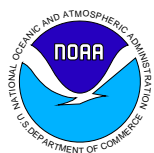




**LAKE ERIE WATER TEMPERATURE DATA
PUT-IN-BAY, OH 1918-1992**

Michael J. McCormick

Great Lakes Environmental Research Laboratory
Ann Arbor, Michigan
August 1996



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1. INTRODUCTION

Water temperature data from several sites around the Great Lakes were obtained to determine if any regional climatic changes or trends could be detected based upon these data sets. The study was partially supported by the NOAA Office of Global Programs. Site selection was based upon location and reasonable data access.

This technical memorandum contains data for Put-In-Bay, Ohio on Lake Erie. Water temperature data were measured at the Put-In-Bay fish hatchery on South Bass Island on Western Lake Erie. The hatchery data were collected by the Ohio Department of Natural Resources, Lake Erie Fisheries Unit, Sandusky Bay, from 1918 through 1992. The data from 1918-1961 were obtained from the following technical report: *Water Temperatures at Put-In-Bay, Ohio from 1918*. Ohio Department of Natural Resources, Division of Wildlife, Columbus, Ohio. Publication W-189. August. GB, 1798.8, .0303, 1961.

The remaining data were recorded from 1961-1992 using an analog temperature recording unit made by Taylor Instruments Co., Rochester, New York. The temperature traces were made on 11 inch diameter paper disks that could hold 7 days of data. The data are scaled to degrees Fahrenheit.

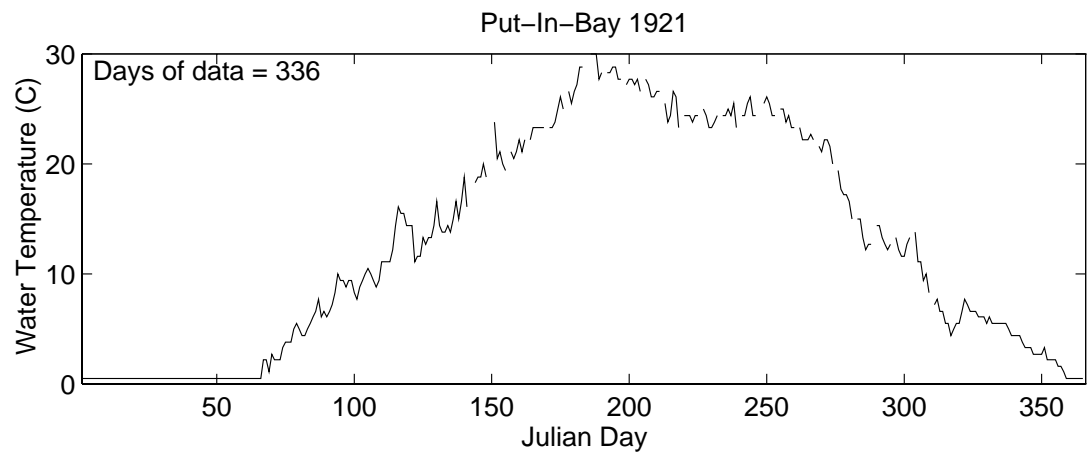
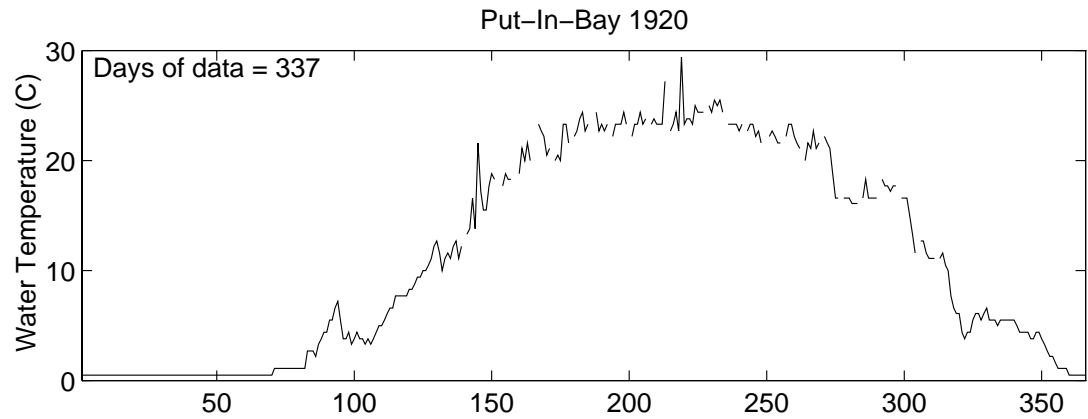
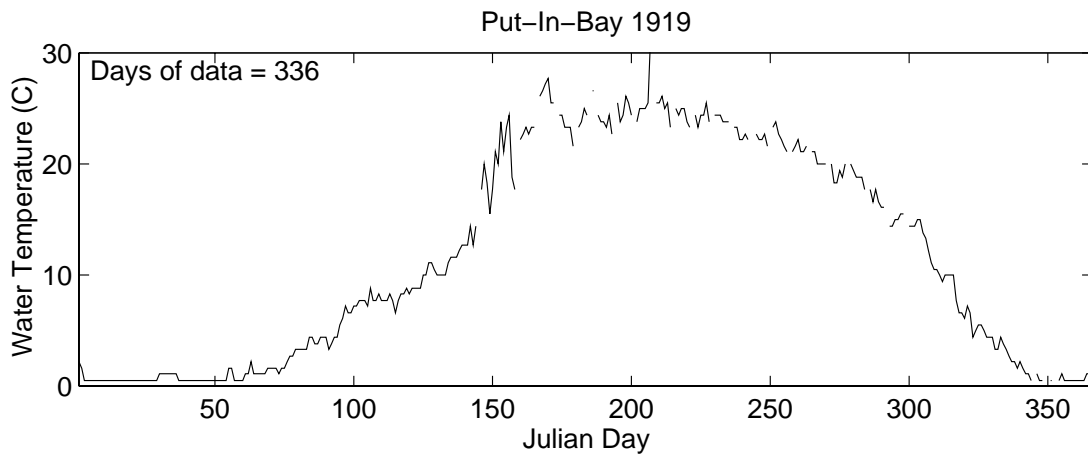
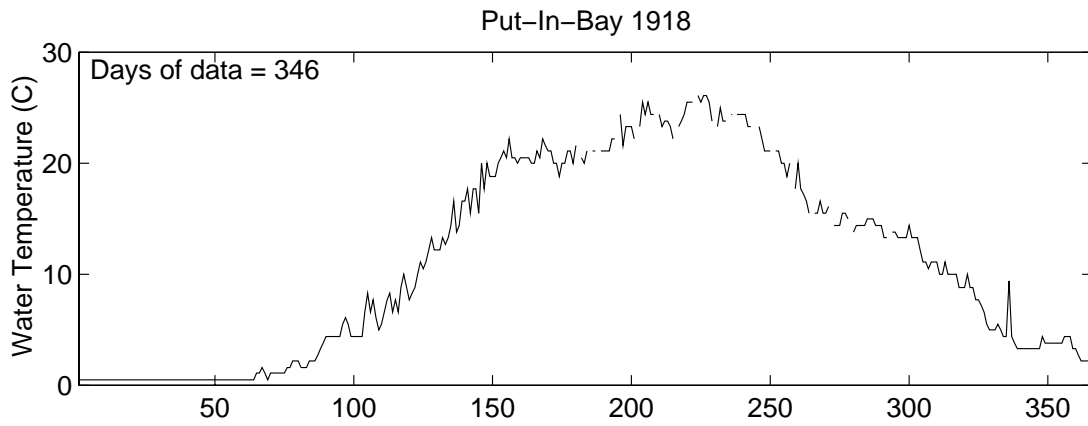
The data were transcribed into a digital format using a CalComp digitizer and appropriate software. A digitizer was used to measure the radial distance from which the temperature could then be calculated. The digitizer was set to continuously measure the radii every 0.01 inches of arc length for each day and calculate an average daily temperature in degrees Celsius. Throughout 1961-1992 there were numerous occasions when the paper disk was not changed on a weekly interval. Also, there were several periods when all data were lost. Consequently, some significant data gaps are present.

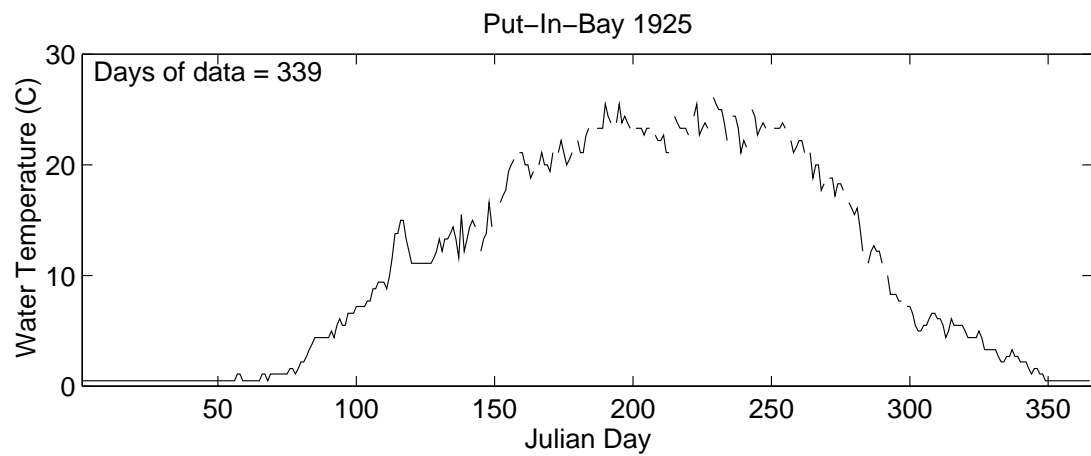
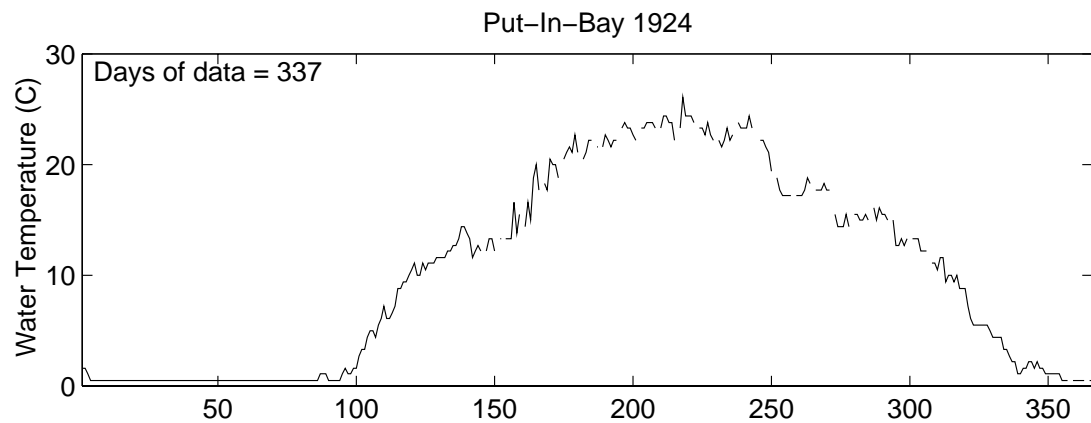
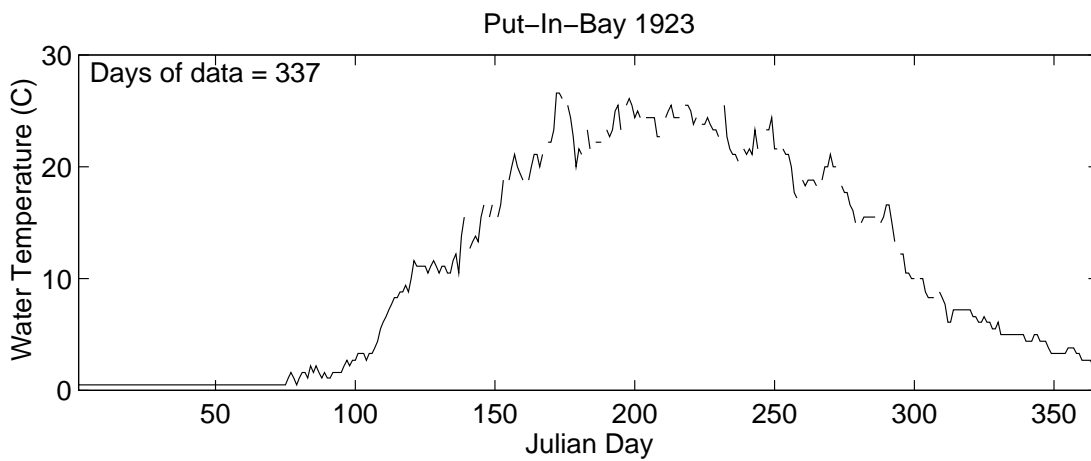
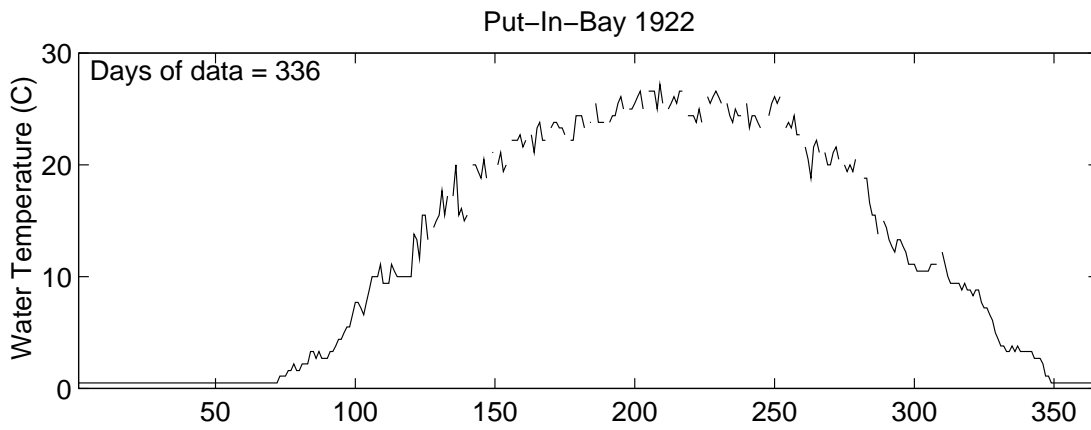
The data are plotted and shown in the accompanying figures. Prior to final plotting, all data were checked for consistency, and all questionable values were deleted. **All missing data are denoted by 999.**

