shown on the map)

If your fire of interest is not shown as a red balloon on the map interface, you will need to add the fire to the system.

1. Click 'Create Blank Request' on the incident map page.
2. Populate the required fields describing the fire (ignition latitude and longitude, fire name, and ignition date), as well as the optional fields if the information is known. Fire information can usually be found on the InciWeb website (<https://inciweb.nwcg.gov/>). For this exercise, go to InciWeb, choose a fire, and populate the fields on the request form.
3. As before, add contact information, the BAER team start date, the BAER team leader and relevant comments.
4. For this exercise, do **not** click 'Submit'. Instead, you can close the page or return to the incident map.

**Congratulations!** You have successfully completed this exercise.