

Researching Species and Water Bodies

All Species

Note: All links are provided purely for educational purposes. No responsibility is assumed for any content on the linked site(s).

Encyclopedia of Life from Smithsonian National Museum of Natural History:

- <http://eol.org/>
- Search for your species
- Knowing the scientific name helps (google the scientific name, then put *that* in the EOL search bar)
- Click on the “Details” tab along the top, then click on “Habitat” in the table of contents box
 - If needed, look through other areas on the page. For example, temperature may be mentioned in the sections on reproduction and growth since.
- Check out the “Names” tab along the top, then click on “Common Names” on the side to see other common names for this species ... check that the common name you use is there.

Fish Watch from NOAA Fisheries

- <https://www.fishwatch.gov/>
- Search for your species
- Scroll down and look at the information under “The Science”
- Includes aquaculture information (if the species is farmed)

Freshwater Species

Maine Department of Inland Fisheries and Wildlife

- <http://www.maine.gov/ifw/fish-wildlife/fisheries/species-information/index.html>
- Lists the freshwater fish species monitored by the state

Marine Species

Maine Department of Marine Resources

- <http://www.maine.gov/dmr/science-research/species/index.html>
- Lists the saltwater (and anadromous) species monitored by the state
- Has links to other sources
- You will likely have to read in order to find the information you are looking for
- <http://www.maine.gov/dmr/recreational-fishing/anglers-guide/doyouknowyourcatch/index.html>

Atlantic States Marine Fisheries Commission (ASMFC)

- <http://www.asmfc.org/fisheries-management/program-overview>
- Group of states along the eastern coast of the US - some of the species listed may not be native to Maine
- Click on the name of your species on the left
- Look for a "Habitat Factsheet" for a summary

NOAA Fisheries

- <https://www.fisheries.noaa.gov/welcome>
- Click on "Find a Species"
- Click "View all species"
- Search for species, or filter for region

All Water Bodies

Maine Department of Environmental Protection

- <http://www.maine.gov/dep/water/monitoring/index.html>

United States Geological Survey (USGS)

- <https://waterdata.usgs.gov/nwis>
- <https://waterdata.usgs.gov/nwis/qw>
- <https://maps.waterdata.usgs.gov/mapper/index.html>

Freshwater

Lakes of Maine

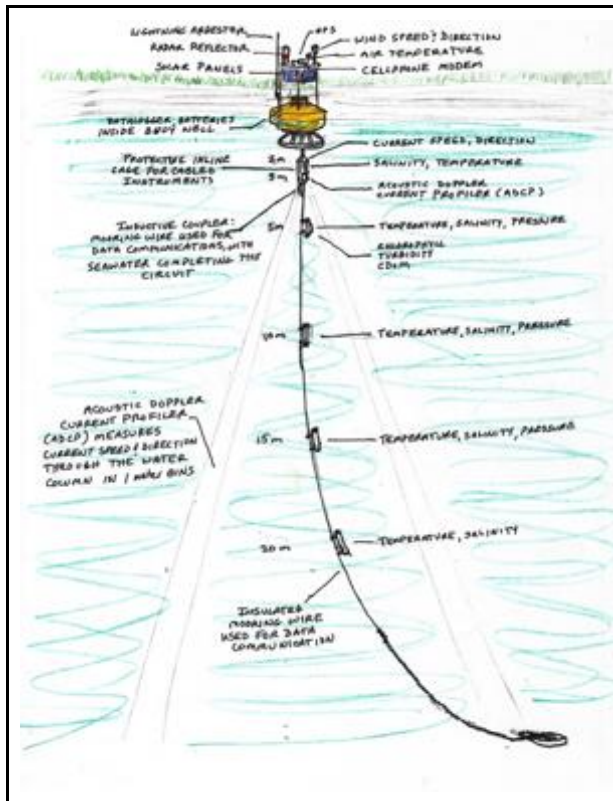
- <https://www.lakesofmaine.org/search-results.html?DoWhat=&l=phillips&t=&z=&m=>
- Search for your lake
- Click on “Water Quality” along the top ribbons. Suggestions to explore are:
 - “Transparency”
 - “Dissolved Oxygen & Temperature”
 - “Chemistry” (has pH data)

Marine

Maine EPSCoR / SEANet

- <https://umaine.edu/epscor/seanet/>
- <http://maine.loboviz.com/> (for raw data) ...
- <https://tuvalabs.com/renzibeth/datasets/f15ad0f86ac24b1f9b90c9c8ac02c869/> (for some data on Tuva - note: these are daily averages, not raw data)
- Data collected from buoys

Ocean Buoys vs. River Buoys



“Ocean” Buoys

- Sensors at multiple depths: -3, 2, 5, 10, 15, and 20 meters
- Measurements taken every 20 minutes: temperature (water), salinity, pressure (at some depths)
- Measurements taken every 10 minutes: temperature (air)

Picture Source:

<http://gyre.umeoce.maine.edu/data/gomoos/buoy/html/E05.html>



“River” Buoys

- Sensors at only one depth: 1 meter
- Measurements taken every 1 hour: turbidity, salinity, temperature (water), pH, dissolved oxygen

Pictures Source: <http://maine.loboviz.com/>

TUVA LABS:

Tuva website: <https://tuvalabs.com>

(All data points are daily averages, as the raw data makes the website lag)

- Damariscotta Bay (2 river buoys, 1 ocean buoy): <https://tuvalabs.com/renzibeth/datasets/10ecf99b43e54609a4797e6490559a34/>
- Saco Bay (1 river buoy, 1 ocean buoy): <https://tuvalabs.com/renzibeth/datasets/521994ddcab94910b8d66cf3bfda005b/>
- Bagaduce River, Casco Bay, and Wood Island Harbor (4 river buoys): <https://tuvalabs.com/renzibeth/datasets/79f265e4817d4f269827e5d1790eae27/>

Units

A brief summary of the units you may find is included below.

Transparency and Turbidity Units

- Transparency: m = meters = depth of Secchi disc. Can also be in feet (ft).
- Turbidity: NTU = Nephelometric Turbidity Units = light reflected back to sensor by particles floating in the sample. Higher value = more turbid.

Salinity Units

- ppt = (the funky % sign) = parts per thousand = particles of salt per every 1000 particles
- psu = practical salinity units = grams salt per kilograms liquid
 - Note: Tuva uses "PSU", which is the same thing
- 1 ppt = 1 psu

Temperature

- °C = degrees Celsius = the metric unit
- °F = degrees Fahrenheit = the English unit
- K = Kelvin (not in degrees) = same degree size as Celsius, but there are no negative values

pH

- (pH is unitless!)

Dissolved Oxygen

- mg/L = mg of oxygen per liter of solution
- mL/L = mL of oxygen per liter of solution
- ppm = parts per million = particles of oxygen per 1 million particles of solution
- 1 mg/L = 1 ppm
- 1 mL/L = 1.33 mg/L = 1.33 ppm (at 20°C and 1 atm)