



Creation of Glacier Bay oceanographic information products defined in protocol OC-2010.1 using legacy data covering 1993 through 2008

Methods, quality levels, and exceptions

Natural Resource Data Series NPS/SEAN/NRDS—2011/130



ON THE COVER

Top: NPS oceanography crew aboard R/V Boomer II in 2010

Bottom: USGS oceanography crew aboard R/V Sigma-T in 2004
NPS photos

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Natural Resource Data Series NPS/SEAN/NRDS—2011/130

William F. Johnson

National Park Service
Southeast Alaska Inventory and Monitoring Network
3100 National Park Road
Juneau, Alaska 99801

Megan M. Stachura

University of Washington
School of Aquatic & Fishery Sciences
Box 355020
Seattle, Washington 98195

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All manuscripts in the series receive the appropriate level of peer review to ensure that the information is scientifically credible, technically accurate, appropriately written for the intended audience, and designed and published in a professional manner.

Data in this report were collected and analyzed using methods based on established, peer-reviewed protocols and were analyzed and interpreted within the guidelines of the protocols.

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Abstract

The Southeast Alaska Inventory and Monitoring Network (SEAN) embarked on a project in summer 2010 to build the detailed physical oceanography information products specified in its formal protocol OC-2010.1 based on historic legacy data collected by USGS in Glacier Bay National Park and Preserve. The intention was to make a consistent and comparable data set covering 1993 through the present. The project completed successfully and these products are accessible at http://science.nature.nps.gov/im/units/sean/OC_Main.aspx (accessed on 29 October 2010). This paper documents the methods used to collect and process legacy data in order to create the detailed products. It explains how the required quality control levels were obtained. Exceptional data circumstances for each product are also listed. An appendix compares overall differences between original legacy values and those obtained through the project.

Acknowledgments

This project could not have been undertaken without the complete original data set covering 1993 through 2008 that had been stewarded over the years by the USGS Alaska Science Center and the National Park Service (NPS). The authors are particularly indebted to Lewis Sharman, Philip Hooge, Elizabeth Hooge, Lisa Etherington, Erica Madison, and Mayumi Arimitsu for maintaining the original data and metadata.

We also thank Seth Danielson of the University of Alaska Fairbanks (UAF), Institute of Marine Science, for his excellent guidance regarding methods for reprocessing raw data into high-quality information, as well as for handling various exceptions encountered in the quality control processes.

Finally, we thank Brendan Moynahan of the Southeast Alaska Inventory and Monitoring Network (SEAN) for providing the resources and encouragement to bring this project to completion.

Introduction

Background

In 2009 the Southeast Alaska Network (SEAN) of the National Park Service Inventory and Monitoring Division (I&M) established a formal monitoring program to track physical oceanographic parameters in Glacier Bay National Park and Preserve, Alaska. The monitoring protocol is detailed in Danielson et al. (2010) *Glacier Bay National Park and Preserve oceanographic monitoring protocol OC-2010.1*. This protocol pays particular attention to a rigorous definition of the data and information products that are generated by the monitoring program. It also details precise methods for disseminating these products to the scientific community, following the network's data management guidelines established in Johnson and Moynahan (2008).

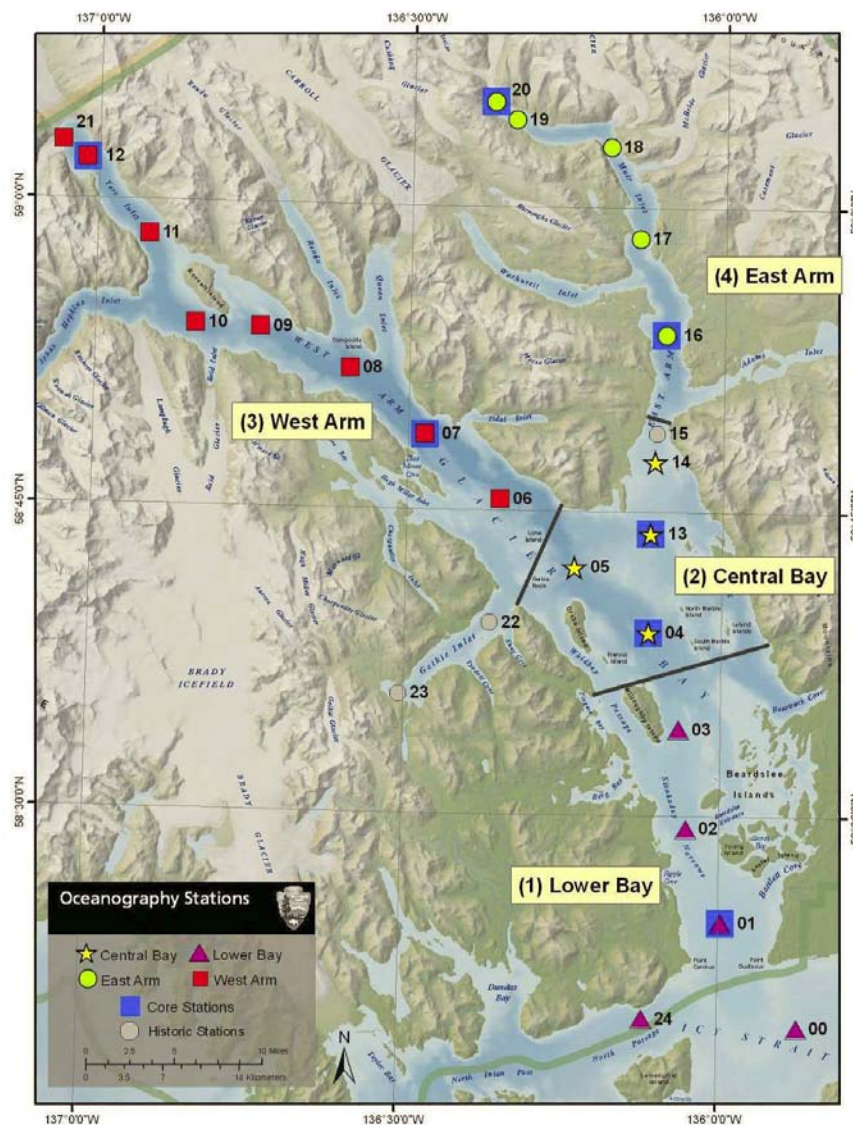


Figure 1. Fixed survey station locations employed by physical oceanography protocol OC-2010.1.

The SEAN program adapted many of its procedures from a similar program operated by United States Geological Survey (USGS) in Glacier Bay between 1993 and 2008. While the two programs differed in some areas, they were both centered in recording data at fixed stations with the same type of instrumentation using similar field techniques. The fixed station locations of both programs were for the most part identical. Figure 1 lists the current target stations.

A comprehensive source describing the legacy USGS program as it operated at the time is Hooge et al. (2003) *Fjord Oceanography Monitoring Handbook: Glacier Bay, Alaska*.

Project Objective

The network executed a project during the summer of 2010 intended to generate the complete set of deliverable data products from the legacy USGS program that met the data standards required by the latest protocol. This was to be accomplished by locating original raw data files, metadata, and source field forms going back to 1993, and then running them through the detailed standard operating procedures (SOPs) for data product creation laid out in protocol OC-2010.1. The objective was realized in January 2011.

Information Product Specifications

The data products created were a subset of those defined in protocol OC-2010.1 and are listed in Table 1. Certain omitted products were by their nature impractical to implement, such as a five-year report covering 1993-1997. However, the data that form the basis of such products already have been generated and are readily available to those wishing to do analyses from sites such as http://science.nature.nps.gov/im/units/sean/OC_Main.aspx.

Data Scope

Legacy USGS data included some commingled special project oceanography files and documents. When it could be assured the core monitoring protocol was being followed in a special project's data collection effort, then its data were retained. Ultimately, only the Internal Wave special project of May 2001 met the criteria. SEAN excluded all other special project data. In the interest of preserving the physical record, however, the product designated OC_H contains images of field log sheets of all USGS activity, including special projects.

Organization of this Report

The remainder of this report details the creation of each product. The items addressed include the methods employed to create the product, specific quality control functions applied, and data exceptions encountered and how they were treated.

Because many subsequent references are made to individual information products, extensive use is made of the designators denoted in Table 1 as a type of shorthand.

We report products in alphabetic designator order. However, because some products were prerequisites for others, actual generation of products had to be done in the order OC_H, OC_G, OC_A, OC_B, OC_C, OC_D, OC_M.

Table 1. Standard SEAN products created by this project from the legacy data and metadata.

Designator	Product Title	Description	Form
OC_A	CON calibration files	The collection of calibration files used to adjust raw CTD data to standard levels based on the particular sensitivity of each sensor in the instrument array.	Windows files in the proprietary "CON" format of vendor Sea-Bird Electronics.
OC_B	Raw HEX files	The collection of raw CTD data taken in one cast. One HEX file is created for each cast. Values represent relative voltages or frequencies sampled from sensors.	Windows files in vendor's ASCII "HEX" format, wrapped into a single ZIP file.
OC_C	Processed CNV files	The collection of raw data processed against calibration factors, binned into one meter segments, and expressed in engineering units. One CNV file is created for each cast.	Windows files in vendor's ASCII "CNV" format, wrapped into a single ZIP file.
OC_D	Cumulative database	A single cumulative database of all certified OC_C data subject to additional quality control, from which customers extract data onto their workstations interactively through the web.	ASCII CSV files downloaded from web and saved onto local workstations.
OC_G	Calibration certificates	Scanned images of certificates provided by instrument servicers that document sensor sensitivity factors at the time of each calibration.	Individual PDF files, one for each certificate.
OC_H	Field log sheets	Two-sided color scans of the original field log sheets documenting each cast.	One PDF file containing one cruise year.
OC_M	Data quality assessments	Documentation of the quality of each cast, comments on exceptions, and status of individual instruments.	One PDF file covering one cruise year.

Project Activities

Creating OC_A: CON Calibration Files

CON files contain CTD configuration and calibration details in a form proprietary to Sea-Bird Electronics, Inc. CON files typically are revised whenever a sensor is added, removed, or repaired on a CTD – each of which change the calibration and/or configuration values. A number of valid calibration files may exist in a given calendar year for a particular CTD.

Method

In preparation for generating OC_A, project team staff first completed the OC_G certificate image product (*q.v.*). We then searched for historic CON files in the archive provided to NPS by the original USGS data collectors. We reconciled the dated calibration factors within these files against the corresponding certificates. Where conflicts were identified, we used the certificated values.

We renamed the new CON files using the standard defined in OC-2010.1 SOP 3. The naming scheme includes references to the year and month. Since sensors may be calibrated at different times independent of each other, several months and years may be represented in a single CON file. The year-month used in the file name was the latest one chronologically inside the file. (This convention greatly simplified identifying files to use when the OC_Cs were built later.)

Quality

Validation

The validation criteria for this product are:

1. Must be able to be opened, updated, and resaved using the Config function of SBEDataproc.exe 7.18 or later.
2. Values must match those in corresponding OC_G certificate images from the same time period.

All files successfully opened in SBEDataproc.exe 7.20G. We sight verified each file's contents against corresponding OC_G certificate images. Additionally, we verified the year/month in the file name corresponded to the most recent calibration date in the file.

Certification

The project manager certified the 23 resulting CON files as correct on 8/19/2010.

Exceptions

There were cases where certificates were available for certain dates, but no historic CON files referenced them. Since the CTDs were in continuous use, it follows that CON files reflecting the most recent values were required in order to generate accurate parameters from casts made directly afterwards. In such cases we created additional new CON files. They were based on the most recent historic CON file available prior to the certificate date. We then edited the certificate values into the file using Sea-Bird's data processing software suite. As a result, the new data set contains more CON files than the legacy set.

No calibration certificates were available for the CTD 2 fluorometer (serial number 272) prior to July 15, 1999. The original CON files used by USGS for this period included the fluorometer with a scale factor of 1 and offset of 0. We retained these but cannot ascertain their accuracy.

Creating OC_B: Raw HEX Files

HEX files contain raw sensor outputs, with one file representing one cast. Over the 16 years in which legacy data were collected, raw data files largely conformed to the specifications set for product OC_B in the OC-2010.1 protocol. However, over these years operators made various adjustments to field procedures. Of the most significance were the soak times for the CTD to acclimate to marine conditions before it was sent down, the exact stations surveyed, and the time periods surveyed. One field procedure that did not change, however, was collecting data on both the downcast and the upcast.

Besides raw sensor data, HEX files hold useful header information and metadata. Some information is automatically written to file by the CTD, such as instrument serial number, timestamp of download, cast number, and number of records. Other items are manually provided by the operator during the process of downloading the CTD memory into computer HEX files. Operator provided data was generally copied from field log forms, though the exact format appearing in the HEX file varied considerably.

Method

Project team staff copied the original HEX files from the USGS-provided archive. We compared the individual casts against the OC_H field log records (*q.v.*) to ensure no field logs were missing.

Various “Read Me”-type files accompanied some of the original HEX data. We reviewed these for content and subsequently used some to help resolve data issues.

We again consulted the OC_H field logs to determine whether individual casts acquired from special projects complied with OC-2010.1 strictures. A primary determinant was whether or not the data collected fell within the discrete stations defined for the program (Figure 1).

Additionally, special project staff needed to be trained users of the USGS protocol: outside researchers could not be expected to follow it closely and were excluded. One project called “Internal Waves” surveyed a subset of stations, though casting multiple times at each location. Since they technically fit within the data requirements, they were retained. Other projects recorded GPS locations that did not fall within the fixed survey stations. Since their spatial locations could not be categorized in the required manner, we excluded their data. Excluded projects are referenced as PrimnoaOcean, Halibut Chronosequence, Benthic Chronosequence, Halibut Diet, Glacier Bay SSF Sampling, Kittiwakes, FOG, Coastal Monitoring, Bay Wide Fluorometry, NFingers, Currents, MADS, Drifters, and ADCP.

We edited every original HEX file to contain the required header information specified in OC-2010.1 (Figure 2). We obtained much of this by interpreting the original field log forms and the header information originally associated with the HEX files. In cases where the field log form and original HEX file header information were not consistent, we used the field log information. We converted Date and Time from local time zone to GMT using the conversion application at website <http://www.timezoneconverter.com/cgi-bin/tzc.tzc>. Also, latitude and

longitude were present in a number of forms. We standardized all to the required WGS-84 datum and decimal degrees using the conversion application at website <http://www.rcn.montana.edu/resources/tools/coordinates.aspx?nav=11>. We converted any Fathometer Depth and Cast Target Depth values originally recorded in fathoms to meters using <http://www.calculateme.com/Length/Fathoms/ToMeters.htm>.

```
* Sea-Bird SBE19 Data File:
* FileName = c2014007.hex
* Software Version 1.09
* Temperature SN = 775
* Conductivity SN = 775
* System UpLoad Time = Feb 02 2005 11:04:14
** Vessel:Gyre
** CTD#:2
** Dump#:0140
** Observer:Madison
** Cast#:07
** Station:23
** Latitude:58.62357
** Longitude:-136.44788
** Date GMT:2005/02/01
** Time GMT:03:44
** Fathometer depth:103
** Cast target depth:90
** We did not make it to the head of Geikie due to ice.
* ds
* SEACAT PROFILER V2.1e SN 775 02/02/05 10:49:59.073
* pressure sensor: serial no = 164921, range = 500 psia, tc = 410
```

Figure 2. Example standard HEX file header metadata (in bold) required by protocol OC-2010.1. The first twelve items preceded by ‘**’ are required. Any additional ‘**’ lines are comments.

We revised file names to reflect the requirements of SOP 5. This requires accurate representation of CTD #, Dump #, and Cast #. We built file names strictly from the internal header information, regardless of original file names. Formal validation enforced this correspondence.

Some HEX files from 1993 to 2001 had two lines of code preceding the data lines and one line of code following the data lines which did not appear to have any purpose, but were objected to by later versions of Sea-Bird software. We deleted these extra lines of code. The removal did not impact the data processing outcome values.

For casts having an unrecorded Fathometer Depth, we used the nominal depths provided in Appendix A: Oceanographic Station Locations of protocol OC-2010.1.

In some cases the HEX files contained data lines that were too long, too short, or included invalid characters. This was the result of unrecoverable communication errors between the CTD and computer during downloading. We deleted such damaged data lines from the HEX file, with remaining lines left intact.

The Cast Target Depth values were not recorded in the logs or HEX files for 1993 and 1994. We retrospectively inserted values that reflected the actual greatest depth calculated in the processed CNV files that were created from these HEX files.

We initially verified all spatial coordinates against a bounding box covering the Glacier Bay area. Then we visualized the HEX file coordinates of all casts using Google Earth to locate significant errors in latitude and longitude (Figure 3). In several cases the latitude and longitude information were obviously inaccurate (*e.g.*, they had the exact same coordinates as the immediately preceding cast; their coordinates were of inland locations). However, all files exhibiting this problem did have proper station numbers recorded in the field logs. For these cases we used the target latitude and longitude of the station, as specified in Appendix A: Oceanographic Station Locations of protocol OC-2010.1.

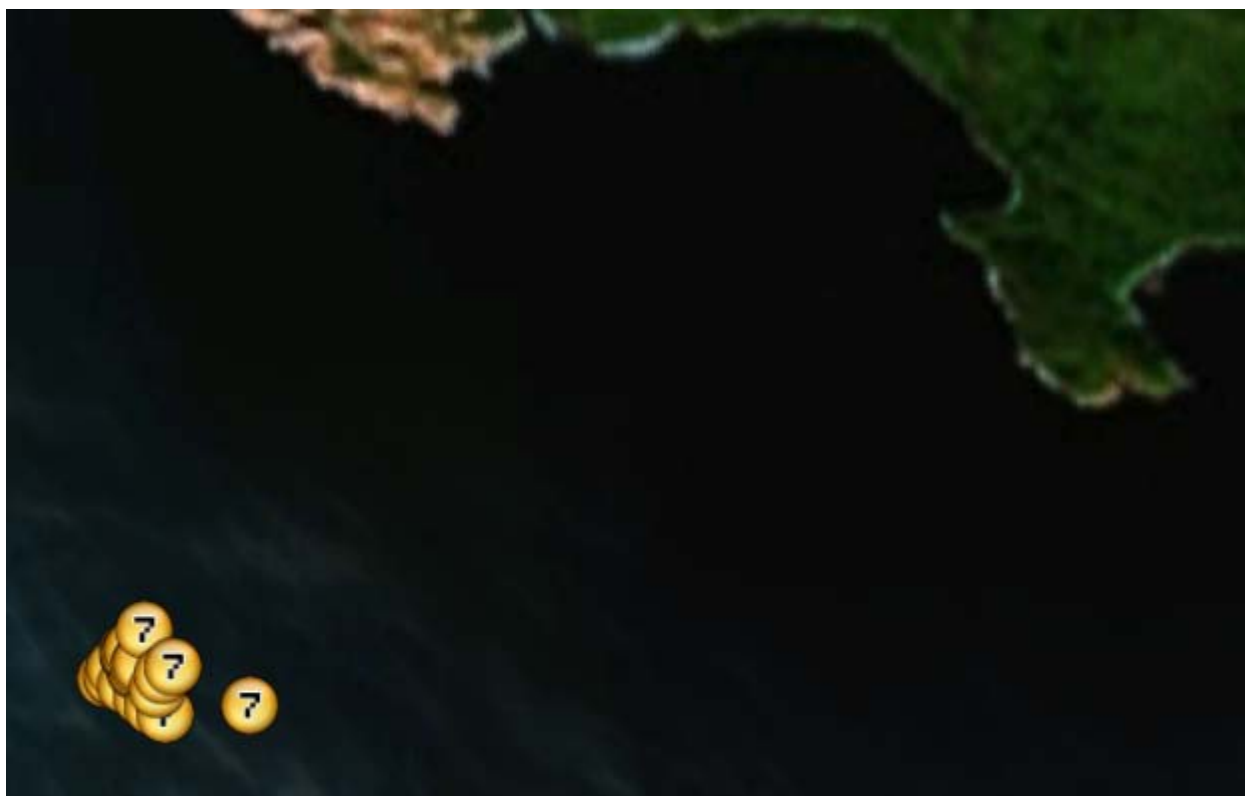


Figure 3. Example visualization of station 7 metadata, employed to verify all cast latitudes and longitudes.

We sight verified each HEX file to ensure it met the form and restrictions specified in Appendix J.2 of OC-2010.1.

Quality

Validation

The submission and validation cycles performed for OC_B follow the process defined in detail in SOP 6 of OC-2010.1. Technicians compressed the HEX files for each year into a ZIP archive and submitted them to the Data Manager for formal validation. For this deliverable, formal validation is performed by a custom application that rigorously checks for violations of

mandatory and optional criteria as defined in OC-2010.1 Appendix J.2. Any mandatory violation caused the entire submission to be returned to the project for correction. It was typical for a year's OC_B product to be returned for rebuilding numerous times before it passed validation. All 16 years eventually passed. Under no circumstances were the mandatory criteria specified in the protocol violated by any final OC_B products. Appendix A illustrates an example report from the automated validation system.

Certification

We deferred certification of the OC_B submissions until successful completion of the OC_C and OC_D products. This was required because validation criteria violations detected in these later products typically required revision of underlying OC_Bs to correct.

The Data Manager certified all OC_B products by August 26, 2010.

Exceptions

From the "ReadMe" files associated with the USGS HEX files, we determined that the PAR sensor broke in the September 1996 cast 9609_2_0026_09.hex, and remained broken until the device was calibrated in May 1998. Therefore, PAR data from September 1996 through February 1998 are not usable. Additionally, the conductivity cell broke in October 1995 and was not repaired until the device was calibrated in July 1996. Therefore, salinity and density data from October 1995 through June 1996 are not usable.

The Internal Wave Study project data of May 2001 has been included. Its data reflect the protocol of the time, even though it is spatially limited to station 4.

Some dump numbers in the legacy source data were created as non-numeric. For these, we assigned substitute dump numbers beginning at 9999 and working down in the direction of 0000. For year 2000, CTD 2 had several casts with malformed dump numbers that were reassigned in this manner: (PCTD34 = 9999; PCTD33 = 9998; PCTD32 = 9997; PCTD28 = 9996; PCTD26 = 9995; PCTD21 = 9994).

Dump 0010 had been used twice in 1994: once for CTD 1 and again for CTD 2. Reuse of dump numbers is prohibited in OC-2010.1. We renamed dump 0010 taken by CTD 1 in 1994 to dump number 9993 and then processed normally.

While not technically an exception, a side effect of converting timestamps to GMT is that many casts are shifted ahead one day. In some cases this also results in casts falling in a different month than the original records indicate. This causes noticeable differences in reports categorized by month, which users should be aware of when making comparisons with original USGS files.

Creating OC_C: Processed CNV Files

A CNV file contains data expressed in engineering units summarized in 1-meter depth bins. It is automatically created by a standard data processing function which takes as input a HEX raw data file and a CON calibration file. The data processing function consists of a particular set of sub-functions performed in a specific order using a single group of processing parameter options. Because of this, when an OC_C fails validation, it must be corrected by regenerating the underlying OC_B and/or OC_A. The software employed to accomplish this function was in the

suite of tools distributed by Sea-Bird Electronics as “SBE Data Processing” version 7.20G. Its operation is detailed in Sea-Bird Electronics, Inc (2010).

Method

Within a year, HEX files have to be associated with the most appropriate CON file. Since it was possible for CTD reconfiguration or recalibration to occur during a season, it was possible for multiple groups of HEX files to be paired with different CON files in a year. The pairing was done by selecting the CON file for a CTD whose most recent internal calibration date most directly preceded the cast date of the HEX file (Table 2). For purposes of this project, the temporal domain covered by a particular CON file is referred to as its CON domain.

Initial attempts at generating CNV products resulted in many vertical data streams not starting until fairly deep in the water column. This was a significant shortcoming, as the top of the column is often of great interest. We determined the cause was field procedures that had varying soak times over the years, most of which were shorter than that called for in OC-2010.1 When combined with the standard raw data record “skipover” of 180 (used to remove noise as the sensors acclimate at the surface), the data processing function was often discarding valuable data points closest to the surface.

To help resolve this problem we generated three test OC_Cs using 2005 data, employing skipovers of zero, 90, and 180. Seth Danielson of the University of Alaska, Institute of Marine Science reviewed these. His recommendation was to employ a skipover of 90 for legacy data. This balanced the importance of calculating the top bins while avoiding inaccurate readings encountered when the instrument is first submerged. Skipover 90 corresponds to ignoring the first 45 seconds of data after the instrument is turned on at the start of each cast.

The automated data processing function also generated vertical profile plots for every cast (Figure 4). We visually reviewed them to confirm the data processing function was operating properly and to ascertain that no corruption had been introduced after processing. We also used them to determine if any observations needed to be marked as degraded in the final database (OC_D) due to equipment malfunctions.

Table 2. CON domain assignments used with legacy data.

Year	CTD#	Dump start	Dump end	Best CON Domain ¹	Notes
2008	1	0170	0177	1_0712	
2007	1	0163	0169	1_0604	
2006	1	0158	0162	1_0604	
	1	0156	0157	1_0412	
2005	1	0143	0155	1_0412	
	2	0140	0141	2_0410	
2004	1	0125	0139	1_0405	
	1	0121	0123	1_0301	
2003	1	0105	0120	1_0301	Dump ranges are non-inclusive as CTDs were shifted in and out of service
	2	0107	0111	2_0301	
2002	1	0080	0104	1_0008	Dump ranges are non-inclusive as CTDs were shifted in and out of service
	2	0093	0103	a	
	2	0084	0084	2_0206 2_0106	
2001	1	0065	0079	1_0008	Dumps 0069, 0070, 0071, and 0076 from Internal Waves Study / Dump ranges are non-inclusive as CTDs were shifted in and out of service
	2	0073	0074	a	
	2	0064	0071	2_0106 2_9907 a	
2000	2	0051	0063	2_9907	999x series dump numbers assigned to replace original alphanumeric dump ids
	2	9994	9999	a 2_9907 a	
1999	2	0046	0050	2_9907	
	2	0040	0044	a 2_9806	
1998	2	0035	0039	2_9806	
	2	0033	0033	2_9607	No PAR 0033
1997	2	0029	0032	2_9607	No PAR all year
1996	2	0026	0028	2_9607	No PAR 0026-09 to end of year. No conductivity cell 0022-0025. Dump 0022 crossed years.
	2	0022	0025	2_9310 b	
1995	2	0021	0022	2_9310 b	No conductivity cell
1994	1	9993	9993	1_9306	9993 assigned to duplicate dump 0010 erroneously defined both for CTD #1 as well as for CTD #2.
	2	0010	0013	2_9310 a	
1993	2	0008	0009	2_9305	
	2	0004	0007	a 2_9305	

¹CON domains are named using the specification in OC-2010.1 SOP 3.

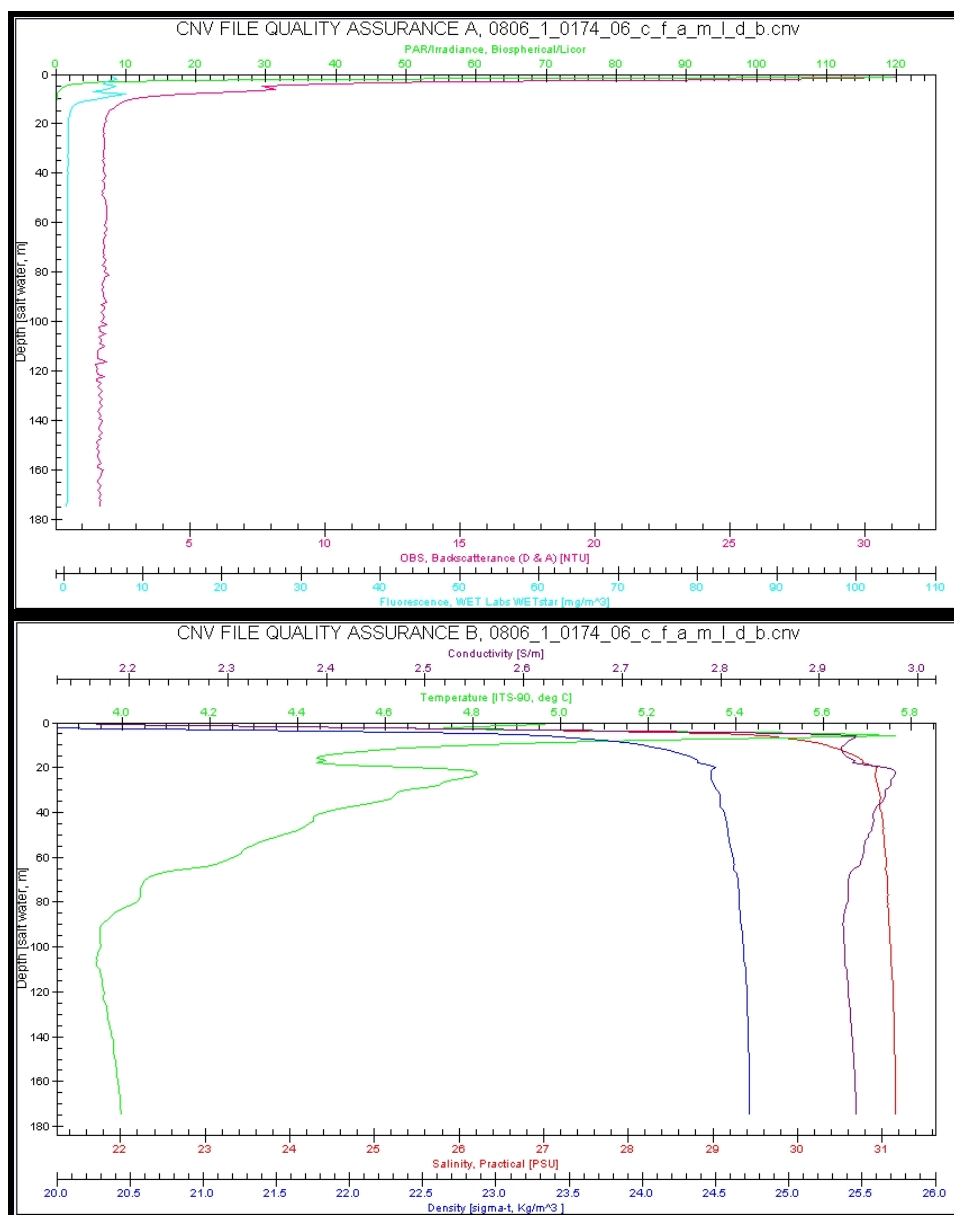


Figure 4. A pair of vertical profile plots used to verify operational state of sensors. Every cast's CNV file was plotted in order to detect irregularities requiring attention.

Quality

Validation

The submission and validation cycles performed for OC_C follow the process defined in detail in SOP 8 of OC-2010.1. Technicians compressed the CNV files for each year into a ZIP archive and submitted them to the Data Manager for formal validation. For this deliverable, formal validation is performed by a custom application that rigorously checks for violations of mandatory and optional criteria as defined in OC-2010.1 Appendix J.3. Any mandatory violation always caused the entire submission to be returned to the project team for correction. It was typical for a year's OC_C product to be returned for rebuilding numerous times before it

passed validation. Correcting an OC_C generally required revising its underlying OC_B and/or OC_A products. All 16 years eventually passed.

Certification

The Data Manager deferred certification of the OC_C submissions until the OC_D product was successfully completed. This was necessary because validation criteria violations and other quality issues detected in OC_D typically required revision of underlying OC_Cs to correct them.

The Data Manager certified all OC_C products by December 9, 2010.

Exceptions

No legacy CNV files reflect the first 90 raw sensor readings of each cast, as explained in the skipover section above under Method.

Raw data file 0307_2_0111_17.HEX contained fewer than 90 sensor array observations. It was not possible to generate a CNV for this cast.

Original field staff had recorded dump numbers 0021 through 0025 using a defective conductivity cell. This resulted in highly erroneous values for conductivity, salinity, and sigma-T. We ultimately processed these dumps using a CON domain having no conductivity cell in the configuration. This produced CNV files without those three misleading attributes, all of which are optional under OC-2010.1.

Field staff used dump #0010 twice in 1994, though on different CTDs. We reassigned the CTD 1 casts to dump 9993.

This project discovered several calibration certificates not represented in the legacy data set. Therefore, some HEX files were paired with newer CON files resulting in slightly different CNV values for certain sensors when compared with legacy data.

Creating OC_D: Database Entries

OC_D contains updates applied to SEAN's cumulative oceanography database. They are deterministically created from valid OC_C products by a custom application. However, since the database is presented as the program's best monitoring data, corrections were occasionally introduced through special processes to improve certain values. Therefore, some OC_C data will not exactly match corresponding OC_D items. Note OC_C depends solely on its input OC_A and OC_B: OC_C always reflects the exact observed data. OC_D may differ from the observed data in order to provide more useful values.

It is crucial to database management that OC_Cs always contain one and only one complete year of data, as specified in OC-2010.1.

Method

Standard Process

The automated OC_D application sequences through four phases.

- The source OC_C for a year is revalidated against mandatory criteria to ensure nothing has been damaged in the file after its original successful validation. Results are reported

in a manner similar to that illustrated in Appendix A. If invalid data are found, no further phases are executed.

- Any existing oceanography data for that year is provisionally deleted from the database, the deletion being made permanent on successful completion of the entire process.
- OC_C data are inserted into the database, subject to cleanups explained below. Rows that had been flagged as bad by data processing are skipped over. Because the database is defined with strict internal validity constraints, it is possible for an insert to fail, resulting in termination of the process and restoration of the database to its original state. In such cases, the application reports the nature of the problem before closing down.
- Automated adjustments may be performed to clear up certain known issues. The only global adjustment currently performed is, when a cast is missing bins at any of the first four meters, these are imputed from the first valid bin in the column; but if bins are missing beyond four meters, no adjustment is attempted and they are left lost.

Two “cleanups” are made during the insertion phase.

- Any individual values marked with the Sea-Bird bad flag are made null in the database.
- Any negative values for sensor readings (except temperature) are stored as zero. This is because the accuracy of sensors is such that an occasional, say, -0.01 is recorded. Note that OC_C validation has already rejected any CNV files having significantly negative sensor values.

Special Process

After the standard process completes successfully, a comprehensive SQL database is the outcome. This database provided the opportunity to assess the completeness of the converted data through SQL queries. Project staff performed cross queries on the combined legacy and new databases to determine differences at gross levels (*e.g.*, dump numbers present in one database but not the other). The team analyzed results and any necessary corrections were made to the underlying OC-2010.1 products, followed by a reiteration of the OC_D creation process.

Once the differences were resolved, we identified casts with significant missing data near the important top of their water columns. After review, Seth Danielson of the UAF Institute of Marine Science provided a list of casts that would be more useful if their OC_Cs were recomputed based on the upcast data that was always recorded but not routinely used. His analysis also recommended nullifying certain individual parameter readings that he judged to be spurious.

The special process involved regenerating CNV files for temporary use based on upcasts. To this were added certain CNVs based on downcasts identified as having spurious data. All these files then had their spurious values manually set to the Sea-Bird bad data flag. Each year with affected casts then had its individual OC_C reassembled and run through the OC_D application in order to repopulate the database with corrected casts for the year. The temporary CNV files and OC_C files were then discarded to prevent anyone mistaking them for the original certified products. The casts involved are listed in Table 3.

The data processing function calculated upcasts with zero skipover, since the readings began at the cast bottom with a fully acclimated instrument.

Table 3. Changes made to individual casts in OC_D by the “Special Process”.

Year	CTD #	Best CON domain ³	Casts regenerated using upcasts ¹	Cast/attribute/bins set to bad data flag ²
2005	1	1_041	0144-03	0144-03 OBS m0
	2	2_041	0140-04	0140-04 OBS m0-1 PAR m240-end
		2_041	0140-09	0140-09 OBS m0 PAR m140-end
		0		
2004	1	1_040	0126-05	(none)
		5		
1999	2	2_990	(none)	0050-10 OBS m1-10 FLU m1-10
	2	7a	0044-23	(none)
		2_980		
		6		
1998	2	2_960	0033-15	(none)
		7		
1997	2	2_960	(none)	0030-07 FLU m0-8 SAL m227 DEN m227
		7	0030-09	
			0031-00	
			0032-00	
			0032-06	
			0032-17	
			0032-18	

¹Expressed as 4-digit dump number followed by 2-digit cast within the dump.

²Bins expressed as meter levels. *E.g.*, m0-8 refers to the nine top bins from the surface; m0 refers to the surface bin only.

³CON domains are named according to the specification in OC-2010.1 SOP 3.

Quality

Validation

OC_D products are implicitly valid on creation by the application, which rejects in total any attempted update in which underlying input violates any mandatory criteria.

Global Verification

Once the historic database was complete, it became possible to do a detailed comparison of the complete legacy data against the reconstructed OC-2010.1 data. The intent of this was to uncover discrepancies, determine their cause, and effect any needed corrections to the reconstructed data. This verification is documented in Appendix C.

Certification

The creation application automatically certified OC_D products on successful completion, without additional review.

Exceptions

A few casts were missing significant data that were recovered using extraordinary methods. These are explained, above, under Special Process.

Creating OC_G: Calibration Certificates

Method

Field staff make measurements using a CTD device configured with a set of sensors. Over time the sensor configurations change. Sensors have sensitivities and responses that differ from each other. Furthermore, a particular sensor's response typically changes over time. When calculating oceanographic parameters from the raw signals coming out of sensors, adjustments need to be made to account for the sensitivity of each one. The values that describe this sensitivity are documented by instrument makers in the process called calibration. Calibration does not involve physically adjusting sensors to meet a fixed response curve. Rather, the sensor's response is recorded so it may be subsequently used in calculating accurate values.

When a sensor is sent out for calibration, it is typically returned with a certificate documenting appropriate adjustment values for the unit. The project made an effort to gather these certificates for the instruments in its scope. Sources searched include:

- Files of Lewis Sharman, Ecologist, NPS, Glacier Bay National Park and Preserve
- Files of Mayumi Arimitsu, Ecologist, USGS, Juneau
- Customer records of Sea-Bird Electronics, CTD servicing agent, Bellevue
- Files residing in the USGS gear cache, Glacier Bay National Park and Preserve

We created a checklist of calibration references found inside existing CON files to help direct the search. Copies of 62 certificates were eventually obtained. The certificates were scanned into individual PDF files and named according to the scheme required by OC-2010.1 SOP 2.

Quality

Validation

The validation criteria for this product are:

1. Must successfully open using Adobe Reader 7.0 or greater.
2. Filename must conform to submission unit pattern described in detailed steps in SOP 2

All files successfully opened in Adobe Reader 9.0.0. The filenames all followed the specification.

Certification

The Data Manager certified all 62 files covering 1993 through 2008 on July 21, 2010.

Exceptions

A physical certificate could not be located for every reference to a calibration event made in the existing CON files. In such cases we accepted the CON file content, having no better information available.

Sea-Bird provided their records as printouts from a recently implemented tracking database. Where the records they provided overlapped historic paper certificates we obtained from other sources, there were occasional disagreements on parameter values. In such cases, we assumed the Sea-Bird application experienced some transcription errors when it was initially populated: the original certificates were retained and the conflicting Sea-Bird printouts were discarded. Sea-Bird technical support concurred with us on this methodology.

Creating OC_H: Field Log Sheets

Method

In 2008 all original field forms related to Glacier Bay physical oceanography sampling had been delivered to SEAN by custodians of the former USGS programs. SEAN project team staff arranged the forms in loose-leaf binders by order of collection. In various places free-form note pages regarding cruise events and observations had been inserted among the blocks of field forms. Some forms were one-sided, others were two-sided. Some one-sided forms had notes recorded on their back sides. The specific layout and content of forms changed somewhat over time, as did their size. Various colors of ink were employed on source forms, particularly where editing occurred.

We operated on each year individually. We removed original forms for each year from the binders along with any associated note pages. We ordered the forms chronologically as ascertained from fields such as Date, Time, Cast Name, and Logbook Page. We ran them through a duplex color scanner which output a single PDF file of images for each year. Totally blank page sides were automatically deleted by the scanning software. We visually compared all the original pages against the PDF file. When we encountered omissions or poorly rendered pages, we re-scanned the missing items and manually spliced them into the file.

Quality

Validation

The validation criteria for this product are:

1. Must successfully open using Adobe Reader 7.0 or greater.
2. Filename must conform to submission unit pattern described in SOP12.

All files successfully opened in Adobe Reader 9.0.0. The filenames all followed the stated specification. Note in the exceptions, however, that calendar year was used in place of cruise year when working with legacy data.

Certification

The Data Manager certified all 16 files covering 1993 through 2008 by January 10, 2011.

Exceptions

OC_H calls for one PDF file of images to be created for each November-October cruise year. Because the legacy data had been organized and documented on an annual basis, it was considered impractical to reallocate the source documents by cruise years: cutting up of forms and notes would have resulted. Therefore, OC_H for 1993 through 2008 are presented on a calendar year basis.

The original collection of all sampling forms, including those from special studies using non-standard methods, was included in this product. These special studies may not be reflected in other data products created under the project when their design could not be reasonably mapped into OC-2010.1 processes.

We discovered some 1992 forms, associated with a special halibut study, in preparing this product. Though they are not within the formal 1993-2008 scope of the project, we included them in OC_H for 1993 in order to provide background on the early methodologies.

Creating OC_M: Data Quality Assessment

Method

The team initialized a separate reporting form for each dump in the scope of the project. We followed the processes specified in OC-2010.1 under SOP 11, along with subsidiary tasks defined in SOP 9.

Quality

Validation

The mandatory validation criteria for this product are:

1. CTD number must be a digit 1 through 9 and may not be null.
2. DUMP must be of the form of a four-digit, zero-filled number and may not be null.
3. CAST must be of the form of a two-digit, zero-filled number.
4. QUALITY_CODE must be a digit 1 through 9.
5. COMMENT must be null if QUALITY_CODE is null.
6. Must be in spreadsheet form readable using Microsoft Excel 2007.

The Data Manager opened the files in Excel 2007, reviewed their details, and determined they met the mandatory criteria.

Certification

The Data Manager certified all 16 assessment reports covering 1993 through 2008 on January 11, 2011.

Exceptions

OC_M calls for dumps to be partitioned using November-October cruise years. However, to be consistent with the existing legacy data organization and the other reconstructed products, OC_M for 1993 through 2008 are presented on a calendar year basis.

When we found conflicts between dates found both in sampling log forms and embedded in data files, we always used the log form values to complete the OC_M sheets.

Part of SOP 11 calls for comparing immediate pre- and post-season calibration values and then assigning specific quality levels when certain high levels of drift are encountered during the course of a season. The historic protocols did not provide for pre- and post-season calibrations. Instead, calibrations were performed sporadically. Therefore, it was not possible to calculate drift over a season. However, for each year calibrations were compared by using the one closest to season start against the closest to season end values, though in some instances this covered a multi-year span. Regardless, comparison of bracketing calibrations never indicated drift significant enough to trigger a quality flag.

Results

This project resulted in creation of a continuous set of data products covering Glacier Bay, Alaska's physical oceanography spanning 1993 through the present. The products have consistent content, nomenclature, coding, and quality levels. They may be reviewed at http://science.nature.nps.gov/im/units/sean/OC_Main.aspx.

Literature Cited

- Danielson, S., W. Johnson, L. Sharman, G. Eckert and B. Moynahan. 2010. Glacier Bay National Park and Preserve oceanographic monitoring protocol OC-2010.1. Natural Resource Report NPS/SEAN/NRR-2010/265. National Park Service, Fort Collins, Colorado.
- Hooge, Philip N., E.R. Hooge, E.K. Solomon, C.L. Dezan, C.A. Dick, J. Mondragon, H.S. Rieden, L.L. Etherington. 2003. Fjord oceanography monitoring handbook: Glacier Bay, Alaska. United States Geological Survey Alaska Science Center, Juneau, Alaska.
- Johnson, W. F., and B. J. Moynahan. 2008. Data management plan: Southeast Alaska network. Natural Resource Report NPS/SEAN/NRR-2008/058. National Park Service, Fort Collins, Colorado.
- Sea-Bird Electronics, Inc. 2010. SEASOFT-V2: SBE Data Processing CTD Data Processing and Plotting Software for Windows 2000/XP User's Manual. Available from http://www.seabird.com/pdf_documents/manuals/SBEDataProcessing_7.21.pdf (accessed 29 October 2010).

