

Hydrographs and Analyses of Provisional Data from USGS Gages during the March and April 2005 Flood Events in the Delaware River Basin

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U.S. Geological Survey

Acknowledgements

Delaware River Basin Commission

USGS New York Water Science Center

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PPL Generation, LLC.

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USGS Mission Goals

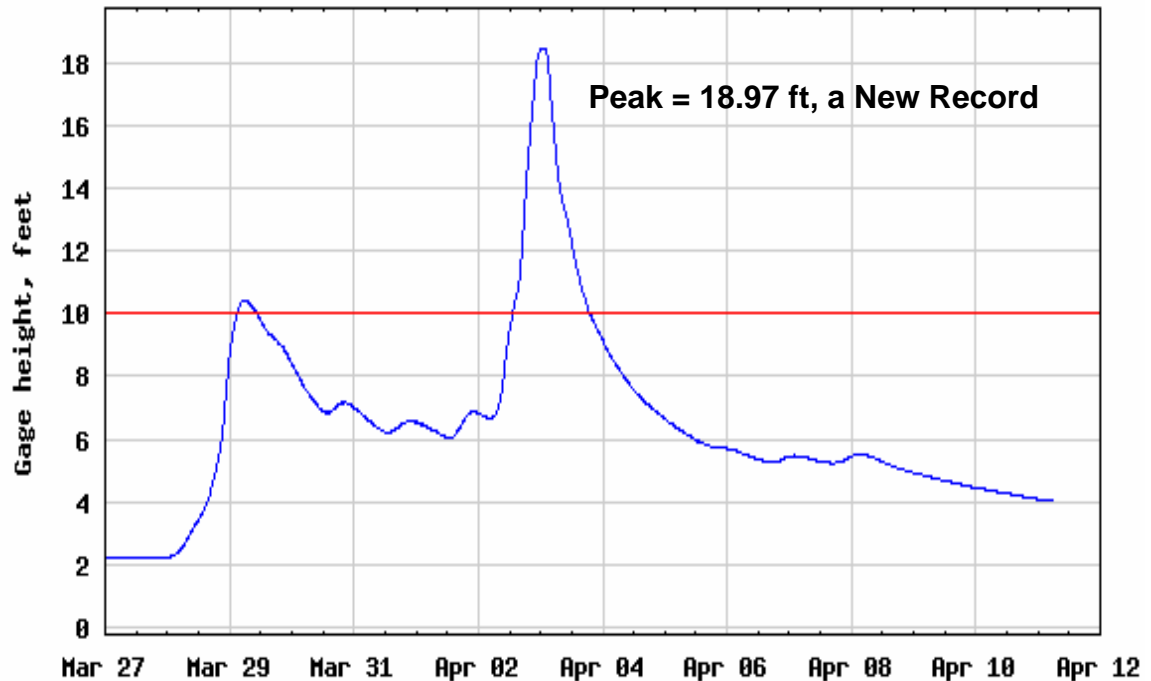
- **Serve the Nation by providing reliable scientific information to describe and understand the Earth;**
- **Minimize loss of life and property from natural disasters;**
- **Help in management of water, biological, energy, and mineral resources; and**
- **Enhance and protect our quality of life.**



USGS 01420500 BEAVER KILL AT COOKS FALLS NY

Top 6 Historical Peaks:

- (1) 18.97 ft on 04/03/2005
- (2) 17.80 ft on 08/24/1933
- (3) 17.79 ft on 01/19/1996
- (4) 17.67 ft on 09/18/2004
- (5) 16.34 ft on 12/17/2000
- (6) 16.02 ft on 03/31/1951



