

# MEMO

Date: **May 4, 2018**

To: **William J. Hague, P.E., Honeywell**

From: **Mark Nielsen, P.E., Ramboll US Corporation**  
**Jose Sananes, P.E., Ramboll US Corporation**

Subject: **Memo Re: SA-7 Sediment Remedy Long Term Monitoring Program – Year 3 and Year 4 Hydraulic and Hydrodynamic Evaluation**

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In accordance with the *First Five Year Implementation Plan* (“Implementation Plan”; last revised June 2015) and the *Long Term Monitoring Program, Year 2 Implementation Report* (“Year 2 Implementation Report”; July 2016), monitoring to identify any high energy events that would trigger additional assessment has been performed by Ramboll US Corporation (Ramboll) on a continuous basis. As discussed in the Year 2 Implementation Report, it was proposed that the results of this continuing monitoring be included in the Year 5 monitoring report.

Ramboll  
 101 Carnegie Center  
 Suite 200  
 Princeton, NJ 08540  
 USA

As requested by Plaintiffs in the letter dated April 24, 2018, re: Sediment Consent Order Reporting, the results of the monitoring performed during Years 3 and 4 of the Long Term Monitoring Program (LTMP) are presented below.

T +1 609 452 9000  
 F +1 609 452 0284  
[www.ramboll.com](http://www.ramboll.com)

## **YEAR 3 AND YEAR 4 MONITORING RESULTS**

Records of river stage elevations and weather events in Year 3 (October 2015 through September 2016) and Year 4 (October 2016 through September 2017) of the LTMP were obtained to identify “high energy events” that would warrant additional inspection of the cap and MNR areas. The Consent Order defines “high energy events” as follows:

- i. “A 50-year rainfall event defined by the National Weather Service as a 24-hour period of rainfall exceeding the maximum 50-year/24-hour accumulation, as recorded at Newark Airport;
- ii. A 10-year storm surge event defined as a hurricane event (not a “nor’easter”) resulting in an increase in ocean level of either 0.64 meters above normal tidal cycling at the Battery Park tide gauge or 1.40 meters above mean sea level (MSL); or
- iii. A wind event achieving 34 to 40 knots, coming from the south through the west, averaged over 6 hours, as recorded at Newark Airport.”

Monitoring of hydraulic conditions near SA-7 included review of surface water elevations from the Battery Park gauge and wind and precipitation records from Newark Airport weather station as reported by the following sources:

- Rainfall recorded at Newark Airport: <http://www.wunderground.com/history/>
- Tide levels at Battery Park: <http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750>
- Wind conditions as recorded at Newark Airport: <http://www.wunderground.com/history/>

The monitoring data for both Year 3 and Year 4 of the LTMP indicated that no high energy events meeting the defined criteria occurred during these monitoring periods. Monthly summaries generated from the monitoring data for Year 3 and Year 4 are provided in **Attachments A** and **B**, respectively.

Monitoring is currently being performed on a continuing basis to identify any high energy events that would trigger additional assessment. The results of the monitoring for Year 5 of the LTMP will be included in the Year 5 Implementation Report.

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Attachments

**ATTACHMENT A  
YEAR 3 HYDRAULIC AND HYDRODYNAMIC  
EVALUATION SUMMARIES**

**SA-7 Sediment Remedy**

Long-Term Monitoring Program

Hydrologic Data Review

<u>Monitoring Period:</u> <b>Year 3 - October 2015 through September 2016</b>	<i>Assessment Required?</i>
<u>Rainfall Event Data:</u> Max Rainfall (in):      1.84      Date:      7/25/2016 50-Year, 24-Hr event?      NO	NO
<u>Storm Surge Event Data:</u> Max Increase Above Predicted Normal Tidal Cycling (m):      1.242      Date:      1/23/2016      Time:      19:00 Exceeds event trigger criteria?      YES  Max Tide Gauge Reading (m):      1.631      Date:      2/9/2016      Time:      14:00 Exceeds event trigger criteria?      YES  10-year storm surge event defined as a hurricane?      NO - for both events	NO
<u>Wind Event Data:</u> Max Wind (mph):      48      Date:      7/18/2016 Exceeds trigger criteria?      YES Wind direction over 6-hr period:      WSW      OK      (See Note 1)  <u>Note:</u> (1) The averaged wind speed for the 6-hour period during which the maximum wind speed was recorded does not exceed the threshold criteria.	NO
<p><b><u>CRITERIA FROM LTMP:</u></b></p> <p>“Post-High Energy Event Monitoring Activities” will take place promptly following High Energy Events. The Consent Order defines “High Energy Events” as follows:</p> <p>i. “A 50-year rainfall event defined by the National Weather Service as a 24-hour period of rainfall exceeding the maximum 50-year/24-hour accumulation (i.e., 7.2 inches of rainfall over a 24-hour period), as recorded at Newark Airport;</p> <ul style="list-style-type: none"> <li>• See <a href="http://www.wunderground.com/history/">http://www.wunderground.com/history/</a></li> </ul> <p>ii. A 10-year storm surge event defined as a hurricane event (not a “nor’easter”) resulting in an increase in ocean level of either 0.64 meters above normal tidal cycling at the Battery Park tide gauge or 1.40 meters above mean sea level (MSL); or</p> <ul style="list-style-type: none"> <li>• Note: Hurricane events are defined by NOAA.</li> <li>• See <a href="http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750">http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750</a></li> </ul> <p>iii. A wind event achieving 34 to 40 knots (39.13 to 46.03 mph), coming from the south through the west, averaged over 6 hours, as recorded at Newark Airport.”</p> <ul style="list-style-type: none"> <li>• See <a href="http://www.wunderground.com/history/">http://www.wunderground.com/history/</a></li> </ul> <p style="text-align: right;">CHECKED BY:      <u>TEA</u></p>	

# Weather History for KEWR - October, 2015

From: October 1 2015 To: September 30 2016

**Get History**

Daily	Weekly	Monthly	Custom	Max	Avg	Min	Sum
<b>Temperature</b>							
Max Temperature				99 °F	67 °F	18 °F	
Mean Temperature				89 °F	59 °F	9 °F	
Min Temperature				80 °F	49 °F	0 °F	
<b>Degree Days</b>							
Heating Degree Days [base 65]				56	11	0	3919
Cooling Degree Days [base 65]				24	4	0	1545
Growing Degree Days [base 50]				39	12	0	4312
<b>Dew Point</b>							
Dew Point				78 °F	44 °F	-19 °F	
<b>Precipitation</b>							
Precipitation				1.84 in	0.11 in	0.00 in	35.02 in
Snowdepth				20.0 in	0.3 in	0.0 in	-
<b>Wind</b>							
Wind				48 mph	9 mph	0 mph	
Gust Wind				66 mph	23 mph	16 mph	
<b>Sea Level Pressure</b>							
Sea Level Pressure				30.83 in	30.04 in	29.22 in	

[https://www.wunderground.com/history/airport/KEWR/2015/10/1/CustomHistory.html?dayend=30&monthend=9&yearend=2016&req\\_city=&req\\_state=&req\\_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=](https://www.wunderground.com/history/airport/KEWR/2015/10/1/CustomHistory.html?dayend=30&monthend=9&yearend=2016&req_city=&req_state=&req_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=)



<http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750&units=metric&bdate=20151001&edate=20160930&timezone=GMT&datum=MSL&interval=h&action=>

**SA-7 Sediment Remedy**

Long-Term Monitoring Program

Hydrologic Data Review

<u>Monitoring Period:</u> <b>October      2015</b>	<i>Assessment Required?</i>
<u>Rainfall Event Data:</u> Max Rainfall (in):      1.42      Date: 10/28/2015 50-Year, 24-Hr event?      NO	NO
<u>Storm Surge Event Data:</u> Max Increase Above Predicted Normal Tidal Cycling (m):      0.706      Date: 10/3/2015      Time: 7:00 Exceeds event trigger criteria?      YES  Max Tide Gauge Reading (m):      1.448      Date: 10/28/2015      Time: 14:00 Exceeds event trigger criteria?      YES  10-year storm surge event defined as a hurricane?      NO	NO
<u>Wind Event Data:</u> Max Wind (mph):      37      Date: 10/9/2015 Exceeds trigger criteria?      NO Wind direction over 6-hr period:      WNW      OK	NO

**CRITERIA FROM LTMP:**

“Post-High Energy Event Monitoring Activities” will take place promptly following High Energy Events. The Consent Order defines “High Energy Events” as follows:

i. “A 50-year rainfall event defined by the National Weather Service as a 24-hour period of rainfall exceeding the maximum 50-year/24-hour accumulation (i.e., 7.2 inches of rainfall over a 24-hour period), as recorded at Newark Airport;

- See <http://www.wunderground.com/history/>

ii. A 10-year storm surge event defined as a hurricane event (not a “nor’easter”) resulting in an increase in ocean level of either 0.64 meters above normal tidal cycling at the Battery Park tide gauge or 1.40 meters above mean sea level (MSL); or

- Note: Hurricane events are defined by NOAA.
- See <http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750>

iii. A wind event achieving 34 to 40 knots (39.13 to 46.03 mph), coming from the south through the west, averaged over 6 hours, as recorded at Newark Airport.”

- See <http://www.wunderground.com/history/>

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# Weather History for KEWR

See history from more local stations

Monthly Calendar **Detailed History**

From:

October

1

2015

To:

October

31

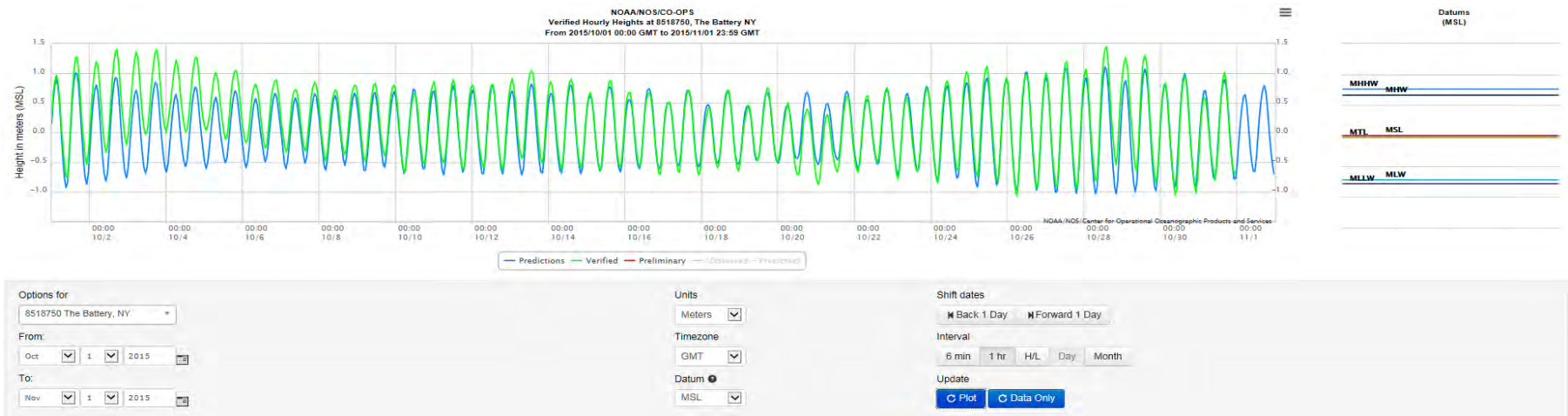
2015

**Get History**

Daily	Weekly	Monthly	Custom					
					Max	Avg	Min	Sum
<b>Temperature</b>								
				Max Temperature	81 °F	66 °F	52 °F	
				Mean Temperature	71 °F	57 °F	43 °F	
				Min Temperature	60 °F	48 °F	31 °F	
<b>Degree Days</b>								
				Heating Degree Days (base 65)	22	8	0	241
				Cooling Degree Days (base 65)	6	0	0	8
				Growing Degree Days (base 50)	20	8	0	239
<b>Dew Point</b>								
				Dew Point	67 °F	43 °F	17 °F	
<b>Precipitation</b>								
				Precipitation	1.42 in	0.12 in	0.00 in	3.35 in
				Snowdepth	0.0 in	0.0 in	0.0 in	-
<b>Wind</b>								
				Wind	37 mph	10 mph	0 mph	
				Gust Wind	46 mph	23 mph	16 mph	
<b>Sea Level Pressure</b>								
				Sea Level Pressure	30.58 in	30.10 in	29.53 in	

[http://www.wunderground.com/history/airport/KEWR/2015/10/1/CustomHistory.html?dayend=31&monthend=10&yearend=2015&req\\_city=&req\\_state=&req\\_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=](http://www.wunderground.com/history/airport/KEWR/2015/10/1/CustomHistory.html?dayend=31&monthend=10&yearend=2015&req_city=&req_state=&req_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=)





<http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750&units=metric&bdate=20151001&edate=20151101&timezone=GMT&datum=MSL&interval=h&action=>

**SA-7 Sediment Remedy**

Long-Term Monitoring Program

Hydrologic Data Review

<u>Monitoring Period:</u> <b>November 2015</b>	<i>Assessment Required?</i>
<u>Rainfall Event Data:</u> Max Rainfall (in):        0.83        Date: 11/19/2015 50-Year, 24-Hr event?    NO	NO
<u>Storm Surge Event Data:</u> Max Increase Above Predicted Normal Tidal Cycling (m):    0.614        Date: 11/12/2015        Time: 16:00 Exceeds event trigger criteria?    NO  Max Tide Gauge Reading (m):    1.268        Date: 11/12/2015        Time: 14:00 Exceeds event trigger criteria?    NO  10-year storm surge event defined as a hurricane?    NO	NO
<u>Wind Event Data:</u> Max Wind (mph):        32        Date: 11/13/2015 Exceeds trigger criteria?    NO Wind direction over 6-hr period:    W        OK	NO

**CRITERIA FROM LTMP:**

“Post-High Energy Event Monitoring Activities” will take place promptly following High Energy Events. The Consent Order defines “High Energy Events” as follows:

- i. “A 50-year rainfall event defined by the National Weather Service as a 24-hour period of rainfall exceeding the maximum 50-year/24-hour accumulation (i.e., 7.2 inches of rainfall over a 24-hour period), as recorded at Newark Airport;
  - See <http://www.wunderground.com/history/>
- ii. A 10-year storm surge event defined as a hurricane event (not a “nor’easter”) resulting in an increase in ocean level of either 0.64 meters above normal tidal cycling at the Battery Park tide gauge or 1.40 meters above mean sea level (MSL); or
  - Note: Hurricane events are defined by NOAA.
  - See <http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750>
- iii. A wind event achieving 34 to 40 knots (39.13 to 46.03 mph), coming from the south through the west, averaged over 6 hours, as recorded at Newark Airport.”
  - See <http://www.wunderground.com/history/>

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# Weather History for KEWR

[See history from more local stations](#)

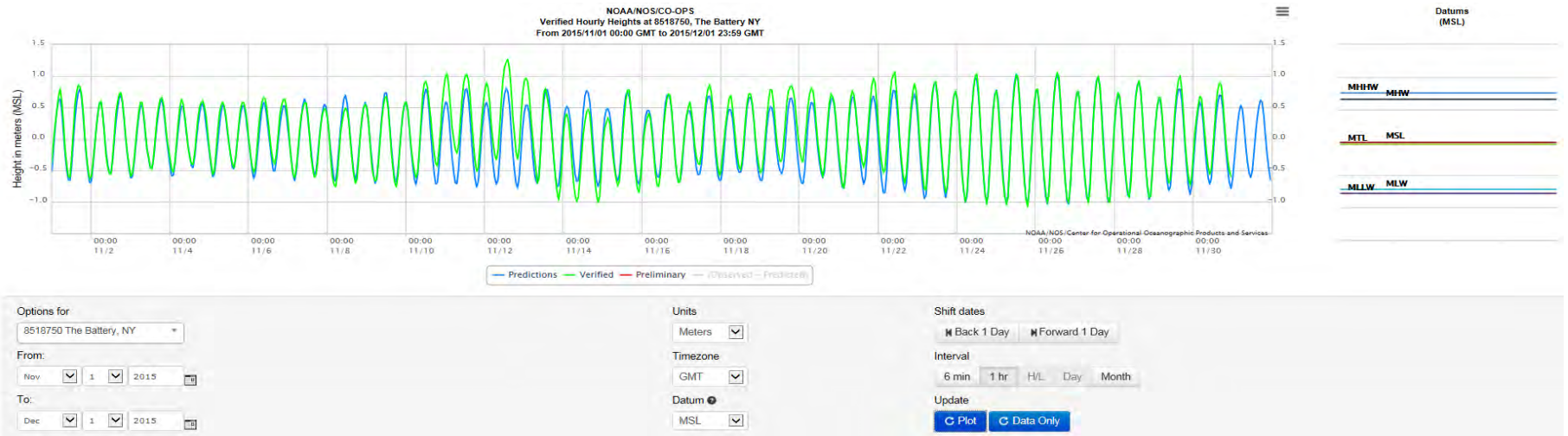
Monthly Calendar **Detailed History**

From: November 1 2015 To: November 30 2015

**Get History**

Daily	Weekly	Monthly	Custom		Max	Avg	Min	Sum
<b>Temperature</b>								
					75 °F	60 °F	46 °F	
					70 °F	52 °F	38 °F	
					64 °F	44 °F	27 °F	
<b>Degree Days</b>								
					27	13	0	388
					5	0	0	5
					20	4	0	128
<b>Dew Point</b>								
					65 °F	39 °F	10 °F	
<b>Precipitation</b>								
					0.83 in	0.05 in	0.00 in	1.30 in
					0.0 in	0.0 in	0.0 in	-
<b>Wind</b>								
					32 mph	8 mph	0 mph	
					43 mph	22 mph	16 mph	
<b>Sea Level Pressure</b>								
					30.83 in	30.19 in	29.53 in	

[http://www.wunderground.com/history/airport/KEWR/2015/11/1/CustomHistory.html?dayend=30&monthend=11&yearend=2015&req\\_city=&req\\_state=&req\\_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=](http://www.wunderground.com/history/airport/KEWR/2015/11/1/CustomHistory.html?dayend=30&monthend=11&yearend=2015&req_city=&req_state=&req_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=)



<http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750&units=metric&bdate=20151101&edate=20151201&timezone=GMT&datum=MSL&interval=h&action=>

**SA-7 Sediment Remedy**

Long-Term Monitoring Program

Hydrologic Data Review

<b>Monitoring Period:</b> <b>December 2015</b>	<b>Assessment Required?</b>
<u>Rainfall Event Data:</u> Max Rainfall (in): 1.44        Date: 12/23/2015 50-Year, 24-Hr event? <b>NO</b>	<b>NO</b>
<u>Storm Surge Event Data:</u> Max Increase Above Predicted Normal Tidal Cycling (m): 0.747        Date: 12/29/2015        Time: 11:00 Exceeds event trigger criteria? <b>YES</b>  Max Tide Gauge Reading (m): 1.247        Date: 12/29/2015        Time: 16:00 Exceeds event trigger criteria? <b>NO</b>  10-year storm surge event defined as a hurricane? <b>NO</b>	<b>NO</b>
<u>Wind Event Data:</u> Max Wind (mph): 31        Date: 12/15/2015 Exceeds trigger criteria? <b>NO</b> Wind direction over 6-hr period: WNW        OK	<b>NO</b>

**CRITERIA FROM LTMP:**

“Post-High Energy Event Monitoring Activities” will take place promptly following High Energy Events. The Consent Order defines “High Energy Events” as follows:

i. “A 50-year rainfall event defined by the National Weather Service as a 24-hour period of rainfall exceeding the maximum 50-year/24-hour accumulation (i.e., 7.2 inches of rainfall over a 24-hour period), as recorded at Newark Airport;

- See <http://www.wunderground.com/history/>

ii. A 10-year storm surge event defined as a hurricane event (not a “nor’easter”) resulting in an increase in ocean level of either 0.64 meters above normal tidal cycling at the Battery Park tide gauge or 1.40 meters above mean sea level (MSL); or

- Note: Hurricane events are defined by NOAA.
- See <http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750>

iii. A wind event achieving 34 to 40 knots (39.13 to 46.03 mph), coming from the south through the west, averaged over 6 hours, as recorded at Newark Airport.”