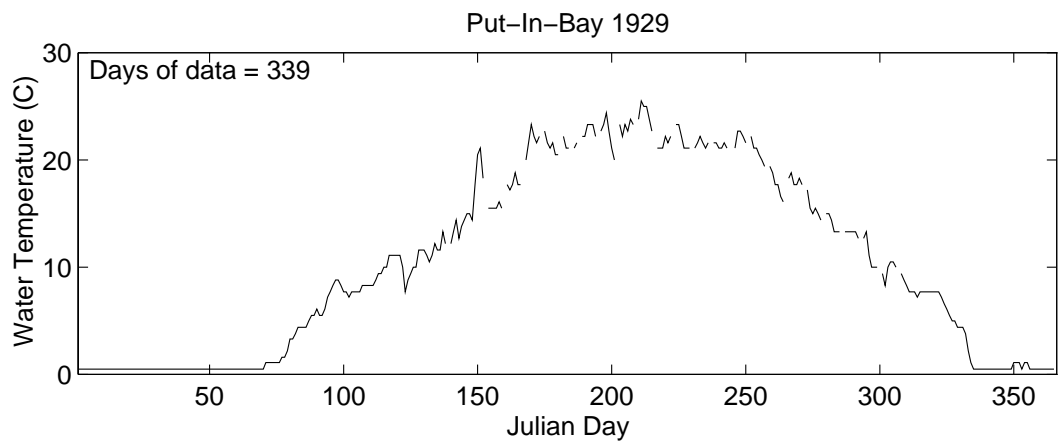
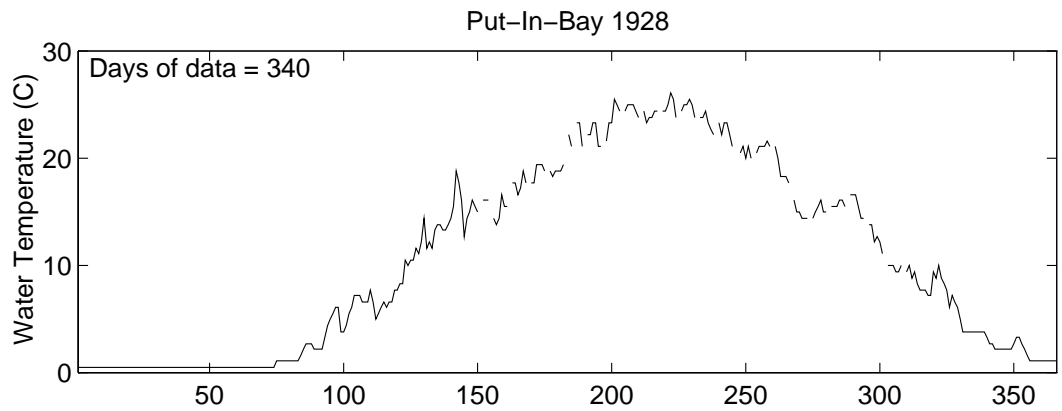
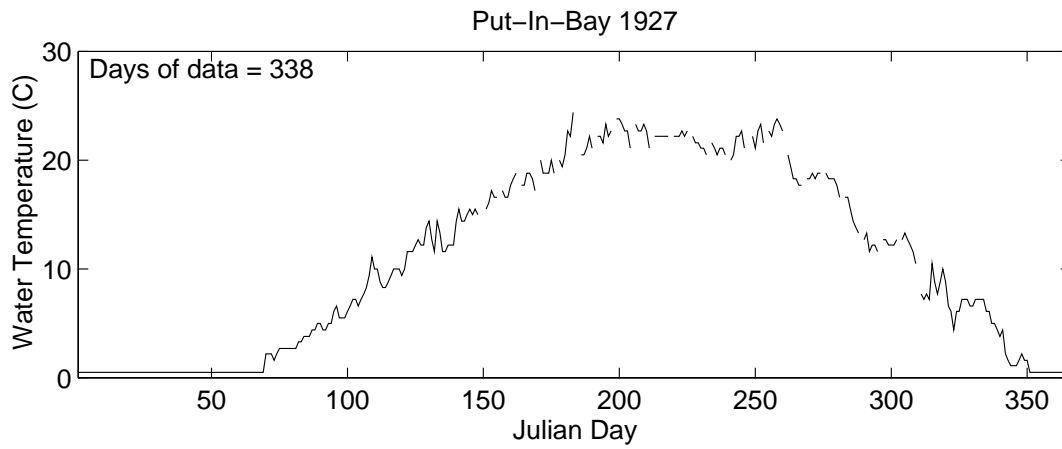
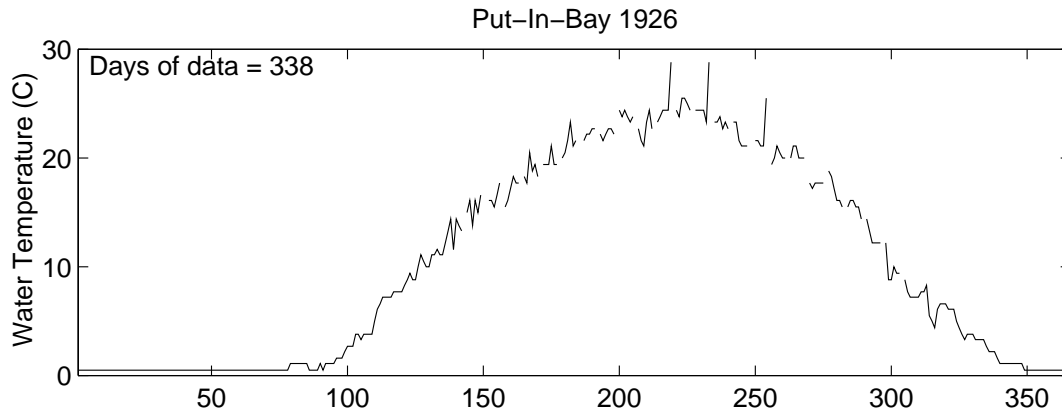
Data files are identified as TM097Dxx.edt where xx identifies the data year. Data are organized into four columns: month, day, year, and temperature. Although the data are reported to the nearest 0.1°C, a more reasonable estimate of their accuracy is 0.5°C given all the uncertainties with the raw data.

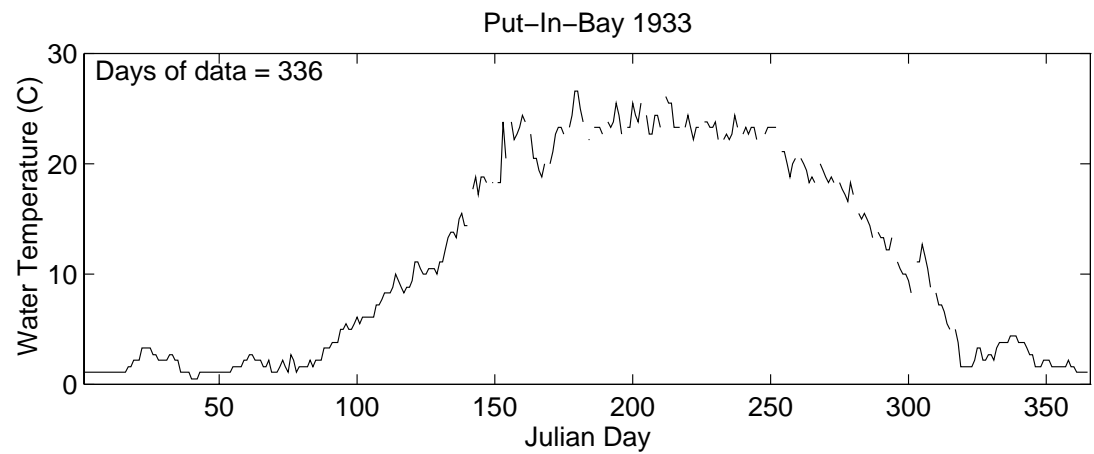
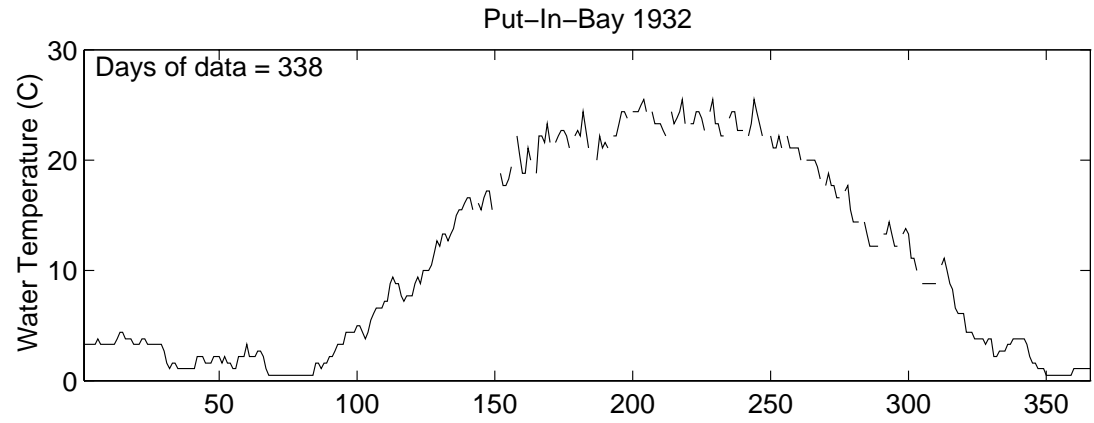
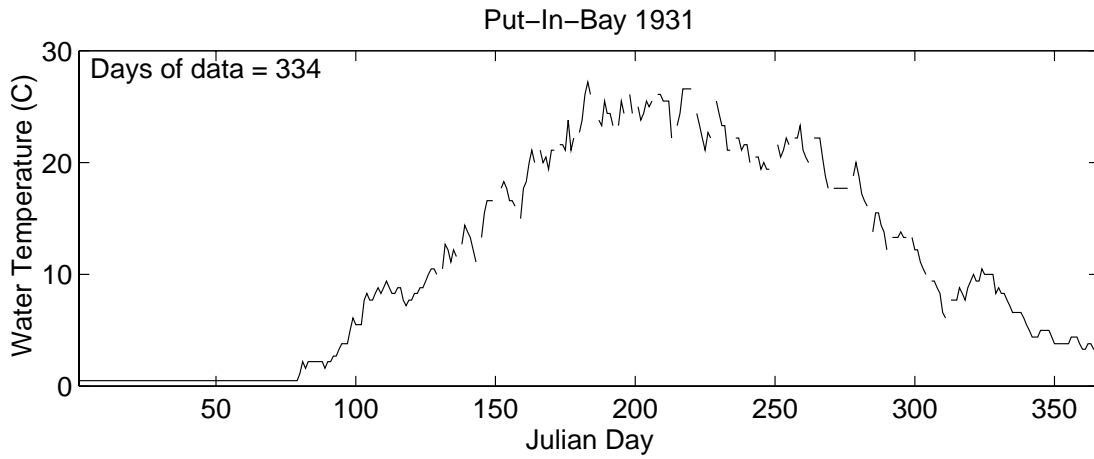
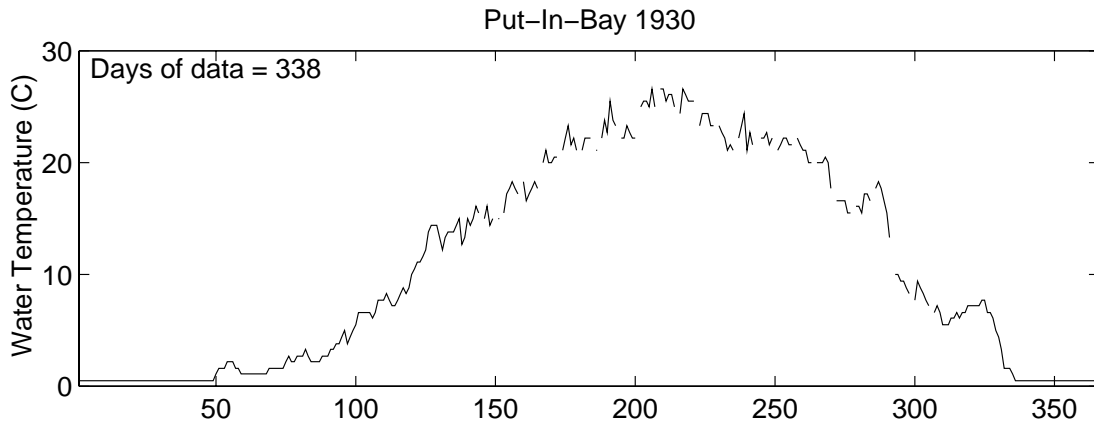
All data are available in a simple ASCII format. The data files are available from GLERL's WWW site or from the anonymous FTP site. From the GLERL home page (www.glerl.noaa.gov) select FTP server, **or** point your browser to: ftp://ftp.glerl.noaa.gov/publications/tech_reports/glerl-97.

