

# corePackages

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```
sessionInfo()
```

```
## R version 4.2.1 (2022-06-23)
## Platform: x86_64-apple-darwin17.0 (64-bit)
## Running under: macOS Big Sur ... 10.16
##
## Matrix products: default
## BLAS:   /Library/Frameworks/R.framework/Versions/4.2/Resources/lib/libRblas.0.dylib
## LAPACK: /Library/Frameworks/R.framework/Versions/4.2/Resources/lib/libRlapack.dylib
##
## locale:
## [1] en_US.UTF-8/en_US.UTF-8/en_US.UTF-8/C/en_US.UTF-8/en_US.UTF-8
##
## attached base packages:
## [1] stats      graphics  grDevices  utils      datasets  methods   base
##
## other attached packages:
## [1] formatR_1.14    forcats_0.5.2  dplyr_1.1.2    purrr_1.0.1
## [5] readr_2.1.3     tidyr_1.3.0    tibble_3.2.1   ggplot2_3.4.2
## [9] tidyverse_1.3.2 stringr_1.5.0   rvest_1.0.3    xml2_1.3.3
##
## loaded via a namespace (and not attached):
## [1] tidyselect_1.2.0    xfun_0.35      haven_2.5.1
## [4] gargle_1.2.1        colorspace_2.1-0 vctrs_0.6.2
## [7] generics_0.1.3      htmltools_0.5.4  yaml_2.3.6
## [10] utf8_1.2.3          rlang_1.1.1     pillar_1.9.0
## [13] withr_2.5.0         glue_1.6.2      DBI_1.1.3
## [16] dbplyr_2.2.1        readxl_1.4.1    modelr_0.1.9
## [19] lifecycle_1.0.3     munsell_0.5.0   gtable_0.3.3
## [22] cellranger_1.1.0    evaluate_0.19   knitr_1.41
## [25] tzdb_0.3.0          fastmap_1.1.0   fansi_1.0.4
## [28] broom_1.0.1         backports_1.4.1 scales_1.2.1
## [31] googlesheets4_1.0.1 jsonlite_1.8.4  fs_1.5.2
## [34] hms_1.1.2           digest_0.6.31   stringi_1.7.12
## [37] grid_4.2.1          cli_3.6.1       tools_4.2.1
## [40] magrittr_2.0.3      crayon_1.5.2    pkgconfig_2.0.3
## [43] ellipsis_0.3.2      reprex_2.0.2    googledrive_2.0.0
## [46] lubridate_1.9.2     timechange_0.2.0 assertthat_0.2.1
## [49] rmarkdown_2.19      httr_1.4.6      rstudioapi_0.14
## [52] R6_2.5.1            compiler_4.2.1
```

**This document contains metadata for the core NTL-LTER datasets**

## **Madison Wisconsin Daily Meteorological Data 1869 - current**

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.20.36>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.20.36&entityid=3c7ddd692d3ac8e90bf2954a16b39e89>

**Variables include:** year4, sampleddate, max\_air\_temp\_adjusted, max\_air\_temp\_raw, min\_air\_temp\_adjusted, min\_air\_temp\_raw, ave\_air\_temp\_adjusted, ave\_air\_temp\_raw, range\_air\_temp\_adjusted, precip\_raw\_mm, snow\_raw\_cm, snow\_depth\_cm, data\_status

**Date Range:** 1869-01-01 - 2022-12-31

## **North Temperate Lakes LTER: Meteorological Data - Woodruff Airport 1989 - current**

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.17.37>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.17.37&entityid=9e39437554e8ebb54843b18e0ad27110>

**Variables include:** year4, sampleddate, daynum, avg\_air\_temp, flag\_avg\_air\_temp, max\_air\_temp, flag\_max\_air\_temp, min\_air\_temp, flag\_min\_air\_temp, avg\_dewpoint\_temp, flag\_avg\_dewpoint\_temp, max\_dewpoint\_temp, flag\_max\_dewpoint\_temp, min\_dewpoint\_temp, flag\_min\_dewpoint\_temp, avg\_rel\_hum, flag\_avg\_rel\_hum, max\_rel\_hum, flag\_max\_rel\_hum, min\_rel\_hum, flag\_min\_rel\_hum, avg\_barom\_pres\_mbar, flag\_avg\_barom\_pres\_mbar, avg\_wind\_speed, flag\_avg\_wind\_speed, max\_wind\_speed\_1min, flag\_max\_wind\_speed\_1min, direction\_peak\_wind, flag\_direction\_peak\_wind, avg\_par, flag\_avg\_par, avg\_shortwave\_rad, flag\_avg\_shortwave\_rad, avg\_sol\_rad, flag\_avg\_sol\_rad, avg\_longwave\_rad, flag\_avg\_longwave\_rad, tot\_precip, flag\_tot\_precip

**Date Range:** 1989-01-01 - 2022-12-31

## **North Temperate Lakes LTER Soil Temperature - Woodruff Airport 2006 - current**

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.133.32>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.133.32&entityid=441c6bdb67d0d5ec0cb28dc32bbdb667>