----- EXPLANATION -----
— GAGE HEIGHT
— National Weather Service Floodstage

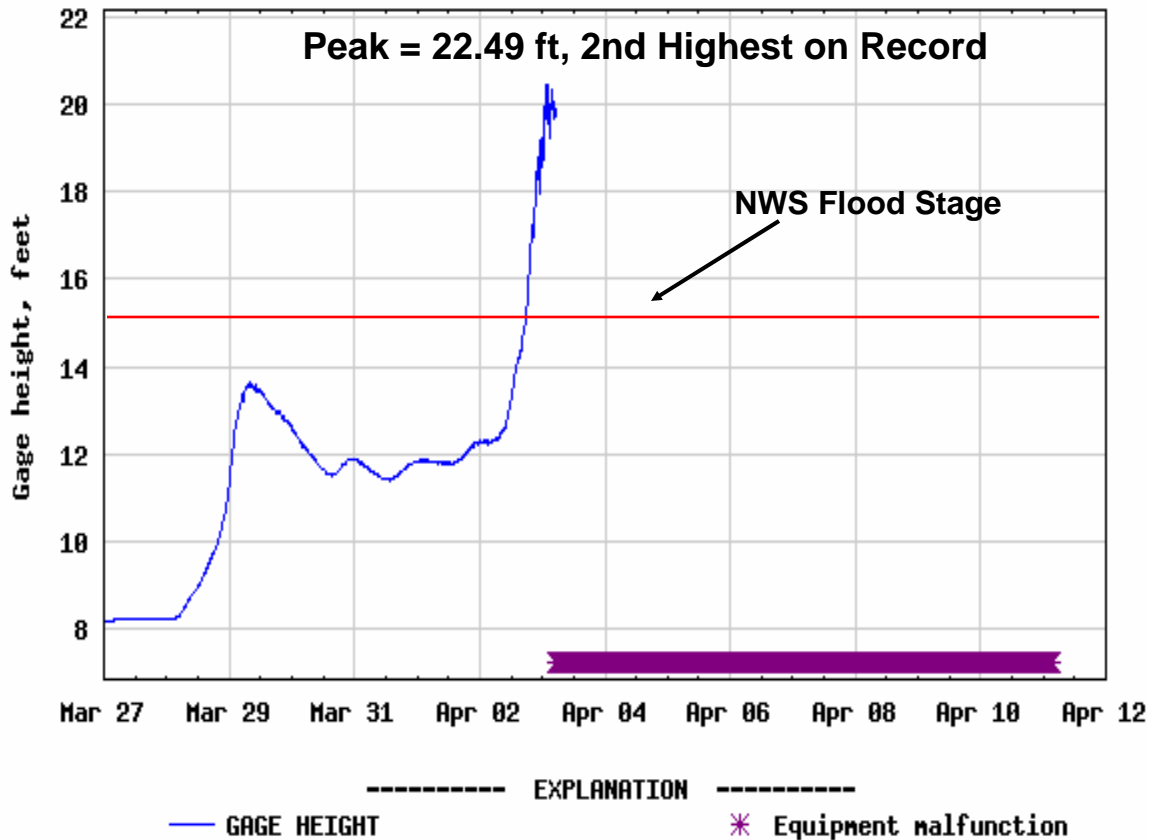
Provisional Data Subject to Revision



USGS 01420980 E BR DELAWARE RIVER ABV READ CR AT FISHS EDDY NY

Top 6 Historical Peaks:

- (1) 23.60 ft on 10/09/1903
- (2) 22.49 ft on 04/03/2005
- (3) 21.11 ft on 09/18/2004
- (4) 20.60 ft on 08/24/1933
- (5) 19.21 ft on 03/18/1936
- (6) 19.00 ft on 09/30/1924



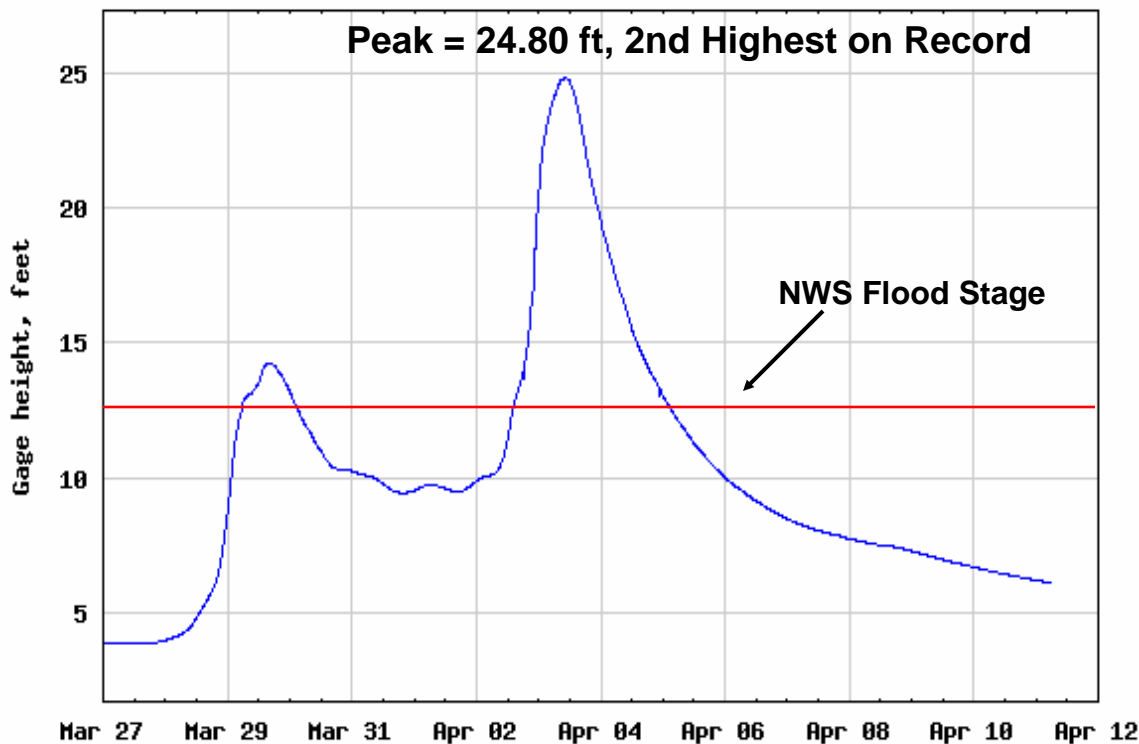
Provisional Data Subject to Revision



USGS 01428500 DELAWARE R ABOVE LACKAWAXEN R NR BARRYVILLE NY

Top 6 Historical Peaks:

- (1) 26.40 ft on 08/19/1955**
- (2) 24.80 ft on 04/03/2005**
- (3) 24.09 ft on 09/18/2004**
- (4) 23.19 ft on 05/23/1942**
- (5) 22.18 ft on 01/20/1996**
- (6) 20.90 ft on 02/11/1981**