- See <http://www.wunderground.com/history/>

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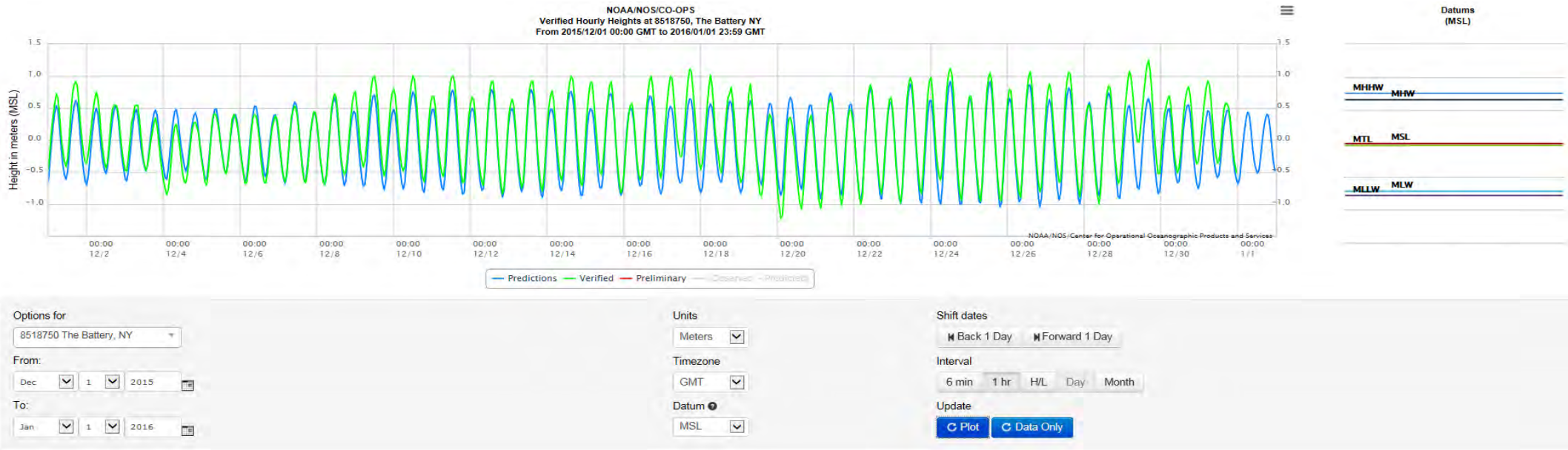
# Weather History for KEWR - December, 2015

From: December 1 2015 To: December 31 2015

**Get History**

	Max	Avg	Min	Sum
<b>Temperature</b>				
Max Temperature	71 °F	57 °F	41 °F	
Mean Temperature	65 °F	50 °F	38 °F	
Min Temperature	59 °F	43 °F	33 °F	
<b>Degree Days</b>				
Heating Degree Days (base 65)	27	15	0	465
Cooling Degree Days (base 65)	0	0	0	0
Growing Degree Days (base 50)	14	3	0	85
<b>Dew Point</b>				
Dew Point	66 °F	41 °F	15 °F	
<b>Precipitation</b>				
Precipitation	1.44 in	0.17 in	0.00 in	4.41 in
Snowdepth	0.0 in	0.0 in	0.0 in	-
<b>Wind</b>				
Wind	31 mph	7 mph	0 mph	
Gust Wind	41 mph	22 mph	16 mph	
<b>Sea Level Pressure</b>				
Sea Level Pressure	30.70 in	30.10 in	29.36 in	

[http://www.wunderground.com/history/airport/KEWR/2015/12/1/CustomHistory.html?dayend=31&monthend=12&yearend=2015&req\\_city=&req\\_state=&req\\_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=](http://www.wunderground.com/history/airport/KEWR/2015/12/1/CustomHistory.html?dayend=31&monthend=12&yearend=2015&req_city=&req_state=&req_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=)



<http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750&units=metric&bdate=20151201&edate=20160101&timezone=GMT&datum=MSL&interval=h&action=>

**SA-7 Sediment Remedy**

Long-Term Monitoring Program

Hydrologic Data Review

<b>Monitoring Period:</b> <b>January</b> <b>2016</b>	<b>Assessment Required?</b>
<u>Rainfall Event Data:</u> Max Rainfall (in): 1.81      Date: 1/23/2016 50-Year, 24-Hr event? NO	NO
<u>Storm Surge Event Data:</u> Max Increase Above Predicted Normal Tidal Cycling (m): 1.241      Date: 1/23/2016      Time: 19:00 Exceeds event trigger criteria? YES  Max Tide Gauge Reading (m): 1.573      Date: 1/10/2016      Time: 13:00 Exceeds event trigger criteria? YES  10-year storm surge event defined as a hurricane? NO	NO
<u>Wind Event Data:</u> Max Wind (mph): 36      Date: 1/10/2016 Exceeds trigger criteria? NO Wind direction over 6-hr period: W      OK	NO

**CRITERIA FROM LTMP:**

“Post-High Energy Event Monitoring Activities” will take place promptly following High Energy Events. The Consent Order defines “High Energy Events” as follows:

- i. “A 50-year rainfall event defined by the National Weather Service as a 24-hour period of rainfall exceeding the maximum 50-year/24-hour accumulation (i.e., 7.2 inches of rainfall over a 24-hour period), as recorded at Newark Airport;
  - See <http://www.wunderground.com/history/>
- ii. A 10-year storm surge event defined as a hurricane event (not a “nor’easter”) resulting in an increase in ocean level of either 0.64 meters above normal tidal cycling at the Battery Park tide gauge or 1.40 meters above mean sea level (MSL); or
  - Note: Hurricane events are defined by NOAA.
  - See <http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750>
- iii. A wind event achieving 34 to 40 knots (39.13 to 46.03 mph), coming from the south through the west, averaged over 6 hours, as recorded at Newark Airport.”
  - See <http://www.wunderground.com/history/>

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## Weather History for KEWR - January, 2016

From:

January

1

2016

To:

January

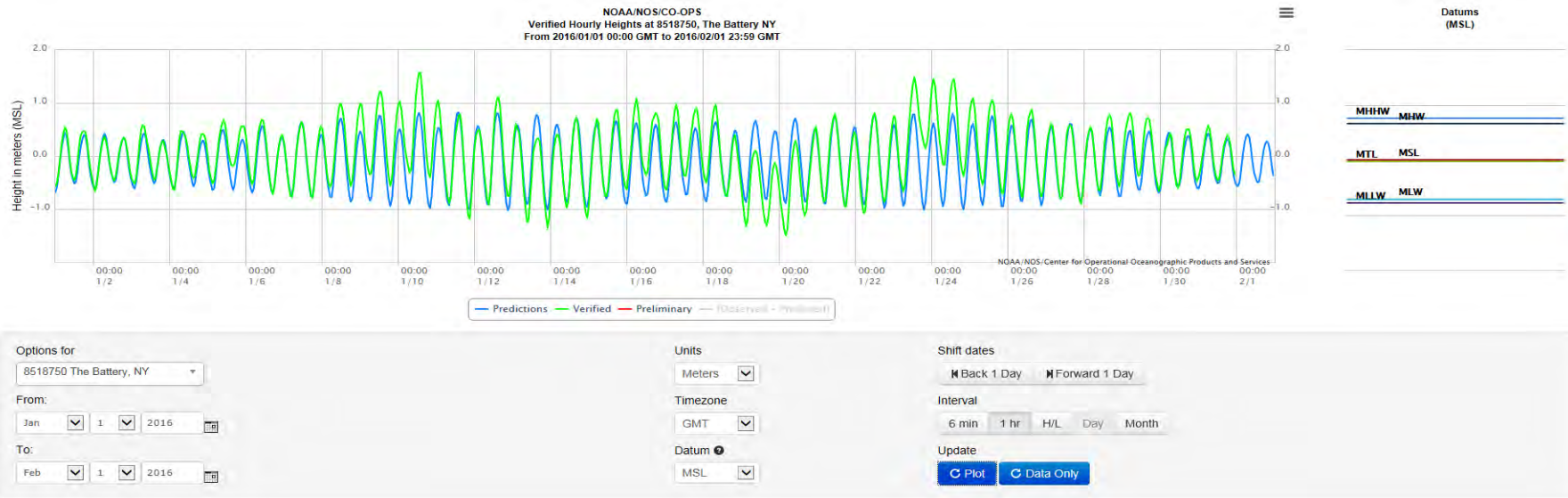
31

2016

Get History

Daily	Weekly	Monthly	Custom		Max	Avg	Min	Sum	
<b>Temperature</b>									
					Max Temperature	65 °F	41 °F	27 °F	
					Mean Temperature	52 °F	34 °F	21 °F	
					Min Temperature	42 °F	25 °F	10 °F	
<b>Degree Days</b>									
					Heating Degree Days [base 65]	44	31	13	976
					Cooling Degree Days [base 65]	0	0	0	0
					Growing Degree Days [base 50]	2	0	0	2
<b>Dew Point</b>									
					Dew Point	59 °F	19 °F	-7 °F	
<b>Precipitation</b>									
					Precipitation	1.81 in	0.15 in	0.00 in	4.02 in
					Snowdepth	20.0 in	3.9 in	0.0 in	-
<b>Wind</b>									
					Wind	36 mph	10 mph	0 mph	
					Gust Wind	45 mph	25 mph	16 mph	
<b>Sea Level Pressure</b>									
					Sea Level Pressure	30.63 in	30.00 in	29.27 in	

[http://www.wunderground.com/history/airport/KEWR/2016/1/1/CustomHistory.html?dayend=31&monthend=1&yearend=2&city=&req\\_state=&req\\_state\\_name=&reqdb.zip=&reqdb.magic=&reqdb.wmo=](http://www.wunderground.com/history/airport/KEWR/2016/1/1/CustomHistory.html?dayend=31&monthend=1&yearend=2&city=&req_state=&req_state_name=&reqdb.zip=&reqdb.magic=&reqdb.wmo=)



<http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750&units=metric&bdate=20160101&edate=20160201&timezone=GMT&datum=MSL&interval=h&action=>

**SA-7 Sediment Remedy**

Long-Term Monitoring Program  
Hydrologic Data Review

<u>Monitoring Period:</u> <b>February    2016</b>	<i>Assessment Required?</i>
<p><u>Rainfall Event Data:</u> Max Rainfall (in): 1.02        Date: 2/24/2016 50-Year, 24-Hr event? <b>NO</b></p>	<b>NO</b>
<p><u>Storm Surge Event Data:</u> Max Increase Above Predicted Normal Tidal Cycling (m): 0.806        Date: 2/9/2016        Time: 2:00    Exceeds event trigger criteria? <b>YES</b>  Max Tide Gauge Reading (m): 1.631        Date: 2/9/2016        Time: 14:00 Exceeds event trigger criteria? <b>YES</b>  10-year storm surge event defined as a hurricane? <b>NO</b></p>	<b>NO</b>
<p><u>Wind Event Data:</u> Max Wind (mph): 37        Date: 2/13/2016 Exceeds trigger criteria? <b>NO</b> Wind direction over 6-hr period: WNW        OK</p>	<b>NO</b>

**CRITERIA FROM LTMP:**

“Post-High Energy Event Monitoring Activities” will take place promptly following High Energy Events. The Consent Order defines “High Energy Events” as follows:

- i. “A 50-year rainfall event defined by the National Weather Service as a 24-hour period of rainfall exceeding the maximum 50-year/24-hour accumulation (i.e., 7.2 inches of rainfall over a 24-hour period), as recorded at Newark Airport;
  - See <http://www.wunderground.com/history/>
- ii. A 10-year storm surge event defined as a hurricane event (not a “nor’easter”) resulting in an increase in ocean level of either 0.64 meters above normal tidal cycling at the Battery Park tide gauge or 1.40 meters above mean sea level (MSL); or
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- iii. A wind event achieving 34 to 40 knots (39.13 to 46.03 mph), coming from the south through the west, averaged over 6 hours, as recorded at Newark Airport.”
  - See <http://www.wunderground.com/history/>

CHECKED BY:       TEA

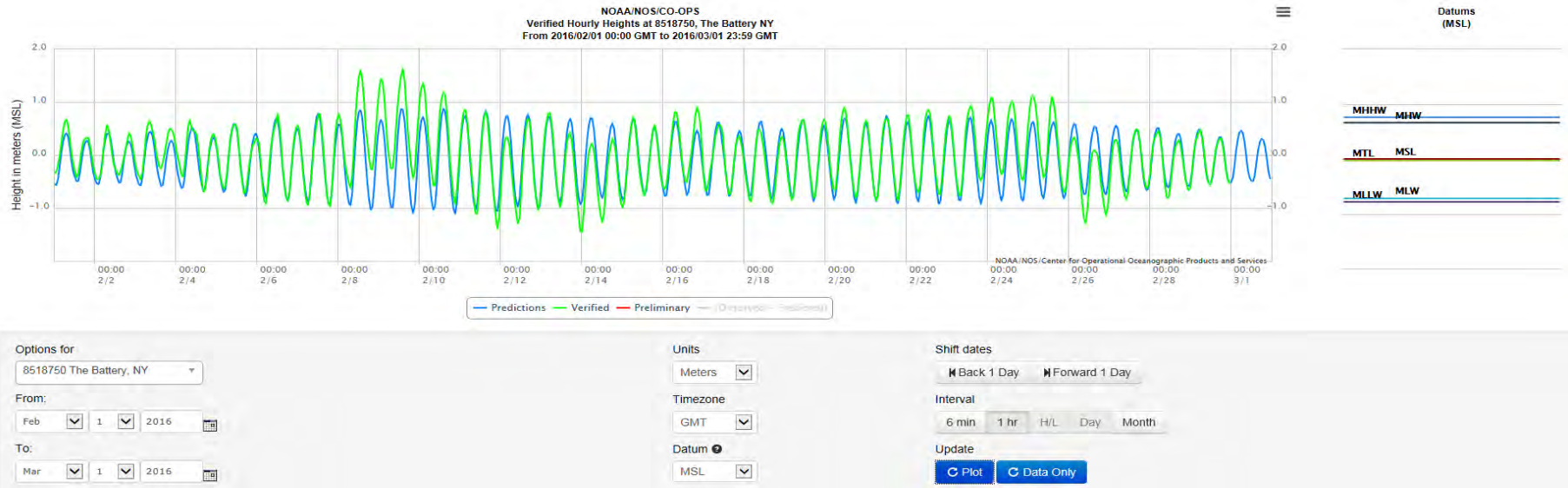
## Weather History for KEWR - February, 2016

From: February 1 2016 To: February 29 2016

**Get History**

Daily	Weekly	Monthly	Custom					
					Max	Avg	Min	Sum
<b>Temperature</b>								
					64 °F	46 °F	18 °F	
					52 °F	37 °F	9 °F	
					42 °F	29 °F	0 °F	
<b>Degree Days</b>								
					56	28	13	800
					0	0	0	0
					2	0	0	2
<b>Dew Point</b>								
					59 °F	24 °F	-19 °F	
<b>Precipitation</b>								
					1.02 in	0.17 in	0.00 in	4.02 in
					4.0 in	0.3 in	0.0 in	-
<b>Wind</b>								
					37 mph	11 mph	0 mph	
					46 mph	23 mph	16 mph	
<b>Sea Level Pressure</b>								
					30.62 in	30.01 in	29.22 in	

[http://www.wunderground.com/history/airport/KEWR/2016/2/1/CustomHistory.html?dayend=29&monthend=2&yearend=2&city=&req\\_state=&req\\_state\\_name=&reqdb.zip=&reqdb.magic=&reqdb.wmo=](http://www.wunderground.com/history/airport/KEWR/2016/2/1/CustomHistory.html?dayend=29&monthend=2&yearend=2&city=&req_state=&req_state_name=&reqdb.zip=&reqdb.magic=&reqdb.wmo=)



<http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750&units=metric&bdate=20160201&edate=20160301&timezone=GMT&datum=MSL&interval=h&action=>

**SA-7 Sediment Remedy**

Long-Term Monitoring Program

Hydrologic Data Review

<u>Monitoring Period:</u> <b>March</b> <b>2016</b>	<i>Assessment Required?</i>
<u>Rainfall Event Data:</u> Max Rainfall (in):      0.52      Date:      3/14/2016 50-Year, 24-Hr event? <b>NO</b>	<b>NO</b>
<u>Storm Surge Event Data:</u> Max Increase Above Predicted Normal Tidal Cycling (m):      0.576      Date:      3/15/2016      Time:      2:00 Exceeds event trigger criteria? <b>NO</b>  Max Tide Gauge Reading (m):      1.207      Date:      3/15/2016      Time:      6:00 Exceeds event trigger criteria? <b>NO</b>  10-year storm surge event defined as a hurricane? <b>NO</b>	<b>NO</b>
<u>Wind Event Data:</u> Max Wind (mph):      40      Date:      3/28/2016 Exceeds trigger criteria? <b>YES</b> Wind direction over 6-hr period:      W      OK      (See Note 1)	<b>NO</b>
<u>Note:</u> (1) The averaged wind speed for the 6-hour period during which the maximum wind speed was recorded does not exceed the threshold criteria.	<b>NO</b>
<p><b><u>CRITERIA FROM LTMP:</u></b></p> <p>“Post-High Energy Event Monitoring Activities” will take place promptly following High Energy Events. The Consent Order defines “High Energy Events” as follows:</p> <p>i. “A 50-year rainfall event defined by the National Weather Service as a 24-hour period of rainfall exceeding the maximum 50-year/24-hour accumulation (i.e., 7.2 inches of rainfall over a 24-hour period), as recorded at Newark Airport;</p> <ul style="list-style-type: none"> <li>• See <a href="http://www.wunderground.com/history/">http://www.wunderground.com/history/</a></li> </ul> <p>ii. A 10-year storm surge event defined as a hurricane event (not a “nor’easter”) resulting in an increase in ocean level of either 0.64 meters above normal tidal cycling at the Battery Park tide gauge or 1.40 meters above mean sea level (MSL); or</p> <ul style="list-style-type: none"> <li>• Note: Hurricane events are defined by NOAA.</li> <li>• See <a href="http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750">http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750</a></li> </ul> <p>iii. A wind event achieving 34 to 40 knots (39.13 to 46.03 mph), coming from the south through the west, averaged over 6 hours, as recorded at Newark Airport.”</p> <ul style="list-style-type: none"> <li>• See <a href="http://www.wunderground.com/history/">http://www.wunderground.com/history/</a></li> </ul>	
CHECKED BY: <u>TEA</u>	

## Weather History for KEWR - March, 2016

From: March 1 2016 To: March 31 2016

**Get History**

Daily	Weekly	Monthly	Custom		Max	Avg	Min	Sum
<b>Temperature</b>								
					82 °F	59 °F	38 °F	
					70 °F	49 °F	32 °F	
					59 °F	39 °F	26 °F	
<b>Degree Days</b>								
					33	16	0	495
					5	0	0	5
					20	3	0	95
<b>Dew Point</b>								
					61 °F	31 °F	4 °F	
<b>Precipitation</b>								
					0.52 in	0.06 in	0.00 in	1.38 in
					1.0 in	0.0 in	0.0 in	-
<b>Wind</b>								
					40 mph	10 mph	0 mph	
					58 mph	24 mph	16 mph	
<b>Sea Level Pressure</b>								
					30.41 in	30.03 in	29.46 in	

[https://www.wunderground.com/history/airport/KEWR/2016/3/1/CustomHistory.html?dayend=31&monthend=3&yearend=;\\_city=&req\\_state=&req\\_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=](https://www.wunderground.com/history/airport/KEWR/2016/3/1/CustomHistory.html?dayend=31&monthend=3&yearend=;_city=&req_state=&req_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=)

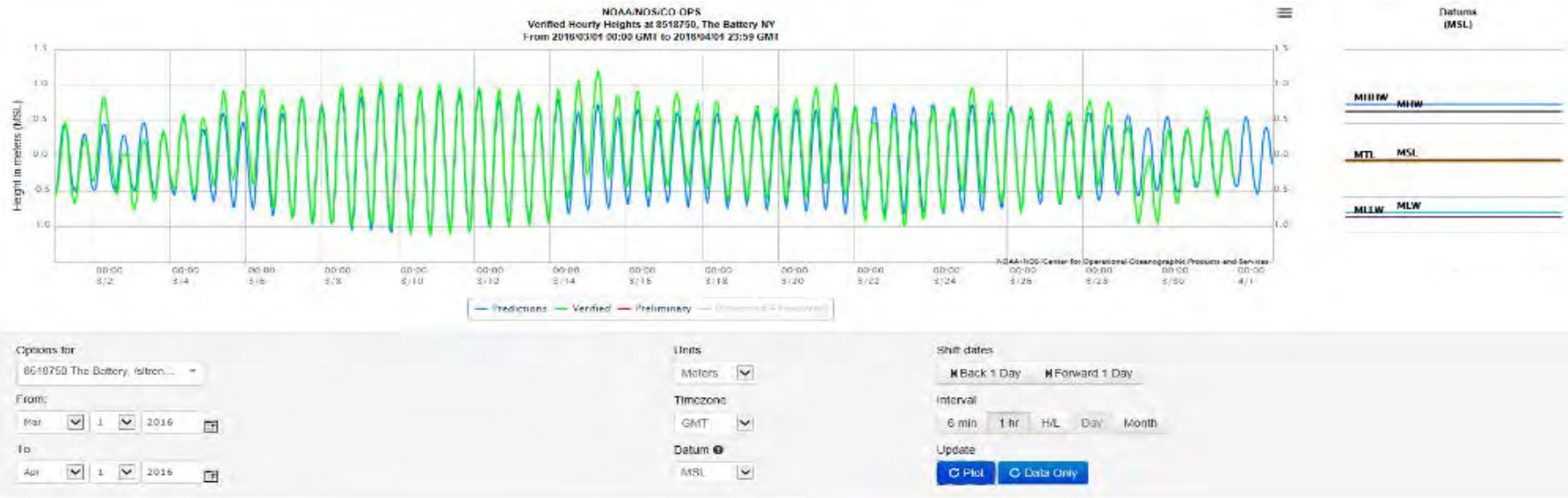
## Hourly Weather History & Observations

Time (EDT)	Temp.	Windchill	Dew Point	Humidity	Pressure	Visibility	Wind Dir	Wind Speed	Gust Speed	Precip	Events	Conditions
2:46 PM	55.4 °F	-	50.0 °F	82%	29.56 in	9.0 mi	WSW	11.5 mph	16.1 mph	N/A		Mostly Cloudy
	SPECI KEWR 281846Z 25010G14KT 9SM SCT007 BKN013 BKN022 13/10 A2956 RMK AO2 CIG 011V015 \$											
2:51 PM	55.9 °F	-	50.0 °F	80%	29.56 in	9.0 mi	WSW	12.7 mph	18.4 mph	N/A		Mostly Cloudy
	METAR KEWR 281851Z 25011G16KT 9SM SCT007 BKN015 BKN022 13/10 A2956 RMK AO2 SLP009 T01330100 \$											
3:04 PM	59.0 °F	-	50.0 °F	72%	29.55 in	10.0 mi	West	15.0 mph	18.4 mph	N/A		Scattered Clouds
	METAR KEWR 281904Z 27013G16KT 10SM FEW010 SCT015 SCT024 15/10 A2955 RMK AO2 SCT024 V BKN \$											
3:51 PM	62.1 °F	-	46.9 °F	58%	29.53 in	10.0 mi	WSW	18.4 mph	28.8 mph	N/A		Scattered Clouds
	METAR KEWR 281951Z 25016G25KT 10SM FEW010 SCT015 SCT024 17/08 A2953 RMK AO2 SLP998 T016700 \$											
4:51 PM	64.9 °F	-	39.9 °F	40%	29.50 in	10.0 mi	WSW	31.1 mph	47.2 mph	N/A		Scattered Clouds
	METAR KEWR 282051Z 24027G41KT 10SM FEW040 SCT055 18/04 A2950 RMK AO2 PK WND 25041/2051 SLP900 T01830044 \$											
5:51 PM	60.1 °F	-	35.1 °F	39%	29.54 in	10.0 mi	West	24.2 mph	43.7 mph	N/A		Scattered Clouds
	METAR KEWR 282151Z 27021G39KT 10SM FEW050 SCT075 18/02 A2954 RMK AO2 PK WND 27050/2120 SLP901 T01560017 \$											
6:51 PM	57.9 °F	-	35.1 °F	42%	29.54 in	10.0 mi	West	29.9 mph	48.3 mph	N/A		Scattered Clouds
	METAR KEWR 282251Z 26028G42KT 10SM FEW045 SCT065 14/02 A2954 RMK AO2 PK WND 27048/2224 SLP902 T01440017 \$											
7:51 PM	57.0 °F	-	35.1 °F	44%	29.56 in	10.0 mi	West	29.9 mph	44.9 mph	N/A		Mostly Cloudy
	METAR KEWR 282351Z 27028G39KT 10SM FEW050 BKN065 14/02 A2956 RMK AO2 PK WND 27042/2322 SLP909 T01390017 \$											
8:51 PM	55.9 °F	-	35.1 °F	45%	29.60 in	10.0 mi	West	26.5 mph	36.8 mph	N/A		Mostly Cloudy
	METAR KEWR 290051Z 27023G32KT 10SM BKN055 13/02 A2960 RMK AO2 PK WND 28043/0016 SLP021 T01330017 \$											

Averaged wind speed over the 6-hour period = **24** mph

<https://www.wunderground.com/history/airport/KEWR/2016/3/28/DailyHistory.html?MR=1>





<http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750&units=metric&bdate=20160301&edate=20160401&timezone=GMT&datum=MSL&interval=h&action=>

