Water-Data Report 2013

# 15515080 EMMA CREEK NEAR HEALY, AK

Tanana River Basin
Tanana Flats Subbasin

LOCATION.--Lat 64°00′42″, long 148°43′31″ referenced to North American Datum of 1927, in SW ¼ SE ¼ SE ¼ sec.28, T.10 S., R.6 W., Denali Borough, AK, Hydrologic Unit 19040507, (Fairbanks A-4 quad), on right bank 70 ft upstream of mouth, 13.1 mi northeast of Healy.

DRAINAGE AREA.--5.80 $mi^2$.

## SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 2004 to September 2013 (discontinued).

REVISED RECORDS.--WDR-US-2007: 2005 (M), 2005-06

GAGE.--Water-stage recorder. Elevation of gage is 1,850 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges which are poor. GOES satellite telemetry at station.

REVISIONS.--On March 24, 2014, annual maximums for water years 2006, 2010, 2011, and 2012 were revised as shown in the following table. They supersede figures previously published. Previous or subsequent revisions to data presented in this report, if any, are available in USGS Water Data for the Nation at http://waterdata.usgs.gov/nwis/inventory?search_site_no=15515080.

**REVISED MAXIMUM DISCHARGES**

| Water Year | Date | Discharge ($ft^3/s$) | Gage height (ft) |
|---|---|---|---|
| 2006 | Jun. 26, 2006 | 22 | 10.99 |
| 2010 | Jun. 13, 2010 | 42 | 11.49 |
| 2011 | May 17, 2011 | 26 | 11.09 |
| 2012 | Jun. 2, 2012 | 47 | 11.60 |

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**DISCHARGE, CUBIC FEET PER SECOND**
**WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013**
**DAILY MEAN VALUES**
[e, estimated]