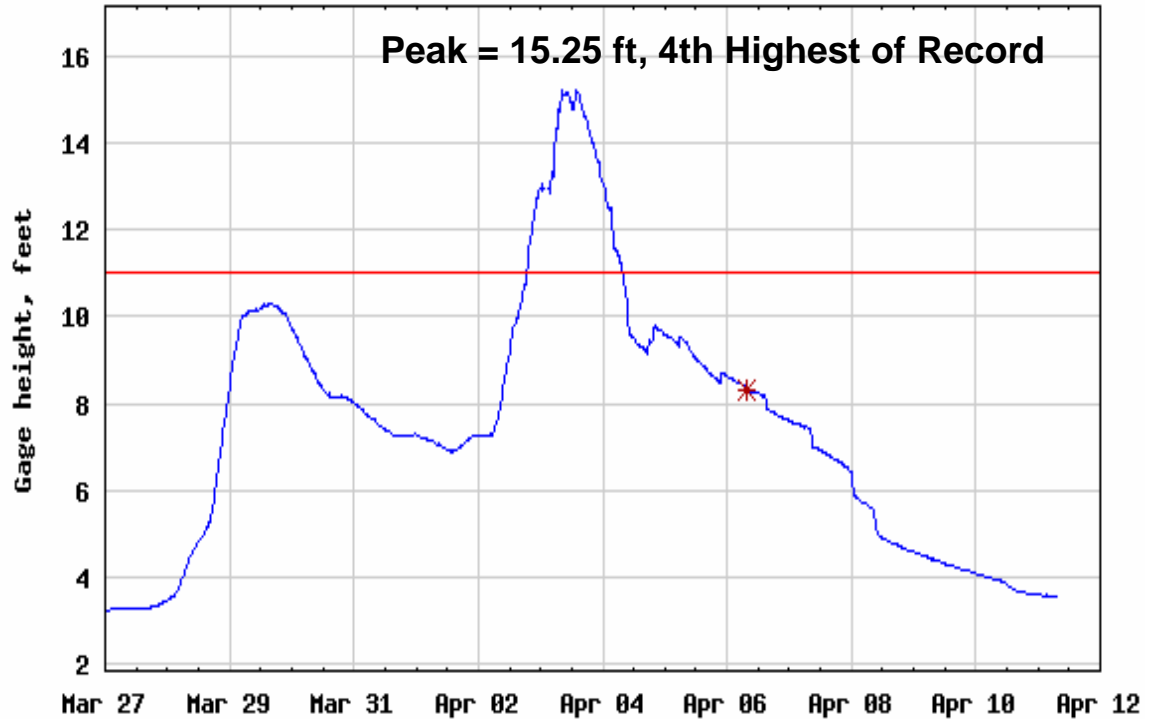
Provisional Data Subject to Revision



USGS 01431500 Lackawaxen River at Hawley, PA

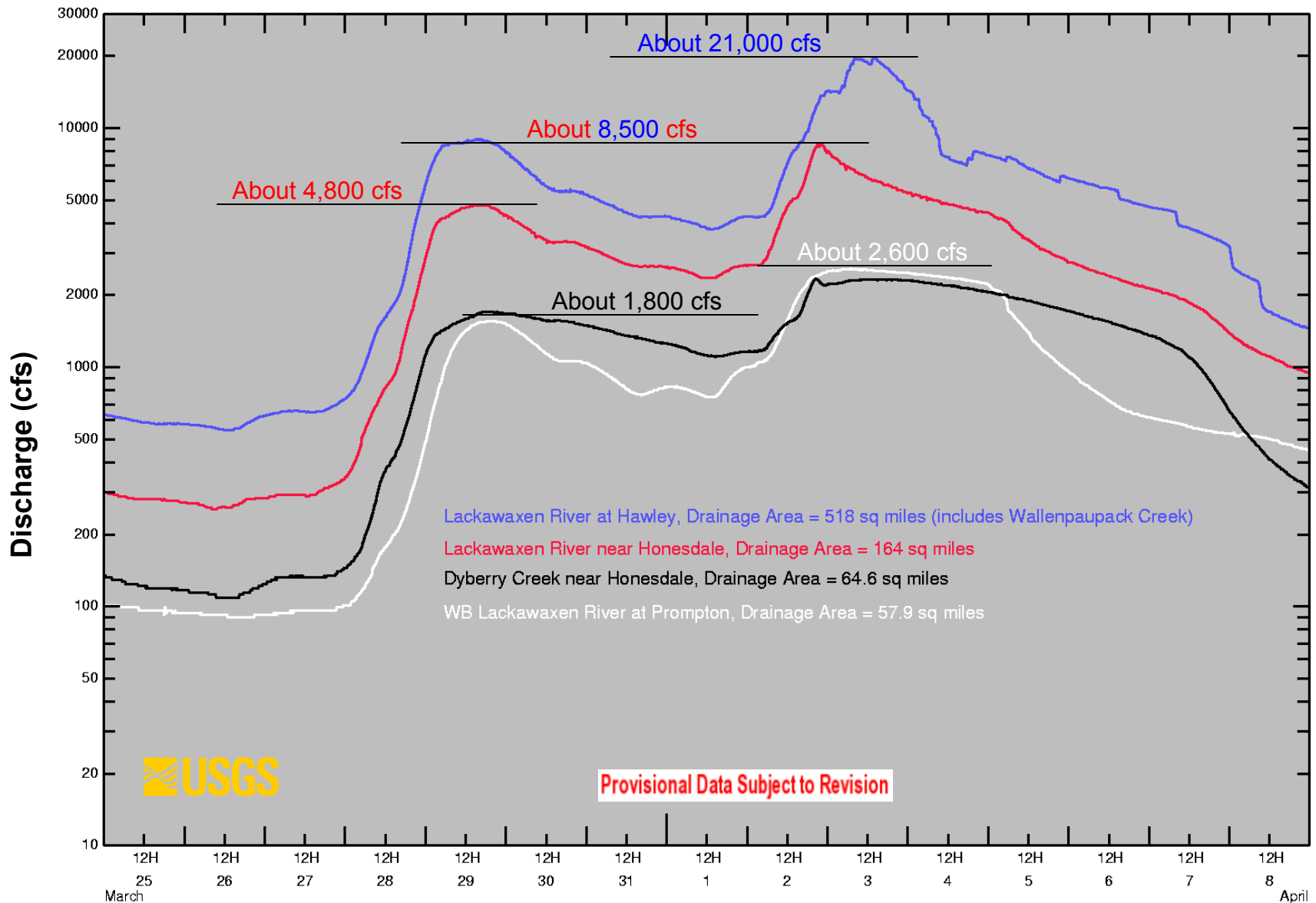
Top 6 Historical Peaks:

- (1) 24.80 ft on 08/19/1955
- (2) 20.10 ft on 05/23/1942
- (3) 19.10 ft on 03/12/1936
- (4) 15.25 ft on 04/03/2005
- (5) 15.15 ft on 03/18/1936
- (6) 14.49 ft on 09/18/2004



----- EXPLANATION -----
— GAGE HEIGHT * MEASURED Gage height — Floodstage

Provisional Data Subject to Revision



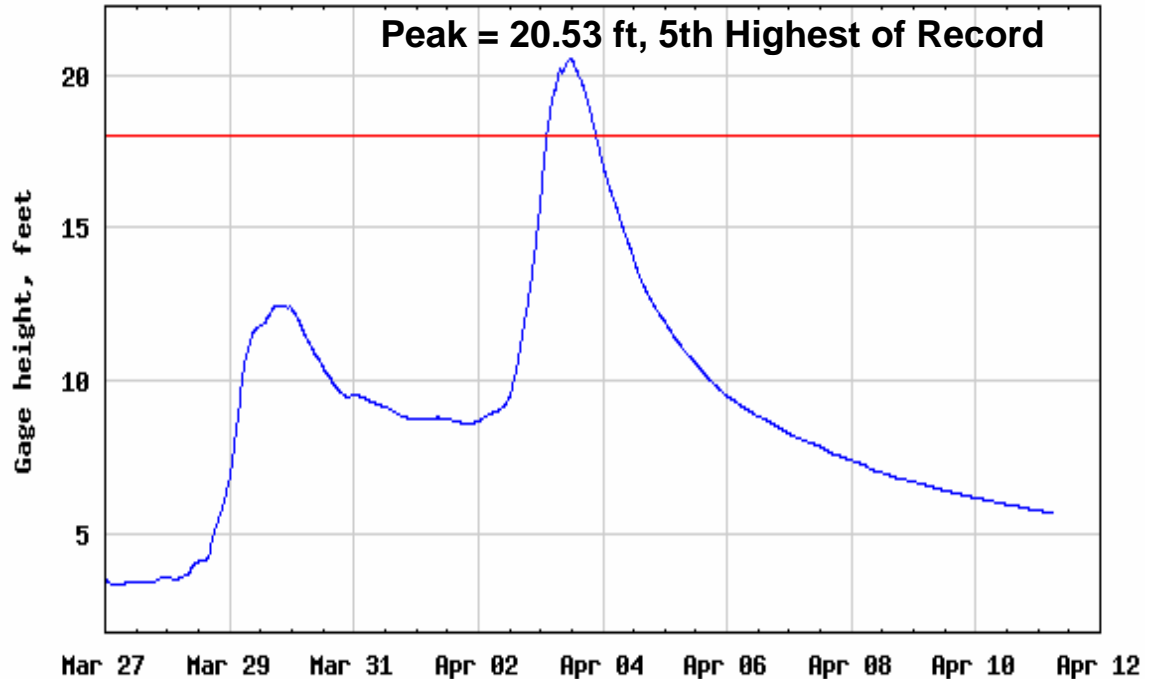
Hydrographs for Lackawaxen River Basin Gages during the March and April 2005 Events



USGS 01434000 DELAWARE RIVER AT PORT JERVIS NY

Top 6 Historical Peaks:

- (1) 26.60 ft on 02/12/1981
- (2) 25.50 ft on 03/08/1904
- (3) 23.91 ft on 08/19/1955
- (4) 23.10 ft on 10/10/1903
- (5) 20.53 ft on 04/03/2005
- (6) 19.52 ft on 09/18/2004



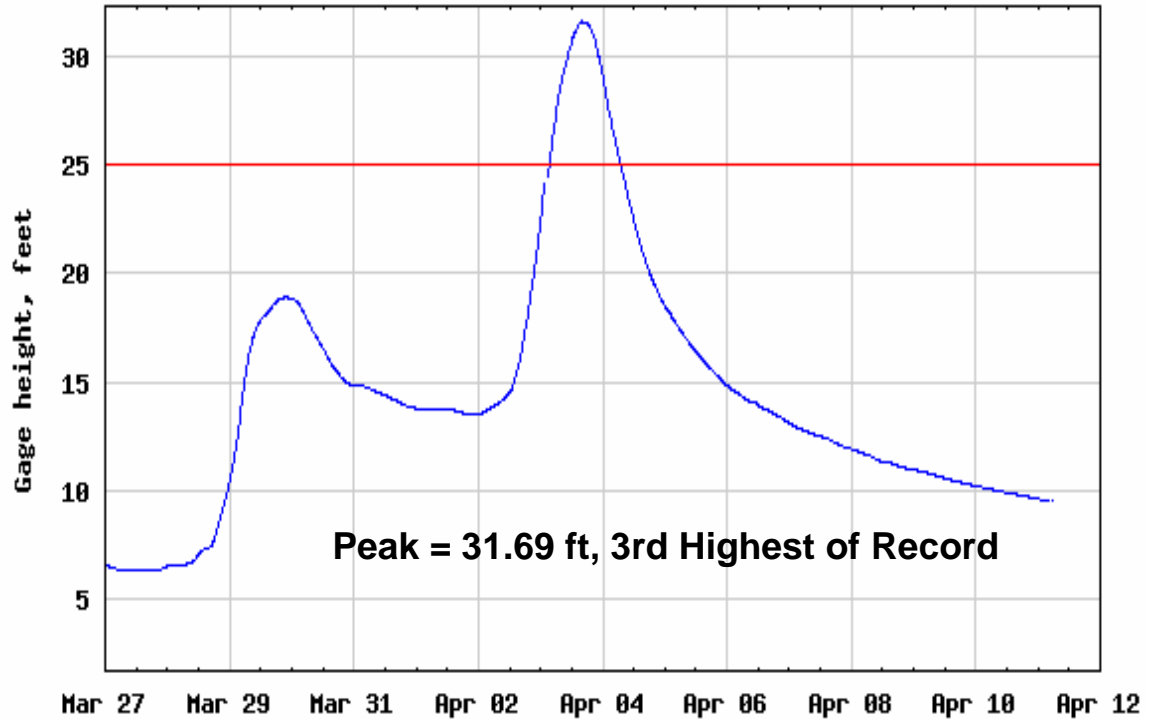
----- EXPLANATION -----
— GAGE HEIGHT
— National Weather Service Floodstage