**Variables include:** year4, sampleddate, daynum, depth, avg\_soiltemp, flag\_avg\_soiltemp

**Date Range:** 2006-08-18 - 2022-12-31

## **Minocqua Dam Daily Meteorological Data at North Temperate Lakes LTER 1978 - current**

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.18.34>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.18.34&entityid=34ec9386a894ba332529349d24154333>

**Variables include:** year4, sampleddate, min\_air\_temp, max\_air\_temp, precip, snow, snow\_depth, data\_status

**Date Range:** 1978-01-01 - 2022-12-31

## **Minocqua Dam Monthly Meteorological Data at North Temperate Lakes LTER 1905 - current**

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.19.32>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.19.32&entityid=439164dca34df606494a0912157e0c6a>

**Variables include:** year, month, mean\_air\_temp, mean\_min\_air\_temp, mean\_max\_air\_temp, precip, snow, data\_status

## **North Temperate Lakes LTER: Physical Limnology of Primary Study Lakes 1981 - current**

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.29.35>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.29.35&entityid=03e232a1b362900e0f059859abe8eb97>

**Variables include:** lakeid, year4, sampleddate, depth, rep, sta, event, wtemp, o2, o2sat, deck, light, frlight, flagdepth, flagwtemp, flago2, flago2sat, flagdeck, flaglight, flagfrlight

**Date Range:** 1981-04-22 - 2022-11-18

### **Lakes included:**

**AL**, depths include: 0, 0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7

**BM**, depths include: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19

**CB**, depths include: 0, 0.25, 0.5, 0.75, 1, 1.25, 1.5, 1.75, 2

**CR**, depths include: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19

**FI**, depths include: 0, 1, 2, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10, 10.5, 11, 12, 13, 14, 15, 16, 17, 18, 19

**ME**, depths include: 0, 1, 2, 3, 4, 5, 6, 7, 7.5, 8, 8.5, 9, 9.5, 10, 10.5, 11, 11.5, 12, 12.5, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 24.5

**MO**, depths include: 0, 1, 2, 3, 4, 5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10, 10.5, 11, 11.5, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22

**SP**, depths include: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18

**TB**, depths include: 0, 0.25, 0.5, 0.75, 1, 1.25, 1.5, 1.75, 2, 2.25, 2.5, 2.75, 3, 4, 5, 6, 7

**TR**, depths include: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32

**WI**, depths include: 0, 1, 2, 3, 3.5, 3.6

## North Temperate Lakes LTER: Physical Limnology of Lake Kegonsa and Lake Waubesa 1995 - current

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.264.23>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.264.23&entityid=1213ed3937c845d5bece3a69e8246e75>

**Variables include:** lakeid, year4, sampledate, depth, sta, wtemp, o2, o2sat

**Date Range:** 1994-07-05 - 2020-03-06

**Lakes included:**

**KE,** depths include: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 9.5

**WA,** depths include: 0, 1, 2, 3, 4, 5, 6, 6.5, 7, 7.5, 8, 9, 10, 10.5, 11

## North Temperate Lakes LTER: Snow and Ice Depth 1982 - current

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.34.34>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.34.34&entityid=9be297624fc843fbd41f29b161150946>

