As part of our funding commitments, National Science Foundation (NSF) funded projects such as CAP/LTER are required to make as much research data as possible available for public consumption. This commitment includes the provision of metadata to enable data users to assess the content and significance of the data they download.

For each dataset associated with your project please provide the following information. If you do not know the required information, or need help completing this form, please contact the GIOS Informatics team [[caplter.data@asu.edu](mailto:caplter.data@asu.edu)] for assistance.

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| --- | --- |
| **Project Information** |  |
| **Project title** | Tempe Town Lake |
| **Dataset title** | Dissolved Organic Carbon |
| **Creator (created by)** | Hilairy Hartnett |
| **Contact details** | Information Manager |
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| **Publication date (mm/dd/yyy)** |  |
| **Intellectual rights** | We can use the CAP LTER default, or you can replace this text as necessary. |
| **Keywords** | Carbon, time-series, lake |
| **Abstract** | Long-term measurement of water quality parameters and dissolved organic carbon concentration in an urban lake. |

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| **Coverage of study** |  |
| **Geographic coverage:** | Longitude Format: -111.929128°  Latitude Format: +33.430342° |
| **Coverage description** | (Default is the CAP LTER study area – see below. If your study area varies from this please edit accordingly.)  Tempe Town Lake, south shoreline. |
| **East bounding coordinate (Long)** | -111.59 |
| **West bounding coordinate (Long)** | -113.34 |
| **North bounding coordinate (Lat)** | +34.01 |
| **South bounding coordinate (Lat)** | +32.91 |
| **Taxonomic coverage:** |  |
| * **Taxonomic classification** | None |
| **Temporal coverage:** |  |
| * **Begin date** | 01/04/2005 |
| * **End date** | Ongoing |

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| **Detailed Descriptions** |  |
| **Project description** | Water sampling from south side of Tempe Town Lake at a depth of ~ 1 meter. We make in situ measurements of water quality parameters (pH, Temp, O2, Conductivity) and collect samples for analysis of dissolved organic carbon/total nitrogen in the laboratory. |
| **Method description** | **pH**: measured in the field with hand-held YSI or Thermo-Orion sensors. Sensors are calibrated each day with a 3-point calibration curve (pH = 4, 7, 10).  **Conductivity**: measured in the field with a handheld Orion conductivity sensor. Sensor is calibrated each day with a one-point, 1000 microSieman conductivity solution. Values in microSiemans (temperature compensated).  **Dissolved Oxygen**: measured in the field with a hand-held YSI sensor. Sensor is altitude compensated and calibrated relative to an air saturated water solution each day. Values in mg O2/L.  **Temperature**: measured by each of the above sensors. Values in degrees Celsius.  **Water collection and filtration**. Water samples are collected into 1L Nalgene bottles that are rinsed 3x with lake water before collection. Samples are collected below the surface and an effort is made to exclude floating debris. Samples are immediatedly transported to the lab for filtration.  Samples are filtered through GF/F filters on a vacuum manifold. Samples are collected in an ashed (450 deg C) flask and distributed in to centrifuge tubes for storage until analysis.  **Sample storage**: Polypropylene centrifuge tubes (VWR) are rinsed with deionized water and leached for 48 hours prior to use. Filtered samples for dissolved organic carbon analysis are acidified to pH<2 with HCl and stored in the dark at 4 deg C until analysis. Every effort is made to analyze samples within 1 month of collection.  **Dissolved organic carbon/Total nitrogen analysis**: Dissolved organic carbon concentration was measured using a Shimadzu TOC-V carbon analyzer where samples are combusted at 680°C in an oxygen-rich environment with a platinized-alumina catalyst to convert all carbon in the sample to carbon dioxide gas (Hedges et al. 1993; Sharp et al. 1993; Sharp 1993; Sharp 1997). Dissolved organic carbon is detected as CO2(g) by a non-dispersive infra-red gas analyzer. Total nitrogen is detected from the same analysis as NO using a chemiluminescence nitrogen detector. The instrument is calibrated daily with a 5-point calibration curve for carbon and nitrogen, and quality check standards are evaluated with each run.  **Alkalinity and Bicarbonate**: determined by Gran titration with hydrochloric acid. NOT COLLECTED after 2012  **Turbidity:** measured with a Hach turbidity meter in normalized turbidity units. NOT COLLECTED after 2005  **Suspended Sediment:** determined by mass. One liter of water was filtered onto GF/F filter (25 mm); filter was dried at 60 deg C and weighed to determine mass of sediment. NOT COLLECTED after 2005  *Not sure how you want to include the following:*  **City of Tempe water quality data:** <https://www.tempe.gov/government/community-services/tempe-town-lake/how-town-lake-works/town-lake-water-quality>  **Maricopa County Flood Control District** (Alert Stn 67300):  <http://alert.fcd.maricopa.gov/showrpts_mc.html>  **USGS discharge at Priest (site 09512165):**  <https://waterdata.usgs.gov/az/nwis/inventory/?site_no=09512165> |