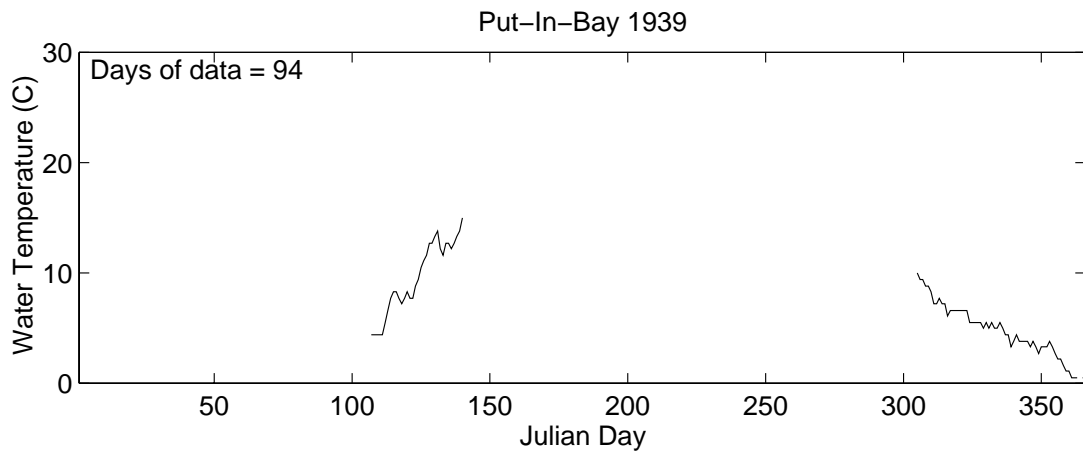
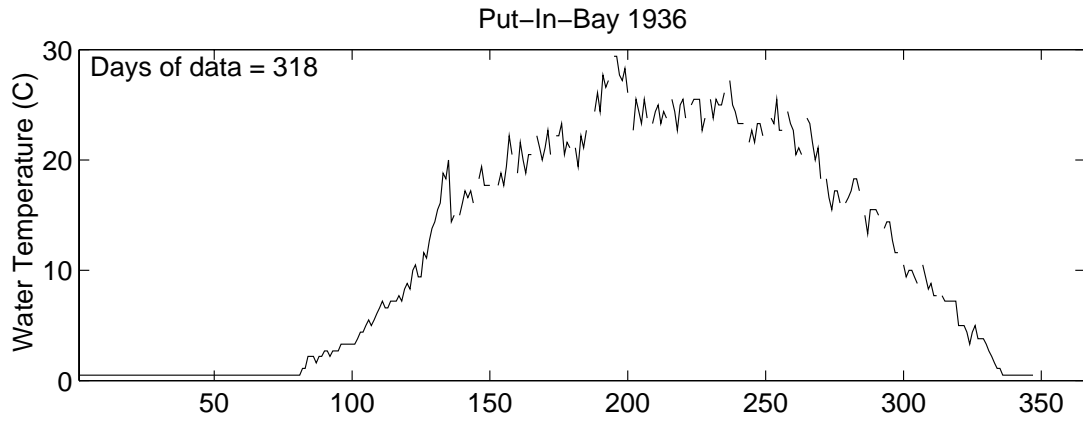
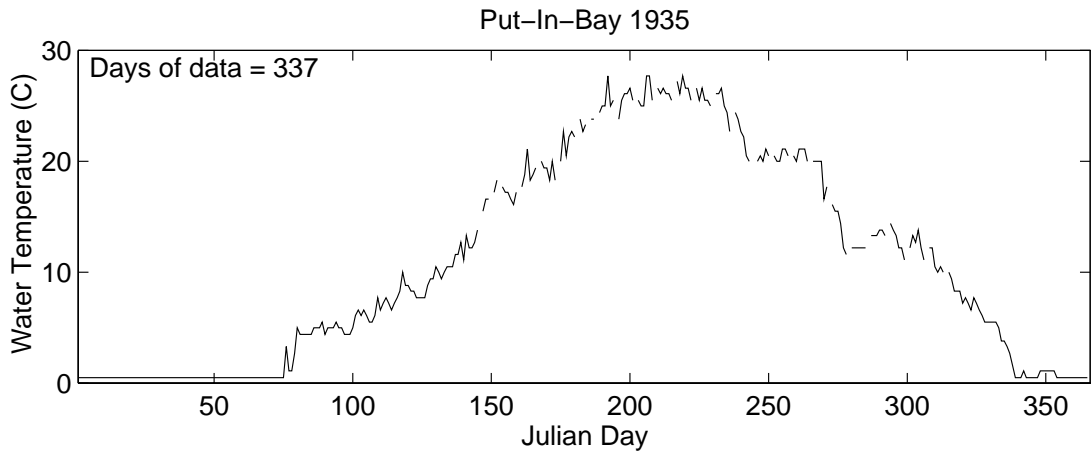
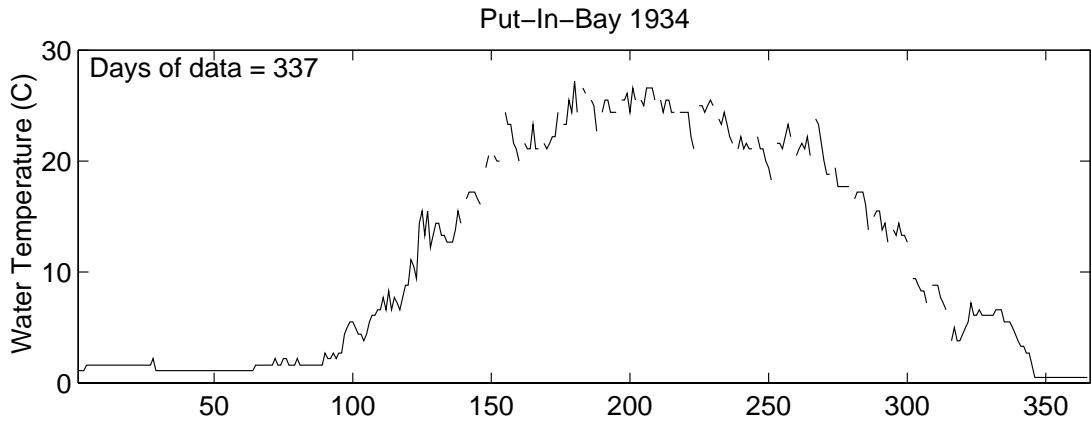
Although great care has been used in checking these data, mistakes may still be present. If errors are found please contact the author at michael.mccormick@noaa.gov.

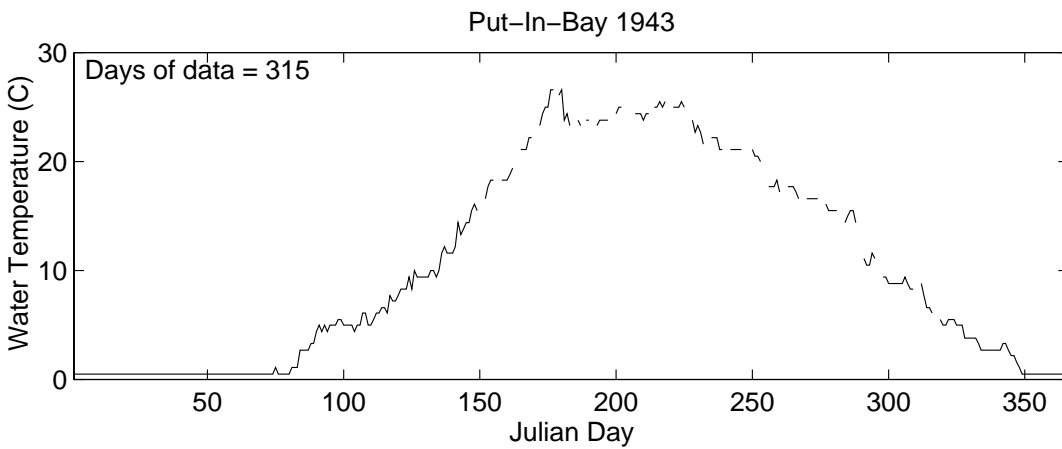
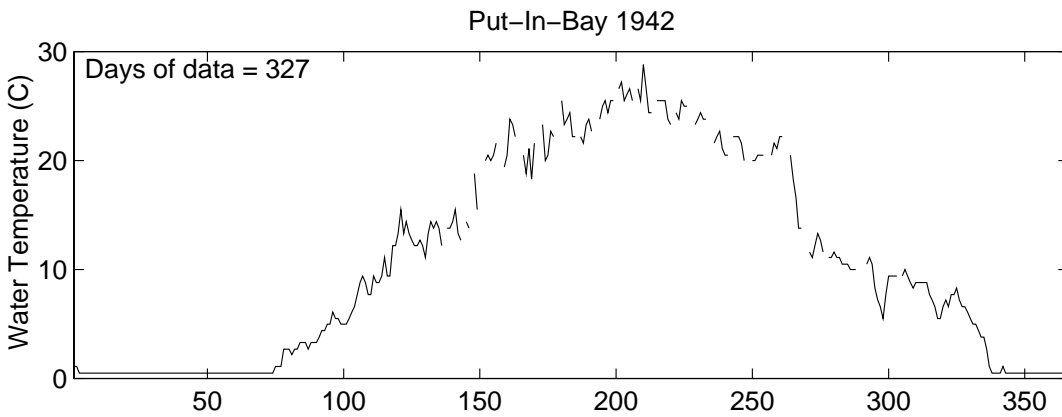
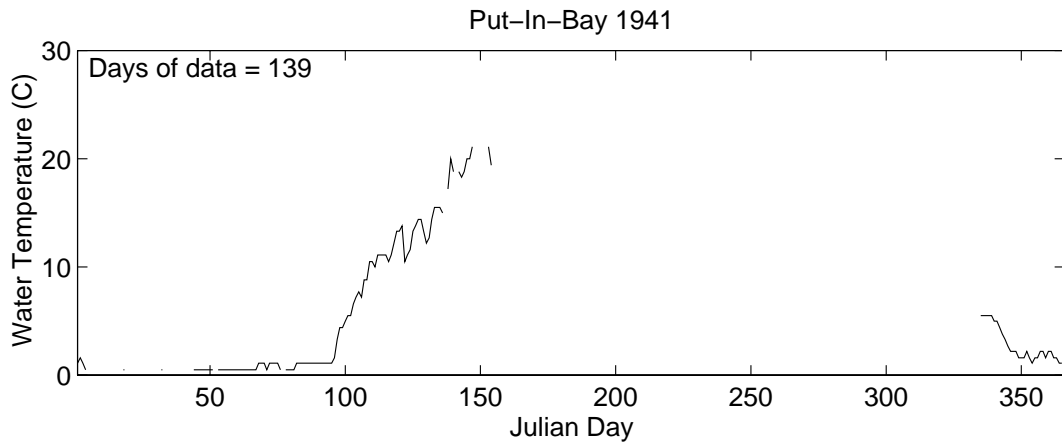
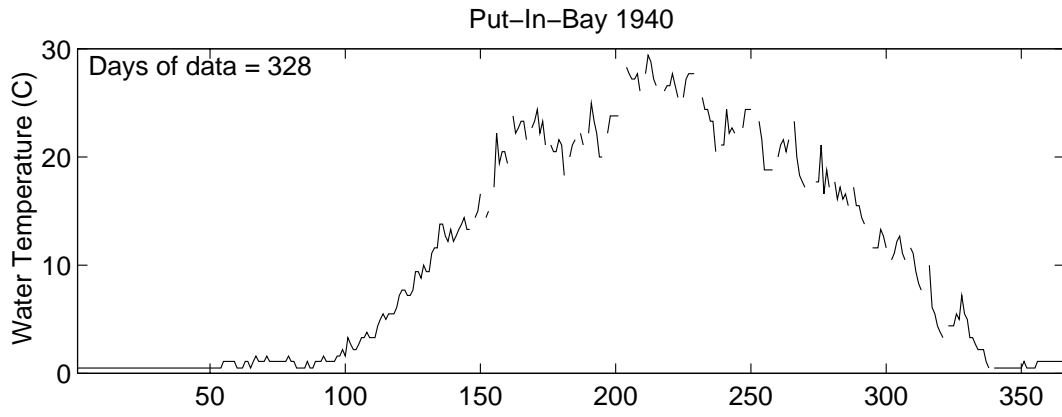