Appendix A: Example of automated validation notification reporting

Products OC_B, OC_C, and OC_D are subjected to rigorous validation by custom computer applications built expressly for this purpose. A permanent audit trail of validation attempts is maintained in SEAN's production database. Also, each attempt results in a report detailing data files worked with, optional validation errors, mandatory validation errors, and whether or not the product is valid under the specifications in OC-2010.1. Selected lines extracted from an actual validation notification report generated by this project, below, illustrate the nature of SEAN automated validation. While the example pertains to OC_C, the other products are analyzed and reported on in the same fashion.

OC_C Validation Findings for Submission 191 Begun Thursday, August 19, 2010 4:44 PM

Checking \\inplbafs03\data\SEAN_Data\staging\OC\OC_C\191\9903_2_0040_00_c_f_a_m_l_d_B.cnv
...Total lines: 218 of which 46 are data, 12 are header information, 19 are '*' comment lines, 140 are '#' processing history lines, and 1 are blank.

Checking \\inplbafs03\data\SEAN_Data\staging\OC\OC_C\191\9903_2_0040_01_c_f_a_m_l_d_B.cnv
...Total lines: 218 of which 46 are data, 12 are header information, 19 are '*' comment lines, 140 are '#' processing history lines, and 1 are blank.

.
.
.

Checking \\inplbafs03\data\SEAN_Data\staging\OC\OC_C\191\9906_2_0042_10_c_f_a_m_l_d_B.cnv

Optional: at line 173: Sigma_T <13.6858> should be between 15.0 and 27.0.

...Total lines: 402 of which 230 are data, 12 are header information, 19 are '*' comment lines, 140 are '#' processing history lines, and 1 are blank.

.
.
.

Checking \\inplbafs03\data\SEAN_Data\staging\OC\OC_C\191\9906_2_0042_18_c_f_a_m_l_d_B.cnv

Optional: at line 452: Sigma_T <14.7011> should be between 15.0 and 27.0.

Optional: No PAR signal on 1 depth points.

...Total lines: 452 of which 279 are data, 13 are header information, 19 are '*' comment lines, 140 are '#' processing history lines, and 1 are blank.

.
.
.

Checking \\inplbafs03\data\SEAN_Data\staging\OC\OC_C\191\9906_2_0043_02_c_f_a_m_l_d_B.cnv

**** MANDATORY at line 174: Sigma_T <-2.0079> is not between 0.0 and 30.0. Salinity <-2.3888> is not between 0.0 and 40.0. Conductivity <-0.228204> is not between 0.0 and 10.0.**

Optional: at line 175: Sigma_T <11.7904> should be between 15.0 and 27.0.

...Total lines: 222 of which 49 are data, 13 are header information, 19 are '*' comment lines, 140 are '#' processing history lines, and 1 are blank.

.
.
.

Checking \\inplbafs03\data\SEAN_Data\staging\OC\OC_C\191\9908_2_0048_00_c_f_a_m_l_d_B.cnv

Optional: at line 189: Sigma_T <13.3903> should be between 15.0 and 27.0.

Optional: at line 194: Fluorescence <73.9060> should be no more than 70.0.

...Total lines: 479 of which 291 are data, 12 are header information, 19 are '*' comment lines, 156 are '#' processing history lines, and 1 are blank.

.
.
.

Checking \\inpglbafs03\data\SEAN_Data\staging\OC\OC_C\191\9910_2_0050_22_c_f_a_m_l_d_B.cnv
...Total lines: 323 of which 135 are data, 12 are header information, 19 are '*' comment lines, 156 are '#' processing
history lines, and 1 are blank.

Mandatory errors: 1

Optional errors: 33

Files having mandatory errors: 1 out of the 105 CNV files that were checked.

The submission status has been updated to "F" - Failed.

----- Validation attempt ended at Thursday, August 19, 2010 4:45 PM -----

Appendix B: Standard data processing function

The creation of OC_C CNV files was done using the SBE Data Processing suite for Windows version 7.20G. Its purpose, operations, and methods are detailed in Sea-Bird Electronics (2010). This appendix documents the particular components used, their order of invocation, and parameters employed in the project.

Scripting files used to execute the data processing function

Generating an OC_C is performed by executing one batch file. Source data of types OC_A and OC_B must be in a prescribed directory structure, as illustrated in the OC-2010.1 protocol document. The operator must supply a year and the name of the OC_A file to use.

File CNV_Create.bat:

```
@echo off
rem This file is CNV_Create.bat for reconstruction project use only

rem Get year and cal file name-----
set /p sb-year=Enter 4-digit year:
set /p sb-cal=Enter calibration CON file name (without extension):

rem set environment -----
set sb-base-dir=\\inpglbafs03\data\SEAN_Data_Mgmt\Vital_signs_heap\OC\Reconstruction\OC_C\
set sb-destination=%sb-base-dir%%sb-year%\

rem invoke SBEBatch to make CNV from HEX and then plot the CNVs -----
sbebatch CNV_Create.txt %sb-base-dir% %sb-cal% %sb-destination%
```

The batch file invokes Sea-Bird's "sbebatch.exe" with instructions in CNV_Create.txt.

File CNV_Create.txt:

```
Datcnv /i%1raw\*.hex /o%3temp /c%1\cal\%2\%2.con /p%1\cal\%2\%2_CNV_Convert.psa /s /a_C
Filter /i%3temp\*_C.cnv /o%3temp /p%1\cal\%2\%2_CNV_Filter.psa /s /a_F
Alignctd /i%3temp\*_F.cnv /o%3temp /p%1\cal\%2\%2_CNV_AlignCTD.psa /s /a_A
CellTM /i%3temp\*_A.cnv /o%3temp /p%1\cal\%2\%2_CNV_CellTM.psa /s /a_M
Loopedit /i%3temp\*_M.cnv /o%3temp /p%1\cal\%2\%2_CNV_LoopEdit.psa /s /a_L
Derive /i%3temp\*_L.cnv /o%3temp /p%1\cal\%2\%2_CNV_Derive.psa /c%1\cal\%2\%2.con /s /a_D
Binavg /i%3temp\*_D.cnv /o%3 /p%1\cal\%2\%2_CNV_Binavg.psa /s /a_B
Seaplot /i%3*.cnv /o%3plot /p%1\cal\%2\%2_CNV_Plot_A.psa /s
Seaplot /i%3*.cnv /o%3plot /p%1\cal\%2\%2_CNV_Plot_B.psa /s
```

Within the file are the names of the sub-functions to perform, in the order in which to execute them. Each command line typically specifies file locations plus a parameter file. The file specifications have been defined so that the intermediate files created by each sub-function are retained in a "temp" directory as an aid to problem diagnosis.

Typical parameter files

Each of the sub-function references in CNV_Create.txt includes specification of a ".psa" parameter file. Each type of sub-function requires a uniquely defined parameter file. That is, say, the Device.psa file cannot be called for when invoking CellTM. In order to tailor processing

to accommodate certain exceptions, a separate set of PSAs was defined for each CON domain. For example, when the failed conductivity cell was removed from domain 2-9310b the AlignCTD, Datchv, and Derive parameters operating on conductivity were deleted from its PSA set. The domains, however, have very few differences among their corresponding PSAs; for the most part they are identical.

The contents of a typical parameter file set are listed below, in this case for domain 2_0410. Note that any internal file name references are moot: the command line always overrides the PSA file specifications. The two detailed CNV_Plot PSAs do not alter the final CNV file contents so are omitted.

File 2_0410_CNV_AlignCTD.psa:

```
<?xml version="1.0" encoding="UTF-8"?>
<Align_CTD >
  <Version value="7.18c" />
  <ServerName value="Align CTD" />
  <InputDir value="\\nps\akrdfs\GLBA\Science\Data\Oceanography\Data\TEST\CNV_Processed\temp" />
  <InputFileArray size="2" GrowBy="-1" >
    <ArrayItem index="0" value="0908_1_0186_01_c_F.cnv" />
    <ArrayItem index="1" value="0908_1_0186_02_c_F.cnv" />
  </InputFileArray>
  <OutputDir value="\\nps\akrdfs\GLBA\Science\Data\Oceanography\Data\TEST\CNV_Processed\temp" />
  <NameAppend value="_a" />
  <OutputFile value="" />
  <LastProcessed value="0" />
  <CalcArray Size="5" >
    <CalcArrayItem index="0" CalcID="35" >
      <Calc UnitID="38" Ordinal="0" >
        <FullName value="Fluorescence, Wetlab Wetstar [mg/m^3]" />
      </Calc>
    </CalcArrayItem>
    <CalcArrayItem index="1" CalcID="45" >
      <Calc UnitID="45" Ordinal="0" >
        <FullName value="OBS, Backscatterance (D & A) [NTU]" />
      </Calc>
    </CalcArrayItem>
    <CalcArrayItem index="2" CalcID="59" >
      <Calc UnitID="-1" Ordinal="0" >
        <FullName value="PAR/Irradiance, Biospherical/Licor" />
      </Calc>
    </CalcArrayItem>
    <CalcArrayItem index="3" CalcID="81" >
      <Calc UnitID="6" Ordinal="0" >
        <FullName value="Temperature [ITS-90, deg C]" />
      </Calc>
    </CalcArrayItem>
    <CalcArrayItem index="4" CalcID="12" >
      <Calc UnitID="58" Ordinal="0" >
        <FullName value="Conductivity [S/m]" />
      </Calc>
    </CalcArrayItem>
  </CalcArray>
  <ValArray size="5" >
    <ValArrayItem index="0" value="0.000000" variable_name="Fluorescence, Wetlab Wetstar" />
    <ValArrayItem index="1" value="0.000000" variable_name="OBS, Backscatterance (D & A)" />
    <ValArrayItem index="2" value="0.000000" variable_name="PAR/Irradiance, Biospherical/Licor" />
    <ValArrayItem index="3" value="0.500000" variable_name="Temperature" />
    <ValArrayItem index="4" value="0.000000" variable_name="Conductivity" />
  </ValArray>
</Align_CTD>
```

```
</ValArray>  
</Align_CTD>
```

File 2_0410_CNV_BinAvg.psa:

```
<?xml version="1.0" encoding="UTF-8"?>  
<Bin_Average >  
  <Version value="7.18c" />  
  <ServerName value="Bin Average" />  
  <InputDir value="\\nps\akrdfs\GLBA\Science\Data\Oceanography\Data\2010\CNV_processed\temp" />  
  <InputFileArray size="8" GrowBy="-1" >  
    <ArrayItem index="0" value="1002_5_0189_02_C_F_a_M_L_D.cnv" />  
    <ArrayItem index="1" value="1002_5_0189_03_C_F_a_M_L_D.cnv" />  
    <ArrayItem index="2" value="1002_5_0189_04_C_F_a_M_L_D.cnv" />  
    <ArrayItem index="3" value="1002_5_0189_05_C_F_a_M_L_D.cnv" />  
    <ArrayItem index="4" value="1002_5_0189_06_C_F_a_M_L_D.cnv" />  
    <ArrayItem index="5" value="1002_5_0189_07_C_F_a_M_L_D.cnv" />  
    <ArrayItem index="6" value="1002_5_0189_08_C_F_a_M_L_D.cnv" />  
    <ArrayItem index="7" value="1002_5_0189_09_C_F_a_M_L_D.cnv" />  
  </InputFileArray>  
  <OutputDir value="\\nps\akrdfs\GLBA\Science\Data\Oceanography\Data\2010\CNV_processed" />  
  <NameAppend value="_B" />  
  <OutputFile value="" />  
  <LastProcessed value="0" />  
  <BinType value="2" />  
  <BinSize value="1.000000" />  
  <IncludeNumberScans value="0" />  
  <ExcludeMarkedBad value="1" />  
  <ScansToSkip value="0" />  
  <CastToProcess value="1" high="2" low="0" initialValue="0" />  
  <IncludeSurfaceBin value="1" />  
  <SurfaceBinMinVal value="0.200000" />  
  <SurfaceBinMaxVal value="0.800000" />  
  <SurfaceBinVal value="0.000000" />  
</Bin_Average>
```

File 2_0410_CNV_CellTM.psa:

```
<?xml version="1.0" encoding="UTF-8"?>  
<Cell_Thermal_Mass >  
  <Version value="7.18c" />  
  <ServerName value="Cell Thermal Mass" />  
  <InputDir value="\\nps\akrdfs\GLBA\Science\Data\Oceanography\Data\TEST\CNV_Processed\temp" />  
  <InputFileArray size="2" GrowBy="-1" >  
    <ArrayItem index="0" value="0908_1_0186_01_c_F_a.cnv" />  
    <ArrayItem index="1" value="0908_1_0186_02_c_F_a.cnv" />  
  </InputFileArray>  
  <OutputDir value="\\nps\akrdfs\GLBA\Science\Data\Oceanography\Data\TEST\CNV_Processed\temp" />  
  <NameAppend value="_M" />  
  <OutputFile value="" />  
  <LastProcessed value="0" />  
  <Primary >  
    <Correct value="1" />  
    <TempSensor value="0" />  
    <TA_Amplitude value="0.040000" />  
    <TA_TimeConstant value="8.000000" />  
  </Primary>  
  <Secondary >  
    <Correct value="0" />  
  </Secondary>
```

```

    <TempSensor value="1" />
    <TA_Amplitude value="0.030000" />
    <TA_TimeConstant value="7.000000" />
  </Secondary>
</Cell_Thermal_Mass>

```

File 2_0410_CNV_convert.psa:

```

<?xml version="1.0" encoding="UTF-8"?>
<Data_Conversion >
  <Version value="7.18c" />
  <ServerName value="Data Conversion" />
  <InstrumentPath value="\nps\akrdfs\GLBA\Science\Data\Oceanography\Data\TEST\CON_calibration\1_0436.con" />
  <InstrumentMatch value="0" />
  <InputDir value="\nps\akrdfs\GLBA\Science\Data\Oceanography\Data\TEST\HEX_raw" />
  <InputFileArray size="0" GrowBy="-1" />
  <OutputDir value="\nps\akrdfs\GLBA\Science\Data\Oceanography\Data\TEST\CNV_processed\temp" />
  <NameAppend value="_C" />
  <OutputFile value="" />
  <LastProcessed value="0" />
  <ProcessScansToEnd value="1" />
  <ScansToSkip value="90" />
  <ScansToProcess value="1" />
  <MergeHeaderFile value="0" />
  <OutputFormat value="0" high="1" low="0" initialValue="0" />
  <FromCast value="1" high="1" low="0" initialValue="0" />
  <CreateFile value="0" high="2" low="0" initialValue="0" />
  <ScanRangeSource value="3" high="3" low="0" initialValue="3" />
  <ScanRangeOffset value="0.000000" />
  <ScanRangeDuration value="2.000000" />
  <CalcArray Size="6" >
    <CalcArrayItem index="0" CalcID="35" >
      <Calc UnitID="38" Ordinal="0" >
        <FullName value="Fluorescence, Wetlab Wetstar [mg/m^3]" />
      </Calc>
    </CalcArrayItem>
    <CalcArrayItem index="1" CalcID="45" >
      <Calc UnitID="45" Ordinal="0" >
        <FullName value="OBS, Backscatterance (D & A) [NTU]" />
      </Calc>
    </CalcArrayItem>
    <CalcArrayItem index="2" CalcID="59" >
      <Calc UnitID="-1" Ordinal="0" >
        <FullName value="PAR/Irradiance, Biospherical/Licor" />
      </Calc>
    </CalcArrayItem>
    <CalcArrayItem index="3" CalcID="81" >
      <Calc UnitID="6" Ordinal="0" >
        <FullName value="Temperature [ITS-90, deg C]" />
      </Calc>
    </CalcArrayItem>
    <CalcArrayItem index="4" CalcID="67" >
      <Calc UnitID="3" Ordinal="0" >
        <FullName value="Pressure, Strain Gauge [db]" />
      </Calc>
    </CalcArrayItem>
    <CalcArrayItem index="5" CalcID="12" >
      <Calc UnitID="58" Ordinal="0" >
        <FullName value="Conductivity [S/m]" />
      </Calc>
    </CalcArrayItem>
  </CalcArray>

```

```

    </CalcArrayItem>
  </CalcArray>
  <MiscellaneousDataForCalculations >
    <Latitude value="58.500000" />
    <DescentRateAndAcceleration >
      <WindowSize value="2.000000" />
    </DescentRateAndAcceleration>
    <AverageSoundVelocity >
      <MinimumPressure value="20.000000" />
      <MinimumSalinity value="20.000000" />
      <PressureWindowSize value="20.000000" />
      <TimeWindowSize value="60.000000" />
    </AverageSoundVelocity>
    <PlumeAnomaly >
      <ThetaB value="0.000000" />
      <SalinityB value="0.000000" />
      <ThetaZSalinityZRatio value="0.000000" />
      <ReferencePressure value="0.000000" />
    </PlumeAnomaly>
    <PotentialTempAnomaly >
      <A0 value="0.000000" />
      <A1 value="0.000000" />
      <A1Multiplier value="0" />
    </PotentialTempAnomaly>
  </MiscellaneousDataForCalculations>
</Data_Conversion>

```

File 2_0410_CNV_Derive.psa:

```

<?xml version="1.0" encoding="UTF-8"?>
<Derive >
  <Version value="7.18c" />
  <ServerName value="Derive" />
  <InstrumentPath value="\\nps\akrdfs\GLBA\Science\Data\Oceanography\Data\TEST\CON_calibration\1_0436.con" />
  <InstrumentMatch value="0" />
  <InputDir value="\\nps\akrdfs\GLBA\Science\Data\Oceanography\Data\TEST\CNV_Processed\temp" />
  <InputFileArray size="0" GrowBy="-1" />
  <OutputDir value="\\nps\akrdfs\GLBA\Science\Data\Oceanography\Data\TEST\CNV_Processed\temp" />
  <NameAppend value="_D" />
  <OutputFile value="" />
  <LastProcessed value="0" />
  <CalcArray Size="3" >
    <CalcArrayItem index="0" CalcID="15" >
      <Calc UnitID="54" Ordinal="0" >
        <FullName value="Density [sigma-t, Kg/m^3]" />
      </Calc>
    </CalcArrayItem>
    <CalcArrayItem index="1" CalcID="70" >
      <Calc UnitID="49" Ordinal="0" >
        <FullName value="Salinity [PSU]" />
      </Calc>
    </CalcArrayItem>
    <CalcArrayItem index="2" CalcID="17" >
      <Calc UnitID="31" Ordinal="0" >
        <FullName value="Depth [salt water, m]" />
        <Latitude value="58.500000" />
      </Calc>
    </CalcArrayItem>
  </CalcArray>
  <MiscellaneousDataForCalculations >

```

```

<Latitude value="58.500000" />
<DescentRateAndAcceleration >
  <WindowSize value="2.000000" />
</DescentRateAndAcceleration>
<AverageSoundVelocity >
  <MinimumPressure value="20.000000" />
  <MinimumSalinity value="20.000000" />
  <PressureWindowSize value="20.000000" />
  <TimeWindowSize value="60.000000" />
</AverageSoundVelocity>
<PlumeAnomaly >
  <ThetaB value="0.000000" />
  <SalinityB value="0.000000" />
  <ThetaZSalinityZRatio value="0.000000" />
  <ReferencePressure value="0.000000" />
</PlumeAnomaly>
<PotentialTempAnomaly >
  <A0 value="0.000000" />
  <A1 value="0.000000" />
  <A1Multiplier value="0" />
</PotentialTempAnomaly>
</MiscellaneousDataForCalculations>
</Derive>

```

File 2_0410_CNV_Filter.psa:

```

<?xml version="1.0" encoding="UTF-8"?>
<Filter >
  <Version value="7.18c" />
  <ServerName value="Filter" />
  <InputDir value="K:\SEAN_Data_Mgmt\Vital_signs_heap\OC\Reconstruction\OC_C\2007\Temp" />
  <InputFileArray size="1" GrowBy="-1" >
    <ArrayItem index="0" value="0704_1_0163_00_C.cnv" />
  </InputFileArray>
  <OutputDir value="K:\SEAN_Data_Mgmt\Vital_signs_heap\OC\Reconstruction\OC_C\2007\Temp" />
  <NameAppend value="_F" />
  <OutputFile value="" />
  <LastProcessed value="0" />
  <TimeConstFilterA value="0.500000" />
  <TimeConstFilterB value="2.000000" />
  <CalcArray Size="6" >
    <CalcArrayItem index="0" CalcID="35" >
      <Calc UnitID="38" Ordinal="0" >
        <FullName value="Fluorescence, Wetlab Wetstar [mg/m^3]" />
      </Calc>
    </CalcArrayItem>
    <CalcArrayItem index="1" CalcID="45" >
      <Calc UnitID="45" Ordinal="0" >
        <FullName value="OBS, Backscatterance (D & A) [NTU]" />
      </Calc>
    </CalcArrayItem>
    <CalcArrayItem index="2" CalcID="59" >
      <Calc UnitID="-1" Ordinal="0" >
        <FullName value="PAR/Irradiance, Biospherical/Licor" />
      </Calc>
    </CalcArrayItem>
    <CalcArrayItem index="3" CalcID="81" >
      <Calc UnitID="6" Ordinal="0" >
        <FullName value="Temperature [ITS-90, deg C]" />
      </Calc>
    </CalcArrayItem>
  </CalcArray>

```

```

</CalcArrayItem>
<CalcArrayItem index="4" CalcID="67" >
  <Calc UnitID="3" Ordinal="0" >
    <FullName value="Pressure, Strain Gauge [db]" />
  </Calc>
</CalcArrayItem>
<CalcArrayItem index="5" CalcID="12" >
  <Calc UnitID="58" Ordinal="0" >
    <FullName value="Conductivity [S/m]" />
  </Calc>
</CalcArrayItem>
</CalcArray>
<FilterTypeArray >
  <ArrayItem index="0" value="0" />
  <ArrayItem index="1" value="0" />
  <ArrayItem index="2" value="0" />
  <ArrayItem index="3" value="1" />
  <ArrayItem index="4" value="2" />
  <ArrayItem index="5" value="1" />
</FilterTypeArray>
</Filter>

```

File 2_0410_CNV_LoopEdit.psa:

```

<?xml version="1.0" encoding="UTF-8"?>
<Loop_Edit >
  <Version value="7.18c" />
  <ServerName value="Loop Edit" />
  <InputDir value="\nps\akrdfs\GLBA\Science\Data\Oceanography\Data\TEST\CNV_Processed\temp" />
  <InputFileArray size="2" GrowBy="-1" >
    <ArrayItem index="0" value="0908_1_0186_01_c_F_a_M.cnv" />
    <ArrayItem index="1" value="0908_1_0186_02_c_F_a_M.cnv" />
  </InputFileArray>
  <OutputDir value="\nps\akrdfs\GLBA\Science\Data\Oceanography\Data\TEST\CNV_Processed\temp" />
  <NameAppend value="_L" />
  <OutputFile value="" />
  <LastProcessed value="0" />
  <MinVelocityType value="0" high="1" low="0" initialValue="0" />
  <MinCTD_Velocity value="0.100000" />
  <TimeWindowSize value="300.000000" />
  <PercentMeanSpeed value="20.000000" />
  <ExcludeMarkedBad value="1" />
  <RemoveSurfaceSoak value="0" />
  <UseDeckPressure value="1" />
  <SurfaceSoakDepth value="10.000000" />
  <SurfaceSoakDepthMin value="5.000000" />
  <SurfaceSoakDepthMax value="20.000000" />
</Loop_Edit>

```

Appendix C: Comparison of OC-2010.1 converted data to original legacy data

Once the final OC_D product was in the database alongside the original USGS tables, we made a comparison in order to locate areas of significant discrepancy. We reviewed such areas and commented on them below. Because differences are often caused by a particular physical or procedural situation that occurred over a contiguous block of time, we decided to compare the two data sets on a year-month basis. Furthermore, since the conversion of all data to GMT resulted in certain casts being recorded as one month later than originally, we further stratified the comparison by station within year-month. The finer granularity made the time-stratification artifact much easier to recognize.

Table C.2 summarizes the six possible attributes measured by the instruments. The difference between the new and original values is presented in a third “delta” column for each attribute. Delta column results are color coded to highlight significant differences between re-processed and original data. Gold cells indicate new data being greater than original by a significant amount. Pink cells indicate original data significantly greater than new data. The thresholds for significance for temperature, conductivity, and fluorescence are 0.1 difference. Pressure and OBS (turbidity) use a 1.0 threshold. PAR uses 2.5.

Where blocks of discrepancies appeared, suggesting possible systematic error, we boxed and labeled the table cells with reference letters. We researched the reasons for these and explained them in Table C.1. We did not pursue further individual outlier differences that did not suggest systematic processing errors.

Table C.1. Explanation of the significant differences between OC-2010.1 and legacy USGS sensor data, as highlighted in Table C.2.

Label	Discussion
A	Significant PAR differences between OC-2010.1 and legacy data in six stations of dump 0013 occur because the CTD was given short acclimation time before its descent. The consistent skipover value of 90 used in reconstruction resulted in truncation of the readings in bin 0 and part of bin 1 for these casts. Since PAR is always highest in bin 0, the OC-2010.1 data understate the mean of this parameter in the six casts.
B	The conductivity cell was damaged and gave spurious readings between October 1995 and June 1996. This was further reflected in erroneous salinity and density computed values. The OC-2010.1 data was calculated after removing the broken sensor from the configuration, leaving values for affected stations null.
C	The PAR sensor failed during the September 1996 cruise, leaving 60% of the stations unmeasured. Of those ten recorded, the skipover=90 parameter resulted in OC-2010.1 data starting at bin 1 or 2. USGS always reported a bin 0 for these casts, but bins 1 and 2 were sometimes absent and some of the bin 0 values appeared anomalous. From bin 3 on, however, both data sets for the dump were in full agreement.
D	After a PAR sensor outage of 21 months, it again became available in June 1998, with a calibration recorded in May 1998. It is not known why legacy does not reflect any PAR values for 1998.
E	The fairly small variations in values, particularly fluorescence, occur because USGS dump 0054 had been recorded as taken in May instead of the March stated on all field log forms.
F	OC 2010.1 data are empty for this month because conversion to GMT resulted in these casts being moved to the next month.

G	Station data match poorly because OC-2010.1 values also reflect the prior month's data as a result of GMT conversion.
H	OC 2010.1 data are empty for this month because conversion to GMT resulted in these casts being moved to the next month.
I	USGS data are empty for this month because they did not undergo GMT conversion, so they appear in the prior month.
J	Legacy data used a CON file with empty nephelometer calibration factors. OC-2010 used factors from the most contemporaneous existing CON file instead.
K	Legacy data were missing dump 0066, which gave a second set of fluorescence readings for each station on the same day. OC-2010.1 included dump 0066.
L	This line contains data from the Internal Waves special project, which USGS did not include in their tables. SEAN did include these data in its reconstructed data.
M	March 2002 dumps 0082 and 0083 were done with CTD#1 and 0084 was done with CTD#2. In their final data, USGS omitted dump 0084. There were no notes found in the files or field forms to suggest dump 0084 was defective, so it was included under OC-2010.1.
N	OC 2010.1 data are empty for this month because conversion to GMT resulted in these casts being moved to the next month.
O	USGS data are empty for this month because they did not undergo GMT conversion, so they appear in the prior month.
P	GMT conversion resulted in OC-2010.1 casts being in the month following the one assigned by USGS.
Q	GMT conversion resulted in OC-2010.1 casts being in the month following the one assigned by USGS.
R	In the USGS hex files for Dump 0147 casts 04 and 05, the station numbers were mistyped as 14 and 15, but should have been 04 and 05.
S	In the USGS hex files for Dump 0147 casts 04 and 05 the station numbers were mistyped as 14 and 15, but should have been 04 and 05
T	GMT conversion resulted in OC-2010.1 casts being in the month following the one assigned by USGS.
U	GMT conversion resulted in OC-2010.1 casts being in the month following the one assigned by USGS.
V	Raw data for these three stations were found in USGS files. It is unknown why they were not reported in the final legacy data.
W	Most of dump 0175 performed on 2008-06-26 had its date miscoded in legacy data as 2008-08-26.
X	Legacy data dumps 0176 and 0177 had no temperatures calculated for reasons unknown.

Table C.2. Comparison of mean sensor attribute values between OC-2010.1 and legacy USGS data sets; stratified by year, month, and station.

Year	Mon- th	Sta- tion	OC- 2010.1 Mean Temp	USGS Mean Temp	Delta Temp	OC- 2010.1 Mean Cond	USGS Mean Cond	Delta Cond	OC- 2010.1 Mean Press	USGS Mean Press	Delta Press	OC- 2010.1 Mean OBS	USGS Mean OBS	Delta OBS	OC- 2010.1 Mean PAR	USGS Mean PAR	Delta PAR	OC- 2010.1 Mean Fluor	USGS Mean Fluor	Delta Fluor
1993	7	0	7.76	7.763	-0.003	3.236	3.232	0.004	29.292	29.275	0.017			0.000			0.000			0.000
1993	7	1	7.692	7.695	-0.003	3.254	3.255	-0.001	30.806	30.789	0.017			0.000			0.000			0.000
1993	7	2	7.741	7.743	-0.002	3.256	3.256	0.000	46.45	45.934	0.516			0.000			0.000			0.000
1993	7	3	7.777	7.78	-0.003	3.208	3.209	-0.001	53.012	52.497	0.515			0.000			0.000			0.000
1993	7	4	6.14	6.141	-0.001	3.067	3.069	-0.002	100.473	100.467	0.006			0.000			0.000			0.000
1993	7	5	5.885	5.885	0.000	3.053	3.055	-0.002	99.968	99.962	0.006			0.000			0.000			0.000
1993	7	6	6.017	6.018	-0.001	3.066	3.067	-0.001	99.968	99.962	0.006			0.000			0.000			0.000
1993	7	7	5.99	5.965	0.025	3.053	3.058	-0.005	99.968	100.467	-0.499			0.000			0.000			0.000
1993	7	8	5.808	5.773	0.035	3.027	3.037	-0.010	99.968	100.467	-0.499			0.000			0.000			0.000
1993	7	9	5.657	5.657	0.000	3.02	3.022	-0.002	99.968	99.962	0.006			0.000			0.000			0.000
1993	7	10	5.508	5.506	0.002	3.003	3.006	-0.003	99.968	99.962	0.006			0.000			0.000			0.000
1993	7	11	5.258	5.26	-0.002	2.982	2.985	-0.003	99.968	99.962	0.006			0.000			0.000			0.000
1993	7	12	4.888	4.89	-0.002	2.94	2.943	-0.003	99.968	99.962	0.006			0.000			0.000			0.000
1993	7	14	6.974	6.991	-0.017	3.09	3.092	-0.002	43.422	42.905	0.517			0.000			0.000			0.000
1993	7	15	6.718	6.688	0.030	3.095	3.099	-0.004	60.079	60.575	-0.496			0.000			0.000			0.000
1993	7	16	5.345	5.349	-0.004	3	3.003	-0.003	100.473	99.962	0.511			0.000			0.000			0.000
1993	7	17	5.271	5.271	0.000	2.994	2.997	-0.003	99.968	99.962	0.006			0.000			0.000			0.000
1993	7	18	4.997	5.003	-0.006	2.958	2.961	-0.003	100.473	99.962	0.511			0.000			0.000			0.000
1993	7	19	4.724	4.724	0.000	2.934	2.946	-0.012	99.968	99.961	0.007			0.000			0.000			0.000
1993	7	20	4.744	4.746	-0.002	2.933	2.943	-0.010	95.928	96.426	-0.498			0.000			0.000			0.000
1993	8	0	8.298	8.256	0.042	3.261	3.247	0.014	29.797	29.275	0.522			0.000			0.000			0.000
1993	8	1	7.978	7.978	0.000	3.236	3.236	0.000	30.806	30.789	0.017			0.000			0.000			0.000
1993	8	2	8.003	8.017	-0.014	3.24	3.241	-0.001	44.936	44.419	0.517			0.000			0.000			0.000
1993	8	3	7.51	7.491	0.019	3.166	3.172	-0.006	59.07	59.565	-0.495			0.000			0.000			0.000
1993	8	4	6.543	6.524	0.019	3.095	3.102	-0.007	99.968	100.467	-0.499			0.000			0.000			0.000
1993	8	5	6.431	6.431	0.000	3.075	3.079	-0.004	99.968	99.962	0.006			0.000			0.000			0.000
1993	8	6	6.64	6.615	0.025	3.103	3.106	-0.003	99.968	100.466	-0.498			0.000			0.000			0.000
1993	8	7	6.564	6.555	0.009	3.095	3.102	-0.007	99.968	100.467	-0.499			0.000			0.000			0.000
1993	8	8	6.238	6.236	0.002	3.062	3.071	-0.009	100.473	100.467	0.006			0.000			0.000			0.000
1993	8	9	6.191	6.172	0.019	3.059	3.065	-0.006	99.968	100.466	-0.498			0.000			0.000			0.000
1993	8	9	6.191	6.172	0.019	3.059	3.065	-0.006	99.968	100.467	-0.499			0.000			0.000			0.000
1993	8	10	5.98	5.972	0.008	3.033	3.042	-0.009	99.968	100.467	-0.499			0.000			0.000			0.000
1993	8	11	5.755	5.75	0.005	3.014	3.023	-0.009	99.968	100.467	-0.499			0.000			0.000			0.000

Year	Month	Station	OC- 2010.1 Mean Temp	USGS Mean Temp	Delta Temp	OC- 2010.1 Mean Cond	USGS Mean Cond	Delta Cond	OC- 2010.1 Mean Press	USGS Mean Press	Delta Press	OC- 2010.1 Mean OBS	USGS Mean OBS	Delta OBS	OC- 2010.1 Mean PAR	USGS Mean PAR	Delta PAR	OC- 2010.1 Mean Fluor	USGS Mean Fluor	Delta Fluor
1993	8	12	5.496	5.503	-0.007	2.979	2.99	-0.011	99.968	100.466	-0.498			0.000			0.000			0.000
1993	8	13	6.936	6.923	0.013	3.126	3.128	-0.002	70.681	71.178	-0.497			0.000			0.000			0.000
1993	8	14	7.356	7.374	-0.018	3.126	3.129	-0.003	36.861	36.342	0.519			0.000			0.000			0.000
1993	8	15	6.596	6.588	0.008	3.088	3.094	-0.006	56.545	56.536	0.009			0.000			0.000			0.000
1993	8	16	5.725	5.709	0.016	3.023	3.03	-0.007	99.968	100.467	-0.499			0.000			0.000			0.000
1993	8	17	5.591	5.59	0.001	3.011	3.019	-0.008	99.968	99.961	0.007			0.000			0.000			0.000
1993	8	18	5.467	5.461	0.006	2.981	2.993	-0.012	99.968	100.467	-0.499			0.000			0.000			0.000
1993	8	19	5.273	5.279	-0.006	2.965	2.979	-0.014	99.463	99.456	0.007			0.000			0.000			0.000
1993	8	20	5.346	5.353	-0.007	2.972	2.982	-0.010	100.473	100.467	0.006			0.000			0.000			0.000
1993	9	0	7.529	7.505	0.024	3.239	3.24	-0.001	25.257	25.729	-0.472			0.000			0.000			0.000
1993	9	1	8.182	8.191	-0.009	3.255	3.257	-0.002	31.294	30.789	0.505			0.000			0.000			0.000
1993	9	2	8.006	8.011	-0.005	3.229	3.23	-0.001	44.431	43.915	0.516			0.000			0.000			0.000
1993	9	3	7.941	7.943	-0.002	3.206	3.207	-0.001	55.031	54.516	0.515			0.000			0.000			0.000
1993	9	4	7.306	7.307	-0.001	3.167	3.168	-0.001	100.473	100.467	0.006			0.000			0.000			0.000
1993	9	5	7.036	7.038	-0.002	3.133	3.134	-0.001	99.968	99.962	0.006			0.000			0.000			0.000
1993	9	6	6.864	6.868	-0.004	3.123	3.125	-0.002	99.968	99.962	0.006			0.000			0.000			0.000
1993	9	7	6.744	6.745	-0.001	3.105	3.107	-0.002	99.968	99.962	0.006			0.000			0.000			0.000
1993	9	8	6.744	6.751	-0.007	3.101	3.104	-0.003	100.473	99.962	0.511			0.000			0.000			0.000
1993	9	9	6.554	6.569	-0.015	3.087	3.088	-0.001	100.473	99.962	0.511			0.000			0.000			0.000
1993	9	10	6.4	6.403	-0.003	3.071	3.072	-0.001	99.968	99.962	0.006			0.000			0.000			0.000
1993	9	11	6.123	6.131	-0.008	3.05	3.051	-0.001	100.473	99.962	0.511			0.000			0.000			0.000
1993	9	12	5.89	5.893	-0.003	3.01	3.011	-0.001	99.968	99.962	0.006			0.000			0.000			0.000
1993	9	13	7.276	7.277	-0.001	3.143	3.145	-0.002	72.196	72.188	0.008			0.000			0.000			0.000
1993	9	14	7.512	7.511	0.001	3.135	3.149	-0.014	40.394	40.886	-0.492			0.000			0.000			0.000
1993	9	15	7.253	7.254	-0.001	3.126	3.129	-0.003	55.031	55.021	0.010			0.000			0.000			0.000
1993	9	16	6.257	6.258	-0.001	3.063	3.065	-0.002	99.968	99.962	0.006			0.000			0.000			0.000
1993	9	17	5.783	5.784	-0.001	3.017	3.02	-0.003	99.968	99.962	0.006			0.000			0.000			0.000
1993	9	18	5.685	5.679	0.006	3.015	3.015	0.000	99.968	100.467	-0.499			0.000			0.000			0.000
1993	9	19	5.52	5.52	0.000	2.987	2.989	-0.002	99.968	99.962	0.006			0.000			0.000			0.000
1993	9	20	5.697	5.703	-0.006	2.992	2.994	-0.002	92.898	92.387	0.511			0.000			0.000			0.000
1993	10	0	7.942	7.943	-0.001	3.206	3.207	-0.001	25.761	25.742	0.019			0.000			0.000			0.000
1993	10	1	7.646	7.649	-0.003	3.152	3.16	-0.008	28.283	28.77	-0.487			0.000			0.000			0.000
1993	10	2	7.658	7.66	-0.002	3.125	3.128	-0.003	43.422	43.41	0.012			0.000			0.000			0.000
1993	10	3	7.456	7.457	-0.001	3.141	3.143	-0.002	53.517	53.507	0.010			0.000			0.000			0.000

			OC-2010.1			USGS			OC-2010.1			USGS			OC-2010.1			USGS			OC-2010.1			USGS		
Year	Mon-th	Sta-tion	Mean Temp	Mean Temp	Delta Temp	Mean Cond	Mean Cond	Delta Cond	Mean Press	Mean Press	Delta Press	Mean OBS	Mean OBS	Delta OBS	Mean PAR	Mean PAR	Delta PAR	Mean Fluor	Mean Fluor	Delta Fluor						
1993	10	4	7.263	7.264	-0.001	3.155	3.156	-0.001	93.403	93.397	0.006			0.000			0.000			0.000						
1993	10	5	7.255	7.257	-0.002	3.16	3.162	-0.002	98.958	98.952	0.006			0.000			0.000			0.000						
1993	10	6	7.039	7.04	-0.001	3.143	3.145	-0.002	99.968	99.962	0.006			0.000			0.000			0.000						
1993	10	7	7.137	7.137	0.000	3.151	3.15	0.001	99.968	99.962	0.006			0.000			0.000			0.000						
1993	10	8	6.934	6.929	0.005	3.132	3.127	0.005	100.473	100.467	0.006			0.000			0.000			0.000						
1993	10	9	6.703	6.707	-0.004	3.113	3.113	0.000	99.463	98.952	0.511			0.000			0.000			0.000						
1993	10	10	6.325	6.331	-0.006	3.066	3.07	-0.004	97.948	97.942	0.006			0.000			0.000			0.000						
1993	10	11	6.113	6.121	-0.008	3.054	3.054	0.000	96.433	95.922	0.511			0.000			0.000			0.000						
1993	10	12	5.906	5.91	-0.004	3.02	3.024	-0.004	99.968	100.463	-0.495			0.000			0.000			0.000						
1993	10	13	7.267	7.273	-0.006	3.15	3.152	-0.002	72.701	72.188	0.513			0.000			0.000			0.000						
1993	10	14	7.334	7.339	-0.005	3.117	3.123	-0.006	39.889	39.371	0.518			0.000			0.000			0.000						
1993	10	15	7.211	7.214	-0.003	3.124	3.129	-0.005	57.555	57.546	0.009			0.000			0.000			0.000						
1993	10	16	6.276	6.28	-0.004	3.061	3.064	-0.003	99.968	99.962	0.006			0.000			0.000			0.000						
1993	10	17	6.084	6.086	-0.002	3.04	3.043	-0.003	100.473	100.467	0.006			0.000			0.000			0.000						
1993	10	18	5.841	5.842	-0.001	3.013	3.016	-0.003	100.473	100.467	0.006			0.000			0.000			0.000						
1993	10	19	5.65	5.652	-0.002	3.004	3.006	-0.002	100.472	100.467	0.005			0.000			0.000			0.000						
1993	10	20	5.783	5.785	-0.002	3.001	3.001	0.000	99.968	99.457	0.511			0.000			0.000			0.000						
1993	11	0	7.078	7.092	-0.014	3.08	3.088	-0.008	24.289	25.245	-0.956			0.000			0.000			0.000						
1993	11	1	7.039	7.044	-0.005	3.109	3.111	-0.002	28.788	29.275	-0.487			0.000			0.000			0.000						
1993	11	2	7.063	7.078	-0.015	3.119	3.123	-0.004	40.394	41.389	-0.995			0.000			0.000			0.000						
1993	11	3	6.918	6.926	-0.008	3.078	3.08	-0.002	50.488	50.478	0.010			0.000			0.000			0.000						
1993	11	4	6.787	6.794	-0.007	3.124	3.126	-0.002	131.786	131.781	0.005			0.000			0.000			0.000						
1993	11	5	6.652	6.656	-0.004	3.113	3.115	-0.002	129.766	130.266	-0.500			0.000			0.000			0.000						
1993	11	6	6.735	6.74	-0.005	3.125	3.126	-0.001	138.353	138.853	-0.500			0.000			0.000			0.000						
1993	11	7	6.61	6.613	-0.003	3.119	3.12	-0.001	141.384	141.884	-0.500			0.000			0.000			0.000						
1993	11	8	6.578	6.588	-0.010	3.113	3.115	-0.002	142.394	142.389	0.005			0.000			0.000			0.000						
1993	11	10	6.273	6.277	-0.004	3.085	3.086	-0.001	139.868	139.358	0.510			0.000			0.000			0.000						
1993	11	11	5.933	5.933	0.000	3.055	3.054	0.001	139.363	139.358	0.005			0.000			0.000			0.000						
1993	11	12	5.76	5.763	-0.003	3.04	3.039	0.001	139.868	139.358	0.510			0.000			0.000			0.000						
1993	11	13	7.02	7.026	-0.006	3.127	3.129	-0.002	64.623	65.119	-0.496			0.000			0.000			0.000						
1993	11	14	6.917	6.925	-0.008	3.098	3.1	-0.002	35.852	35.837	0.015			0.000			0.000			0.000						
1993	11	15	6.863	6.875	-0.012	3.102	3.106	-0.004	53.517	53.507	0.010			0.000			0.000			0.000						
1993	11	16	6.017	6.026	-0.009	3.064	3.068	-0.004	142.394	142.894	-0.500			0.000			0.000			0.000						
1993	11	17	6.247	6.258	-0.011	3.067	3.07	-0.003	101.483	101.477	0.006			0.000			0.000			0.000						

