

Water-Data Report 2009

01412150 MAURICE RIVER AT BIVALVE, NJ

MAURICE RIVER BASIN

LOCATION.--Lat 39°13'54", long 75°01'59" referenced to North American Datum of 1983, Commercial Township, Cumberland County, NJ, Hydrologic Unit 02040206, on pier at Long Reach Marina in Bivalve, 1.1 mi south of Port Norris, and 1.4 mi northeast of Delaware Bay.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--Annual maximum tide, October 1964 to September 1985. Unpublished fragmentary gage-height record, May 1997 to February 2000. Continuous-record tide gage, March 2000 to current year.

GAGE.--Tide level recorder and tidal crest-stage gage. Datum of gage is at 0.00 ft NAVD of 1988. To determine approximate elevations to NGVD of 1929, add 1.20 ft. To determine approximate elevations to Mean Lower Low Water datum, add 3.30 ft (revised to Tidal Epoch 1983-2001). From October 1964 to September 1985, crest-stage gage located 0.3 mi downstream of current station and datum of gage at 0.00 ft NGVD of 1929. Data published to NGVD of 1929 can be adjusted to NAVD of 1988 by subtracting 1.20 ft. Online annual tidal peaks have been adjusted to current datum.

REMARKS.--Missing gage-height record on Jan 16-18, 20-21, 23, 26-28, Feb 6, Mar 4 and short portions of other days. Gage cannot measure tide levels below -5.05 ft. Tide levels below -5.05 have been estimated. Summaries for months with short periods of missing gage-height record have been estimated with little or no loss of accuracy. Some periods cannot be estimated and are noted by dashed (---) lines. Satellite telemetry at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation recorded, 6.91 ft (from tidal crest-stage gage, adjusted to NAVD of 1988), Oct 25, 1980; minimum elevation, estimated at -5.8 ft, Mar 9-10, 2008 and Jan 9, 2009, although a lower tide likely occurred during period of missing record on Feb 17, 2007 (elevation could not be accurately estimated).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum elevation known, 6.6 ft (adjusted to NAVD of 1988), Nov 25, 1950, from high-water marks at East Point near the mouth of the Maurice River based on data published in the Corps of Engineers' report "Flood Plain Information, Tidal Lands and The Maurice River, Cumberland County, New Jersey" published Dec 1968.

EXTREMES FOR CURRENT YEAR.--Maximum elevation recorded, 5.07 ft, Jun 22; minimum elevation, estimated at -5.8 ft, Jan 9.

Statistics of Tide Elevations, in feet
 Water Year October 2008 to September 2009
 [e, estimated]

| Month | Mean High Tide | Mean Water Level | Mean Low Tide |
|--------------------|----------------|------------------|---------------|
| October | 2.64 | 0.10 | -2.67 |
| November | 2.53 | -0.07 | -2.84 |
| December | 1.98 | -0.63 | -3.45 |
| CALENDAR YEAR 2008 | 2.58 | -0.07 | -2.96 |
| January | --- | --- | --- |
| February | 2.25 | e-0.5 | e-3.4 |
| March | 2.50 | -0.14 | -3.02 |
| April | 2.66 | -0.08 | -3.06 |
| May | 2.67 | -0.09 | -3.08 |
| June | 3.25 | 0.51 | -2.45 |
| July | 3.07 | 0.33 | -2.63 |
| August | 2.88 | 0.16 | -2.82 |
| September | 3.05 | 0.46 | -2.35 |
| WATER YEAR 2009 | 2.66 | 0.00 | -2.91 |