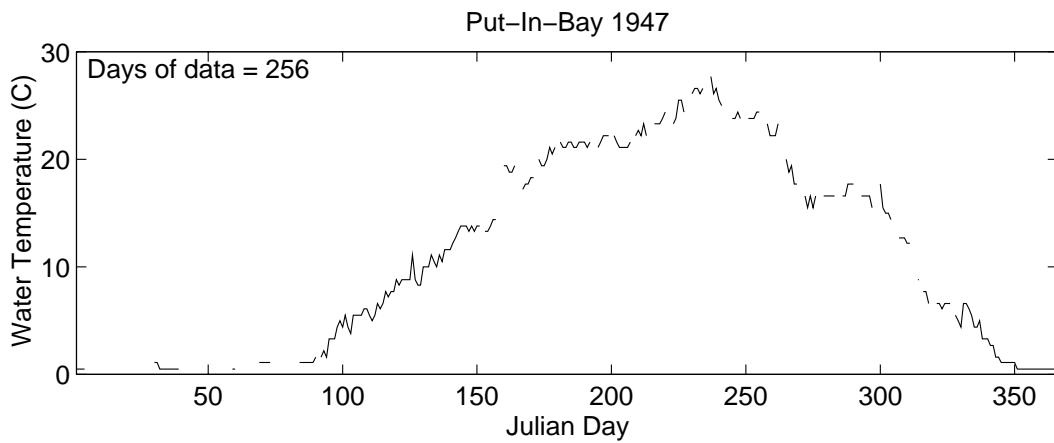
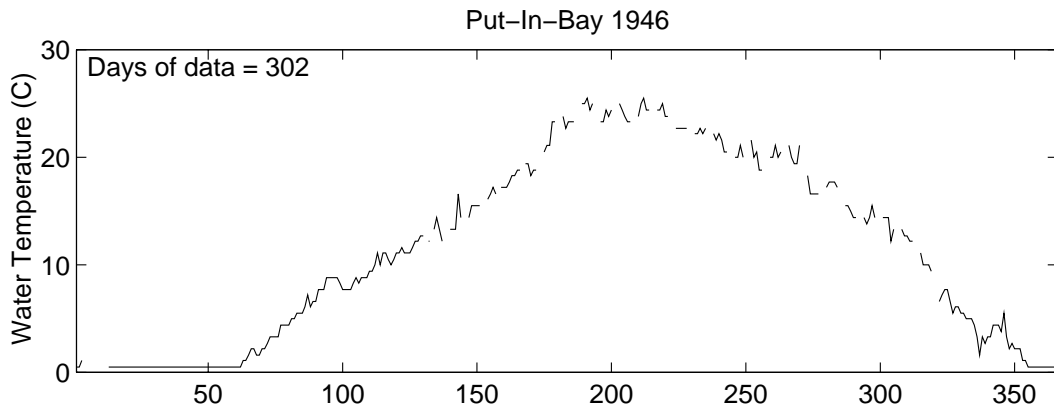
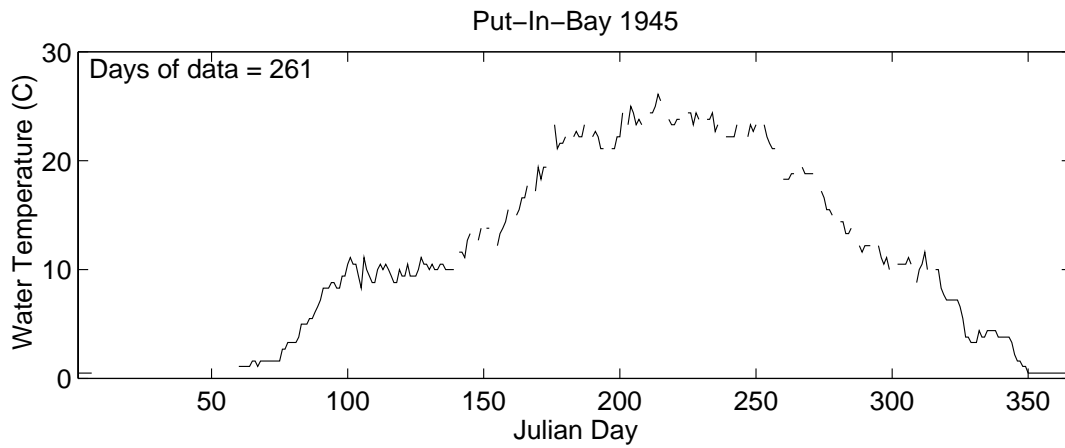
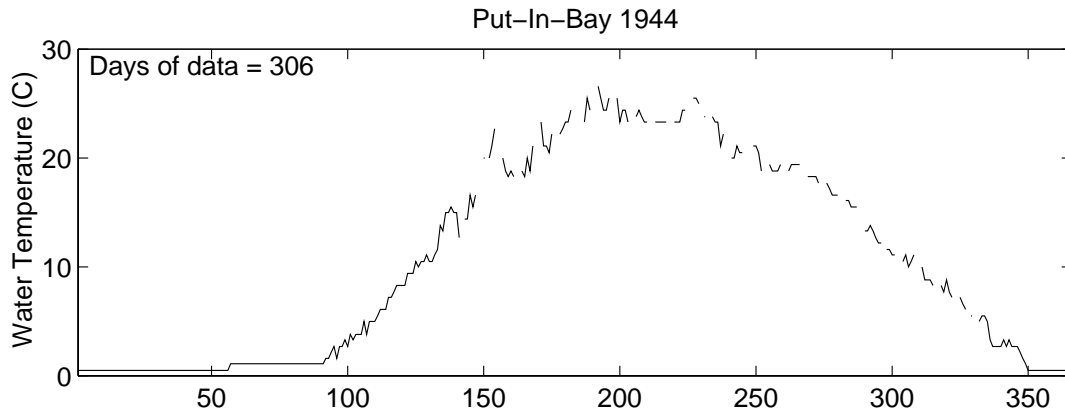


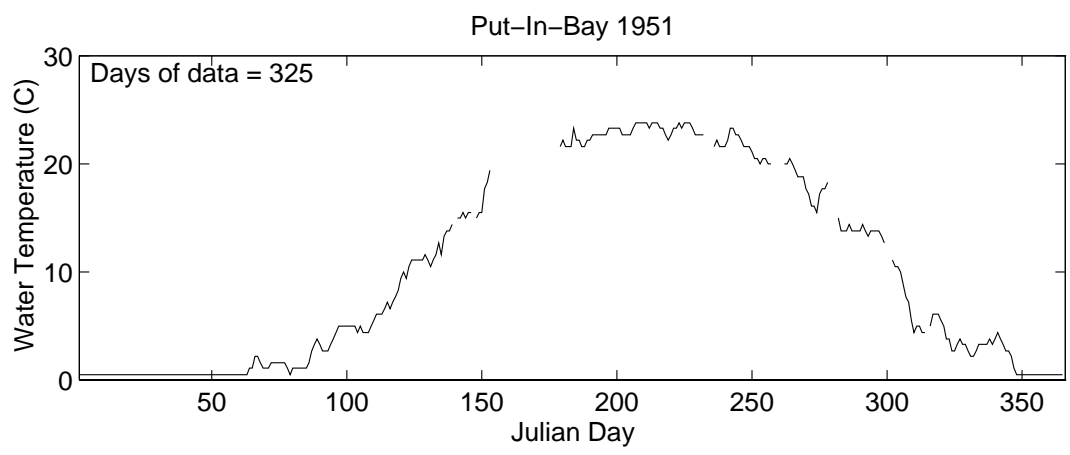
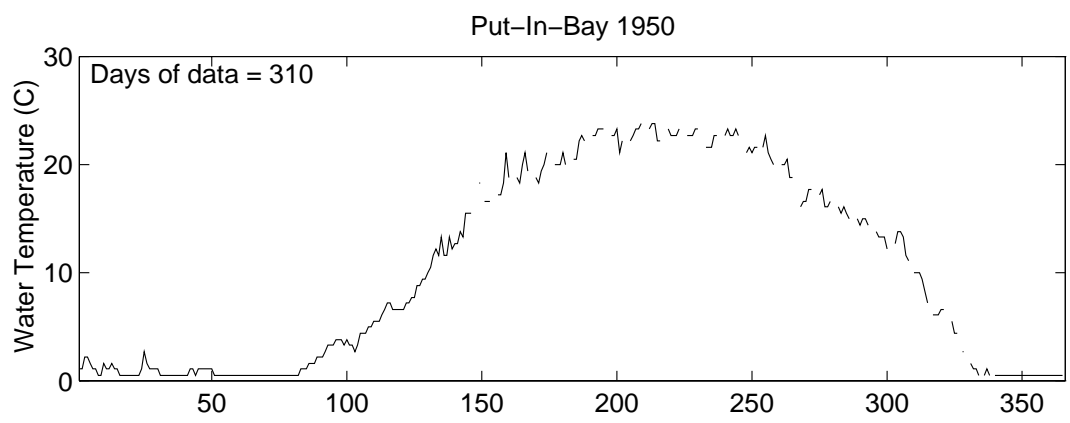
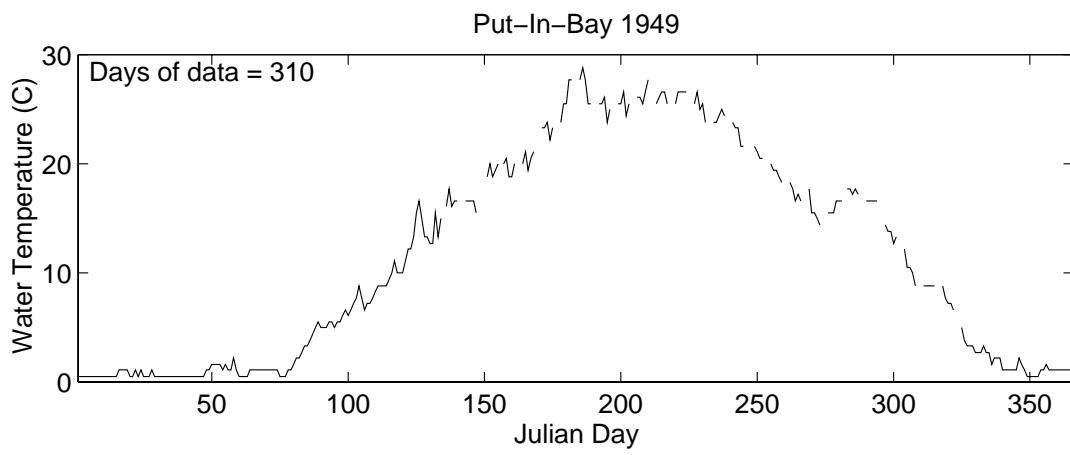
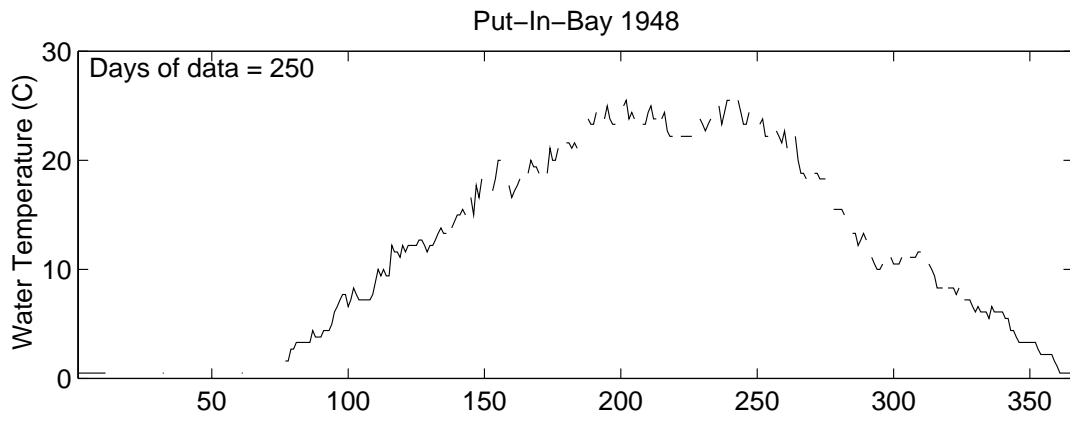


