



How to Access Flathead Lake Biological Station Public Data

The Flathead Lake Biological Station (FLBS) has been collecting data about Flathead Lake since the early 1900s. In 1977, FLBS started the Flathead Lake Monitoring Program (FMP), a more rigorous scientific monitoring program. Over the years the sites and frequency of sampling has changed based on available funding, but sampling continues to this day. This data is routinely used by FLBS scientists and is available for public access through the FLBS Public Data Portal.

FLBS Public Data Portal

<https://flbs.umt.edu/newflbs/research/flbs-public-data/>

The FLBS Public Data Portal contains water chemistry data from Flathead Lake, various Flathead Lake Tributaries, and FLBS precipitation collectors. Additionally, datasets from the Hydrolab[®] sonde parameters, Secchi disk depths, light attenuation, and weather data are also available.

Steps to Access Data:

1. Click on the “Flathead Lake Public Data” link under “Flathead Lake Data.”
2. As a new user, you will need to click “Create new account.”
 - a. Once you’ve filled in your account information, check the box under “Data Terms of Use” and select “Create Account.”
 - b. If you have accessed our public data before, please login with your account information.
 - i. Don’t forget to select “I’m not a robot.”
3. Once you’re logged into the FLBS Public Data Portal (Figure 1), scroll to the bottom of the page and click on the “Datasets” selection tab under the “Data” section.
 - a. There is a large variety of data available. If you are not sure where to start visit the FLBS Public Data Portal homepage and under “Metadata” select the “Metadata notes” link.
 - b. Once you’ve selected the dataset you’d like to view, click “Submit.”






4. If you selected “Flathead lake hydrolab,” “Flathead lake light attenuation,” or “Flathead lake secchi data” the Excel file will appear as a link in the box below.
 - a. Click on the link to download the Excel file.
5. If you selected “Flathead chemistries – deposition,” “Flathead chemistries – Lake,” or “Flathead chemistries – tributaries,” you will be directed to a page to select which parameters you would like data for. Choose as many parameters as you’d like.
 - a. Scroll to the “Select Date Range” box and choose the date range you’d like data to start and end from the pop-up calendar.
 - i. Our datasets run from 1977 to present (excluding the most recent two years of data), so you will not be able to select before 1977.

FLBS Public Data Portal

About FLBS public monitoring data

Researchers at the FLBS have been collecting data on Flathead Lake since the early 1900s. Beginning in 1984, researchers began a more rigorous, periodic collection regimen. While the sites and frequency of sampling have varied over the years based on available funding, sampling continues to this day making this one of the oldest, contiguous datasets on a large freshwater lake in the world. This dataset is used daily by scientists at FLBS, and many of our scientific questions and explorations begin here. All data are made available as-is.

 FLBS monitoring efforts are heavily supported by grants and donations. If you find this data useful, please consider a [tax-deductible contribution](#).

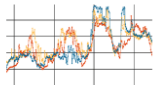
Metadata

You will probably have questions about the data. Check the [Metadata notes](#) page first. For use of this data in your own reports, see our [Citations page](#). If you have any other questions, [contact us](#).

Questions or Follow up?

If you have additional questions, or if you are interested in publication or collaboration opportunities with these datasets, [contact us](#).

Data



Datasets

Figure 1: FLBS Public Data Portal





- ii. If you do not select a date range you will receive all years of data for that parameter(s).
- b. Click the “Submit” button when finished.
- c. Data will appear in a small table at the bottom of the page. To access all of the data, click “Download Full Results.”
- d. Your data will be downloaded into an Excel file and can be sorted from there.
- e. If you’d like to return to the FLBS Public Data Portal homepage to access other datasets, click on the “Back to Home” button.

FLBS LakeNet Weather Network Data

<https://flbs.umt.edu/apps/weather/>

Daily weather data readings have been provided to the National Weather Service from FLBS’s Yellow Bay location since 1938. In 2011, FLBS deployed LakeNET, a telemetered network of environmental weather and water quality sensors. Weather sensors are mounted on land or buoy-based towers, while water quality sensors are mounted below the buoys and travel from the bottom to near the surface throughout the day. Weather data is updated every 15 minutes and water conditions are updated every 3 hours.

1. Once on the FLBS LakeNet Weather Network page (Figure 2), you do not need to log-in to access data.
2. Real time weather data is located under the “Data” heading for various locations around Flathead Lake and the Nyack Floodplain on the Middle Fork of the Flathead River.
3. If you’d like to see this data on a graph, scroll to the “Graph” section and select the “Air and Lake Temperatures, Max Wind Speeds, Air Pressure, Humidity, and Precipitation” link.
 - a. You will be directed to the FLBS LakeNet Graphs page.
 - b. Under “Site” select which location you would like to access data for.
 - c. Under “Variable” select the parameter you are interested in.
 - d. Under “Date range” select the start and end dates from the pop-up calendar.