**SA-7 Sediment Remedy**

Long-Term Monitoring Program

Hydrologic Data Review

<u>Monitoring Period:</u> <b>April</b> <b>2016</b>	<i>Assessment Required?</i>
<u>Rainfall Event Data:</u> Max Rainfall (in): 0.44      Date: 4/4/2016 50-Year, 24-Hr event? <b>NO</b>	<b>NO</b>
<u>Storm Surge Event Data:</u> Max Increase Above Predicted Normal Tidal Cycling (m): 0.432      Date: 4/7/2016      Time: 21:00 Exceeds event trigger criteria? <b>NO</b>  Max Tide Gauge Reading (m): 1.345      Date: 4/8/2016      Time: 1:00 Exceeds event trigger criteria? <b>NO</b>  10-year storm surge event defined as a hurricane? <b>NO</b>	<b>NO</b>
<u>Wind Event Data:</u> Max Wind (mph): 41      Date: 4/3/2016 Exceeds trigger criteria? <b>YES</b> Wind direction over 6-hr period: <b>WNW</b> OK      (See Note 1)  <u>Note:</u> (1) The averaged wind speed for the 6-hour period during which the maximum wind speed was recorded does not exceed the threshold criteria.	<b>NO</b>
<p><b><u>CRITERIA FROM LTMP:</u></b></p> <p>“Post-High Energy Event Monitoring Activities” will take place promptly following High Energy Events. The Consent Order defines “High Energy Events” as follows:</p> <p>i. “A 50-year rainfall event defined by the National Weather Service as a 24-hour period of rainfall exceeding the maximum 50-year/24-hour accumulation (i.e., 7.2 inches of rainfall over a 24-hour period), as recorded at Newark Airport;</p> <ul style="list-style-type: none"> <li>• See <a href="http://www.wunderground.com/history/">http://www.wunderground.com/history/</a></li> </ul> <p>ii. A 10-year storm surge event defined as a hurricane event (not a “nor’easter”) resulting in an increase in ocean level of either 0.64 meters above normal tidal cycling at the Battery Park tide gauge or 1.40 meters above mean sea level (MSL); or</p> <ul style="list-style-type: none"> <li>• Note: Hurricane events are defined by NOAA.</li> <li>• See <a href="http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750">http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750</a></li> </ul> <p>iii. A wind event achieving 34 to 40 knots (39.13 to 46.03 mph), coming from the south through the west, averaged over 6 hours, as recorded at Newark Airport.”</p> <ul style="list-style-type: none"> <li>• See <a href="http://www.wunderground.com/history/">http://www.wunderground.com/history/</a></li> </ul> <p style="text-align: right;">CHECKED BY: <u>TEA</u></p>	

## Weather History for KEWR - April, 2016

From:

April

1

2016

To:

April

30

2016

[Get History](#)

Daily	Weekly	Monthly	Custom		Max	Avg	Min	Sum	
<b>Temperature</b>									
Max Temperature					83 °F	63 °F	44 °F		
Mean Temperature					72 °F	53 °F	35 °F		
Min Temperature					62 °F	43 °F	26 °F		
<b>Degree Days</b>									
Heating Degree Days [base 65]					30	12	0		362
Cooling Degree Days [base 65]					7	0	0		13
Growing Degree Days [base 50]					22	6	0		174
<b>Dew Point</b>									
Dew Point					64 °F	34 °F	-2 °F		
<b>Precipitation</b>									
Precipitation					0.44 in	0.04 in	0.00 in		1.11 in
Snowdepth					0.0 in	0.0 in	0.0 in		-
<b>Wind</b>									
Wind					41 mph	10 mph	0 mph		
Gust Wind					55 mph	23 mph	16 mph		
<b>Sea Level Pressure</b>									
Sea Level Pressure					30.48 in	30.02 in	29.26 in		

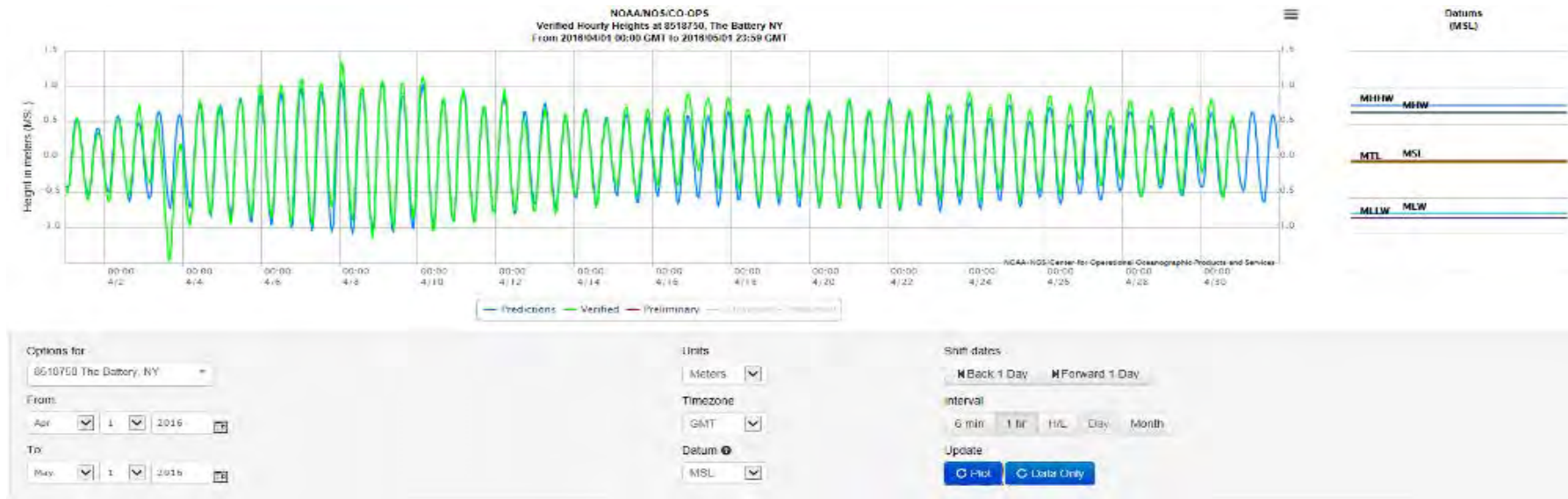
[https://www.wunderground.com/history/airport/KEWR/2016/4/1/CustomHistory.html?dayend=30&monthend=4&yearend=;\\_city=&req\\_state=&req\\_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=](https://www.wunderground.com/history/airport/KEWR/2016/4/1/CustomHistory.html?dayend=30&monthend=4&yearend=;_city=&req_state=&req_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=)

### Hourly Weather History & Observations

Time (EDT)	Temp.	Windchill	Dew Point	Humidity	Pressure	Visibility	Wind Dir	Wind Speed	Gust Speed	Precip	Events	Conditions
5:29 AM	37.4 °F	25.0 °F	30.2 °F	75%	29.37 in	10.0 mi	WNW	29.9 mph	48.3 mph	0.00 in	Rain	Light Rain
	SPECI KEWR 030929Z 30028G42KT 10SM -RA FEW019 BKN024 CVC030 03/M01 A2937 RMK AO2 PK WND 28048/10910 RAB00 PRESRR P0000 \$											
5:51 AM	37.9 °F	24.9 °F	28.0 °F	68%	29.41 in	10.0 mi	WNW	34.5 mph	48.3 mph	0.00 in		Overcast
	METAR KEWR 030951Z 29030G42KT 10SM FEW019 BKN024 OVC030 03/M02 A2941 RMK AO2 PK WND 28043/110 RAB00E33 PRESRR SLP958 P0000 T00331022 \$											
6:32 AM	37.4 °F	24.8 °F	24.8 °F	60%	29.49 in	10.0 mi	WNW	31.1 mph	51.8 mph	N/A		Mostly Cloudy
	SPECI KEWR 031032Z 29027G45KT 10SM SCT024 BKN042 BKN110 03/M04 A2949 RMK AO2 PK WND 29047/109 PRESRR \$											
6:51 AM	36.0 °F	23.2 °F	23.0 °F	59%	29.53 in	10.0 mi	WNW	28.8 mph	55.2 mph	N/A		Mostly Cloudy
	METAR KEWR 031051Z 29025G48KT 10SM SCT024 BKN044 BKN110 02/M05 A2953 RMK AO2 PK WND 29048/1093 PRESRR SLP000 T00221050 \$											
7:51 AM	36.0 °F	23.7 °F	16.0 °F	44%	29.62 in	10.0 mi	WNW	26.5 mph	44.9 mph	N/A		Scattered Clouds
	METAR KEWR 031151Z 30023G39KT 10SM FEW024 SCT042 SCT100 02/M09 A2982 RMK AO2 PK WND 31041/1100 SLP030 80000 70019 T00221089 10087 20022 51105 \$											
8:51 AM	35.1 °F	20.8 °F	10.0 °F	35%	29.68 in	10.0 mi	West	35.7 mph	52.9 mph	N/A		Scattered Clouds
	METAR KEWR 031251Z 28031G48KT 10SM FEW042 SCT100 02/M12 A2969 RMK AO2 PK WND 29046/1244 SLP051 T00171122 \$											
9:51 AM	37.0 °F	24.1 °F	7.0 °F	29%	29.73 in	10.0 mi	WNW	32.2 mph	48.3 mph	N/A		Partly Cloudy
	METAR KEWR 031351Z 30028G42KT 10SM FEW042 03/M14 A2973 RMK AO2 PK WND 31048/1300 SLP067 T00211139 \$											
10:51 AM	37.9 °F	25.5 °F	7.0 °F	28%	29.78 in	10.0 mi	NW	31.1 mph	47.2 mph	N/A		Scattered Clouds
	METAR KEWR 031451Z 31027G41KT 10SM SCT050 03/M14 A2978 RMK AO2 PK WND 31043/1350 SLP083 T00331139 51053 \$											
11:51 AM	39.0 °F	27.6 °F	6.1 °F	26%	29.81 in	10.0 mi	NW	27.6 mph	43.7 mph	N/A		Scattered Clouds
	METAR KEWR 031551Z 32024G38KT 10SM SCT055 SCT075 04/M14 A2981 RMK AO2 PK WND 29040/1518 SLP094 T00391144 \$											

Averaged wind speed over the 6-hour period = **32 mph**

<https://www.wunderground.com/history/airport/KEWR/2016/4/3/DailyHistory.html>



<http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750&units=metric&bdate=20160401&edate=20160501&timezone=GMT&datum=MSL&interval=h&action=>

**SA-7 Sediment Remedy**

Long-Term Monitoring Program

Hydrologic Data Review

<u>Monitoring Period:</u>	<b>May</b>	<b>2016</b>	<i>Assessment Required?</i>
<u>Rainfall Event Data:</u>			
Max Rainfall (in):	1.57	Date: 5/30/2016	
50-Year, 24-Hr event?	NO		NO
<u>Storm Surge Event Data:</u>			
Max Increase Above Predicted Normal Tidal Cycling (m):	0.595	Date: 5/6/2016	Time: 20:00
Exceeds event trigger criteria?	NO		
Max Tide Gauge Reading (m):	1.476	Date: 5/7/2016	Time: 1:00
Exceeds event trigger criteria?	YES		
10-year storm surge event defined as a hurricane?	NO		NO
<u>Wind Event Data:</u>			
Max Wind (mph):	38	Date: 5/15/2016	
Exceeds trigger criteria?	NO		
Wind direction over 6-hr period:	W	OK	NO

**CRITERIA FROM LTMP:**

“Post-High Energy Event Monitoring Activities” will take place promptly following High Energy Events. The Consent Order defines “High Energy Events” as follows:

i. “A 50-year rainfall event defined by the National Weather Service as a 24-hour period of rainfall exceeding the maximum 50-year/24-hour accumulation (i.e., 7.2 inches of rainfall over a 24-hour period), as recorded at Newark Airport;

- See <http://www.wunderground.com/history/>

ii. A 10-year storm surge event defined as a hurricane event (not a “nor’easter”) resulting in an increase in ocean level of either 0.64 meters above normal tidal cycling at the Battery Park tide gauge or 1.40 meters above mean sea level (MSL); or

- Note: Hurricane events are defined by NOAA.
- See <http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750>

iii. A wind event achieving 34 to 40 knots (39.13 to 46.03 mph), coming from the south through the west, averaged over 6 hours, as recorded at Newark Airport.”

- See <http://www.wunderground.com/history/>

CHECKED BY: TEA

## Weather History for KEWR - May, 2016

From:

May

1

2016

To:

May

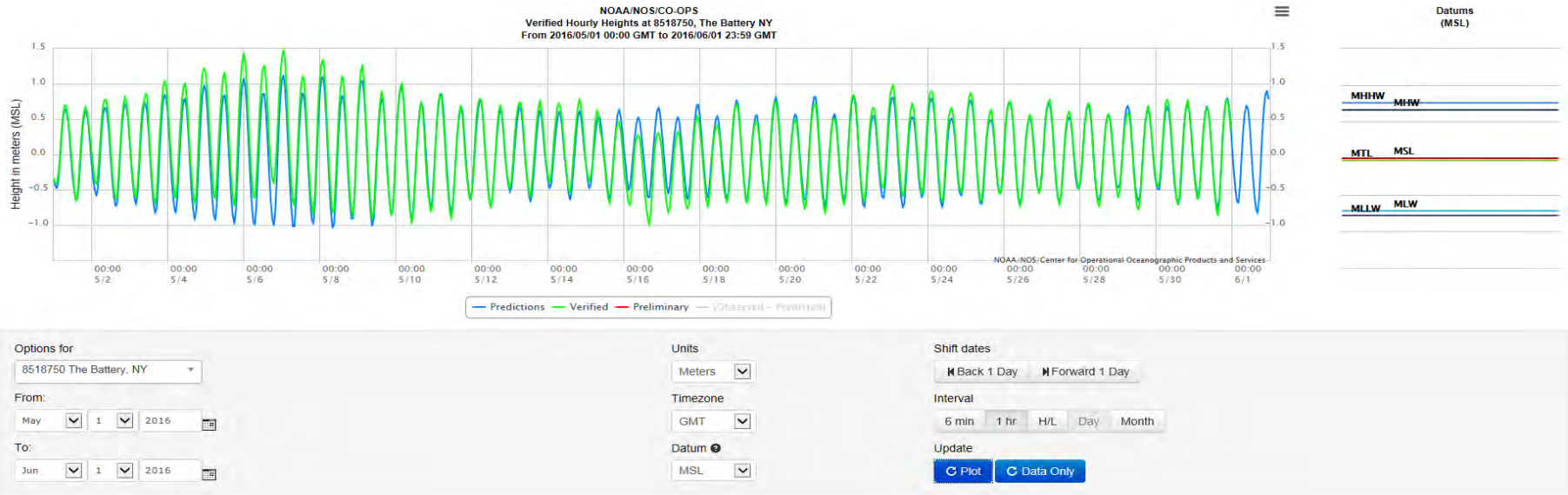
31

2016

Get History

Daily	Weekly	Monthly	Custom		Max	Avg	Min	Sum
<b>Temperature</b>								
Max Temperature					96 °F	71 °F	51 °F	
Mean Temperature					84 °F	63 °F	47 °F	
Min Temperature					71 °F	53 °F	40 °F	
<b>Degree Days</b>								
Heating Degree Days [base 65]					18	5	0	170
Cooling Degree Days [base 65]					19	3	0	100
Growing Degree Days [base 50]					34	13	0	390
<b>Dew Point</b>								
Dew Point					72 °F	48 °F	24 °F	
<b>Precipitation</b>								
Precipitation					1.57 in	0.15 in	0.00 in	3.85 in
Snowdepth					0.0 in	0.0 in	0.0 in	-
<b>Wind</b>								
Wind					38 mph	8 mph	0 mph	
Gust Wind					48 mph	22 mph	16 mph	
<b>Sea Level Pressure</b>								
Sea Level Pressure					30.27 in	29.97 in	29.60 in	

[https://www.wunderground.com/history/airport/KEWR/2016/5/1/CustomHistory.html?dayend=31&monthend=5&yearend=2016&req\\_city=&req\\_state=&req\\_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=](https://www.wunderground.com/history/airport/KEWR/2016/5/1/CustomHistory.html?dayend=31&monthend=5&yearend=2016&req_city=&req_state=&req_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=)



<http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750&units=metric&bdate=20160501&edate=20160601&timezone=GMT&datum=MSL&interval=h&action=>



**SA-7 Sediment Remedy**Long-Term Monitoring Program  
Hydrologic Data Review

<u>Monitoring Period:</u> <b>June</b> <b>2016</b>	<i>Assessment Required?</i>
<u>Rainfall Event Data:</u> Max Rainfall (in): 0.94        Date: 6/5/2016 50-Year, 24-Hr event? <b>NO</b>	<b>NO</b>
<u>Storm Surge Event Data:</u> Max Increase Above Predicted Normal Tidal Cycling (m): 0.294        Date: 6/5/2016        Time: 22:00 Exceeds event trigger criteria? <b>NO</b>  Max Tide Gauge Reading (m): 1.287        Date: 6/6/2016        Time: 2:00 Exceeds event trigger criteria? <b>NO</b>  10-year storm surge event defined as a hurricane? <b>NO</b>	<b>NO</b>
<u>Wind Event Data:</u> Max Wind (mph): 32        Date: 6/5/2016 Exceeds trigger criteria? <b>NO</b> Wind direction over 6-hr period: W        OK	<b>NO</b>

**CRITERIA FROM LTMP:**

“Post-High Energy Event Monitoring Activities” will take place promptly following High Energy Events. The Consent Order defines “High Energy Events” as follows:

i. “A 50-year rainfall event defined by the National Weather Service as a 24-hour period of rainfall exceeding the maximum 50-year/24-hour accumulation (i.e., 7.2 inches of rainfall over a 24-hour period), as recorded at Newark Airport;

- See <http://www.wunderground.com/history/>

ii. A 10-year storm surge event defined as a hurricane event (not a “nor’easter”) resulting in an increase in ocean level of either 0.64 meters above normal tidal cycling at the Battery Park tide gauge or 1.40 meters above mean sea level (MSL); or

- Note: Hurricane events are defined by NOAA.
- See <http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750>

iii. A wind event achieving 34 to 40 knots (39.13 to 46.03 mph), coming from the south through the west, averaged over 6 hours, as recorded at Newark Airport.”

- See <http://www.wunderground.com/history/>

CHECKED BY: TEA

## Weather History for KEWR - June, 2016

From:

June

1

2016

To:

June

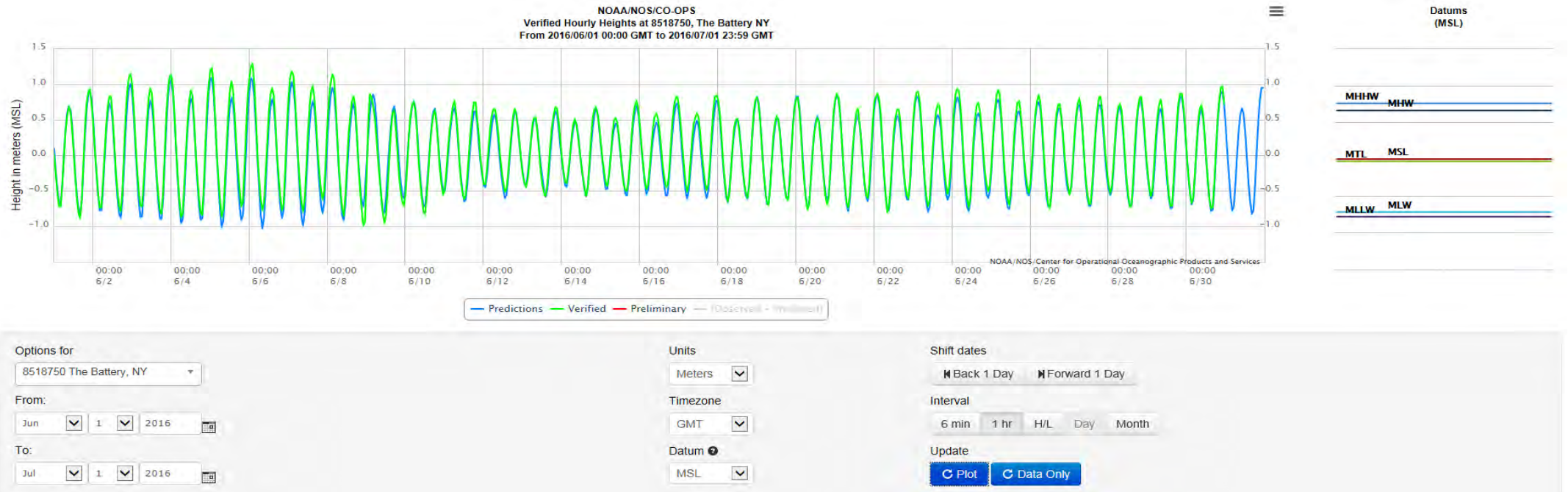
30

2016

Get History

Daily	Weekly	Monthly	Custom				
				Max	Avg	Min	Sum
<b>Temperature</b>							
Max Temperature				91 °F	83 °F	69 °F	
Mean Temperature				82 °F	73 °F	62 °F	
Min Temperature				73 °F	63 °F	52 °F	
<b>Degree Days</b>							
Heating Degree Days [base 65]				3	0	0	6
Cooling Degree Days [base 65]				17	8	0	245
Growing Degree Days [base 50]				33	23	11	688
<b>Dew Point</b>							
Dew Point				70 °F	55 °F	30 °F	
<b>Precipitation</b>							
Precipitation				0.94 in	0.09 in	0.00 in	2.40 in
Snowdepth				0.0 in	0.0 in	0.0 in	-
<b>Wind</b>							
Wind				32 mph	9 mph	0 mph	
Gust Wind				45 mph	23 mph	16 mph	
<b>Sea Level Pressure</b>							
Sea Level Pressure				30.30 in	29.93 in	29.46 in	

[https://www.wunderground.com/history/airport/KEWR/2016/6/1/CustomHistory.html?dayend=30&monthend=6&yearend=2016&req\\_city=&req\\_state=&req\\_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=](https://www.wunderground.com/history/airport/KEWR/2016/6/1/CustomHistory.html?dayend=30&monthend=6&yearend=2016&req_city=&req_state=&req_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=)



<http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750&units=metric&bdate=20160601&edate=20160701&timezone=GMT&datum=MSL&interval=h&action=>

**SA-7 Sediment Remedy**

Long-Term Monitoring Program

Hydrologic Data Review

<b>Monitoring Period:</b> <b>July</b> <b>2016</b>	<b>Assessment Required?</b>
<u>Rainfall Event Data:</u> Max Rainfall (in): 1.84      Date: 7/25/2016 50-Year, 24-Hr event? <b>NO</b>	<b>NO</b>
<u>Storm Surge Event Data:</u> Max Increase Above Predicted Normal Tidal Cycling (m): 0.371      Date: 7/10/2016      Time: 2:00 Exceeds event trigger criteria? <b>NO</b>  Max Tide Gauge Reading (m): 1.117      Date: 7/31/2016      Time: 23:00 Exceeds event trigger criteria? <b>NO</b>  10-year storm surge event defined as a hurricane? <b>NO</b>	<b>NO</b>
<u>Wind Event Data:</u> Max Wind (mph): 48      Date: 7/18/2016 Exceeds trigger criteria? <b>YES</b> Wind direction over 6-hr period: WSW      OK      (See Note 1)  <u>Note:</u> (1) The averaged wind speed for the 6-hour period during which the maximum wind speed was recorded does not exceed the threshold criteria.	<b>NO</b>
<p><b><u>CRITERIA FROM LTMP:</u></b></p> <p>“Post-High Energy Event Monitoring Activities” will take place promptly following High Energy Events. The Consent Order defines “High Energy Events” as follows:</p> <p>i. “A 50-year rainfall event defined by the National Weather Service as a 24-hour period of rainfall exceeding the maximum 50-year/24-hour accumulation (i.e., 7.2 inches of rainfall over a 24-hour period), as recorded at Newark Airport;</p> <ul style="list-style-type: none"> <li>• See <a href="http://www.wunderground.com/history/">http://www.wunderground.com/history/</a></li> </ul> <p>ii. A 10-year storm surge event defined as a hurricane event (not a “nor’easter”) resulting in an increase in ocean level of either 0.64 meters above normal tidal cycling at the Battery Park tide gauge or 1.40 meters above mean sea level (MSL); or</p> <ul style="list-style-type: none"> <li>• Note: Hurricane events are defined by NOAA.</li> <li>• See <a href="http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750">http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750</a></li> </ul> <p>iii. A wind event achieving 34 to 40 knots (39.13 to 46.03 mph), coming from the south through the west, averaged over 6 hours, as recorded at Newark Airport.”</p> <ul style="list-style-type: none"> <li>• See <a href="http://www.wunderground.com/history/">http://www.wunderground.com/history/</a></li> </ul> <p style="text-align: right;">CHECKED BY: <u>TEA</u></p>	