Provisional Data Subject to Revision



USGS 01438500 DELAWARE RIVER AT MONTAGUE NJ

- Top 6 Historical Peaks:**
- (1) 35.5 ft on 10/10/1903
 - (2) 35.15 ft on 08/19/1955
 - (3) 31.69 ft on 04/03/2005
 - (4) 28.37 ft on 09/18/2004
 - (5) 26.66 ft on 01/20/1996
 - (6) 25.70 ft on 05/23/1942



----- EXPLANATION -----
— GAGE HEIGHT — Floodstage

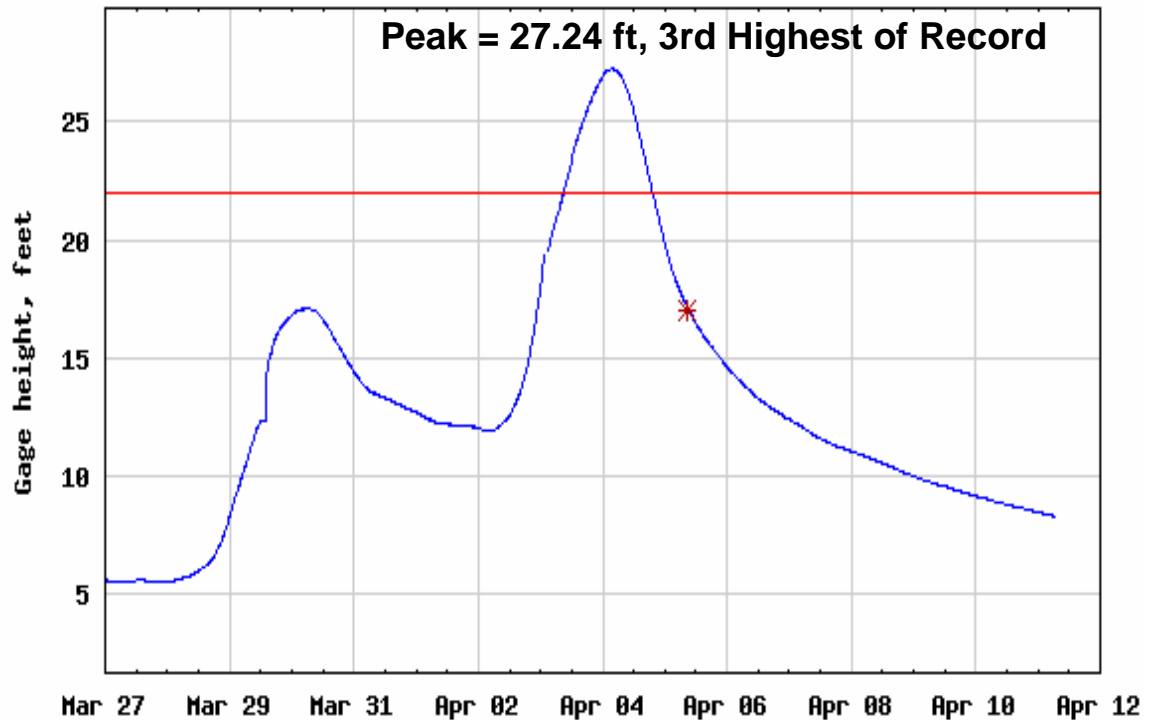
Provisional Data Subject to Revision



USGS 01446500 DELAWARE RIVER AT BELVIDERE NJ

Top 6 Historical Peaks:

- (1) 30.21 ft on 08/19/1955
- (2) 28.6 ft on 10/03/1903
- (3) 27.24 ft on 4/4/2005
- (4) 25.00 ft on 03/19/1936
- (5) 24.83 ft on 09/19/2004
- (6) 22.96 ft on 01/20/1996