| Day | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | e2.7 | e2.3 | e1.7 | e1.3 | e1.3 | e1.4 | e2.2 | e1.9 | 7.0 | 2.1 | 2.4 | 3.3 |
| 2 | 2.8 | e2.2 | e1.7 | e1.3 | e1.3 | e1.4 | e2.2 | e1.9 | 4.6 | 2.1 | 2.3 | 3.5 |
| 3 | 2.9 | e2.2 | e1.7 | e1.3 | e1.3 | e1.5 | e2.2 | e1.9 | 4.1 | 1.9 | 2.3 | 3.3 |
| 4 | 3.0 | e2.2 | e1.7 | e1.3 | e1.3 | e1.6 | e2.2 | e1.9 | 3.6 | 1.9 | 2.3 | 3.1 |
| 5 | 2.9 | e2.2 | e1.6 | e1.3 | e1.3 | e1.7 | e2.2 | e1.9 | 3.3 | 1.9 | 2.2 | 2.7 |
| 6 | 3.1 | e2.2 | e1.6 | e1.3 | e1.3 | e1.7 | e2.2 | e1.9 | 3.1 | 1.9 | 2.2 | 2.8 |
| 7 | 3.0 | e2.2 | e1.6 | e1.3 | e1.3 | e1.8 | e2.2 | e1.9 | 3.2 | 2.0 | 2.2 | 2.7 |
| 8 | 4.1 | e2.2 | e1.6 | e1.3 | e1.3 | e1.8 | e2.2 | e2.0 | 2.9 | 2.2 | 2.3 | 3.0 |
| 9 | 3.6 | e2.2 | e1.5 | e1.3 | e1.3 | e1.9 | e2.2 | e2.2 | 2.9 | 2.3 | 2.3 | 2.9 |
| 10 | 3.4 | e2.1 | e1.5 | e1.3 | e1.3 | e1.9 | e2.2 | e2.5 | 2.8 | 2.4 | 2.3 | 2.8 |
| 11 | e3.4 | e2.1 | e1.5 | e1.3 | e1.3 | e2.0 | e2.2 | e2.5 | 2.8 | 2.3 | 2.3 | 3.1 |
| 12 | e3.4 | e2.1 | e1.5 | e1.3 | e1.3 | e2.0 | e2.2 | e2.5 | 2.6 | 2.1 | 2.3 | 4.6 |
| 13 | e3.3 | e2.1 | e1.4 | e1.3 | e1.3 | e2.1 | e2.2 | e2.5 | 2.4 | 2.0 | 2.2 | 3.6 |
| 14 | e3.2 | e2.1 | e1.4 | e1.3 | e1.3 | e2.1 | e2.2 | e2.5 | 2.4 | 2.0 | 2.1 | 3.5 |
| 15 | e3.1 | e2.1 | e1.4 | e1.3 | e1.3 | e2.2 | e2.2 | e2.5 | 2.3 | 2.0 | 2.1 | 3.4 |
| 16 | e3.0 | e2.1 | e1.4 | e1.3 | e1.3 | e2.2 | e2.2 | e2.5 | 2.5 | 2.0 | 2.0 | 3.4 |
| 17 | e2.8 | e2.0 | e1.3 | e1.3 | e1.3 | e2.2 | e2.2 | e2.3 | 2.3 | 2.1 | 2.0 | 3.2 |
| 18 | e2.6 | e2.0 | e1.3 | e1.3 | e1.3 | e2.2 | e2.2 | e2.1 | 2.1 | 2.2 | 1.9 | 3.1 |
| 19 | e2.6 | e2.0 | e1.3 | e1.3 | e1.3 | e2.2 | e2.2 | e2.1 | 2.1 | 2.9 | 2.0 | 3.2 |
| 20 | e2.5 | e2.0 | e1.3 | e1.3 | e1.3 | e2.2 | e2.2 | e2.2 | 1.9 | 3.4 | 3.0 | 3.2 |
| 21 | e2.4 | e2.0 | e1.3 | e1.3 | e1.3 | e2.2 | e2.2 | e4.0 | 1.9 | 2.8 | 2.7 | e3.2 |
| 22 | e2.4 | e1.9 | e1.3 | e1.3 | e1.3 | e2.2 | e2.2 | e6.5 | 1.9 | 2.5 | 2.3 | 3.1 |
| 23 | e2.3 | e1.9 | e1.3 | e1.3 | e1.3 | e2.2 | e2.1 | e9.5 | 1.9 | 2.6 | 4.1 | 3.5 |
| 24 | e2.3 | e1.9 | e1.3 | e1.3 | e1.3 | e2.2 | e2.1 | e15 | 1.9 | 2.5 | 4.3 | 3.9 |
| 25 | e2.3 | e1.8 | e1.3 | e1.3 | e1.3 | e2.2 | e2.1 | e25 | 1.9 | 2.7 | 3.1 | 3.7 |
| 26 | e2.3 | e1.8 | e1.3 | e1.3 | e1.3 | e2.2 | e2.0 | e40 | 1.9 | 2.5 | 2.9 | 3.8 |
| 27 | e2.3 | e1.8 | e1.3 | e1.3 | e1.3 | e2.2 | e2.0 | e60 | 2.0 | 2.4 | 2.8 | 3.8 |
| 28 | e2.3 | e1.8 | e1.3 | e1.3 | e1.3 | e2.2 | e1.9 | e35 | 2.2 | 2.4 | 2.9 | 3.6 |
| 29 | e2.3 | e1.7 | e1.3 | e1.3 | --- | e2.2 | e1.9 | 20 | 2.2 | 2.6 | 2.8 | 3.8 |
| 30 | e2.3 | e1.7 | e1.3 | e1.3 | --- | e2.2 | e1.9 | 13 | 2.2 | 2.4 | 3.1 | 3.8 |
| 31 | e2.3 | --- | e1.3 | e1.3 | --- | e2.2 | --- | 10 | --- | 2.4 | 3.6 | --- |
| Total | 86.9 | 60.9 | 44.3 | 40.3 | 36.4 | 62.3 | 64.4 | 281.7 | 80.9 | 71.5 | 79.3 | 100.6 |
| Mean | 2.80 | 2.03 | 1.43 | 1.30 | 1.30 | 2.01 | 2.15 | 9.09 | 2.70 | 2.31 | 2.56 | 3.35 |
| Max | 4.1 | 2.3 | 1.7 | 1.3 | 1.3 | 2.2 | 2.2 | 60 | 7.0 | 3.4 | 4.3 | 4.6 |
| Min | 2.3 | 1.7 | 1.3 | 1.3 | 1.3 | 1.4 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.7 |
| Ac-ft | 172 | 121 | 88 | 80 | 72 | 124 | 128 | 559 | 160 | 142 | 157 | 200 |
| Cfsm | 0.48 | 0.35 | 0.25 | 0.22 | 0.22 | 0.35 | 0.37 | 1.57 | 0.46 | 0.40 | 0.44 | 0.58 |
| In. | 0.56 | 0.39 | 0.28 | 0.26 | 0.23 | 0.40 | 0.41 | 1.81 | 0.52 | 0.46 | 0.51 | 0.65 |