# Weather History for KEWR - July, 2016

From: July 1 2016 To: July 31 2016

**Get History**

Daily	Weekly	Monthly	Custom					
					Max	Avg	Min	Sum
<b>Temperature</b>								
					99 °F	89 °F	71 °F	
					89 °F	80 °F	69 °F	
					80 °F	71 °F	62 °F	
<b>Degree Days</b>								
					0	0	0	0
					24	15	4	470
					39	30	18	923
<b>Dew Point</b>								
					75 °F	65 °F	45 °F	
<b>Precipitation</b>								
					1.84 in	0.21 in	0.00 in	6.08 in
					0.0 in	0.0 in	0.0 in	-
<b>Wind</b>								
					48 mph	9 mph	0 mph	
					66 mph	22 mph	16 mph	
<b>Sea Level Pressure</b>								
					30.23 in	29.95 in	29.72 in	

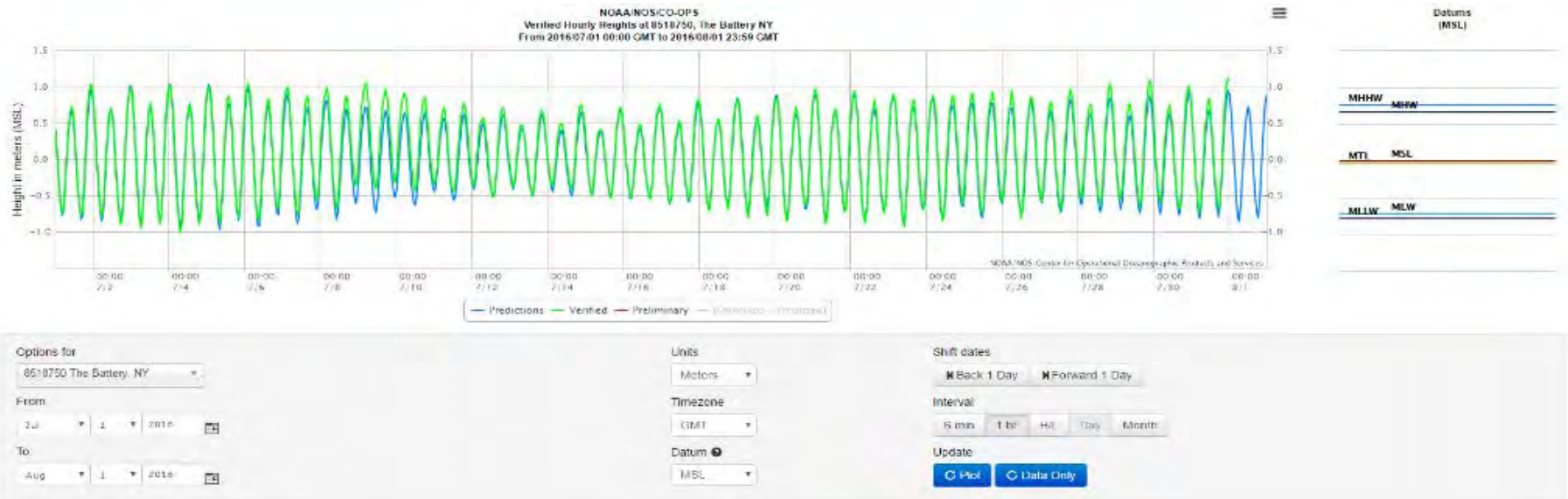
[https://www.wunderground.com/history/airport/KEWR/2016/7/1/CustomHistory.html?dayend=31&monthend=7&yearend=2016&req\\_city=&req\\_state=&req\\_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=](https://www.wunderground.com/history/airport/KEWR/2016/7/1/CustomHistory.html?dayend=31&monthend=7&yearend=2016&req_city=&req_state=&req_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=)

### Hourly Weather History & Observations

Time (EDT)	Temp.	Heat Index	Dew Point	Humidity	Pressure	Visibility	Wind Dir	Wind Speed	Gust Speed	Precip	Events	Conditions
1:51 PM	93.0 °F	96.4 °F	66.9 °F	42%	30.02 in	10.0 mi	SW	11.5 mph	23.0 mph	N/A		Mostly Cloudy
METAR KEWR 181751Z 22010G20KT 10SM SCT060 BKN250 34/19 A3002 RMK AO2 SLP165 T0330194 10344 20261 58020												
2:51 PM	93.9 °F	96.1 °F	64.9 °F	38%	29.99 in	10.0 mi	SW	16.1 mph	23.0 mph	N/A		Mostly Cloudy
METAR KEWR 181951Z 22014G20KT 10SM SCT060 BKN250 34/18 A2999 RMK AO2 SLP156 T0340183												
3:51 PM	91.9 °F	94.1 °F	64.9 °F	41%	29.99 in	10.0 mi	SW	16.1 mph	23.0 mph	N/A		Overcast
METAR KEWR 181951Z 22014G20KT 10SM SCT060 SCT210 OVC250 33/18 A2999 RMK AO2 PK WND 24026/192 SLP153 FRQ LTGIC DSNT N AND DSNT SW-DSNT W CB DSNT N AND DSNT SW-DSNT W MOV E T03330183												
4:18 PM	91.0 °F	92.6 °F	64.0 °F	41%	29.98 in	10.0 mi	WSW	17.3 mph	-	N/A	Thunderstorm	Thunderstorm
SPECI KEWR 182016Z 24015KT 10SM TS BKN090CB BKN210 OVC250 33/18 A2998 RMK AO2 TSB16 OCNL LTG CCG VC SW-VC W TS VC SW-VC W MOV E VCSH T03280178												
4:31 PM	91.0 °F	93.0 °F	64.9 °F	42%	29.99 in	8.0 mi	WSW	17.3 mph	-	0.00 in	Rain , Thunderstorm	Light Thunderstorms and Rain
SPECI KEWR 182031Z 24015KT 8SM -TSRA BKN060CB BKN090 OVC180 33/18 A2999 RMK AO2 RAB30 TSB16 FRQ LTGICCG OHD-VC SW TS OHD VC SW MOV E P0000 T03280183												
4:40 PM	86.0 °F	90.1 °F	69.1 °F	57%	30.02 in	1.0 mi	WSW	48.3 mph	65.6 mph	0.00 in	Rain , Thunderstorm	Heavy Thunderstorms and Rain
SPECI KEWR 182040Z 24042G57KT 1SM R04R/P0000FT +TSRA SQ BKN055CB BKN090 OVC150 30/21 A3002 RMK AO2 PK WND 24057/2039 RAB30 TSB16 PRESRR FRQ LTGICCG OHD TS OHD MOV E P0000 T03000206												
4:42 PM	82.0 °F	85.5 °F	69.1 °F	65%	30.02 in	0.5 mi	WSW	41.4 mph	65.6 mph	0.00 in	Rain , Thunderstorm	Heavy Thunderstorms and Rain
SPECI KEWR 182042Z 25038G57KT 1/2SM R04R/5000VP0000FT +TSRA SQ BKN055CB BKN090 OVC150 28/21 A3002 RMK AO2 PK WND 24057/2039 RAB30 TSB16 PRESRR FRQ LTGICCG OHD TS OHD MOV E P0000 T02780206												
4:51 PM	73.0 °F	-	69.1 °F	87%	30.05 in	1.0 mi	SW	28.8 mph	51.8 mph	0.13 in	Rain , Thunderstorm	Heavy Thunderstorms and Rain
METAR KEWR 182051Z 22025G45KT 1SM R04R/4500VP0000FT +TSRA FEW022 OVC055CB 23/21 A3005 RMK AO2 PK WND 24057/2039 RAB30 TSB16 SLP175 FRQ LTGICCG OHD TS OHD MOV E P0013 60013 T02280206 53010												
5:03 PM	73.0 °F	-	66.9 °F	81%	30.03 in	3.0 mi	SSW	19.6 mph	38.0 mph	0.06 in	Rain , Thunderstorm	Thunderstorms and Rain
SPECI KEWR 182103Z 21017G33KT 3SM R04R/5000VP0000FT TSRA FEW022 OVC055CB 23/19 A3003 RMK AO2 PK WND 21034/2053 OCNL LTGICCG VC E-VC SE TS VC E-VC SE MOV E P0006 T02280194 \$												
5:24 PM	75.9 °F	-	68.0 °F	76%	30.01 in	10.0 mi	SSW	5.8 mph	-	0.10 in	Rain	Light Rain
SPECI KEWR 182124Z 20005KT 10SM -RA FEW024 BKN065 BKN110 BKN150 24/20 A3001 RMK AO2 PK WND 21034/2053 TSE23 OCNL LTGICCG DSNT E-DSNT SE CB DSNT E-DSNT SE MOV E P0010 T02440200 \$												
5:51 PM	77.0 °F	-	70.0 °F	79%	30.00 in	10.0 mi	West	8.1 mph	-	0.10 in		Mostly Cloudy
METAR KEWR 182151Z 27007KT 10SM FEW024 SCT065 SCT110 BKN140 25/21 A3000 RMK AO2 PK WND 21034/2053 RAE45 TSE23 SLP159 VCSH P0010 T02500211 \$												
6:51 PM	78.1 °F	-	69.1 °F	74%	30.00 in	10.0 mi	WSW	9.2 mph	-	0.00 in	Rain	Light Rain
METAR KEWR 182251Z 25008KT 10SM -RA FEW030 SCT047 BKN110 BKN190 26/21 A3000 RMK AO2 RAB40 SLP157 P0000 T02560206 \$												
7:51 PM	78.1 °F	-	71.1 °F	79%	30.00 in	10.0 mi	SW	8.1 mph	-	0.00 in		Mostly Cloudy
METAR KEWR 182351Z 23007KT 10SM FEW055 SCT110 BKN150 BKN260 26/22 A3000 RMK AO2 RAE2258 SLP159 P0000 60023 T02560217 10350 20222 56016 \$												

Averaged wind speed over the 6-hour period = **19** mph

<https://www.wunderground.com/history/airport/KEWR/2016/7/18/DailyHistory.html>



<http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750&units=metric&bdate=20160701&edate=20160801&timezone=GMT&datum=MSL&interval=h&action=>

**SA-7 Sediment Remedy**

Long-Term Monitoring Program

Hydrologic Data Review

<u>Monitoring Period:</u> <b>August</b> <b>2016</b>	<i>Assessment Required?</i>
<u>Rainfall Event Data:</u> Max Rainfall (in): 0.2      Date: 8/17/2016 50-Year, 24-Hr event? NO	NO
<u>Storm Surge Event Data:</u> Max Increase Above Predicted Normal Tidal Cycling (m): 0.271      Date: 8/21/2016      Time: 20:00 Exceeds event trigger criteria? NO  Max Tide Gauge Reading (m): 1.176      Date: 8/2/2016      Time: 0:00 Exceeds event trigger criteria? NO  10-year storm surge event defined as a hurricane? NO	NO
<u>Wind Event Data:</u> Max Wind (mph): 36      Date: 8/17/2016 Exceeds trigger criteria? NO Wind direction over 6-hr period: W      OK	NO

**CRITERIA FROM LTMP:**

“Post-High Energy Event Monitoring Activities” will take place promptly following High Energy Events. The Consent Order defines “High Energy Events” as follows:

- i. “A 50-year rainfall event defined by the National Weather Service as a 24-hour period of rainfall exceeding the maximum 50-year/24-hour accumulation (i.e., 7.2 inches of rainfall over a 24-hour period), as recorded at Newark Airport;
  - See <http://www.wunderground.com/history/>
- ii. A 10-year storm surge event defined as a hurricane event (not a “nor’easter”) resulting in an increase in ocean level of either 0.64 meters above normal tidal cycling at the Battery Park tide gauge or 1.40 meters above mean sea level (MSL); or
  - Note: Hurricane events are defined by NOAA.
  - See <http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750>
- iii. A wind event achieving 34 to 40 knots (39.13 to 46.03 mph), coming from the south through the west, averaged over 6 hours, as recorded at Newark Airport.”
  - See <http://www.wunderground.com/history/>

CHECKED BY: TEA



## Weather History for KEWR - August, 2016

From:

August

1

2016

To:

August

31

2016

**Get History**

Daily

Weekly

Monthly

**Custom**

	Max	Avg	Min	Sum
<b>Temperature</b>				
Max Temperature	98 °F	89 °F	79 °F	
Mean Temperature	89 °F	80 °F	72 °F	
Min Temperature	80 °F	71 °F	59 °F	
<b>Degree Days</b>				
Heating Degree Days [base 65]	0	0	0	0
Cooling Degree Days [base 65]	24	15	7	472
Growing Degree Days [base 50]	38	30	22	929
<b>Dew Point</b>				
Dew Point	78 °F	65 °F	46 °F	
<b>Precipitation</b>				
Precipitation	0.20 in	0.03 in	0.00 in	0.93 in
Snowdepth	0.0 in	0.0 in	0.0 in	-
<b>Wind</b>				
Wind	36 mph	9 mph	0 mph	
Gust Wind	46 mph	21 mph	16 mph	
<b>Sea Level Pressure</b>				
Sea Level Pressure	30.32 in	30.04 in	29.69 in	

[https://www.wunderground.com/history/airport/KEWR/2016/8/1/CustomHistory.html?dayend=31&monthend=8&yearend=2016&req\\_city=&req\\_state=&req\\_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=](https://www.wunderground.com/history/airport/KEWR/2016/8/1/CustomHistory.html?dayend=31&monthend=8&yearend=2016&req_city=&req_state=&req_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=)



<http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750&units=metric&bdate=20160801&edate=20160901&timezone=GMT&datum=MSL&interval=h&action=>

**SA-7 Sediment Remedy**

Long-Term Monitoring Program  
Hydrologic Data Review

Monitoring Period: <b>September 2016</b>	Assessment Required?
<p><u>Rainfall Event Data:</u>            Max Rainfall (in): <b>1.03</b>      Date: <b>9/19/2016</b>            50-Year, 24-Hr event? <b>NO</b></p>	<b>NO</b>
<p><u>Storm Surge Event Data:</u>            Max Increase Above Predicted Normal Tidal Cycling (m): <b>0.686</b>      Date: <b>9/30/2016</b>      Time: <b>6:00</b>            Exceeds event trigger criteria? <b>YES</b></p> <p>Max Tide Gauge Reading (m): <b>1.305</b>      Date: <b>9/30/2016</b>      Time: <b>0:00</b>            Exceeds event trigger criteria? <b>NO</b></p> <p>10-year storm surge event defined as a hurricane? <b>NO</b></p>	<b>NO</b>
<p><u>Wind Event Data:</u>            Max Wind (mph): <b>36</b>      Date: <b>9/14/2016</b>            Exceeds trigger criteria? <b>NO</b>            Wind direction over 6-hr period: <b>NW</b>      OK</p>	<b>NO</b>

**CRITERIA FROM LTMP:**

“Post-High Energy Event Monitoring Activities” will take place promptly following High Energy Events. The Consent Order defines “High Energy Events” as follows:

- i. “A 50-year rainfall event defined by the National Weather Service as a 24-hour period of rainfall exceeding the maximum 50-year/24-hour accumulation (i.e., 7.2 inches of rainfall over a 24-hour period), as recorded at Newark Airport;
  - See <http://www.wunderground.com/history/>
- ii. A 10-year storm surge event defined as a hurricane event (not a “nor’easter”) resulting in an increase in ocean level of either 0.64 meters above normal tidal cycling at the Battery Park tide gauge or 1.40 meters above mean sea level (MSL); or
  - Note: Hurricane events are defined by NOAA.
  - See <http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750>
- iii. A wind event achieving 34 to 40 knots (39.13 to 46.03 mph), coming from the south through the west, averaged over 6 hours, as recorded at Newark Airport.”
  - See <http://www.wunderground.com/history/>

CHECKED BY:     TEA

## Weather History for KEWR - September, 2016

From:

September 1 2016

To:

September 30 2016

**Get History**

Daily	Weekly	Monthly	Custom				
				Max	Avg	Min	Sum
<b>Temperature</b>							
Max Temperature				94 °F	81 °F	60 °F	
Mean Temperature				86 °F	72 °F	58 °F	
Min Temperature				78 °F	63 °F	51 °F	
<b>Degree Days</b>							
Heating Degree Days (base 65)				7	1	0	16
Cooling Degree Days (base 65)				21	8	0	227
Growing Degree Days (base 50)				36	22	8	657
<b>Dew Point</b>							
Dew Point				75 °F	58 °F	31 °F	
<b>Precipitation</b>							
Precipitation				1.03 in	0.09 in	0.00 in	2.17 in
Snowdepth				0.0 in	0.0 in	0.0 in	-
<b>Wind</b>							
Wind				36 mph	9 mph	0 mph	
Gust Wind				50 mph	22 mph	16 mph	
<b>Sea Level Pressure</b>							
Sea Level Pressure				30.37 in	30.09 in	29.80 in	

[https://www.wunderground.com/history/airport/KEWR/2016/9/1/CustomHistory.html?dayend=30&monthend=9&yearend=2016&req\\_city=&req\\_state=&req\\_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=](https://www.wunderground.com/history/airport/KEWR/2016/9/1/CustomHistory.html?dayend=30&monthend=9&yearend=2016&req_city=&req_state=&req_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=)



<http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750&units=metric&bdate=20160901&edate=20161001&timezone=GMT&datum=MSL&interval=h&action=>

**ATTACHMENT B  
YEAR 4 HYDRAULIC AND HYDRODYNAMIC  
EVALUATION SUMMARIES**

## SA-7 Sediment Remedy

Long-Term Monitoring Program  
Hydrologic Data Review

<u>Monitoring Period:</u> Year 4 - October 2016 through September 2017	Assessment Required?
<u>Rainfall Event Data:</u> Max Rainfall (in): 3.05      Date: 5/5/2017 50-Year, 24-Hr event? NO	NO
<u>Storm Surge Event Data:</u> Max Increase Above Predicted Normal Tidal Cycling (m): 1.249      Date: 1/24/2017      Time: 0:00 Exceeds event trigger criteria? YES  Max Tide Gauge Reading (m): 1.498      Date: 3/14/2017      Time: 15:00 Exceeds event trigger criteria? YES  10-year storm surge event defined as a hurricane? NO - for both events	NO
<u>Wind Event Data:</u> Max Wind (mph): 44      Date: 6/19/2017 Exceeds trigger criteria? YES Wind direction over 6-hr period: WSW      OK      (See Note 1)  <u>Note:</u> (1) The averaged wind speed for the 6-hour period during which the maximum wind speed was recorded does not exceed the threshold criteria.	NO
<b><u>CRITERIA FROM LTMP:</u></b>  “Post-High Energy Event Monitoring Activities” will take place promptly following High Energy Events. The Consent Order defines “High Energy Events” as follows:  i. “A 50-year rainfall event defined by the National Weather Service as a 24-hour period of rainfall exceeding the maximum 50-year/24-hour accumulation (i.e., 7.2 inches of rainfall over a 24-hour period), as recorded at Newark Airport; • See <a href="http://www.wunderground.com/history/">http://www.wunderground.com/history/</a>  ii. A 10-year storm surge event defined as a hurricane event (not a “nor’easter”) resulting in an increase in ocean level of either 0.64 meters above normal tidal cycling at the Battery Park tide gauge or 1.40 meters above mean sea level (MSL); or • Note: Hurricane events are defined by NOAA. • See <a href="http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750">http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750</a>  iii. A wind event achieving 34 to 40 knots (39.13 to 46.03 mph), coming from the south through the west, averaged over 6 hours, as recorded at Newark Airport.” • See <a href="http://www.wunderground.com/history/">http://www.wunderground.com/history/</a>	

CHECKED BY: TEA

# Weather History for KEWR - October, 2016

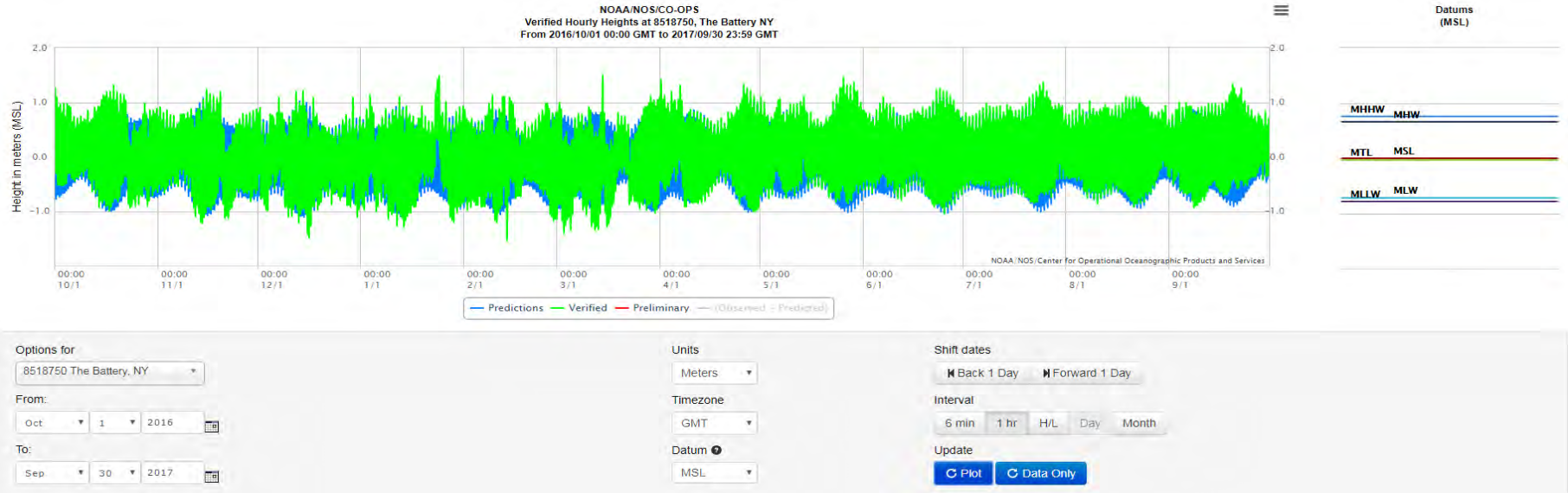
From:    To:

**Get History**

Daily	Weekly	Monthly	Custom					
					Max	Avg	Min	Sum
<b>Temperature</b>								
					99 °F	65 °F	23 °F	
					87 °F	57 °F	18 °F	
					78 °F	48 °F	12 °F	
<b>Degree Days</b>								
					47	12	0	4234
					22	3	0	1268
					38	11	0	3880
<b>Dew Point</b>								
					77 °F	43 °F	-14 °F	
<b>Precipitation</b>								
					3.05 in	0.17 in	0.00 in	51.16 i
					6.0 in	0.2 in	0.0 in	-
<b>Wind</b>								
					44 mph	10 mph	0 mph	
					63 mph	24 mph	16 mph	
<b>Sea Level Pressure</b>								
					30.77 in	30.02 in	29.16 in	

[https://www.wunderground.com/history/airport/KEWR/2016/10/1/CustomHistory.html?dayend=30&monthend=9&yearend=2017&req\\_city=&req\\_state=&req\\_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=](https://www.wunderground.com/history/airport/KEWR/2016/10/1/CustomHistory.html?dayend=30&monthend=9&yearend=2017&req_city=&req_state=&req_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=)





<https://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750&units=metric&bdate=20161001&edate=20170930&timezone=GMT&datum=MSL&interval=h&action=>

**SA-7 Sediment Remedy**

Long-Term Monitoring Program  
Hydrologic Data Review

***Monitoring Period:*     October     2016**

*Assessment  
Required?*

***Rainfall Event Data:***

Max Rainfall (in):   0.92     Date: 10/30/2016  
50-Year, 24-Hr event?   **NO**

**NO**

***Storm Surge Event Data:***

Max Increase Above Predicted Normal Tidal Cycling (m):   0.552     Date: 10/1/2016     Time: 6:00  
Exceeds event trigger criteria?   **NO**

Max Tide Gauge Reading (m):   1.31     Date: 10/18/2016     Time: 15:00  
Exceeds event trigger criteria?   **NO**

10-year storm surge event defined as a hurricane?   **NO**

**NO**

***Wind Event Data:***

Max Wind (mph):   38     Date: 10/30/2016  
Exceeds trigger criteria?   **NO**  
Wind direction over 6-hr period:   N     OK

**NO**

**CRITERIA FROM LTMP:**

“Post-High Energy Event Monitoring Activities” will take place promptly following High Energy Events. The Consent Order defines “High Energy Events” as follows:

- i. “A 50-year rainfall event defined by the National Weather Service as a 24-hour period of rainfall exceeding the maximum 50-year/24-hour accumulation (i.e., 7.2 inches of rainfall over a 24-hour period), as recorded at Newark Airport;
  - See <http://www.wunderground.com/history/>
- ii. A 10-year storm surge event defined as a hurricane event (not a “nor’easter”) resulting in an increase in ocean level of either 0.64 meters above normal tidal cycling at the Battery Park tide gauge or 1.40 meters above mean sea level (MSL); or
  - Note: Hurricane events are defined by NOAA.
  - See <http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750>
- iii. A wind event achieving 34 to 40 knots (39.13 to 46.03 mph), coming from the south through the west, averaged over 6 hours, as recorded at Newark Airport.”
  - See <http://www.wunderground.com/history/>

CHECKED BY:    TEA

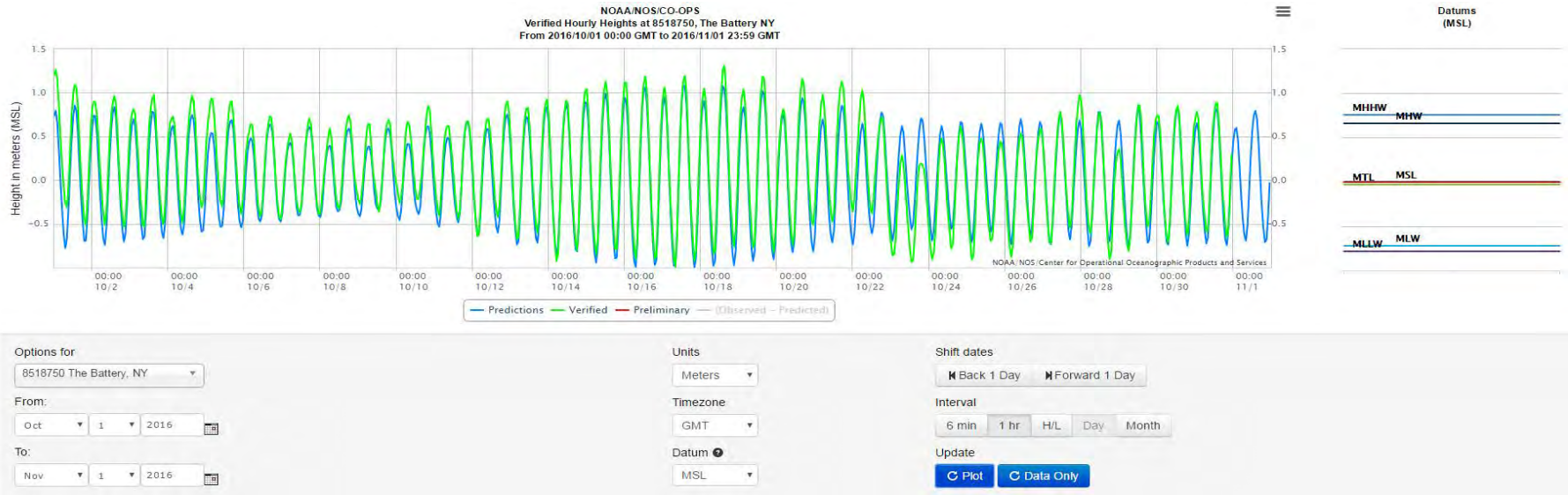
# Weather History for KEWR - October, 2016

From:    To:

**Get History**

Daily	Weekly	Monthly	Custom				
				Max	Avg	Min	Sum
<b>Temperature</b>							
Max Temperature				87 °F	67 °F	51 °F	
Mean Temperature				76 °F	59 °F	45 °F	
Min Temperature				64 °F	50 °F	37 °F	
<b>Degree Days</b>							
Heating Degree Days [base 65]				20	7	0	214
Cooling Degree Days [base 65]				11	1	0	32
Growing Degree Days [base 50]				26	9	0	283
<b>Dew Point</b>							
Dew Point				67 °F	47 °F	22 °F	
<b>Precipitation</b>							
Precipitation				0.92 in	0.12 in	0.00 in	3.00 in
Snowdepth				0.0 in	0.0 in	0.0 in	-
<b>Wind</b>							
Wind				38 mph	9 mph	0 mph	
Gust Wind				53 mph	23 mph	16 mph	
<b>Sea Level Pressure</b>							
Sea Level Pressure				30.48 in	30.11 in	29.41 in	

[https://www.wunderground.com/history/airport/KEWR/2016/10/1/CustomHistory.html?dayend=31&monthend=10&yearend=2016&req\\_city=&req\\_state=&req\\_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=](https://www.wunderground.com/history/airport/KEWR/2016/10/1/CustomHistory.html?dayend=31&monthend=10&yearend=2016&req_city=&req_state=&req_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=)



<https://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750&units=metric&bdate=20161001&edate=20161101&timezone=GMT&datum=MSL&interval=h&action=>

**SA-7 Sediment Remedy**

Long-Term Monitoring Program  
Hydrologic Data Review

<u>Monitoring Period:</u> <b>November 2016</b>	<i>Assessment Required?</i>
<u>Rainfall Event Data:</u> Max Rainfall (in): 2.79      Date: 11/15/2016 50-Year, 24-Hr event? NO	NO
<u>Storm Surge Event Data:</u> Max Increase Above Predicted Normal Tidal Cycling (m): 0.451      Date: 11/20/2016      Time: 1:00 Exceeds event trigger criteria? NO  Max Tide Gauge Reading (m): 1.229      Date: 11/15/2016      Time: 13:00 Exceeds event trigger criteria? NO  10-year storm surge event defined as a hurricane? NO	NO
<u>Wind Event Data:</u> Max Wind (mph): 37      Date: 11/20/2016 Exceeds trigger criteria? NO Wind direction over 6-hr period: W      OK	NO

**CRITERIA FROM LTMP:**

“Post-High Energy Event Monitoring Activities” will take place promptly following High Energy Events. The Consent Order defines “High Energy Events” as follows:

- i. “A 50-year rainfall event defined by the National Weather Service as a 24-hour period of rainfall exceeding the maximum 50-year/24-hour accumulation (i.e., 7.2 inches of rainfall over a 24-hour period), as recorded at Newark Airport;
  - See <http://www.wunderground.com/history/>
- ii. A 10-year storm surge event defined as a hurricane event (not a “nor’easter”) resulting in an increase in ocean level of either 0.64 meters above normal tidal cycling at the Battery Park tide gauge or 1.40 meters above mean sea level (MSL); or
  - Note: Hurricane events are defined by NOAA.
  - See <http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750>
- iii. A wind event achieving 34 to 40 knots (39.13 to 46.03 mph), coming from the south through the west, averaged over 6 hours, as recorded at Newark Airport.”
  - See <http://www.wunderground.com/history/>

CHECKED BY: TEA

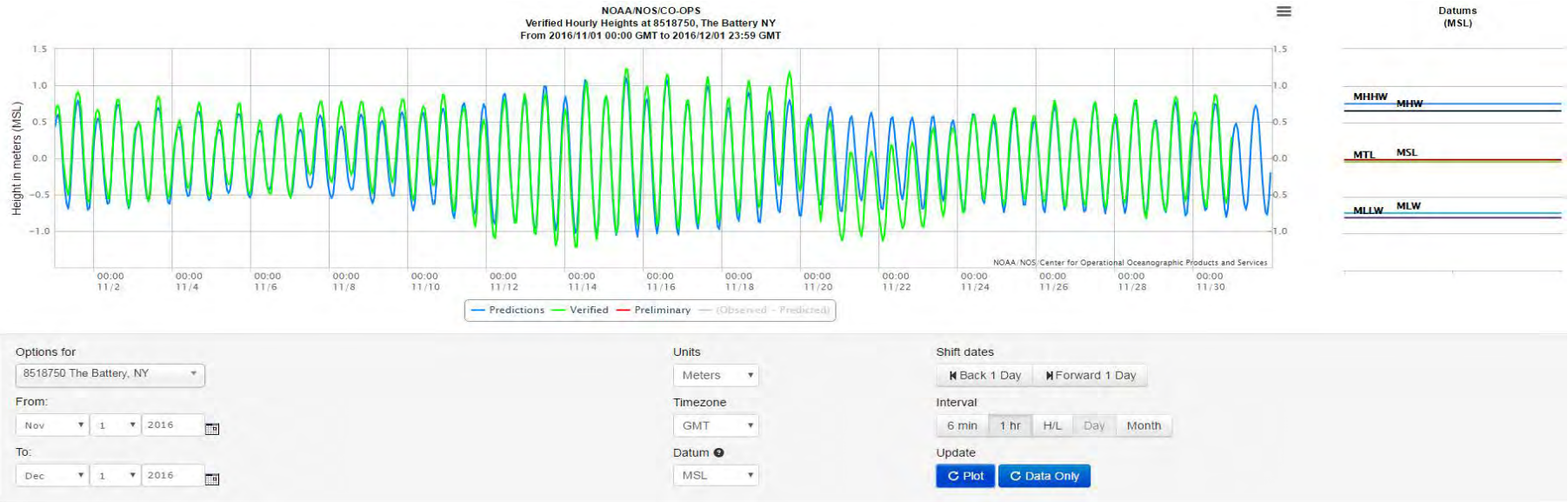
# Weather History for KEWR - November, 2016

From:    To:

**Get History**

<input type="radio"/> Daily	<input type="radio"/> Weekly	<input type="radio"/> Monthly	<input checked="" type="radio"/> Custom				
				Max	Avg	Min	Sum
<b>Temperature</b>							
Max Temperature				74 °F	58 °F	42 °F	
Mean Temperature				66 °F	50 °F	39 °F	
Min Temperature				57 °F	41 °F	32 °F	
<b>Degree Days</b>							
Heating Degree Days (base 65)				26	15	0	452
Cooling Degree Days (base 65)				1	0	0	1
Growing Degree Days (base 50)				15	3	0	56
<b>Dew Point</b>							
Dew Point				57 °F	36 °F	18 °F	
<b>Precipitation</b>							
Precipitation				2.79 in	0.25 in	0.00 in	6.51 in
Snowdepth				0.0 in	0.0 in	0.0 in	-
<b>Wind</b>							
Wind				37 mph	10 mph	0 mph	
Gust Wind				46 mph	24 mph	17 mph	
<b>Sea Level Pressure</b>							
Sea Level Pressure				30.49 in	30.07 in	29.66 in	

[https://www.wunderground.com/history/airport/KEWR/2016/11/1/CustomHistory.html?dayend=30&monthend=11&yearend=2016&req\\_city=&req\\_state=&req\\_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=](https://www.wunderground.com/history/airport/KEWR/2016/11/1/CustomHistory.html?dayend=30&monthend=11&yearend=2016&req_city=&req_state=&req_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=)



<https://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750&units=metric&bdate=20161101&edate=20161201&timezone=GMT&datum=MSL&interval=h&action=>

**SA-7 Sediment Remedy**

Long-Term Monitoring Program  
Hydrologic Data Review

Monitoring Period:       **December 2016**

Assessment  
Required?

Rainfall Event Data:

Max Rainfall (in):    0.71       Date: 12/17/2016  
50-Year, 24-Hr event?    NO

NO

Storm Surge Event Data:

Max Increase Above Predicted Normal Tidal Cycling (m):    0.639       Date: 12/7/2016       Time: 7:00  
Exceeds event trigger criteria?    NO  
  
Max Tide Gauge Reading (m):    1.216       Date: 12/14/2016       Time: 13:00  
Exceeds event trigger criteria?    NO  
  
10-year storm surge event defined as a hurricane?    NO

NO

Wind Event Data:

Max Wind (mph):    37       Date: 12/18/2016  
Exceeds trigger criteria?    NO  
Wind direction over 6-hr period:    NW       OK

NO

**CRITERIA FROM LTMP:**

“Post-High Energy Event Monitoring Activities” will take place promptly following High Energy Events. The Consent Order defines “High Energy Events” as follows:

- i. “A 50-year rainfall event defined by the National Weather Service as a 24-hour period of rainfall exceeding the maximum 50-year/24-hour accumulation (i.e., 7.2 inches of rainfall over a 24-hour period), as recorded at Newark Airport;
  - See <http://www.wunderground.com/history/>
- ii. A 10-year storm surge event defined as a hurricane event (not a “nor’easter”) resulting in an increase in ocean level of either 0.64 meters above normal tidal cycling at the Battery Park tide gauge or 1.40 meters above mean sea level (MSL); or
  - Note: Hurricane events are defined by NOAA.
  - See <http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750>
- iii. A wind event achieving 34 to 40 knots (39.13 to 46.03 mph), coming from the south through the west, averaged over 6 hours, as recorded at Newark Airport.”
  - See <http://www.wunderground.com/history/>

CHECKED BY:    TEA



# Weather History for KEWR - December, 2016

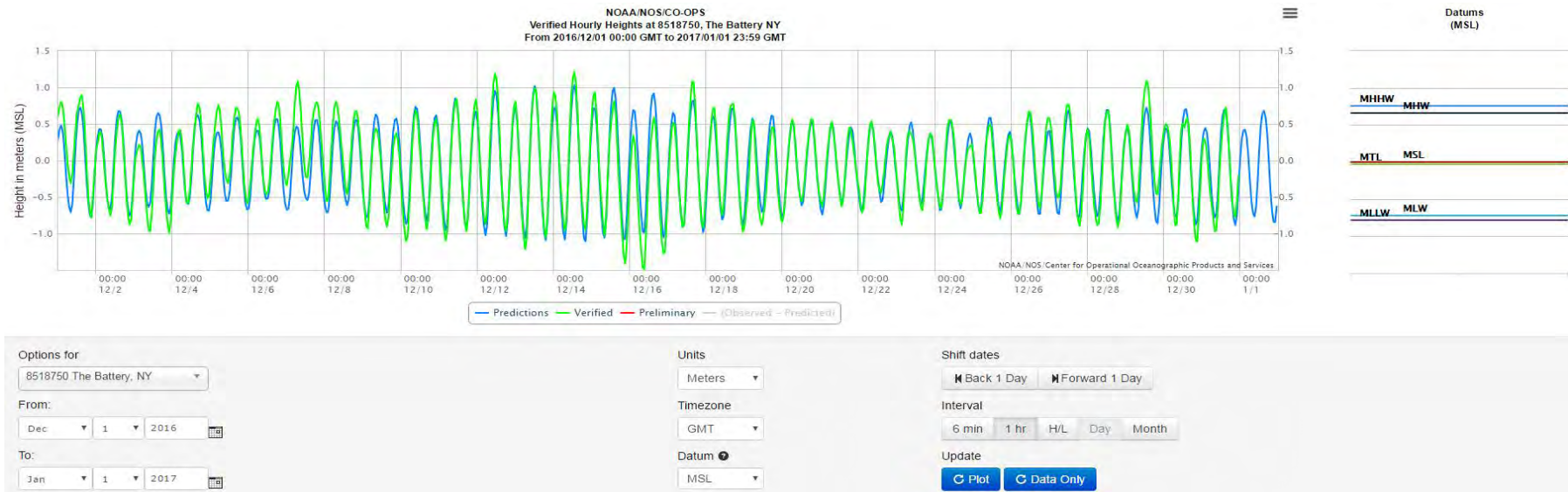
From: December 1 2016 To: December 31 2016

**Get History**

Daily Weekly Monthly **Custom**

	Max	Avg	Min	Sum
<b>Temperature</b>				
Max Temperature	62 °F	45 °F	28 °F	
Mean Temperature	51 °F	38 °F	22 °F	
Min Temperature	41 °F	31 °F	16 °F	
<b>Degree Days</b>				
Heating Degree Days (base 65)	43	27	14	840
Cooling Degree Days (base 65)	0	0	0	0
Growing Degree Days (base 50)	2	0	0	2
<b>Dew Point</b>				
Dew Point	55 °F	25 °F	-11 °F	
<b>Precipitation</b>				
Precipitation	0.71 in	0.12 in	0.00 in	2.91 in
Snowdepth	2.0 in	0.1 in	0.0 in	-
<b>Wind</b>				
Wind	37 mph	10 mph	0 mph	
Gust Wind	46 mph	25 mph	17 mph	
<b>Sea Level Pressure</b>				
Sea Level Pressure	30.75 in	30.11 in	29.46 in	

[https://www.wunderground.com/history/airport/KEWR/2016/12/1/CustomHistory.html?dayend=31&monthend=12&yearend=2016&req\\_city=&req\\_state=&req\\_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=](https://www.wunderground.com/history/airport/KEWR/2016/12/1/CustomHistory.html?dayend=31&monthend=12&yearend=2016&req_city=&req_state=&req_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=)



<https://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750&units=metric&bdate=20161201&edate=20170101&timezone=GMT&datum=MSL&interval=h&action=>

**SA-7 Sediment Remedy**

Long-Term Monitoring Program  
Hydrologic Data Review

<u>Monitoring Period:</u> <b>January      2017</b>	<i>Assessment Required?</i>
<p><u>Rainfall Event Data:</u> Max Rainfall (in): 1.24      Date: 1/23/2017 50-Year, 24-Hr event? NO</p>	NO
<p><u>Storm Surge Event Data:</u> Max Increase Above Predicted Normal Tidal Cycling (m): 1.249      Date: 1/24/2017      Time: 0:00 Exceeds event trigger criteria? YES  Max Tide Gauge Reading (m): 1.489      Date: 1/24/2017      Time: 11:00 Exceeds event trigger criteria? YES  10-year storm surge event defined as a hurricane? NO</p>	NO
<p><u>Wind Event Data:</u> Max Wind (mph): 36      Date: 1/26/2017 Exceeds trigger criteria? NO Wind direction over 6-hr period: W      OK</p>	NO

**CRITERIA FROM LTMP:**

“Post-High Energy Event Monitoring Activities” will take place promptly following High Energy Events. The Consent Order defines “High Energy Events” as follows:

- i. “A 50-year rainfall event defined by the National Weather Service as a 24-hour period of rainfall exceeding the maximum 50-year/24-hour accumulation (i.e., 7.2 inches of rainfall over a 24-hour period), as recorded at Newark Airport;
  - See <http://www.wunderground.com/history/>
- ii. A 10-year storm surge event defined as a hurricane event (not a “nor’easter”) resulting in an increase in ocean level of either 0.64 meters above normal tidal cycling at the Battery Park tide gauge or 1.40 meters above mean sea level (MSL); or
  - Note: Hurricane events are defined by NOAA.
  - See <http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750>
- iii. A wind event achieving 34 to 40 knots (39.13 to 46.03 mph), coming from the south through the west, averaged over 6 hours, as recorded at Newark Airport.”
  - See <http://www.wunderground.com/history/>

CHECKED BY: TEA

## Weather History for KEWR - January, 2017

From:

January 1 2017

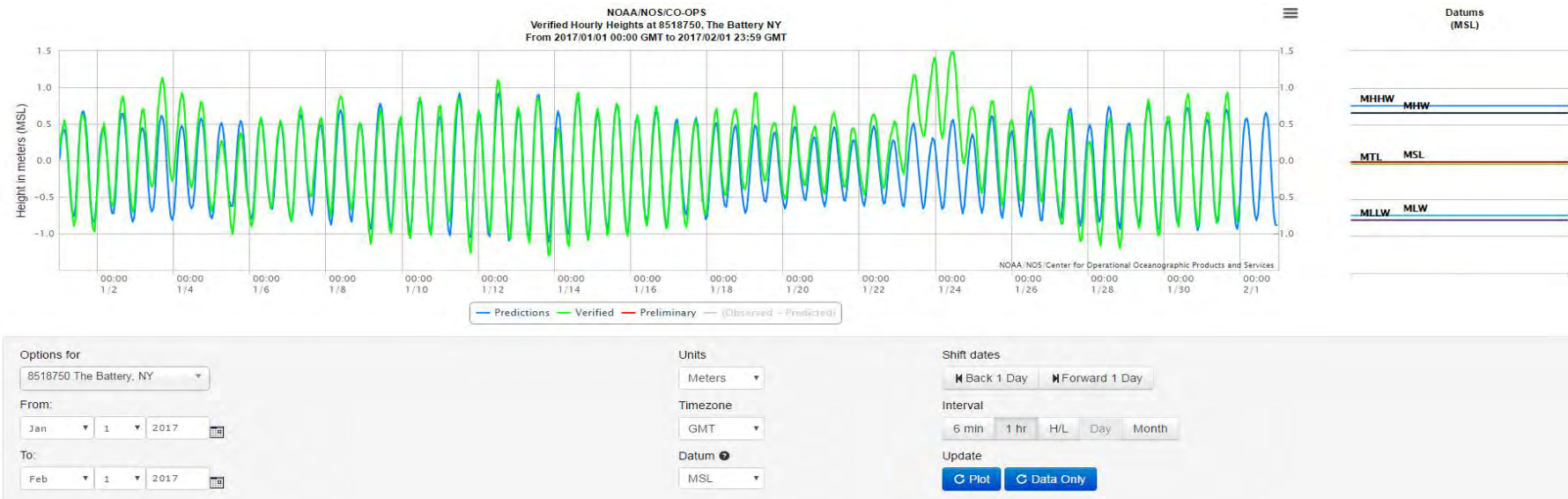
To:

January 31 2017

**Get History**

Daily	Weekly	Monthly	Custom				
				Max	Avg	Min	Sum
<b>Temperature</b>							
Max Temperature				67 °F	44 °F	23 °F	
Mean Temperature				57 °F	38 °F	18 °F	
Min Temperature				46 °F	32 °F	12 °F	
<b>Degree Days</b>							
Heating Degree Days [base 65]				47	27	8	833
Cooling Degree Days [base 65]				0	0	0	0
Growing Degree Days [base 50]				6	0	0	6
<b>Dew Point</b>							
Dew Point				53 °F	27 °F	-1 °F	
<b>Precipitation</b>							
Precipitation				1.24 in	0.18 in	0.00 in	4.29 in
Snowdepth				5.0 in	0.5 in	0.0 in	-
<b>Wind</b>							
Wind				36 mph	11 mph	0 mph	
Gust Wind				52 mph	25 mph	16 mph	
<b>Sea Level Pressure</b>							
Sea Level Pressure				30.77 in	30.01 in	29.33 in	

[https://www.wunderground.com/history/airport/KEWR/2017/1/1/CustomHistory.html?dayend=31&monthend=1&yearend=2017&req\\_city=&req\\_state=&req\\_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=](https://www.wunderground.com/history/airport/KEWR/2017/1/1/CustomHistory.html?dayend=31&monthend=1&yearend=2017&req_city=&req_state=&req_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=)



<https://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750&units=metric&bdate=20170101&edate=20170201&timezone=GMT&datum=MSL&interval=h&action=>

**SA-7 Sediment Remedy**Long-Term Monitoring Program  
Hydrologic Data Review

<b>Monitoring Period:</b> <b>February    2017</b>	<b>Assessment Required?</b>
<u>Rainfall Event Data:</u> Max Rainfall (in):      0.81      Date:    2/9/2017 50-Year, 24-Hr event?      NO	NO
<u>Storm Surge Event Data:</u> Max Increase Above Predicted Normal Tidal Cycling (m):      0.553      Date:    2/12/2017      Time:    22:00 Exceeds event trigger criteria?      NO  Max Tide Gauge Reading (m):      1.124      Date:      2/9/2017      Time:      12:00 Exceeds event trigger criteria?      NO  10-year storm surge event defined as a hurricane?      NO	NO
<u>Wind Event Data:</u> Max Wind (mph):      37      Date:    2/13/2017 Exceeds trigger criteria?      NO Wind direction over 6-hr period:      NW      OK	NO

**CRITERIA FROM LTMP:**

“Post-High Energy Event Monitoring Activities” will take place promptly following High Energy Events. The Consent Order defines “High Energy Events” as follows:

- i. “A 50-year rainfall event defined by the National Weather Service as a 24-hour period of rainfall exceeding the maximum 50-year/24-hour accumulation (i.e., 7.2 inches of rainfall over a 24-hour period), as recorded at Newark Airport;
  - See <http://www.wunderground.com/history/>
- ii. A 10-year storm surge event defined as a hurricane event (not a “nor’easter”) resulting in an increase in ocean level of either 0.64 meters above normal tidal cycling at the Battery Park tide gauge or 1.40 meters above mean sea level (MSL); or
  - Note: Hurricane events are defined by NOAA.
  - See <http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750>
- iii. A wind event achieving 34 to 40 knots (39.13 to 46.03 mph), coming from the south through the west, averaged over 6 hours, as recorded at Newark Airport.”
  - See <http://www.wunderground.com/history/>

CHECKED BY:      TEA

# Weather History for KEWR - February, 2017

From:

February 1 2017

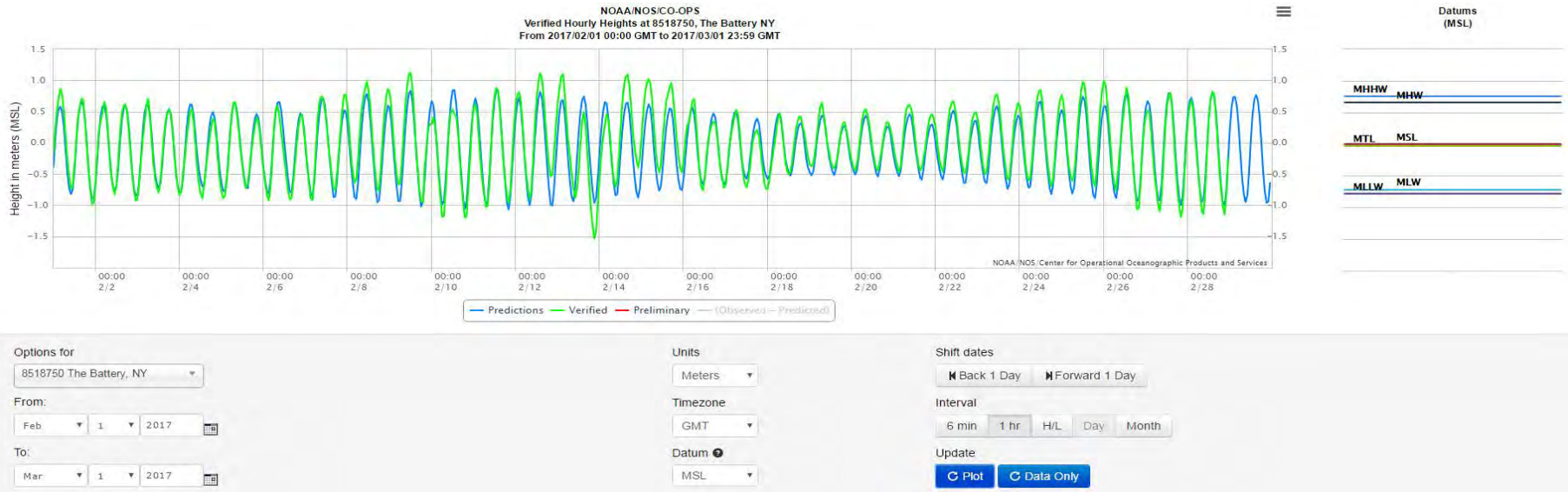
To:

February 28 2017

**Get History**

Daily	Weekly	Monthly	Custom				
				Max	Avg	Min	Sum
<b>Temperature</b>							
Max Temperature				74 °F	50 °F	32 °F	
Mean Temperature				64 °F	42 °F	25 °F	
Min Temperature				53 °F	33 °F	18 °F	
<b>Degree Days</b>							
Heating Degree Days (base 65)				40	23	1	653
Cooling Degree Days (base 65)				0	0	0	0
Growing Degree Days (base 50)				13	1	0	34
<b>Dew Point</b>							
Dew Point				57 °F	27 °F	0 °F	
<b>Precipitation</b>							
Precipitation				0.81 in	0.10 in	0.00 in	2.09 in
Snowdepth				6.0 in	0.8 in	0.0 in	-
<b>Wind</b>							
Wind				37 mph	10 mph	0 mph	
Gust Wind				49 mph	24 mph	16 mph	
<b>Sea Level Pressure</b>							
Sea Level Pressure				30.43 in	29.95 in	29.31 in	

[https://www.wunderground.com/history/airport/KEWR/2017/2/1/CustomHistory.html?dayend=28&monthend=2&yearend=2017&req\\_city=&req\\_state=&req\\_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=](https://www.wunderground.com/history/airport/KEWR/2017/2/1/CustomHistory.html?dayend=28&monthend=2&yearend=2017&req_city=&req_state=&req_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=)



<https://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750&units=metric&bdate=20170201&edate=20170301&timezone=GMT&datum=MSL&interval=h&action=>



**SA-7 Sediment Remedy**

Long-Term Monitoring Program

Hydrologic Data Review

<u>Monitoring Period:</u> <b>March</b> <b>2017</b>	<i>Assessment Required?</i>
<u>Rainfall Event Data:</u> Max Rainfall (in): 2.06      Date: 3/31/2017 50-Year, 24-Hr event? <b>NO</b>	<b>NO</b>
<u>Storm Surge Event Data:</u> Max Increase Above Predicted Normal Tidal Cycling (m): 0.953      Date: 3/14/2017      Time: 16:00 Exceeds event trigger criteria? <b>YES</b>  Max Tide Gauge Reading (m): 1.498      Date: 3/14/2017      Time: 15:00 Exceeds event trigger criteria? <b>YES</b>  10-year storm surge event defined as a hurricane? <b>NO</b>	<b>NO</b>
<u>Wind Event Data:</u> Max Wind (mph): 43      Date: 3/2/2017 Exceeds trigger criteria? <b>YES</b> Wind direction over 6-hr period: W      OK      (See Note 1)  <u>Note:</u> (1) The averaged wind speed for the 6-hour period during which the maximum wind speed was recorded does not exceed the threshold criteria.	<b>NO</b>
<p><b><u>CRITERIA FROM LTMP:</u></b></p> <p>“Post-High Energy Event Monitoring Activities” will take place promptly following High Energy Events. The Consent Order defines “High Energy Events” as follows:</p> <p>i. “A 50-year rainfall event defined by the National Weather Service as a 24-hour period of rainfall exceeding the maximum 50-year/24-hour accumulation (i.e., 7.2 inches of rainfall over a 24-hour period), as recorded at Newark Airport;</p> <ul style="list-style-type: none"> <li>• See <a href="http://www.wunderground.com/history/">http://www.wunderground.com/history/</a></li> </ul> <p>ii. A 10-year storm surge event defined as a hurricane event (not a “nor’easter”) resulting in an increase in ocean level of either 0.64 meters above normal tidal cycling at the Battery Park tide gauge or 1.40 meters above mean sea level (MSL); or</p> <ul style="list-style-type: none"> <li>• Note: Hurricane events are defined by NOAA.</li> <li>• See <a href="http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750">http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750</a></li> </ul> <p>iii. A wind event achieving 34 to 40 knots (39.13 to 46.03 mph), coming from the south through the west, averaged over 6 hours, as recorded at Newark Airport.”</p> <ul style="list-style-type: none"> <li>• See <a href="http://www.wunderground.com/history/">http://www.wunderground.com/history/</a></li> </ul> <p style="text-align: right;">CHECKED BY: <u>TEA</u></p>	

# Weather History for KEWR - March, 2017

From:

To:

**Get History**

	Max	Avg	Min	Sum
<b>Temperature</b>				
Max Temperature	73 °F	48 °F	27 °F	
Mean Temperature	63 °F	40 °F	24 °F	
Min Temperature	52 °F	31 °F	14 °F	
<b>Degree Days</b>				
Heating Degree Days (base 65)	41	25	2	773
Cooling Degree Days (base 65)	0	0	0	0
Growing Degree Days (base 50)	12	1	0	30
<b>Dew Point</b>				
Dew Point	61 °F	21 °F	-14 °F	
<b>Precipitation</b>				
Precipitation	2.06 in	0.21 in	0.00 in	5.09 in
Snowdepth	5.0 in	0.9 in	0.0 in	-
<b>Wind</b>				
Wind	43 mph	13 mph	0 mph	
Gust Wind	57 mph	26 mph	17 mph	
<b>Sea Level Pressure</b>				
Sea Level Pressure	30.69 in	30.13 in	29.16 in	

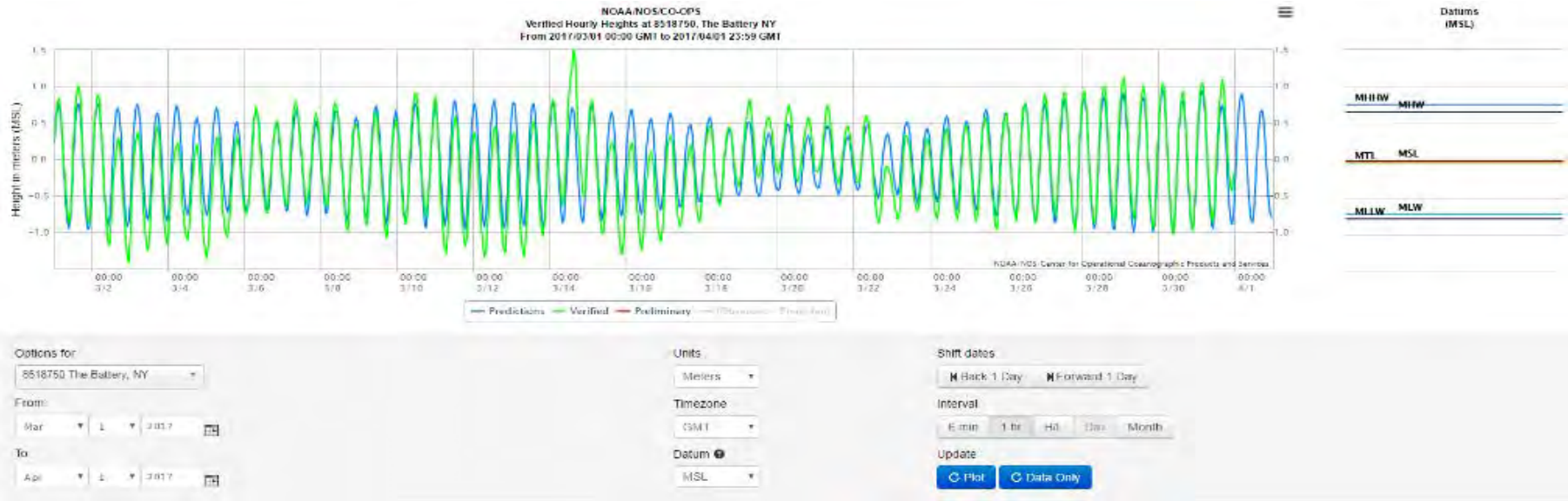
[https://www.wunderground.com/history/airport/KEWR/2017/3/1/CustomHistory.html?dayend=31&monthend=3&yearend=2017&req\\_city=&req\\_state=&req\\_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=](https://www.wunderground.com/history/airport/KEWR/2017/3/1/CustomHistory.html?dayend=31&monthend=3&yearend=2017&req_city=&req_state=&req_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=)

### Hourly Weather History & Observations

Time (EST)	Temp.	Windchill	Dew Point	Humidity	Pressure	Visibility	Wind Dir	Wind Speed	Gust Speed	Precip	Events	Conditions
4:51 AM	52.0 °F	-	27.0 °F	38%	29.52 in	10.0 mi	West	28.8 mph	38.0 mph	N/A		Scattered Clouds
	METAR KEWR 020951Z 27025G33KT 10SM FEW065 SCT110 11/M03 A2951 RMK AO2 PK WND 27044/0909 SLP004 T01111028											
5:51 AM	50.0 °F	-	23.0 °F	35%	29.53 in	10.0 mi	West	17.3 mph	34.5 mph	N/A		Partly Cloudy
	METAR KEWR 021051Z 28015G30KT 10SM FEW065 FEW110 10/M05 A2953 RMK AO2 PK WND 28045/1005 SLP000 T01001050											
6:51 AM	48.0 °F	-	28.0 °F	46%	29.57 in	10.0 mi	West	33.4 mph	43.7 mph	N/A		Partly Cloudy
	METAR KEWR 021151Z 28029G38KT 10SM FEW070 FEW150 09/M02 A2957 RMK AO2 PK WND 27048/1129 SLP013 60000 70018 T00891022 10183 20089 53028											
7:51 AM	46.0 °F	35.8 °F	23.0 °F	40%	29.63 in	10.0 mi	West	36.8 mph	56.4 mph	N/A		Partly Cloudy
	METAR KEWR 021251Z 27032G49KT 10SM FEW070 FEW250 08/M05 A2963 RMK AO2 PK WND 27049/1248 SLP033 T00781090											
8:41 AM	46.0 °F	36.9 °F	19.9 °F	35%	29.66 in	10.0 mi	West	28.8 mph	42.6 mph	N/A		Partly Cloudy
	SPECI KEWR 021341Z 27025G37KT 10SM FEW070 FEW250 08/M07 A2966 RMK AO2 PK WND 28047/1257 T00781067											
8:51 AM	46.0 °F	36.4 °F	19.9 °F	35%	29.67 in	10.0 mi	West	32.2 mph	47.2 mph	N/A		Partly Cloudy
	METAR KEWR 021351Z 27028G41KT 10SM FEW070 FEW250 08/M07 A2967 RMK AO2 PK WND 28047/1257 SLP045 T00781067											
9:51 AM	46.0 °F	36.1 °F	19.0 °F	34%	29.71 in	10.0 mi	West	34.5 mph	46.0 mph	N/A		Partly Cloudy
	METAR KEWR 021451Z 27030G40KT 10SM FEW050 08/M07 A2971 RMK AO2 PK WND 27043/1431 SLP059 T00781072 51048											
10:51 AM	48.0 °F	-	18.0 °F	30%	29.74 in	10.0 mi	West	24.2 mph	39.1 mph	N/A		Partly Cloudy
	METAR KEWR 021551Z 27021G34KT 10SM FEW055 09/M08 A2974 RMK AO2 PK WND 27041/1502 SLP071 T00891078											

Averaged wind speed over the 6-hour period = 31 mph

<https://www.wunderground.com/history/airport/KEWR/2017/3/2/DailyHistory.html>



<https://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750&units=metric&bdate=20170301&edate=20170401&timezone=GMT&datum=MSL&interval=h&action=>

**SA-7 Sediment Remedy**

Long-Term Monitoring Program

Hydrologic Data Review

<u>Monitoring Period:</u> <b>April</b> <b>2017</b>	<i>Assessment Required?</i>
<u>Rainfall Event Data:</u> Max Rainfall (in):      1.22      Date:      4/4/2017 50-Year, 24-Hr event?      NO	NO
<u>Storm Surge Event Data:</u> Max Increase Above Predicted Normal Tidal Cycling (m):      0.747      Date:      4/6/2017      Time:      15:00 Exceeds event trigger criteria?      YES  Max Tide Gauge Reading (m):      1.414      Date:      4/1/2017      Time:      4:00 Exceeds event trigger criteria?      YES  10-year storm surge event defined as a hurricane?      NO	NO
<u>Wind Event Data:</u> Max Wind (mph):      40      Date:      4/16/2017 Exceeds trigger criteria?      YES Wind direction over 6-hr period:      W      OK      (See Note 1)  <u>Note:</u> (1) The averaged wind speed for the 6-hour period during which the maximum wind speed was recorded does not exceed the threshold criteria.	NO
<p><b><u>CRITERIA FROM LTMP:</u></b></p> <p>“Post-High Energy Event Monitoring Activities” will take place promptly following High Energy Events. The Consent Order defines “High Energy Events” as follows:</p> <p>i. “A 50-year rainfall event defined by the National Weather Service as a 24-hour period of rainfall exceeding the maximum 50-year/24-hour accumulation (i.e., 7.2 inches of rainfall over a 24-hour period), as recorded at Newark Airport;</p> <ul style="list-style-type: none"> <li>• See <a href="http://www.wunderground.com/history/">http://www.wunderground.com/history/</a></li> </ul> <p>ii. A 10-year storm surge event defined as a hurricane event (not a “nor’easter”) resulting in an increase in ocean level of either 0.64 meters above normal tidal cycling at the Battery Park tide gauge or 1.40 meters above mean sea level (MSL); or</p> <ul style="list-style-type: none"> <li>• Note: Hurricane events are defined by NOAA.</li> <li>• See <a href="http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750">http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750</a></li> </ul> <p>iii. A wind event achieving 34 to 40 knots (39.13 to 46.03 mph), coming from the south through the west, averaged over 6 hours, as recorded at Newark Airport.”</p> <ul style="list-style-type: none"> <li>• See <a href="http://www.wunderground.com/history/">http://www.wunderground.com/history/</a></li> </ul> <p style="text-align: right;">CHECKED BY:      <u>TEA</u></p>	

## Weather History for KEWR - April, 2017

From:

April 1 2017

To:

April 30 2017

**Get History**

Daily Weekly Monthly **Custom**

	Max	Avg	Min	Sum
<b>Temperature</b>				
Max Temperature	87 °F	66 °F	50 °F	
Mean Temperature	76 °F	57 °F	43 °F	
Min Temperature	65 °F	49 °F	36 °F	
<b>Degree Days</b>				
Heating Degree Days (base 65)	22	9	0	265
Cooling Degree Days (base 65)	11	1	0	36
Growing Degree Days (base 50)	25	8	0	226
<b>Dew Point</b>				
Dew Point	66 °F	42 °F	16 °F	
<b>Precipitation</b>				
Precipitation	1.22 in	0.16 in	0.00 in	3.44 in
Snowdepth	0.0 in	0.0 in	0.0 in	-
<b>Wind</b>				
Wind	40 mph	10 mph	0 mph	
Gust Wind	51 mph	24 mph	16 mph	
<b>Sea Level Pressure</b>				
Sea Level Pressure	30.53 in	30.01 in	29.20 in	

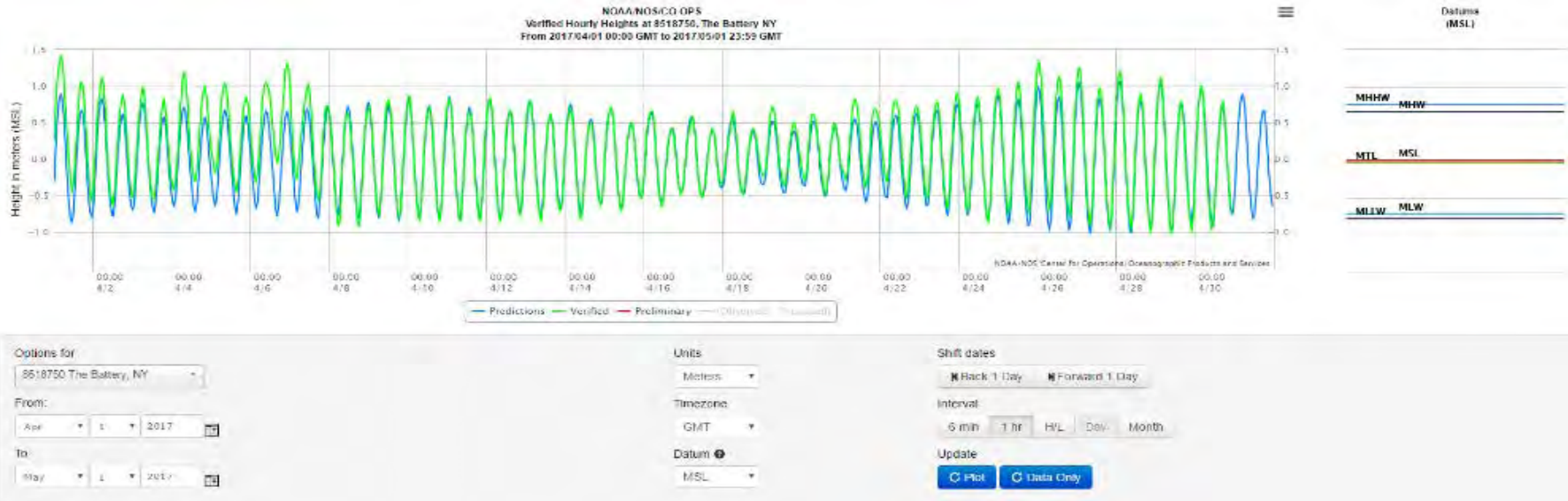
[https://www.wunderground.com/history/airport/KEWR/2017/4/1/CustomHistory.html?dayend=30&monthend=4&yearend=2017&req\\_city=&req\\_state=&req\\_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=](https://www.wunderground.com/history/airport/KEWR/2017/4/1/CustomHistory.html?dayend=30&monthend=4&yearend=2017&req_city=&req_state=&req_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=)