01412150 MAURICE RIVER AT BIVALVE, NJ—Continued

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009
[e, estimated]

| Day | High-high | Mean | Low-low | High-high | Mean | Low-low | High-high | Mean | Low-low | High-high | Mean | Low-low |
|------------|----------------|-------|---------|-----------|-----------------|---------|-----------|-------|-----------------|-----------|-------|---------|
| | October | | | | November | | | | December | | | |
| 1 | 3.73 | 0.58 | -2.41 | 2.38 | -0.70 | -3.57 | 3.15 | 0.44 | -2.09 | 1.85 | -0.99 | -3.71 |
| 2 | 3.11 | 0.07 | -2.68 | 3.11 | 0.16 | -2.60 | 1.85 | -0.99 | -3.42 | 2.33 | -0.50 | -3.47 |
| 3 | 2.85 | -0.27 | -2.99 | 2.62 | -0.15 | -2.32 | 2.09 | -0.73 | -3.20 | 1.47 | -1.21 | -4.07 |
| 4 | 2.47 | -0.32 | -2.74 | 2.39 | -0.29 | -2.49 | 1.45 | -1.00 | -3.63 | 1.49 | --- | --- |
| 5 | 1.88 | -0.47 | -2.62 | 2.51 | 0.13 | -2.12 | 1.83 | -0.87 | -3.12 | 2.14 | -0.49 | -3.36 |
| 6 | 2.48 | -0.07 | -2.24 | 2.95 | 0.85 | -1.56 | 2.26 | -0.17 | -2.69 | 2.60 | -0.16 | -2.89 |
| 7 | 2.26 | -0.06 | -2.10 | 2.80 | 0.44 | -2.12 | 2.26 | -0.87 | -4.60 | 3.44 | 0.49 | -2.03 |
| 8 | 2.34 | 0.03 | -2.08 | 2.76 | 0.47 | -2.91 | 1.26 | -1.19 | -4.05 | 3.16 | -1.19 | -4.56 |
| 9 | 2.16 | -0.13 | -2.41 | 2.76 | 0.17 | -2.19 | 2.64 | -0.55 | -3.33 | 2.10 | e-1.6 | e-5.8 |
| 10 | 2.56 | -0.18 | -2.78 | 2.70 | -0.20 | -3.24 | 3.05 | -0.54 | -3.66 | 3.31 | -0.50 | -5.00 |
| 11 | 2.83 | -0.04 | -2.79 | 2.70 | -0.36 | -3.82 | 3.50 | 0.00 | -4.39 | 3.90 | -0.08 | -3.94 |
| 12 | 2.91 | -0.01 | -2.99 | 3.44 | -0.18 | -3.75 | 4.28 | 0.10 | -3.74 | 3.55 | -0.20 | -4.19 |
| 13 | 2.81 | -0.13 | -3.52 | 4.06 | 0.17 | -3.80 | 3.03 | -0.76 | -4.44 | 3.88 | 0.03 | -3.57 |
| 14 | 3.65 | 0.33 | -3.20 | 4.43 | 0.35 | -3.35 | 3.69 | -0.48 | -4.23 | 3.00 | -0.51 | -4.21 |
| 15 | 3.69 | 0.24 | -3.34 | 5.00 | 0.64 | -3.21 | 3.34 | -0.70 | -4.19 | 1.81 | --- | -3.81 |
| 16 | 4.12 | 0.24 | -3.23 | 3.36 | -0.66 | -4.16 | 2.63 | -1.11 | -4.80 | --- | --- | --- |
| 17 | 4.29 | 0.34 | -3.24 | 2.76 | -0.95 | -4.41 | 3.29 | -0.22 | -3.30 | --- | --- | --- |
| 18 | 4.30 | 0.52 | -2.99 | 2.88 | -0.44 | -3.46 | 2.47 | -0.49 | -3.40 | --- | --- | --- |
| 19 | 4.40 | 1.10 | -2.08 | 3.13 | 0.14 | -2.72 | 2.70 | -0.06 | -2.96 | 2.60 | --- | --- |
| 20 | 4.29 | 1.27 | -1.43 | 2.92 | 0.33 | -2.78 | 3.01 | 0.65 | -1.89 | --- | --- | --- |
| 21 | 3.51 | 0.62 | -2.91 | 2.28 | -0.12 | -3.26 | 3.69 | 0.82 | -1.19 | --- | --- | --- |
| 22 | 2.62 | -0.26 | -3.41 | 2.03 | -0.74 | -3.30 | 0.41 | -2.10 | -4.76 | --- | --- | --- |
| 23 | 3.67 | 0.84 | -1.67 | 1.71 | -0.91 | -3.72 | 0.67 | e-2.0 | e-5.4 | --- | --- | --- |
| 24 | 3.10 | 0.63 | -2.06 | 2.43 | -0.35 | -3.71 | 2.32 | -0.63 | -4.04 | 2.55 | --- | --- |
| 25 | 3.79 | 0.84 | -2.47 | 2.74 | -0.02 | -2.91 | 1.09 | -1.57 | -4.49 | --- | --- | --- |
| 26 | 3.26 | 0.48 | -3.03 | 2.63 | -0.21 | -3.09 | 2.15 | -0.87 | -4.34 | --- | --- | --- |
| 27 | 3.31 | 0.11 | -2.86 | 3.35 | 0.11 | -2.74 | 3.00 | -0.28 | -3.16 | --- | --- | --- |
| 28 | 3.22 | -0.47 | -3.96 | 3.22 | -0.07 | -3.09 | 2.93 | -0.67 | -3.55 | --- | --- | --- |
| 29 | 1.86 | -1.46 | -4.60 | 3.13 | -0.15 | -2.97 | 2.55 | -0.83 | -4.23 | --- | --- | --- |
| 30 | 2.54 | -0.79 | -4.01 | 3.46 | 0.57 | -2.43 | 1.83 | -0.86 | -3.78 | 2.57 | --- | e-2.7 |
| 31 | 3.01 | -0.42 | -3.23 | --- | --- | --- | 2.86 | -0.86 | -4.98 | 1.83 | --- | --- |
| Max | 4.40 | 1.27 | -1.43 | 5.00 | 0.85 | -1.56 | 4.28 | 0.82 | -1.19 | 3.90 | 0.49 | -2.03 |
| Min | 1.86 | -1.46 | -4.60 | 1.71 | -0.95 | -4.41 | 0.41 | -2.10 | e-5.4 | 1.47 | -1.60 | e-5.8 |