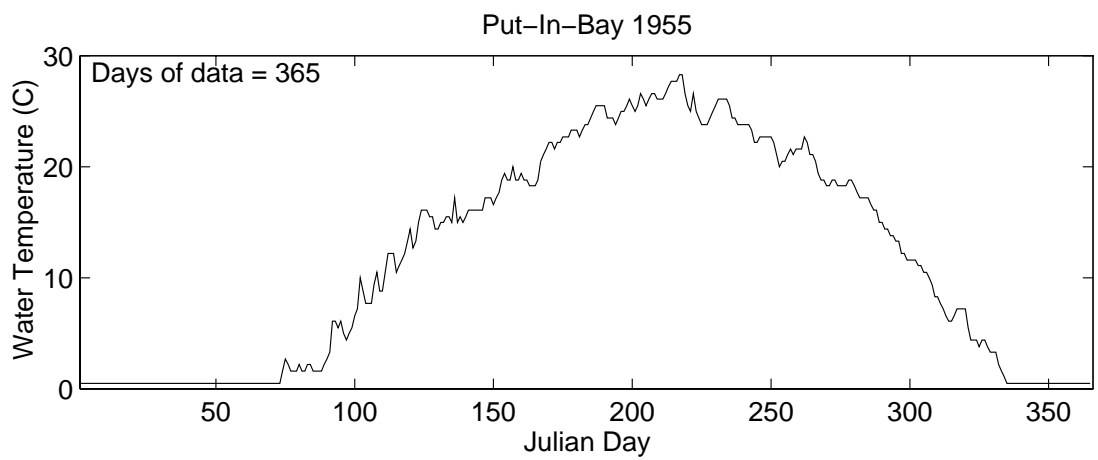
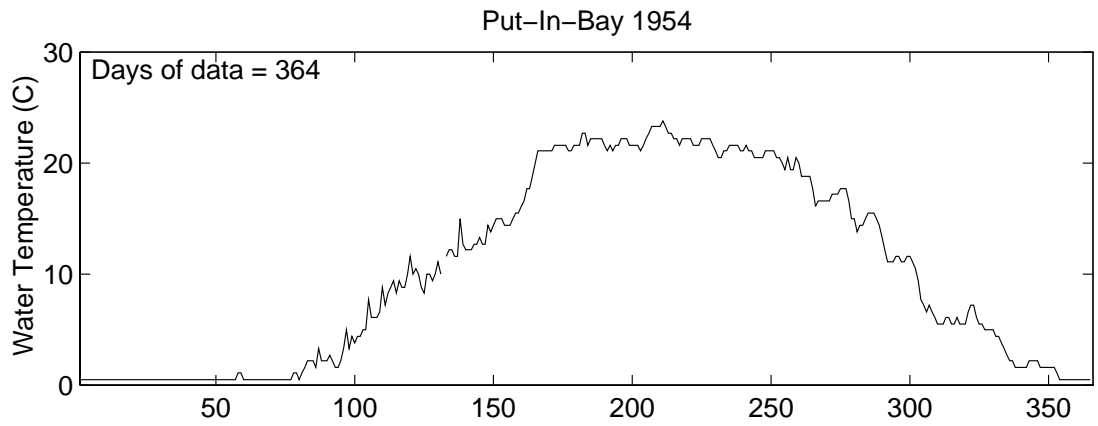
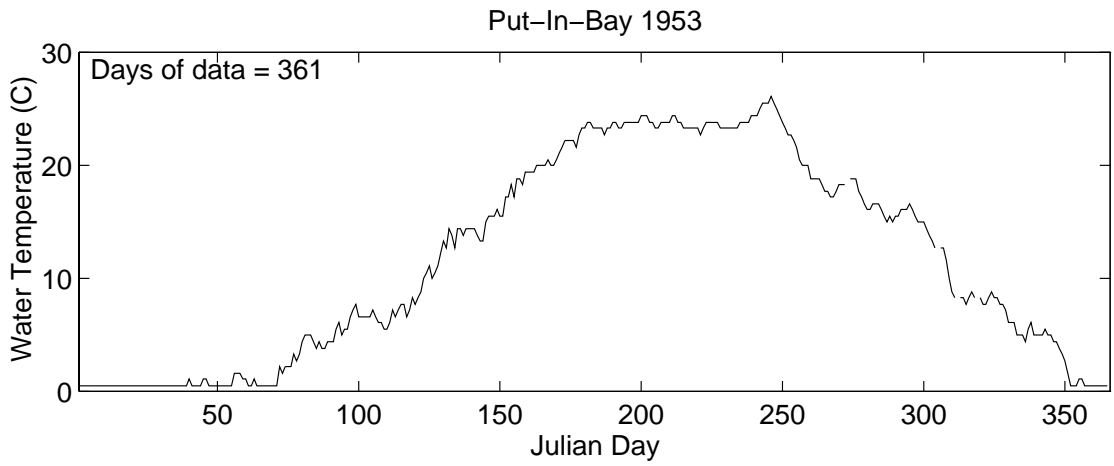
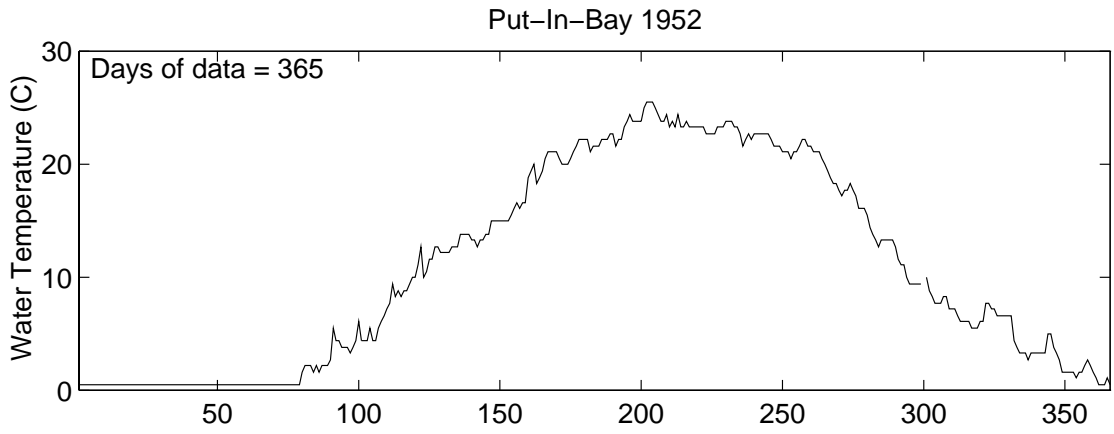


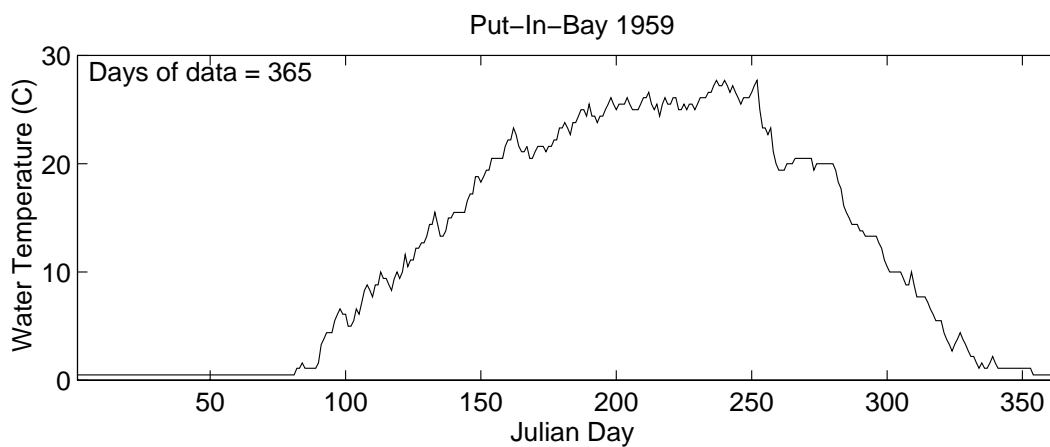
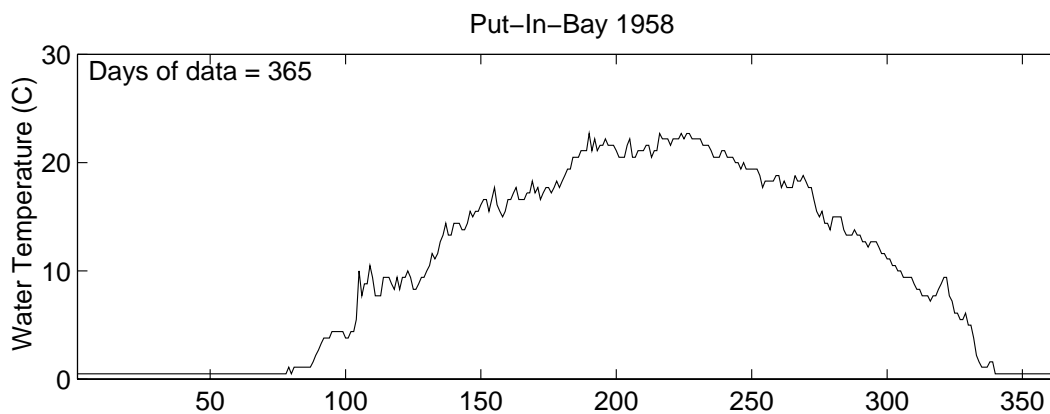
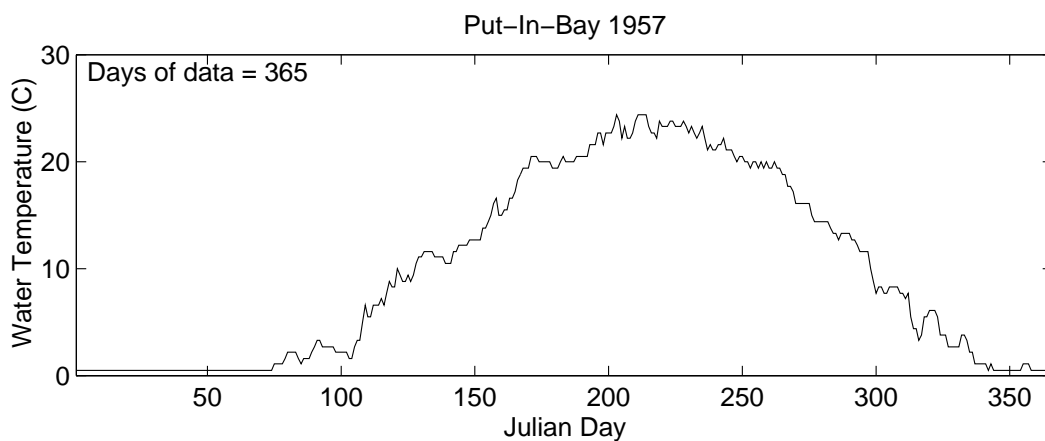
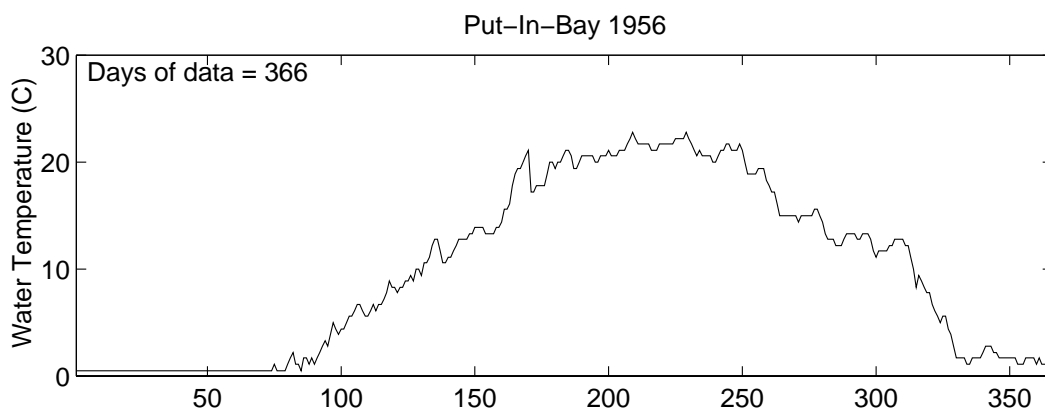


