



Alabama Outdoor Classroom Box Turtle Research Program

Instructions for Collecting Brumation Data

***Brumation Data is not required for permit renewal**

Use these instructions to properly measure soil temperature and collect weather data for your “Box Turtle Brumation Data Form” in your *Box Turtle Research Folder* and in your online “Brumation Data” for each turtle.

What is Brumation?

Brumation is the condition of sluggishness and inactivity (similar to hibernation) exhibited by reptiles (including turtles) during winter or extended periods of low temperatures.

To help us study the brumation patterns of box turtles across Alabama, we will collect and record valuable environmental data for the following times:

- ✓ when the turtle enters brumation in the fall,
- ✓ when the turtle emerges for a day or two during warm weather in the winter, and
- ✓ when the turtle fully emerges from brumation in the spring.

Determining Date Brumation Begins

Your turtle has entered brumation when you have NOT seen it in 7 days. Then you can use the date of this 7th day as your “**Date the Brumation Began**” on your paper and online data form(s). Collect your soil and weather data on this 7th day or as close to the 7th day as possible!

Measuring Soil Temperature

Tools needed: soil thermometer & measuring tape

Soil temperature can influence when your turtle goes into **brumation**. Turtles burrow into the soil to help regulate their body temperature – whether they need to cool down in the summer or stay warm in winter. By measuring the temperature of the soil in your turtle’s habitat, you can track the temperature range that affects your turtle’s brumation patterns.

Step 1: Remove thermometer from its cover.

Step 2: Use your measuring tape to measure 4 inches up from the bottom of your thermometer’s probe. Mark this spot using a sharpie – this way you will know exactly how deep to insert the thermometer into the ground.

Step 3: Push thermometer into soil in your turtle’s habitat. Stop pushing once the sharpie line reaches the ground. Wait until the temperature gauge stops moving for a final temperature. Remember to record the temperature from the probe onto your data form.



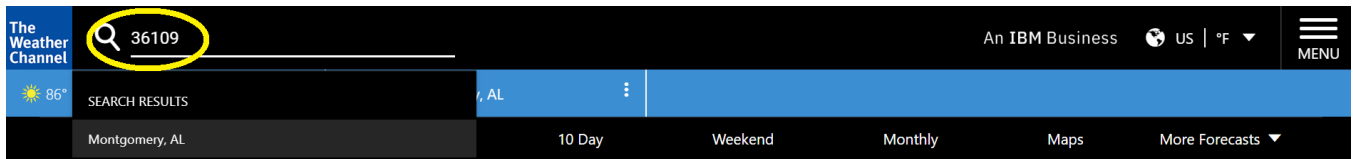
Collecting Weather Data for Brumation

Tools needed: internet access

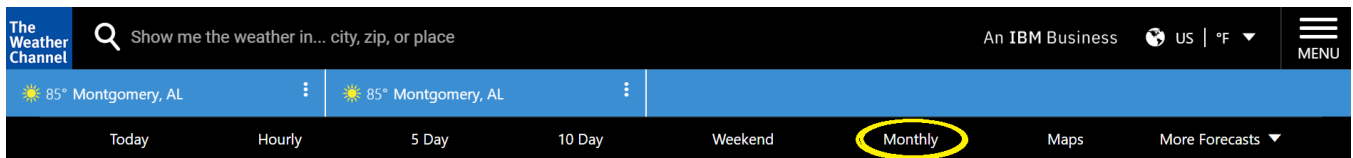
For weather data regarding your turtle's brumation, you will need to access your local weather data. Follow these instructions to do so:

Step 1: Go to www.weather.com

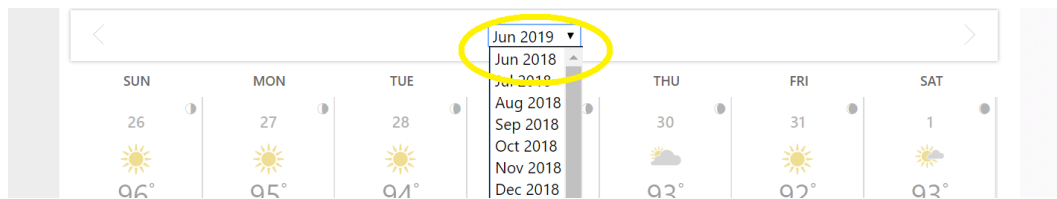
Step 2: Search for your location by entering your zip code in the search bar in the top left corner.



Step 3: Once you are on the webpage for your area, you will see a menu bar with several options at the top of the page. Click "monthly."



Step 4: At the top of the calendar, use the dropdown menu to select the month from which you need weather data.



Step 5: At this point, you can view the temperature and precipitation information that you need for your turtle's Brumation Data Form. This calendar gives you daily weather information, so you will have to do some basic calculations to find averages. Below is an example.

To find the "Average High Temperature (F) Week Before Last Meal", you need the temperatures for one week prior to brumation. If your turtle ate its last meal on October 11th, you should calculate the weather data for October 4th-10th. Then, begin by adding all of the high temperatures together. Next, divide that by the number of days in the week. This gives you the average high temperature.



$$72+74+77+72+67+69+53=484 \qquad 484/7=69$$

Average high temperature for October 4th-10th is 69 degrees.