			OC-2010.1			USGS			OC-2010.1			USGS			OC-2010.1			USGS			OC-2010.1			USGS		
Year	Mon-th	Sta-tion	Mean Temp	Mean Temp	Delta Temp	Mean Cond	Mean Cond	Delta Cond	Mean Press	Mean Press	Delta Press	Mean OBS	Mean OBS	Delta OBS	Mean PAR	Mean PAR	Delta PAR	Mean Fluor	Mean Fluor	Delta Fluor						
1993	11	18	6	6.01	-0.010	3.046	3.05	-0.004	103.503	103.497	0.006			0.000			0.000			0.000						
1993	11	19	5.822	5.824	-0.002	3.028	3.031	-0.003	96.938	97.436	-0.498			0.000			0.000			0.000						
1993	11	20	5.811	5.817	-0.006	3.027	3.031	-0.004	87.848	87.842	0.006			0.000			0.000			0.000						
1993	12	0	5.859	5.861	-0.002	3.018	3.019	-0.001	25.237	25.237	0.000			0.000			0.000			0.000						
1993	12	1	5.966	5.968	-0.002	3.055	3.055	0.000	30.301	30.285	0.016			0.000			0.000			0.000						
1993	12	2	5.946	5.947	-0.001	3.051	3.051	0.000	39.384	38.866	0.518			0.000			0.000			0.000						
1993	12	3	5.941	5.943	-0.002	3.041	3.041	0.000	47.964	47.449	0.515			0.000			0.000			0.000						
1993	12	4	6.106	6.108	-0.002	3.063	3.063	0.000	114.108	114.103	0.005			0.000			0.000			0.000						
1993	12	5	6.173	6.175	-0.002	3.072	3.072	0.000	131.281	130.771	0.510			0.000			0.000			0.000						
1993	12	6	6.426	6.433	-0.007	3.098	3.099	-0.001	126.735	127.235	-0.500			0.000			0.000			0.000						
1993	12	7	6.426	6.428	-0.002	3.102	3.102	0.000	137.848	137.843	0.005			0.000			0.000			0.000						
1993	12	8	6.329	6.329	0.000	3.091	3.091	0.000	139.868	139.863	0.005			0.000			0.000			0.000						
1993	12	9	6.309	6.311	-0.002	3.09	3.091	-0.001	142.39	142.389	0.001			0.000			0.000			0.000						
1993	12	10	5.961	5.959	0.002	3.057	3.058	-0.001	139.363	139.358	0.005			0.000			0.000			0.000						
1993	12	11	5.847	5.847	0.000	3.048	3.048	0.000	140.373	140.368	0.005			0.000			0.000			0.000						
1993	12	12	5.709	5.712	-0.003	3.032	3.032	0.000	131.786	131.276	0.510			0.000			0.000			0.000						
1993	12	14	6.3	6.302	-0.002	3.065	3.065	0.000	38.375	37.857	0.518			0.000			0.000			0.000						
1993	12	15	6.243	6.245	-0.002	3.051	3.051	0.000	53.517	53.507	0.010			0.000			0.000			0.000						
1993	12	16	5.947	5.951	-0.004	3.054	3.054	0.000	129.261	128.75	0.511			0.000			0.000			0.000						
1993	12	17	6.131	6.136	-0.005	3.06	3.061	-0.001	97.948	97.437	0.511			0.000			0.000			0.000						
1993	12	18	6.041	6.042	-0.001	3.054	3.054	0.000	95.423	95.417	0.006			0.000			0.000			0.000						
1993	12	19	5.691	5.691	0.000	3.028	3.027	0.001	118.149	118.143	0.006			0.000			0.000			0.000						
1994	1	0	5.308	5.312	-0.004	3.013	3.014	-0.001	23.744	24.227	-0.483			0.000	0.627	0.543	0.084			0.000						
1994	1	1	5.325	5.327	-0.002	3.011	3.011	0.000	30.301	30.285	0.016			0.000	0.928	0.787	0.141			0.000						
1994	1	2	5.209	5.209	0.000	2.984	2.981	0.003	43.926	43.915	0.011			0.000	2.876	2.97	-0.094			0.000						
1994	1	3	5.179	5.179	0.000	2.967	2.966	0.001	42.412	42.4	0.012			0.000	3.162	3.107	0.055			0.000						
1994	1	4	5.516	5.516	0.000	3.016	3.016	0.000	115.623	115.113	0.510			0.000	1.299	1.279	0.020			0.000						
1994	1	5	5.565	5.567	-0.002	3.023	3.023	0.000	138.858	138.853	0.005			0.000	0.347	0.308	0.039			0.000						
1994	4	0	4.821	4.823	-0.002	3.043	3.043	0.000	20.718	20.694	0.024			0.000			0.000			0.000						
1994	4	1	4.881	4.884	-0.003	3.024	3.025	-0.001	25.257	25.237	0.020			0.000			0.000			0.000						
1994	4	2	4.666	4.66	0.006	2.986	2.986	0.000	41.403	40.886	0.517			0.000			0.000			0.000						
1994	4	3	4.538	4.544	-0.006	2.973	2.974	-0.001	49.479	49.468	0.011			0.000			0.000			0.000						
1994	5	3	5.966	5.968	-0.002	3.09	3.09	0.000	52.002	51.992	0.010			0.000	10.837	11.254	-0.417			0.000						
1994	5	4	4.893	4.896	-0.003	3.008	3.008	0.000	140.373	140.369	0.004			0.000	4.066	4.004	0.062			0.000						

Year	Month	Station	OC- 2010.1 Mean Temp	USGS Mean Temp	Delta Temp	OC- 2010.1 Mean Cond	USGS Mean Cond	Delta Cond	OC- 2010.1 Mean Press	USGS Mean Press	Delta Press	OC- 2010.1 Mean OBS	USGS Mean OBS	Delta OBS	OC- 2010.1 Mean PAR	USGS Mean PAR	Delta PAR	OC- 2010.1 Mean Fluor	USGS Mean Fluor	Delta Fluor
1994	5	5	4.8	4.801	-0.001	2.998	2.999	-0.001	147.951	147.946	0.005			0.000	3.389	3.327	0.062			0.000
1994	5	6	4.754	4.756	-0.002	2.988	2.989	-0.001	126.23	126.225	0.005			0.000	3.551	3.706	-0.155			0.000
1994	5	8	4.402	4.403	-0.001	2.959	2.96	-0.001	135.827	135.317	0.510			0.000	5.414	5.361	0.053			0.000
1994	5	9	4.441	4.426	0.015	2.959	2.962	-0.003	129.766	129.76	0.006			0.000	16.356	12.02	4.336			0.000
1994	5	10	4.114	4.098	0.016	2.931	2.935	-0.004	147.951	147.946	0.005			0.000	7.783	5.145	2.638			0.000
1994	5	11	3.967	3.968	-0.001	2.917	2.923	-0.006	142.394	141.379	1.015			0.000	4.59	3.816	0.774			0.000
1994	5	12	3.912	3.912	0.000	2.912	2.914	-0.002	132.796	132.791	0.005			0.000	3.467	3.354	0.113			0.000
1994	5	13	5.46	5.468	-0.008	3.042	3.043	-0.001	68.654	68.149	0.505			0.000	4.285	3.26	1.025			0.000
1994	5	14	5.912	5.927	-0.015	3.019	3.021	-0.002	33.329	32.809	0.520			0.000	13.862	15.23	-1.368			0.000
1994	5	15	5.335	5.345	-0.010	2.983	2.983	0.000	48.469	47.953	0.516			0.000	9.998	11.092	-1.094			0.000
1994	5	16	4.556	4.557	-0.001	2.965	2.966	-0.001	140.373	139.863	0.510			0.000	3.393	3.817	-0.424			0.000
1994	5	17	4.487	4.488	-0.001	2.933	2.935	-0.002	88.353	87.842	0.511			0.000	5.538	5.147	0.391			0.000
1994	5	18	4.293	4.294	-0.001	2.922	2.924	-0.002	88.858	88.347	0.511			0.000	6.041	6.189	-0.148			0.000
1994	5	19	4.37	4.339	0.031	2.883	2.9	-0.017	58.06	58.051	0.009			0.000	5.695	4.111	1.584			0.000
1994	7	0	8.213	8.217	-0.004	3.167	3.173	-0.006	22.231	22.208	0.023			0.000	7.857	8.002	-0.145			0.000
1994	7	1	7.939	7.942	-0.003	3.179	3.179	0.000	25.761	25.742	0.019			0.000	7.578	8.675	-1.097			0.000
1994	7	2	7.988	7.995	-0.007	3.182	3.181	0.001	39.889	39.371	0.518			0.000	8.631	9.097	-0.466			0.000
1994	7	3	7.473	7.474	-0.001	3.144	3.147	-0.003	42.412	42.4	0.012			0.000	6.943	7.864	-0.921			0.000
1994	7	4	5.968	5.972	-0.004	3.069	3.068	0.001	132.796	132.791	0.005			0.000	1.145	1.323	-0.178			0.000
1994	7	5	6.025	6.033	-0.008	3.072	3.072	0.000	140.878	140.369	0.509			0.000	3.426	3.384	0.042			0.000
1994	7	6	6.034	6.042	-0.008	3.069	3.071	-0.002	121.684	121.174	0.510			0.000	1.218	1.612	-0.394			0.000
1994	7	7	5.918	5.913	0.005	3.059	3.065	-0.006	131.281	131.779	-0.498			0.000	1.575	1.643	-0.068			0.000
1994	7	8	5.706	5.704	0.002	3.039	3.037	0.002	134.817	134.307	0.510			0.000	1.667	2.146	-0.479			0.000
1994	7	9	5.593	5.6	-0.007	3.034	3.036	-0.002	141.889	141.379	0.510			0.000	1.511	1.426	0.085			0.000
1994	7	10	5.324	5.33	-0.006	3.003	3.005	-0.002	143.909	143.399	0.510			0.000	1.425	1.63	-0.205			0.000
1994	7	11	5.144	5.145	-0.001	2.992	2.997	-0.005	143.404	143.904	-0.500			0.000	0.307	0.213	0.094			0.000
1994	7	12	4.969	4.971	-0.002	2.961	2.962	-0.001	135.322	135.317	0.005			0.000	0.1	0.318	-0.218			0.000
1994	7	13	6.843	6.846	-0.003	3.105	3.111	-0.006	61.089	61.08	0.009			0.000	7.031	5.256	1.775			0.000
1994	7	14	7.093	7.106	-0.013	3.12	3.112	0.008	34.338	33.818	0.520			0.000	7.724	8.594	-0.870			0.000
1994	7	15	6.549	6.54	0.009	3.08	3.089	-0.009	52.002	52.497	-0.495			0.000	4.421	3.412	1.009			0.000
1994	7	16	5.443	5.452	-0.009	3.015	3.016	-0.001	125.725	125.72	0.005			0.000	2.083	2.8	-0.717			0.000
1994	7	17	5.496	5.501	-0.005	2.989	3.001	-0.012	88.353	88.342	0.011			0.000	2.361	2.253	0.108			0.000
1994	7	18	5.351	5.349	0.002	2.982	2.981	0.001	86.333	86.327	0.006			0.000	2.25	3.283	-1.033			0.000
1994	7	19	4.918	4.924	-0.006	2.918	2.923	-0.005	88.353	87.842	0.511			0.000	2.697	3.085	-0.388			0.000

Year	Month	Station	OC- 2010.1 Mean Temp	USGS Mean Temp	Delta Temp	OC- 2010.1 Mean Cond	USGS Mean Cond	Delta Cond	OC- 2010.1 Mean Press	USGS Mean Press	Delta Press	OC- 2010.1 Mean OBS	USGS Mean OBS	Delta OBS	OC- 2010.1 Mean PAR	USGS Mean PAR	Delta PAR	OC- 2010.1 Mean Fluor	USGS Mean Fluor	Delta Fluor
1994	7	20	5.068	5.075	-0.007	2.914	2.921	-0.007	81.284	81.277	0.007			0.000	0.691	1.481	-0.790			0.000
1994	8	0	7.109	7.129	-0.020	3.212	3.215	-0.003	22.208	21.703	0.505			0.000	13.145	13.78	-0.635			0.000
1994	8	1	7.526	7.528	-0.002	3.2	3.199	0.001	28.283	27.761	0.522			0.000	18.917	18.809	0.108			0.000
1994	8	2	7.622	7.637	-0.015	3.174	3.173	0.001	39.384	38.866	0.518			0.000	34.185	36.137	-1.952			0.000
1994	8	3	7.46	7.475	-0.015	3.143	3.143	0.000	46.955	46.439	0.516			0.000	4.773	5.343	-0.570			0.000
1994	8	4	6.461	6.46	0.001	3.099	3.098	0.001	118.654	118.649	0.005			0.000	4.803	10.381	-5.578			0.000
1994	8	5	6.083	6.087	-0.004	3.066	3.067	-0.001	142.899	142.894	0.005			0.000	1.874	3.717	-1.843			0.000
1994	8	6	5.91	5.921	-0.011	3.054	3.054	0.000	141.889	141.379	0.510			0.000	2.183	3.184	-1.001			0.000
1994	8	7	5.992	5.995	-0.003	3.057	3.06	-0.003	135.827	135.822	0.005			0.000	7.842	8.414	-0.572			0.000
1994	8	8	5.751	5.756	-0.005	3.037	3.039	-0.002	146.94	146.936	0.004			0.000	2.09	2.124	-0.034			0.000
1994	8	9	5.755	5.759	-0.004	3.037	3.039	-0.002	145.93	145.925	0.005			0.000	2.639	2.49	0.149			0.000
1994	8	10	5.553	5.556	-0.003	3.014	3.017	-0.003	148.456	148.451	0.005			0.000	3.364	2.319	1.045			0.000
1994	8	11	5.351	5.355	-0.004	2.994	3.002	-0.008	147.445	147.441	0.004			0.000	0.827	0.629	0.198			0.000
1994	8	12	5.324	5.331	-0.007	2.975	2.977	-0.002	130.271	129.761	0.510			0.000	0.339	0.575	-0.236			0.000
1994	8	13	6.764	6.773	-0.009	3.097	3.1	-0.003	67.147	66.634	0.513			0.000	5.107	4.189	0.918			0.000
1994	8	14	7.022	7.024	-0.002	3.087	3.092	-0.005	32.32	32.304	0.016			0.000	10.908	23.274	-12.366			0.000
1994	8	15	6.656	6.679	-0.023	3.068	3.072	-0.004	48.974	48.458	0.516			0.000	7.702	23.138	-15.436			0.000
1994	8	16	5.449	5.454	-0.005	3.014	3.016	-0.002	139.868	139.863	0.005			0.000	8.153	7.989	0.164			0.000
1994	8	17	5.591	5.595	-0.004	2.995	2.999	-0.004	95.928	95.922	0.006			0.000	12.752	17.957	-5.205			0.000
1994	8	18	5.632	5.65	-0.018	2.981	2.988	-0.007	78.759	78.247	0.512			0.000	6.36	17.62	-5.002			0.000
1994	8	19	5.076	5.096	-0.020	2.943	2.947	-0.004	104.513	104.507	0.006			0.000	11.175	14.111	-3.016			0.000
1994	8	20	5.394	5.397	-0.003	2.941	2.947	-0.006	83.304	83.297	0.007			0.000	1.695	8.439	-6.744			0.000
1995	10	6	6.608	6.615	-0.007		5.071	-5.071	124.22	124.196	0.024			0.000	0.037	0.038	-0.001	0.397	0.372	0.025
1995	10	7	6.299	6.309	-0.010		5.076	-5.076	149.971	149.459	0.512			0.000	1.081	1.19	-0.109	0.357	0.341	0.016
1995	10	8	6.399	6.407	-0.008		5.068	-5.068	131.291	131.774	-0.483			0.000	0.144	0.124	0.020	0.357	0.325	0.032
1995	10	9	6.423	6.431	-0.008		5.07	-5.070	129.27	129.254	0.016			0.000	0.377	0.352	0.025	0.398	0.364	0.034
1995	10	10	6.154	6.156	-0.002		5.071	-5.061	143.415	143.903	-0.488			0.000	1.782	1.712	0.070	0.427	0.383	0.044
1995	10	11	6.169	6.179	-0.010		5.071	-5.041	131.283	131.273	0.010			0.000	1.544	1.32	0.224	0.44	0.404	0.036
1995	11	0	6.818	6.82	-0.002		5.019	-5.019	27.33	27.755	-0.425			0.000	2.535	2.449	0.086	0.817	0.797	0.020
1995	11	1	7.121	7.122	-0.001		5.15	-5.150	29.842	29.774	0.068			0.000	6.867	6.412	0.455	0.645	0.639	0.006
1995	11	2	7.104	7.104	0.000		5.121	-5.121	43.446	43.385	0.061			0.000	4.705	4.586	0.119	0.651	0.643	0.008
1995	11	3	6.141	6.151	-0.010		4.901	-4.901	43.443	43.894	-0.451			0.000	1.01	0.888	0.122	0.466	0.457	0.009
1995	11	4	6.052	6.058	-0.006		4.956	-4.956	140.373	140.366	0.007			0.000	0.169	0.153	0.016	0.385	0.383	0.002
1995	11	5	5.89	5.895	-0.005		4.958	-4.958	166.643	166.637	0.006			0.000	0.014	0.014	0.000	0.332	0.331	0.001

Year	Month	Station	OC- 2010.1 Mean Temp	USGS Mean Temp	Delta Temp	OC- 2010.1 Mean Cond	USGS Mean Cond	Delta Cond	OC- 2010.1 Mean Press	USGS Mean Press	Delta Press	OC- 2010.1 Mean OBS	USGS Mean OBS	Delta OBS	OC- 2010.1 Mean PAR	USGS Mean PAR	Delta PAR	OC- 2010.1 Mean Fluor	USGS Mean Fluor	Delta Fluor
1995	11	17	6.012	6.013	-0.001		4.878	-4.878	80.273	79.762	0.511			0.000	0.476	0.524	-0.048	0.251	0.247	0.004
1995	11	18	5.736	5.733	0.003		4.85	-4.850	106.028	105.517	0.511			0.000	1.579	1.938	-0.359	0.223	0.219	0.004
1995	11	19	5.594	5.594	0.000		4.839	-4.839	107.039	106.527	0.512			0.000	2.533	2.709	-0.176	0.206	0.203	0.003
1995	11	19	5.594	5.595	-0.001		4.839	-4.839	107.039	106.527	0.512			0.000	2.533	2.709	-0.176	0.206	0.203	0.003
1996	3	0	3.687	3.717	-0.030		4.687	-4.687	28.883	28.757	0.126			0.000	9.715	13.255	-3.540	0.435	0.431	0.004
1996	3	1	4.01	3.952	0.058		4.771	-4.771	32.863	32.804	0.059			0.000	26.911	20.919	5.992	0.467	0.466	0.001
1996	3	2	4.001	3.973	0.028		4.795	-4.795	45.94	45.927	0.013			0.000	21.033	22.916	-1.883	0.482	0.482	0.000
1996	3	3	3.828	3.756	0.072		4.727	-4.727	46.563	47.408	-0.845			0.000	9.611	23.01	-13.399	0.481	0.48	0.001
1996	3	4	3.516	3.506	0.010		4.729	-4.729	140.383	140.368	0.015			0.000	5.116	4.13	0.986	0.369	0.369	0.000
1996	3	5	3.453	3.453	0.000		4.653	-4.653	135.319	134.307	1.012			0.000	2.118	2.101	0.017	0.317	0.314	0.003
1996	3	6	3.474	3.465	0.009		4.618	-4.618	89.376	88.852	0.524			0.000	0.276	0.276	0.000	0.288	0.286	0.002
1996	3	7	3.677	3.682	-0.005		4.681	-4.681	123.716	124.702	-0.986			0.000	2.129	1.791	0.338	0.256	0.255	0.001
1996	3	8	3.67	3.671	-0.001		4.683	-4.683	132.802	131.781	1.021			0.000	0.551	0.584	-0.033	0.267	0.263	0.004
1996	3	9	3.656	3.658	-0.002		4.693	-4.693	136.338	135.82	0.518			0.000	0.829	0.808	0.021	0.186	0.186	0.000
1996	3	10	3.565	3.565	0.000		4.68	-4.680	135.836	135.821	0.015			0.000	1.092	1.069	0.023	0.045	0.001	0.044
1996	3	13	3.546	3.494	0.052		4.537	-4.537	52.086	50.983	1.103			0.000	18.395	14.731	3.664	0.342	0.337	0.005
1996	3	14	3.416	3.315	0.101		4.548	-4.548	30.848	31.263	-0.415			0.000	36.483	29.423	7.060	0.391	0.4	-0.009
1996	3	15	3.514	3.483	0.031		4.657	-4.657	44.969	45.422	-0.453			0.000	27.032	25.337	1.695	0.408	0.407	0.001
1996	3	16	3.658	3.644	0.014		4.711	-4.711	136.839	136.83	0.009			0.000	3.406	3.26	0.146	0.282	0.282	0.000
1996	3	17	3.653	3.625	0.028		4.687	-4.687	85.845	85.82	0.025			0.000	12.328	10.68	1.648	0.139	0.121	0.018
1996	3	18	3.69	3.673	0.017		4.698	-4.698	91.384	91.374	0.010			0.000	9.711	10.939	-1.228	0.048	0.001	0.047
1996	3	19	3.754	3.729	0.025		4.711	-4.711	101.499	101.475	0.024			0.000	1.839	1.738	0.101	0.003	0.004	-0.001
1996	3	20	3.718	3.704	0.014		4.697	-4.697	91.9	92.377	-0.477			0.000	1.521	1.324	0.197	0.007	0.009	-0.002
1996	6	0	7.376	7.367	0.009		4.95	-4.950	27.295	27.763	-0.468			0.000	3.004	1.932	1.072	2.103	2.077	0.026
1996	6	1	7.214	7.226	-0.012		4.928	-4.928	31.322	31.289	0.033			0.000	12.654	15.168	-2.514	1.203	1.223	-0.020
1996	6	2	7.217	7.219	-0.002		5.017	-5.017	46.938	46.89	0.048			0.000	8.508	8.362	0.146	1.276	1.286	-0.010
1996	6	3	7.115	7.137	-0.022		4.967	-4.967	35.38	35.812	-0.432			0.000	11.462	10.303	1.159	1.181	1.173	0.008
1996	6	4	5.181	5.13	0.051		4.775	-4.775	144.929	145.925	-0.996			0.000	2.969	1.669	1.300	0.67	0.604	0.066
1996	6	5	5.062	5.051	0.011		4.732	-4.732	145.937	145.918	0.019			0.000	0.488	0.663	-0.175	0.759	0.678	0.081
1996	6	5	5.062	5.051	0.011		4.732	-4.732	145.937	145.918	0.019			0.000	0.488	0.663	-0.175	0.759	0.679	0.080
1996	6	7	4.864	4.794	0.070		4.665	-4.665	153.022	154.512	-1.490			0.000	0.545	0.256	0.289	0.598	0.532	0.066
1996	6	8	4.859	4.837	0.022		4.665	-4.665	149.989	149.957	0.032			0.000	0.428	0.721	-0.293	0.505	0.473	0.032
1996	6	9	4.705	4.702	0.003		4.595	-4.595	155.533	155.019	0.514			0.000	0.858	1.372	-0.514	0.487	0.458	0.029
1996	6	11	4.356	4.317	0.039		4.576	-4.576	155.043	155.518	-0.475			0.000	0.632	1.14	-0.508	0.457	0.423	0.034

Year	Month	Station	OC- 2010.1 Mean Temp	USGS Mean Temp	Delta Temp	OC- 2010.1 Mean Cond	USGS Mean Cond	Delta Cond	OC- 2010.1 Mean Press	USGS Mean Press	Delta Press	OC- 2010.1 Mean OBS	USGS Mean OBS	Delta OBS	OC- 2010.1 Mean PAR	USGS Mean PAR	Delta PAR	OC- 2010.1 Mean Fluor	USGS Mean Fluor	Delta Fluor
1996	6	12	4.162	4.163	-0.001		4.505	-4.505	143.919	143.897	0.022			0.000	0.847	1.387	-0.540	0.669	0.667	0.002
1996	6	13	5.922	5.868	0.054		4.79	-4.790	71.184	71.169	0.015			0.000	5.325	5.304	0.021	1.264	1.262	0.002
1996	6	14	6.42	6.375	0.045		4.731	-4.731	38.405	38.338	0.067			0.000	6.328	8.353	-2.025	1.126	1.156	-0.030
1996	6	15	5.718	5.741	-0.023		4.686	-4.686	53.54	53.488	0.052			0.000	4.848	5.208	-0.360	1.002	0.904	0.098
1996	6	16	4.655	4.643	0.012		4.658	-4.658	153.525	152.493	1.032			0.000	1.241	3.257	-2.016	0.615	0.575	0.040
1996	6	17	4.668	4.671	-0.003		4.57	-4.570	105.531	105.508	0.023			0.000	0.918	1.964	-1.046	0.658	0.609	0.049
1996	6	18	4.439	4.44	-0.001		4.542	-4.542	100.978	99.96	1.018			0.000	0.459	0.88	-0.421	0.42	0.41	0.010
1996	6	19	4.017	4.02	-0.003		4.525	-4.525	115.627	116.122	-0.495			0.000	0.1	0.031	0.069	0.414	0.404	0.010
1996	6	20	4.161	4.172	-0.011		4.606	-4.606	87.354	87.832	-0.478			0.000	0.007	0.366	-0.359	1.21	1.188	0.022
1996	9	0	8.121	8.15	-0.029	3.123	3.132	-0.009	25.257	24.732	0.525			0.000	64.84	67.482	-2.642	1.85	1.838	0.012
1996	9	1	8.143	8.13	0.013	3.215	3.219	-0.004	27.815	27.723	0.092			0.000	60.064	31.165	28.899	1.595	1.52	0.075
1996	9	2	7.938	7.939	-0.001	3.172	3.177	-0.005	35.852	35.829	0.023			0.000	52.375	41.833	10.542	1.146	1.129	0.017
1996	9	3	7.546	7.547	-0.001	3.135	3.141	-0.006	46.472	46.434	0.038			0.000	31.811	28.979	2.832	0.873	0.868	0.005
1996	9	4	6.165	6.173	-0.008	3.085	3.086	-0.001	142.394	141.884	0.510			0.000	8.605	12.784	-4.179	0.427	0.42	0.007
1996	9	5	6.033	6.035	-0.002	3.079	3.08	-0.001	165.127	165.123	0.004			0.000			0.000	0.637	0.629	0.008
1996	9	6	6.314	6.315	-0.001	3.094	3.095	-0.001	132.796	132.791	0.005			0.000			0.000	0.774	0.764	0.010
1996	9	7	5.893	5.896	-0.003	3.072	3.073	-0.001	165.633	165.628	0.005			0.000			0.000	0.584	0.578	0.006
1996	9	8	5.907	5.909	-0.002	3.071	3.072	-0.001	163.612	163.607	0.005			0.000			0.000	0.422	0.42	0.002
1996	9	9	5.898	5.912	-0.014	3.072	3.071	0.001	156.555	157.03	-0.475			0.000			0.000	0.621	0.602	0.019
1996	9	10	5.604	5.604	0.000	3.047	3.05	-0.003	163.618	164.111	-0.493			0.000			0.000	0.417	0.409	0.008
1996	9	11	5.395	5.403	-0.008	3.03	3.031	-0.001	161.591	161.081	0.510			0.000			0.000	0.485	0.484	0.001
1996	9	12	5.633	5.619	0.014	3.034	3.029	0.005	142.917	142.883	0.034			0.000			0.000	0.822	0.794	0.028
1996	9	13	7.122	7.126	-0.004	3.131	3.136	-0.005	68.157	68.144	0.013			0.000	16.314	13.108	3.206	0.576	0.574	0.002
1996	9	14	7.501	7.504	-0.003	3.128	3.13	-0.002	31.847	31.793	0.054			0.000	21.847	21.77	0.077	0.764	0.764	0.000
1996	9	14	7.501	7.504	-0.003	3.128	3.13	-0.002	31.847	31.793	0.054			0.000	21.847	21.77	0.077	0.764	0.765	-0.001
1996	9	15	7.082	7.068	0.014	3.106	3.108	-0.002	52.002	52.687	-0.685			0.000	11.845	14.019	-2.174	0.686	0.664	0.022
1996	9	16	5.275	5.159	0.116	3.024	3.013	0.011	154.525	162.018	-7.493			0.000	1.266	2.463	-1.197	0.324	0.303	0.021
1996	9	17	5.67	5.665	0.005	3.03	3.037	-0.007	102.998	103.494	-0.496			0.000			0.000	0.331	0.329	0.002
1996	9	18	5.59	5.593	-0.003	3.012	3.014	-0.002	103.503	103.497	0.006			0.000			0.000	0.293	0.29	0.003
1996	9	19	5.058	5.06	-0.002	2.977	2.979	-0.002	122.816	122.275	0.541			0.000			0.000	0.568	0.563	0.005
1996	9	20	5.484	5.492	-0.008	2.993	2.994	-0.001	86.333	85.822	0.511			0.000			0.000	0.734	0.725	0.009
1996	10	0	6.579	6.58	-0.001	3.089	3.09	-0.001	20.718	20.68	0.038			0.000			0.000	1.042	1.019	0.023
1996	10	1	6.571	6.573	-0.002	3.104	3.104	0.000	25.257	25.732	-0.475			0.000			0.000	0.831	0.816	0.015
1996	10	2	6.601	6.604	-0.003	3.112	3.112	0.000	41.403	41.886	-0.483			0.000			0.000	0.793	0.781	0.012

Year	Mon- th	Sta- tion	OC- 2010.1 Mean Temp	USGS Mean Temp	Delta Temp	OC- 2010.1 Mean Cond	USGS Mean Cond	Delta Cond	OC- 2010.1 Mean Press	USGS Mean Press	Delta Press	OC- 2010.1 Mean OBS	USGS Mean OBS	Delta OBS	OC- 2010.1 Mean PAR	USGS Mean PAR	Delta PAR	OC- 2010.1 Mean Fluor	USGS Mean Fluor	Delta Fluor
1996	10	3	6.584	6.586	-0.002	3.097	3.097	0.000	49.479	49.468	0.011			0.000			0.000	0.717	0.711	0.006
1996	10	4	6.226	6.231	-0.005	3.087	3.087	0.000	141.889	141.379	0.510			0.000			0.000	0.557	0.554	0.003
1996	10	5	6.076	6.078	-0.002	3.083	3.084	-0.001	161.086	161.584	-0.498			0.000			0.000	0.225	0.203	0.022
1996	10	6	6.486	6.487	-0.001	3.113	3.113	0.000	142.394	142.389	0.005			0.000			0.000	0.098	0.094	0.004
1996	10	7	6.213	6.214	-0.001	3.095	3.095	0.000	162.096	162.092	0.004			0.000			0.000	0.2	0.19	0.010
1996	10	8	6.252	6.262	-0.010	3.097	3.098	-0.001	163.106	163.099	0.007			0.000			0.000	0.311	0.303	0.008
1996	10	9	6.181	6.184	-0.003	3.094	3.095	-0.001	162.601	163.099	-0.498			0.000			0.000	0.243	0.237	0.006
1996	10	10	5.824	5.834	-0.010	3.064	3.065	-0.001	162.096	162.089	0.007			0.000			0.000	0.231	0.226	0.005
1996	10	11	5.701	5.699	0.002	3.059	3.058	0.001	163.106	163.605	-0.499			0.000			0.000	0.139	0.129	0.010
1996	10	12	6.052	6.063	-0.011	3.075	3.076	-0.001	137.848	137.84	0.008			0.000			0.000	0.079	0.078	0.001
1996	10	13	6.74	6.744	-0.004	3.104	3.105	-0.001	70.681	71.175	-0.494			0.000			0.000	0.561	0.547	0.014
1996	10	14	6.484	6.481	0.003	3.049	3.048	0.001	36.356	35.837	0.519			0.000			0.000	0.61	0.602	0.008
1996	10	15	6.553	6.554	-0.001	3.067	3.067	0.000	41.908	41.895	0.013			0.000			0.000	0.586	0.571	0.015
1996	10	16	5.603	5.604	-0.001	3.041	3.041	0.000	154.013	154.008	0.005			0.000			0.000	0.271	0.268	0.003
1996	10	17	6.408	6.418	-0.010	3.067	3.07	-0.003	75.225	75.718	-0.493			0.000			0.000	0.405	0.394	0.011
1996	10	18	5.704	5.711	-0.007	3.037	3.038	-0.001	104.513	104.505	0.008			0.000			0.000	0.302	0.291	0.011
1996	10	19	5.707	5.706	0.001	3.033	3.032	0.001	114.108	114.103	0.005			0.000			0.000	0.294	0.289	0.005
1996	10	20	5.969	5.976	-0.007	3.041	3.041	0.000	92.898	92.387	0.511			0.000			0.000	0.365	0.359	0.006
1997	5	0	5.784	5.78	0.004	3.129	3.129	0.000	25.761	26.233	-0.472			0.000			0.000	1.893	1.792	0.101
1997	5	1	5.979	5.977	0.002	3.133	3.133	0.000	24.752	25.222	-0.470			0.000			0.000	1.424	1.408	0.016
1997	5	2	5.845	5.85	-0.005	3.11	3.11	0.000	40.898	40.886	0.012			0.000			0.000	2.063	2.004	0.059
1997	5	3	5.452	5.459	-0.007	3.074	3.075	-0.001	50.488	49.973	0.515			0.000			0.000	1.943	1.875	0.068
1997	5	4	4.406	4.399	0.007	2.995	2.996	-0.001	144.414	144.913	-0.499			0.000			0.000	0.787	0.754	0.033
1997	5	5	4.496	4.487	0.009	3.002	3.003	-0.001	156.539	157.037	-0.498			0.000			0.000	0.754	0.737	0.017
1997	5	6	4.314	4.304	0.010	2.982	2.983	-0.001	134.817	134.81	0.007			0.000			0.000	0.841	0.813	0.028
1997	5	7	4.216	4.202	0.014	2.972	2.973	-0.001	156.034	156.532	-0.498			0.000			0.000	0.689	0.675	0.014
1997	5	8	4.049	4.041	0.008	2.959	2.959	0.000	157.556	158.048	-0.492			0.000			0.000	0.641	0.638	0.003
1997	5	9	4.05	4.052	-0.002	2.959	2.958	0.001	156.545	156.029	0.516			0.000			0.000	0.491	0.484	0.007
1997	5	10	3.963	3.955	0.008	2.951	2.952	-0.001	159.071	159.059	0.012			0.000			0.000	0.632	0.624	0.008
1997	5	11	3.96	3.951	0.009	2.95	2.951	-0.001	155.03	155.522	-0.492			0.000			0.000	0.66	0.65	0.010
1997	5	12	3.879	3.87	0.009	2.943	2.943	0.000	145.93	145.923	0.007			0.000			0.000	0.495	0.494	0.001
1997	5	13	5.103	5.079	0.024	3.037	3.037	0.000	62.603	63.094	-0.491			0.000			0.000	1.612	1.596	0.016
1997	5	14	5.003	4.993	0.010	3.01	3.011	-0.001	36.356	36.836	-0.480			0.000			0.000	3.01	2.903	0.107
1997	5	15	4.711	4.73	-0.019	2.988	2.989	-0.001	45.945	45.429	0.516			0.000			0.000	1.983	1.989	-0.006

Year	Month	Station	OC- 2010.1 Mean Temp	USGS Mean Temp	Delta Temp	OC- 2010.1 Mean Cond	USGS Mean Cond	Delta Cond	OC- 2010.1 Mean Press	USGS Mean Press	Delta Press	OC- 2010.1 Mean OBS	USGS Mean OBS	Delta OBS	OC- 2010.1 Mean PAR	USGS Mean PAR	Delta PAR	OC- 2010.1 Mean Fluor	USGS Mean Fluor	Delta Fluor
1997	5	16	4.107	4.102	0.005	2.962	2.961	0.001	153.002	153.5	-0.498			0.000			0.000	0.814	0.775	0.039
1997	5	17	3.991	3.99	0.001	2.937	2.937	0.000	101.988	101.982	0.006			0.000			0.000	0.989	0.959	0.030
1997	5	18	3.94	3.934	0.006	2.934	2.935	-0.001	102.493	102.483	0.010			0.000			0.000	0.952	0.94	0.012
1997	5	19	3.946	3.942	0.004	2.935	2.934	0.001	111.078	111.073	0.005			0.000			0.000	0.521	0.518	0.003
1997	5	20	3.971	3.971	0.000	2.933	2.932	0.001	83.809	83.802	0.007			0.000			0.000	0.564	0.559	0.005
1997	7	0	8.358	8.573	-0.215	3.218	3.222	-0.004	26.247	25.742	0.505			0.000			0.000	2.649	0.655	1.994
1997	7	1	7.724	7.732	-0.008	3.248	3.25	-0.002	29.292	29.275	0.017			0.000			0.000	1.653	1.638	0.015
1997	7	2	7.674	7.676	-0.002	3.219	3.219	0.000	38.375	38.866	-0.491			0.000			0.000	1.889	1.903	-0.014
1997	7	3	7.011	7.021	-0.010	3.139	3.14	-0.001	46.955	46.944	0.011			0.000			0.000	1.982	1.95	0.032
1997	7	4	5.533	5.517	0.016	3.048	3.053	-0.005	119.664	119.656	0.008			0.000			0.000	1.031	1.016	0.015
1997	7	5	5.213	5.015	0.198	3.031	2.996	0.035	146.937	173.144	-26.207			0.000			0.000	0.456	0.24	0.216
1997	7	6	5.489	5.475	0.014	3.05	3.052	-0.002	139.363	139.861	-0.498			0.000			0.000	0.526	0.503	0.023
1997	7	7	5.348	5.353	-0.005	3.035	3.037	-0.002	151.487	150.977	0.510			0.000			0.000	0.538	0.546	-0.008
1997	7	8	5.12	5.127	-0.007	3.02	3.019	0.001	153.002	152.493	0.509			0.000			0.000	0.496	0.459	0.037
1997	7	9	5.084	5.089	-0.005	3.019	3.02	-0.001	155.528	155.019	0.509			0.000			0.000	0.502	0.472	0.030
1997	7	10	4.939	4.939	0.000	3.001	3.002	-0.001	156.034	156.029	0.005			0.000			0.000	0.318	0.316	0.002
1997	7	11	4.753	4.761	-0.008	2.982	2.992	-0.010	156.034	157.039	-1.005			0.000			0.000	0.42	0.418	0.002
1997	7	12	4.651	4.657	-0.006	2.96	2.97	-0.010	141.384	142.389	-1.005			0.000			0.000	0.972	0.963	0.009
1997	7	13	6.427	6.43	-0.003	3.101	3.104	-0.003	63.613	63.605	0.008			0.000			0.000	1.265	1.258	0.007
1997	7	14	6.738	6.719	0.019	3.11	3.115	-0.005	39.889	40.381	-0.492			0.000			0.000	1.694	1.688	0.006
1997	7	15	6.747	6.668	0.079	3.12	3.124	-0.004	49.478	49.974	-0.496			0.000			0.000	1.39	1.368	0.022
1997	7	16	4.937	4.926	0.011	3.005	3.009	-0.004	129.773	127.741	2.032			0.000			0.000	0.459	0.452	0.007
1997	7	17	4.867	4.864	0.003	2.983	2.986	-0.003	106.028	106.022	0.006			0.000			0.000	0.554	0.555	-0.001
1997	7	18	4.774	4.791	-0.017	2.961	2.964	-0.003	100.978	100.467	0.511			0.000			0.000	0.637	0.634	0.003
1997	7	19	4.427	4.44	-0.013	2.916	2.924	-0.008	114.613	114.103	0.510			0.000			0.000	0.452	0.431	0.021
1997	7	20	4.57	4.572	-0.002	2.91	2.915	-0.005	90.373	90.367	0.006			0.000			0.000	0.761	0.762	-0.001
1997	11	0	6.833	6.834	-0.001	3.115	3.116	-0.001	24.248	23.722	0.526			0.000			0.000	0.609	0.618	-0.009
1997	11	1	7.188	7.19	-0.002	3.184	3.184	0.000	29.292	29.275	0.017			0.000			0.000	0.583	0.571	0.012
1997	11	2	6.984	6.984	0.000	3.128	3.128	0.000	40.898	40.885	0.013			0.000			0.000	0.625	0.626	-0.001
1997	11	2	6.984	6.984	0.000	3.128	3.128	0.000	40.898	40.886	0.012			0.000			0.000	0.625	0.626	-0.001
1997	11	3	6.865	6.867	-0.002	3.095	3.096	-0.001	47.964	47.953	0.011			0.000			0.000	0.664	0.662	0.002
1997	11	4	6.63	6.652	-0.022	3.105	3.107	-0.002	130.772	131.276	-0.504			0.000			0.000	0.366	0.359	0.007
1997	11	5	6.438	6.445	-0.007	3.101	3.102	-0.001	166.643	166.638	0.005			0.000			0.000	0.303	0.302	0.001
1997	11	6	6.627	6.633	-0.006	3.113	3.114	-0.001	138.858	138.348	0.510			0.000			0.000	0.272	0.267	0.005