----- EXPLANATION -----
— GAGE HEIGHT * MEASURED Gage height — Floodstage

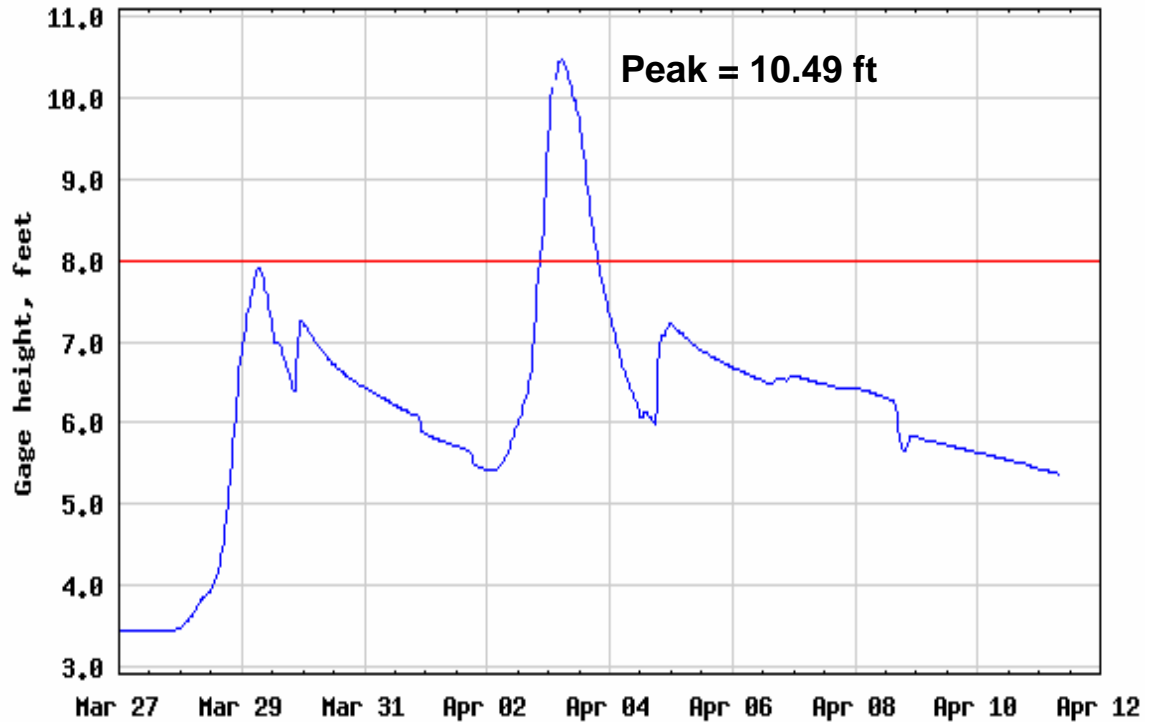
Provisional Data Subject to Revision



USGS 01451000 Lehigh River at Walnutport, PA

Top 5 Historical Peaks:

- (1) 20.60 ft on 05/23/1942
- (2) 17.68 ft on 08/19/1955
- (3) 12.66 ft on 12/04/1950
- (4) 12.32 ft on 01/19/1996
- (5) 12.29 ft on 09/18/2004



----- EXPLANATION -----
— GAGE HEIGHT — Floodstage

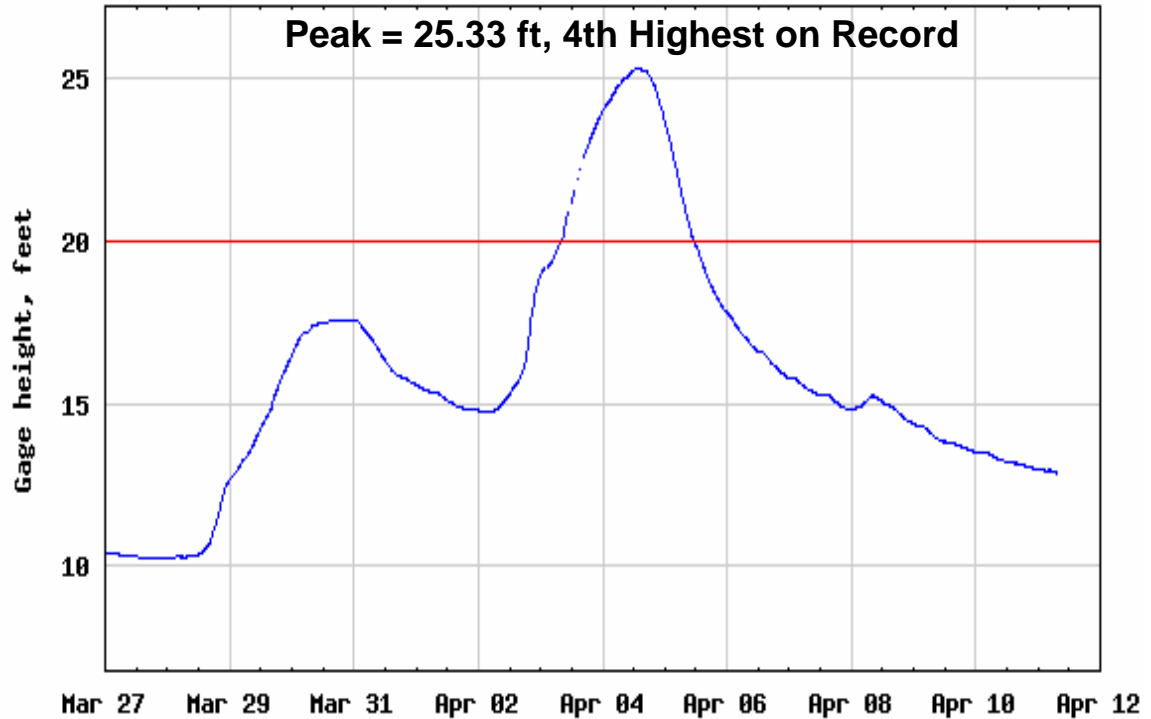
Provisional Data Subject to Revision



USGS 01463500 DELAWARE RIVER AT TRENTON NJ

Top 6 Historical Peaks:

- (1) 30.6 ft on 03/08/1904
- (2) 28.60 ft on 08/20/1955
- (3) 28.50 ft on 10/11/1903
- (4) 25.33 ft on 04/04/2005
- (5) 24.43 ft on 03/19/1936
- (6) 23.39 ft on 09/19/2004