**Variables include:** lakeid, year4, daynum, sampledate, sta, nsnow, avsnow, sdsnow, wlevel, totice, nice, whiteice, blueice

**Date Range:** 1982-01-18 - 2023-03-21

**Lakes included:** AL, BM, CB, CR, FI, ME, MO, SP, TB, TR, WI

## North Temperate Lakes LTER: Ice Duration - Trout Lake Area 1981 - current

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.32.30>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.32.30&entityid=22dfd43d5e56e7d828c13317c7c7a9d1>

**Variables include:** lakeid, sta, year, lastice, datelastice, firstopen, datefirstopen, lastopen, datelastopen, firstice, datefirstice

**Lakes included:** AL, BM, CB, CR, LR, SP, TB, TR

## North Temperate Lakes LTER: Ice Duration - Madison Lakes Area 1853 - current

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.33.37>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.33.37&entityid=933b6eb9b31cc1e41c6a02ee40a91877>

**Variables include:** lakeid, season, iceon, ice\_on, iceoff, ice\_off, ice\_duration, year4

**Lakes included:** ME, MO, WI

## North Temperate Lakes LTER: Lake Levels 1981 - current

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.30.27>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.30.27&entityid=5f324be2082168798e8c83d693147fe0>

**Variables include:** lakeid, year4, daynum, sampleddate, sta, llevel\_elevation

**Date Range:** 1981-04-23 - 2020-10-16

**Lakes included:** AL, BM, CB, CR, SP, TB, TR

## North Temperate Lakes LTER: Light Extinction 1981 - current

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.259.18>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.259.18&entityid=6e9645b25882672e7316357890553e19>

**Variables include:** lakeid, sampleddate, extcoef, lightext\_flag, comments

**Date Range:** 1981-04-22 - 2022-11-18

**Lakes included:** AL, BM, CB, CR, FI, KE, ME, MO, SP, TB, TR, WA, WI

## North Temperate Lakes LTER: Secchi Disk Depth; Other Auxiliary Base Crew Sample Data 1981 - current

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.31.32>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.31.32&entityid=d01c782e0601d2217b94dd614444bd33>

**Variables include:** lakeid, year4, daynum, sampleddate, sta, secview, secnview, timeon, timeoff, airtemp, windir, windspd, waveht, cloud, ice

**Date Range:** 1981-04-22 - 2022-11-23

**Lakes included:** AL, BM, CB, CR, FI, ME, MO, SP, TB, TR, WI

## North Temperate Lakes LTER: Color - Trout Lake Area 1989 - current

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.87.33>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.87.33&entityid=80ec90db84b05ecd45580177133815dd>

**Variables include:** lakeid, year4, sampleddate, cuvette, wavelength, value, color\_flag

**Date Range:** 1989-11-07 - 2021-11-24

**Lakes included:** AL, al, BM, bm, CB, cb, CR, cr, SP, sp, TB, tb, TR, tr

## North Temperate Lakes LTER: Sediment Deposition - Trout Lake Area 1986 - current

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.40.26>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.40.26&entityid=ffc5ceb7ec4c54f62a5c110fb64bb6dc>

**Variables include:** lakeid, year4, year\_fraction, start\_daynum, end\_daynum, duration, med\_daynum, med\_date, trap, size\_fraction, mass\_flux, particle\_mass\_mg, particle\_mass\_conc\_mg\_per\_l, volume\_l, ratio\_n, ratio\_c, ratio\_p, flux\_n, flux\_c, flux\_p, flag, comments

**Lakes included:** SP, TR, CR, NA

## Lake Mendota Multiparameter Sonde Profiles: 2017 - current

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.400.4>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.400.4&entityid=8fd57df54b19ddd592dbb45321bbd548>