Year	Mon- th	Sta- tion	OC- 2010.1 Mean Temp	USGS Mean Temp	Delta Temp	OC- 2010.1 Mean Cond	USGS Mean Cond	Delta Cond	OC- 2010.1 Mean Press	USGS Mean Press	Delta Press	OC- 2010.1 Mean OBS	USGS Mean OBS	Delta OBS	OC- 2010.1 Mean PAR	USGS Mean PAR	Delta PAR	OC- 2010.1 Mean Fluor	USGS Mean Fluor	Delta Fluor
1997	11	7	6.407	6.417	-0.010	3.098	3.099	-0.001	164.622	164.615	0.007			0.000			0.000	0.245	0.241	0.004
1997	11	8	6.461	6.474	-0.013	3.102	3.103	-0.001	162.06	163.102	-1.042			0.000			0.000	0.207	0.208	-0.001
1997	11	9	6.33	6.327	0.003	3.093	3.092	0.001	167.65	167.627	0.023			0.000			0.000	0.204	0.186	0.018
1997	11	10	6.051	6.056	-0.005	3.069	3.07	-0.001	167.653	167.144	0.509			0.000			0.000	0.212	0.213	-0.001
1997	11	11	6.107	6.129	-0.022	3.067	3.07	-0.003	154.518	155.018	-0.500			0.000			0.000	0.203	0.2	0.003
1997	11	12	6.053	6.055	-0.002	3.055	3.054	0.001	141.889	141.884	0.005			0.000			0.000	0.186	0.184	0.002
1997	11	13	7.021	7.023	-0.002	3.125	3.125	0.000	64.118	64.109	0.009			0.000			0.000	0.382	0.377	0.005
1997	11	14	6.994	6.992	0.002	3.111	3.11	0.001	33.818	34.328	-0.510			0.000			0.000	0.362	0.39	-0.028
1997	11	15	6.99	6.998	-0.008	3.117	3.118	-0.001	47.46	46.944	0.516			0.000			0.000	0.383	0.374	0.009
1997	11	16	6.196	6.199	-0.003	3.073	3.074	-0.001	147.445	147.441	0.004			0.000			0.000	0.254	0.25	0.004
1997	11	17	6.312	6.309	0.003	3.072	3.072	0.000	96.459	96.427	0.032			0.000			0.000	0.224	0.224	0.000
1997	11	18	6.187	6.195	-0.008	3.054	3.059	-0.005	107.038	107.537	-0.499			0.000			0.000	0.256	0.256	0.000
1997	11	19	5.882	5.883	-0.001	3.036	3.039	-0.003	115.623	116.627	-1.004			0.000			0.000	0.22	0.212	0.008
1997	11	20	6.068	6.074	-0.006	3.04	3.04	0.000	90.878	90.367	0.511			0.000			0.000	0.242	0.237	0.005
1998	2	0	5.375	5.377	-0.002	3.016	3.016	0.000	19.206	19.18	0.026			0.000			0.000	0.451	0.447	0.004
1998	2	1	5.331	5.33	0.001	3.01	3.008	0.002	23.786	23.218	0.568			0.000			0.000	0.444	0.429	0.015
1998	2	2	5.286	5.286	0.000	2.992	2.992	0.000	37.393	37.352	0.041			0.000			0.000	0.454	0.442	0.012
1998	2	3	5.238	5.24	-0.002	2.982	2.981	0.001	46.45	46.439	0.011			0.000			0.000	0.344	0.339	0.005
1998	2	4	5.22	5.22	0.000	2.993	2.993	0.000	139.864	143.374	-3.510			0.000			0.000	0.33	0.34	-0.010
1998	2	5	5.249	5.252	-0.003	2.995	2.995	0.000	165.633	166.131	-0.498			0.000			0.000	0.361	0.359	0.002
1998	2	6	5.36	5.362	-0.002	3.001	3.002	-0.001	134.312	134.307	0.005			0.000			0.000	0.312	0.31	0.002
1998	2	7	5.283	5.287	-0.004	3.001	3.002	-0.001	161.591	162.089	-0.498			0.000			0.000	0.33	0.328	0.002
1998	2	8	5.554	5.555	-0.001	3.026	3.027	-0.001	171.19	171.186	0.004			0.000			0.000	0.233	0.231	0.002
1998	2	9	5.488	5.491	-0.003	3.021	3.021	0.000	168.159	168.152	0.007			0.000			0.000	0.258	0.256	0.002
1998	2	10	5.412	5.417	-0.005	3.022	3.023	-0.001	169.674	169.668	0.006			0.000			0.000	0.21	0.207	0.003
1998	2	11	5.645	5.647	-0.002	3.042	3.042	0.000	165.633	165.123	0.510			0.000			0.000	0.175	0.174	0.001
1998	2	12	5.88	5.888	-0.008	3.056	3.056	0.000	140.878	141.376	-0.498			0.000			0.000	0.175	0.172	0.003
1998	2	13	5.14	5.142	-0.002	2.98	2.98	0.000	80.471	80.461	0.010			0.000			0.000	0.345	0.343	0.002
1998	2	14	5.141	5.143	-0.002	2.963	2.963	0.000	29.797	29.275	0.522			0.000			0.000	0.386	0.383	0.003
1998	2	16	5.559	5.56	-0.001	3.014	3.014	0.000	151.487	151.482	0.005			0.000			0.000	0.276	0.274	0.002
1998	2	17	5.597	5.597	0.000	3.01	3.009	0.001	87.848	87.428	0.420			0.000			0.000	0.292	0.288	0.004
1998	2	18	5.836	5.825	0.011	3.036	3.034	0.002	100.988	101.467	-0.479			0.000			0.000	0.239	0.232	0.007
1998	2	19	5.966	5.975	-0.009	3.051	3.051	0.000	112.593	112.584	0.009			0.000			0.000	0.268	0.261	0.007
1998	2	20	6.084	6.095	-0.011	3.059	3.06	-0.001	91.888	91.877	0.011			0.000			0.000	0.273	0.265	0.008

Year	Mon- th	Sta- tion	OC- 2010.1 Mean Temp	USGS Mean Temp	Delta Temp	OC- 2010.1 Mean Cond	USGS Mean Cond	Delta Cond	OC- 2010.1 Mean Press	USGS Mean Press	Delta Press	OC- 2010.1 Mean OBS	USGS Mean OBS	Delta OBS	OC- 2010.1 Mean PAR	USGS Mean PAR	Delta PAR	OC- 2010.1 Mean Fluor	USGS Mean Fluor	Delta Fluor
1998	6	0	7.889	7.896	-0.007	3.255	3.25	0.005	20.214	20.675	-0.461			0.000	55.398		55.398	2.521	2.496	0.025
1998	6	1	7.925	7.919	0.006	3.281	3.281	0.000	25.257	25.73	-0.473			0.000	74.965		74.965	2.016	2.017	-0.001
1998	6	2	7.841	7.849	-0.008	3.252	3.254	-0.002	35.347	34.828	0.519			0.000	7.511		7.511	2.69	2.66	0.030
1998	6	3	7.603	7.595	0.008	3.22	3.224	-0.004	49.983	49.967	0.016			0.000	2.608		2.608	2.115	1.946	0.169
1998	6	4	6.831	6.828	0.003	3.161	3.162	-0.001	137.848	138.345	-0.497			0.000	2.842		2.842	0.886	0.817	0.069
1998	6	5	6.646	6.636	0.010	3.135	3.139	-0.004	149.971	149.965	0.006			0.000	2.946		2.946	0.643	0.63	0.013
1998	6	6	6.271	6.259	0.012	3.1	3.102	-0.002	130.279	130.77	-0.491			0.000	4.707		4.707	0.645	0.63	0.015
1998	6	7	6.357	6.349	0.008	3.112	3.112	0.000	151.206	151.707	-0.501			0.000	2.905		2.905	0.585	0.566	0.019
1998	6	8	6.254	6.225	0.029	3.092	3.097	-0.005	148.961	149.459	-0.498			0.000	0.257		0.257	0.494	0.468	0.026
1998	6	9	6.161	6.14	0.021	3.081	3.087	-0.006	140.373	140.366	0.007			0.000	4.152		4.152	0.427	0.411	0.016
1998	6	10	5.907	5.893	0.014	3.058	3.065	-0.007	149.466	149.459	0.007			0.000	6.06		6.060	0.4	0.398	0.002
1998	6	11	5.95	5.945	0.005	3.065	3.071	-0.006	147.951	148.449	-0.498			0.000	2.94		2.940	0.52	0.493	0.027
1998	6	12	5.582	5.595	-0.013	3.027	3.032	-0.005	136.837	137.335	-0.498			0.000	0.457		0.457	0.467	0.464	0.003
1998	6	13	6.67	6.672	-0.002	3.108	3.111	-0.003	70.176	69.663	0.513			0.000	5.619		5.619	1.25	1.221	0.029
1998	6	14	6.922	7.003	-0.081	3.079	3.081	-0.002	35.14	36.342	-1.202			0.000	3.935		3.935	2.408	2.861	-0.453
1998	6	15	6.793	6.727	0.066	3.092	3.1	-0.008	47.459	47.441	0.018			0.000	5.095		5.095	1.47	1.416	0.054
1998	6	16	6.186	6.167	0.019	3.079	3.084	-0.005	148.456	148.448	0.008			0.000	6.563		6.563	0.479	0.47	0.009
1998	6	17	5.975	5.953	0.022	3.029	3.039	-0.010	91.383	91.879	-0.496			0.000	2.42		2.420	0.779	0.778	0.001
1998	6	18	5.798	5.803	-0.005	3.008	3.017	-0.009	100.978	101.475	-0.497			0.000	0.811		0.811	0.892	0.874	0.018
1998	6	19	5.746	5.747	-0.001	3.021	3.027	-0.006	100.988	100.97	0.018			0.000	0.177		0.177	0.677	0.651	0.026
1998	6	20	5.692	5.683	0.009	2.997	3.01	-0.013	85.828	85.818	0.010			0.000	0.004		0.004	0.899	0.852	0.047
1998	10	0	7.458	7.483	-0.025	3.102	3.108	-0.006	19.206	19.664	-0.458			0.000	4.416		4.416	0.84	0.792	0.048
1998	10	1	7.421	7.421	0.000	3.136	3.136	0.000	23.239	23.201	0.038			0.000	3.493		3.493	0.704	0.694	0.010
1998	10	2	7.337	7.353	-0.016	3.1	3.107	-0.007	34.843	34.819	0.024			0.000	2.21		2.210	0.714	0.7	0.014
1998	10	3	7.306	7.311	-0.005	3.11	3.113	-0.003	48.974	48.458	0.516			0.000	1.612		1.612	0.664	0.656	0.008
1998	10	5	7.406	7.408	-0.002	3.151	3.152	-0.001	104.513	104.002	0.511			0.000	0.495		0.495	0.505	0.5	0.005
1998	10	6	7.405	7.407	-0.002	3.151	3.153	-0.002	104.513	104.002	0.511			0.000	0.495		0.495	0.505	0.5	0.005
1998	10	7	7.095	7.095	0.000	3.152	3.151	0.001	157.044	157.039	0.005			0.000	0.034		0.034	0.357	0.354	0.003
1998	10	8	7.138	7.144	-0.006	3.154	3.155	-0.001	151.999	151.986	0.013			0.000	0.437		0.437	0.324	0.322	0.002
1998	10	9	7.102	7.112	-0.010	3.151	3.154	-0.003	151.999	152.493	-0.494			0.000	0.543		0.543	0.325	0.323	0.002
1998	10	10	6.922	6.924	-0.002	3.137	3.138	-0.001	153.508	153.502	0.006			0.000	0.418		0.418	0.283	0.282	0.001
1998	10	11	6.823	6.826	-0.003	3.128	3.129	-0.001	153.009	152.996	0.013			0.000	0.28		0.280	0.287	0.282	0.005
1998	10	12	6.812	6.82	-0.008	3.121	3.122	-0.001	142.899	142.891	0.008			0.000	0.067		0.067	0.507	0.506	0.001
1998	10	13	7.432	7.451	-0.019	3.13	3.141	-0.011	64.134	64.6	-0.466			0.000	2.437		2.437	0.579	0.556	0.023

Year	Mon- th	Sta- tion	OC- 2010.1 Mean Temp	USGS Mean Temp	Delta Temp	OC- 2010.1 Mean Cond	USGS Mean Cond	Delta Cond	OC- 2010.1 Mean Press	USGS Mean Press	Delta Press	OC- 2010.1 Mean OBS	USGS Mean OBS	Delta OBS	OC- 2010.1 Mean PAR	USGS Mean PAR	Delta PAR	OC- 2010.1 Mean Fluor	USGS Mean Fluor	Delta Fluor
1998	10	14	7.353	7.363	-0.010	3.109	3.116	-0.007	34.871	34.799	0.072			0.000	4.976		4.976	0.613	0.601	0.012
1998	10	15	7.357	7.355	0.002	3.125	3.125	0.000	46.955	46.936	0.019			0.000	1.171		1.171	0.553	0.55	0.003
1998	10	16	6.741	6.738	0.003	3.111	3.112	-0.001	152.504	152.491	0.013			0.000	0.707		0.707	0.363	0.361	0.002
1998	10	17	6.927	6.94	-0.013	3.099	3.105	-0.006	89.363	89.357	0.006			0.000	0.348		0.348	0.59	0.588	0.002
1998	10	18	6.806	6.808	-0.002	3.1	3.105	-0.005	101.988	101.979	0.009			0.000	0.015		0.015	0.71	0.708	0.002
1998	12	0	6.425	6.426	-0.001	3.132	3.132	0.000	24.248	24.227	0.021			0.000	1.883		1.883	0.435	0.427	0.008
1998	12	1	6.463	6.465	-0.002	3.143	3.142	0.001	22.231	22.208	0.023			0.000	0.576		0.576	0.461	0.455	0.006
1998	12	2	6.359	6.359	0.000	3.105	3.104	0.001	39.384	38.866	0.518			0.000	0.119		0.119	0.438	0.433	0.005
1998	12	3	6.405	6.406	-0.001	3.094	3.094	0.000	48.469	47.953	0.516			0.000	1.823		1.823	0.361	0.358	0.003
1998	12	4	6.417	6.417	0.000	3.105	3.105	0.000	138.353	137.843	0.510			0.000	0.095		0.095	0.314	0.313	0.001
1998	12	5	6.533	6.535	-0.002	3.115	3.115	0.000	151.989	151.482	0.507			0.000	0.06		0.060	0.348	0.348	0.000
1998	12	6	6.627	6.629	-0.002	3.121	3.121	0.000	124.715	124.205	0.510			0.000	0.313		0.313	0.313	0.312	0.001
1998	12	7	6.665	6.668	-0.003	3.127	3.128	-0.001	130.271	130.77	-0.499			0.000	0.222		0.222	0.312	0.312	0.000
1998	12	8	6.628	6.63	-0.002	3.124	3.125	-0.001	145.425	145.42	0.005			0.000	0.007		0.007	0.231	0.23	0.001
1998	12	13	6.417	6.421	-0.004	3.095	3.096	-0.001	71.691	72.185	-0.494			0.000	0.329		0.329	0.303	0.303	0.000
1998	12	14	6.151	6.15	0.001	3.044	3.043	0.001	33.329	32.809	0.520			0.000	0.984		0.984	0.324	0.321	0.003
1998	12	15	6.381	6.385	-0.004	3.078	3.079	-0.001	50.993	51.481	-0.488			0.000	0.767		0.767	0.303	0.301	0.002
1998	12	16	6.558	6.559	-0.001	3.107	3.107	0.000	153.002	152.493	0.509			0.000	0.155		0.155	0.247	0.246	0.001
1998	12	17	6.581	6.607	-0.026	3.094	3.099	-0.005	75.238	75.71	-0.472			0.000	0.49		0.490	0.275	0.265	0.010
1998	12	18	6.551	6.564	-0.013	3.095	3.097	-0.002	101.988	102.484	-0.496			0.000	0.535		0.535	0.245	0.24	0.005
1998	12	19	6.45	6.448	0.002	3.086	3.086	0.000	112.593	112.083	0.510			0.000	0.512		0.512	0.229	0.225	0.004
1998	12	20	6.436	6.443	-0.007	3.076	3.078	-0.002	81.789	81.779	0.010			0.000	0.334		0.334	0.254	0.247	0.007
1999	3	0	4.083	4.084	-0.001	2.984	2.984	0.000	23.239	23.201	0.038			0.000	19.539	18.11	1.429	0.517	0.514	0.003
1999	3	1	3.857	3.859	-0.002	2.933	2.933	0.000	23.786	24.221	-0.435			0.000	17.268	15.979	1.289	0.483	0.481	0.002
1999	3	2	3.888	3.888	0.000	2.932	2.932	0.000	38.867	38.361	0.506			0.000	3.406	3.816	-0.410	0.514	0.51	0.004
1999	3	3	3.896	3.897	-0.001	2.936	2.937	-0.001	49.983	49.973	0.010			0.000	0.551	0.565	-0.014	0.493	0.487	0.006
1999	3	4	4.013	4.014	-0.001	2.941	2.941	0.000	144.414	143.905	0.509			0.000	0.305	0.3	0.005	0.426	0.424	0.002
1999	3	5	4.071	4.073	-0.002	2.947	2.948	-0.001	152.497	152.491	0.006			0.000	0.452	0.414	0.038	0.394	0.392	0.002
1999	3	6	4.182	4.183	-0.001	2.955	2.956	-0.001	138.858	138.853	0.005			0.000	0.624	0.632	-0.008	0.384	0.381	0.003
1999	3	7	4.207	4.208	-0.001	2.959	2.959	0.000	153.508	153.503	0.005			0.000	0.552	0.581	-0.029	0.353	0.351	0.002
1999	3	8	4.24	4.241	-0.001	2.963	2.963	0.000	154.525	154.512	0.013			0.000	0.763	0.694	0.069	0.287	0.286	0.001
1999	3	9	4.272	4.273	-0.001	2.965	2.965	0.000	150.978	150.472	0.506			0.000	0.874	0.875	-0.001	0.272	0.272	0.000
1999	3	10	4.259	4.26	-0.001	2.964	2.964	0.000	151.487	151.482	0.005			0.000	0.832	0.83	0.002	0.251	0.251	0.000
1999	3	11	4.238	4.239	-0.001	2.961	2.962	-0.001	151.992	153.615	-1.623			0.000	0.811	0.843	-0.032	0.253	0.253	0.000

Year	Mon- th	Sta- tion	OC- 2010.1 Mean Temp	USGS Mean Temp	Delta Temp	OC- 2010.1 Mean Cond	USGS Mean Cond	Delta Cond	OC- 2010.1 Mean Press	USGS Mean Press	Delta Press	OC- 2010.1 Mean OBS	USGS Mean OBS	Delta OBS	OC- 2010.1 Mean PAR	USGS Mean PAR	Delta PAR	OC- 2010.1 Mean Fluor	USGS Mean Fluor	Delta Fluor
1999	3	12	4.154	4.155	-0.001	2.952	2.952	0.000	135.827	135.822	0.005			0.000	0.786	0.813	-0.027	0.269	0.269	0.000
1999	3	13	4.081	4.082	-0.001	2.941	2.942	-0.001	71.691	71.683	0.008			0.000	4.182	4.423	-0.241	0.423	0.42	0.003
1999	3	14	4.189	4.191	-0.002	2.935	2.935	0.000	34.842	34.323	0.519			0.000	15.399	16.068	-0.669	0.499	0.498	0.001
1999	3	15	4.162	4.162	0.000	2.935	2.935	0.000	51.498	50.982	0.516			0.000	7.234	7.624	-0.390	0.473	0.471	0.002
1999	3	16	4.34	4.342	-0.002	2.959	2.959	0.000	154.013	153.5	0.513			0.000	4.272	3.722	0.550	0.364	0.363	0.001
1999	3	17	4.357	4.362	-0.005	2.955	2.956	-0.001	91.888	92.383	-0.495			0.000	3.019	2.642	0.377	0.329	0.327	0.002
1999	3	18	4.419	4.426	-0.007	2.959	2.96	-0.001	106.028	106.524	-0.496			0.000	0.425	0.378	0.047	0.281	0.28	0.001
1999	3	19	4.449	4.452	-0.003	2.964	2.964	0.000	114.108	113.594	0.514			0.000	1.175	1.047	0.128	0.269	0.267	0.002
1999	3	20	4.429	4.429	0.000	2.96	2.96	0.000	87.848	87.337	0.511			0.000	2.198	2.266	-0.068	0.284	0.283	0.001
1999	6	0	7.618	7.62	-0.002	2.932	3.199	-0.267	24.752	24.732	0.020			0.000	10.416	14.77	-4.354	2	3.124	-1.124
1999	6	0	7.618	7.62	-0.002	2.932	3.199	-0.267	24.752	24.732	0.020			0.000	10.416	14.771	-4.355	2	3.124	-1.124
1999	6	1	7.066	7.071	-0.005	3.222	3.221	0.001	25.267	24.503	0.764			0.000	20.452	21.436	-0.984	2.114	2.124	-0.010
1999	6	2	6.778	6.79	-0.012	3.155	3.154	0.001	40.898	40.381	0.517			0.000	15.789	17.336	-1.547	2.91	2.925	-0.015
1999	6	3	6.363	6.378	-0.015	3.129	3.129	0.000	49.478	48.963	0.515			0.000	11.165	11.671	-0.506	2.125	2.112	0.013
1999	6	4	5.209	5.197	0.012	3.039	3.039	0.000	143.404	143.397	0.007			0.000	3.405	3.093	0.312	0.807	0.791	0.016
1999	6	5	5.295	5.309	-0.014	3.04	3.041	-0.001	153.508	151.482	2.026			0.000	2.998	3.495	-0.497	0.884	0.894	-0.010
1999	6	6	5.205	5.21	-0.005	3.035	3.036	-0.001	140.878	140.368	0.510			0.000	0.938	1.086	-0.148	0.792	0.757	0.035
1999	6	7	5.084	5.082	0.002	3.03	3.032	-0.002	153.508	153.501	0.007			0.000	0.023	0.02	0.003	0.643	0.586	0.057
1999	6	8	4.836	4.828	0.008	3.01	3.008	0.002	153.508	153.501	0.007			0.000	0.075	0.07	0.005	0.63	0.617	0.013
1999	6	9	4.931	4.932	-0.001	3.017	3.017	0.000	156.545	156.037	0.508			0.000	0.093	0.097	-0.004	0.602	0.562	0.040
1999	6	10	4.711	4.707	0.004	2.991	2.994	-0.003	154.518	154.511	0.007			0.000	0.141	0.132	0.009	0.399	0.401	-0.002
1999	6	11	4.525	4.522	0.003	2.978	2.977	0.001	153.508	152.493	1.015			0.000	0.155	0.312	-0.157	0.391	0.383	0.008
1999	6	12	4.402	4.401	0.001	2.957	2.956	0.001	141.391	141.882	-0.491			0.000	0.037	0.175	-0.138	0.496	0.488	0.008
1999	6	13	5.786	5.852	-0.066	3.081	3.083	-0.002	70.674	69.659	1.015			0.000	9.538	7.074	2.464	1.175	1.223	-0.048
1999	6	14	6.113	6.112	0.001	3.073	3.079	-0.006	34.842	34.842	0.000			0.000	9.219	4.928	4.291	1.607	1.675	-0.068
1999	6	15	5.856	5.863	-0.007	3.043	3.045	-0.002	47.964	47.953	0.011			0.000	4.975	5.506	-0.531	1.283	1.272	0.011
1999	6	17	4.908	4.908	0.000	2.99	2.991	-0.001	92.909	92.889	0.020			0.000	1.891	2.179	-0.288	0.902	0.825	0.077
1999	6	18	4.577	4.583	-0.006	2.966	2.968	-0.002	107.038	107.534	-0.496			0.000	1.4	1.63	-0.230	0.559	0.535	0.024
1999	6	19	4.463	4.47	-0.007	2.946	2.947	-0.001	116.128	115.618	0.510			0.000	1.139	1.485	-0.346	0.603	0.547	0.056
1999	6	20	4.518	4.521	-0.003	2.924	2.929	-0.005	87.343	86.832	0.511			0.000	0.01	0.824	-0.814	0.529	0.533	-0.004
1999	6	21	4.467	4.477	-0.010	2.94	2.947	-0.007	93.403	93.396	0.007			0.000	0.07	0.035	0.035	0.865	0.858	0.007
1999	6	22	5.385	5.387	-0.002	3.012	3.007	0.005	70.681	70.168	0.513			0.000	1.319	1.385	-0.066	1.075	1.052	0.023
1999	6	23	5.538	5.433	0.105	2.965	2.953	0.012	31.342	31.288	0.054			0.000	0.023	0.885	-0.862	2.765	2.671	0.094
1999	7	0	7.732	7.684	0.048	3.212	3.215	-0.003	24.752	25.223	-0.471			0.000	10.508	10.744	-0.236	1.744	1.621	0.123

Year	Month	Station	OC- 2010.1 Mean Temp	USGS Mean Temp	Delta Temp	OC- 2010.1 Mean Cond	USGS Mean Cond	Delta Cond	OC- 2010.1 Mean Press	USGS Mean Press	Delta Press	OC- 2010.1 Mean OBS	USGS Mean OBS	Delta OBS	OC- 2010.1 Mean PAR	USGS Mean PAR	Delta PAR	OC- 2010.1 Mean Fluor	USGS Mean Fluor	Delta Fluor
1999	7	1	7.642	7.647	-0.005	3.258	3.259	-0.001	27.274	26.751	0.523			0.000	8.88	9.303	-0.423	1.216	1.202	0.014
1999	7	2	7.644	7.653	-0.009	3.23	3.229	0.001	38.88	37.921	0.959			0.000	5.518	5.838	-0.320	1.279	1.269	0.010
1999	7	3	7.454	7.361	0.093	3.166	3.171	-0.005	46.45	47.926	-1.476			0.000	7.923	7.838	0.085	1.368	1.314	0.054
1999	7	4	5.671	5.639	0.032	3.064	3.066	-0.002	141.384	142.389	-1.005			0.000	2.145	1.6	0.545	0.555	0.548	0.007
1999	7	5	5.463	5.437	0.026	3.047	3.049	-0.002	151.999	152.992	-0.993			0.000	4.893	3.95	0.943	0.52	0.502	0.018
1999	7	6	5.553	5.543	0.010	3.048	3.049	-0.001	131.289	131.779	-0.490			0.000	2.101	2.026	0.075	0.521	0.518	0.003
1999	7	7	5.401	5.395	0.006	3.04	3.043	-0.003	152.497	152.996	-0.499			0.000	1.385	1.364	0.021	0.485	0.481	0.004
1999	7	8	5.229	5.221	0.008	3.023	3.024	-0.001	151.999	151.986	0.013			0.000	0.596	0.646	-0.050	0.575	0.539	0.036
1999	7	9	5.231	5.223	0.008	3.022	3.024	-0.002	153.508	153.501	0.007			0.000	1.309	1.395	-0.086	0.576	0.543	0.033
1999	7	10	5.07	5.083	-0.013	3.009	3.013	-0.004	153.009	154.002	-0.993			0.000	0.991	0.862	0.129	0.356	0.347	0.009
1999	7	11	4.888	4.882	0.006	2.987	2.997	-0.010	155.023	156.028	-1.005			0.000	2.091	1.105	0.986	0.329	0.33	-0.001
1999	7	12	4.868	4.865	0.003	2.979	2.98	-0.001	141.896	141.882	0.014			0.000	0.004	0.833	-0.829	0.878	0.823	0.055
1999	7	13	6.305	6.297	0.008	3.087	3.091	-0.004	71.186	71.173	0.013			0.000	14.111	12.257	1.854	0.899	0.896	0.003
1999	7	14	6.899	6.903	-0.004	3.111	3.117	-0.006	34.842	34.817	0.025			0.000	12.551	14.473	-1.922	1.12	1.131	-0.011
1999	7	15	6.254	6.239	0.015	3.078	3.081	-0.003	54.021	54.513	-0.492			0.000	7.449	10.962	-3.513	0.749	0.746	0.003
1999	7	16	5.105	5.089	0.016	3.006	3.011	-0.005	151.992	152.49	-0.498			0.000	5.394	4.536	0.858	0.378	0.378	0.000
1999	7	17	5.41	5.395	0.015	3.004	3.008	-0.004	82.811	83.293	-0.482			0.000	8.041	8.098	-0.057	0.456	0.459	-0.003
1999	7	18	5.036	5.037	-0.001	2.978	2.98	-0.002	101.483	100.972	0.511			0.000	2.529	5.088	-2.559	0.558	0.552	0.006
1999	7	19	4.683	4.688	-0.005	2.939	2.948	-0.009	111.087	111.576	-0.489			0.000	1.339	2.501	-1.162	0.424	0.422	0.002
1999	7	19	4.683	4.688	-0.005	2.939	2.949	-0.010	111.087	111.576	-0.489			0.000	1.339	2.501	-1.162	0.424	0.422	0.002
1999	7	20	4.877	4.895	-0.018	2.918	2.936	-0.018	85.323	85.818	-0.495			0.000	0.005	0.096	-0.091	1.677	1.629	0.048
1999	7	21	5.164	5.17	-0.006	2.962	2.969	-0.007	97.948	97.938	0.010			0.000	0.004	0.808	-0.804	1.477	1.421	0.056
1999	7	22	6.098	6.107	-0.009	3.041	3.044	-0.003	70.176	69.663	0.513			0.000	7.467	8.535	-1.068	0.591	0.588	0.003
1999	7	23	6.073	5.982	0.091	2.97	2.958	0.012	30.301	30.285	0.016			0.000	1.358	6.319	-4.961	1.297	1.247	0.050
1999	8	0	9.458	9.422	0.036	3.101	3.109	-0.008	17.19	17.655	-0.465	11.028	10.739	0.289	2.667	2.472	0.195	7.173	6.895	0.278
1999	8	1	7.811	7.808	0.003	3.191	3.193	-0.002	24.248	24.216	0.032	11.605	11.354	0.251	8.006	6.884	1.122	2.552	2.508	0.044
1999	8	2	7.849	7.849	0.000	3.206	3.207	-0.001	40.394	40.88	-0.486	14.141	13.977	0.164	5.683	5.928	-0.245	2.435	2.409	0.026
1999	8	3	7.701	7.712	-0.011	3.155	3.156	-0.001	52.002	51.487	0.515	14.065	13.844	0.221	12.515	13.073	-0.558	2.859	2.774	0.085
1999	8	4	6.387	6.368	0.019	3.1	3.103	-0.003	137.855	138.349	-0.494	17.333	17.315	0.018	0.86	0.586	0.274	2.276	2.144	0.132
1999	8	5	6.176	6.174	0.002	3.081	3.085	-0.004	153.508	153.501	0.007	18.037	17.912	0.125	2.979	3.341	-0.362	2.089	1.988	0.101
1999	8	6	6.213	6.206	0.007	3.082	3.089	-0.007	138.36	138.854	-0.494	19.123	19.078	0.045	0.66	0.411	0.249	1.898	1.773	0.125
1999	8	7	6.129	6.13	-0.001	3.071	3.077	-0.006	146.94	146.933	0.007	24.386	24.331	0.055	0.911	0.616	0.295	2.446	2.374	0.072
1999	8	8	6.051	6.075	-0.024	3.069	3.067	0.002	135.322	133.297	2.025	19.5	19.398	0.102	0.9	0.986	-0.086	1.526	1.526	0.000
1999	8	9	5.936	5.931	0.005	3.055	3.06	-0.005	139.868	140.366	-0.498	20.57	20.466	0.104	0.738	0.712	0.026	1.128	1.077	0.051

Year	Mon- th	Sta- tion	OC- 2010.1 Mean Temp	USGS Mean Temp	Delta Temp	OC- 2010.1 Mean Cond	USGS Mean Cond	Delta Cond	OC- 2010.1 Mean Press	USGS Mean Press	Delta Press	OC- 2010.1 Mean OBS	USGS Mean OBS	Delta OBS	OC- 2010.1 Mean PAR	USGS Mean PAR	Delta PAR	OC- 2010.1 Mean Fluor	USGS Mean Fluor	Delta Fluor
1999	8	10	5.774	5.788	-0.014	3.043	3.043	0.000	137.848	137.338	0.510	59.414	59.016	0.398	1.809	2.2	-0.391	0.842	0.817	0.025
1999	8	11	5.558	5.563	-0.005	3.03	3.035	-0.005	153.002	152.49	0.512	82.645	82.299	0.346	0.635	0.775	-0.140	1.179	1.159	0.020
1999	8	12	5.546	5.551	-0.005	3.007	3.011	-0.004	141.889	142.386	-0.497	60.295	60.095	0.200	2.095	2.035	0.060	0.888	0.891	-0.003
1999	8	13	7.213	7.195	0.018	3.129	3.139	-0.010	66.642	67.643	-1.001	24.472	24.316	0.156	0.094	0.042	0.052	5.657	5.164	0.493
1999	8	14	7.604	7.598	0.006	3.117	3.099	0.018	32.824	32.809	0.015	24.558	24.017	0.541	0.3	0.386	-0.086	8.542	7.942	0.600
1999	8	15	7.162	7.149	0.013	3.114	3.107	0.007	51.013	51.332	-0.319	24.596	24.307	0.289	0.196	0.273	-0.077	6.451	5.792	0.659
1999	8	16	5.46	5.46	0.000	3.024	3.029	-0.005	151.992	152.49	-0.498	32.736	32.637	0.099	0.424	0.388	0.036	2.143	2.083	0.060
1999	8	17	6.13	6.142	-0.012	3.022	3.04	-0.018	77.75	77.739	0.011	30.71	30.377	0.333	4.376	3.6	0.776	3.758	3.823	-0.065
1999	8	18	5.643	5.637	0.006	3.022	3.022	0.000	91.899	91.879	0.020	32.326	32.124	0.202	0.424	1.037	-0.613	1.603	1.506	0.097
1999	8	19	5.358	5.364	-0.006	2.98	2.989	-0.009	113.098	113.595	-0.497	46.421	46.23	0.191	0.411	0.414	-0.003	0.795	0.798	-0.003
1999	8	20	5.958	5.971	-0.013	2.953	2.978	-0.025	65.128	64.609	0.519	91.498	91.12	0.378	1.185	1.02	0.165	0.884	0.894	-0.010
1999	8	22	6.811	6.771	0.040	3.072	3.098	-0.026	70.176	70.674	-0.498	23.283	23.185	0.098	4.907	3.088	1.819	1.71	1.596	0.114
1999	10	1	7.365	7.366	-0.001	3.134	3.134	0.000	29.292	29.264	0.028	13.984	13.771	0.213	0.148	0.136	0.012	2.193	2.19	0.003
1999	10	2	7.276	7.277	-0.001	3.133	3.133	0.000	40.394	39.876	0.518	15.849	15.521	0.328	0.803	0.817	-0.014	1.906	1.873	0.033
1999	10	3	7.168	7.176	-0.008	3.111	3.112	-0.001	48.974	48.458	0.516	18.221	17.931	0.290	1.535	1.507	0.028	1.796	1.767	0.029
1999	10	4	6.517	6.523	-0.006	3.088	3.089	-0.001	137.848	137.338	0.510	21.446	21.312	0.134	0.585	0.612	-0.027	1.072	1.048	0.024
1999	10	5	6.463	6.464	-0.001	3.085	3.085	0.000	151.487	151.482	0.005	19.804	19.672	0.132	0.685	0.666	0.019	0.974	0.951	0.023
1999	10	6	6.76	6.775	-0.015	3.097	3.1	-0.003	133.807	132.789	1.018	13.199	13.176	0.023	0.678	0.565	0.113	0.901	0.877	0.024
1999	10	7	6.472	6.472	0.000	3.083	3.09	-0.007	150.476	151.482	-1.006	10.569	10.536	0.033	0.104	0.071	0.033	0.726	0.685	0.041
1999	10	8	6.444	6.452	-0.008	3.073	3.081	-0.008	154.013	154.513	-0.500	10.606	10.568	0.038	0.275	0.153	0.122	0.704	0.673	0.031
1999	10	9	6.269	6.274	-0.005	3.058	3.066	-0.008	152.497	152.997	-0.500	11.381	11.349	0.032	0.967	0.552	0.415	0.771	0.73	0.041
1999	10	10	6.213	6.217	-0.004	3.055	3.061	-0.006	153.508	154.006	-0.498	12.678	12.602	0.076	2.03	1.7	0.330	0.705	0.689	0.016
1999	10	11	6.125	6.125	0.000	3.044	3.048	-0.004	152.497	152.995	-0.498	11.351	11.274	0.077	1.197	1.052	0.145	0.765	0.738	0.027
1999	10	12	5.992	5.997	-0.005	3.021	3.03	-0.009	142.394	142.387	0.007	12.427	11.91	0.517	0.741	0.801	-0.060	0.401	0.401	0.000
1999	10	13	7.132	7.14	-0.008	3.109	3.114	-0.005	68.157	68.654	-0.497	19.907	19.842	0.065	2.587	1.655	0.932	0.89	0.87	0.020
1999	10	14	7.277	7.285	-0.008	3.037	3.044	-0.007	27.779	27.753	0.026	21.934	21.376	0.558	8.056	6.592	1.464	1.356	1.327	0.029
1999	10	15	7.23	7.248	-0.018	3.039	3.058	-0.019	30.334	31.301	-0.967	26.238	26.138	0.100	4.347	2.379	1.968	1.215	1.166	0.049
1999	10	16	5.825	5.827	-0.002	3.035	3.041	-0.006	151.494	151.988	-0.494	20.379	20.341	0.038	0.741	0.518	0.223	0.634	0.608	0.026
1999	10	17	6.462	6.471	-0.009	3.048	3.053	-0.005	91.888	91.878	0.010	23.196	23.002	0.194	1.078	0.924	0.154	0.727	0.705	0.022
1999	10	18	6.094	6.102	-0.008	3.019	3.03	-0.011	104.017	105.013	-0.996	12.458	12.4	0.058	0.455	0.224	0.231	0.558	0.529	0.029
1999	10	19	5.814	5.815	-0.001	3.009	3.019	-0.010	110.582	111.578	-0.996	18.102	18.262	-0.160	0.123	0.074	0.049	0.474	0.487	-0.013
1999	10	20	6.116	6.121	-0.005	3.014	3.019	-0.005	82.294	82.284	0.010	28.644	28.613	0.031	0.093	0.072	0.021	0.599	0.564	0.035
1999	10	21	6.63	6.636	-0.006	3.036	3.043	-0.007	91.888	92.383	-0.495	16.545	16.435	0.110	0.458	0.404	0.054	0.663	0.623	0.040
1999	10	22	7.172	7.188	-0.016	3.089	3.102	-0.013	69.159	68.165	0.994	14.802	14.749	0.053	1.278	1.139	0.139	1.084	1.052	0.032

Year	Mon- th	Sta- tion	OC- 2010.1 Mean Temp	USGS Mean Temp	Delta Temp	OC- 2010.1 Mean Cond	USGS Mean Cond	Delta Cond	OC- 2010.1 Mean Press	USGS Mean Press	Delta Press	OC- 2010.1 Mean OBS	USGS Mean OBS	Delta OBS	OC- 2010.1 Mean PAR	USGS Mean PAR	Delta PAR	OC- 2010.1 Mean Fluor	USGS Mean Fluor	Delta Fluor
1999	10	23	7.296	7.284	0.012	3.048	3.047	0.001	30.301	30.285	0.016	15.512	15.515	-0.003	1.42	1.739	-0.319	1.044	1.098	-0.054
2000	1	0	5.334	5.333	0.001	3	3.002	-0.002	25.761	25.237	0.524	19.966	19.406	0.560	1.053	0.87	0.183	0.757	0.748	0.009
2000	1	1	5.424	5.428	-0.004	3.015	3.016	-0.001	25.257	25.223	0.034	26.208	26.237	-0.029	0.959	0.901	0.058	0.841	0.856	-0.015
2000	1	2	5.312	5.315	-0.003	2.991	2.991	0.000	40.647	40.88	-0.233	16.59	16.482	0.108	0.565	0.454	0.111	0.874	0.87	0.004
2000	1	3	5.111	5.114	-0.003	2.944	2.945	-0.001	47.964	47.953	0.011	15.574	15.575	-0.001	1.579	1.287	0.292	0.883	0.883	0.000
2000	1	4	5.567	5.568	-0.001	2.999	2.999	0.000	145.425	144.915	0.510	17.076	17.018	0.058	0.311	0.32	-0.009	0.588	0.591	-0.003
2000	1	5	5.644	5.645	-0.001	3.009	3.01	-0.001	153.002	152.998	0.004	18.635	18.559	0.076	0.272	0.288	-0.016	0.552	0.553	-0.001
2000	1	6	5.709	5.71	-0.001	3.006	3.007	-0.001	125.725	125.72	0.005	14.299	14.207	0.092	0.008	0.007	0.001	0.629	0.625	0.004
2000	1	7	5.778	5.781	-0.003	3.023	3.023	0.000	152.497	151.482	1.015	13.18	13.117	0.063	0.007	0.006	0.001	0.491	0.488	0.003
2000	1	8	5.806	5.808	-0.002	3.024	3.025	-0.001	151.989	151.482	0.507	15.565	15.498	0.067	0.009	0.009	0.000	0.548	0.546	0.002
2000	1	9	5.859	5.858	0.001	3.033	3.033	0.000	153.002	152.493	0.509	13.255	13.193	0.062	0.095	0.096	-0.001	0.446	0.442	0.004
2000	1	10	5.762	5.764	-0.002	3.029	3.029	0.000	151.992	151.482	0.510	11.238	11.163	0.075	0.151	0.155	-0.004	0.363	0.36	0.003
2000	1	11	5.695	5.702	-0.007	3.026	3.027	-0.001	151.992	152.49	-0.498	11.673	11.623	0.050	0.42	0.339	0.081	0.316	0.313	0.003
2000	1	12	5.706	5.71	-0.004	3.015	3.015	0.000	136.837	136.327	0.510	13.783	13.601	0.182	0.565	0.594	-0.029	0.295	0.294	0.001
2000	1	13	5.572	5.572	0.000	2.973	2.974	-0.001	66.137	65.624	0.513	15.374	15.197	0.177	0.027	0.025	0.002	0.702	0.695	0.007
2000	1	14	5.494	5.502	-0.008	2.952	2.955	-0.003	32.824	32.809	0.015	15.584	15.583	0.001	0.016	0.013	0.003	0.752	0.751	0.001
2000	1	21	5.821	5.82	0.001	3.009	3.009	0.000	96.433	96.427	0.006	11.471	11.347	0.124	0.746	0.825	-0.079	0.259	0.257	0.002
2000	1	22	5.744	5.762	-0.018	2.989	2.993	-0.004	76.235	76.732	-0.497	15.895	15.89	0.005	0.173	0.142	0.031	0.627	0.62	0.007
2000	1	23	5.889	5.915	-0.026	2.98	2.985	-0.005	45.945	45.934	0.011	14.89	14.886	0.004	0.058	0.049	0.009	0.639	0.629	0.010
2000	3	0	4.881	4.881	0.000	3.006	3.006	0.000	20.214	20.677	-0.463	15.626	15.315	0.311	17.268	13.941	3.327	3.667	3.722	-0.055
2000	3	1	4.866	4.866	0.000	3.015	3.015	0.000	25.027	24.742	0.285	12.029	11.571	0.458	23.229	23.533	-0.304	4.092	3.971	0.121
2000	3	2	4.696	4.696	0.000	2.972	2.972	0.000	40.904	40.387	0.517	8.313	8.158	0.155	5.018	4.967	0.051	7.653	7.535	0.118
2000	3	3	4.69	4.691	-0.001	2.964	2.964	0.000	46.45	46.439	0.011	8.403	8.249	0.154	0.891	0.898	-0.007	7.447	7.201	0.246
2000	3	4	4.705	4.706	-0.001	2.973	2.973	0.000	136.332	136.325	0.007	8.823	8.785	0.038	1.726	1.36	0.366	5.088	4.967	0.121
2000	3	5	4.77	4.772	-0.002	2.982	2.983	-0.001	152.497	152.998	-0.501	13.652	13.654	-0.002	2.682	1.633	1.049	3.191	3.088	0.103
2000	3	6	4.755	4.756	-0.001	2.978	2.977	0.001	132.291	131.781	0.510	12.783	12.701	0.082	1.028	1.17	-0.142	2.734	2.625	0.109
2000	3	7	4.76	4.76	0.000	2.978	2.978	0.000	154.518	153.503	1.015	12.827	12.754	0.073	0.516	0.566	-0.050	3.578	3.317	0.261
2000	3	8	4.754	4.757	-0.003	2.977	2.977	0.000	151.992	151.986	0.006	13.058	13.025	0.033	0.181	0.14	0.041	3.924	3.675	0.249
2000	3	9	4.752	4.753	-0.001	2.977	2.977	0.000	150.476	150.472	0.004	12.693	12.625	0.068	0.856	0.829	0.027	4.055	3.87	0.185
2000	3	10	4.798	4.804	-0.006	2.98	2.981	-0.001	153.002	153.501	-0.499	10.84	10.795	0.045	1.859	1.645	0.214	1.408	1.357	0.051
2000	3	11	4.765	4.768	-0.003	2.976	2.977	-0.001	151.992	152.492	-0.500	11.052	11.05	0.002	3.541	2.836	0.705	2.039	2.02	0.019
2000	3	12	4.774	4.774	0.000	2.977	2.977	0.000	137.848	137.843	0.005	10.511	10.44	0.071	5.014	4.831	0.183	1.421	1.399	0.022
2000	3	13	4.768	4.769	-0.001	2.968	2.968	0.000	65.143	65.117	0.026	8.754	8.678	0.076	1.539	1.618	-0.079	5.024	4.849	0.175
2000	3	14	4.818	4.819	-0.001	2.955	2.955	0.000	33.359	33.31	0.049	9.251	9.131	0.120	1.707	1.663	0.044	9.172	9.086	0.086