----- EXPLANATION -----
— GAGE HEIGHT — Floodstage

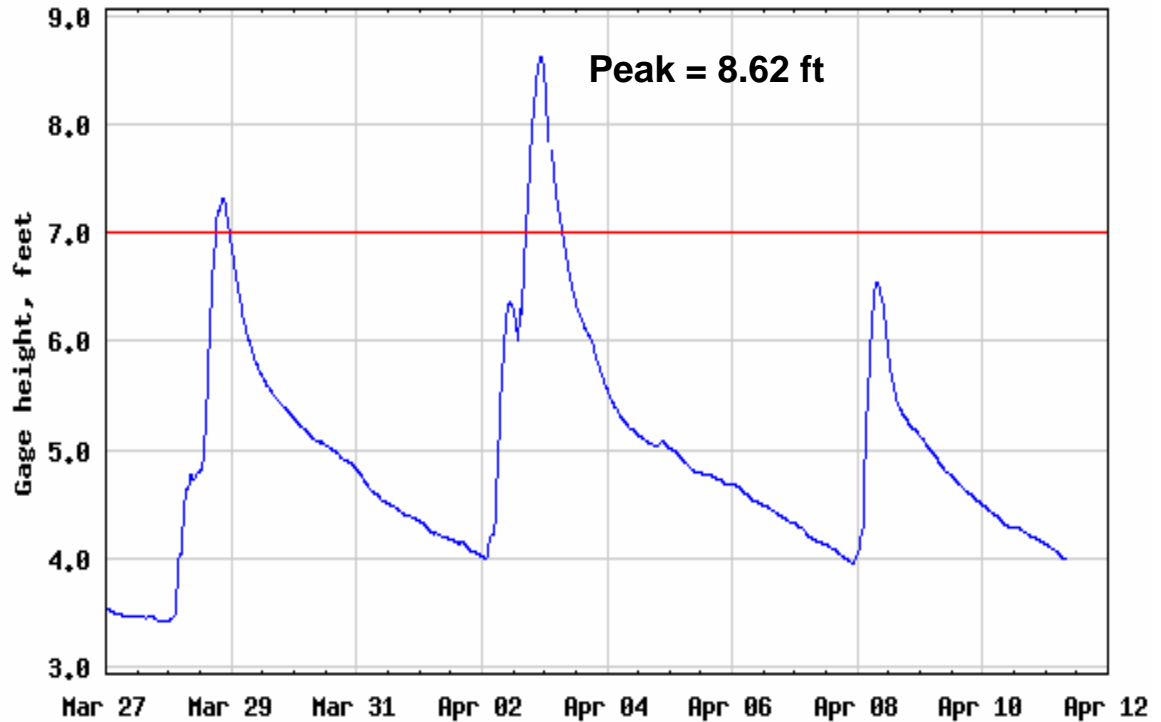
Provisional Data Subject to Revision



USGS 01464000 ASSUNPINK CREEK AT TRENTON NJ

Top 5 Historical Peaks:

- (1) 14.61 ft on 07/21/1975
- (2) 14.01 ft on 09/17/1999
- (3) 13.46 ft on 08/28/1971
- (4) 11.69 ft on 06/13/1996
- (5) 11.67 ft on 01/28/1994



----- EXPLANATION -----
— GAGE HEIGHT — Flood Stage

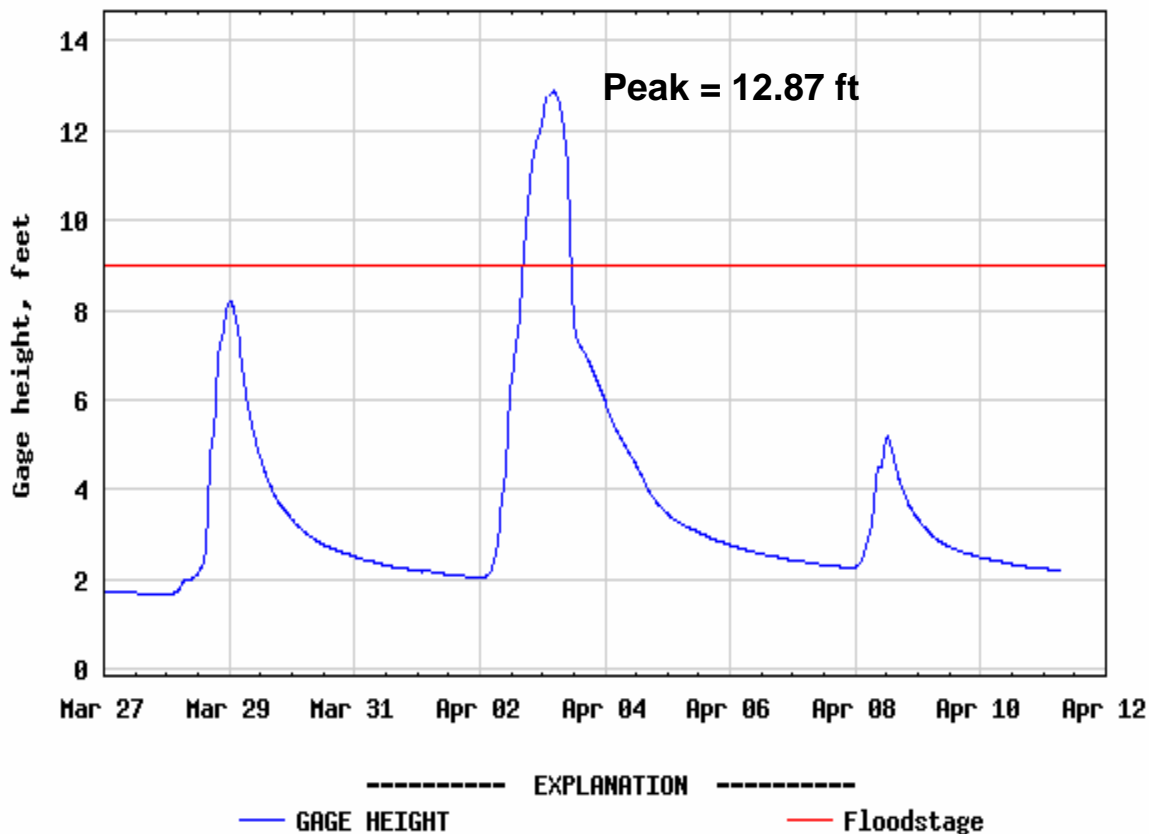
Provisional Data Subject to Revision



USGS 01465500 Neshaminy Creek near Langhorne, PA

Top 5 Historical Peaks:

- (1) 22.84 ft on 08/19/1955
- (2) 21.91 ft on 09/16/1999
- (3) 18.99 ft on 06/30/1973
- (4) 17.30 ft on 08/23/1933
- (5) 16.87 ft on 06/17/2001

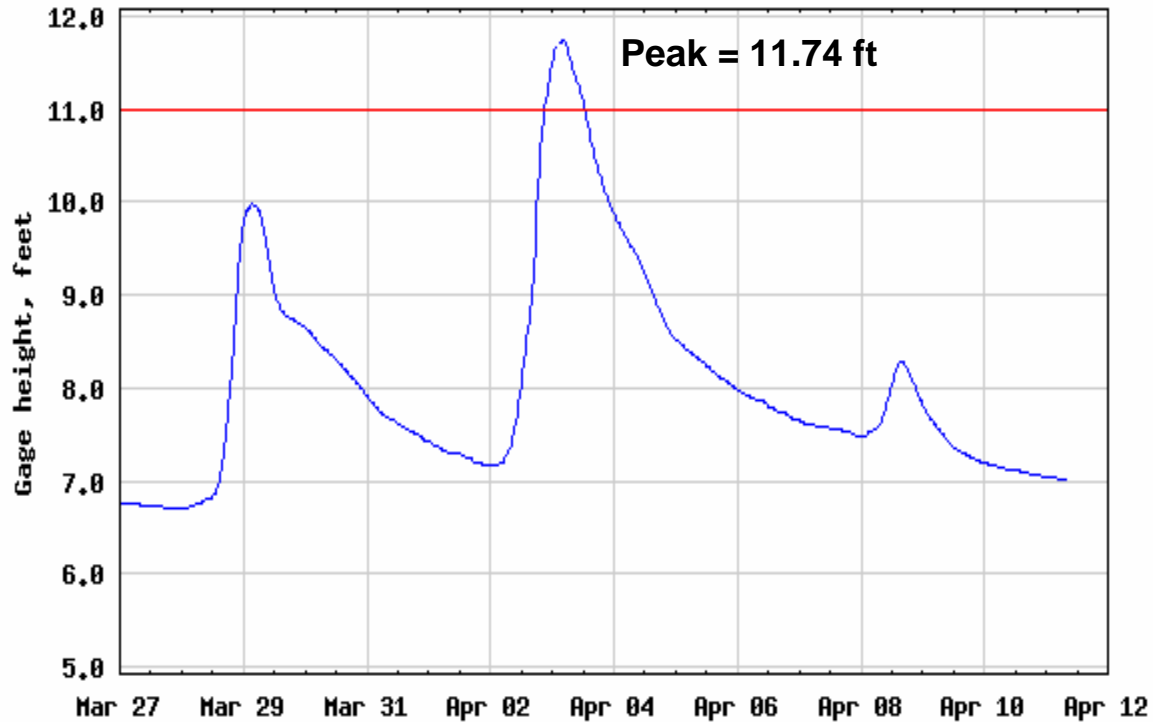


Provisional Data Subject to Revision



USGS 01474500 Schuylkill River at Philadelphia, PA

- Top 5 Historical Peaks:**
- (1) 17.00 ft on 10/04/1869**
 - (2) 14.80 ft on 03/01/1902**
 - (3) 14.70 ft on 08/24/1933**
 - (4) 14.65 ft on 06/23/1972**
 - (5) 14.57 ft on 06/02/1946**



----- EXPLANATION -----
— GAGE HEIGHT — Floodstage

Provisional Data Subject to Revision

Peak Discharge, Drainage Area, Peak Runoff, and Recurrence-Interval Data for the April 2005 Flood

<u>Gage</u>	<u>Peak Q (cfs)</u>	<u>DA (mi²)</u>	<u>PR (cfs/mi²)</u>	<u>RI (years)</u>
Beaver Kill at Cooks Falls	50,700	241	210	100+
EB Delaware R at Fishs Eddy	65,200	766	78.3	100+
Delaware R nr Barryville	118,000	2,020	58.4	60
Lackawaxen R at Hawley	21,400	518	41.3	100
Delaware R at Port Jervis	166,000	3,070	54.1	70
Delaware R at Montague	206,000	3,480	59.2	80

April 2005 Flood Data (continued)

<u>Gage</u>	<u>Peak Q (cfs)</u>	<u>DA (mi²)</u>	<u>PR (cfs/mi²)</u>	<u>RI (years)</u>
Delaware R at Belvidere	223,000	4,540	49.1	100+
Lehigh R at Walnutport	30,000	889	33.7	< 10
Delaware R at Trenton	242,000	6,780	35.7	100
Assunpink Cr at Trenton	1,670	90.6	18.4	< 5
Neshaminy Cr nr Langhorne	14,000	210	66.7	< 5
Schuylkill R at Philadelphia	56,800	1,893	30.0	< 5