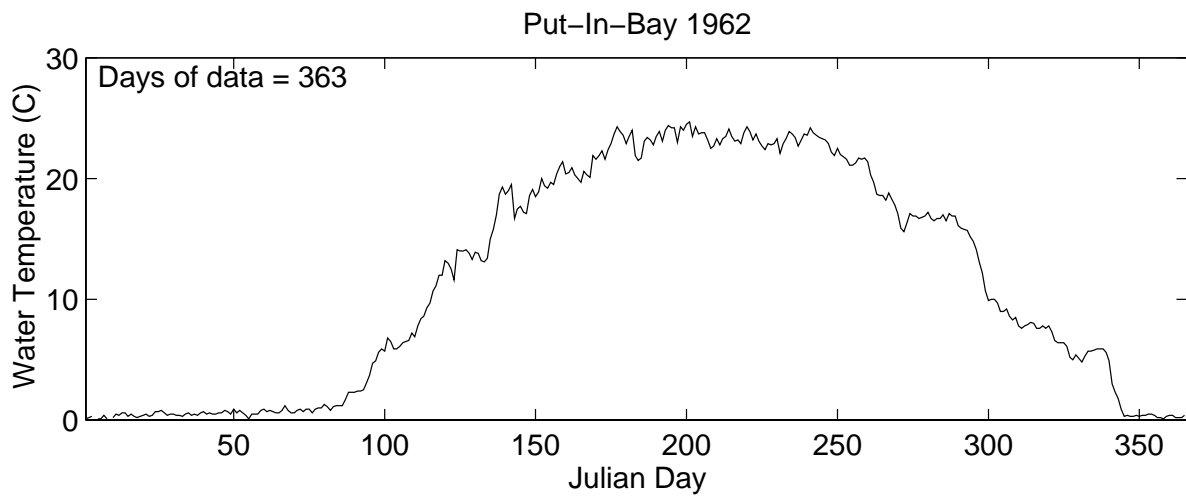
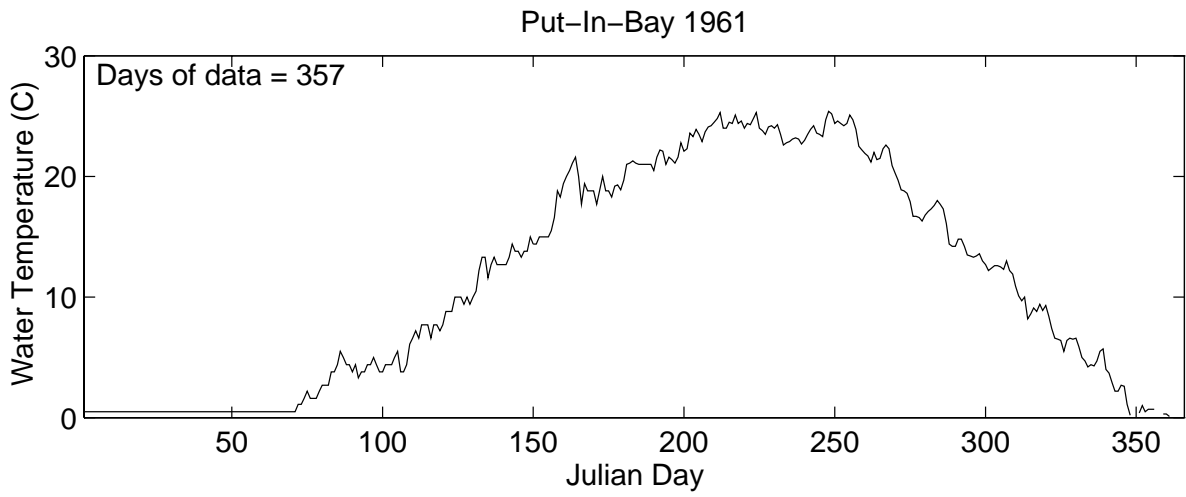
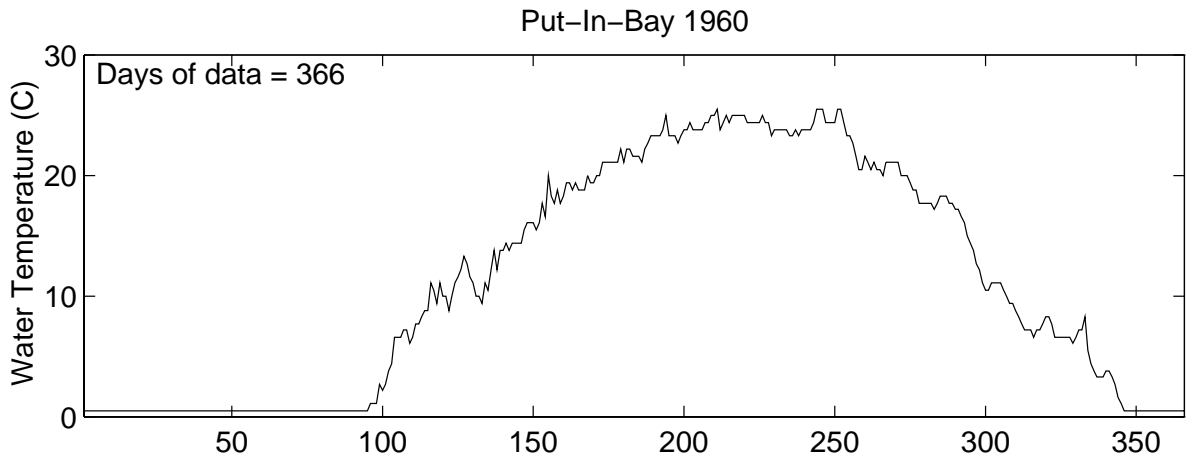


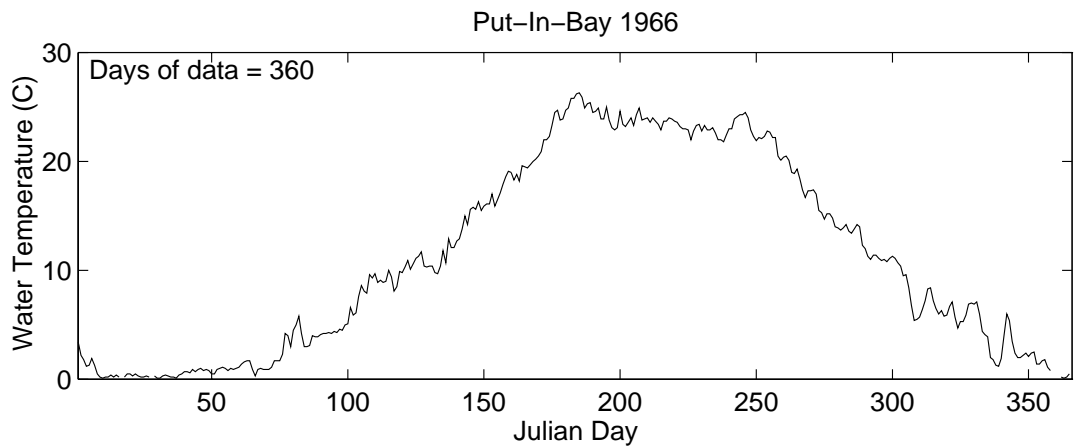
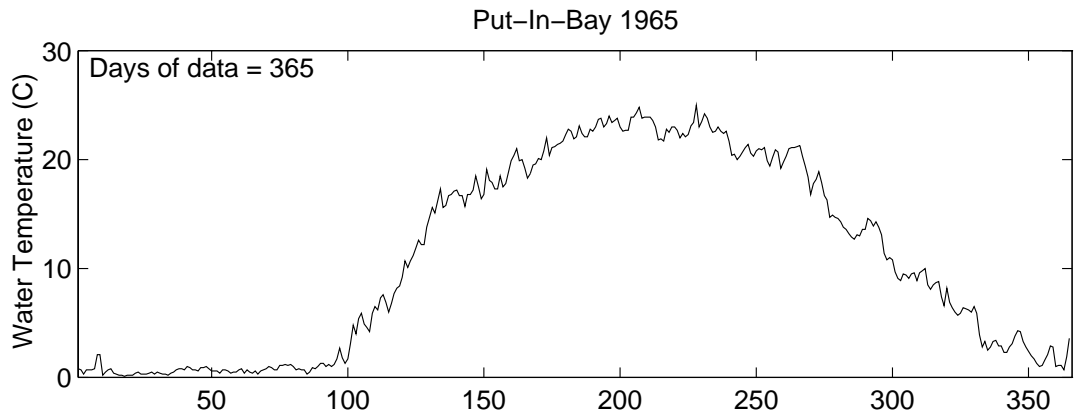
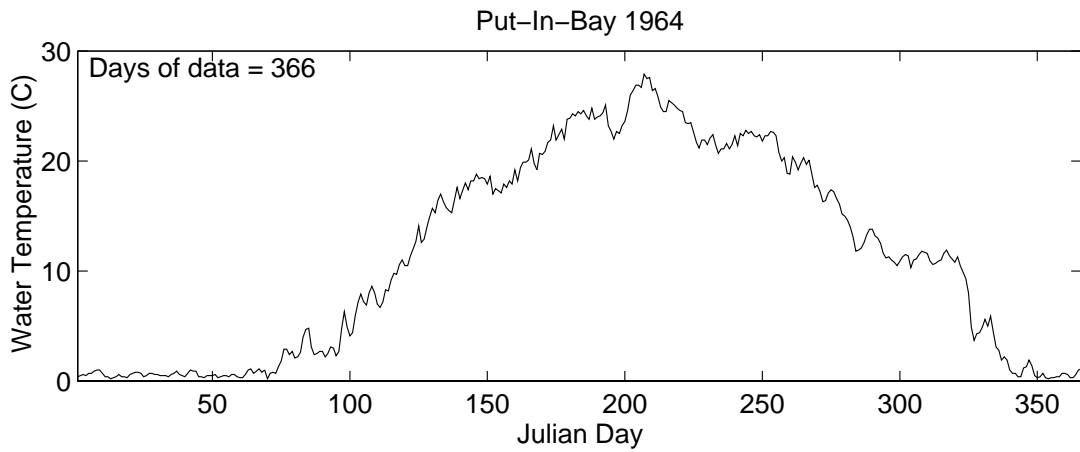
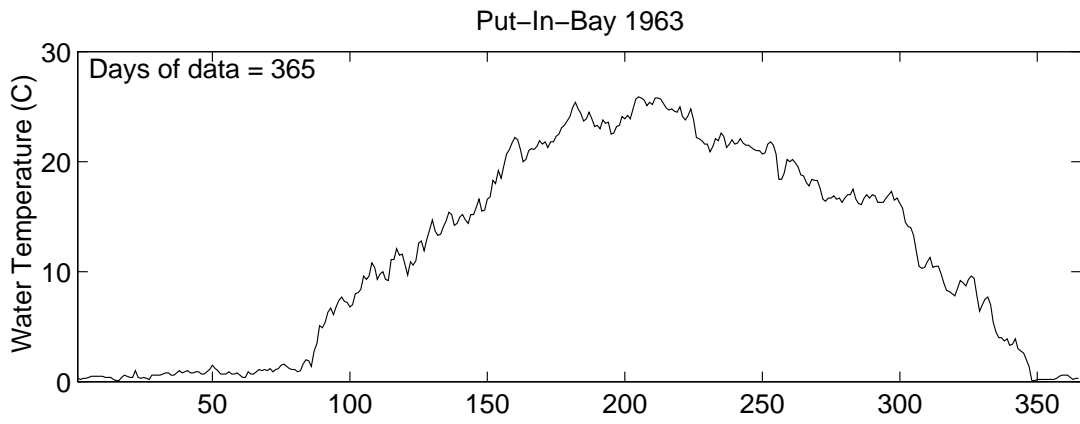