**Variables include:** lakeid, sampleddate, sampletime, depth, wtemp, do\_raw, do\_sat, ph, spec\_cond, chlor\_rfu, phyco\_rfu, turbidity, fdom, flag\_wtemp, flag\_do\_raw, flag\_do\_sat, flag\_ph, flag\_spec\_cond, flag\_chlor\_rfu, flag\_phyco\_rfu, flag\_turbidity, flag\_fdom

**Date Range:** 2017-09-29 - 2022-10-28

**Lakes included:**

**ME,** depths include: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20

## North Temperate Lakes LTER: Groundwater Chemistry 1984 - current

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.10.24>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.10.24&entityid=c1fa477218ba3543642bbfb79ef53690>

**Variables include:** wellid, year, sampleddate, daynum, ph, ph\_bubbled, cond, alk, dic, doc, no3no2, nh4n, totn, totp, drsi, brsi, cl, so4, ca, mg, na, k, fe, mn, flagph, flagph\_bubbled, flagalk, flagdic, flagdoc, flagno3no2, flagnh4n, flagtotn, flagtotp, flagdrsi, flagbrsi, flagcl, flagso4, flagca, flagmg, flagna, flagk, flagfe, flagmn

**Date Range:** 1984-11-07 - 2018-10-22

## North Temperate Lakes LTER: Groundwater Levels 1984 - current

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.9.23>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.9.23&entityid=14ace49dc3939cb736c90c8ae08593ce>

**Variables include:** year4, sampleddate, wellid, well\_level, flag

**Date Range:** 1984-04-23 - 2018-11-27

## North Temperate Lakes LTER: Chemical Limnology of Primary Study Lakes: Major Ions 1981 - current

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.2.37>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.2.37&entityid=0701a84081989bb1ff37d621a6c4560a>

**Variables include:** lakeid, year4, daynum, sampledate, depth, rep, sta, event, cl, so4, ca, mg, na, k, fe, mn, cond, flagcl, flagso4, flagca, flagmg, flagna, flagk, flagfe, flagmn, flagcond

**Date Range:** 1981-04-22 - 2019-11-18

### Lakes included:

**AL**, depths include: 0, 2, 4, 6, 7

**BM**, depths include: 0, 5, 8, 10, 12, 16, 18, 19

**CB**, depths include: 0, 2

**CR**, depths include: 0, 5, 8, 10, 12, 15, 18, 19

**FI**, depths include: 0, 4, 8, 12, 16, 18

**ME**, depths include: 0, 8, 20

**MO**, depths include: 0, 8, 20

**SP**, depths include: 0, 5, 8, 10, 12, 15, 18

**TB**, depths include: 0, 2, 3, 5, 7

**TR**, depths include: 0, 8, 10, 15, 20, 27, 31, 32

**WI**, depths include: 0

## North Temperate Lakes LTER: Chemical Limnology of Primary Study Lakes: Nutrients, pH and Carbon 1981 - current

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.1.59>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.1.59&entityid=0ff1fd13116d6097376e3745194cdc5f>

**Variables include:** lakeid, year4, daynum, sampledate, depth, rep, sta, event, ph, phair, alk, dic, tic, doc, toc, no3no2, no2, nh4, totnf, totnuf, totpf, totpuf, drsif, brsif, brsiuf, tpm, totnuf\_sloh, no3no2\_sloh, nh4\_sloh, kjdl\_n\_sloh, totpuf\_sloh, drp\_sloh, drsif\_sloh, flagdepth, flagph, flagphair, flagalk, flagdic, flagtic, flagdoc, flagtoc, flagno3no2, flagno2, flagnh4, flagtotnf, flagtotnuf, flagtotpf, flagtotpuf, flagdrsif, flagbrsif, flagbrsiuf, flagtpm, flagtotnuf\_sloh, flagno3no2\_sloh, flagnh4\_sloh, flagkjdl\_n\_sloh, flagtotpuf\_sloh, flagdrp\_sloh, flagdrsif\_sloh

**Date Range:** 1981-04-22 - 2021-11-24

### Lakes included:

**AL**, depths include: 0, 2, 4, 6, 7

**BM**, depths include: 0, 5, 8, 10, 12, 16, 18, 19

**CB**, depths include: 0, 2

**CR**, depths include: 0, 3, 5, 8, 10, 12, 15, 18, 19

**FI**, depths include: 0, 4, 8, 10, 12, 14, 16, 18

**ME**, depths include: 0, 4, 8, 10, 12, 14, 16, 18, 20, 22

**MO**, depths include: 0, 4, 8, 10, 12, 14, 16, 18, 20

**SP**, depths include: 0, 3, 5, 8, 10, 12, 15, 17, 18

**TB**, depths include: 0, 2, 3, 5, 7

**TR**, depths include: 0, 5, 8, 10, 15, 20, 27, 31, 32

**WI**, depths include: 0

## **North Temperate Lakes LTER: Physical and Chemical Limnology of Lake Kegonsa and Lake Waubesa 1994 - current**

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.401.2>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.401.2&entityid=4fc546aa77e98d52535f99835b030cb2>