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2005 - 2013, BY WATER YEAR (WY)**

| | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mean | 3.06 | 2.43 | 2.09 | 1.52 | 1.44 | 1.38 | 2.57 | 6.72 | 4.47 | 3.92 | 4.24 | 3.54 |
| Max | 4.30 | 3.53 | 3.08 | 2.66 | 2.57 | 2.80 | 6.08 | 9.09 | 5.31 | 6.23 | 7.83 | 4.97 |
| (WY) | (2005) | (2005) | (2005) | (2005) | (2005) | (2005) | (2012) | (2013) | (2010) | (2008) | (2008) | (2005) |
| Min | 2.27 | 1.56 | 1.38 | 0.38 | 0.10 | 0.10 | 0.14 | 3.55 | 2.70 | 2.31 | 2.56 | 2.69 |
| (WY) | (2012) | (2012) | (2012) | (2010) | (2006) | (2006) | (2006) | (2010) | (2013) | (2013) | (2013) | (2011) |

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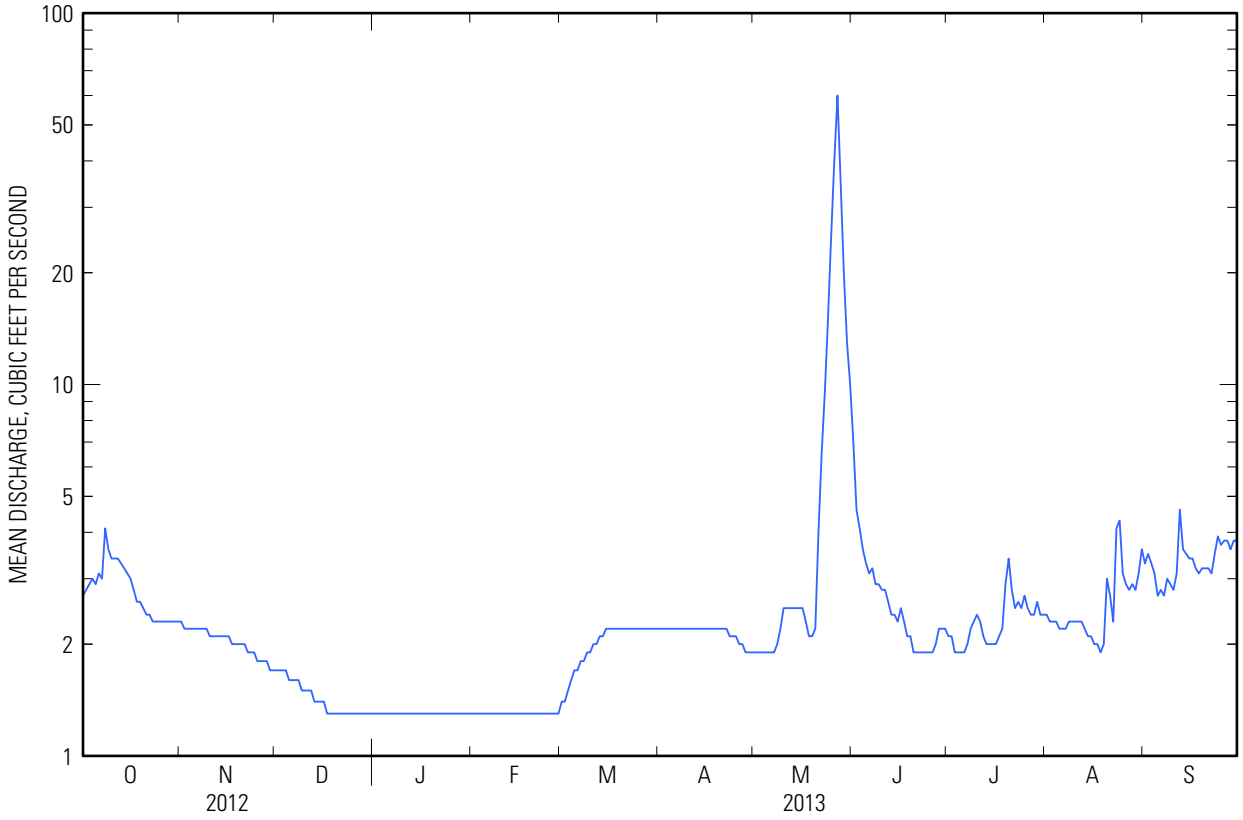
**SUMMARY STATISTICS**

