

# NorWeST Stream Temperature Data Processing Procedures

<http://www.fs.fed.us/rm/boise/AWAE/projects/NorWeST.html>

## Criteria for Modeling and Data Summaries

Data used in the NorWeST stream temperature model and provided on this website as daily summaries (i.e., minimum, mean, maximum) met the following criteria: (1) sites had accurate spatial coordinates and could be cross-referenced to a location on the NHDPlus stream layer, (2) temperature recordings were made for 90% of the days during the month of August, and (3) multiple temperature recordings occurred within individual days (average number of daily recordings was 25 (range = 4 – 288)). In a small proportion of cases, daily temperature summary values were contributed rather than individual temperature recordings and the number of recordings is unknown. Stream temperature data also had to meet the quality control criteria described below.

## Data Processing Steps

Stream temperature data from project contributors were truncated to the first and last full days of the record and screened for exposure of the sensor to air temperatures. Erroneous records involving rapid temperature spikes or excessive temperatures were removed from the database. If daily mean temperatures on consecutive days differed by more than 3° (°F or °C), the data were flagged as Suspect (code = S). Flagged data are retained in the database until the contributor re-examines it, whereupon the flag is removed or the suspect data are removed if deemed erroneous. All data provided through the NorWeST website that have not been validated by the original contributor are denoted as Provisional (code = P). Once data are reviewed and validated, the status is updated to Final (code = F). We welcome user feedback regarding data at the NorWeST website.

## Field Definitions

August daily stream temperature summaries used in temperature model development are available through NorWeST as an .xlsx file with the field definitions described below. Daily temperature summaries for months other than August will be added by production unit to the NorWeST website as they become available. Field definitions for those tables are listed below.

### ***August Daily Summary Table***

OBSPRED_ID	Deployment ID of the temperature site and year. This is related to the OBSPRED_ID in the deployment table and shapefile
Date	Daily date of temperature value
DailyMinimum	Minimum daily temperature
DailyMean	Mean daily temperature
DailyMaximum	Maximum daily temperature
Nobs	Number of temperature recordings for a day (this field is blank for data that was received already summarized)
Status	P=Provisional (data have not been validated by the original contributor); F=Final (data have been reviewed and validated)
Mean_Flag	Blank (no problem detected); S=Suspect (this indicates the daily mean on 2 consecutive days was greater than 3°)

### ***Daily Summary – All Days Table***

OBSPRED_ID	Deployment ID of the temperature site and year. This is related to the OBSPRED_ID in the deployment table and shapefile
SampleDate	Daily date of temperature value
DailyMax	Maximum daily temperature
DailyMin	Minimum daily temperature
DailyMean	Mean daily temperature
DailySD	The standard deviation for the day
Nobs	Number of temperature recordings for a day (this field is blank for data that was received already summarized)
DailyRange	The max-min for the day

### **Monthly Summary – All Days Table**

OBSPRED_ID	Deployment ID of the temperature site and year. This is related to the OBSPRED_ID in the deployment table and shapefile
NorWeST_ID	A concatenation of the OBSPREDID & the NorWeST Processing Unit; to combine databases if necessary
MonthYear	Month and Year of temperature value
MonthlyMax	Maximum monthly temperature
MonthlyMin	Minimum monthly temperature
MonthlyMean	Mean monthly temperature
SD	The standard deviation for the month
Ndays	Number of days in the month
MaxDailyRange	Maximum daily range for the month
SampleYear	Year of the temperature value
SampleMonth	Month of the temperature value

### **Weekly Summaries – All Days Table**

OBSPRED_ID	Deployment ID of the temperature site and year. This is related to the OBSPRED_ID in the deployment table and shapefile
NorWeST_ID	A concatenation of the OBSPREDID & the NorWeST Processing Unit; to combine databases if necessary
SampleWeek	Week as indicated by the numerical value found in <a href="#">NorWeST_ObservedStreamTemp_WeekAssignment.xlsx</a>
WeeklyMax	Maximum Weekly temperature
WeeklyMin	Minimum Weekly temperature
WeeklyMean	Mean Weekly temperature
WeeklySD	The standard deviation for the week
Ndays	Number of days in the week