**Variables include:** lakeid, year4, daynum, sampleddate, depth, rep, sta, wtemp, o2, o2sat, ph, phair, alk, totnuf\_sloh, no3no2\_sloh, nh4\_sloh, kjdl\_n\_sloh, totpuf\_sloh, drp\_sloh, drsif\_sloh, cl, so4, flagdepth, flagwtemp, flago2, flago2sat, flagph, flagphair, flagalk, flagtotnuf\_sloh, flagno3no2\_sloh, flagnh4\_sloh, flagkjdl\_n\_sloh, flagtotpuf\_sloh, flagdrp\_sloh, flagdrsif\_sloh, flagcl, flagso4

**Date Range:** 1994-07-05 - 2020-03-06

**Lakes included:**

**KE**, depths include: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 9.5

**WA**, depths include: 0, 1, 2, 3, 4, 5, 6, 6.5, 7, 7.5, 8, 9, 10, 10.5, 11

## **North Temperate Lakes LTER: Chlorophyll - Madison Lakes Area 1995 - current**

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.38.28>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.38.28&entityid=66796c3bc77617e7cc95c4b09d4995c5>

**Variables include:** lakeid, year4, sampleddate, depth\_range\_m, rep, tri\_chl\_spec, mono\_chl\_spec, phaeo\_spec, uncorrect\_chl\_fluor, correct\_chl\_fluor, phaeo\_fluor, flag\_spec, flag\_fluor

**Date Range:** 1995-01-24 - 2018-11-30

**Lakes included:** ME, MO, FI, WI

## **North Temperate Lakes LTER: Chlorophyll - Trout Lake Area 1981 - current**

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.35.32>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.35.32&entityid=50f9b5f93d0a0d47008147698fb413f3>

**Variables include:** lakeid, year4, daynum, sampleddate, rep, sta, depth, chlor, phaeo, flagchlor, flagphaeo

**Date Range:** 1981-06-30 - 2021-11-24



**Lakes included:**

**AL**, depths include: 0, 2, 4, 6, 7

**BM**, depths include: 0, 3, 5, 8, 10, 12, 16, 18, 19

**CB**, depths include: 0, 1, 2

**CR**, depths include: 0, 3, 5, 8, 10, 12, 15, 18, 19

**SP**, depths include: 0, 3, 5, 8, 10, 12, 15, 17, 18

**TB**, depths include: 0, 2, 3, 5, 6, 7

**TR**, depths include: 0, 3, 5, 8, 10, 15, 20, 27, 31, 32

**North Temperate Lakes LTER: Phytoplankton - Madison Lakes Area 1995 - current**

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.88.31>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.88.31&entityid=f2de15b2fff6ae962a04c150c0a1c510>

**Variables include:** lakeid, year4, sampledate, sta, depth\_range, division, taxa\_name, gald, cells\_per\_nu, nu\_per\_ml, cells\_per\_ml, biovolume\_conc, biomass\_conc, relative\_total\_biovolume, genus

**Date Range:** 1995-01-24 - 2020-12-10

**Lakes included:** MO, ME, FI, WI

**North Temperate Lakes LTER: Phytoplankton - Trout Lake Area 1984 - current**

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.238.5>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.238.5&entityid=8226b22d4c64913303212efc5b7d3d65>

**Variables include:** lakeid, year4, sampledate, sta, depth\_range, division, taxa\_name, gald, cells\_per\_nu, nu\_per\_ml, cells\_per\_ml, biovolume\_conc, biomass\_conc, relative\_total\_biovolume, genus

**Date Range:** 1984-04-26 - 2006-11-03

**Lakes included:** CR, AL, BM, SP, TB, TR, CB

**North Temperate Lakes LTER: Zooplankton - Trout Lake Area 1982 - current**

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.37.37>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.37.37&entityid=c4b652eea76cd431ac5fd3562b1837ee>