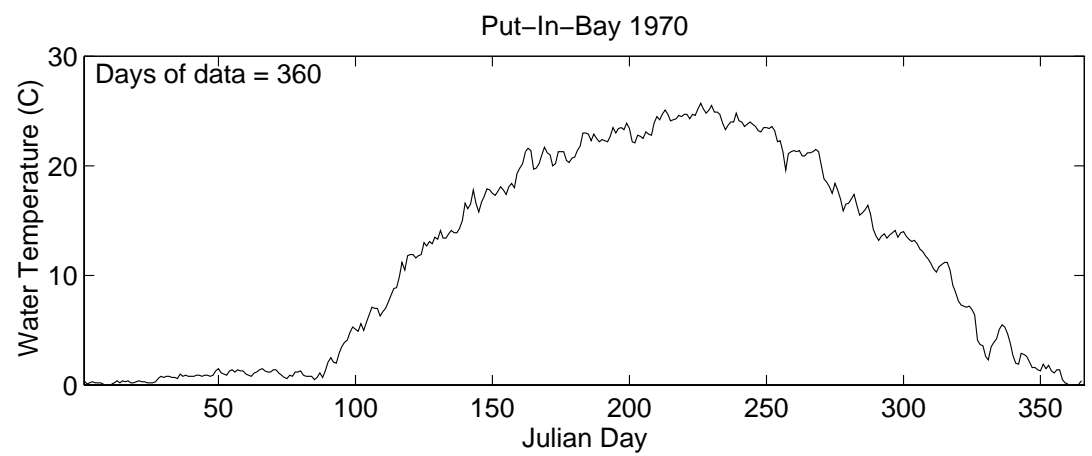
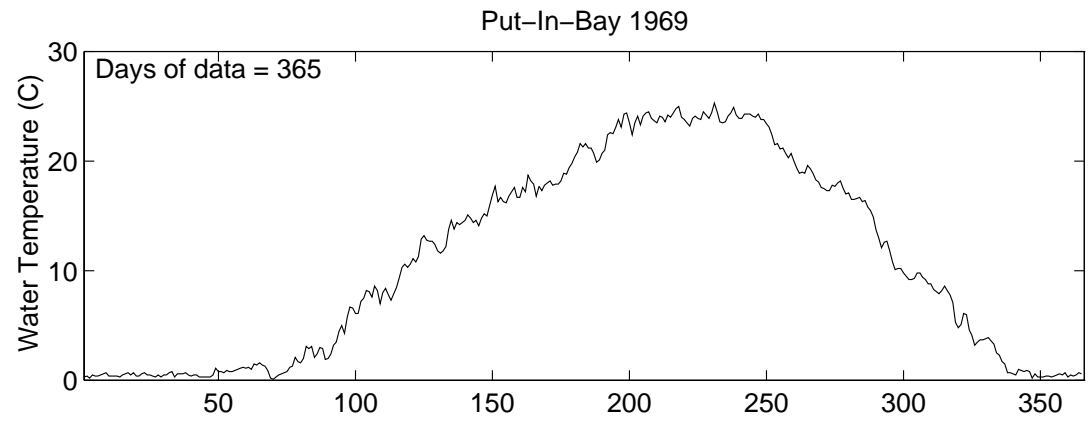
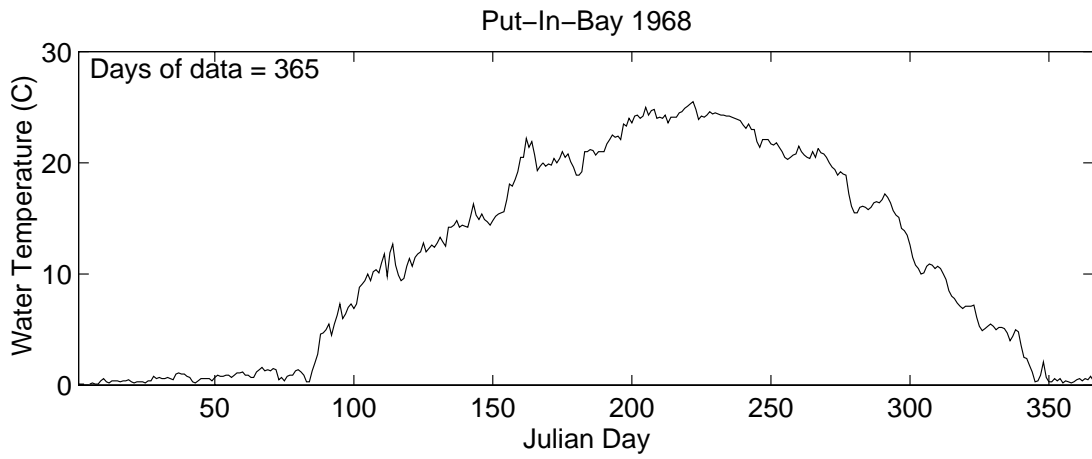
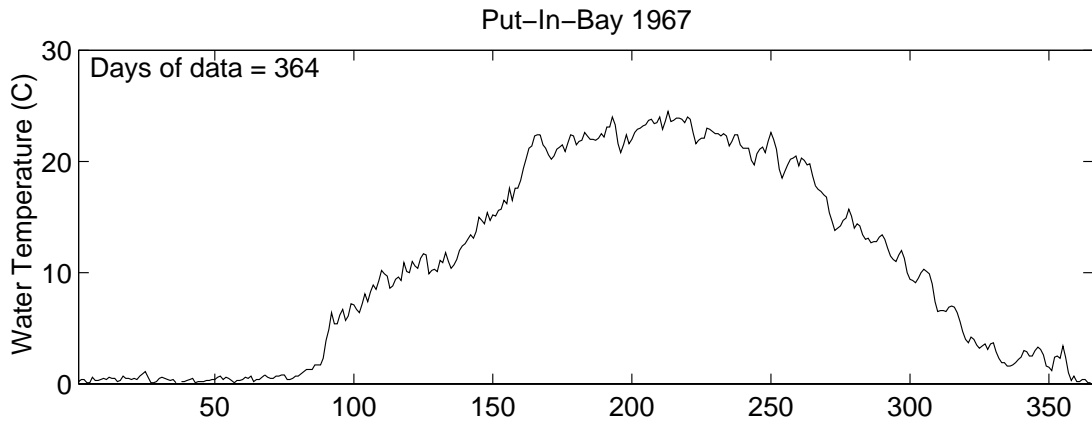


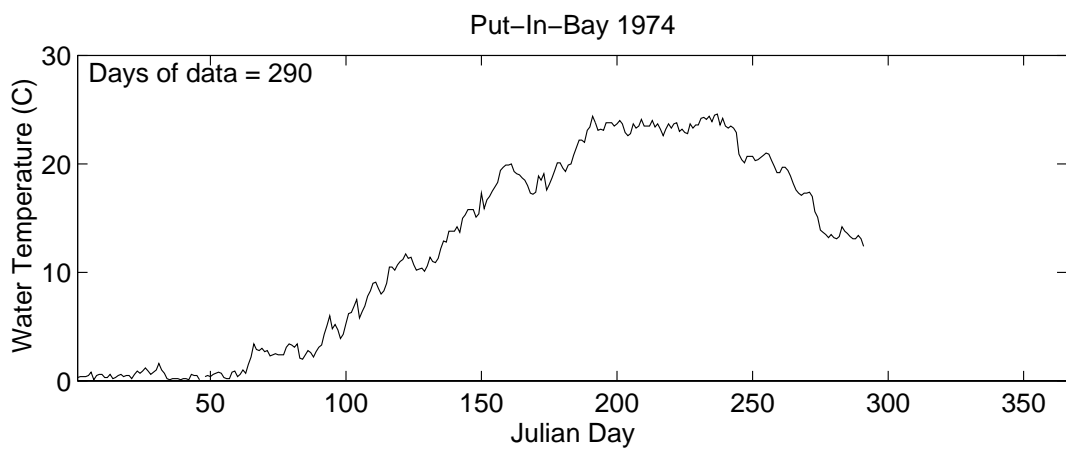
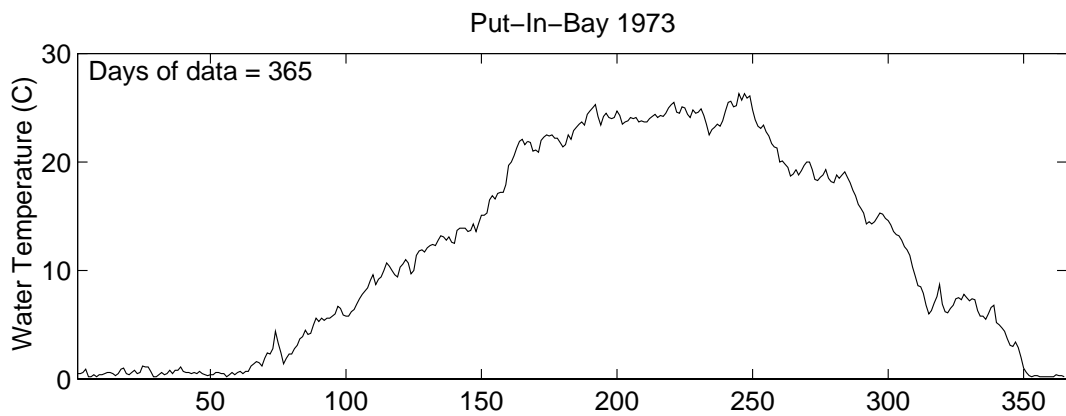
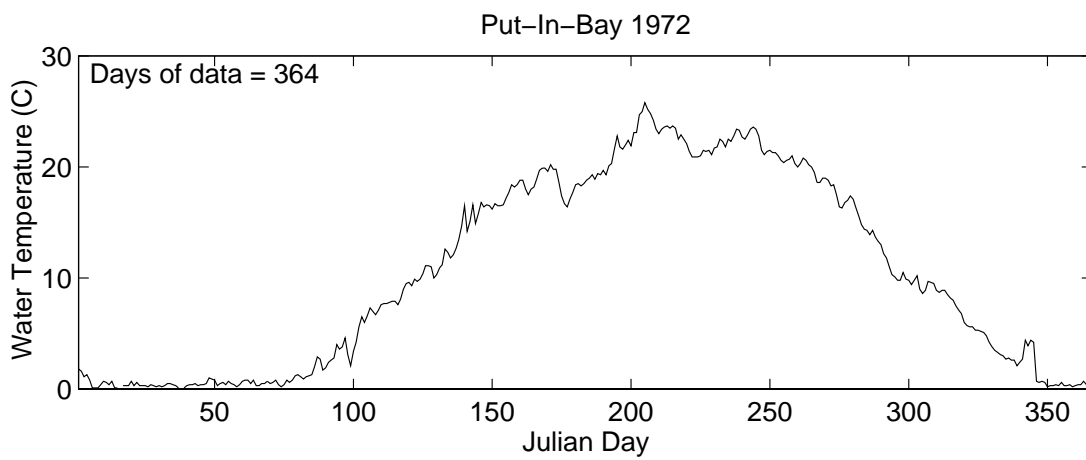
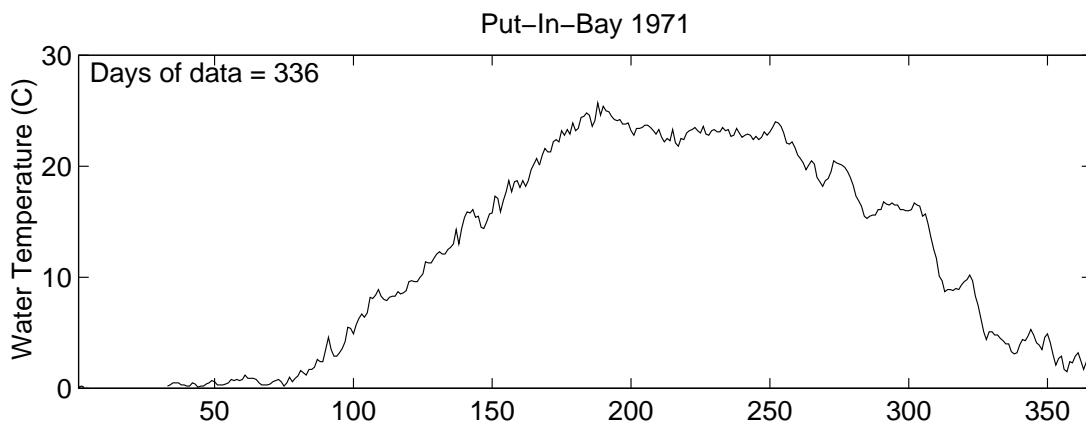