01412150 MAURICE RIVER AT BIVALVE, NJ—Continued

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009
[e, estimated]

| Day | High-high | Mean | Low-low | High-high | Mean | Low-low | High-high | Mean | Low-low | High-high | Mean | Low-low |
|------------|-----------------|-------|---------|-----------|--------------|---------|-----------|-------|--------------|-----------|-------|---------|
| | February | | | | March | | | | April | | | |
| 1 | 2.22 | --- | --- | 2.99 | 0.48 | -2.56 | 3.50 | 0.32 | -2.58 | 3.03 | -0.24 | -3.30 |
| 2 | 2.17 | --- | --- | 3.86 | 0.35 | -2.58 | 3.36 | 0.03 | -2.81 | 2.65 | -0.40 | -3.68 |
| 3 | 3.04 | 0.62 | -1.81 | 2.79 | --- | --- | 3.42 | 0.77 | -2.39 | 2.66 | 0.06 | -3.12 |
| 4 | 3.72 | --- | -3.07 | --- | --- | --- | 3.37 | -0.10 | -3.23 | 3.05 | 0.27 | -2.76 |
| 5 | 2.53 | --- | --- | 2.30 | --- | -3.38 | 2.46 | -0.37 | -3.83 | 3.15 | 0.23 | -2.97 |
| 6 | --- | --- | --- | 2.33 | -0.79 | -4.06 | 3.95 | 0.49 | -3.32 | 3.39 | 0.12 | -3.23 |
| 7 | --- | --- | --- | 2.50 | -0.53 | -3.50 | 2.96 | 0.05 | -3.31 | 3.19 | -0.09 | -3.73 |
| 8 | 3.17 | -0.54 | -4.10 | 2.82 | -0.37 | -3.78 | 3.10 | -0.35 | -3.80 | 3.73 | -0.02 | -3.36 |
| 9 | 3.03 | -0.69 | -4.59 | 3.48 | 0.12 | -3.53 | 3.56 | -0.24 | -4.02 | 3.66 | 0.14 | -2.98 |
| 10 | 3.62 | -0.24 | -4.39 | 3.75 | 0.28 | -3.36 | 3.46 | -0.14 | -3.70 | 2.92 | -0.43 | -3.45 |
| 11 | 3.64 | 0.02 | -3.81 | 3.40 | -0.09 | -3.65 | 3.64 | -0.11 | -3.58 | 3.10 | -0.48 | -3.73 |
| 12 | 2.94 | -0.44 | -4.22 | 2.48 | -0.90 | -4.53 | 2.04 | -0.36 | -3.59 | 1.95 | -0.20 | -2.93 |
| 13 | 1.34 | -1.32 | -4.60 | 2.26 | -0.75 | -4.48 | 3.14 | -0.49 | -3.31 | 3.05 | -0.22 | -3.01 |
| 14 | 2.76 | -0.10 | -2.91 | 2.76 | -0.49 | -3.64 | 2.35 | -0.37 | -3.16 | 2.98 | 0.04 | -2.60 |