Accessing FLBS Public Data

- i. Weather datasets run from 2011 to present day.
 - ii. You must select a date range for this data.
 - e. Click “Submit” and check “I’m not a robot” to see the data on the graph below.
 - f. If you would like to access an Excel file of this data, click on the “Download” button at the bottom righthand side of the page.
4. LakeNet Weather Network data can be accessed from two other locations on the FLBS website main page.
 - a. From the FLBS Public Data Portal: Once logged, under the “Data” tab, select “Flathead Lake weather data” and you will be redirected to the LakeNet Weather Network page.
 - b. From the FLBS home webpage (<https://flbs.umt.edu/newflbs>): Under the “Flathead Lake” heading, select “Weather Center” and you will be redirected to the LakeNet Weather Network page.
5. When done, click on the “Back to FLBS site” link at the bottom of the page.
 - a. If you are interested in returning to the FLBS Public Data Portal, you can navigate to it from the FLBS homepage by scrolling over the “Research” tab and clicking “FLBS Public Data.”
 - b. Once you reenter the FLBS Public Data Portal, you will receive an inactive screen and will need to logout by clicking the “Log off” button in the top righthand corner.
 - c. Login to the FLBS Public Data Portal and follow the steps on page 1 to access other data.





FLBS LakeNet Weather Network

In the early 1900s, FLBS founder Dr. Morton Elrod established Montana's first weather station in his backyard in Missoula. FLBS has been collecting weather data ever since, with daily manual readings at our Yellow Bay location for the National Weather Service going back to 1938.



FLBS Meteorological Buoy

In 2011, FLBS enhanced weather data collection and accessibility through the deployment of LakeNET, a telemetered network of environmental weather and water quality sensors. Weather sensors are mounted on land and buoy-based towers while water quality profilers are mounted below the buoys and travel from the bottom to near the surface of the lake multiple times each day.

Data from LakeNET's environmental sensors has greatly increased understanding of Flathead Lake's biological and physical processes and is currently being used in concert with our long-term physical and chemical measurements to drive a nutrient-food web model for Flathead Lake.

The National Weather Service routinely [uses our data in their predictive models](#) for Flathead Lake wind and wave conditions and their issuance of small craft advisories.

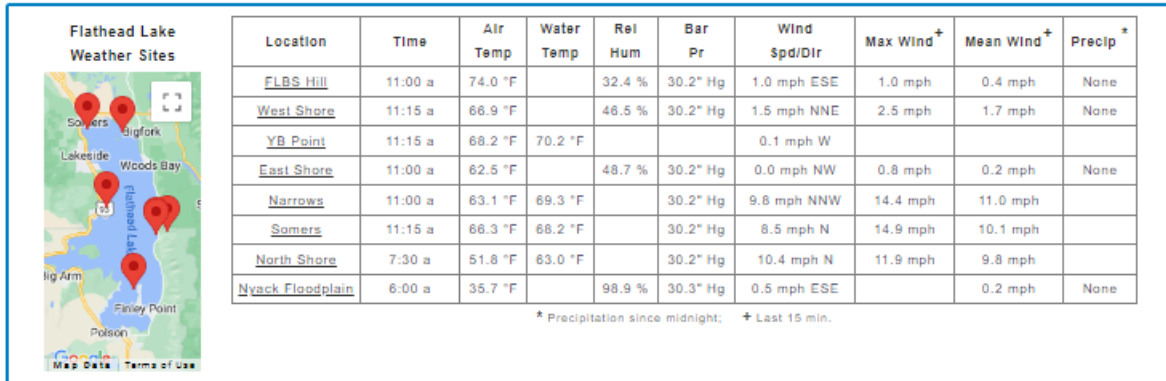
FLBS weather data is updated every 15 minutes. Water conditions are updated every 3 hours.



The FLBS Sensor Network is entirely supported by grants and donations. Please consider a donation to keep it free and available.

[FLBS Sensor Network donations](#)

Data



Graphs

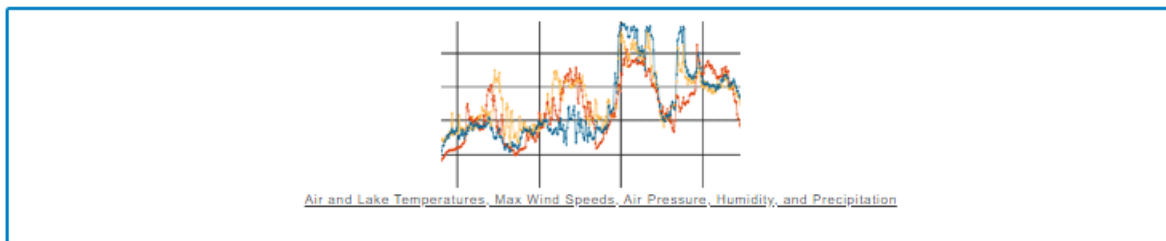


Figure 2: FLBS LakeNet Weather Network