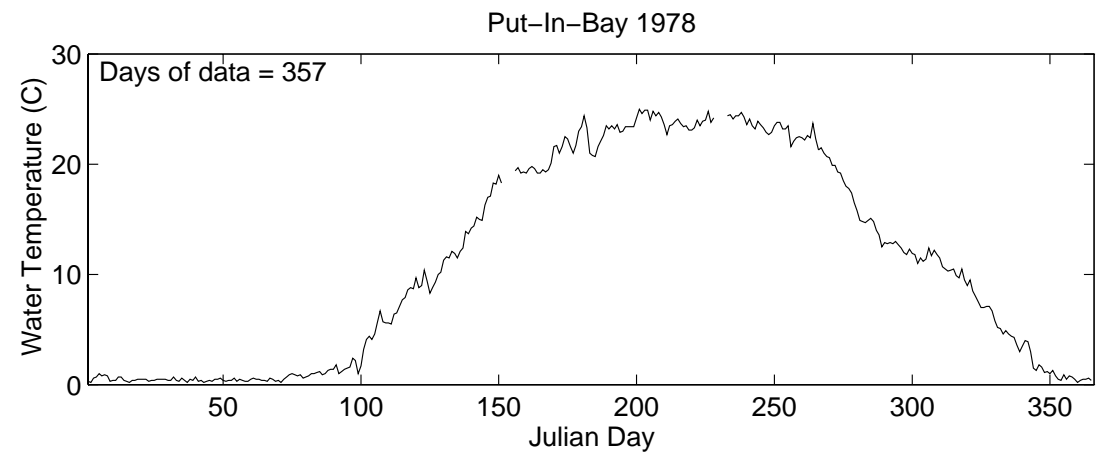
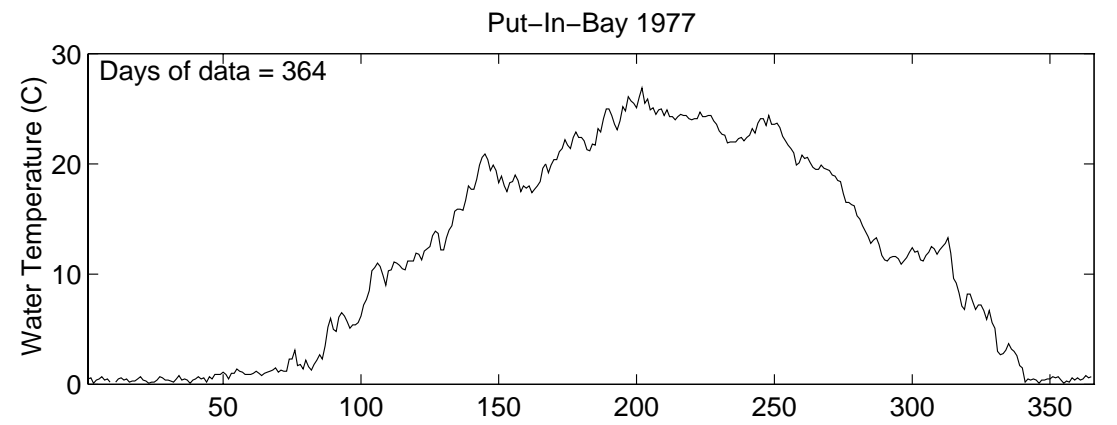
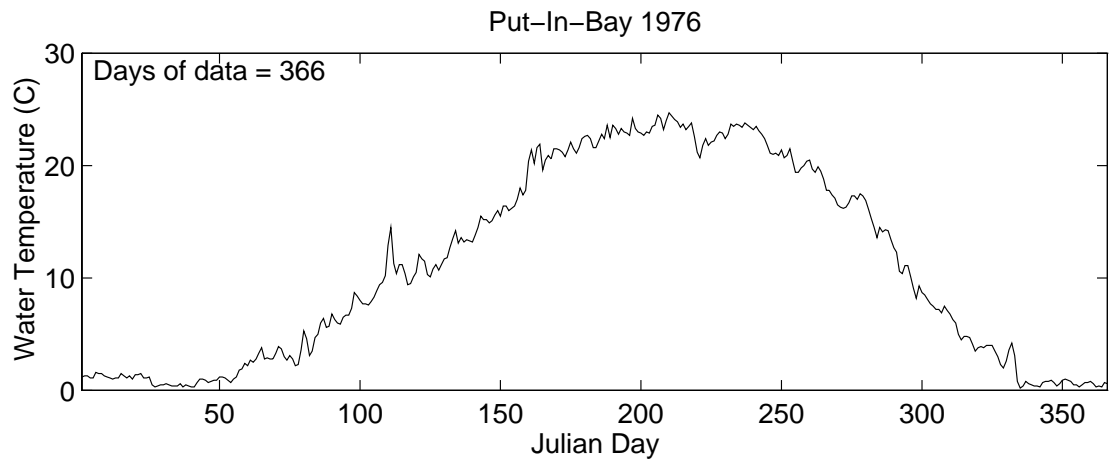
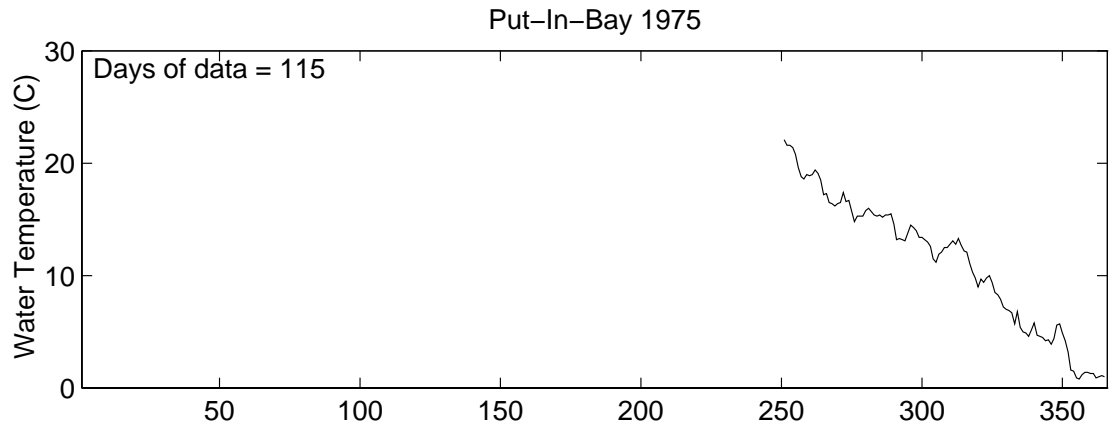




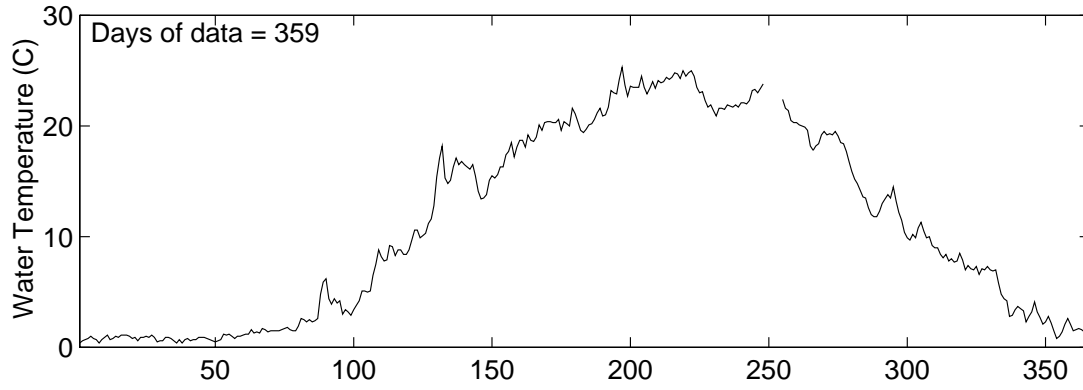




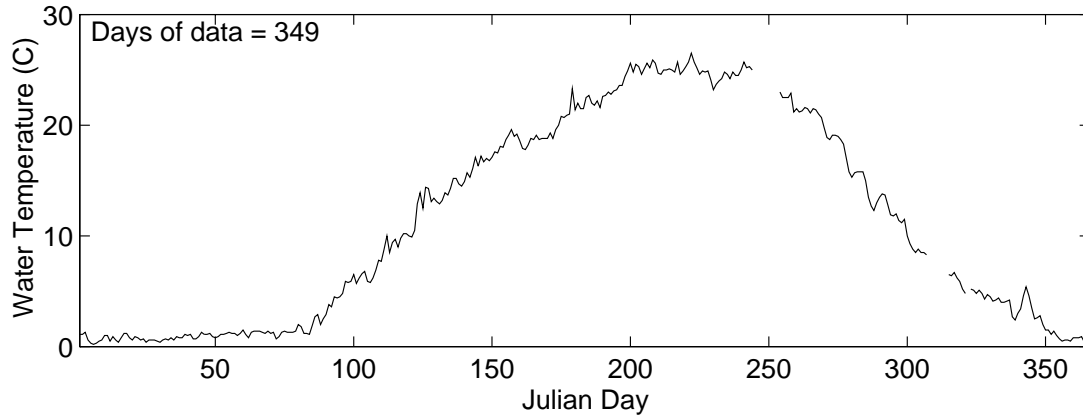




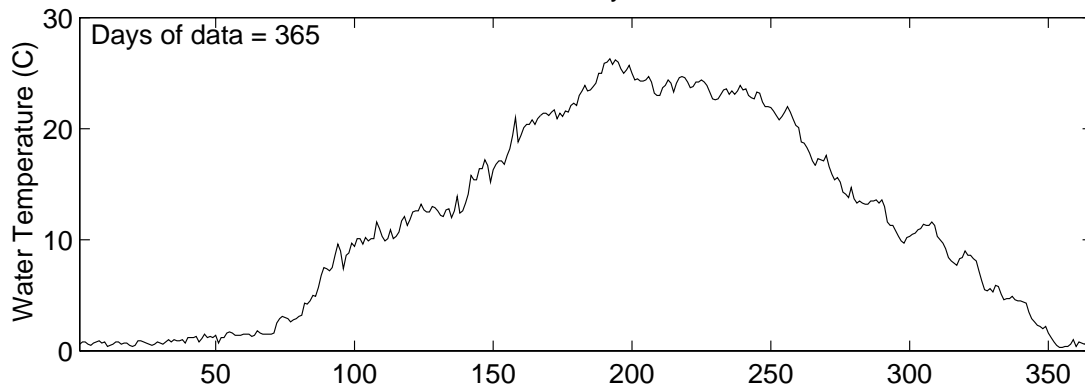
Put-In-Bay 1979



Put-In-Bay 1980



Put-In-Bay 1981



Put-In-Bay 1982