Year	Month	Station	OC- 2010.1 Mean Temp	USGS Mean Temp	Delta Temp	OC- 2010.1 Mean Cond	USGS Mean Cond	Delta Cond	OC- 2010.1 Mean Press	USGS Mean Press	Delta Press	OC- 2010.1 Mean OBS	USGS Mean OBS	Delta OBS	OC- 2010.1 Mean PAR	USGS Mean PAR	Delta PAR	OC- 2010.1 Mean Fluor	USGS Mean Fluor	Delta Fluor
2000	3	15	4.812	4.813	-0.001	2.962	2.962	0.000	45.441	46.44	-0.999	9.475	9.472	0.003	2.718	1.613	1.105	4.572	4.482	0.090
2000	3	16	4.823	4.824	-0.001	2.97	2.97	0.000	141.896	142.39	-0.494	11.364	11.363	0.001	0.008	0.006	0.002	2.672	2.329	0.343
2000	3	17	4.841	4.842	-0.001	2.965	2.966	-0.001	92.393	93.397	-1.004	10.504	10.503	0.001	0.093	0.041	0.052	4.638	3.751	0.887
2000	3	18	4.838	4.839	-0.001	2.962	2.963	-0.001	96.433	96.426	0.007	10.423	10.416	0.007	0.184	0.122	0.062	4.752	4.503	0.249
2000	3	21	4.764	4.766	-0.002	2.972	2.972	0.000	107.543	106.527	1.016	10.71	10.57	0.140	5.922	6.219	-0.297	1.388	1.41	-0.022
2000	3	22	4.715	4.716	-0.001	2.962	2.962	0.000	72.196	71.683	0.513	14.665	14.482	0.183	3.78	3.901	-0.121	3.087	2.933	0.154
2000	3	23	4.773	4.775	-0.002	2.961	2.961	0.000	35.852	36.333	-0.481	14.237	14.046	0.191	15.057	12.99	2.067	3.313	2.726	0.587
2000	5	0	6.147	6.095	0.052	3.13	3.121	0.009	24.124	25.001	-0.877	11.862	10.795	1.067	58.995	52.907	6.088	5.751	5.903	-0.152
2000	5	1	6.328	6.251	0.077	3.161	3.152	0.009	27.44	28.238	-0.798	11.545	10.685	0.860	27.616	27.552	0.064	4.376	3.954	0.422
2000	5	2	6.399	6.337	0.062	3.136	3.122	0.014	39.065	40.905	-1.840	11.557	10.983	0.574	16.464	11.589	4.875	6.47	6.72	-0.250
2000	5	3	6.248	6.248	0.000	3.099	3.1	-0.001	49.248	49.727	-0.479	11.14	11.044	0.096	8.008	5.754	2.254	9.902	9.814	0.088
2000	5	4	5.665	5.648	0.017	3.066	3.067	-0.001	134.319	135.822	-1.503	13.566	13.569	-0.003	1.349	0.597	0.752	3.992	3.575	0.417
2000	5	5	5.477	5.478	-0.001	3.051	3.051	0.000	151.487	150.977	0.510	9.57	9.525	0.045	0.896	0.865	0.031	2.171	2.075	0.096
2000	5	6	5.037	5.041	-0.004	3.013	3.013	0.000	137.342	137.338	0.004	10.386	10.367	0.019	15.421	13.519	1.902	0.942	0.944	-0.002
2000	5	7	5.053	5.049	0.004	3.014	3.012	0.002	148.456	148.954	-0.498	9.696	9.73	-0.034	6.184	6.628	-0.444	1.61	1.621	-0.011
2000	5	8	4.918	4.918	0.000	3.002	3.002	0.000	150.982	151.479	-0.497	9.738	9.693	0.045	7.343	7.43	-0.087	1.118	1.081	0.037
2000	5	9	4.866	4.867	-0.001	2.995	2.994	0.001	148.961	148.956	0.005	9.363	9.304	0.059	5.877	6.431	-0.554	1.427	1.38	0.047
2000	5	10	4.875	4.878	-0.003	3	3	0.000	153.002	152.493	0.509	9.21	9.161	0.049	7.261	6.876	0.385	0.541	0.541	0.000
2000	5	11	4.84	4.845	-0.005	2.994	2.995	-0.001	141.889	141.884	0.005	9.585	9.401	0.184	0.945	1.294	-0.349	0.431	0.429	0.002
2000	5	13	5.387	5.39	-0.003	3.033	3.033	0.000	69.671	69.663	0.008	12.328	12.194	0.134	1.572	2.331	-0.759	4.41	4.064	0.346
2000	5	15	5.253	5.215	0.038	3.004	3.005	-0.001	45.945	46.439	-0.494	12.359	12.35	0.009	0.166	0.127	0.039	3.642	3.407	0.235
2000	5	16	4.968	4.959	0.009	2.995	2.995	0.000	148.961	149.461	-0.500	11.3	11.292	0.008	0.012	0.01	0.002	1.943	1.832	0.111
2000	5	17	4.968	4.965	0.003	2.983	2.984	-0.001	90.878	90.367	0.511	10.907	10.817	0.090	0.712	0.836	-0.124	1.758	1.7	0.058
2000	5	18	4.922	4.925	-0.003	2.983	2.983	0.000	101.003	100.467	0.536	10.133	10.139	-0.006	0.411	0.954	-0.543	1.562	1.617	-0.055
2000	5	19	4.855	4.859	-0.004	2.983	2.983	0.000	112.088	111.578	0.510	10.422	10.315	0.107	1.028	1.07	-0.042	1.293	1.261	0.032
2000	5	19	4.855	4.859	-0.004	2.983	2.984	-0.001	112.088	111.578	0.510	10.422	10.315	0.107	1.028	1.07	-0.042	1.293	1.261	0.032
2000	5	20	4.842	4.843	-0.001	2.98	2.981	-0.001	91.383	91.372	0.011	10.211	9.995	0.216	0.585	0.705	-0.120	2.027	1.671	0.356
2000	5	22	5.27	5.268	0.002	3.002	3	0.002	68.661	68.654	0.007	9.743	9.647	0.096	1.493	1.569	-0.076	3.854	3.801	0.053
2000	5	23	5.57	5.564	0.006	2.99	2.984	0.006	30.301	30.285	0.016	10.061	9.827	0.234	0.896	0.889	0.007	2.452	2.381	0.071
2000	6	0	7.621	7.63	-0.009	3.248	3.249	-0.001	25.007	24.987	0.020	9.23	8.917	0.313	54.167	53.004	1.163	11.926	11.89	0.036
2000	6	1	7.499	7.502	-0.003	3.238	3.238	0.000	24.752	24.732	0.020	8.693	8.367	0.326	9.928	9.541	0.387	7.455	7.423	0.032
2000	6	2	7.585	7.593	-0.008	3.227	3.228	-0.001	37.753	37.52	0.233	8.392	8.231	0.161	38.872	36.515	2.357	7.065	7.094	-0.029
2000	6	3	7.29	7.297	-0.007	3.192	3.193	-0.001	50.493	50.226	0.267	8.241	8.086	0.155	22.722	22.801	-0.079	5.875	5.827	0.048
2000	6	4	6.399	6.408	-0.009	3.128	3.129	-0.001	130.878	130.37	0.508	7.876	7.812	0.064	7.178	7.433	-0.255	2.486	2.469	0.017

Year	Mon- th	Sta- tion	OC- 2010.1 Mean Temp	USGS Mean Temp	Delta Temp	OC- 2010.1 Mean Cond	USGS Mean Cond	Delta Cond	OC- 2010.1 Mean Press	USGS Mean Press	Delta Press	OC- 2010.1 Mean OBS	USGS Mean OBS	Delta OBS	OC- 2010.1 Mean PAR	USGS Mean PAR	Delta PAR	OC- 2010.1 Mean Fluor	USGS Mean Fluor	Delta Fluor
2000	6	5	5.541	5.549	-0.008	3.049	3.05	-0.001	136.332	136.327	0.005	8.378	8.316	0.062	6.107	6.891	-0.784	2.046	2.023	0.023
2000	6	6	5.674	5.634	0.040	3.051	3.056	-0.005	114.613	115.112	-0.499	8.945	8.934	0.011	1.646	0.834	0.812	2.687	2.784	-0.097
2000	6	7	5.678	5.68	-0.002	3.054	3.055	-0.001	134.312	134.307	0.005	7.941	7.942	-0.001	0.697	0.715	-0.018	2.06	2.369	-0.309
2000	6	8	5.319	5.319	0.000	3.008	3.011	-0.003	113.098	112.588	0.510	8.514	8.42	0.094	2.226	2.783	-0.557	7.266	7.363	-0.097
2000	6	9	5.284	5.294	-0.010	3.014	3.014	0.000	114.613	114.608	0.005	8.021	7.958	0.063	3.682	4.333	-0.651	7.29	7.392	-0.102
2000	6	10	4.968	4.965	0.003	2.982	2.988	-0.006	113.603	113.598	0.005	7.361	7.348	0.013	2.969	2.252	0.717	1.154	1.488	-0.334
2000	6	11	4.898	4.892	0.006	2.98	2.976	0.004	114.613	114.103	0.510	7.761	7.652	0.109	1.776	2.27	-0.494	9.062	8.641	0.421
2000	6	12	4.856	4.853	0.003	2.979	2.976	0.003	114.613	114.103	0.510	10.513	10.334	0.179	0.991	1.692	-0.701	0.907	1.215	-0.308
2000	6	13	6.502	6.511	-0.009	3.13	3.132	-0.002	66.137	65.624	0.513	8.327	8.205	0.122	13.714	18.448	-4.734	4.057	4.041	0.016
2000	6	14	6.509	6.516	-0.007	3.099	3.1	-0.001	32.32	32.304	0.016	7.943	7.683	0.260	34.729	38.542	-3.813	6.88	6.863	0.017
2000	6	15	6.39	6.407	-0.017	3.104	3.103	0.001	57.05	56.536	0.514	9.365	9.175	0.190	16.338	19.089	-2.751	5.351	5.346	0.005
2000	6	16	5.277	5.259	0.018	3.01	3.013	-0.003	137.848	137.84	0.008	8.394	8.355	0.039	6.611	4.75	1.861	1.554	1.531	0.023
2000	6	17	5.186	5.157	0.029	2.978	2.984	-0.006	75.73	76.223	-0.493	8.222	8.147	0.075	1.335	1.201	0.134	2.953	2.809	0.144
2000	6	18	5.038	5.017	0.021	2.975	2.982	-0.007	106.533	107.032	-0.499	8.411	8.386	0.025	2.275	1.687	0.588	1.421	1.416	0.005
2000	6	19	4.996	4.98	0.016	2.983	2.98	0.003	100.483	100.97	-0.487	9.017	8.904	0.113	0.567	1.872	-1.305	1.73	1.554	0.176
2000	6	20	5.015	5.007	0.008	2.957	2.971	-0.014	83.809	83.802	0.007	12.704	12.295	0.409	0.456	0.282	0.174	1.911	1.894	0.017
2000	6	21	4.887	4.895	-0.008	2.97	2.978	-0.008	88.353	88.85	-0.497	23.841	23.661	0.180	0.487	0.148	0.339	0.908	1.222	-0.314
2000	7	0	7.423	7.426	-0.003	3.209	3.213	-0.004	23.744	23.705	0.039	10.513	10.23	0.283	9.976	9.769	0.207	4.519	4.387	0.132
2000	7	2	7.646	7.648	-0.002	3.25	3.25	0.000	35.852	36.342	-0.490	10.126	10.198	-0.072	9.902	8.013	1.889	3.76	3.782	-0.022
2000	7	4	6.351	6.352	-0.001	3.099	3.1	-0.001	125.22	125.215	0.005	9.768	9.692	0.076	1.138	1.453	-0.315	2.813	2.731	0.082
2000	7	6	6.181	6.168	0.013	3.087	3.09	-0.003	125.22	125.717	-0.497	10.124	10.077	0.047	1.673	1.536	0.137	2.193	2.081	0.112
2000	7	8	5.825	5.826	-0.001	3.049	3.05	-0.001	139.363	139.358	0.005	9.195	9.119	0.076	2.741	2.738	0.003	0.895	0.885	0.010
2000	7	10	5.656	5.661	-0.005	3.034	3.035	-0.001	139.363	139.358	0.005	8.565	8.449	0.116	0.957	1.056	-0.099	0.617	0.607	0.010
2000	7	14		7.012	-7.012		3.112	-3.112		34.828	-34.828		8.15	-8.150		3.433	-3.433		2.773	-2.773
2000	7	16		5.901	-5.901		3.051	-3.051		135.317	-135.317		7.661	-7.661		1.829	-1.829		1.282	-1.282
2000	7	18	5.554	5.557	-0.003	2.991	2.995	-0.004	106.533	106.527	0.006	8.82	8.708	0.112	3.142	4.552	-1.410	1.124	1.12	0.004
2000	7	20	5.726	5.786	-0.060	2.922	2.971	-0.049	54.021	55.02	-0.999	72.261	67.972	4.289	0.005	0.005	0.000	0.797	0.791	0.006
2000	7	21	5.537	5.539	-0.002	2.968	2.972	-0.004	71.186	71.178	0.008	42.11	42.063	0.047	0.44	0.547	-0.107	0.822	0.818	0.004
2000	8	0	9.049	9.074	-0.025	3.221	3.221	0.000	22.41	22.095	0.315	8.772	8.54	0.232	10.922	11.679	-0.757	5.479	5.699	-0.220
2000	8	1	8.041	8.057	-0.016	3.241	3.242	-0.001	23.807	23.494	0.313	8.696	8.53	0.166	27.473	40.075	-12.602	3.025	3.231	-0.206
2000	8	2	8.08	8.087	-0.007	3.221	3.22	0.001	35.741	35.412	0.329	8.878	8.76	0.118	19.673	20.906	-1.233	3.751	3.826	-0.075
2000	8	3	7.922	7.925	-0.003	3.154	3.157	-0.003	44.576	44.391	0.185	8.824	8.62	0.204	9.726	10.034	-0.308	3.683	3.659	0.024
2000	8	4	6.553	6.561	-0.008	3.112	3.114	-0.002	137.342	136.832	0.510	7.298	7.231	0.067	4.869	4.805	0.064	1.835	1.819	0.016
2000	8	5	6.333	6.325	0.008	3.084	3.096	-0.012	145.93	146.935	-1.005	7.768	7.738	0.030	0.399	0.235	0.164	0.918	0.86	0.058

Year	Mon- th	Sta- tion	OC- 2010.1 Mean Temp	USGS Mean Temp	Delta Temp	OC- 2010.1 Mean Cond	USGS Mean Cond	Delta Cond	OC- 2010.1 Mean Press	USGS Mean Press	Delta Press	OC- 2010.1 Mean OBS	USGS Mean OBS	Delta OBS	OC- 2010.1 Mean PAR	USGS Mean PAR	Delta PAR	OC- 2010.1 Mean Fluor	USGS Mean Fluor	Delta Fluor
2000	8	7	6.277	6.278	-0.001	3.077	3.083	-0.006	148.456	148.451	0.005	7.12	7.105	0.015	1.198	0.849	0.349	1.205	1.187	0.018
2000	8	8	6.177	6.169	0.008	3.067	3.078	-0.011	153.002	154.007	-1.005	7.515	7.467	0.048	0.52	0.261	0.259	1.425	1.309	0.116
2000	8	9	6.049	6.044	0.005	3.055	3.062	-0.007	153.255	154.008	-0.753	7.397	7.341	0.056	0.556	0.324	0.232	1.191	1.138	0.053
2000	8	10	5.973	5.976	-0.003	3.045	3.053	-0.008	153.002	153.503	-0.501	8.175	8.142	0.033	0.988	0.697	0.291	0.873	0.85	0.023
2000	8	11	5.894	5.903	-0.009	3.038	3.046	-0.008	150.982	150.472	0.510	8.073	8.054	0.019	1.289	0.926	0.363	0.922	0.923	-0.001
2000	8	12	5.762	5.771	-0.009	3.009	3.018	-0.009	136.332	136.327	0.005	38.124	38.132	-0.008	0.558	0.363	0.195	1.134	1.109	0.025
2000	8	13	7.204	7.207	-0.003	3.122	3.127	-0.005	64.118	64.109	0.009	8.444	8.29	0.154	2.164	2.4	-0.236	1.952	1.808	0.144
2000	8	14	7.221	7.48	-0.259	3.107	3.104	0.003	34.85	33.818	1.032	8.595	8.446	0.149	3.05	4.258	-1.208	2.592	2.235	0.357
2000	8	15	7.263	7.265	-0.002	3.105	3.123	-0.018	51.498	51.992	-0.494	8.357	8.326	0.031	1.821	1.369	0.452	1.726	1.618	0.108
2000	8	16	5.87	5.835	0.035	3.043	3.048	-0.005	144.139	151.987	-7.848	7.721	7.758	-0.037	1.323	0.281	1.042	1.411	1.485	-0.074
2000	8	17	5.978	5.986	-0.008	3.036	3.044	-0.008	98.958	98.951	0.007	8.525	8.57	-0.045	0.297	0.216	0.081	1.832	1.853	-0.021
2000	8	18	5.75	5.763	-0.013	3.004	3.017	-0.013	107.038	107.032	0.006	9.435	9.393	0.042	0.13	0.087	0.043	1.465	1.472	-0.007
2000	8	19	5.644	5.646	-0.002	2.998	2.999	-0.001	112.593	112.083	0.510	44.149	43.684	0.465	0.096	0.134	-0.038	0.892	0.886	0.006
2000	8	20	5.949	5.956	-0.007	3.007	3.015	-0.008	85.828	85.822	0.006	93.83	93.898	-0.068	0.006	0.005	0.001	1.088	1.1	-0.012
2000	8	21	6.042	6.054	-0.012	3.006	3.018	-0.012	94.918	94.911	0.007	44.267	44.157	0.110	0.659	0.497	0.162	1.501	1.476	0.025
2000	8	23	6.993	6.965	0.028	2.989	3.016	-0.027	30.301	30.789	-0.488	10.479	10.365	0.114	1.53	1.118	0.412	2.685	2.626	0.059
2000	9	0	8.25	8.263	-0.013	3.131	3.13	0.001	23.744	23.218	0.526	10.408	10.031	0.377	5.608	5.683	-0.075	4.553	4.521	0.032
2000	9	1	7.686	7.688	-0.002	3.202	3.202	0.000	25.257	25.237	0.020	10.347	9.964	0.383	10.194	10.736	-0.542	3.621	3.596	0.025
2000	9	2	7.641	7.643	-0.002	3.177	3.177	0.000	36.861	36.342	0.519	9.591	9.365	0.226	6.334	6.164	0.170	4.484	4.41	0.074
2000	9	3	7.512	7.515	-0.003	3.173	3.173	0.000	50.488	49.973	0.515	9.092	8.918	0.174	5.25	5.415	-0.165	2.633	2.54	0.093
2000	9	4	6.924	6.947	-0.023	3.135	3.137	-0.002	136.336	136.327	0.009	9.413	9.974	-0.561	1.555	2.091	-0.536	1.96	1.828	0.132
2000	9	5	6.6	6.604	-0.004	3.1	3.103	-0.003	148.961	148.954	0.007	8.447	8.404	0.043	0.943	0.709	0.234	2.619	2.404	0.215
2000	9	6	6.959	6.964	-0.005	3.121	3.124	-0.003	120.177	120.162	0.015	7.967	7.916	0.051	0.84	1.553	-0.713	2.217	2.031	0.186
2000	9	7	6.817	6.823	-0.006	3.115	3.117	-0.002	128.25	127.74	0.510	8.275	8.205	0.070	2.124	2.038	0.086	1.457	1.432	0.025
2000	9	8	6.681	6.685	-0.004	3.092	3.094	-0.002	135.827	135.822	0.005	8.862	8.785	0.077	0.011	0.01	0.001	1.933	1.867	0.066
2000	9	9	6.515	6.516	-0.001	3.091	3.092	-0.001	146.94	146.936	0.004	8.399	8.337	0.062	0.079	0.085	-0.006	2.188	2.04	0.148
2000	9	10	6.333	6.339	-0.006	3.067	3.068	-0.001	139.363	138.853	0.510	8.369	8.295	0.074	0.451	0.448	0.003	1.399	1.361	0.038
2000	9	11	6.422	6.424	-0.002	3.081	3.083	-0.002	130.776	131.273	-0.497	8.88	8.748	0.132	0.266	0.26	0.006	0.951	0.932	0.019
2000	9	12	6.602	6.609	-0.007	3.087	3.088	-0.001	96.938	96.427	0.511	14.616	14.159	0.457	0.317	0.801	-0.484	0.972	0.96	0.012
2000	9	13	7.211	7.213	-0.002	3.126	3.128	-0.002	68.662	68.654	0.008	10.502	10.354	0.148	4.263	4.096	0.167	3.42	3.11	0.310
2000	9	14	7.436	7.438	-0.002	3.028	3.031	-0.003	31.815	31.799	0.016	12.216	11.691	0.525	11.598	12.825	-1.227	3.899	3.909	-0.010
2000	9	15	7.33	7.331	-0.001	3.093	3.095	-0.002	44.936	44.924	0.012	11.172	10.897	0.275	3.126	3.213	-0.087	1.938	1.878	0.060
2000	9	16	6.123	6.125	-0.002	3.052	3.053	-0.001	153.002	152.998	0.004	9.423	9.352	0.071	3.794	2.704	1.090	1.145	1.136	0.009
2000	9	17	6.402	6.404	-0.002	3.047	3.048	-0.001	83.304	83.297	0.007	9.804	9.598	0.206	1.369	1.368	0.001	1.438	1.408	0.030

Year	Month	Station	OC- 2010.1 Mean Temp	USGS Mean Temp	Delta Temp	OC- 2010.1 Mean Cond	USGS Mean Cond	Delta Cond	OC- 2010.1 Mean Press	USGS Mean Press	Delta Press	OC- 2010.1 Mean OBS	USGS Mean OBS	Delta OBS	OC- 2010.1 Mean PAR	USGS Mean PAR	Delta PAR	OC- 2010.1 Mean Fluor	USGS Mean Fluor	Delta Fluor
2000	9	18	6.25	6.258	-0.008	3.027	3.031	-0.004	100.978	100.467	0.511	15.946	13.946	2.000	0.006	0.016	-0.010	1.188	1.172	0.016
2000	9	19	6.027	6.03	-0.003	3.002	3.006	-0.004	111.078	111.072	0.006	25.197	25.016	0.181	0.215	0.21	0.005	1.219	1.2	0.019
2000	9	20	6.223	6.224	-0.001	2.982	2.987	-0.005	85.323	85.317	0.006	62.821	56.775	6.046	0.005	0.005	0.000	1.242	1.224	0.018
2000	9	21	6.729	6.734	-0.005	3.086	3.088	-0.002	91.383	90.872	0.511	39.712	38.111	1.601	0.009	0.391	-0.382	1.052	1.046	0.006
2000	9	22	7.198	7.203	-0.005	3.084	3.086	-0.002	72.196	71.683	0.513	8.184	8.055	0.129	1.151	1.212	-0.061	5.931	5.791	0.140
2000	9	23	7.381	-7.381		3.1974	-2.974		26.246	-26.246		9.308	-9.308		1.361	-1.361		16.121	-16.121	
2000	10	0	7.502	7.513	-0.011	3.167	3.166	0.001	24.248	23.722	0.526	9.953	9.572	0.381	0.05	0.035	0.015	4.822	4.776	0.046
2000	10	1	7.718	7.718	0.000	3.216	3.215	0.001	25.761	25.742	0.019	9.774	9.467	0.307	0.04	0.034	0.006	5.532	5.452	0.080
2000	10	2	7.645	7.646	-0.001	3.179	3.178	0.001	36.356	36.342	0.014	9.78	9.542	0.238	0.033	0.035	-0.002	5.549	5.514	0.035
2000	10	3	7.525	7.523	0.002	3.07	3.072	-0.002	24.248	23.722	0.526	10.28	9.912	0.368	0.036	0.05	-0.014	16.303	15.4	0.903
2000	10	23	7.372	7.372		2.945	2.945		25.761	25.761		9.358	9.358		1.935	1.935		16.537	16.537	
2000	12	0	5.475	5.472	0.003	3.008	3.007	0.001	24.248	24.219	0.029	23.893	23.192	0.701	3.746	3.69	0.056	1.293	1.257	0.036
2000	12	1	5.933	5.934	-0.001	3.073	3.072	0.001	23.239	23.21	0.029	27.466	26.668	0.798	3.031	2.997	0.034	1.09	1.079	0.011
2000	12	2	5.786	5.787	-0.001	3.046	3.044	0.002	37.534	37.767	-0.233	27.478	27.027	0.451	1.503	1.393	0.110	1.099	1.072	0.027
2000	12	3	5.834	5.835	-0.001	3.028	3.028	0.000	46.715	46.708	0.007	29.437	29.043	0.394	0.64	0.571	0.069	1.139	1.128	0.011
2000	12	4	6.127	6.127	0.000	3.061	3.061	0.000	130.271	130.768	-0.497	29.173	29.09	0.083	0.427	0.324	0.103	1.034	1.041	-0.007
2000	12	13	6.29	6.29	0.000	3.071	3.07	0.001	62.603	62.09	0.513	32.246	31.821	0.425	0.155	0.16	-0.005	0.943	0.937	0.006
2000	12	15	6.219	6.211	0.008	3.052	3.052	0.000	39.889	39.371	0.518	32.4	31.745	0.655	0.253	0.28	-0.027	0.813	0.792	0.021
2000	12	16	6.206	6.208	-0.002	3.069	3.07	-0.001	140.373	140.871	-0.498	28.884	28.783	0.101	0.356	0.324	0.032	0.624	0.616	0.008
2000	12	17	6.373	6.376	-0.003	3.07	3.07	0.000	75.73	75.218	0.512	24.168	23.836	0.332	1.03	1.126	-0.096	0.685	0.669	0.016
2001	2	0	5.112	5.105	0.007	3.002	3	0.002	23.744	24.732	-0.988	8.772	8.515	0.257	3.275	2.86	0.415	1.373	1.377	-0.004
2001	2	1	5.215	5.204	0.011	3.01	3.01	0.000	25.257	25.237	0.020	9.559	9.269	0.290	4.383	2.878	1.505	1.263	1.268	-0.005
2001	2	2	5.044	5.048	-0.004	2.97	2.971	-0.001	39.384	40.381	-0.997	8.547	8.402	0.145	14.308	15.551	-1.243	1.43	1.436	-0.006
2001	2	3	5.337	5.338	-0.001	2.996	2.997	-0.001	44.431	44.924	-0.493	8.126	7.997	0.129	24.739	20.955	3.784	1.016	1.012	0.004
2001	2	4	5.385	5.385	0.000	3.013	3.013	0.000	134.817	135.822	-1.005	8.595	8.566	0.029	5.619	6.406	-0.787	0.995	0.997	-0.002
2001	2	5	5.455	5.458	-0.003	3.019	3.019	0.000	150.982	151.482	-0.500	8.688	8.66	0.028	2.259	2.323	-0.064	1.021	1.023	-0.002
2001	2	6	5.643	5.644	-0.001	3.036	3.036	0.000	133.301	133.297	0.004	8.601	8.558	0.043	1.819	1.739	0.080	0.815	0.81	0.005
2001	3	1	5.119	5.12	-0.001	3.037	3.037	0.000	22.735	22.208	0.527	0.996	7.749	-6.753	0.056	0.059	-0.003	1.302	1.29	0.012
2001	3	2	5.149	5.151	-0.002	3.006	3.006	0.000	36.343	35.837	0.506	0.932	7.446	-6.514	14.55	14.751	-0.201	2.264	2.279	-0.015
2001	3	2	5.149	5.151	-0.002	3.006	3.006	0.000	36.343	35.837	0.506	0.932	7.446	-6.514	14.55	14.751	-0.201	2.264	2.278	-0.014
2001	3	3	5.269	5.202	0.067	2.996	2.989	0.007	43.433	42.4	1.033	0.892	7.077	-6.185	7.289	0.059	7.230	1.649	1.171	0.478
2001	3	4	5.219	5.221	-0.002	3.001	3.001	0.000	137.339	136.832	0.507	0.93	7.415	-6.485	0.083	0.084	-0.001	1.418	1.402	0.016
2001	4	0	5.108	5.105	0.003	3.051	3.048	0.003	25.257	24.227	1.030	12.012	11.506	0.506	0.081	0.062	0.019	1.678	1.658	0.020
2001	4	1	5.029	5.054	-0.025	3.017	3.032	-0.015	24.759	24.732	0.027	6.705	9.191	-2.486	0.063	0.072	-0.009	1.581	1.735	-0.154

Year	Mon- th	Sta- tion	OC- 2010.1 Mean Temp	USGS Mean Temp	Delta Temp	OC- 2010.1 Mean Cond	USGS Mean Cond	Delta Cond	OC- 2010.1 Mean Press	USGS Mean Press	Delta Press	OC- 2010.1 Mean OBS	USGS Mean OBS	Delta OBS	OC- 2010.1 Mean PAR	USGS Mean PAR	Delta PAR	OC- 2010.1 Mean Fluor	USGS Mean Fluor	Delta Fluor
2001	4	2	5.005	5.036	-0.031	3.018	3.029	-0.011	38.893	38.11	0.783	6.784	9.683	-2.899	0.549	0.342	0.207	1.529	1.797	-0.268
2001	4	3	5.017	5.044	-0.027	3.01	3.02	-0.010	46.767	46.096	0.671	6.991	10.046	-3.055	1.319	0.982	0.337	1.208	1.426	-0.218
2001	4	4	4.957	4.953	0.004	2.997	2.999	-0.002	130.273	129.758	0.515	4.762	8.643	-3.881	1.835	1.594	0.241	0.853	1.114	-0.261
2001	4	5	5.008	5.004	0.004	3.007	3.009	-0.002	152.499	151.482	1.017	5.956	10.976	-5.020	8.008	12.295	-4.287	0.857	0.968	-0.111
2001	4	6	5.025	5.022	0.003	3.005	3.007	-0.002	132.037	131.276	0.761	5.374	9.784	-4.410	1.099	1.207	-0.108	0.806	0.905	-0.099
2001	4	7	4.988	4.986	0.002	3.003	3.005	-0.002	146.942	146.428	0.514	5.489	10.061	-4.572	0.11	0.079	0.031	0.914	0.922	-0.108
2001	4	8	4.972	4.968	0.004	3.002	2.999	0.003	153.255	153.499	-0.244	5.94	10.885	-4.945	0.11	0.157	-0.047	0.899	0.900	-0.105
2001	4	9	4.939	4.938	0.001	2.999	3.002	-0.003	154.013	154.511	-0.498	5.953	10.931	-4.978	0.7	0.568	0.132	0.849	0.957	-0.108
2001	4	10	4.949	4.943	0.006	2.997	2.998	-0.001	138.858	138.853	0.005	5.864	10.647	-4.783	2.247	2.549	-0.302	0.796	0.895	-0.099
2001	4	13	4.975	4.977	-0.002	2.99	2.991	-0.001	69.682	69.663	0.019	4.784	10.499	-3.715	8.316	10.306	-1.990	1.189	1.486	-0.297
2001	4	14	5.069	5.072	-0.003	2.973	2.974	-0.001	33.078	32.809	0.269	4.724	8.384	-3.660	12.326	13.118	-0.792	2.871	3.757	-0.886
2001	4	16	5.1	5.098	0.002	2.996	2.999	-0.003	152.496	151.987	0.509	5.028	9.075	-4.047	2.358	2.575	-0.217	1.076	1.343	-0.267
2001	4	17	5.151	5.145	0.006	2.992	2.994	-0.002	70.173	70.168	0.005	4.936	8.855	-3.919	3.064	2.826	0.238	2.032	2.362	-0.330
2001	4	18	5.178	5.179	-0.001	2.998	3	-0.002	101.985	101.982	0.003	5.052	9.099	-4.047	5.323	5.704	-0.381	1.365	1.634	-0.269
2001	4	19	5.228	5.223	0.005	3	3.002	-0.002	96.433	95.921	0.512	5.131	9.223	-4.092	7.107	7.386	-0.279	1.66	1.912	-0.252
2001	4	22	5.048	5.046	0.002	2.996	2.997	-0.001	76.235	75.218	1.017	5.889	10.728	-4.839	17.345	18.679	-1.334	0.99	1.058	-0.068
2001	4	23	5.185	5.183	0.002	2.999	3	-0.001	30.043	29.78	0.263	6.213	10.938	-4.725	38.029	36.806	1.223	0.985	1.076	-0.091
2001	5	4	5.461		5.461	3.058		3.058	127.327		127.327	2.166		2.166	3.656		3.656	2.772		2.772
2001	7	0	8.381	8.387	-0.006	3.244	3.243	0.001	23.998	23.977	0.021	44.124	42.642	1.482	76.225	65.657	10.568	6.968	6.919	0.049
2001	7	1	7.861	7.893	-0.032	3.222	3.224	-0.002	21.981	21.959	0.022	44.359	42.665	1.694	104.621	115.501	-10.880	3.927	3.908	0.019
2001	7	2	7.785	7.776	0.009	3.198	3.203	-0.005	34.019	34.044	-0.025	45.058	44.51	0.548	34.686	43.816	-9.130	3.38	3.381	-0.001
2001	7	3	7.5	7.518	-0.018	3.143	3.148	-0.005	48.491	48.152	0.339	45.481	44.63	0.851	27.942	30.788	-2.846	2.958	2.953	0.005
2001	7	4	6.294	6.302	-0.008	3.105	3.107	-0.002	144.92	144.41	0.510	45.354	45.088	0.266	1.878	2.795	-0.917	1.691	1.673	0.018
2001	7	5	6.215	6.218	-0.003	3.104	3.105	-0.001	154.518	154.513	0.005	63.687	63.382	0.305	1.117	1.157	-0.040	1.547	1.522	0.025
2001	7	6	6.384	6.392	-0.008	3.101	3.104	-0.003	123.705	123.194	0.511	49.48	49.197	0.283	2.879	3.193	-0.314	2.092	2.109	-0.017
2001	7	7	6.106	6.111	-0.005	3.089	3.091	-0.002	153.508	152.998	0.510	46.16	45.942	0.218	2.172	2.559	-0.387	1.729	1.692	0.037
2001	7	8	5.948	5.954	-0.006	3.075	3.076	-0.001	155.023	155.019	0.004	46.52	46.542	-0.022	0.524	0.581	-0.057	1.519	1.531	-0.012
2001	7	9	5.895	5.9	-0.005	3.068	3.07	-0.002	151.487	151.482	0.005	46.297	45.999	0.298	0.304	0.347	-0.043	1.504	1.481	0.023
2001	7	10	5.76	5.77	-0.010	3.056	3.058	-0.002	153.508	152.998	0.510	46.199	45.903	0.296	9.56	11.1	-1.540	1.519	1.491	0.028
2001	7	11	5.575	5.577	-0.002	3.043	3.044	-0.001	155.528	155.019	0.509	49.259	48.997	0.262	4.025	4.257	-0.232	1.307	1.302	0.005
2001	7	12	5.424	5.426	-0.002	3.014	3.018	-0.004	131.786	131.781	0.005	68.068	67.712	0.356	3.738	3.549	0.189	1.849	1.8	0.049
2001	7	13	7.066	7.069	-0.003	3.134	3.137	-0.003	70.681	70.673	0.008	121.725	120.516	1.209	0.018	0.027	-0.009	3.503	3.465	0.038
2001	7	15	7.215	7.234	-0.019	3.131	3.132	-0.001	43.422	42.905	0.517	110.086	110.569	-0.483	0.025	0.04	-0.015	4.36	4.467	-0.107
2001	7	16	5.816	5.819	-0.003	3.061	3.062	-0.001	147.951	147.946	0.005	84.089	83.659	0.430	1.28	1.478	-0.198	1.246	1.224	0.022

Year	Mon- th	Sta- tion	OC- 2010.1 Mean Temp	USGS Mean Temp	Delta Temp	OC- 2010.1 Mean Cond	USGS Mean Cond	Delta Cond	OC- 2010.1 Mean Press	USGS Mean Press	Delta Press	OC- 2010.1 Mean OBS	USGS Mean OBS	Delta OBS	OC- 2010.1 Mean PAR	USGS Mean PAR	Delta PAR	OC- 2010.1 Mean Fluor	USGS Mean Fluor	Delta Fluor
2001	7	17	5.98	5.996	-0.016	3.047	3.05	-0.003	92.898	92.387	0.511	68.584	68.111	0.473	14.63	13.754	0.876	1.632	1.655	-0.023
2001	7	18	5.754	5.758	-0.004	3.02	3.024	-0.004	102.493	102.487	0.006	59.329	58.843	0.486	10.873	11.825	-0.952	1.229	1.219	0.010
2001	7	19	5.449	5.444	0.005	2.998	3.001	-0.003	111.583	111.072	0.511	66.079	65.454	0.625	4.09	4.771	-0.681	0.962	0.958	0.004
2001	7	20	5.586	5.581	0.005	2.991	2.99	0.001	82.294	81.782	0.512	89.694	87.778	1.916	0.238	0.692	-0.454	1.382	1.362	0.020
2001	7	21	5.419	5.423	-0.004	3.01	3.01	0.000	122.189	121.679	0.510	82.838	81.77	1.068	0.343	1.064	-0.721	2.127	2.056	0.071
2001	7	22	6.459	6.463	-0.004	3.069	3.074	-0.005	75.73	75.723	0.007	269.243	266.794	2.449	0.831	0.932	-0.101	2.092	2.04	0.052
2001	7	23	6.538	6.502	0.036	2.931	2.992	-0.061	30.301	30.285	0.016	205.712	204.627	1.085	0.284	0.171	0.113	2.323	2.376	-0.053
2001	10	0	6.768	6.776	-0.008	3.105	3.105	0.000	24.752	24.227	0.525	2.528	2.466	0.062	14.673	14.922	-0.249	0.546	0.543	0.003
2001	10	1	7.12	7.124	-0.004	3.146	3.145	0.001	24.513	24.238	0.275	3.345	3.284	0.061	11.778	11.935	-0.157	0.413	0.415	-0.002
2001	10	2	7.376	7.123	0.253	3.13	3.118	0.012	35.331	34.835	0.496	3.639	2.443	1.196	6.528	16.274	-9.746	0.474	0.395	0.079
2001	10	3	7.32	7.069	0.251	3.101	3.086	0.015	42.566	45.983	-3.417	3.579	2.325	1.254	4.341	12.007	-7.666	0.506	0.407	0.099
2001	10	4	6.897	6.902	-0.005	3.115	3.116	-0.001	131.786	131.276	0.510	1.933	1.921	0.012	1.02	1.009	0.011	0.106	0.138	-0.032
2001	10	5	6.877	6.878	-0.001	3.113	3.113	0.000	148.456	148.451	0.005	1.409	1.398	0.011	0.029	0.028	0.001	0.298	0.294	0.004
2001	10	6	7.191	7.193	-0.002	3.124	3.125	-0.001	108.048	108.042	0.006	1.143	1.132	0.011	0.331	0.319	0.012	0.41	0.404	0.006
2001	10	7	7.161	7.162	-0.001	3.122	3.122	0.000	123.725	123.699	0.026	1.064	1.043	0.021	0.555	0.689	-0.134	0.246	0.235	0.011
2001	10	8	6.984	6.99	-0.006	3.114	3.114	0.000	148.456	147.946	0.510	1.236	1.226	0.010	0.473	0.581	-0.108	0.283	0.278	0.005
2001	10	9	6.883	6.884	-0.001	3.101	3.102	-0.001	154.009	154.008	0.001	1.254	1.233	0.021	0.849	0.812	0.037	0.278	0.274	0.004
2001	10	10	6.661	6.666	-0.005	3.087	3.087	0.000	156.535	156.029	0.506	1.184	1.177	0.007	0.849	0.844	0.005	0.284	0.28	0.004
2001	10	11	6.708	6.71	-0.002	3.089	3.089	0.000	155.023	155.019	0.004	1.205	1.197	0.008	0.795	0.808	-0.013	0.267	0.259	0.008
2001	10	12	6.632	6.638	-0.006	3.077	3.077	0.000	139.359	138.853	0.506	1.781	1.723	0.058	0.463	0.491	-0.028	0.23	0.22	0.010
2001	10	13	7.255	7.26	-0.005	3.108	3.108	0.000	67.147	66.634	0.513	1.437	1.418	0.019	4.183	4.233	-0.050	0.129	0.148	-0.019
2001	10	14	7.279	7.281	-0.002	3.037	3.038	-0.001	27.779	27.761	0.018	1.712	1.674	0.038	6.793	7.084	-0.291	0.366	0.358	0.008
2001	10	16	6.723	6.728	-0.005	3.068	3.068	0.000	102.998	102.487	0.511	1.544	1.543	0.001	1.847	1.915	-0.068	0.081	0.173	-0.092
2001	10	17	6.625	6.626	-0.001	3.064	3.065	-0.001	101.983	101.982	0.001	1.598	1.58	0.018	0.397	0.396	0.001	0.081	0.349	-0.268
2001	10	18	6.617	6.623	-0.006	3.053	3.055	-0.002	103.503	102.992	0.511	1.845	1.841	0.004	0.362	0.377	-0.015	0.086	0.112	-0.026
2001	10	19	6.5	6.501	-0.001	3.029	3.031	-0.002	108.548	108.547	0.001	2.273	2.273	0.000	0.077	0.077	0.000	0.158	0.158	0.000
2001	10	20	6.744	6.745	-0.001	3.02	3.023	-0.003	86.327	86.327	0.000	2.864	2.778	0.086	0.036	0.035	0.001	0.222	0.219	0.003
2001	10	21	6.909	6.909	0.000	3.083	3.082	0.001	108.553	108.547	0.006	2.86	2.772	0.088	0.265	0.302	-0.037	0.264	0.255	0.009
2001	10	22	7.485	7.487	-0.002	3.127	3.128	-0.001	68.149	68.149	0.000	1.357	1.358	-0.001	0.034	0.035	-0.001	0.284	0.284	0.000
2001	10	23	7.637	7.626	0.011	3.099	3.095	0.004	24.793	24.732	0.061	1.792	1.783	0.009	0.041	0.053	-0.012	0.278	0.299	-0.021
2002	1	0	5.127	5.13	-0.003	3.004	3.004	0.000	22.987	22.796	0.191	1.348	1.334	0.014	2.382	2.417	-0.035	0.085	0.084	0.001
2002	1	1	5.42	5.423	-0.003	3.029	3.029	0.000	27.495	27.284	0.211	1.719	1.675	0.044	1.776	1.724	0.052	0.065	0.065	0.000
2002	1	2	5.311	5.312	-0.001	3.006	3.006	0.000	40.898	40.892	0.006	1.595	1.574	0.021	0.854	0.873	-0.019	0.065	0.123	-0.058
2002	1	3	5.303	5.304	-0.001	2.997	2.996	0.001	48.469	47.953	0.516	1.511	1.487	0.024	0.408	0.425	-0.017	0.058	0.089	-0.031