| 15 | 2.33 | -0.66 | -3.52 | 2.65 | -0.45 | -3.24 | 3.08 | 0.65 | -1.80 | 2.47 | -0.52 | -3.18 |
| 16 | 2.70 | -0.06 | -2.56 | 2.52 | -0.42 | -3.02 | 2.98 | 0.36 | -2.14 | 2.36 | -0.14 | -2.70 |
| 17 | 2.20 | 0.03 | -2.06 | 2.75 | 0.13 | -2.05 | 2.37 | -0.15 | -2.42 | 2.25 | -0.27 | -3.30 |
| 18 | 2.67 | 0.48 | -1.98 | 2.27 | -0.19 | -2.24 | 1.81 | -0.44 | -2.86 | 2.12 | -0.08 | -2.69 |
| 19 | 2.88 | 0.29 | -4.02 | 1.80 | -0.51 | -2.62 | 2.22 | 0.19 | -2.32 | 2.19 | -0.16 | -3.14 |
| 20 | 1.94 | -1.06 | -3.30 | 2.08 | -0.04 | -2.38 | 3.06 | 0.82 | -1.53 | 2.41 | -0.39 | -3.60 |
| 21 | 1.25 | -1.23 | -4.21 | 2.11 | 0.11 | -1.97 | 3.22 | 0.66 | -2.32 | 2.84 | -0.44 | -3.77 |
| 22 | 2.53 | -0.58 | -3.47 | 2.28 | -0.24 | -2.90 | 3.31 | 0.23 | -3.00 | 3.03 | -0.51 | -3.98 |
| 23 | 1.94 | -1.61 | -4.39 | 2.04 | -0.58 | -3.22 | 2.71 | -0.49 | -4.04 | 3.88 | -0.37 | -4.00 |
| 24 | 1.56 | -1.59 | -5.00 | 2.57 | -0.19 | -3.52 | 3.26 | -0.58 | -4.21 | 3.73 | -0.14 | -3.83 |
| 25 | 2.64 | -0.55 | -4.22 | 3.73 | 0.41 | -3.01 | 3.50 | -0.42 | -3.94 | 4.02 | -0.35 | -4.02 |
| 26 | 2.61 | -0.49 | -3.66 | 3.90 | 0.66 | -2.63 | 3.56 | -0.47 | -4.08 | 4.29 | 0.15 | -3.88 |
| 27 | 2.75 | -0.27 | -3.52 | 3.59 | 0.19 | -3.28 | 2.17 | -0.52 | -3.94 | 2.74 | 0.15 | -3.19 |
| 28 | 3.24 | -0.59 | -3.78 | 3.80 | 0.31 | -3.09 | 3.54 | -0.61 | -4.00 | 4.05 | 0.25 | -3.24 |
| 29 | --- | --- | --- | 3.28 | 0.50 | -2.57 | 2.91 | -0.62 | -4.22 | 4.22 | 0.62 | -2.55 |
| 30 | --- | --- | --- | 3.56 | -0.56 | -4.05 | 3.18 | -0.20 | -3.29 | 3.73 | 0.40 | -2.87 |
| 31 | --- | --- | --- | 2.96 | -0.39 | -3.77 | --- | --- | --- | 3.16 | 0.34 | -2.96 |
| Max | 3.72 | 0.62 | -1.81 | 3.90 | 0.66 | -1.97 | 3.95 | 0.82 | -1.53 | 4.29 | 0.62 | -2.55 |
| Min | 1.25 | -1.61 | -5.00 | 1.80 | -0.90 | -4.53 | 1.81 | -0.62 | -4.22 | 1.95 | -0.52 | -4.02 |