**Variables include:** lakeid, year4, sample\_date, station, species\_code, species\_name, density, individuals\_measured, avg\_length

**Date Range:** 1981-04-22 - 2019-11-18

**Lakes included:** AL, BM, CB, CR, SP, TB, TR, Tr

## North Temperate Lakes LTER: Zooplankton - Madison Lakes Area 1997 - current

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.90.33>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.90.33&entityid=5880c7ba184589e239aec9c55f9d313b>

**Variables include:** lakeid, year4, sample\_date, station, towdepth, species\_code, species\_name, density, individuals\_measured, avg\_length

**Date Range:** 1995-01-24 - 2018-11-14

**Lakes included:** FI, ME, MO, WI

## North Temperate Lakes LTER: Benthic Macroinvertebrates 1981 - current

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.11.36>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.11.36&entityid=64a3def6d4f03ea0ac3e8630b75df453>

**Variables include:** lakeid, year4, site, rep, taxon\_code, description, number\_indiv, flag

**Lakes included:** CR, SP, sp, TR

## North Temperate Lakes LTER: Crayfish Abundance 1981 - current

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.3.34>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.3.34&entityid=88c98b71ee78638c6d78f2eda60c70b2>

**Variables include:** lakeid, year4, gearid, effort, spname, total\_caught

**Lakes included:** AL, BM, FI, ME, MO, SP, TR, WI

## North Temperate Lakes LTER Pelagic Macroinvertebrate Abundance 1983 - current

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.13.34>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.13.34&entityid=35a501a8e187da22f6cfc07015fca911>

**Variables include:** lakeid, year4, sta, depth, taxon, rep, number\_indiv

**Lakes included:**

**BM,** depths include: 17, 18, 19

**CB,** depths include: 1.75, 2, 2.5

**CR,** depths include: 17, 18, 19

**AL,** depths include: 6, 6.5, 7

**TB,** depths include: 6, 6.5, 7

**TR,** depths include: 9, 10, 15, 20, 25, 30, 31, 32

**SP,** depths include: 16, 17, 18

## North Temperate Lakes LTER: Pelagic Macroinvertebrate Summary 1983 - current

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.14.34>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.14.34&entityid=3b341aed8577f3817de95a5458222594>

**Variables include:** lakeid, year4, sta, depth, taxon, nreps, avg\_ind, stdev\_ind, avg\_ind\_per\_m2, stdev\_ind\_per\_m2, avg\_ind\_per\_m3, stdev\_ind\_per\_m3

**Lakes included:**

**AL**, depths include: 7

**BM**, depths include:

**CB**, depths include: 2

**CR**, depths include: 19

**SP**, depths include: 17

**TB**, depths include: 7

**TR**, depths include: 10, 15, 20, 25, 32

## North Temperate Lakes LTER: Macrophyte Transects - Trout Lake 1982 - current

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.22.49>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.22.49&entityid=18acc428713fac38f596d90d84447335>

**Variables include:** lakeid, year, site, min\_depth, max\_depth, species\_name, total\_quadrats\_sampled, quadrats\_species\_absent, quadrats\_species\_present, total\_quadrats\_species\_present

**Lakes included:** TR

## North Temperate Lakes LTER: Macrophyte Biomass - Trout Lake 1983 - current

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.21.27>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.21.27&entityid=dfbf70811ec24b55d67de2a52d6f00c5>

**Variables include:** lakeid, year4, site, depth, species\_name, rep, dryweight\_g

**Lakes included:**

**TR**, depths include: 1.5, 2.5, 4

## North Temperate Lakes LTER: Macrophyte Richness - Trout Lake 1993 - current

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.28.25>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.28.25&entityid=beddad01372a8b45924c2f9594f47c4a>