Year	Mon- th	Sta- tion	OC- 2010.1 Mean Temp	USGS Mean Temp	Delta Temp	OC- 2010.1 Mean Cond	USGS Mean Cond	Delta Cond	OC- 2010.1 Mean Press	USGS Mean Press	Delta Press	OC- 2010.1 Mean OBS	USGS Mean OBS	Delta OBS	OC- 2010.1 Mean PAR	USGS Mean PAR	Delta PAR	OC- 2010.1 Mean Fluor	USGS Mean Fluor	Delta Fluor
2002	1	4	5.333	5.335	-0.002	2.998	2.998	0.000	143.401	142.894	0.507	1.35	1.349	0.001	0.031	0.032	-0.001	0.099	0.099	0.000
2002	1	5	5.327	5.33	-0.003	3.001	3.002	-0.001	149.466	149.964	-0.498	1.272	1.247	0.025	0.329	0.321	0.008	0.003	0.017	-0.014
2002	1	6	5.413	5.414	-0.001	3.004	3.005	-0.001	132.796	132.286	0.510	1.113	1.106	0.007	0.501	0.508	-0.007	0.257	0.255	0.002
2002	1	7	5.424	5.426	-0.002	3.008	3.008	0.000	143.404	143.399	0.005	1.131	1.126	0.005	0.316	0.318	-0.002	0.128	0.128	0.000
2002	1	8	5.504	5.505	-0.001	3.016	3.016	0.000	142.394	142.389	0.005	1.111	1.106	0.005	1.051	1.081	-0.030	0.001	0.009	-0.008
2002	1	13	5.329	5.33	-0.001	2.984	2.984	0.000	61.585	61.08	0.505	1.254	1.243	0.011	0.036	0.034	0.002	0.072	0.071	0.001
2002	1	14	5.312	5.312	0.000	2.959	2.959	0.000	34.323	33.818	0.505	1.28	1.279	0.001	0.251	0.254	-0.003	0.118	0.119	-0.001
2002	1	16	5.559	5.56	-0.001	3.006	3.006	0.000	154.515	154.008	0.507	1.363	1.358	0.005	0.106	0.107	-0.001	0.03	0.031	-0.001
2002	1	17	5.658	5.659	-0.001	3.005	3.005	0.000	92.387	92.387	0.000	1.347	1.344	0.003	0.31	0.311	-0.001	0.064	0.064	0.000
2002	1	18	5.809	5.81	-0.001	3.017	3.018	-0.001	102.493	101.982	0.511	1.404	1.372	0.032	0.358	0.36	-0.002	0.041	0.049	-0.008
2002	1	19	5.926	5.928	-0.002	3.03	3.03	0.000	110.568	110.567	0.001	1.642	1.641	0.001	0.339	0.338	0.001	0.119	0.119	0.000
2002	1	20	5.913	5.915	-0.002	3.024	3.025	-0.001	86.832	86.832	0.000	1.577	1.551	0.026	0.408	0.403	0.005	0.149	0.146	0.003
2002	1	22	5.357	5.358	-0.001	2.992	2.992	0.000	65.128	64.614	0.514	1.261	1.244	0.017	0.073	0.076	-0.003	0		0.000
2002	1	23	5.578	5.578	0.000	3.003	3.002	0.001	24.732	24.732	0.000	1.663	1.626	0.037	0.025	0.025	0.000	0	0.001	-0.001
2002	3	0	4.134	4.136	-0.002	2.944	2.942	0.002	23.239	22.713	0.526	1.658	1.596	0.062	9.173	9.259	-0.086	0.426	0.43	-0.004
2002	3	1	4.116	4.117	-0.001	2.922	2.921	0.001	28.266	28.265	0.001	1.751	1.718	0.033	8.367	7.954	0.413	0.425	0.424	0.001
2002	3	2	4.113	4.114	-0.001	2.908	2.907	0.001	32.824	33.303	-0.479	1.436	1.393	0.043	16.851	13.637	3.214	0.455	0.46	-0.005
2002	3	4	3.991	4	-0.009	2.921	2.916	0.005	134.063	134.307	-0.244	3.388	1.289	2.099	6.222	5.604	0.618	0.709	0.254	0.455
2002	3	5	4.03	4.039	-0.009	2.926	2.921	0.005	153.509	152.493	1.016	3.411	1.26	2.151	7.77	7.607	0.163	0.808	0.402	0.406
2002	3	7	4.108	4.12	-0.012	2.935	2.93	0.005	150.983	150.472	0.511	3.428	1.286	2.142	2.837	2.518	0.319	0.534	0.284	0.250
2002	3	8	4.201	4.213	-0.012	2.942	2.937	0.005	151.233	150.472	0.761	3.437	1.335	2.102	13.256	1.587	4.669	0.523	0.391	0.132
2002	3	15	4.196	4.209	-0.013	2.921	2.917	0.004	50.247	50.982	-0.735	3.295	1.238	2.057	4.999	3.9	1.099	0.787	0.334	0.453
2002	3	16	4.255	4.267	-0.012	2.932	2.927	0.005	153.255	152.493	0.762	3.402	1.263	2.139	7.464	4.85	2.614	0.556	0.32	0.236
2002	3	17	4.286	4.301	-0.015	2.93	2.926	0.004	87.343	87.337	0.006	3.39	1.304	2.086	10.277	4.341	5.936	0.473	0.228	0.245
2002	3	18	4.348	4.355	-0.007	2.936	2.931	0.005	107.543	107.537	0.006	3.419	1.342	2.077	11.152	11.003	0.149	0.516	0.213	0.303
2002	4	0	4.73	4.738	-0.008	3.015	3.02	-0.005	23.61	22.54	1.070	3.652	3.398	0.254	13.994	17.275	-3.281	3.068	3.055	0.013
2002	4	1	4.797	4.796	0.001	3.033	3.032	0.001	24.554	24.32	0.234	2.632	2.552	0.080	22.897	19.772	3.125	2.652	2.652	0.000
2002	4	2	4.717	4.717	0.000	3.022	3.022	0.000	39.146	39.133	0.013	2.659	2.614	0.045	8.465	8.806	-0.341	2.887	2.844	0.043
2002	4	3	4.236	4.236	0.000	2.94	2.939	0.001	50.993	50.478	0.515	1.652	1.618	0.034	4.375	4.642	-0.267	1.985	1.969	0.016
2002	4	4	4.328	4.329	-0.001	2.962	2.962	0.000	143.404	143.399	0.005	1.897	1.89	0.007	1.691	1.671	0.020	1.329	1.324	0.005
2002	4	5	4.325	4.325	0.000	2.963	2.963	0.000	151.487	150.977	0.510	1.775	1.761	0.014	1.503	2.105	-0.602	1.718	1.69	0.028
2002	4	22	4.214	4.218	-0.004	2.933	2.933	0.000	76.235	75.723	0.512	1.665	1.642	0.023	4.129	4.201	-0.072	3.05	3.07	-0.020
2002	4	23	4.514	4.518	-0.004	2.924	2.923	0.001	24.248	24.227	0.021	2.651	2.608	0.043	36.49	38.623	-2.133	8.124	8.263	-0.139
2002	5	6	4.499	4.499	0.000	2.987	2.987	0.000	133.807	132.791	1.016	2.732	2.711	0.021	1.733	1.758	-0.025	1.542	1.543	-0.001

Year	Month	Station	OC- 2010.1 Mean Temp	USGS Mean Temp	Delta Temp	OC- 2010.1 Mean Cond	USGS Mean Cond	Delta Cond	OC- 2010.1 Mean Press	USGS Mean Press	Delta Press	OC- 2010.1 Mean OBS	USGS Mean OBS	Delta OBS	OC- 2010.1 Mean PAR	USGS Mean PAR	Delta PAR	OC- 2010.1 Mean Fluor	USGS Mean Fluor	Delta Fluor
2002	5	7	4.525	4.526	-0.001	2.993	2.993	0.000	154.518	154.008	0.510	3.271	3.251	0.020	6.534	6.092	0.442	1.595	1.593	0.002
2002	5	8	4.438	4.444	-0.006	2.986	2.987	-0.001	154.518	154.513	0.005	2.8	2.781	0.019	6.768	7.433	-0.665	0.938	0.934	0.004
2002	5	10	4.373	4.369	0.004	2.98	2.979	0.001	154.518	154.513	0.005	2.922	2.876	0.046	1.204	1.056	0.148	1.001	0.972	0.029
2002	5	13	4.39	4.39	0.000	2.963	2.963	0.000	67.147	66.634	0.513	3.612	3.559	0.053	14.131	16.059	-1.928	2.059	2.037	0.022
2002	5	14	4.277	4.31	-0.033	2.944	2.944	0.000	35.418	35.333	0.085	3.724	3.559	0.165	9.056	20.468	-11.412	2.208	2.08	0.128
2002	5	16	4.318	4.319	-0.001	2.958	2.959	-0.001	154.518	154.008	0.510	3.494	3.471	0.023	1.178	1.158	0.020	0.925	0.923	0.002
2002	5	17	4.248	4.252	-0.004	2.948	2.949	-0.001	90.373	90.367	0.006	3.624	3.581	0.043	2.203	6.107	-3.904	0.813	0.78	0.033
2002	5	18	4.217	4.218	-0.001	2.945	2.945	0.000	99.968	99.962	0.006	3.591	3.564	0.027	18.806	21.025	-2.219	0.287	0.283	0.004
2002	5	19	4.189	4.191	-0.002	2.943	2.943	0.000	113.098	113.093	0.005	3.552	3.532	0.020	19.991	20.221	-0.230	0.218	0.216	0.002
2002	5	20	4.184	4.189	-0.005	2.94	2.939	0.001	86.333	86.327	0.006	3.568	3.53	0.038	21.402	19.215	2.187	0.119	0.124	-0.005
2002	7	0	7.496	7.455	0.041	3.197	3.198	-0.001	23.744	23.218	0.526	2.789	2.719	0.070	3.938	4.235	-0.297	4.348	4.244	0.104
2002	7	1	7.257	7.264	-0.007	3.224	3.223	0.001	24.752	24.918	-0.166	2.361	2.306	0.055	13.862	13.229	0.633	3.795	3.769	0.026
2002	7	2	7.399	7.409	-0.010	3.204	3.205	-0.001	34.696	34.485	0.211	2.532	2.492	0.040	10.748	11.627	-0.879	4.498	4.44	0.058
2002	7	3	6.547	6.545	0.002	3.108	3.109	-0.001	47.218	47.244	-0.026	2.154	2.121	0.033	4.769	5.277	-0.508	3.857	3.618	0.239
2002	7	4	5.636	5.638	-0.002	3.058	3.059	-0.001	120.674	120.669	0.005	1.13	1.123	0.007	1.732	1.727	0.005	0.828	0.765	0.063
2002	7	5	5.432	5.436	-0.004	3.054	3.055	-0.001	155.528	155.019	0.509	1.728	1.705	0.023	2.706	3.071	-0.365	2.037	2.011	0.026
2002	7	6	5.25	5.253	-0.003	3.034	3.035	-0.001	135.823	135.317	0.506	1.032	1.022	0.010	1.265	1.207	0.058	0.707	0.689	0.018
2002	7	7	5.247	5.248	-0.001	3.034	3.035	-0.001	151.992	151.987	0.005	1.035	1.013	0.022	1.237	1.25	-0.013	0.684	0.672	0.012
2002	7	8	5.12	5.121	-0.001	3.018	3.021	-0.003	152.494	152.493	0.001	1.171	1.142	0.029	3.346	3.195	0.151	0.512	0.501	0.011
2002	7	9	5.084	5.086	-0.002	3.013	3.016	-0.003	141.885	141.379	0.506	1.364	1.33	0.034	1.516	1.456	0.060	0.44	0.436	0.004
2002	7	10	4.952	4.954	-0.002	3.004	3.006	-0.002	152.494	152.493	0.001	1.619	1.557	0.062	2.914	2.882	0.032	0.277	0.276	0.001
2002	7	11	4.672	4.673	-0.001	2.978	2.98	-0.002	155.02	155.019	0.001	1.527	1.508	0.019	2.232	2.213	0.019	0.379	0.379	0.000
2002	7	12	4.52	4.521	-0.001	2.955	2.957	-0.002	135.823	135.317	0.506	30.208	29.94	0.268	1.902	1.691	0.211	0.333	0.33	0.003
2002	7	13	6.221	6.222	-0.001	3.087	3.088	-0.001	61.585	61.585	0.000	1.271	1.272	-0.001	9.676	9.851	-0.175	1.088	1.087	0.001
2002	7	14	6.799	6.801	-0.002	3.08	3.083	-0.003	28.283	28.265	0.018	1.526	1.45	0.076	23.606	23.643	-0.037	1.795	1.798	-0.003
2002	7	16	5.158	5.158	0.000	3.01	3.013	-0.003	132.287	132.286	0.001	1.072	1.057	0.015	0.803	0.797	0.006	0.617	0.6	0.017
2002	7	17	5.359	5.362	-0.003	2.986	2.992	-0.006	68.654	68.654	0.000	1.495	1.384	0.111	1.392	1.287	0.105	0.819	0.807	0.012
2002	7	18	4.975	4.979	-0.004	2.977	2.98	-0.003	92.387	91.882	0.505	1.883	1.765	0.118	0.6	0.622	-0.022	0.586	0.575	0.011
2002	7	19	4.648	4.647	0.001	2.938	2.939	-0.001	96.433	95.922	0.511	8.221	8.075	0.146	0.216	0.251	-0.035	0.35	0.346	0.004
2002	7	20	4.724	4.728	-0.004	2.92	2.926	-0.006	74.713	74.713	0.000	32.755	31.974	0.781	0.051	0.05	0.001	0.296	0.293	0.003
2002	7	21	4.521	4.523	-0.002	2.929	2.932	-0.003	107.538	107.032	0.506	87.39	87.07	0.320	1.363	1.19	0.173	0.326	0.317	0.009
2002	7	22	5.664	5.634	0.030	3.017	3.029	-0.012	72.701	72.693	0.008	1.694	1.687	0.007	4.947	3.933	1.014	1.757	1.751	0.006
2002	7	23	5.795	5.837	-0.042	2.921	2.923	-0.002	25.257	25.237	0.020	5.459	3.464	1.995	5.166	8.245	-3.079	2.419	2.296	0.123
2002	8	0	7.917	7.921	-0.004	3.181	3.182	-0.001	19.722	19.461	0.261	3.887	3.751	0.136	24.588	25.647	-1.059	1.063	1.051	0.012

Year	Mon- th	Sta- tion	OC- 2010.1 Mean Temp	USGS Mean Temp	Delta Temp	OC- 2010.1 Mean Cond	USGS Mean Cond	Delta Cond	OC- 2010.1 Mean Press	USGS Mean Press	Delta Press	OC- 2010.1 Mean OBS	USGS Mean OBS	Delta OBS	OC- 2010.1 Mean PAR	USGS Mean PAR	Delta PAR	OC- 2010.1 Mean Fluor	USGS Mean Fluor	Delta Fluor
2002	8	1	7.634	7.636	-0.002	3.216	3.217	-0.001	25.027	24.772	0.255	4.497	4.456	0.041	16.617	17.92	-1.303	0.971	0.955	0.016
2002	8	2	7.878	7.883	-0.005	3.16	3.16	0.000	35.347	34.828	0.519	3.508	3.443	0.065	11.838	11.284	0.554	1.515	1.505	0.010
2002	8	3	7.518	7.527	-0.009	3.124	3.126	-0.002	43.128	42.831	0.297	2.992	2.967	0.025	7.947	8.164	-0.217	1.273	1.239	0.034
2002	8	4	6.249	6.253	-0.004	3.083	3.085	-0.002	125.986	125.683	0.303	1.572	1.562	0.010	2.571	2.394	0.177	0.739	0.736	0.003
2002	8	5	5.954	5.955	-0.001	3.065	3.067	-0.002	156.033	156.029	0.004	1.372	1.363	0.009	1.074	1.088	-0.014	0.658	0.645	0.013
2002	10	0	7.734	7.731	0.003	3.097	3.099	-0.002	21.726	21.951	-0.225	1.451	1.435	0.016	5.703	4.944	0.759	2.163	2.191	-0.028
2002	10	1	7.426	7.43	-0.004	3.196	3.195	0.001	24.503	23.977	0.526	2.409	2.336	0.073	5.585	5.374	0.211	1.527	1.492	0.035
2002	10	2	7.384	7.389	-0.005	3.167	3.167	0.000	39.384	39.624	-0.240	2.474	2.454	0.020	5.469	5.328	0.141	1.933	1.87	0.063
2002	10	3	7.314	7.317	-0.003	3.13	3.131	-0.001	48.096	48.333	-0.237	1.963	1.944	0.019	2.758	2.693	0.065	2.111	2.051	0.060
2002	10	4	6.655	6.658	-0.003	3.114	3.115	-0.001	135.072	135.065	0.007	1.583	1.573	0.010	0.61	0.642	-0.032	1.31	1.123	0.187
2002	10	5	6.276	6.275	0.001	3.094	3.095	-0.001	154.013	154.511	-0.498	1.117	1.112	0.005	0.337	0.304	0.033	2.31	1.894	0.416
2002	10	6	6.389	6.391	-0.002	3.096	3.097	-0.001	139.868	139.863	0.005	0.994	0.985	0.009	0.759	0.898	-0.139	2.366	1.951	0.415
2002	10	7	6.276	6.277	-0.001	3.086	3.087	-0.001	155.528	155.524	0.004	0.991	0.978	0.013	0.698	0.737	-0.039	2.775	2.328	0.447
2002	10	8	6.205	6.205	0.000	3.083	3.084	-0.001	155.528	156.027	-0.499	0.966	0.958	0.008	0.574	0.506	0.068	2.839	2.32	0.519
2002	10	9	6.057	6.059	-0.002	3.074	3.075	-0.001	155.023	155.019	0.004	0.938	0.93	0.008	0.79	0.855	-0.065	1.583	1.397	0.186
2002	10	10	5.973	5.975	-0.002	3.061	3.064	-0.003	154.518	155.018	-0.500	0.986	0.98	0.006	0.803	0.591	0.212	1.635	1.555	0.080
2002	10	11	5.869	5.873	-0.004	3.048	3.052	-0.004	153.508	153.503	0.005	0.998	0.978	0.020	0.371	0.29	0.081	1.538	1.449	0.089
2002	10	12	5.622	5.624	-0.002	3.021	3.023	-0.002	139.363	139.355	0.008	2.387	2.302	0.085	0.177	0.154	0.023	1.834	1.438	0.396
2002	10	13	7.044	7.046	-0.002	3.104	3.106	-0.002	71.691	71.683	0.008	1.612	1.6	0.012	0.44	0.452	-0.012	1.015	0.921	0.094
2002	10	14	7.067	7.069	-0.002	3.057	3.057	0.000	34.843	34.828	0.015	1.491	1.448	0.043	0.781	0.834	-0.053	1.83	1.656	0.174
2002	10	16	5.766	5.767	-0.001	3.037	3.037	0.000	150.476	150.472	0.004	1.469	1.451	0.018	0.337	0.363	-0.026	0.421	0.416	0.005
2002	10	17	6.209	6.21	-0.001	3.046	3.043	0.003	89.868	89.357	0.511	1.478	1.442	0.036	1.074	1.175	-0.101	0.433	0.423	0.010
2002	10	18	5.97	5.968	0.002	3.02	3.021	-0.001	102.998	102.992	0.006	2.028	2.009	0.019	0.412	0.54	-0.128	0.373	0.376	-0.003
2002	10	19	5.818	5.815	0.003	3.013	3.011	0.002	108.553	108.042	0.511	4.535	4.486	0.049	0.8	0.936	-0.136	0.285	0.279	0.006
2002	10	20	5.975	5.977	-0.002	3.019	3.021	-0.002	87.848	87.842	0.006	7.905	7.755	0.150	0.175	0.362	-0.187	0.278	0.265	0.013
2002	10	21	5.905	5.903	0.002	3.024	3.021	0.003	93.403	92.892	0.511	3.079	2.907	0.172	0.215	0.354	-0.139	2.039	1.547	0.492
2002	10	22	6.895	6.899	-0.004	3.105	3.114	-0.009	77.258	77.741	-0.483	0.969	0.976	-0.007	0.92	0.532	0.388	2.799	2.766	0.033
2002	10	23	7.026	7.033	-0.007	2.974	2.99	-0.016	29.797	29.78	0.017	4.251	4.068	0.183	2.211	3.022	-0.811	6.396	6.46	-0.064
2003	2	1	5.688	5.689	-0.001	3.052	3.052	0.000	23.723	23.722	0.001	3.986	3.987	-0.001	1.467	1.467	0.000	1.391	1.391	0.000
2003	2	2	5.575	5.576	-0.001	3.01	3.01	0.000	39.371	39.371	0.000	2.99	2.958	0.032	5.967	5.819	0.148	1.486	1.48	0.006
2003	2	3	5.652	5.653	-0.001	3.014	3.014	0.000	50.983	50.982	0.001	2.915	2.881	0.034	1.949	1.969	-0.020	1.199	1.177	0.022
2003	2	4	5.678	5.679	-0.001	3.034	3.034	0.000	142.895	142.894	0.001	3.059	3.059	0.000	0.284	0.284	0.000	0.857	0.857	0.000
2003	2	13	5.778	5.78	-0.002	3.028	3.029	-0.001	66.13	66.129	0.001	2.913	2.913	0.000	0.027	0.027	0.000	0.831	0.83	0.001
2003	2	16	5.794	5.795	-0.001	3.046	3.046	0.000	153.504	153.503	0.001	2.855	2.855	0.000	1.092	1.092	0.000	0.841	0.84	0.001

			OC-2010.1			USGS			OC-2010.1			USGS			OC-2010.1			USGS			OC-2010.1			USGS		
Year	Mon-th	Sta-tion	Mean Temp	Mean Temp	Delta Temp	Mean Cond	Mean Cond	Delta Cond	Mean Press	Mean Press	Delta Press	Mean OBS	Mean OBS	Delta OBS	Mean PAR	Mean PAR	Delta PAR	Mean Fluor	Mean Fluor	Delta Fluor						
2003	2	17	5.799	5.8	-0.001	3.031	3.032	-0.001	85.822	85.822	0.000	2.882	2.882	0.000	1.906	1.906	0.000	0.808	0.808	0.000						
2003	2	18	5.857	5.859	-0.002	3.045	3.045	0.000	106.023	106.022	0.001	2.805	2.805	0.000	2.735	2.735	0.000	0.709	0.708	0.001						
2003	3	0	5.228	5.229	-0.001	3.033	3.033	0.000	24.248	23.722	0.526	3.99	3.884	0.106	38.967	40.802	-1.835	1.687	1.693	-0.006						
2003	3	1	5.251	5.252	-0.001	3.051	3.051	0.000	29.78	29.275	0.505	3.848	3.84	0.008	43.275	42.973	0.302	1.714	1.713	0.001						
2003	3	2	5.186	5.187	-0.001	3.031	3.031	0.000	37.352	37.352	0.000	3.974	3.975	-0.001	48.034	49.08	-1.046	1.667	1.666	0.001						
2003	3	3	5.111	5.113	-0.002	3.004	3.004	0.000	52.497	52.497	0.000	3.051	3.05	0.001	32.558	32.558	0.000	1.561	1.561	0.000						
2003	3	4	5.043	5.045	-0.002	3.003	3.003	0.000	127.741	127.235	0.506	3.035	3.02	0.015	2.804	2.673	0.131	1.451	1.446	0.005						
2003	3	13	5.008	5.009	-0.001	2.991	2.99	0.001	60.584	60.575	0.009	2.972	2.931	0.041	6.499	6.332	0.167	2.367	2.323	0.044						
2003	3	14	5.063	5.065	-0.002	2.979	2.979	0.000	30.285	29.78	0.505	3.076	3.023	0.053	32.059	32.652	-0.593	3.094	3.116	-0.022						
2003	3	16	5.003	5.004	-0.001	2.987	2.987	0.000	146.432	146.43	0.002	3.161	3.161	0.000	3.78	3.78	0.000	1.093	1.093	0.000						
2003	3	17		5.081	-5.081		2.984	-2.984		73.198	-73.198		3.049	-3.049		5.336	-5.336		1.546	-1.546						
2003	3	18		5.119	-5.119		2.983	-2.983		79.257	-79.257		3.243	-3.243		1.99	-1.990		1.878	-1.878						
2003	4	0	5.132	5.134	-0.002	3.045	3.044	0.001	25.237	24.732	0.505	4.168	3.99	0.178	35.823	39.71	-3.887	2.007	2.031	-0.024						
2003	4	1	5.301	5.301	0.000	3.075	3.075	0.000	24.752	24.227	0.525	3.609	3.512	0.097	50.423	48.19	2.233	1.835	1.844	-0.009						
2003	4	2	5.282	5.283	-0.001	3.074	3.073	0.001	38.375	38.362	0.013	4.114	4.026	0.088	35.696	28.123	7.573	1.851	1.856	-0.005						
2003	4	3	5.069	5.07	-0.001	3.034	3.034	0.000	47.964	47.953	0.011	4.139	4.138	0.001	6.978	6.221	0.757	1.953	1.961	-0.008						
2003	4	4	4.975	4.976	-0.001	2.997	2.997	0.000	124.206	123.699	0.507	3.144	3.131	0.013	5.378	5.343	0.035	1.494	1.493	0.001						
2003	4	5	4.99	4.991	-0.001	3.005	3.006	-0.001	146.94	146.936	0.004	3.131	3.12	0.011	1.183	1.263	-0.080	1.619	1.611	0.008						
2003	4	6	5.009	5.01	-0.001	3.005	3.005	0.000	128.25	128.245	0.005	3.033	3.013	0.020	1.845	1.832	0.013	1.005	0.999	0.006						
2003	4	7	4.985	4.986	-0.001	3.006	3.006	0.000	140.878	140.874	0.004	3.07	3.061	0.009	6.303	6.603	-0.300	1.014	1.011	0.003						
2003	4	8	4.956	4.957	-0.001	3.003	3.003	0.000	151.487	151.482	0.005	3.087	3.071	0.016	7.904	8.616	-0.712	0.894	0.889	0.005						
2003	4	9	4.924	4.925	-0.001	2.999	3	-0.001	147.442	147.441	0.001	3.121	3.112	0.009	3.536	3.569	-0.033	0.842	0.841	0.001						
2003	4	10	4.922	4.923	-0.001	2.996	2.996	0.000	145.421	145.42	0.001	3.119	3.116	0.003	3.407	3.365	0.042	1.017	1.017	0.000						
2003	4	11	4.894	4.895	-0.001	2.997	2.997	0.000	138.353	138.348	0.005	3.085	3.085	0.000	12.732	13.625	-0.893	0.728	0.736	-0.008						
2003	4	12	4.916	4.917	-0.001	3.001	3.001	0.000	131.277	131.276	0.001	3.251	3.252	-0.001	4.368	4.343	0.025	0.606	0.606	0.000						
2003	4	17	5.079		5.079	2.984		2.984	73.703		73.703	3.05		3.050	5.322		5.322	1.541		1.541						
2003	4	18	5.116		5.116	2.983		2.983	79.763		79.763	3.28		3.280	2.114		2.114	1.93		1.930						
2003	4	21	4.943	4.944	-0.001	3	3	0.000	85.317	85.317	0.000	3.364	3.364	0.000	6.222	6.275	-0.053	0.562	0.562	0.000						
2003	4	22	4.805	4.805	0.000	2.969	2.969	0.000	71.221	70.673	0.548	3.118	3.113	0.005	0.064	0.071	-0.007	1.574	1.634	-0.060						
2003	4	23	4.794	4.793	0.001	2.947	2.948	-0.001	30.31	29.275	1.035	3.116	3.137	-0.021	9.359	8.558	0.801	2.311	2.598	-0.287						
2003	6	0	7.701	7.701	0.000	3.254	3.25	0.004	20.214	20.173	0.041	3.168	3.105	0.063	34.341	33.152	1.189	4.888	5.206	-0.318						
2003	6	1	7.599	7.601	-0.002	3.25	3.248	0.002	24.752	24.718	0.034	3.225	3.154	0.071	23.57	23.528	0.042	6.383	6.739	-0.356						
2003	6	2	7.672	7.674	-0.002	3.28	3.28	0.000	41.403	42.396	-0.993	3.473	3.468	0.005	12.831	8.458	4.373	3.205	3.268	-0.063						
2003	6	3	7.657	7.66	-0.003	3.245	3.245	0.000	46.45	45.934	0.516	3.644	3.579	0.065	8.004	10.021	-2.017	6.17	5.881	0.289						

Year	Month	Station	OC- 2010.1 Mean Temp	USGS Mean Temp	Delta Temp	OC- 2010.1 Mean Cond	USGS Mean Cond	Delta Cond	OC- 2010.1 Mean Press	USGS Mean Press	Delta Press	OC- 2010.1 Mean OBS	USGS Mean OBS	Delta OBS	OC- 2010.1 Mean PAR	USGS Mean PAR	Delta PAR	OC- 2010.1 Mean Fluor	USGS Mean Fluor	Delta Fluor
2003	6	4	5.962	5.964	-0.002	3.1	3.1	0.000	143.404	143.399	0.005	2.899	2.879	0.020	1.978	2.452	-0.474	2.878	2.754	0.124
2003	7	0	9.49	9.52	-0.030	3.288	3.284	0.004	19.71	19.674	0.036	2.632	2.604	0.028	48.048	55.429	-7.381	12.473	14.953	-2.480
2003	7	1	8.037	8.055	-0.018	3.232	3.232	0.000	23.12	23.385	-0.265	3.399	3.34	0.059	85.711	69.33	16.381	5.316	5.398	-0.082
2003	7	2	8.226	8.197	0.029	3.198	3.204	-0.006	30.301	30.273	0.028	3.516	3.447	0.069	13.313	13.349	-0.036	5.922	5.897	0.025
2003	7	3	8.089	8.095	-0.006	3.141	3.147	-0.006	34.338	34.323	0.015	3.067	3.028	0.039	8.178	13.735	-5.557	6.256	6.298	-0.042
2003	7	4	6.991	6.977	0.014	3.142	3.145	-0.003	85.757	86.014	-0.257	3.134	3.13	0.004	20.226	16.332	3.894	2.537	2.594	-0.057
2003	7	5	6.46	6.468	-0.008	3.117	3.116	0.001	132.796	132.791	0.005	3.036	3.002	0.034	9.044	11.335	-2.291	1.525	1.515	0.010
2003	7	6	6.43	6.432	-0.002	3.118	3.115	0.003	117.139	116.628	0.511	2.896	2.872	0.024	10.371	11.159	-0.788	1.13	1.116	0.014
2003	7	8	6.008	6.03	-0.022	3.07	3.072	-0.002	140.373	139.358	1.015	2.838	2.798	0.040	13.607	13.267	0.340	1.199	1.205	-0.006
2003	7	9	6.046	6.051	-0.005	3.072	3.075	-0.003	116.629	116.123	0.506	2.872	2.856	0.016	14.452	12.26	2.192	0.733	0.737	-0.004
2003	7	13	7.298	7.299	-0.001	3.156	3.156	0.000	62.098	62.09	0.008	3.072	3.025	0.047	8.242	8.741	-0.499	3.778	3.759	0.019
2003	7	14	7.235	7.269	-0.034	3.137	3.135	0.002	37.87	37.352	0.518	3.156	3.044	0.112	15.248	18.909	-3.661	3.404	3.351	0.053
2003	7	16	5.875	5.875	0.000	3.051	3.05	0.001	140.878	140.368	0.510	1.28	1.278	0.002	2.888	3.22	-0.332	1.342	1.333	0.009
2003	7	17	6.019	6.021	-0.002	3.057	3.06	-0.003	90.367	90.367	0.000	1.374	1.334	0.040	3.114	3.075	0.039	1.903	1.882	0.021
2003	7	18	5.849	5.854	-0.005	3.017	3.02	-0.003	86.838	86.327	0.511	2.094	2.036	0.058	2.836	2.829	0.007	1.239	1.244	-0.005
2003	7	19	5.39	5.394	-0.004	2.983	2.988	-0.005	106.533	106.527	0.006	28.12	28.006	0.114	3.217	2.977	0.240	0.686	0.684	0.002
2003	7	20	5.53	5.53	0.000	2.964	2.971	-0.007	81.284	81.277	0.007	85.357	84.452	0.905	0.218	0.374	-0.156	0.845	0.839	0.006
2003	7	22	6.866	6.825	0.041	3.105	3.117	-0.012	68.661	68.648	0.013	2.984	2.949	0.035	9.063	9.03	0.033	1.772	1.778	-0.006
2003	7	23	6.839	6.853	-0.014	2.948	2.946	0.002	24.752	24.227	0.525	3.917	3.895	0.022	20.116	27.487	-7.371	2.906	3.082	-0.176
2003	8	0	9.929	9.936	-0.007	3.311	3.313	-0.002	24.248	23.998	0.250	1.525	1.491	0.034	42.127	43.339	-1.212	6.848	6.837	0.011
2003	8	1	8.937	8.943	-0.006	3.251	3.255	-0.004	29.327	29.042	0.285	2.151	2.116	0.035	36.859	37.651	-0.792	4.236	4.224	0.012
2003	8	2	8.496	8.499	-0.003	3.204	3.207	-0.003	44.209	43.938	0.271	1.912	1.89	0.022	29.269	29.462	-0.193	3.643	3.629	0.014
2003	8	3	8.206	8.214	-0.008	3.181	3.185	-0.004	49.742	49.473	0.269	1.799	1.768	0.031	35.217	34.899	0.318	3.179	3.187	-0.008
2003	8	4	6.844	6.845	-0.001	3.138	3.14	-0.002	144.414	144.41	0.004	1.582	1.564	0.018	13.158	13.193	-0.035	1.302	1.272	0.030
2003	8	5	6.719	6.724	-0.005	3.121	3.122	-0.001	138.858	138.348	0.510	1.368	1.358	0.010	9.937	9.975	-0.038	1.504	1.488	0.016
2003	8	6	6.671	6.678	-0.007	3.123	3.123	0.000	138.858	138.348	0.510	1.341	1.329	0.012	11.838	11.954	-0.116	1.233	1.229	0.004
2003	8	7	6.707	6.71	-0.003	3.115	3.118	-0.003	128.752	128.75	0.002	1.528	1.512	0.016	16.572	16.299	0.273	1.076	1.074	0.002
2003	8	8	6.424	6.422	0.002	3.1	3.101	-0.001	155.528	155.524	0.004	5.473	5.459	0.014	13.527	13.667	-0.140	0.968	0.967	0.001
2003	8	9	6.378	6.379	-0.001	3.093	3.095	-0.002	151.487	151.482	0.005	3.047	3.035	0.012	15.068	15.184	-0.116	1.007	1.004	0.003
2003	8	10	6.325	6.326	-0.001	3.089	3.091	-0.002	149.971	149.967	0.004	1.724	1.713	0.011	20.008	17.728	2.280	0.715	0.716	-0.001
2003	8	11	6.106	6.108	-0.002	3.068	3.069	-0.001	151.992	151.482	0.510	2.94	2.872	0.068	17.289	17.617	-0.328	0.902	0.901	0.001
2003	8	12	6.149	6.151	-0.002	3.048	3.051	-0.003	138.349	138.348	0.001	90.03	90.086	-0.056	12.779	12.308	0.471	1.114	1.114	0.000
2003	8	13	7.301	7.301	0.000	3.134	3.136	-0.002	68.157	68.149	0.008	1.942	1.886	0.056	18.627	24.052	-5.425	1.65	1.637	0.013
2003	8	14	7.508	7.521	-0.013	3.108	3.114	-0.006	28.77	28.265	0.505	3.678	3.63	0.048	54.22	57.416	-3.196	2.348	2.4	-0.052

Year	Mon- th	Sta- tion	OC- 2010.1 Mean Temp	USGS Mean Temp	Delta Temp	OC- 2010.1 Mean Cond	USGS Mean Cond	Delta Cond	OC- 2010.1 Mean Press	USGS Mean Press	Delta Press	OC- 2010.1 Mean OBS	USGS Mean OBS	Delta OBS	OC- 2010.1 Mean PAR	USGS Mean PAR	Delta PAR	OC- 2010.1 Mean Fluor	USGS Mean Fluor	Delta Fluor
2003	8	16	6.06	6.061	-0.001	3.069	3.069	0.000	151.992	151.987	0.005	1.512	1.497	0.015	22.09	22.597	-0.507	1.03	1.03	0.000
2003	8	17	6.065	6.071	-0.006	3.038	3.041	-0.003	102.993	102.487	0.506	2.063	2.065	-0.002	18.879	18.932	-0.053	1.012	1.014	-0.002
2003	8	18	6.406	6.41	-0.004	3.05	3.055	-0.005	85.822	85.822	0.000	39.883	39.792	0.091	23.86	23.939	-0.079	1.13	1.133	-0.003
2003	8	20	6.418	6.421	-0.003	2.975	2.98	-0.005	82.799	82.287	0.512	247.932	246.735	1.197	23.134	23.725	-0.591	1.886	1.891	-0.005
2003	8	21	6.445	6.45	-0.005	3.043	3.046	-0.003	94.413	94.407	0.006	120.436	120.041	0.395	11.808	12.248	-0.440	1.312	1.304	0.008
2003	8	22	7.21	7.218	-0.008	3.106	3.112	-0.006	75.225	74.713	0.512	1.378	1.352	0.026	21.784	22.023	-0.239	1.458	1.466	-0.008
2003	8	23	7.419	7.437	-0.018	2.962	2.979	-0.017	28.77	28.77	0.000	3.509	2.986	0.523	24.838	24.755	0.083	3.165	3.197	-0.032
2003	10	1	7.528	7.529	-0.001	3.172	3.174	-0.002	25.257	25.237	0.020	2.885	2.815	0.070	21.804	20.198	1.606	1.614	1.604	0.010
2003	10	2	7.528	7.529	-0.001	3.179	3.179	0.000	32.824	32.304	0.520	2.662	2.598	0.064	22.931	24.526	-1.595	1.531	1.533	-0.002
2003	10	3	7.401	7.403	-0.002	3.132	3.132	0.000	50.993	50.982	0.011	2.681	2.648	0.033	12.468	12.478	-0.010	1.659	1.653	0.006
2003	10	4	6.956	6.961	-0.005	3.132	3.133	-0.001	144.92	144.41	0.510	1.716	1.704	0.012	6.721	6.726	-0.005	0.798	0.793	0.005
2003	10	5	6.808	6.812	-0.004	3.118	3.119	-0.001	156.034	155.724	0.310	1.463	1.452	0.011	3.44	3.474	-0.034	0.832	0.82	0.012
2003	10	13	7.388	7.389	-0.001	3.146	3.147	-0.001	64.623	64.614	0.009	1.599	1.572	0.027	8.285	8.437	-0.152	1.018	0.998	0.020
2003	10	14	7.385	7.387	-0.002	3.109	3.11	-0.001	34.828	34.828	0.000	2.106	2.07	0.036	11.579	11.516	0.063	1.222	1.219	0.003
2003	10	16	6.462	6.466	-0.004	3.09	3.091	-0.001	155.02	154.513	0.507	1.438	1.43	0.008	5.773	5.817	-0.044	0.754	0.745	0.009
2003	10	17	6.729	6.73	-0.001	3.1	3.1	0.000	99.968	99.962	0.006	1.49	1.468	0.022	9.876	9.968	-0.092	0.788	0.776	0.012
2003	10	18	6.564	6.569	-0.005	3.061	3.061	0.000	101.988	101.477	0.511	3.068	2.996	0.072	7.773	8.251	-0.478	0.827	0.823	0.004
2003	10	19	6.406	6.41	-0.004	3.058	3.06	-0.002	101.988	101.477	0.511	4.266	4.146	0.120	8.705	8.827	-0.122	0.704	0.702	0.002
2003	10	20	6.528	6.533	-0.005	3.062	3.063	-0.001	90.373	89.862	0.511	9.182	8.857	0.325	6.293	6.469	-0.176	0.763	0.746	0.017
2003	10	22	7.463	7.467	-0.004	3.137	3.138	-0.001	77.75	77.237	0.513	1.551	1.524	0.027	10.243	10.328	-0.085	0.88	0.87	0.010
2003	10	23	7.504	7.504	0.000	3.083	3.084	-0.001	30.301	29.78	0.521	2.04	1.946	0.094	7.675	7.676	-0.001	1.338	1.304	0.034
2003	11	0	7.075	7.076	-0.001	3.119	3.119	0.000	19.206	19.179	0.027	1.7	1.702	-0.002	34.723	33.743	0.980	1.98	1.993	-0.013
2003	11	1	7.098	7.099	-0.001	3.182	3.182	0.000	24.752	24.732	0.020	2.239	2.197	0.042	35.6	36.022	-0.422	1.601	1.587	0.014
2003	11	2	7.093	7.094	-0.001	3.164	3.163	0.001	39.889	39.371	0.518	2.189	2.152	0.037	32.256	33.076	-0.820	1.656	1.65	0.006
2003	11	3	6.987	6.99	-0.003	3.11	3.111	-0.001	49.983	49.973	0.010	2.359	2.363	-0.004	25.688	25.297	0.391	1.955	1.951	0.004
2003	11	4	6.945	6.947	-0.002	3.129	3.129	0.000	138.858	138.853	0.005	1.679	1.67	0.009	18.485	18.664	-0.179	1.1	1.088	0.012
2003	11	6	6.951	6.953	-0.002	3.133	3.134	-0.001	135.827	135.822	0.005	1.429	1.423	0.006	14.415	14.597	-0.182	0.909	0.9	0.009
2003	11	7	6.879	6.884	-0.005	3.132	3.133	-0.001	156.034	155.524	0.510	1.378	1.369	0.009	13.113	13.649	-0.536	0.754	0.748	0.006
2003	11	8	6.955	6.961	-0.006	3.138	3.139	-0.001	155.525	155.019	0.506	1.412	1.404	0.008	13.762	13.854	-0.092	0.679	0.676	0.003
2003	11	9	6.901	6.904	-0.003	3.135	3.135	0.000	155.023	154.513	0.510	1.288	1.275	0.013	11.055	11.135	-0.080	0.681	0.676	0.005
2003	11	10	6.76	6.767	-0.007	3.124	3.125	-0.001	155.02	154.513	0.507	1.329	1.314	0.015	13.538	12.957	0.581	0.611	0.61	0.001
2003	11	11	6.786	6.795	-0.009	3.125	3.126	-0.001	156.539	156.534	0.005	1.429	1.425	0.004	16.454	15.151	1.303	0.573	0.572	0.001
2003	11	12	6.71	6.713	-0.003	3.104	3.108	-0.004	139.363	138.853	0.510	2.393	2.497	-0.104	14.318	14.389	-0.071	0.549	0.547	0.002
2003	11	21	6.912	6.912	0.000	3.12	3.12	0.000	118.144	118.143	0.001	1.953	1.918	0.035	23.342	23.229	0.113	0.556	0.555	0.001