01412150 MAURICE RIVER AT BIVALVE, NJ—Continued

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009
[*e*, estimated]

| Day | High-high | Mean | Low-low | High-high | Mean | Low-low | High-high | Mean | Low-low | High-high | Mean | Low-low |
|------------|-------------|------|---------|-------------|------|---------|---------------|-------|---------|------------------|-------|---------|
| | June | | | July | | | August | | | September | | |
| 1 | 2.91 | 0.22 | -2.77 | 3.82 | 0.89 | -2.11 | 3.08 | -0.03 | -3.04 | 3.35 | 0.35 | -2.55 |
| 2 | 2.77 | 0.01 | -3.26 | 3.80 | 0.97 | -2.06 | 3.22 | 0.26 | -2.50 | 3.25 | 0.36 | -2.19 |
| 3 | 3.36 | 0.15 | -2.94 | 3.62 | 0.52 | -2.38 | 3.37 | 0.08 | -2.83 | 3.43 | 0.36 | -2.53 |
| 4 | 3.64 | 0.36 | -2.72 | 3.59 | 0.30 | -2.48 | 3.42 | 0.13 | -2.72 | 3.36 | 0.48 | -2.32 |
| 5 | 3.81 | 0.49 | -2.61 | 3.72 | 0.34 | -2.61 | 3.26 | 0.01 | -3.06 | 3.05 | 0.13 | -3.00 |
| 6 | 3.72 | 0.56 | -2.60 | 3.89 | 0.31 | -2.57 | 3.38 | 0.02 | -3.17 | 3.34 | 0.21 | -2.99 |
| 7 | 3.77 | 0.23 | -2.73 | 3.65 | 0.46 | -2.31 | 3.07 | -0.03 | -3.05 | 3.33 | 0.48 | -2.46 |
| 8 | 3.81 | 0.17 | -2.80 | 3.65 | 0.30 | -2.76 | 3.22 | -0.04 | -3.15 | 3.32 | 0.37 | -2.52 |
| 9 | 3.72 | 0.42 | -2.37 | 3.77 | 0.39 | -2.73 | 2.66 | -0.01 | -3.02 | 3.51 | 0.51 | -2.54 |
| 10 | 2.51 | 0.45 | -2.44 | 2.56 | 0.37 | -2.34 | 2.96 | 0.10 | -2.84 | 3.91 | 1.33 | -1.10 |
| 11 | 3.74 | 0.67 | -2.10 | 3.38 | 0.31 | -2.53 | 2.94 | 0.13 | -2.89 | 4.13 | 1.38 | -1.27 |
| 12 | 3.84 | 0.55 | -2.09 | 3.19 | 0.05 | -3.22 | 3.18 | 0.33 | -2.75 | 3.52 | 0.49 | -2.42 |
| 13 | 3.28 | 0.46 | -2.20 | 2.98 | 0.37 | -2.56 | 3.39 | 0.61 | -2.35 | 3.69 | 0.60 | -2.30 |
| 14 | 3.16 | 0.56 | -2.16 | 2.95 | 0.25 | -2.72 | 3.12 | 0.30 | -2.70 | 3.94 | 0.77 | -2.35 |