| | Calendar Year 2012 | | Water Year 2013 | | Water Years 2005 - 2013 | |
|---|---|---|---|---|---|---|
| **Annual total** | 1,105.9 | | 1,009.5 | | | |
| **Annual mean** | 3.02 | | 2.77 | | 3.13 | |
| **Highest annual mean** | | | | | 3.81 | 2008 |
| **Lowest annual mean** | | | | | 2.30 | 2010 |
| **Highest daily mean** | 20 | Jun 2 | 60 | May 27 | 60 | May 27, 2013 |
| **Lowest daily mean** | 1.3 | Jan 1 | 1.3 | Dec 17 | 0.10 | Jan 28, 2006 |
| **Annual seven-day minimum** | 1.3 | Jan 1 | 1.3 | Dec 17 | 0.10 | Jan 28, 2006 |
| **Maximum peak flow** | | | [a] | | 122 | Aug 6, 2007 |
| **Maximum peak stage** | | | | | 12.85 | Aug 6, 2007 |
| **Maximum peak stage** | | | | | [b]15.38 | May 3, 2011 |
| **Annual runoff (ac-ft)** | 2,190 | | 2,000 | | 2,260 | |
| **Annual runoff (cfsm)** | 0.521 | | 0.477 | | 0.539 | |
| **Annual runoff (inches)** | 7.09 | | 6.47 | | 7.32 | |
| **10 percent exceeds** | 4.1 | | 3.4 | | 5.1 | |
| **50 percent exceeds** | 2.7 | | 2.2 | | 2.8 | |
| **90 percent exceeds** | 1.4 | | 1.3 | | 0.74 | |

[a] Not determined, see Highest daily mean
[b] Backwater from ice



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## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 2007 to 2013 (discontinued).

**WATER-QUALITY DATA**
**WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013**
Part 1 of 2
[ft, feet; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm, millimeters; °C, degrees Celsius]

| Date | Sample start time | Stream width, ft (00004) | Gage height, ft (00065) | Discharge, instantaneous, ft³/s (00061) | Sampling method (82398) | Sampler type (84164) | Tempera-ture, water, °C (00010) | Suspended sediment concentration, mg/L (80154) | Suspended sediment discharge, tons per day (80155) |
|---|---|---|---|---|---|---|---|---|---|
| **May 28, 2013** | **1515** | 5.20 | 11.16 | 30 | EWI | Open-Mouth Bottle | 2.5 | 414 | 34 |

**WATER-QUALITY DATA**
**WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013**
Part 2 of 2
[ft, feet; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm, millimeters; °C, degrees Celsius]

| Date | Sample start time | Suspended sediment, sieve diameter, percent smaller than 0.0625 mm (70331) | Number of sampling points, count (00063) | Verticals in composite sample, number (04119) | Horizontal width of vertical, feet (04121) |
|---|---|---|---|---|---|
| **May 28, 2013** | **1515** | 44 | 4 | 4 | 1.0 |