Year	Mon- th	Sta- tion	OC- 2010.1 Mean Temp	USGS Mean Temp	Delta Temp	OC- 2010.1 Mean Cond	USGS Mean Cond	Delta Cond	OC- 2010.1 Mean Press	USGS Mean Press	Delta Press	OC- 2010.1 Mean OBS	USGS Mean OBS	Delta OBS	OC- 2010.1 Mean PAR	USGS Mean PAR	Delta PAR	OC- 2010.1 Mean Fluor	USGS Mean Fluor	Delta Fluor
2003	12	1	5.767	5.768	-0.001	3.047	3.048	-0.001	25.237	25.237	0.000	1.609	1.586	0.023	9.359	9.385	-0.026	1.012	1.01	0.002
2003	12	2	5.747	5.747	0.000	3.036	3.036	0.000	36.847	36.342	0.505	1.592	1.59	0.002	5.698	5.715	-0.017	1.024	1.025	-0.001
2003	12	3	5.872	5.874	-0.002	3.037	3.037	0.000	44.42	44.419	0.001	1.413	1.394	0.019	3.261	3.242	0.019	0.961	0.958	0.003
2003	12	4	5.961	5.962	-0.001	3.055	3.055	0.000	127.24	126.73	0.510	1.489	1.485	0.004	1.538	1.541	-0.003	0.91	0.906	0.004
2003	12	5	5.974	5.975	-0.001	3.06	3.06	0.000	137.844	137.338	0.506	1.435	1.431	0.004	1.058	1.057	0.001	0.797	0.795	0.002
2003	12	6	6.131	6.133	-0.002	3.074	3.074	0.000	136.332	136.327	0.005	1.411	1.402	0.009	1.199	1.196	0.003	0.739	0.735	0.004
2003	12	7	6.113	6.114	-0.001	3.075	3.076	-0.001	150.982	150.977	0.005	1.423	1.419	0.004	1.211	1.211	0.000	0.796	0.794	0.002
2003	12	8	6.192	6.194	-0.002	3.082	3.082	0.000	153.504	151.987	1.517	1.374	1.37	0.004	1.37	1.376	-0.006	0.752	0.752	0.000
2003	12	9	6.298	6.3	-0.002	3.09	3.09	0.000	152.999	152.998	0.001	1.414	1.414	0.000	1.316	1.315	0.001	0.691	0.691	0.000
2003	12	10	6.244	6.248	-0.004	3.089	3.09	-0.001	156.535	156.029	0.506	1.363	1.363	0.000	1.384	1.386	-0.002	0.646	0.647	-0.001
2003	12	11	6.138	6.141	-0.003	3.071	3.072	-0.001	137.339	136.832	0.507	1.412	1.412	0.000	1.389	1.391	-0.002	0.705	0.706	-0.001
2003	12	12	6.033	6.036	-0.003	3.058	3.059	-0.001	135.318	134.812	0.506	1.614	1.61	0.004	1.14	1.142	-0.002	0.738	0.738	0.000
2003	12	13	6.013	6.015	-0.002	3.046	3.046	0.000	53.012	52.497	0.515	1.364	1.341	0.023	1.255	1.236	0.019	0.896	0.888	0.008
2003	12	14	5.961	5.963	-0.002	3.034	3.033	0.001	28.283	28.266	0.017	1.449	1.407	0.042	4.068	4.398	-0.330	0.953	0.938	0.015
2003	12	16	6.241	6.242	-0.001	3.08	3.081	-0.001	149.968	149.967	0.001	1.391	1.385	0.006	2.519	2.481	0.038	0.686	0.682	0.004
2003	12	17	6.386	6.387	-0.001	3.081	3.082	-0.001	87.842	87.842	0.000	1.401	1.401	0.000	2.736	2.734	0.002	0.731	0.731	0.000
2003	12	18	6.353	6.357	-0.004	3.084	3.085	-0.001	103.498	102.992	0.506	1.46	1.458	0.002	1.953	1.959	-0.006	0.715	0.716	-0.001
2003	12	19	6.394	6.398	-0.004	3.083	3.084	-0.001	86.333	85.822	0.511	1.44	1.422	0.018	2.108	2.131	-0.023	0.768	0.749	0.019
2003	12	20	6.35	6.352	-0.002	3.069	3.07	-0.001	72.196	71.683	0.513	1.546	1.508	0.038	2.116	2.128	-0.012	0.94	0.915	0.025
2003	12	22	6.167	6.169	-0.002	3.065	3.066	-0.001	69.159	68.654	0.505	1.511	1.507	0.004	4.088	4.101	-0.013	0.746	0.745	0.001
2003	12	23	6.389	6.392	-0.003	3.082	3.083	-0.001	50.983	50.478	0.505	1.546	1.543	0.003	3.138	3.153	-0.015	0.704	0.704	0.000
2004	3	0	4.761	4.763	-0.002	2.961	2.959	0.002	24.752	24.227	0.525	2.701	2.649	0.052	19.434	20.32	-0.886	2.193	2.183	0.010
2004	3	1	4.75	4.751	-0.001	2.971	2.971	0.000	21.703	21.703	0.000	2.411	2.405	0.006	8.347	8.348	-0.001	2.426	2.424	0.002
2004	3	2	4.782	4.783	-0.001	2.981	2.981	0.000	33.314	33.313	0.001	3.219	3.219	0.000	4.593	4.593	0.000	2.073	2.073	0.000
2004	3	3	4.664	4.664	0.000	2.95	2.95	0.000	40.381	39.876	0.505	1.654	1.651	0.003	6.466	6.547	-0.081	1.915	1.921	-0.006
2004	3	4	4.723	4.724	-0.001	2.962	2.962	0.000	143.404	143.399	0.005	1.561	1.555	0.006	0.528	0.536	-0.008	1.147	1.137	0.010
2004	3	5	4.698	4.699	-0.001	2.966	2.966	0.000	153.508	153.503	0.005	1.595	1.591	0.004	2.371	2.432	-0.061	1.292	1.284	0.008
2004	3	6	4.657	4.658	-0.001	2.959	2.959	0.000	123.195	123.194	0.001	1.408	1.401	0.007	5.701	5.905	-0.204	0.984	0.976	0.008
2004	3	7	4.643	4.644	-0.001	2.959	2.959	0.000	154.515	154.008	0.507	1.415	1.41	0.005	4.738	4.534	0.204	0.947	0.942	0.005
2004	3	8	4.652	4.653	-0.001	2.959	2.958	0.001	156.03	156.029	0.001	1.415	1.412	0.003	5.824	5.704	0.120	0.979	0.972	0.007
2004	3	9	4.634	4.635	-0.001	2.953	2.952	0.001	156.539	156.534	0.005	1.407	1.403	0.004	0.705	0.717	-0.012	1.04	1.033	0.007
2004	3	10	4.694	4.695	-0.001	2.958	2.957	0.001	154.518	154.513	0.005	1.37	1.366	0.004	2.272	2.311	-0.039	1.085	1.078	0.007
2004	3	11	4.632	4.633	-0.001	2.952	2.951	0.001	156.535	156.029	0.506	1.417	1.412	0.005	2.994	2.97	0.024	1.083	1.078	0.005
2004	3	12	4.623	4.625	-0.002	2.95	2.949	0.001	140.875	140.874	0.001	1.527	1.518	0.009	2.433	2.49	-0.057	1.125	1.115	0.010

Year	Month	Station	OC- 2010.1 Mean Temp	USGS Mean Temp	Delta Temp	OC- 2010.1 Mean Cond	USGS Mean Cond	Delta Cond	OC- 2010.1 Mean Press	USGS Mean Press	Delta Press	OC- 2010.1 Mean OBS	USGS Mean OBS	Delta OBS	OC- 2010.1 Mean PAR	USGS Mean PAR	Delta PAR	OC- 2010.1 Mean Fluor	USGS Mean Fluor	Delta Fluor
2004	3	13	4.634	4.635	-0.001	2.948	2.948	0.000	70.681	70.673	0.008	1.548	1.542	0.006	6.739	7.023	-0.284	1.428	1.411	0.017
2004	3	14	4.398	4.398	0.000	2.903	2.9	0.003	30.806	30.789	0.017	1.417	1.383	0.034	24.656	25.428	-0.772	2.505	2.48	0.025
2004	3	16	4.708	4.709	-0.001	2.953	2.953	0.000	145.93	145.925	0.005	1.518	1.513	0.005	2.662	2.744	-0.082	1.144	1.137	0.007
2004	3	17	4.709	4.709	0.000	2.941	2.94	0.001	85.317	84.812	0.505	1.58	1.571	0.009	5.395	5.399	-0.004	1.422	1.416	0.006
2004	3	18	4.731	4.732	-0.001	2.941	2.941	0.000	99.463	99.457	0.006	1.616	1.607	0.009	2.846	2.862	-0.016	1.796	1.78	0.016
2004	3	19	4.762	4.764	-0.002	2.941	2.937	0.004	104.003	104.002	0.001	1.597	1.582	0.015	4.163	3.677	0.486	2.034	2.029	0.005
2004	3	22	4.672	4.673	-0.001	2.949	2.947	0.002	70.681	70.673	0.008	1.421	1.411	0.010	1.889	1.886	0.003	1.327	1.312	0.015
2004	3	23	4.71	4.711	-0.001	2.954	2.95	0.004	45.945	45.429	0.516	1.91	1.882	0.028	0.925	0.969	-0.044	1.356	1.343	0.013
2004	6	0	7.565	7.571	-0.006	3.243	3.242	0.001	20.214	19.684	0.530	1.941	1.854	0.087	69.017	79.252	-10.235	4.031	4.059	-0.028
2004	6	1	7.505	7.515	-0.010	3.233	3.233	0.000	26.016	25.492	0.524	1.864	1.803	0.061	22.133	21.915	0.218	4.311	4.343	-0.032
2004	6	2	7.709	7.714	-0.005	3.219	3.22	-0.001	37.87	37.352	0.518	1.983	1.939	0.044	12.328	12.687	-0.359	5.468	5.508	-0.040
2004	6	3	7.354	7.359	-0.005	3.179	3.18	-0.001	50.267	50.257	0.010	1.828	1.823	0.005	7.914	8.046	-0.132	4.151	4.182	-0.031
2004	6	4	5.791	5.794	-0.003	3.057	3.058	-0.001	136.839	136.834	0.005	1.244	1.228	0.016	9.125	8.789	0.336	1.26	1.226	0.034
2004	6	5	5.671	5.672	-0.001	3.051	3.052	-0.001	156.034	156.029	0.005	1.143	1.135	0.008	2.282	2.411	-0.129	1.113	1.091	0.022
2004	6	6	5.501	5.502	-0.001	3.03	3.031	-0.001	130.776	130.771	0.005	1.14	1.131	0.009	2.714	2.887	-0.173	1.406	1.382	0.024
2004	6	7	5.604	5.605	-0.001	3.042	3.043	-0.001	152.497	152.493	0.004	1.063	1.059	0.004	4.889	4.942	-0.053	1.105	1.111	-0.006
2004	6	8	5.083	5.094	-0.011	2.993	2.988	0.005	149.988	149.461	0.527	0.944	0.944	0.000	4.519	7.325	-2.806	0.572	0.594	-0.022
2004	6	13	6.544	6.549	-0.005	3.109	3.11	-0.001	67.147	66.634	0.513	1.369	1.33	0.039	7.375	10.441	-3.066	2.633	2.574	0.059
2004	6	14	7	7.017	-0.017	3.118	3.113	0.005	29.797	29.78	0.017	1.577	1.429	0.148	31.629	37.578	-5.949	3.483	3.459	0.024
2004	6	16	5.354	5.356	-0.002	3.01	3.01	0.000	152.497	151.987	0.510	1.244	1.209	0.035	3.37	3.647	-0.277	1.407	1.401	0.006
2004	6	17	5.04	5.05	-0.010	2.96	2.962	-0.002	88.858	88.347	0.511	1.506	1.415	0.091	3.777	6.604	-2.827	1.584	1.591	-0.007
2004	6	19	4.867	4.867	0.000	2.953	2.94	0.013	109.053	109.052	0.001	11.054	10.711	0.343	7.106	5.363	1.743	0.754	0.585	0.169
2004	6	20	4.902	4.915	-0.013	2.942	2.938	0.004	82.811	82.792	0.019	31.605	31.616	-0.011	0.047	12.288	-12.241	0.726	0.754	-0.028
2004	6	22	5.475	5.483	-0.008	2.981	2.983	-0.002	71.691	71.178	0.513	1.265	1.261	0.004	9.741	9.877	-0.136	1.042	1.076	-0.034
2004	6	23	5.463	5.469	-0.006	2.898	2.895	0.003	25.761	25.237	0.524	2.855	2.202	0.653	12.89	14.966	-2.076	1.926	1.969	-0.043
2004	7	0	8.959	8.948	0.011	3.222	3.226	-0.004	17.665	17.665	0.000	1.857	1.829	0.028	35.186	27.961	7.225	9.823	10.017	-0.194
2004	7	1	7.646	7.649	-0.003	3.164	3.166	-0.002	23.744	23.722	0.022	2.33	2.265	0.065	12.832	13.594	-0.762	7.353	7.19	0.163
2004	7	2	8.236	8.239	-0.003	3.22	3.221	-0.001	38.88	38.866	0.014	2.042	2.014	0.028	29.292	29.347	-0.055	10.94	10.991	-0.051
2004	7	3	7.48	7.498	-0.018	3.083	3.089	-0.006	48.469	47.953	0.516	1.787	1.754	0.033	15.415	15.79	-0.375	8.956	9.082	-0.126
2004	7	4	6.159	6.165	-0.006	3.071	3.071	0.000	127.745	127.235	0.510	1.41	1.398	0.012	3.114	3.238	-0.124	2.04	2.023	0.017
2004	7	5	6.099	6.1	-0.001	3.069	3.07	-0.001	149.466	149.461	0.005	1.345	1.32	0.025	2.371	2.664	-0.293	2.293	2.251	0.042
2004	7	6	6.013	6.021	-0.008	3.06	3.062	-0.002	129.766	129.256	0.510	1.277	1.257	0.020	11.394	10.231	1.163	1.696	1.694	0.002
2004	7	7	5.868	5.871	-0.003	3.047	3.049	-0.002	153.508	152.998	0.510	1.295	1.27	0.025	7.673	8.635	-0.962	2.367	2.376	-0.009
2004	7	8	5.708	5.71	-0.002	3.027	3.03	-0.003	152.497	152.493	0.004	1.465	1.434	0.031	9.91	10.034	-0.124	1.034	1.035	-0.001

Year	Mon- th	Sta- tion	OC- 2010.1 Mean Temp	USGS Mean Temp	Delta Temp	OC- 2010.1 Mean Cond	USGS Mean Cond	Delta Cond	OC- 2010.1 Mean Press	USGS Mean Press	Delta Press	OC- 2010.1 Mean OBS	USGS Mean OBS	Delta OBS	OC- 2010.1 Mean PAR	USGS Mean PAR	Delta PAR	OC- 2010.1 Mean Fluor	USGS Mean Fluor	Delta Fluor
2004	7	9	5.661	5.662	-0.001	3.028	3.03	-0.002	151.487	151.482	0.005	1.417	1.375	0.042	10.525	13.323	-2.798	0.952	0.948	0.004
2004	7	10	5.535	5.54	-0.005	3.017	3.019	-0.002	151.992	151.482	0.510	1.466	1.438	0.028	11.822	6.643	5.179	0.874	0.875	-0.001
2004	7	11	5.31	5.315	-0.005	2.996	2.998	-0.002	155.023	155.313	-0.290	1.492	1.458	0.034	10.849	5.603	5.246	1.11	1.112	-0.002
2004	7	12	5.156	5.158	-0.002	2.971	2.973	-0.002	132.796	132.791	0.005	33.179	32.625	0.554	4.275	4.338	-0.063	0.719	0.715	0.004
2004	7	13	7.087	7.09	-0.003	3.113	3.115	-0.002	59.574	59.565	0.009	1.384	1.336	0.048	5.008	5.516	-0.508	4.209	4.177	0.032
2004	7	14	7.401	7.406	-0.005	3.124	3.126	-0.002	29.292	29.275	0.017	1.238	1.24	-0.002	15.521	16.698	-1.177	2.711	2.857	-0.146
2004	7	16	5.598	5.601	-0.003	3.021	3.021	0.000	152.497	151.987	0.510	1.198	1.182	0.016	3.069	3.406	-0.337	1.697	1.704	-0.007
2004	7	17	5.655	5.653	0.002	2.995	2.998	-0.003	97.443	97.437	0.006	1.438	1.396	0.042	3.389	3.674	-0.285	3.005	3.013	-0.008
2004	7	18	5.627	5.629	-0.002	2.987	2.991	-0.004	95.928	95.922	0.006	1.745	1.748	-0.003	2.643	2.618	0.025	1.971	2.07	-0.099
2004	7	19	5.288	5.291	-0.003	2.96	2.963	-0.003	109.058	108.547	0.511	17.84	17.387	0.453	1.405	1.513	-0.108	0.922	0.912	0.010
2004	7	20	5.493	5.496	-0.003	2.957	2.961	-0.004	87.343	87.337	0.006	59.49	59.159	0.331	1.047	1.146	-0.099	1.099	1.086	0.013
2004	7	21	5.455	5.458	-0.003	2.966	2.971	-0.005	87.343	87.337	0.006	56.51	55.156	1.354	2.077	1.559	0.518	0.881	0.874	0.007
2004	7	22	6.546	6.545	0.001	3.037	3.045	-0.008	66.642	66.634	0.008	1.396	1.378	0.018	9.505	10.941	-1.436	2.268	2.267	0.001
2004	10	0	8.673	8.681	-0.008	3.213	3.214	-0.001	24.227	23.722	0.505	1.192	1.162	0.030	11.592	12.435	-0.843	2.27	2.274	-0.004
2004	10	1	8.165	8.168	-0.003	3.233	3.234	-0.001	23.723	23.722	0.001	2.923	2.861	0.062	5.334	5.505	-0.171	1.759	1.749	0.010
2004	10	2	8.144	8.147	-0.003	3.218	3.218	0.000	39.889	39.371	0.518	2.462	2.415	0.047	2.696	2.517	0.179	1.991	1.95	0.041
2004	10	3	8.133	8.135	-0.002	3.22	3.221	-0.001	51.488	50.982	0.506	2.308	2.298	0.010	1.61	1.54	0.070	1.987	1.992	-0.005
2004	10	4	7.42	7.428	-0.008	3.172	3.173	-0.001	132.792	132.286	0.506	1.754	1.743	0.011	0.295	0.312	-0.017	1.306	1.291	0.015
2004	10	5	6.868	6.87	-0.002	3.127	3.128	-0.001	153.002	152.998	0.004	1.379	1.374	0.005	0.323	0.337	-0.014	0.984	0.956	0.028
2004	10	6	7.084	7.091	-0.007	3.136	3.138	-0.002	126.226	125.72	0.506	1.373	1.35	0.023	0.101	0.096	0.005	0.842	0.825	0.017
2004	10	7	7.162	7.169	-0.007	3.137	3.138	-0.001	110.568	110.062	0.506	1.231	1.231	0.000	0.29	0.291	-0.001	0.887	0.889	-0.002
2004	10	8	6.648	6.65	-0.002	3.096	3.098	-0.002	147.947	147.946	0.001	1.276	1.276	0.000	0.311	0.311	0.000	0.781	0.781	0.000
2004	10	9	6.41	6.415	-0.005	3.079	3.081	-0.002	155.02	154.513	0.507	1.311	1.311	0.000	0.309	0.31	-0.001	0.754	0.755	-0.001
2004	10	10	6.22	6.222	-0.002	3.06	3.062	-0.002	155.02	155.019	0.001	1.372	1.346	0.026	0.584	0.616	-0.032	0.765	0.745	0.020
2004	10	11	6.303	6.304	-0.001	3.056	3.058	-0.002	127.741	127.74	0.001	1.44	1.44	0.000	0.953	0.953	0.000	0.788	0.788	0.000
2004	10	12	6.084	6.086	-0.002	3.037	3.039	-0.002	133.803	133.802	0.001	10.312	10.315	-0.003	0.135	0.153	-0.018	0.737	0.737	0.000
2004	10	13	7.65	7.655	-0.005	3.173	3.175	-0.002	71.179	70.673	0.506	1.562	1.561	0.001	1.455	1.465	-0.010	1.055	1.058	-0.003
2004	10	14	7.609	7.614	-0.005	3.113	3.12	-0.007	34.828	34.323	0.505	1.781	1.78	0.001	2.95	2.993	-0.043	1.324	1.334	-0.010
2004	10	16	6.039	6.044	-0.005	3.048	3.05	-0.002	153.504	152.998	0.506	1.355	1.353	0.002	0.076	0.076	0.000	0.625	0.625	0.000
2004	10	17	6.187	6.194	-0.007	3.041	3.045	-0.004	97.437	96.932	0.505	1.702	1.703	-0.001	1.39	1.397	-0.007	0.602	0.603	-0.001
2004	10	18	6.222	6.222	0.000	3.046	3.045	0.001	96.433	96.427	0.006	5.692	5.571	0.121	0.803	0.963	-0.160	0.611	0.597	0.014
2004	10	19	6.064	6.067	-0.003	3.023	3.026	-0.003	102.488	102.487	0.001	24.888	24.888	0.000	1.686	1.687	-0.001	0.615	0.616	-0.001
2004	10	20	6.348	6.35	-0.002	3.021	3.025	-0.004	79.258	79.257	0.001	84.191	84.191	0.000	1.121	1.121	0.000	0.828	0.828	0.000
2004	10	22	7.226	7.229	-0.003	3.119	3.122	-0.003	72.196	72.188	0.008	1.462	1.436	0.026	0.24	0.25	-0.010	1.632	1.559	0.073

Year	Month	Station	OC- 2010.1 Mean Temp	USGS Mean Temp	Delta Temp	OC- 2010.1 Mean Cond	USGS Mean Cond	Delta Cond	OC- 2010.1 Mean Press	USGS Mean Press	Delta Press	OC- 2010.1 Mean OBS	USGS Mean OBS	Delta OBS	OC- 2010.1 Mean PAR	USGS Mean PAR	Delta PAR	OC- 2010.1 Mean Fluor	USGS Mean Fluor	Delta Fluor
2004	10	23	7.305	7.319	-0.014	3.03	3.033	-0.003	24.732	24.227	0.505	8.712	8.776	-0.064	0.048	0.05	-0.002	2.37	2.403	-0.033
2005	1	0	5.046	5.048	-0.002	3.03	3.03	0.000	25.257	25.237	0.020	4.366	4.223	0.143	36.536	35.472	1.064	0.646	0.627	0.019
2005	1	1	5.032	5.033	-0.001	3.042	3.042	0.000	28.283	28.265	0.018	4.462	4.373	0.089	2.219	2.25	-0.031	0.72	0.705	0.015
2005	1	2	4.963	4.962	0.001	3.007	3.006	0.001	42.412	42.4	0.012	9.001	8.979	0.022	2.689	2.729	-0.040	0.7	0.687	0.013
2005	1	3		5	-5.000		2.986	-2.986		48.458	-48.458		43.202	-43.202		3.219	-3.219		0.679	-0.679
2005	1	4		5.008	-5.008		2.988	-2.988		130.771	-130.771		11.201	-11.201		19.579	-19.579		0.596	-0.596
2005	1	5		5.003	-5.003		2.992	-2.992		151.482	-151.482		12.821	-12.821		41.547	-41.547		0.673	-0.673
2005	1	22		5.014	-5.014		2.98	-2.980		73.703	-73.703		13.056	-13.056		0.007	-0.007		0.653	-0.653
2005	1	23		5.157	-5.157		2.984	-2.984		45.429	-45.429		10.698	-10.698		0.012	-0.012		0.66	-0.660
2005	2	3	4.999		4.999	2.986		2.986	48.974		48.974	42.893		42.893	3.168		3.168	0.68		0.680
2005	2	4	5.003		5.003	2.988		2.988	131.277		131.277	11.327		11.327	317.626		317.626	0.663		0.663
2005	2	5	5.002		5.002	2.992		2.992	151.992		151.992	12.765		12.765	41.434		41.434	0.678		0.678
2005	2	6	5.003	5.004	-0.001	2.989	2.989	0.000	135.823	135.822	0.001	9.608	9.609	-0.001	114.656	114.649	0.007	0.566	0.566	0.000
2005	2	7	4.967	4.968	-0.001	2.988	2.986	0.002	146.937	146.936	0.001	5.046	5.888	-0.842	89.857	0.916	88.941	0.697	0.563	0.134
2005	2	13	4.993	4.994	-0.001	2.982	2.982	0.000	70.191	70.67	-0.479	8.548	8.495	0.053	52.167	52.44	-0.273	0.665	0.658	0.007
2005	2	14	5.101	5.103	-0.002	2.967	2.968	-0.001	39.384	39.869	-0.485	5.753	5.694	0.059	2.506	2.118	0.388	0.686	0.675	0.011
2005	2	16	5.203	5.205	-0.002	2.99	2.99	0.000	140.878	140.871	0.007	5.703	5.678	0.025	10.313	8.795	1.518	0.605	0.594	0.011
2005	2	17	5.29	5.29	0.000	2.99	2.989	0.001	86.838	86.832	0.006	5.164	5.103	0.061	0.013	0.013	0.000	0.686	0.665	0.021
2005	2	18	5.319	5.321	-0.002	2.992	2.992	0.000	94.918	94.912	0.006	5.086	5.03	0.056	0.004	0.004	0.000	0.694	0.677	0.017
2005	2	19	5.37	5.371	-0.001	2.998	2.998	0.000	108.553	108.042	0.511	5.664	5.661	0.003	0.008	0.007	0.001	0.614	0.615	-0.001
2005	2	22	5.013		5.013	2.98		2.980	74.215		74.215	13.056		13.056	0.008		0.008	0.653		0.653
2005	2	23	5.156		5.156	2.985		2.985	45.441		45.441	10.875		10.875	0.012		0.012	0.675		0.675
2005	3	0	4.678	4.679	-0.001	3.005	3.005	0.000	26.751	26.751	0.000	1.68	1.678	0.002	31.236	31.188	0.048	1.639	1.638	0.001
2005	3	1	4.976	4.977	-0.001	3.044	3.044	0.000	31.815	31.294	0.521	1.986	1.968	0.018	12.914	13.34	-0.426	1.518	1.5	0.018
2005	4	2	4.79	4.79	0.000	2.998	2.998	0.000	40.886	40.381	0.505	1.328	1.304	0.024	6.813	6.7	0.113	2.065	2.038	0.027
2005	4	3	4.77	4.769	0.001	2.984	2.984	0.000	49.57	49.468	0.102	1.183	1.185	-0.002	1.258	1.422	-0.164	1.836	1.863	-0.027
2005	4	4	4.764	4.765	-0.001	2.988	2.988	0.000	125.725	125.215	0.510	1.257	1.248	0.009	0.999	1.003	-0.004	2.245	2.166	0.079
2005	4	6	4.734	4.736	-0.002	2.988	2.989	-0.001	124.23	124.709	-0.479	6.927	6.957	-0.030	0.049	0.049	0.000	1.639	1.666	-0.027
2005	4	7	4.737	4.738	-0.001	2.987	2.987	0.000	133.301	133.297	0.004	9.287	9.273	0.014	0.144	0.151	-0.007	2.067	1.927	0.140
2005	4	8	4.725	4.726	-0.001	2.984	2.984	0.000	130.776	130.771	0.005	3.81	3.801	0.009	0.724	0.732	-0.008	1.802	1.711	0.091
2005	4	9	4.736	4.737	-0.001	2.985	2.985	0.000	150.476	150.472	0.004	1.273	1.268	0.005	1.834	1.853	-0.019	1.597	1.557	0.040
2005	4	10	4.706	4.707	-0.001	2.982	2.982	0.000	153.508	152.998	0.510	1.211	1.203	0.008	3.431	3.292	0.139	0.817	0.81	0.007
2005	4	11	4.699	4.701	-0.002	2.982	2.982	0.000	152.497	152.493	0.004	1.296	1.286	0.010	2.126	2.157	-0.031	0.887	0.882	0.005
2005	4	12	4.668	4.668	0.000	2.977	2.977	0.000	137.848	137.843	0.005	1.374	1.374	0.000	1.229	1.276	-0.047	0.787	0.787	0.000

Year	Month	Station	OC- 2010.1 Mean Temp	USGS Mean Temp	Delta Temp	OC- 2010.1 Mean Cond	USGS Mean Cond	Delta Cond	OC- 2010.1 Mean Press	USGS Mean Press	Delta Press	OC- 2010.1 Mean OBS	USGS Mean OBS	Delta OBS	OC- 2010.1 Mean PAR	USGS Mean PAR	Delta PAR	OC- 2010.1 Mean Fluor	USGS Mean Fluor	Delta Fluor
2005	4	13	4.761	4.762	-0.001	2.98	2.98	0.000	61.585	61.08	0.505	1.465	1.466	-0.001	0.026	0.027	-0.001	1.585	1.592	-0.007
2005	4	14	4.76	4.761	-0.001	2.96	2.96	0.000	31.294	30.789	0.505	1.64	1.633	0.007	0.027	0.027	0.000	2.421	2.436	-0.015
2005	4	16	4.79	4.79	0.000	2.983	2.983	0.000	153.504	152.998	0.506	1.806	1.801	0.005	0.025	0.024	0.001	0.924	0.921	0.003
2005	4	17	4.795	4.789	0.006	2.966	2.977	-0.011	102.488	101.982	0.506	1.681	1.741	-0.060	0.056	0.07	-0.014	0.937	0.733	0.204
2005	4	18	4.771	4.772	-0.001	2.976	2.976	0.000	101.983	101.477	0.506	1.876	1.866	0.010	1.291	1.341	-0.050	1.101	1.074	0.027
2005	4	19	4.763	4.764	-0.001	2.973	2.973	0.000	102.488	101.982	0.506	1.875	1.875	0.000	2.562	2.549	0.013	0.884	0.886	-0.002
2005	4	20	4.757	4.762	-0.005	2.969	2.969	0.000	77.245	76.732	0.513	2.345	1.933	0.412	4.172	4.376	-0.204	1.12	1.112	0.008
2005	6	0	9.095	9.12	-0.025	3.251	3.253	-0.002	20.214	19.684	0.530	1.778	1.717	0.061	8.299	8.787	-0.488	5.241	5.036	0.205
2005	6	1	8.155	8.161	-0.006	3.279	3.281	-0.002	24.752	24.227	0.525	1.957	1.896	0.061	8.205	8.514	-0.309	4.449	4.285	0.164
2005	6	2	8.128	8.135	-0.007	3.236	3.236	0.000	40.394	40.381	0.013	2.091	2.053	0.038	9.133	11.05	-1.917	5.006	4.876	0.130
2005	6	3	7.931	7.95	-0.019	3.171	3.172	-0.001	48.469	47.953	0.516	1.822	1.819	0.003	9.606	10.749	-1.143	6.663	6.723	-0.060
2005	6	4	6.217		6.217	3.083		3.083	125.22		125.220	1.511		1.511	6.729		6.729	1.854		1.854
2005	6	5	5.813		5.813	3.057		3.057	153.002		153.002	1.438		1.438	6.826		6.826	1.51		1.510
2005	6	6	5.991	5.996	-0.005	3.07	3.07	0.000	119.664	119.154	0.510	1.301	1.279	0.022	1.142	1.258	-0.116	2.214	2.047	0.167
2005	6	7	5.894	5.895	-0.001	3.051	3.052	-0.001	135.322	135.317	0.005	1.324	1.289	0.035	0.843	0.758	0.085	1.701	1.621	0.080
2005	6	8	5.802	5.787	0.015	3.043	3.049	-0.006	122.694	123.191	-0.497	1.356	1.311	0.045	1.367	1.218	0.149	1.392	1.261	0.131
2005	6	9	5.564	5.568	-0.004	3.032	3.032	0.000	139.868	139.358	0.510	1.44	1.409	0.031	1.254	1.366	-0.112	1.203	1.181	0.022
2005	6	10	5.422	5.423	-0.001	3.013	3.016	-0.003	137.342	136.832	0.510	1.407	1.407	0.000	1.265	1.274	-0.009	0.736	0.737	-0.001
2005	6	11	5.279	5.282	-0.003	3.011	3.011	0.000	152.497	152.479	0.018	1.721	1.675	0.046	1.051	0.892	0.159	0.957	0.784	0.173
2005	6	13	6.866	6.869	-0.003	3.132	3.133	-0.001	63.613	63.605	0.008	1.572	1.545	0.027	6.217	6.571	-0.354	1.895	1.844	0.051
2005	6	14	7.278	6.4	0.878	3.126	3.126	0.000	24.227	108.333	-84.106	1.677	1.514	0.163	14.858	9.276	5.582	3.247	2.065	1.182
2005	6	15		5.821	-5.821	3.058	3.058	-3.058		151.987	-151.987		1.417	-1.417		8.027	-8.027		1.505	-1.505
2005	6	16	5.513	5.517	-0.004	3.029	3.03	-0.001	146.94	146.43	0.510	1.461	1.412	0.049	1.758	1.931	-0.173	1.47	1.445	0.025
2005	6	17	5.501	5.503	-0.002	3.01	3.012	-0.002	99.463	99.265	0.198	1.539	1.488	0.051	3.78	3.985	-0.205	1.652	1.653	-0.001
2005	6	18	5.326	5.331	-0.005	2.991	2.993	-0.002	103.503	103.497	0.006	2.075	2.004	0.071	2.626	2.767	-0.141	1.1	1.088	0.012
2005	6	19	5.066	5.067	-0.001	2.966	2.966	0.000	108.553	108.547	0.006	11.131	11.007	0.124	2.169	3.178	-1.009	0.879	0.869	0.010
2005	6	20	5.199	5.198	0.001	2.951	2.955	-0.004	86.838	86.832	0.006	44.009	43.647	0.362	5.227	6.188	-0.961	0.982	0.971	0.011
2005	6	22	6.291	6.3	-0.009	3.04	3.043	-0.003	68.662	68.149	0.513	1.512	1.458	0.054	4.671	4.72	-0.049	1.346	1.337	0.009
2005	6	23	6.653	6.579	0.074	2.945	2.946	-0.001	25.257	24.732	0.525	2.12	2.113	0.007	11.44	10.357	1.083	2.877	2.921	-0.044
2005	7	0	8.17	8.179	-0.009	3.256	3.248	0.008	19.206	19.18	0.026	4.594	4.422	0.172	19.784	23.727	-3.943	3.298	3.234	0.064
2005	7	1	8.071	8.075	-0.004	3.279	3.279	0.000	23.239	23.16	0.079	5.486	5.321	0.165	26.267	29.202	-2.935	3.413	3.36	0.053
2005	7	2	8.153	8.155	-0.002	3.252	3.252	0.000	40.394	40.381	0.013	7.265	7.115	0.150	12.17	21.142	-8.972	3.929	3.882	0.047
2005	7	3	8.125	8.133	-0.008	3.205	3.207	-0.002	38.88	38.361	0.519	3.648	3.588	0.060	13.366	13.98	-0.614	6.045	5.885	0.160
2005	7	4	6.537	6.546	-0.009	3.111	3.112	-0.001	124.21	124.205	0.005	1.9	1.886	0.014	2.929	3.894	-0.965	1.833	1.801	0.032

Year	Mon- th	Sta- tion	OC- 2010.1 Mean Temp	USGS Mean Temp	Delta Temp	OC- 2010.1 Mean Cond	USGS Mean Cond	Delta Cond	OC- 2010.1 Mean Press	USGS Mean Press	Delta Press	OC- 2010.1 Mean OBS	USGS Mean OBS	Delta OBS	OC- 2010.1 Mean PAR	USGS Mean PAR	Delta PAR	OC- 2010.1 Mean Fluor	USGS Mean Fluor	Delta Fluor
2005	7	5	6.203	6.209	-0.006	3.078	3.078	0.000	154.013	154.008	0.005	1.585	1.57	0.015	1.291	1.778	-0.487	1.461	1.42	0.041
2005	7	6	6.509	6.513	-0.004	3.097	3.098	-0.001	124.218	124.202	0.016	1.443	1.42	0.023	1.972	2.089	-0.117	1.696	1.528	0.168
2005	7	7	6.283	6.284	-0.001	3.077	3.078	-0.001	149.971	149.967	0.004	1.416	1.394	0.022	2.355	2.729	-0.374	1.493	1.466	0.027
2005	7	8	6.117	6.106	0.011	3.06	3.061	-0.001	156.034	156.029	0.005	1.49	1.457	0.033	2.058	2.627	-0.569	0.859	0.843	0.016
2005	7	9	6.051	6.05	0.001	3.06	3.059	0.001	149.466	149.555	-0.089	1.503	1.477	0.026	1.766	1.879	-0.113	0.944	0.921	0.023
2005	7	10	5.969	5.969	0.000	3.047	3.05	-0.003	156.034	156.029	0.005	1.632	1.598	0.034	1.93	2.257	-0.327	0.753	0.745	0.008
2005	7	11	5.888	5.894	-0.006	3.044	3.045	-0.001	155.528	155.019	0.509	1.678	1.639	0.039	2.731	3.028	-0.297	1.093	1.091	0.002
2005	7	12	6.062	6.065	-0.003	3.017	3.019	-0.002	92.393	91.882	0.511	26.685	26.495	0.190	4.365	8.664	-4.299	0.991	0.983	0.008
2005	7	13	7.303	7.305	-0.002	3.121	3.122	-0.001	63.613	63.604	0.009	1.769	1.713	0.056	3.336	3.708	-0.372	3.927	3.78	0.147
2005	7	14	7.643	7.643	0.000	3.138	3.132	0.006	35.347	35.333	0.014	1.784	1.701	0.083	8.101	10.243	-2.142	5.076	4.793	0.283
2005	7	16	5.811	5.815	-0.004	3.041	3.042	-0.001	149.971	149.461	0.510	1.527	1.501	0.026	2.444	3.67	-1.226	1.646	1.624	0.022
2005	7	17	5.993	5.994	-0.001	3.028	3.03	-0.002	92.898	92.892	0.006	1.7	1.633	0.067	3.503	3.591	-0.088	1.501	1.492	0.009
2005	7	18	5.924	5.923	0.001	3.035	3.035	0.000	100.978	100.972	0.006	2.126	2.03	0.096	2.284	2.58	-0.296	1.029	1.005	0.024
2005	7	19	5.537	5.537	0.000	2.985	2.987	-0.002	106.533	106.527	0.006	8.098	7.678	0.420	1.755	3.368	-1.613	0.693	0.68	0.013
2005	7	20	5.639	5.639	0.000	2.976	2.979	-0.003	87.848	87.842	0.006	20.533	19.46	1.073	0.498	1.907	-1.409	0.795	0.771	0.024
2005	7	21	6.051	6.06	-0.009	3.014	3.016	-0.002	91.383	90.872	0.511	39.677	39.447	0.230	3.651	5.721	-2.070	0.906	0.897	0.009
2005	7	22	7.016	7.017	-0.001	3.094	3.097	-0.003	71.691	71.683	0.008	1.587	1.549	0.038	2.345	2.454	-0.109	1.786	1.743	0.043
2005	7	23	7.452	7.431	0.021	2.979	2.982	-0.003	25.257	24.732	0.525	3.846	3.328	0.518	1.521	2.698	-1.177	4.568	4.522	0.046
2005	10	0	8.246	8.254	-0.008	3.005	3.008	-0.003	17.666	17.161	0.505	1.68	1.619	0.061	17.516	17.599	-0.083	4.095	3.915	0.180
2005	10	1	7.786	7.788	-0.002	3.126	3.128	-0.002	24.227	24.227	0.000	2.485	2.484	0.001	1.487	1.48	0.007	2.034	2.033	0.001
2005	10	2	7.757	7.759	-0.002	3.088	3.089	-0.001	41.403	41.39	0.013	2.183	2.145	0.038	0.075	0.077	-0.002	2.5	2.42	0.080
2005	10	3	7.642	7.644	-0.002	3.107	3.108	-0.001	50.488	50.478	0.010	2.022	2.005	0.017	0.033	0.033	0.000	1.874	1.806	0.068
2005	10	4	6.959	6.961	-0.002	3.113	3.113	0.000	140.875	140.874	0.001	1.821	1.816	0.005	0.033	0.032	0.001	1.103	1.076	0.027
2005	10	5	6.946	6.948	-0.002	3.113	3.114	-0.001	151.989	151.987	0.002	1.491	1.489	0.002	5.515	4.744	0.771	0.912	0.9	0.012
2005	10	6	7.071	7.073	-0.002	3.116	3.117	-0.001	124.711	124.71	0.001	1.539	1.533	0.006	2.262	2.233	0.029	0.927	0.918	0.009
2005	10	7	6.902	6.908	-0.006	3.109	3.11	-0.001	142.899	142.389	0.510	1.34	1.324	0.016	0.874	0.89	-0.016	0.805	0.774	0.031
2005	10	8	6.921	6.922	-0.001	3.112	3.113	-0.001	152.497	152.493	0.004	1.373	1.361	0.012	0.564	0.632	-0.068	0.982	0.939	0.043
2005	10	9	6.863	6.87	-0.007	3.101	3.103	-0.002	155.023	154.513	0.510	1.436	1.428	0.008	0.087	0.088	-0.001	1.044	1.019	0.025
2005	10	10	6.606	6.612	-0.006	3.081	3.081	0.000	155.023	154.513	0.510	1.538	1.515	0.023	0.073	0.073	0.000	0.946	0.915	0.031
2005	10	11	6.516	6.515	0.001	3.07	3.07	0.000	156.034	156.029	0.005	1.651	1.643	0.008	0.246	0.251	-0.005	1.58	1.553	0.027
2005	10	12	6.608	6.607	0.001	3.073	3.072	0.001	133.301	133.297	0.004	2.818	2.765	0.053	0.603	0.58	0.023	1.046	1.03	0.016
2005	10	13	7.559	7.561	-0.002	3.122	3.123	-0.001	70.674	70.673	0.001	1.666	1.654	0.012	0.034	0.034	0.000	1.612	1.548	0.064
2005	10	14	7.733	7.735	-0.002	3.068	3.073	-0.005	34.323	34.323	0.000	1.937	1.886	0.051	0.034	0.034	0.000	1.841	1.8	0.041
2005	10	16	6.427	6.432	-0.005	3.065	3.066	-0.001	149.968	149.461	0.507	1.737	1.708	0.029	0.983	0.789	0.194	0.685	0.676	0.009

Year	Month	Station	OC-2010.1 Mean Temp	USGS Mean Temp	Delta Temp	OC-2010.1 Mean Cond	USGS Mean Cond	Delta Cond	OC-2010.1 Mean Press	USGS Mean Press	Delta Press	OC-2010.1 Mean OBS	USGS Mean OBS	Delta OBS	OC-2010.1 Mean PAR	USGS Mean PAR	Delta PAR	OC-2010.1 Mean Fluor	USGS Mean Fluor	Delta Fluor
2005	10	17	6.604	6.605	-0.001	3.047	3.049	-0.002	90.872	90.872	0.000	1.866	1.866	0.000	1.51	1.507	0.003	0.77	0.77	0.000
2005	10	18	6.591	6.598	-0.007	3.06	3.062	-0.002	102.488	101.982	0.506	1.921	1.901	0.020	0.995	1	-0.005	0.692	0.678	0.014
2005	10	19	6.307	6.313	-0.006	3.033	3.034	-0.001	108.548	108.042	0.506	2.667	2.562	0.105	0.458	0.432	0.026	0.63	0.621	0.009
2005	10	20	6.502	6.505	-0.003	3.025	3.029	-0.004	81.783	81.782	0.001	3.85	3.657	0.193	0.409	0.308	0.101	0.736	0.729	0.007
2005	10	21	6.915	6.927	-0.012	3.078	3.081	-0.003	103.503	102.992	0.511	4.148	4.105	0.043	1.13	1.198	-0.068	1.2	1.192	0.008
2005	10	22	7.487	7.492	-0.005	3.11	3.112	-0.002	75.218	74.713	0.505	1.664	1.657	0.007	8.565	8.531	0.034	1.209	1.213	-0.004
2005	10	23	7.804	7.81	-0.006	3.047	3.051	-0.004	25.237	24.732	0.505	2.402	2.382	0.020	2.825	2.862	-0.037	1.448	1.464	-0.016
2005	11	0	6.453	6.453	0.000	3.032	3.033	-0.001	24.248	24	0.248	4.667	4.623	0.044	0.061	0.062	-0.001	0.874	0.851	0.023
2005	11	1	6.618	6.619	-0.001	3.09	3.089	0.001	29.292	29	0.292	6.16	5.986	0.174	0.545	0.608	-0.063	0.822	0.799	0.023
2005	11	2	6.227	6.228	-0.001	2.985	2.986	-0.001	35.347	35.486	-0.139	4.417	4.366	0.051	0.963	0.884	0.079	0.858	0.845	0.013
2005	11	3	5.989	6.009	-0.020	2.929	2.935	-0.006	40.898	41.5	-0.602	4.376	4.391	-0.015	1.3	0.996	0.304	0.905	0.904	0.001
2005	11	4	6.397	6.399	-0.002	3.051	3.051	0.000	131.786	131.5	0.286	2.125	2.103	0.022	0.583	0.606	-0.023	0.697	0.691	0.006
2005	11	5	6.352	6.355	-0.003	3.054	3.055	-0.001	147.445	147	0.445	1.888	1.867	0.021	0.708	0.7	0.008	0.632	0.627	0.005
2005	11	6		6.514	-6.514		3.072	-3.072		130.5	-130.500		1.705	-1.705		0.05	-0.050		0.653	-0.653
2005	11	7		6.455	-6.455		3.07	-3.070		152	-152.000		1.65	-1.650		0.042	-0.042		0.627	-0.627
2005	11	8		6.524	-6.524		3.08	-3.080		151.5	-151.500		2.017	-2.017		0.038	-0.038		0.592	-0.592
2005	11	9		6.661	-6.661		3.088	-3.088		137.5	-137.500		2.049	-2.049		0.033	-0.033		0.583	-0.583
2005	11	22	6.649	6.654	-0.005	3.045	3.047	-0.002	75.723	75.5	0.223	2.067	2.039	0.028	1.07	1.199	-0.129	0.596	0.587	0.009
2005	11	23	6.631	6.636	-0.005	2.98	2.984	-0.004	30.79	31	-0.210	3.174	3.035	0.139	1.672	1.573	0.099	0.623	0.596	0.027
2005	12	6	6.512		6.512	3.072		3.072	130.776		130.776	1.728		1.728	0.05		0.050	0.658		0.658
2005	12	7	6.453		6.453	3.069		3.069	151.992		151.992	1.665		1.665	0.042		0.042	0.632		0.632
2005	12	8	6.52		6.520	3.079		3.079	151.992		151.992	2.057		2.057	0.037		0.037	0.597		0.597
2005	12	9	6.662		6.662	3.089		3.089	137.848		137.848	2.074		2.074	0.033		0.033	0.589		0.589
2005	12	10	6.52	6.521	-0.001	3.08	3.081	-0.001	143.909	144	-0.091	2.504	2.47	0.034	0.067	0.065	0.002	0.629	0.622	0.007
2005	12	13	6.369	6.36	0.009	3.001	3.002	-0.001	36.861	36.5	0.361	2.075	2.005	0.070	0.037	0.035	0.002	0.766	0.744	0.022
2005	12	14	6.485	6.486	-0.001	3.026	3.027	-0.001	23.239	23	0.239	2.145	2.016	0.129	0.041	0.04	0.001	0.684	0.65	0.034
2005	12	16	6.28	6.283	-0.003	3.05	3.05	0.000	148.961	149	-0.039	2.022	2.001	0.021	0.04	0.04	0.000	0.583	0.578	0.005
2005	12	17	6.547	6.551	-0.004	3.033	3.036	-0.003	83.304	83	0.304	3.549	3.493	0.056	0.043	0.043	0.000	0.606	0.598	0.008
2005	12	18	6.478	6.483	-0.005	3.045	3.047	-0.002	100.978	100.5	0.478	6.998	6.937	0.061	0.074	0.074	0.000	0.733	0.728	0.005
2006	3	0	4.849	4.851	-0.002	2.985	2.985	0.000	18.197	18.17	0.027	3.635	3.571	0.064	0.051	0.051	0.000	1.936	1.874	0.062
2006	3	1	4.997	4.998	-0.001	3.019	3.018	0.001	29.797	29.275	0.522	5.011	4.908	0.103	0.021	0.022	-0.001	1.496	1.464	0.032
2006	3	2	4.924	4.924	0.000	2.993	2.992	0.001	43.422	43.41	0.012	3.901	3.869	0.032	0.02	0.019	0.001	1.477	1.458	0.019
2006	3	3	4.979	4.981	-0.002	2.963	2.963	0.000	47.459	46.944	0.515	1.922	1.891	0.031	5.077	5.231	-0.154	1.206	1.191	0.015
2006	3	4	4.966	4.967	-0.001	2.974	2.974	0.000	135.318	135.317	0.001	2.174	2.169	0.005	1.998	2.016	-0.018	1.261	1.256	0.005