| 15 | 3.15 | 0.71 | -2.03 | 2.88 | 0.04 | -3.12 | 3.26 | 0.16 | -2.98 | 4.08 | 0.59 | -2.80 |
| 16 | 2.99 | 0.62 | -2.16 | 2.99 | 0.26 | -2.63 | 3.41 | 0.09 | -3.24 | 4.55 | 0.74 | -2.77 |
| 17 | 3.08 | 0.59 | -2.04 | 3.71 | 0.57 | -2.60 | 3.64 | 0.03 | -3.47 | 4.38 | 1.28 | -2.05 |
| 18 | 3.61 | 0.96 | -1.43 | 3.94 | 0.52 | -3.04 | 3.89 | 0.03 | -3.63 | 3.83 | 0.49 | -3.25 |
| 19 | 3.88 | 0.52 | -2.76 | 4.04 | 0.19 | -3.33 | 4.14 | -0.06 | -3.98 | 3.40 | 0.06 | -3.82 |
| 20 | 4.65 | 0.69 | -2.56 | 4.23 | 0.18 | -3.50 | 4.22 | 0.19 | -3.69 | 3.60 | 0.12 | -3.49 |
| 21 | 4.79 | 0.68 | -3.06 | 4.48 | 0.29 | -3.60 | 3.99 | 0.25 | -3.35 | 3.55 | 0.06 | -3.22 |
| 22 | 5.07 | 0.80 | -2.85 | 4.29 | 0.12 | -3.70 | 3.76 | 0.33 | -3.38 | 3.39 | 0.08 | -3.04 |
| 23 | 4.74 | 0.69 | -3.04 | 4.81 | 0.31 | -3.49 | 4.00 | 0.46 | -2.96 | 3.12 | 0.00 | -2.95 |
| 24 | 4.48 | 0.35 | -3.35 | 3.82 | 0.66 | -3.02 | 3.38 | -0.04 | -3.36 | 2.74 | -0.16 | -2.84 |
| 25 | 3.04 | 0.35 | -3.19 | 3.72 | 0.33 | -3.40 | 3.27 | 0.03 | -3.38 | 3.19 | 0.32 | -2.45 |
| 26 | 4.34 | 0.36 | -3.15 | 3.64 | 0.32 | -3.08 | 2.79 | 0.01 | -2.88 | 3.26 | 0.91 | -1.37 |
| 27 | 4.07 | 0.40 | -3.00 | 3.30 | 0.15 | -3.35 | 3.13 | 0.14 | -2.96 | 2.98 | 0.77 | -1.22 |
| 28 | 3.68 | 0.66 | -2.86 | 3.18 | 0.12 | -3.14 | 3.10 | 0.34 | -2.48 | 2.84 | 0.39 | -1.79 |
| 29 | 3.60 | 0.83 | -2.48 | 2.99 | e0.2 | -2.58 | 3.37 | 0.76 | -1.90 | 2.53 | 0.28 | -2.44 |
| 30 | 3.87 | 0.90 | -2.18 | 2.93 | 0.11 | -2.98 | 3.30 | 0.35 | -2.39 | 2.81 | 0.00 | -2.78 |
| 31 | --- | --- | --- | 3.12 | 0.08 | -2.56 | 2.82 | 0.02 | -2.37 | --- | --- | --- |
| Max | 5.07 | 0.96 | -1.43 | 4.81 | 0.97 | -2.06 | 4.22 | 0.76 | -1.90 | 4.55 | 1.38 | -1.10 |
| Min | 2.51 | 0.01 | -3.35 | 2.56 | 0.04 | -3.70 | 2.66 | -0.06 | -3.98 | 2.53 | -0.16 | -3.82 |

01412150 MAURICE RIVER AT BIVALVE, NJ—Continued