

New report explains sea level anomaly this summer along the US Atlantic coast

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Persistent winds and a weakened current in the Mid-Atlantic contributed to higher than normal sea levels along the Eastern Seaboard in June and July, according to a new NOAA technical report.

After observing water levels six inches to two feet higher than originally predicted, NOAA scientists began analyzing data from select tide stations and buoys from Maine to Florida and found that a weakening of the Florida Current Transport—an oceanic current that feeds into the Gulf Stream—in addition to steady and persistent Northeast winds, contributed to this anomaly.

"The ocean is dynamic and it's not uncommon to have anomalies," said Mike Szabados, director of NOAA's Center for Operational Oceanographic Products and Services. "What made this event unique was its breadth, intensity and duration."

The highest atypical sea levels occurred closer to where the anomaly formed in the Mid-Atlantic, where cities like Baltimore, Md., at times experienced extreme high tides as much as two feet higher than normal. Data from NOAA's National Water Level Observation Network tide stations, Atlantic Oceanographic and Meteorological Laboratory, and National Data Buoy Center, are published in the report.

Impacts of the event were amplified by the occurrence of a perigean-spring tide, the natural timing of the season and month when the moon is closest to the Earth and its gravitational pull heightens the elevation of

the water. The combined effects of this tide with the sea level anomaly produced minor flooding on the coast.

"The report is a good first assessment," said NOAA [Oceanographer William Sweet, Ph.D.](#) "However, NOAA, with our academic partners, should continue to investigate the broader causes behind the event. Further analysis is needed to fully understand what is driving the patterns we observed."

The full report, Elevated East Coast [Sea Level](#) Anomaly: June-July 2009, can be accessed by visiting: [tidesandcurrents.noaa.gov/pub/...
evelAnomaly_2009.pdf](https://tidesandcurrents.noaa.gov/pub/evelAnomaly_2009.pdf)

Source: NOAA

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