**Variables include:** lakeid, year4, site, sampleddate, min\_depth, max\_depth, quadrat, richness

**Date Range:** 1993-08-19 - 2019-08-14

**Lakes included:** TR

## North Temperate Lakes LTER: Macrophyte Biomass in Trout Lake Summary 1983 - current

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.25.26>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.25.26&entityid=a984d0bfc36497b8cc1b3f4692412b5d>

**Variables include:** lakeid, year4, site, depth, species\_name, nreps, avg\_dryweight\_g, stdev\_dryweight\_g

**Lakes included:**

**TR,** depths include: 1.5, 2.5, 4

## North Temperate Lakes LTER: Macrophyte Species at Quadrat Level - Trout Lake 1993 - current

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.26.25>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.26.25&entityid=2cf8a0faff212a7b773d7f9e2df82414>

**Variables include:** lakeid, year4, site, sampleddate, min\_depth, max\_depth, species\_name, quadrat

**Date Range:** 1993-08-19 - 2019-08-14

**Lakes included:** TR

## North Temperate Lakes LTER: Macrophyte Rating - Madison Lakes Area 1995 - current

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.23.30>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.23.30&entityid=aa5720aec0e577431faeee352b91a937>

**Variables include:** lakeid, year4, sampleddate, transect, depth, rep, spname, rake\_rating, flag

**Date Range:** 1995-06-27 - 2018-07-27

**Lakes included:**

**MO,** depths include: 1, 1.5, 2, 2.5, 3, 3.5, 4

**WI**, depths include: 1, 1.5, 2, 2.5, 3, 3.5

**FI**, depths include: 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5

**ME**, depths include: 1, 1.5, 2, 2.5, 3, 3.5, 4

## **North Temperate Lakes LTER: Macrophyte Biomass - Madison Lakes Area 1995 - current**

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.24.29>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.24.29&entityid=a03d18be68db4cf2280846afe2643d5e>

**Variables include:** lakeid, year4, sampledate, transect, depth, rep, rake\_rating, fil\_algae\_wt, plant\_wt\_hand, flag

**Date Range:** 1995-06-27 - 2018-07-27

**Lakes included:**

**MO**, depths include: 1, 1.5, 2, 2.5, 3, 3.5, 4

**WI**, depths include: 1, 1.5, 2, 2.5, 3, 3.5

**FI**, depths include: 1, 1.5, 2, 2.5, 3, 3.5, 4

**ME**, depths include: 1, 1.5, 2, 2.5, 3, 3.5, 4

## **North Temperate Lakes LTER: Fish Abundance 1981 - current**

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.7.44>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.7.44&entityid=6796e863c371817e3ecad736e3c2dd71>

**Variables include:** lakeid, year4, gearid, effort, spname, total\_caught

**Lakes included:** AL, BM, CB, CR, FI, ME, MO, SP, TB, TR, WI

## **Lake Wingra: Fish Abundance 1995 - current**

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.182.21>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.182.21&entityid=075018c60525517cf55bc11c7a9d342c>

**Variables include:** lakeid, year4, gearid, effort, spname, total\_caught

**Lakes included:** WI

## **Lake Wingra: Fish Lengths and Weights 1995 - current**

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.181.22>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.181.22&entityid=8b668ac1a068eb9387aafd779a3f3a9c>

**Variables include:** lakeid, year4, sampleddate, gearid, spname, depth, rep, length, weight, sex, fishpart

**Date Range:** 1995-08-21 - 2022-08-22

**Lakes included:**

**WI,** depths include: -2, -1, 0, 1, 2, 3, 4

## North Temperate Lakes LTER: Fish Species Richness 1981 - current

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.245.27>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.245.27&entityid=635de04f92c4f64aaa9f75594427fb61>