### Hourly Weather History & Observations

Time (EDT)	Temp.	Heat Index	Dew Point	Humidity	Pressure	Visibility	Wind Dir	Wind Speed	Gust Speed	Precip	Events	Conditions
3:51 PM	84.0 °F	-	51.1 °F	32%	29.81 in	10.0 mi	WSW	24.2 mph	32.2 mph	0.00 in		Mostly Cloudy
	METAR KEWR 161951Z 24021G28KT 10SM FEW050 BKN080 BKN120 BKN250 29/11 A2981 RMK AO2 PK WND 24029/1935 RAB10E18 SLP093 VCSH NE P0000 T02890106 \$											
4:51 PM	77.0 °F	-	62.1 °F	60%	29.80 in	10.0 mi	WNW	11.5 mph	-	0.05 in		Mostly Cloudy
	METAR KEWR 162051Z 29010KT 10SM FEW040 SCT080 BKN120 25/17 A2980 RMK AO2 PK WND 26044/2027 RAB21E37 SLP090 VCSH E P0005 60005 T02500167 56018 \$											
5:51 PM	82.0 °F	81.7 °F	57.0 °F	42%	29.79 in	10.0 mi	WSW	15.0 mph	-	N/A		Scattered Clouds
	METAR KEWR 162151Z 25013KT 10SM FEW080 FEW120 SCT250 28/14 A2979 RMK AO2 SLP086 T02780139 \$											
6:51 PM	82.9 °F	-	51.1 °F	33%	29.76 in	10.0 mi	WSW	29.9 mph	43.7 mph	N/A		Scattered Clouds
	METAR KEWR 162251Z 24026G38KT 10SM FEW070 FEW130 SCT250 28/11 A2978 RMK AO2 PK WND 23038/2243 SLP078 T02830106 \$											
7:51 PM	82.0 °F	-	50.0 °F	33%	29.78 in	10.0 mi	WSW	20.7 mph	27.6 mph	N/A		Scattered Clouds
	METAR KEWR 162351Z 24018G24KT 10SM SCT100 SCT250 28/10 A2978 RMK AO2 PK WND 24033/2254 SLP084 60005 T02780100 10308 20233 55006 \$											
8:51 PM	81.0 °F	-	50.0 °F	34%	29.81 in	10.0 mi	WSW	18.4 mph	31.1 mph	N/A		Mostly Cloudy
	METAR KEWR 170051Z 24016G27KT 10SM FEW050 SCT080 BKN120 BKN250 27/10 A2981 RMK AO2 PK WND 24029/0029 SLP094 T02720100 \$											
9:17 PM	73.9 °F	-	57.9 °F	57%	29.87 in	10.0 mi	NW	27.6 mph	44.9 mph	N/A		Mostly Cloudy
	SPECI KEWR 170117Z 31024G39KT 10SM FEW050 SCT080 BKN120 BKN250 23/14 A2987 RMK AO2 PK WND 32039/0110 WSHFT 0057 T02330144 \$											
9:51 PM	72.0 °F	-	55.9 °F	57%	29.86 in	10.0 mi	NW	20.7 mph	27.6 mph	N/A		Mostly Cloudy
	METAR KEWR 170151Z 31018G24KT 10SM SCT070 BKN090 BKN120 BKN250 22/13 A2988 RMK AO2 PK WND 32039/0110 WSHFT 0057 SLP112 T02220133 \$											

Averaged wind speed over the 6-hour period = 23 mph

<https://www.wunderground.com/history/airport/KEWR/2017/4/16/DailyHistory.html>



<https://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750&units=metric&bdate=20170401&edate=20170501&timezone=GMT&datum=MSL&interval=h&action=>



**SA-7 Sediment Remedy**

Long-Term Monitoring Program

Hydrologic Data Review

<b>Monitoring Period:</b> <b>May</b> <b>2017</b>	<b>Assessment Required?</b>
<u>Rainfall Event Data:</u> Max Rainfall (in): 3.05      Date: 5/5/2017 50-Year, 24-Hr event? NO	NO
<u>Storm Surge Event Data:</u> Max Increase Above Predicted Normal Tidal Cycling (m): 0.599      Date: 5/5/2017      Time: 17:00 Exceeds event trigger criteria? NO  Max Tide Gauge Reading (m): 1.457      Date: 5/26/2017      Time: 1:00 Exceeds event trigger criteria? YES  10-year storm surge event defined as a hurricane? NO	NO
<u>Wind Event Data:</u> Max Wind (mph): 43      Date: 5/2/2017 Exceeds trigger criteria? YES Wind direction over 6-hr period: WSW      OK      (See Note 1)  <u>Note:</u> (1) The averaged wind speed for the 6-hour period during which the maximum wind speed was recorded does not exceed the threshold criteria.	NO
<p><b><u>CRITERIA FROM LTMP:</u></b></p> <p>“Post-High Energy Event Monitoring Activities” will take place promptly following High Energy Events. The Consent Order defines “High Energy Events” as follows:</p> <p>i. “A 50-year rainfall event defined by the National Weather Service as a 24-hour period of rainfall exceeding the maximum 50-year/24-hour accumulation (i.e., 7.2 inches of rainfall over a 24-hour period), as recorded at Newark Airport;</p> <ul style="list-style-type: none"> <li>• See <a href="http://www.wunderground.com/history/">http://www.wunderground.com/history/</a></li> </ul> <p>ii. A 10-year storm surge event defined as a hurricane event (not a “nor’easter”) resulting in an increase in ocean level of either 0.64 meters above normal tidal cycling at the Battery Park tide gauge or 1.40 meters above mean sea level (MSL); or</p> <ul style="list-style-type: none"> <li>• Note: Hurricane events are defined by NOAA.</li> <li>• See <a href="http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750">http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750</a></li> </ul> <p>iii. A wind event achieving 34 to 40 knots (39.13 to 46.03 mph), coming from the south through the west, averaged over 6 hours, as recorded at Newark Airport.”</p> <ul style="list-style-type: none"> <li>• See <a href="http://www.wunderground.com/history/">http://www.wunderground.com/history/</a></li> </ul> <p style="text-align: right;">CHECKED BY: <u>TEA</u></p>	

## Weather History for KEWR - May, 2017

From:    To:

**Get History**

<input type="radio"/> Daily <input type="radio"/> Weekly <input type="radio"/> Monthly <input checked="" type="radio"/> Custom	Max	Avg	Min	Sum
<b>Temperature</b>				
Max Temperature	94 °F	69 °F	53 °F	
Mean Temperature	84 °F	61 °F	48 °F	
Min Temperature	74 °F	53 °F	43 °F	
<b>Degree Days</b>				
Heating Degree Days (base 65)	17	5	0	169
Cooling Degree Days (base 65)	19	2	0	59
Growing Degree Days (base 50)	34	11	0	346
<b>Dew Point</b>				
Dew Point	67 °F	48 °F	26 °F	
<b>Precipitation</b>				
Precipitation	3.05 in	0.28 in	0.00 in	7.24 in
Snowdepth	0.0 in	0.0 in	0.0 in	-
<b>Wind</b>				
Wind	43 mph	10 mph	0 mph	
Gust Wind	54 mph	22 mph	16 mph	
<b>Sea Level Pressure</b>				
Sea Level Pressure	30.39 in	29.89 in	29.36 in	

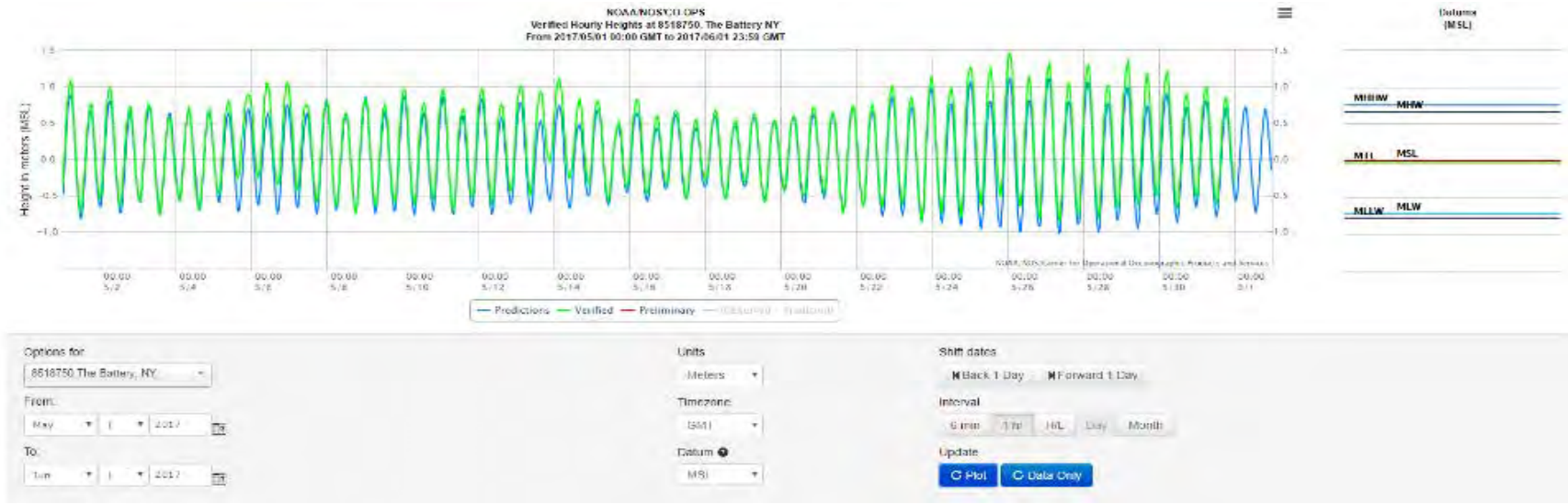
[https://www.wunderground.com/history/airport/KEWR/2017/5/1/CustomHistory.html?dayend=31&monthend=5&yearend=2017&req\\_city=&req\\_state=&req\\_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=](https://www.wunderground.com/history/airport/KEWR/2017/5/1/CustomHistory.html?dayend=31&monthend=5&yearend=2017&req_city=&req_state=&req_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=)

## Hourly Weather History & Observations

Time (EDT)	Temp.	Dew Point	Humidity	Pressure	Visibility	Wind Dir	Wind Speed	Gust Speed	Precip	Events	Conditions
12:51 PM	73.0 °F	51.1 °F	48%	29.58 in	10.0 mi	West	20.7 mph	-	N/A		Mostly Cloudy
	METAR KEWR 021851Z 28018KT 10SM SCT050 BKN070 BKN250 23/11 A2958 RMK AO2 PK WND 27023/1602 SLP015 T02280106 \$										
1:51 PM	73.9 °F	48.9 °F	41%	29.58 in	10.0 mi	WSW	23.0 mph	31.1 mph	N/A		Mostly Cloudy
	METAR KEWR 021751Z 25020G27KT 10SM SCT055 BKN070 23/09 A2958 RMK AO2 PK WND 24030/1738 SLP017 T02380094 10244 20206 53002 \$										
2:51 PM	73.9 °F	48.0 °F	40%	29.58 in	10.0 mi	West	23.0 mph	31.1 mph	N/A		Mostly Cloudy
	METAR KEWR 021851Z 27020G27KT 10SM SCT080 BKN070 23/09 A2958 RMK AO2 PK WND 24033/1817 SLP017 T02380089 \$										
3:51 PM	75.0 °F	39.9 °F	28%	29.58 in	10.0 mi	WSW	29.9 mph	43.7 mph	N/A		Scattered Clouds
	METAR KEWR 021951Z 24026G38KT 10SM SCT070 24/04 A2958 RMK AO2 PK WND 24038/1950 SLP017 T02390044 \$										
4:51 PM	73.9 °F	37.9 °F	27%	29.61 in	10.0 mi	WSW	26.5 mph	42.6 mph	N/A		Scattered Clouds
	METAR KEWR 022051Z 25023G37KT 10SM SCT080 23/03 A2961 RMK AO2 PK WND 26043/2031 SLP020 T02330033 53009 \$										
5:51 PM	71.1 °F	33.1 °F	25%	29.65 in	10.0 mi	West	29.9 mph	41.4 mph	N/A		Scattered Clouds
	METAR KEWR 022151Z 26026G38KT 10SM SCT080 22/01 A2965 RMK AO2 PK WND 26047/2101 SLP039 T02170006 \$										
6:51 PM	70.0 °F	35.1 °F	28%	29.66 in	10.0 mi	West	26.5 mph	35.7 mph	N/A		Scattered Clouds
	METAR KEWR 022251Z 27023G31KT 10SM SCT090 21/02 A2966 RMK AO2 PK WND 27035/2157 SLP043 T02110017 \$										

Averaged wind speed over the 6-hour period = 28 mph

<https://www.wunderground.com/history/airport/KEWR/2017/5/2/DailyHistory.html>



<https://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750&units=metric&bdate=20170501&edate=20170601&timezone=GMT&datum=MSL&interval=h&action=>

**SA-7 Sediment Remedy**

Long-Term Monitoring Program

Hydrologic Data Review

<b>Monitoring Period:</b> <b>June</b> <b>2017</b>	<b>Assessment Required?</b>
<u>Rainfall Event Data:</u> Max Rainfall (in): 1.56      Date: 6/24/2017 50-Year, 24-Hr event? <b>NO</b>	<b>NO</b>
<u>Storm Surge Event Data:</u> Max Increase Above Predicted Normal Tidal Cycling (m): 0.382      Date: 6/7/2017      Time: 2:00 Exceeds event trigger criteria? <b>NO</b>  Max Tide Gauge Reading (m): 1.244      Date: 6/24/2017      Time: 0:00 Exceeds event trigger criteria? <b>NO</b>  10-year storm surge event defined as a hurricane? <b>NO</b>	<b>NO</b>
<u>Wind Event Data:</u> Max Wind (mph): 44      Date: 6/19/2017 Exceeds trigger criteria? <b>YES</b> Wind direction over 6-hr period: WSW      OK      (See Note 1)  <u>Note:</u> (1) The averaged wind speed for the 6-hour period during which the maximum wind speed was recorded does not exceed the threshold criteria.	<b>NO</b>
<p><b><u>CRITERIA FROM LTMP:</u></b></p> <p>“Post-High Energy Event Monitoring Activities” will take place promptly following High Energy Events. The Consent Order defines “High Energy Events” as follows:</p> <p>i. “A 50-year rainfall event defined by the National Weather Service as a 24-hour period of rainfall exceeding the maximum 50-year/24-hour accumulation (i.e., 7.2 inches of rainfall over a 24-hour period), as recorded at Newark Airport;</p> <ul style="list-style-type: none"> <li>• See <a href="http://www.wunderground.com/history/">http://www.wunderground.com/history/</a></li> </ul> <p>ii. A 10-year storm surge event defined as a hurricane event (not a “nor’easter”) resulting in an increase in ocean level of either 0.64 meters above normal tidal cycling at the Battery Park tide gauge or 1.40 meters above mean sea level (MSL); or</p> <ul style="list-style-type: none"> <li>• Note: Hurricane events are defined by NOAA.</li> <li>• See <a href="http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750">http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750</a></li> </ul> <p>iii. A wind event achieving 34 to 40 knots (39.13 to 46.03 mph), coming from the south through the west, averaged over 6 hours, as recorded at Newark Airport.”</p> <ul style="list-style-type: none"> <li>• See <a href="http://www.wunderground.com/history/">http://www.wunderground.com/history/</a></li> </ul> <p style="text-align: right;">CHECKED BY: <u>TEA</u></p>	

## Weather History for KEWR - June, 2017

From:

June 1 2017

To:

June 30 2017

Get History

	Max	Avg	Min	Sum
<b>Temperature</b>				
Max Temperature	99 °F	82 °F	60 °F	
Mean Temperature	86 °F	73 °F	57 °F	
Min Temperature	77 °F	63 °F	52 °F	
<b>Degree Days</b>				
Heating Degree Days (base 65)	8	1	0	18
Cooling Degree Days (base 65)	21	9	0	257
Growing Degree Days (base 50)	36	23	6	676
<b>Dew Point</b>				
Dew Point	75 °F	57 °F	32 °F	
<b>Precipitation</b>				
Precipitation	1.56 in	0.20 in	0.00 in	5.29 in
Snowdepth	0.0 in	0.0 in	0.0 in	-
<b>Wind</b>				
Wind	44 mph	10 mph	0 mph	
Gust Wind	63 mph	23 mph	16 mph	
<b>Sea Level Pressure</b>				
Sea Level Pressure	30.16 in	29.92 in	29.57 in	

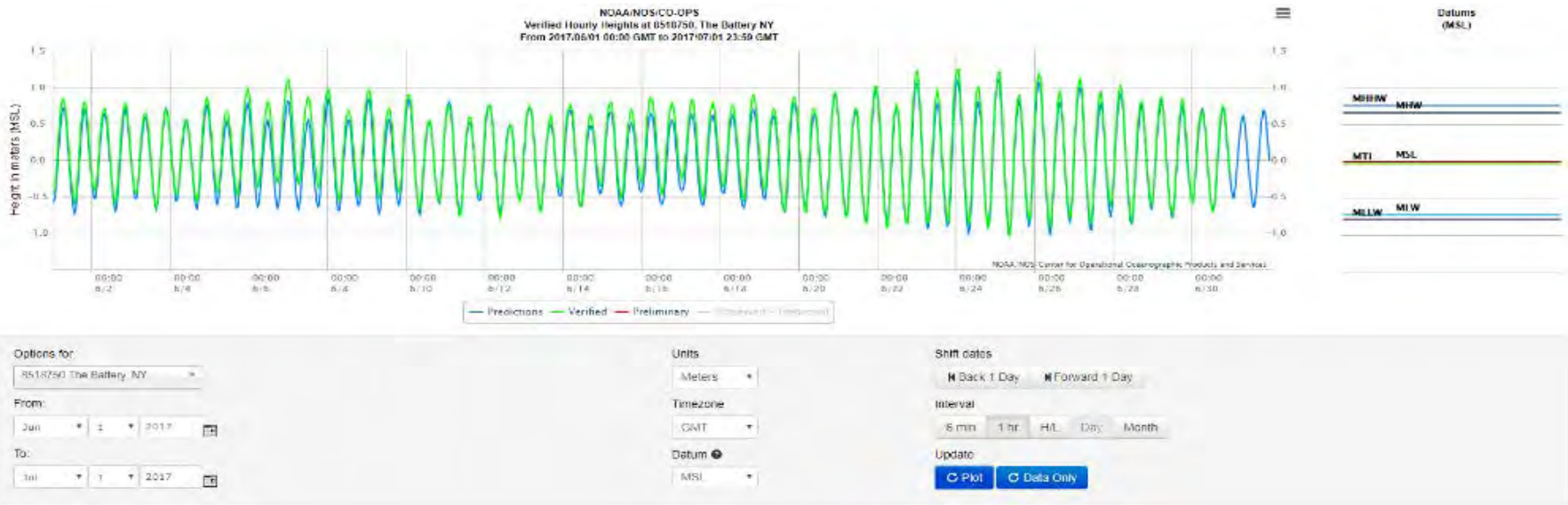
[https://www.wunderground.com/history/airport/KEWR/2017/6/1/CustomHistory.html?dayend=30&monthend=6&yearend=2017&req\\_city=&req\\_state=&req\\_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=](https://www.wunderground.com/history/airport/KEWR/2017/6/1/CustomHistory.html?dayend=30&monthend=6&yearend=2017&req_city=&req_state=&req_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=)