Year	Month	Station	OC- 2010.1 Mean Temp	USGS Mean Temp	Delta Temp	OC- 2010.1 Mean Cond	USGS Mean Cond	Delta Cond	OC- 2010.1 Mean Press	USGS Mean Press	Delta Press	OC- 2010.1 Mean OBS	USGS Mean OBS	Delta OBS	OC- 2010.1 Mean PAR	USGS Mean PAR	Delta PAR	OC- 2010.1 Mean Fluor	USGS Mean Fluor	Delta Fluor
2006	3	5	5.045	5.046	-0.001	2.974	2.974	0.000	144.414	144.41	0.004	1.851	1.846	0.005	2.965	3.02	-0.055	1.086	1.083	0.003
2006	3	6	5.053	5.054	-0.001	2.983	2.983	0.000	137.339	136.832	0.507	1.919	1.909	0.010	0.269	0.27	-0.001	1.046	1.04	0.006
2006	3	7	5.135	5.137	-0.002	2.992	2.992	0.000	141.889	141.379	0.510	1.751	1.746	0.005	0.746	0.755	-0.009	0.893	0.894	-0.001
2006	3	8	5.177	5.178	-0.001	2.997	2.997	0.000	149.466	148.956	0.510	1.807	1.8	0.007	1.116	1.131	-0.015	0.798	0.793	0.005
2006	3	9	5.129	5.13	-0.001	2.994	2.993	0.001	151.992	151.482	0.510	1.912	1.903	0.009	1.847	1.835	0.012	0.777	0.773	0.004
2006	3	10	5.33	5.331	-0.001	3.008	3.008	0.000	160.081	160.071	0.010	1.77	1.77	0.000	1.762	1.907	-0.145	0.624	0.624	0.000
2006	3	11	5.264	5.266	-0.002	3.004	3.004	0.000	150.978	150.472	0.506	1.88	1.875	0.005	1.686	1.676	0.010	0.594	0.591	0.003
2006	3	12	5.312	5.313	-0.001	3.006	3.006	0.000	127.741	127.235	0.506	1.945	1.946	-0.001	1.596	1.602	-0.006	0.54	0.54	0.000
2006	3	13	5.056	5.058	-0.002	2.973	2.973	0.000	66.634	66.129	0.505	1.752	1.75	0.002	1.78	1.823	-0.043	1.079	1.079	0.000
2006	3	14	5.057	5.058	-0.001	2.965	2.964	0.001	31.799	31.294	0.505	1.88	1.859	0.021	2.255	2.305	-0.050	1.231	1.211	0.020
2006	3	16	5.242	5.244	-0.002	2.981	2.981	0.000	149.968	149.967	0.001	1.712	1.713	-0.001	0.021	0.021	0.000	0.939	0.939	0.000
2006	3	17	5.445	5.446	-0.001	2.989	2.989	0.000	84.812	84.812	0.000	1.714	1.715	-0.001	0.022	0.022	0.000	0.863	0.863	0.000
2006	3	18	5.503	5.504	-0.001	2.998	2.998	0.000	99.457	99.457	0.000	1.714	1.705	0.009	0.022	0.022	0.000	0.957	0.919	0.038
2006	3	19	5.705	5.707	-0.002	3.02	3.021	-0.001	105.013	105.012	0.001	1.949	1.949	0.000	0.022	0.022	0.000	0.9	0.9	0.000
2006	3	20	5.679	5.68	-0.001	3.016	3.016	0.000	70.169	69.663	0.506	1.777	1.776	0.001	0.025	0.025	0.000	1.596	1.607	-0.011
2006	3	21	5.364	5.366	-0.002	3.007	3.008	-0.001	104.003	104.002	0.001	2.42	2.402	0.018	1.244	1.251	-0.007	0.481	0.479	0.002
2006	3	22	4.999	5.002	-0.003	2.953	2.954	-0.001	73.703	73.703	0.000	1.636	1.628	0.008	9.836	9.819	0.017	1.069	1.061	0.008
2006	3	23	5.112	5.11	0.002	2.951	2.95	0.001	29.275	28.77	0.505	1.797	1.747	0.050	16.034	16.251	-0.217	1.163	1.158	0.005
2006	7	0	7.756	7.761	-0.005	3.283	3.284	-0.001	25.761	25.728	0.033	0.783	0.772	0.011	43.123	37.699	5.424	3.038	3.004	0.034
2006	7	1	7.834	7.844	-0.010	3.279	3.274	0.005	30.806	30.285	0.521	0.737	0.715	0.022	39.929	41.997	-2.068	3.88	3.831	0.049
2006	7	2	7.937	7.94	-0.003	3.245	3.245	0.000	41.403	41.39	0.013	0.697	0.685	0.012	51.242	60.062	-8.820	3.253	3.208	0.045
2006	7	3	7.432	7.427	0.005	3.178	3.179	-0.001	47.46	47.44	0.020	0.798	0.785	0.013	7.424	7.073	0.351	3.538	3.477	0.061
2006	7	4	6.065	6.045	0.020	3.077	3.077	0.000	110.582	111.071	-0.489	2.027	2.027	0.000	15.174	13.822	1.352	2.376	2.351	0.025
2006	7	5	5.791	5.795	-0.004	3.059	3.06	-0.001	150.982	150.472	0.510	0.726	0.724	0.002	4.167	4.349	-0.182	1.728	1.726	0.002
2006	7	6	5.745	5.749	-0.004	3.051	3.05	0.001	141.384	141.379	0.005	0.716	0.707	0.009	10.759	10.999	-0.240	1.46	1.445	0.015
2006	7	7	5.76	5.774	-0.014	3.048	3.05	-0.002	141.384	139.521	1.863	0.719	0.709	0.010	7.424	7.56	-0.136	1.714	1.725	-0.011
2006	7	8	5.283	5.283	0.000	3.007	3.008	-0.001	151.992	151.482	0.510	0.585	0.565	0.020	2.46	2.128	0.332	1.344	1.34	0.004
2006	7	9	5.325	5.331	-0.006	3.009	3.011	-0.002	147.963	146.936	1.027	0.692	0.685	0.007	1.427	1.436	-0.009	1.398	1.398	0.000
2006	7	10	5.191	5.181	0.010	2.997	3.004	-0.007	150.476	150.472	0.004	0.805	0.789	0.016	1.14	0.87	0.270	1.142	1.138	0.004
2006	7	11	5.039	5.04	-0.001	2.984	2.985	-0.001	142.899	142.389	0.510	0.895	0.879	0.016	1.735	1.869	-0.134	0.861	0.859	0.002
2006	7	12	4.903	4.904	-0.001	2.965	2.966	-0.001	132.291	131.781	0.510	33.183	32.834	0.349	1.31	1.175	0.135	0.859	0.841	0.018
2006	7	13	6.697	6.65	0.047	3.102	3.111	-0.009	70.176	70.673	-0.497	0.821	0.803	0.018	29.029	21.258	7.771	2.43	2.437	-0.007
2006	7	14	7.049	7.051	-0.002	3.091	3.089	0.002	39.889	39.876	0.013	0.905	0.858	0.047	50.913	34.889	16.024	2.801	2.76	0.041
2006	7	16	5.383	5.382	0.001	3.007	3.01	-0.003	144.411	144.41	0.001	0.785	0.769	0.016	2.153	2.114	0.039	1.431	1.423	0.008

Year	Mon- th	Sta- tion	OC- 2010.1 Mean Temp	USGS Mean Temp	Delta Temp	OC- 2010.1 Mean Cond	USGS Mean Cond	Delta Cond	OC- 2010.1 Mean Press	USGS Mean Press	Delta Press	OC- 2010.1 Mean OBS	USGS Mean OBS	Delta OBS	OC- 2010.1 Mean PAR	USGS Mean PAR	Delta PAR	OC- 2010.1 Mean Fluor	USGS Mean Fluor	Delta Fluor
2006	7	17	5.597	5.604	-0.007	2.982	2.988	-0.006	75.225	74.713	0.512	0.944	0.931	0.013	19.018	17.197	1.821	1.944	1.946	-0.002
2006	7	18	5.136	5.137	-0.001	2.955	2.96	-0.005	94.407	93.902	0.505	1.806	1.621	0.185	3.004	2.882	0.122	0.986	0.983	0.003
2006	7	19	4.896	4.895	0.001	2.923	2.941	-0.018	92.393	91.881	0.512	3.636	3.558	0.078	11.501	7.796	3.705	1.122	1.13	-0.008
2006	7	20	4.901	4.915	-0.014	2.901	2.908	-0.007	72.701	72.693	0.008	31.783	29.517	2.266	0.148	0.601	-0.453	1.709	1.666	0.043
2006	7	21	5.001	5.005	-0.004	2.951	2.954	-0.003	95.922	95.417	0.505	68.117	67.156	0.961	1.462	1.024	0.438	1.079	1.072	0.007
2006	7	22	6.06	6.059	0.001	3.036	3.039	-0.003	75.73	75.723	0.007	0.879	0.84	0.039	9.578	19.751	-10.173	1.676	1.66	0.016
2006	7	23	6.092	6.098	-0.006	2.949	2.954	-0.005	30.301	29.78	0.521	1.989	1.681	0.308	35.023	37.093	-2.070	4.02	4.02	0.000
2006	10	0	7.587		7.587	3.169		3.169	24.752		24.752	2.326		2.326	6.895		6.895	1.387		1.387
2006	10	1	7.847		7.847	3.162		3.162	19.206		19.206	2.169		2.169	16.67		16.670	1.518		1.518
2006	10	2	7.617		7.617	3.172		3.172	36.356		36.356	2.972		2.972	4.923		4.923	1.37		1.370
2006	10	3	7.198	7.199	-0.001	3.134	3.134	0.000	48.974	48.963	0.011	2.398	2.377	0.021	3.755	3.865	-0.110	1.118	1.09	0.028
2006	10	4	6.948	6.954	-0.006	3.116	3.116	0.000	123.7	123.194	0.506	1.249	1.24	0.009	1.654	3.005	-1.351	1.014	1.001	0.013
2006	10	5	6.868	6.87	-0.002	3.1	3.104	-0.004	130.776	130.771	0.005	0.892	0.888	0.004	0.417	0.329	0.088	1.124	1.095	0.029
2006	10	6	6.673	6.68	-0.007	3.088	3.09	-0.002	132.796	132.286	0.510	0.846	0.837	0.009	0.797	0.964	-0.167	1.103	1.076	0.027
2006	10	7	6.779	6.787	-0.008	3.084	3.087	-0.003	117.644	117.133	0.511	0.902	0.851	0.051	0.777	1.053	-0.276	1.111	1.056	0.055
2006	10	8	6.413	6.419	-0.006	3.061	3.063	-0.002	149.466	148.956	0.510	1.242	1.214	0.028	0.742	0.761	-0.019	0.912	0.889	0.023
2006	10	9	6.449	6.453	-0.004	3.063	3.067	-0.004	149.466	149.461	0.005	0.867	0.859	0.008	1.018	0.791	0.227	0.942	0.93	0.012
2006	10	10	6.533	6.531	0.002	3.058	3.057	0.001	141.889	141.884	0.005	1.034	1.001	0.033	0.819	1.05	-0.231	0.956	0.94	0.016
2006	10	11	6.382	6.383	-0.001	3.042	3.043	-0.001	135.827	135.822	0.005	1.388	1.357	0.031	1.299	1.568	-0.269	0.983	0.962	0.021
2006	10	12	6.339	6.339	0.000	3.038	3.039	-0.001	134.817	134.812	0.005	30.691	30.555	0.136	1.029	0.987	0.042	0.889	0.881	0.008
2006	10	13	7.183	7.183	0.000	3.082	3.091	-0.009	60.584	61.08	-0.496	1.448	1.425	0.023	0.105	0.105	0.000	1.431	1.41	0.021
2006	10	14	7.324	7.335	-0.011	3.027	3.046	-0.019	27.779	27.761	0.018	1.774	1.727	0.047	4.951	4.154	0.797	1.368	1.371	-0.003
2006	10	16	5.926	5.927	-0.001	3.028	3.03	-0.002	149.971	149.967	0.004	0.958	0.932	0.026	0.401	0.53	-0.129	0.841	0.823	0.018
2006	10	17	6.612	6.624	-0.012	3.039	3.048	-0.009	87.343	87.333	0.010	1.378	1.306	0.072	1.112	1.275	-0.163	0.949	0.925	0.024
2006	10	18	6.047	6.053	-0.006	2.996	2.998	-0.002	99.462	98.952	0.510	6.501	6.293	0.208	1.126	1.35	-0.224	0.77	0.757	0.013
2006	10	19	6.115	6.118	-0.003	3.01	3.019	-0.009	102.998	103.497	-0.499	35.889	36.034	-0.145	1.538	1.093	0.445	0.86	0.854	0.006
2006	10	20	6.269	6.264	0.005	3.027	3.025	0.002	85.323	85.317	0.006	63.702	63.338	0.364	0.901	1.04	-0.139	0.808	0.791	0.017
2006	10	21	7.078	7.075	0.003	3.035	3.031	0.004	65.128	64.614	0.514	29.49	29.237	0.253	3.014	3.924	-0.910	1.243	1.187	0.056
2006	10	22	7.26	7.262	-0.002	3.079	3.08	-0.001	66.642	66.634	0.008	1.085	1.01	0.075	0.164	0.157	0.007	1.444	1.374	0.070
2006	10	23	7.545	7.545	0.000	3.036	3.04	-0.004	24.248	24.227	0.021	3.722	3.51	0.212	0.035	0.035	0.000	1.774	1.676	0.098
2007	4	0	3.349	3.35	-0.001	2.897	2.889	0.008	24.752	24.732	0.020	1.574	1.523	0.051	55.56	62.739	-7.179	2.943	2.868	0.075
2007	4	1	3.54	3.54	0.000	2.933	2.92	0.013	23.744	23.218	0.526	2.029	1.899	0.130	62.357	61.195	1.162	2.165	2.094	0.071
2007	4	2	3.384	3.384	0.000	2.904	2.896	0.008	39.384	39.371	0.013	1.662	1.633	0.029	12.749	12.813	-0.064	2.174	2.122	0.052
2007	4	3	3.253	3.253	0.000	2.873	2.836	0.037	50.488	50.478	0.010	0.945	0.926	0.019	30.747	20.127	10.620	3.579	3.54	0.039

Year	Month	Station	OC- 2010.1 Mean Temp	USGS Mean Temp	Delta Temp	OC- 2010.1 Mean Cond	USGS Mean Cond	Delta Cond	OC- 2010.1 Mean Press	USGS Mean Press	Delta Press	OC- 2010.1 Mean OBS	USGS Mean OBS	Delta OBS	OC- 2010.1 Mean PAR	USGS Mean PAR	Delta PAR	OC- 2010.1 Mean Fluor	USGS Mean Fluor	Delta Fluor
2007	4	4	3.297	3.298	-0.001	2.886	2.884	0.002	133.301	132.791	0.510	0.977	0.97	0.007	12.826	13.525	-0.699	1.743	1.731	0.012
2007	4	5	3.258	3.258	0.000	2.88	2.88	0.000	148.961	148.451	0.510	0.97	0.965	0.005	13.432	13.55	-0.118	1.892	1.881	0.011
2007	4	6	3.277	3.279	-0.002	2.884	2.884	0.000	129.261	129.255	0.006	0.89	0.882	0.008	11.568	9.639	1.929	1.328	1.324	0.004
2007	4	7	3.342	3.343	-0.001	2.892	2.892	0.000	147.445	147.946	-0.501	0.772	0.773	-0.001	4.816	4.5	0.316	1.226	1.224	0.002
2007	4	8	3.343	3.343	0.000	2.894	2.894	0.000	149.466	148.451	1.015	0.752	0.75	0.002	4.873	4.859	0.014	0.785	0.782	0.003
2007	4	9	3.348	3.351	-0.003	2.894	2.894	0.000	144.414	144.41	0.004	0.848	0.867	-0.019	6.751	5.692	1.059	0.753	0.753	0.000
2007	4	10	3.357	3.357	0.000	2.896	2.895	0.001	145.425	145.42	0.005	0.782	0.778	0.004	2.103	2.147	-0.044	0.764	0.761	0.003
2007	4	13	3.287	3.287	0.000	2.88	2.876	0.004	69.166	68.654	0.512	1.05	0.817	0.233	26.107	29.692	-3.585	3.076	3.048	0.028
2007	4	14	3.347	3.347	0.000	2.869	2.864	0.005	35.852	35.837	0.015	0.808	0.784	0.024	46.135	42.35	3.785	9.432	9.337	0.095
2007	4	16	3.364	3.365	-0.001	2.883	2.881	0.002	147.951	147.441	0.510	0.87	0.865	0.005	2.335	2.348	-0.013	2.709	2.698	0.011
2007	4	17	3.382	3.382	0.000	2.88	2.88	0.000	93.403	93.396	0.007	0.885	0.874	0.011	13.126	10.838	2.288	2.221	2.219	0.002
2007	4	18	3.382	3.382	0.000	2.88	2.88	0.000	104.513	105.012	-0.499	0.807	0.808	-0.001	7.177	6.582	0.595	1.022	1.019	0.003
2007	4	22	3.12	3.127	-0.007	2.855	2.856	-0.001	75.225	75.218	0.007	0.886	0.885	0.001	7.27	6.575	0.695	2.559	2.568	-0.009
2007	4	22	3.12	3.127	-0.007	2.855	2.856	-0.001	75.225	75.218	0.007	0.886	0.886	0.000	7.27	6.575	0.695	2.559	2.568	-0.009
2007	4	23	3.033	3.026	0.007	2.832	2.827	0.005	44.431	44.419	0.012	0.859	0.846	0.013	19.357	25.198	-5.841	2.115	2.066	0.049
2007	7	0	8.57	8.498	0.072	3.111	3.124	-0.013	24.248	24.715	-0.467	1.391	1.398	-0.007	20.729	20.337	0.392	4.236	4.201	0.035
2007	7	1	7.185	7.186	-0.001	3.128	3.128	0.000	24.732	24.227	0.505	1.988	1.964	0.024	66.146	75.965	-9.819	2.864	2.837	0.027
2007	7	2	6.925	6.929	-0.004	3.08	3.081	-0.001	38.88	38.866	0.014	1.566	1.55	0.016	48.589	45.6	2.989	3.19	3.155	0.035
2007	7	3	6.363	6.363	0.000	3.053	3.057	-0.004	44.925	44.924	0.001	1.359	1.337	0.022	23.392	19.628	3.764	2.205	2.181	0.024
2007	7	4	5.034	5.035	-0.001	3	3.001	-0.001	139.868	139.863	0.005	1.236	1.224	0.012	5.445	8.06	-2.615	1.26	1.253	0.007
2007	7	5	5.163	5.169	-0.006	3.002	3.003	-0.001	149.466	148.956	0.510	1.06	1.054	0.006	10.372	10.668	-0.296	1.252	1.247	0.005
2007	7	6	5.533	5.534	-0.001	3.014	3.017	-0.003	107.543	107.537	0.006	0.851	0.831	0.020	10.321	11.756	-1.435	1.533	1.526	0.007
2007	7	7	4.998	5.005	-0.007	2.991	2.993	-0.002	143.906	143.399	0.507	0.759	0.743	0.016	6.526	6.71	-0.184	1.36	1.357	0.003
2007	7	8	5.158	5.167	-0.009	2.99	2.992	-0.002	115.623	115.113	0.510	1.002	0.969	0.033	2.727	3.055	-0.328	1.272	1.258	0.014
2007	7	9	4.814	4.821	-0.007	2.974	2.976	-0.002	135.827	135.317	0.510	0.914	0.901	0.013	5.689	5.701	-0.012	0.921	0.913	0.008
2007	7	10	4.577	4.582	-0.005	2.949	2.951	-0.002	147.445	146.936	0.509	1.022	1.002	0.020	1.857	3.903	-2.046	0.842	0.84	0.002
2007	7	11	4.554	4.552	0.002	2.95	2.95	0.000	149.971	149.967	0.004	0.954	0.93	0.024	2.491	2.395	0.096	1.124	1.121	0.003
2007	7	12	4.427	4.429	-0.002	2.93	2.932	-0.002	138.349	138.348	0.001	49.379	49.242	0.137	0.349	0.405	-0.056	0.922	0.917	0.005
2007	7	13	6.066	6.067	-0.001	3.05	3.05	0.000	70.176	70.168	0.008	1.256	1.231	0.025	18.84	21.81	-2.970	1.798	1.783	0.015
2007	7	14	6.357	6.372	-0.015	3.037	3.036	0.001	37.87	37.352	0.518	2.185	1.981	0.204	37.075	30.147	6.928	1.821	1.813	0.008
2007	7	16	4.329	4.331	-0.002	2.937	2.939	-0.002	149.466	149.462	0.004	0.902	0.895	0.007	5.653	5.701	-0.048	1.025	1.021	0.004
2007	7	17	5.121	5.121	0.000	2.968	2.968	0.000	78.759	78.752	0.007	1.077	1.036	0.041	6.301	6.943	-0.642	1.418	1.411	0.007
2007	7	18	4.534	4.54	-0.006	2.903	2.907	-0.004	92.393	92.009	0.384	5.831	5.823	0.008	4.471	4.966	-0.495	0.913	0.912	0.001
2007	7	19	4.254	4.256	-0.002	2.907	2.906	0.001	111.583	110.572	1.011	44.847	43.758	1.089	3.21	6.045	-2.835	0.829	0.814	0.015

Year	Mon- th	Sta- tion	OC- 2010.1 Mean Temp	USGS Mean Temp	Delta Temp	OC- 2010.1 Mean Cond	USGS Mean Cond	Delta Cond	OC- 2010.1 Mean Press	USGS Mean Press	Delta Press	OC- 2010.1 Mean OBS	USGS Mean OBS	Delta OBS	OC- 2010.1 Mean PAR	USGS Mean PAR	Delta PAR	OC- 2010.1 Mean Fluor	USGS Mean Fluor	Delta Fluor
2007	7	20	4.719	4.735	-0.016	2.905	2.905	0.000	79.769	79.257	0.512	148.564	148.45	0.114	1.159	8.772	-7.613	1.238	1.217	0.021
2007	7	21	4.835	4.836	-0.001	2.942	2.945	-0.003	96.427	96.427	0.000	89.686	89.677	0.009	0.355	0.354	0.001	1.013	1.013	0.000
2007	7	22	5.596	5.609	-0.013	2.982	2.986	-0.004	75.225	74.713	0.512	1.122	1.102	0.020	19.464	18.142	1.322	1.407	1.401	0.006
2007	7	23	5.978	5.981	-0.003	2.917	2.922	-0.005	30.301	30.285	0.016	2.048	1.933	0.115	27.945	29.295	-1.350	2.312	2.283	0.029
2007	10	1	7.364	7.364	0.000	3.143	3.143	0.000	28.788	28.265	0.523	1.67	1.635	0.035	3.678	3.754	-0.076	1.834	1.799	0.035
2007	10	2	7.335	7.337	-0.002	3.128	3.128	0.000	39.371	39.371	0.000	1.962	1.962	0.000	5.818	5.78	0.038	1.835	1.836	-0.001
2007	10	3	6.998	7.001	-0.003	3.113	3.114	-0.001	54.021	53.995	0.026	2.162	2.149	0.013	5.948	4.528	1.420	1.47	1.461	0.009
2007	10	4	6.319	6.327	-0.008	3.082	3.082	0.000	132.796	132.286	0.510	1.284	1.281	0.003	0.9	0.972	-0.072	1.186	1.179	0.007
2007	10	5	6.452	6.454	-0.002	3.088	3.088	0.000	132.291	132.286	0.005	1.099	1.093	0.006	2.658	2.677	-0.019	1.058	1.028	0.030
2007	10	6	6.346	6.344	0.002	3.075	3.076	-0.001	121.684	122.184	-0.500	0.956	0.956	0.000	0.95	0.771	0.179	1.26	1.217	0.043
2007	10	8	6.526	6.536	-0.010	3.057	3.058	-0.001	95.922	95.417	0.505	0.912	0.89	0.022	0.083	0.079	0.004	2.31	2.175	0.135
2007	10	10	5.58	5.582	-0.002	2.992	2.993	-0.001	148.452	148.451	0.001	0.878	0.878	0.000	0.523	0.523	0.000	2.388	2.388	0.000
2007	10	11	6.483	6.491	-0.008	2.996	2.998	-0.002	70.176	69.663	0.513	1.33	1.304	0.026	0.446	0.465	-0.019	4.556	4.487	0.069
2007	10	12	6.31	6.311	-0.001	3.002	3.003	-0.001	73.71	73.703	0.007	1.709	1.704	0.005	0.205	0.235	-0.030	3.1	3.078	0.022
2007	10	13	6.904	6.911	-0.007	3.08	3.082	-0.002	68.662	68.149	0.513	1.059	1.043	0.016	1.563	1.584	-0.021	2.523	2.447	0.076
2007	10	14	7.051	7.055	-0.004	3.033	3.034	-0.001	34.338	33.818	0.520	1.193	1.173	0.020	3.106	3.292	-0.186	4.434	4.352	0.082
2007	10	16	5.433	5.438	-0.005	2.992	2.992	0.000	145.425	144.915	0.510	0.819	0.813	0.006	1.265	1.326	-0.061	1.43	1.421	0.009
2007	10	17	5.6	5.601	-0.001	2.975	2.977	-0.002	92.898	92.892	0.006	0.977	0.953	0.024	2.485	2.53	-0.045	1.543	1.529	0.014
2007	10	18	5.445	5.446	-0.001	2.971	2.974	-0.003	106.023	105.517	0.506	1.356	1.353	0.003	2.564	2.576	-0.012	1.244	1.248	-0.004
2007	10	19	5.387	5.388	-0.001	2.949	2.951	-0.002	105.518	105.517	0.001	2.563	2.562	0.001	2.399	2.399	0.000	1.33	1.33	0.000
2007	10	20	5.732	5.744	-0.012	2.947	2.951	-0.004	85.317	84.812	0.505	3.675	3.588	0.087	2.724	2.723	0.001	1.334	1.325	0.009
2007	10	21	6.242	6.244	-0.002	3.004	3.006	-0.002	81.278	81.277	0.001	1.977	1.978	-0.001	0.185	0.185	0.000	2.877	2.877	0.000
2007	10	22	6.752	6.756	-0.004	3.086	3.084	0.002	76.235	75.88	0.355	1.044	1.019	0.025	1.077	1.077	0.000	1.199	1.147	0.052
2007	10	23	6.803	6.777	0.026	3.044	3.03	0.014	26.77	26.751	0.019	1.296	1.197	0.099	1.179	1.451	-0.272	2.038	1.772	0.266
2008	1	0	4.885	4.887	-0.002	2.99	2.99	0.000	29.292	29.78	-0.488	1.567	1.569	-0.002	5.785	5.031	0.754	0.634	0.635	-0.001
2008	1	1	4.878	4.878	0.000	2.998	2.993	0.005	25.761	25.742	0.019	1.862	1.797	0.065	6.107	5.612	0.495	0.639	0.618	0.021
2008	1	2	4.868	4.87	-0.002	2.986	2.986	0.000	33.329	33.818	-0.489	1.722	1.726	-0.004	7.969	6.639	1.330	0.623	0.624	-0.001
2008	1	3	4.784	4.783	0.001	2.947	2.944	0.003	46.45	45.934	0.516	0.758	0.741	0.017	6.791	6.467	0.324	0.626	0.615	0.011
2008	1	4	4.896	4.897	-0.001	2.966	2.965	0.001	116.676	116.531	0.145	0.959	0.957	0.002	1.709	1.811	-0.102	0.578	0.573	0.005
2008	1	5	4.894	4.897	-0.003	2.967	2.968	-0.001	125.22	125.72	-0.500	0.909	0.911	-0.002	2.559	2.134	0.425	0.557	0.557	0.000
2008	1	7	5.171	5.172	-0.001	2.994	2.994	0.000	138.349	138.348	0.001	0.592	0.591	0.001	0.887	1.002	-0.115	0.469	0.466	0.003
2008	1	13	4.977	4.979	-0.002	2.969	2.969	0.000	59.07	58.556	0.514	0.612	0.606	0.006	8.067	8.783	-0.716	0.533	0.527	0.006
2008	1	14	4.965	4.963	0.002	2.956	2.956	0.000	27.275	26.751	0.524	0.644	0.634	0.010	15.02	16.206	-1.186	0.565	0.556	0.009
2008	1	16	5.237	5.24	-0.003	2.996	2.996	0.000	147.951	146.556	1.395	0.599	0.595	0.004	2.329	2.706	-0.377	0.431	0.427	0.004

Year	Month	Station	OC-2010.1 Mean Temp	USGS Mean Temp	Delta Temp	OC-2010.1 Mean Cond	USGS Mean Cond	Delta Cond	OC-2010.1 Mean Press	USGS Mean Press	Delta Press	OC-2010.1 Mean OBS	USGS Mean OBS	Delta OBS	OC-2010.1 Mean PAR	USGS Mean PAR	Delta PAR	OC-2010.1 Mean Fluor	USGS Mean Fluor	Delta Fluor
2008	1	22	5.132	5.134	-0.002	2.973	2.973	0.000	69.664	69.663	0.001	0.653	0.65	0.003	0.768	0.755	0.013	0.525	0.518	0.007
2008	1	23	5.661	5.663	-0.002	3.013	3.013	0.000	31.815	31.799	0.016	1.234	1.134	0.100	2.488	2.524	-0.036	0.475	0.464	0.011
2008	3	1	3.861	3.861	0.000	2.925	2.924	0.001	23.744	23.707	0.037	1.195	1.178	0.017	2.925	2.774	0.151	2.292	2.234	0.058
2008	3	2	3.861	3.862	-0.001	2.924	2.925	-0.001	35.347	35.837	-0.490	1.148	1.154	-0.006	3.338	2.929	0.409	2.413	2.406	0.007
2008	3	3	3.762	3.766	-0.004	2.903	2.903	0.000	43.422	43.906	-0.484	0.723	0.717	0.006	3.82	3.562	0.258	2.496	2.361	0.135
2008	3	4	3.808	3.813	-0.005	2.908	2.909	-0.001	106.028	106.527	-0.499	0.779	0.781	-0.002	1.674	1.292	0.382	2.282	2.222	0.060
2008	3	5	3.814	3.82	-0.006	2.909	2.91	-0.001	109.563	110.062	-0.499	0.758	0.761	-0.003	2.219	1.627	0.592	2.387	2.308	0.079
2008	3	6	3.815	3.819	-0.004	2.91	2.911	-0.001	106.533	107.032	-0.499	0.866	0.867	-0.001	3.664	3.209	0.455	1.536	1.514	0.022
2008	3	7	3.791	3.791	0.000	2.908	2.908	0.000	88.858	88.347	0.511	0.825	0.818	0.007	4.693	4.598	0.095	1.533	1.485	0.048
2008	3	13	3.756	3.757	-0.001	2.899	2.899	0.000	72.694	72.693	0.001	0.995	0.992	0.003	7.755	7.381	0.374	2.136	2.086	0.050
2008	3	14	3.731	3.727	0.004	2.884	2.884	0.000	30.301	29.78	0.521	0.856	0.829	0.027	7.774	8.519	-0.745	1.542	1.507	0.035
2008	3	16	3.872	3.872	0.000	2.907	2.907	0.000	138.858	138.853	0.005	0.988	0.981	0.007	1.904	1.912	-0.008	0.716	0.705	0.011
2008	3	17	3.873	3.872	0.001	2.901	2.901	0.000	89.868	89.862	0.006	1.13	1.121	0.009	1.669	1.653	0.016	0.69	0.67	0.020
2008	3	18	3.871	3.882	-0.011	2.901	2.903	-0.002	104.513	105.517	-1.004	1.168	1.167	0.001	2.812	2.055	0.757	0.566	0.553	0.013
2008	3	22	3.802	3.802	0.000	2.902	2.902	0.000	60.071	59.565	0.506	0.741	0.74	0.001	13.686	13.545	0.141	2.226	2.241	-0.015
2008	3	23	3.791	3.79	0.001	2.89	2.889	0.001	29.292	28.77	0.522	0.975	0.95	0.025	58.595	63.271	-4.676	1.703	1.646	0.057
2008	6	1	6.917		6.917	3.169		3.169	22.231		22.231	2.054		2.054	26.029		26.029	4.659		4.659
2008	6	2	6.912		6.912	3.155		3.155	36.356		36.356	1.931		1.931	13.983		13.983	5.457		5.457
2008	6	3	6.293		6.293	3.109		3.109	49.479		49.479	1.729		1.729	14.926		14.926	4.345		4.345
2008	6	4	5.114		5.114	3.018		3.018	124.21		124.210	1.614		1.614	3.072		3.072	1.663		1.663
2008	6	5	4.976		4.976	3.009		3.009	148.456		148.456	1.532		1.532	4.565		4.565	1.135		1.135
2008	6	6	4.958	4.963	-0.005	3.005	3.005	0.000	134.817	134.307	0.510	1.46	1.44	0.020	0.52	0.524	-0.004	1.53	1.514	0.016
2008	6	7	4.842		4.842	2.999		2.999	135.827		135.827	1.396		1.396	1.93		1.930	1.231		1.231
2008	6	8	4.455	4.462	-0.007	2.963	2.962	0.001	151.487	150.977	0.510	1.306	1.28	0.026	3.19	3.629	-0.439	1.141	1.132	0.009
2008	6	9	4.478	4.486	-0.008	2.962	2.962	0.000	136.332	135.872	0.510	1.321	1.292	0.029	4.893	5.426	-0.533	1.169	1.163	0.006
2008	6	10	4.265	4.267	-0.002	2.944	2.945	-0.001	150.982	150.977	0.005	1.3	1.28	0.020	2.357	2.638	-0.281	1.141	1.132	0.009
2008	6	11	4.118	4.121	-0.003	2.931	2.931	0.000	146.94	146.43	0.510	1.425	1.418	0.007	1.57	1.957	-0.387	1.402	1.398	0.004
2008	6	12	4.033	4.033	0.000	2.912	2.918	-0.006	138.858	138.348	0.510	7.431	7.38	0.051	1.405	1.634	-0.229	1.449	1.449	0.000
2008	6	13	5.835		5.835	3.07		3.070	68.157		68.157	1.667		1.667	7.741		7.741	2.248		2.248
2008	6	14	6.291	6.303	-0.012	3.073	3.072	0.001	33.329	32.809	0.520	2.058	1.983	0.075	3.456	4.205	-0.749	4.199	3.918	0.281
2008	6	16	4.571	4.574	-0.003	2.965	2.966	-0.001	135.322	135.317	0.005	1.512	1.485	0.027	1.589	1.758	-0.169	0.803	0.789	0.014
2008	6	17	4.505	4.507	-0.002	2.941	2.944	-0.003	88.858	88.852	0.006	1.645	1.621	0.024	2.167	2.362	-0.195	1.146	1.137	0.009
2008	6	18	4.21	4.23	-0.020	2.922	2.916	0.006	88.353	88.347	0.006	2.481	2.154	0.327	1.649	2.376	-0.727	0.851	0.8	0.051
2008	6	21	4.03	4.032	-0.002	2.901	2.902	-0.001	111.078	110.567	0.511	65.799	65.475	0.324	4.228	5.799	-1.571	1.458	1.454	0.004

Year	Month	Station	OC- 2010.1 Mean Temp	USGS Mean Temp	Delta Temp	OC- 2010.1 Mean Cond	USGS Mean Cond	Delta Cond	OC- 2010.1 Mean Press	USGS Mean Press	Delta Press	OC- 2010.1 Mean OBS	USGS Mean OBS	Delta OBS	OC- 2010.1 Mean PAR	USGS Mean PAR	Delta PAR	OC- 2010.1 Mean Fluor	USGS Mean Fluor	Delta Fluor
2008	6	22	4.93		4.930	2.973		2.973	72.701		72.701	1.784		1.784	8.588		8.588	1.613		1.613
2008	6	23	5.175		5.175	2.927		2.927	30.301		30.301	2.222		2.222	4.49		4.490	3.404		3.404
2008	8	1		6.922	-6.922		3.17	-3.170		22.208	-22.208		1.977	-1.977		29.498	-29.498		4.575	-4.575
2008	8	2		6.931	-6.931		3.155	-3.155		36.342	-36.342		1.878	-1.878		15.301	-15.301		5.248	-5.248
2008	8	3		6.299	-6.299		3.109	-3.109		49.468	-49.468		1.715	-1.715		11.661	-11.661		4.33	-4.330
2008	8	4		5.143	-5.143		3.017	-3.017		123.119	-123.119		1.585	-1.585		5.354	-5.354		1.622	-1.622
2008	8	5		4.954	-4.954		3.01	-3.010		148.954	-148.954		1.517	-1.517		4.92	-4.920		1.126	-1.126
2008	8	7		4.841	-4.841		2.996	-2.996		135.822	-135.822		1.361	-1.361		2.762	-2.762		1.222	-1.222
2008	8	13		5.851	-5.851		3.071	-3.071		67.644	-67.644		1.621	-1.621		12.548	-12.548		2.226	-2.226
2008	8	22		4.933	-4.933		2.972	-2.972		72.188	-72.188		1.749	-1.749		14.26	-14.260		1.596	-1.596
2008	8	23		5.045	-5.045		2.943	-2.943		30.789	-30.789		2.199	-2.199		3.437	-3.437		3.405	-3.405
2008	10	0	7.259	0	7.259	3.114	3.114	0.000	23.723	23.218	0.505	4.033	3.999	0.034	7.559	7.213	0.346	1.348	1.331	0.017
2008	10	1	7.238	0	7.238	3.091	3.092	-0.001	21.222	20.694	0.528	4.341	4.273	0.068	23.968	27.45	-3.482	1.445	1.415	0.030
2008	10	2	7.223	0	7.223	3.097	3.098	-0.001	37.87	37.857	0.013	4.803	4.771	0.032	10.067	10.577	-0.510	1.452	1.427	0.025
2008	10	3	6.956	0	6.956	2.979	2.981	-0.002	41.403	40.886	0.517	2.893	2.86	0.033	9.213	9.707	-0.494	2.145	2.126	0.019
2008	10	4	6.264	0	6.264	3.058	3.058	0.000	132.796	132.286	0.510	1.798	1.785	0.013	5.463	7.708	-2.245	0.879	0.86	0.019
2008	10	5	5.891	0	5.891	3.038	3.044	-0.006	147.957	148.451	-0.494	1.513	1.509	0.004	5.374	3.519	1.855	0.86	0.833	0.027
2008	10	6	6.876	0	6.876	3.036	3.043	-0.007	72.196	72.689	-0.493	1.675	1.596	0.079	1.502	1.451	0.051	1.347	1.265	0.082
2008	10	7	6.796	0	6.796	3.031	3.032	-0.001	75.73	74.713	1.017	1.581	1.519	0.062	1.525	1.499	0.026	1.239	1.201	0.038
2008	10	8	6.303	0	6.303	3.028	3.031	-0.003	118.149	118.143	0.006	1.493	1.477	0.016	1.582	1.746	-0.164	1.008	0.981	0.027
2008	10	9	6.562	0	6.562	3.013	3.015	-0.002	91.383	91.377	0.006	1.808	1.762	0.046	0.461	0.541	-0.080	1.435	1.348	0.087
2008	10	10	6.162	0	6.162	2.995	2.998	-0.003	120.169	120.164	0.005	1.66	1.645	0.015	0.65	0.697	-0.047	1.263	1.234	0.029
2008	10	11	5.671	0	5.671	2.966	2.969	-0.003	141.384	141.379	0.005	1.945	1.927	0.018	0.502	0.473	0.029	1.072	1.051	0.021
2008	10	12	5.805	0	5.805	2.977	2.98	-0.003	134.817	134.812	0.005	29.698	29.672	0.026	0.27	0.314	-0.044	0.81	0.795	0.015
2008	10	13	6.945	0	6.945	3.032	3.048	-0.016	51.498	52.497	-0.999	1.589	1.576	0.013	6.928	3.895	3.033	1.696	1.615	0.081
2008	10	14	6.864	0	6.864	2.936	2.964	-0.028	33.833	34.828	-0.995	2.027	1.996	0.031	5.313	2.912	2.401	2.89	2.688	0.202
2008	10	16	5.646	0	5.646	2.99	2.995	-0.005	126.23	125.72	0.510	1.875	1.861	0.014	0.876	0.619	0.257	0.836	0.819	0.017
2008	10	17	5.903	0	5.903	2.963	2.967	-0.004	78.759	76.732	2.027	1.894	1.841	0.053	2.446	2.541	-0.095	0.918	0.896	0.022
2008	10	18	5.723	0	5.723	2.978	2.986	-0.008	94.413	94.403	0.010	4.522	4.339	0.183	1.235	1.387	-0.152	0.689	0.66	0.029
2008	10	19	5.422	0	5.422	2.93	2.942	-0.012	106.028	106.022	0.006	50.082	49.611	0.471	0.662	0.391	0.271	0.509	0.502	0.007
2008	10	20	5.565	0	5.565	2.905	2.921	-0.016	80.274	80.772	-0.498	50.67	50.633	0.037	0.162	0.115	0.047	0.533	0.527	0.006
2008	10	21	6.194	0	6.194	2.972	2.982	-0.010	94.413	94.907	-0.494	22.36	22.279	0.081	0.129	0.186	-0.057	0.972	0.943	0.029