**Variables include:** lakeid, year4, richness

**Lakes included:** AL, BM, CB, CR, FI, ME, MO, SP, TB, TR, WI

## North Temperate Lakes LTER: Fish Length Frequency 1981 - current

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.8.35>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.8.35&entityid=18cdcc4b34b87a171e7c8a965e39eeb8>

**Variables include:** lakeid, year4, bin\_midpoint, bandedkillifish, bgpumphybrid, bigmouthbuffalo, black-bullhead, blackchinshiner, blackcrappie, blacknoseshiner, blackstrptopminnow, bluegill, bluntnoseminnow, bowfin, brassyminnnow, brooks silverside, brook stickleback, brown bullhead, burbot, channel catfish, cisco, common carp, common shiner, crappie, creek chub, darter, emerald shiner, fantail darter, fathead, finescaledace, freshwater drum, golden redhorse, goldenshiner, grass pickerel, greater redhorse, green bg hybrid, green-pump hybrid, greensunfish, guppy, horny head chub, iowadarter, johnny darter, laketrout, lakewhitefish, largemouth bass, larval fish, larval sunfish, logperch, longearsunfish, longnosegar, mimicshiner, mottled-sculpin, mudminnow, muskellunge, muskypike hybrid, ninesp stickleback, northern hogsucker, northern pike, nredbellydace, propinquus, pumpkinseed, quillback, rainbow smelt, rock bass, rosy faceshiner, rusticus, short head redhors, shovel nose sturgeon, silver pike, silver redhorse, slimy sculpin, smallmouth bass, smallmouth-buffalo, splake, spotfinshiner, spottail emerald h, spottail shiner, sunfish, troutperch, unidchub, uniddarter, unidentified, unidminnow, unidredhorse, unidshiner, virilis, walleye, warmouth, white bass, white crappie, whitesucker, yellow bass, yellow bullhead, yellow perch

**Lakes included:** AL, BM, CB, CR, FI, ME, MO, SP, TB, TR, WI

## North Temperate Lakes LTER: Fish Lengths and Weights 1981 - current

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.6.34>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.6.34&entityid=7dddb5e70250d2e24537e34272316220>

**Variables include:** lakeid, year4, sampleddate, gearid, spname, sampletype, depth, rep, indid, length, weight, sex, fishpart, spseq, flag

**Date Range:** 1981-07-28 - 2022-08-31

**Lakes included:**

**AL,** depths include: -2, -1, 0, 1, 2, 3, 4, 5, 6

**BM**, depths include: -2, -1, 1, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14

**CB**, depths include: -2, -1, 1, 1.5, 2

**CR**, depths include: -2, -1, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22

**FI**, depths include: -2, -1

**ME**, depths include: -2, -1, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 21

**MO**, depths include: -2, -1, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

**SP**, depths include: -2, -1, 1, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17

**TB**, depths include: -2, -1, 0.5, 0.8, 1, 1.5

**TR**, depths include: -2, -1, 1, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32

**WI**, depths include: -2, -1, 0, 1, 2, 3, 4

## **North Temperate Lakes LTER: Pelagic Prey - Sonar Data 2001 - current**

**EDI Archive + Metadata:** <https://portal.edirepository.org/nis/mapbrowse?packageid=knb-lter-ntl.115.33>

**.csv download link:** <https://portal.edirepository.org/nis/dataviewer?packageid=knb-lter-ntl.115.33&entityid=cea5c1f7ece33118b99fa6a981749730>

**Variables include:** lakeid, year4, sampledate, mid\_sample\_time, mid\_latitude, mid\_longitude, sv\_mean, nasc, mean\_height, mean\_depth, number\_pings, species, species\_ts, density

**Date Range:** 2001-08-26 - 2020-07-23

**Lakes included:** ME, SP, CR, TR