## Hourly Weather History & Observations

Time (EDT)	Temp.	Heat Index	Dew Point	Humidity	Pressure	Visibility	Wind Dir	Wind Speed	Gust Speed	Precip	Events	Conditions
1:51 PM	89.1 °F	94.1 °F	70.0 °F	53%	29.78 in	10.0 mi	SSW	23.0 mph	32.2 mph	N/A		Mostly Cloudy
	METAR KEWR 191751Z 20020G28KT 10SM FEW038 SCT043 BKN055 BKN130 BKN250 32/21 A2977 RMK AO2 PK WND 21029/1715 SLP082 T03170211 10317 20272 58015											
2:51 PM	91.0 °F	95.6 °F	69.1 °F	48%	29.74 in	10.0 mi	SSW	29.9 mph	38.0 mph	N/A		Mostly Cloudy
	METAR KEWR 191851Z 20026G33KT 10SM SCT045 SCT080 BKN160 BKN250 33/21 A2974 RMK AO2 PK WND 21033/1851 SLP071 CB DSNT N-NE MOV NE T03280206											
3:51 PM	87.1 °F	92.8 °F	71.1 °F	50%	29.74 in	9.0 mi	SSW	19.6 mph	31.1 mph	0.00 in	Rain	Light Rain
	METAR KEWR 191951Z 20017G27KT 9SM -RA FEW045 BKN055CB BKN075 BKN180 BKN250 31/22 A2974 RMK AO2 PK WND 19035/1924 RAB43 SLP071 CB OHD MOV NE P0000 T03080217											
4:01 PM	88.0 °F	92.9 °F	70.0 °F	55%	29.74 in	10.0 mi	South	21.9 mph	31.1 mph	0.00 in	Thunderstorm	Thunderstorm
	SPECI KEWR 192001Z 18019G27KT 10SM TS SCT048CB SCT080 BKN090 BKN250 31/21 A2974 RMK AO2 PK WND 19027/2000 LTG DSNT SW AND W RAE1953 TSB01 OCNL LTGIC VC SW AND VC W TS VC SW AND VC W MOV NE VCSH SW AND W P0000 T03110211											
4:33 PM	82.0 °F	85.9 °F	70.0 °F	67%	29.78 in	0.8 mi	WSW	43.7 mph	57.5 mph	0.00 in	Rain , Thunderstorm	Light Thunderstorms and Rain
	SPECI KEWR 192033Z 25038G50KT 3/4SM R04R/1600VP8000FT -TSRA SCT015 BKN035CB BKN085 BKN250 28/21 A2978 RMK AO2 PK WND 24050/2033 LTG DSNT NE AND SW AND W RAE1953B30 TSB01 PRESRR OCNL LTGIC OHD TS OHD MOV NE P0000 T02780211											
4:36 PM	77.0 °F	-	69.8 °F	78%	29.78 in	1.2 mi	WSW	35.7 mph	63.3 mph	N/A	Rain , Thunderstorm	Heavy Thunderstorms and Rain
	SPECI KEWR 192035Z COR 24031G55KT 200V270 1 1/4SM R04R/1200VP8000FT +TSRA BKN015 BKN035CB BKN065 BKN250 25/21 A2978 RMK AO2 PK WND 24055/2034 TWR VIS 2 LTG DSNT NE AND SW AND W RAE1953B30 TSB01 PRESRR OCNL LTGICG OHD TS OHD MOV N											
4:42 PM	73.0 °F	-	69.1 °F	87%	29.77 in	2.0 mi	SW	18.4 mph	63.3 mph	0.56 in	Rain , Thunderstorm	Heavy Thunderstorms and Rain
	SPECI KEWR 192042Z 22016G55KT 2SM R04R/1200VP8000FT +TSRA BR SCT008 BKN010 BKN035CB OVC250 23/21 A2977 RMK AO2 PK WND 24055/2034 LTG DSNT SW AND W RAE1953B30 TSB01 FRQ LTGICCG OHD TS OHD MOV NE P0056 T02280206 \$											
4:51 PM	77.0 °F	-	72.0 °F	84%	29.76 in	6.0 mi	SSW	11.5 mph	-	0.57 in	Rain , Thunderstorm	Light Thunderstorms and Rain
	METAR KEWR 192051Z 21010KT 8SM -TSRA FEW008 SCT015 BKN040CB OVC130 25/22 A2978 RMK AO2 PK WND 24055/2034 LTG DSNT ALQDS RAE1953B30 TSB01 SLP077 FRQ LTGICCG VC NE-VC SE-VC S TS VC NE-VC SE-VC S MOV NE P0057 60057 T02500222 55005 \$											
5:19 PM	78.1 °F	-	73.9 °F	87%	29.79 in	1.0 mi	WSW	39.1 mph	49.5 mph	0.00 in	Thunderstorm	Overcast
	SPECI KEWR 192119Z 26034G43KT 1SM R04R/3000VP8000FT TS BR SCT008 SCT025 BKN040CB OVC130 26/20 A2979 RMK AO2 PK WND 25043/2119 LTG DSNT ALQDS RAE13 PRESRR OCNL LTGIC OHD TS OHD MOV NE P0000 T02580233 \$											
5:21 PM	75.9 °F	-	72.0 °F	87%	29.80 in	1.0 mi	West	28.8 mph	49.5 mph	0.03 in	Rain , Thunderstorm	Heavy Thunderstorms and Rain
	SPECI KEWR 192121Z 26025G43KT 1SM R04R/2600VP8000FT +TSRA BKN006 OVC025CB 24/22 A2880 RMK AO2 PK WND 25043/2119 LTG DSNT ALQDS RAE13B20 PRESRR FRQ LTGICCG OHD TS OHD MOV NE P0003 T02440222 \$											
5:33 PM	72.0 °F	-	70.0 °F	93%	29.79 in	5.0 mi	West	17.3 mph	26.5 mph	0.41 in	Rain , Thunderstorm	Heavy Thunderstorms and Rain
	SPECI KEWR 192133Z 28015G23KT 5SM R04R/3000VP8000FT +TSRA BKN006 BKN020CB OVC040 22/21 A2978 RMK AO2 PK WND 25043/2119 WSHFT 2115 LTG DSNT ALQDS RAE13B20 FRQ LTGICCG OHD TS OHD MOV NE P0041 T02220211											
5:51 PM	72.0 °F	-	70.0 °F	93%	29.81 in	7.0 mi	West	20.7 mph	25.3 mph	0.41 in	Rain , Thunderstorm	Light Thunderstorms and Rain
	METAR KEWR 192151Z 28018G22KT 7SM -TSRA FEW008 BKN020CB OVC043 22/21 A2981 RMK AO2 PK WND 25043/2119 WSHFT 2115 LTG DSNT ALQDS RAE13B20 SLP094 OCNL LTGIC VC SW-VC NW AND TS VC SW-VC NW MOV NE P0041 T02220211											
5:58 PM	72.0 °F	-	69.1 °F	91%	29.80 in	5.0 mi	West	17.3 mph	27.6 mph	0.02 in	Rain , Thunderstorm	Light Thunderstorms and Rain
	SPECI KEWR 192158Z 27015G24KT 5SM -TSRA BR FEW008 SCT020CB OVC041 22/21 A2980 RMK AO2 LTG DSNT ALQDS OCNL LTGIC VC SW TS VC SW MOV NE P0002 T02220206											
6:11 PM	70.0 °F	-	68.0 °F	93%	29.79 in	3.0 mi	West	15.0 mph	-	0.16 in	Rain , Thunderstorm	Heavy Thunderstorms and Rain
	SPECI KEWR 192211Z 27013KT 3SM R04R/4500VP8000FT +TSRA BR SCT008 BKN028CB OVC045 21/20 A2979 RMK AO2 LTG DSNT ALQDS OCNL LTGICCG OHD TS OHD MOV NE P0016 T02110200											
6:22 PM	70.0 °F	-	68.0 °F	93%	29.81 in	3.0 mi	WSW	16.1 mph	23.0 mph	0.19 in	Rain , Thunderstorm	Light Thunderstorms and Rain
	SPECI KEWR 192222Z 25014G20KT 3SM R04R/5500VP8000FT -TSRA BR FEW008 SCT032CB OVC045 21/20 A2981 RMK AO2 SFC VIS 5 LTG DSNT ALQDS OCNL LTGICCG OHD TS OHD MOV NE P0019 T02110200											
6:51 PM	70.0 °F	-	68.0 °F	93%	29.81 in	7.0 mi	SSW	9.2 mph	-	0.37 in	Rain , Thunderstorm	Light Thunderstorms and Rain
	METAR KEWR 192251Z 21008KT 7SM -TSRA FEW008 SCT030CB BKN085 OVC130 21/20 A2981 RMK AO2 LTG DSNT ALQDS SLP095 OCNL LTGICCG VC NE-VC E TS VC NE-VC E MOV NE P0037 T02110200 \$											
6:59 PM	70.0 °F	-	68.0 °F	93%	29.83 in	7.0 mi	SSW	12.7 mph	-	0.01 in	Rain	Rain

Averaged wind speed over the 6-hour period = **22** mph

<https://www.wunderground.com/history/airport/KEWR/2017/6/19/DailyHistory.html?MR=1>



<https://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750&units=metric&bdate=20170601&edate=20170701&timezone=GMT&datum=MSL&interval=h&action=>



**SA-7 Sediment Remedy**

Long-Term Monitoring Program

Hydrologic Data Review

<b>Monitoring Period:</b> <b>July</b> <b>2017</b>	<b>Assessment Required?</b>
<u>Rainfall Event Data:</u> Max Rainfall (in): 2.15      Date: 7/7/2017 50-Year, 24-Hr event? <b>NO</b>	<b>NO</b>
<u>Storm Surge Event Data:</u> Max Increase Above Predicted Normal Tidal Cycling (m): 0.427      Date: 7/24/2017      Time: 10:00 Exceeds event trigger criteria? <b>NO</b>  Max Tide Gauge Reading (m): 1.361      Date: 7/25/2017      Time: 2:00 Exceeds event trigger criteria? <b>NO</b>  10-year storm surge event defined as a hurricane? <b>NO</b>	<b>NO</b>
<u>Wind Event Data:</u> Max Wind (mph): 29      Date: 7/29/2017 Exceeds trigger criteria? <b>NO</b> Wind direction over 6-hr period: <b>NNE</b> OK	<b>NO</b>

**CRITERIA FROM LTMP:**

“Post-High Energy Event Monitoring Activities” will take place promptly following High Energy Events. The Consent Order defines “High Energy Events” as follows:

- i. “A 50-year rainfall event defined by the National Weather Service as a 24-hour period of rainfall exceeding the maximum 50-year/24-hour accumulation (i.e., 7.2 inches of rainfall over a 24-hour period), as recorded at Newark Airport;
  - See <http://www.wunderground.com/history/>
- ii. A 10-year storm surge event defined as a hurricane event (not a “nor’easter”) resulting in an increase in ocean level of either 0.64 meters above normal tidal cycling at the Battery Park tide gauge or 1.40 meters above mean sea level (MSL); or
  - Note: Hurricane events are defined by NOAA.
  - See <http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750>
- iii. A wind event achieving 34 to 40 knots (39.13 to 46.03 mph), coming from the south through the west, averaged over 6 hours, as recorded at Newark Airport.”
  - See <http://www.wunderground.com/history/>

CHECKED BY: TEA

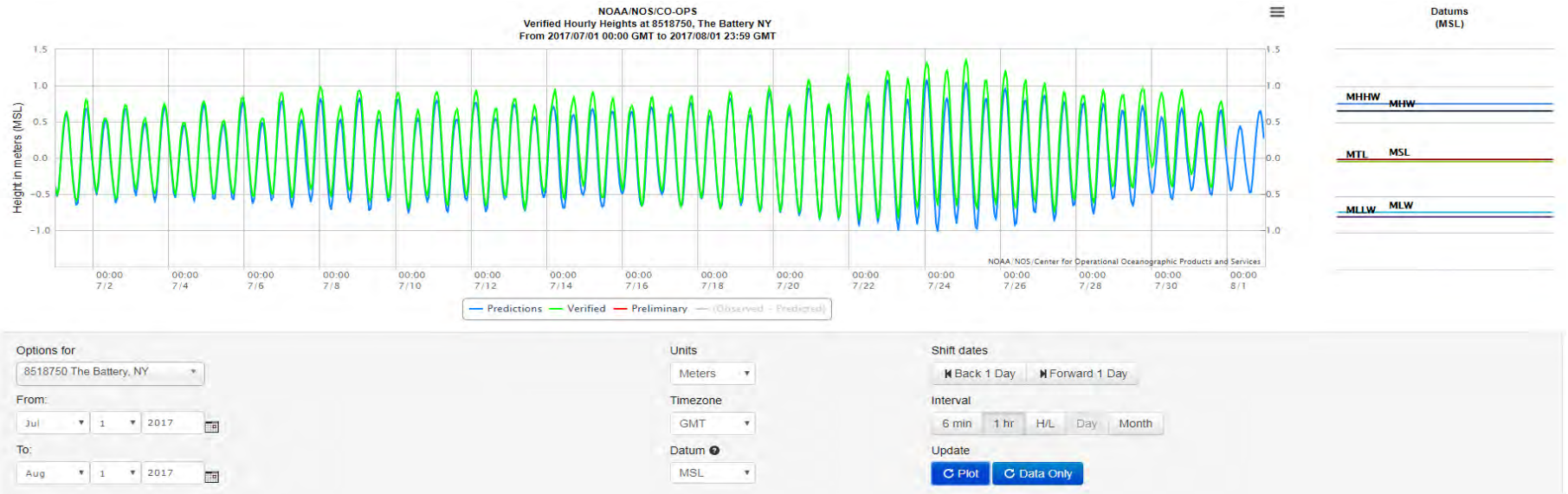
## Weather History for KEWR - July, 2017

From:    To:

**Get History**

Daily	Weekly	Monthly	Custom		Max	Avg	Min	Sum
<b>Temperature</b>								
				Max Temperature	98 °F	86 °F	73 °F	
				Mean Temperature	87 °F	78 °F	68 °F	
				Min Temperature	78 °F	69 °F	60 °F	
<b>Degree Days</b>								
				Heating Degree Days (base 65)	0	0	0	0
				Cooling Degree Days (base 65)	22	13	3	394
				Growing Degree Days (base 50)	38	27	18	845
<b>Dew Point</b>								
				Dew Point	76 °F	64 °F	46 °F	
<b>Precipitation</b>								
				Precipitation	2.15 in	0.19 in	0.00 in	4.33 in
				Snowdepth	0.0 in	0.0 in	0.0 in	-
<b>Wind</b>								
				Wind	29 mph	9 mph	0 mph	
				Gust Wind	34 mph	21 mph	16 mph	
<b>Sea Level Pressure</b>								
				Sea Level Pressure	30.25 in	29.96 in	29.72 in	

[https://www.wunderground.com/history/airport/KEWR/2017/7/1/CustomHistory.html?dayend=31&monthend=7&yearend=2017&req\\_city=&req\\_state=&req\\_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=](https://www.wunderground.com/history/airport/KEWR/2017/7/1/CustomHistory.html?dayend=31&monthend=7&yearend=2017&req_city=&req_state=&req_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=)



<https://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750&units=metric&bdate=20170701&edate=20170801&timezone=GMT&datum=MSL&interval=h&action=>

**SA-7 Sediment Remedy**

Long-Term Monitoring Program

Hydrologic Data Review

<u>Monitoring Period:</u> <b>August</b> <b>2017</b>	<i>Assessment Required?</i>
<u>Rainfall Event Data:</u> Max Rainfall (in):      0.99      Date:      8/2/2017 50-Year, 24-Hr event?      NO	NO
<u>Storm Surge Event Data:</u> Max Increase Above Predicted Normal Tidal Cycling (m):      0.456      Date:      8/30/2017      Time:      6:00 Exceeds event trigger criteria?      NO  Max Tide Gauge Reading (m):      1.108      Date:      8/18/2017      Time:      22:00 Exceeds event trigger criteria?      NO  10-year storm surge event defined as a hurricane?      NO	NO
<u>Wind Event Data:</u> Max Wind (mph):      31      Date:      8/22/2017 Exceeds trigger criteria?      NO Wind direction over 6-hr period:      SSW      OK	NO

**CRITERIA FROM LTMP:**

“Post-High Energy Event Monitoring Activities” will take place promptly following High Energy Events. The Consent Order defines “High Energy Events” as follows:

- i. “A 50-year rainfall event defined by the National Weather Service as a 24-hour period of rainfall exceeding the maximum 50-year/24-hour accumulation (i.e., 7.2 inches of rainfall over a 24-hour period), as recorded at Newark Airport;
  - See <http://www.wunderground.com/history/>
- ii. A 10-year storm surge event defined as a hurricane event (not a “nor’easter”) resulting in an increase in ocean level of either 0.64 meters above normal tidal cycling at the Battery Park tide gauge or 1.40 meters above mean sea level (MSL); or
  - Note: Hurricane events are defined by NOAA.
  - See <http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750>
- iii. A wind event achieving 34 to 40 knots (39.13 to 46.03 mph), coming from the south through the west, averaged over 6 hours, as recorded at Newark Airport.”
  - See <http://www.wunderground.com/history/>

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## Weather History for KEWR - August, 2017

From:

August 1 2017

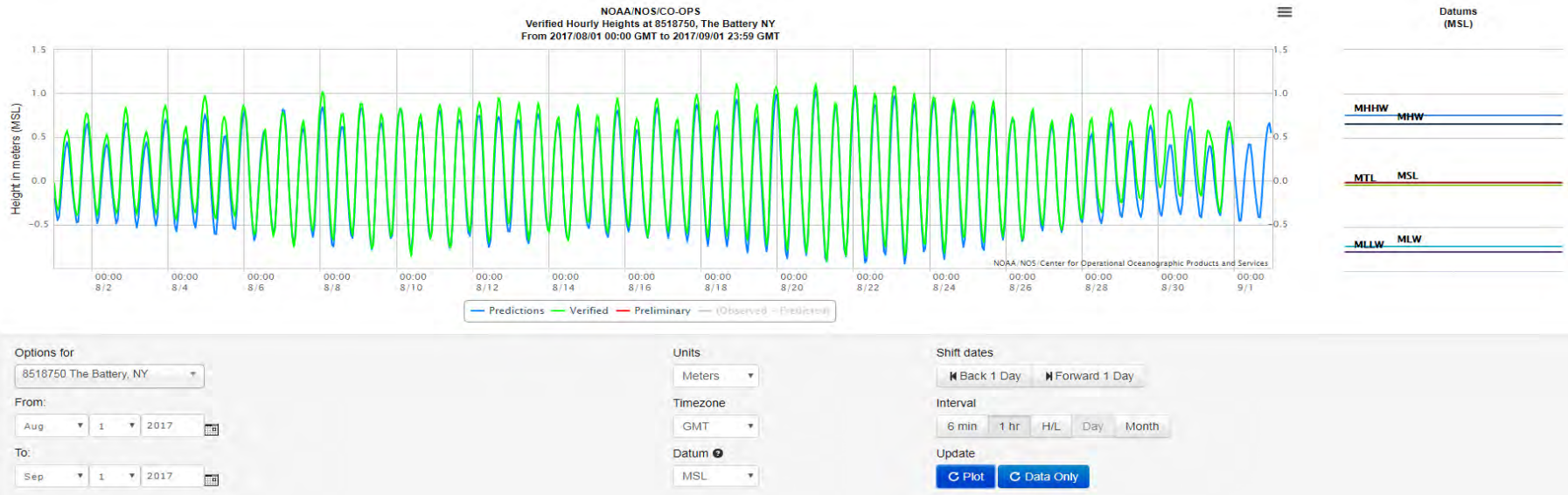
To:

August 31 2017

[Get History](#)

Daily	Weekly	Monthly	Custom		Max	Avg	Min	Sum
<b>Temperature</b>								
					93 °F	82 °F	69 °F	
					82 °F	74 °F	67 °F	
					73 °F	66 °F	59 °F	
<b>Degree Days</b>								
					0	0	0	0
					17	9	2	287
					32	24	16	740
<b>Dew Point</b>								
					77 °F	61 °F	42 °F	
<b>Precipitation</b>								
					0.99 in	0.19 in	0.00 in	5.30
					0.0 in	0.0 in	0.0 in	-
<b>Wind</b>								
					31 mph	8 mph	0 mph	
					40 mph	21 mph	16 mph	
<b>Sea Level Pressure</b>								
					30.31 in	30.02 in	29.75 in	

[https://www.wunderground.com/history/airport/KEWR/2017/8/1/CustomHistory.html?dayend=31&monthend=8&yearend=2017&req\\_city=&req\\_state=&req\\_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=](https://www.wunderground.com/history/airport/KEWR/2017/8/1/CustomHistory.html?dayend=31&monthend=8&yearend=2017&req_city=&req_state=&req_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=)



<https://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750&units=metric&bdate=20170801&edate=20170901&timezone=GMT&datum=MSL&interval=h&action=>

**SA-7 Sediment Remedy**

Long-Term Monitoring Program

Hydrologic Data Review

<b>Monitoring Period:</b> <b>September 2017</b>	<b>Assessment Required?</b>
<u>Rainfall Event Data:</u> Max Rainfall (in): 0.60      Date: 9/2/2017 50-Year, 24-Hr event? NO	NO
<u>Storm Surge Event Data:</u> Max Increase Above Predicted Normal Tidal Cycling (m): 0.565      Date: 9/20/2017      Time: 6:00 Exceeds event trigger criteria? NO  Max Tide Gauge Reading (m): 1.335      Date: 9/20/2017      Time: 1:00 Exceeds event trigger criteria? NO  10-year storm surge event defined as a hurricane? NO	NO
<u>Wind Event Data:</u> Max Wind (mph): 31      Date: 9/5/2017 Exceeds trigger criteria? NO Wind direction over 6-hr period: WNW      OK	NO

**CRITERIA FROM LTMP:**

“Post-High Energy Event Monitoring Activities” will take place promptly following High Energy Events. The Consent Order defines “High Energy Events” as follows:

- i. “A 50-year rainfall event defined by the National Weather Service as a 24-hour period of rainfall exceeding the maximum 50-year/24-hour accumulation (i.e., 7.2 inches of rainfall over a 24-hour period), as recorded at Newark Airport;
  - See <http://www.wunderground.com/history/>
- ii. A 10-year storm surge event defined as a hurricane event (not a “nor’easter”) resulting in an increase in ocean level of either 0.64 meters above normal tidal cycling at the Battery Park tide gauge or 1.40 meters above mean sea level (MSL); or
  - Note: Hurricane events are defined by NOAA.
  - See <http://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750>
- iii. A wind event achieving 34 to 40 knots (39.13 to 46.03 mph), coming from the south through the west, averaged over 6 hours, as recorded at Newark Airport.”
  - See <http://www.wunderground.com/history/>

CHECKED BY: TEA

## Weather History for KEWR - September, 2017

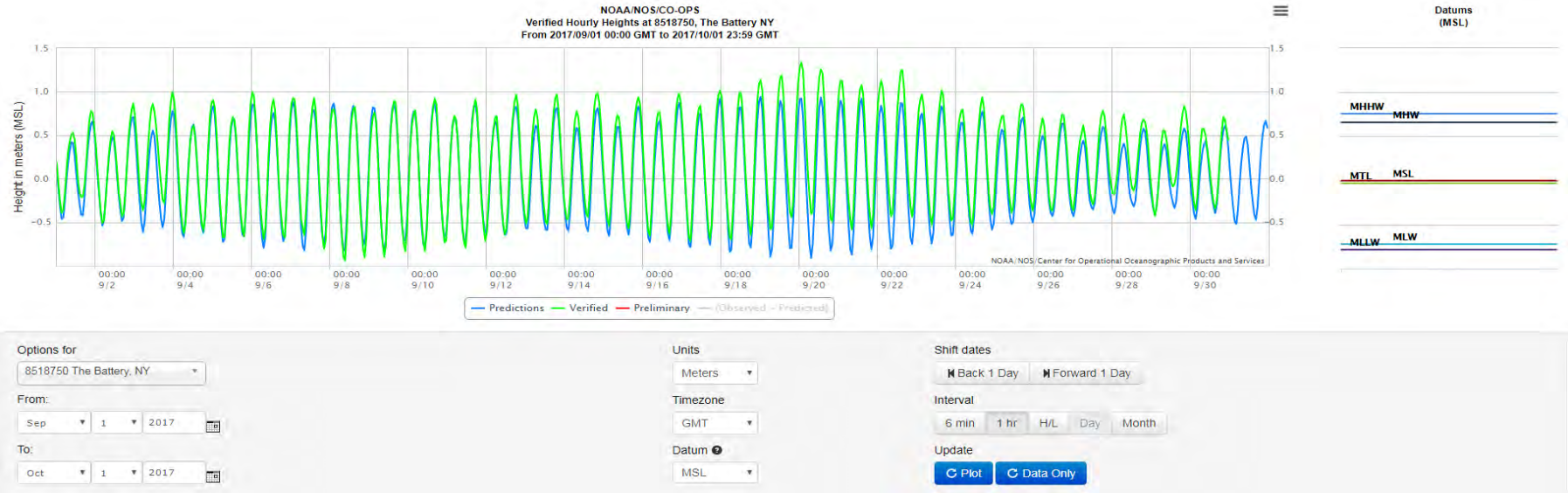
From:    To:

[Get History](#)

Daily	Weekly	Monthly	Custom				
				Max	Avg	Min	Sum
<b>Temperature</b>							
Max Temperature				92 °F	80 °F	68 °F	
Mean Temperature				80 °F	71 °F	59 °F	
Min Temperature				71 °F	62 °F	49 °F	
<b>Degree Days</b>							
Heating Degree Days (base 65)				6	1	0	17
Cooling Degree Days (base 65)				15	7	0	202
Growing Degree Days (base 50)				30	21	8	624
<b>Dew Point</b>							
Dew Point				73 °F	58 °F	34 °F	
<b>Precipitation</b>							
Precipitation				0.60 in	0.06 in	0.00 in	1.67 in
Snowdepth				0.0 in	0.0 in	0.0 in	-
<b>Wind</b>							
Wind				31 mph	9 mph	0 mph	
Gust Wind				39 mph	23 mph	16 mph	
<b>Sea Level Pressure</b>							
Sea Level Pressure				30.37 in	30.02 in	29.71 in	

[https://www.wunderground.com/history/airport/KEWR/2017/9/1/CustomHistory.html?dayend=30&monthend=9&yearend=2017&req\\_city=&req\\_state=&req\\_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=](https://www.wunderground.com/history/airport/KEWR/2017/9/1/CustomHistory.html?dayend=30&monthend=9&yearend=2017&req_city=&req_state=&req_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=)





<https://tidesandcurrents.noaa.gov/waterlevels.html?id=8518750&units=metric&bdate=20170901&edate=20171001&timezone=GMT&datum=MSL&interval=h&action=>