



2020 Predicted King Tides:
October 14-20
November 13-18
December 13-16

What is a King Tide?

The term King Tide is a non-scientific term often used to describe exceptionally high tides. Higher than normal tides typically occur during a new or full moon and when the moon is at perigee, or during specific seasons around the country. The National Oceanic and Atmospheric Administration (NOAA), develops annual astronomical tide predictions (which take into account the gravitational pull of the moon and sun on Earth's oceans) at over 200 locations in South Carolina. Water levels may, however, exceed predicted heights due to precipitation, onshore winds, and other short-term meteorological events.

The effects of individual King Tides may vary considerably. King Tides may result in coastal erosion, flooding of low-lying areas, and road closures which may disrupt normal daily routines. This is particularly true when a King Tide coincides with significant precipitation because water drainage and runoff is impeded.

DHEC issues King Tide notifications to MyCoast members when water levels are predicted to reach 6.6 feet above mean lower low water (MLLW) or higher at the Charleston Harbor Tide Station. NOAA's National Weather Service (NWS) Forecast Office in Charleston has established thresholds for minor (7.0 ft. MLLW), moderate (7.5 ft. MLLW), and major (8.0 ft. MLLW) flooding in the Charleston area. NOAA has also established a threshold for high tide flooding (HTF) in Charleston (7.6 ft. MLLW). Thresholds established for the Charleston area and terminology descriptions are provided below.

Water Level Thresholds Established for Charleston, SC (feet above MLLW):

Action Stage (NOAA NWS) 6.5 ft
King Tide (DHEC) 6.6 ft
Minor Flooding (NOAA NWS) 7.0 ft.
Moderate Flooding (NOAA NWS) 7.5 ft.
High Tide Flooding (NOAA NOS) 7.6 ft.
Major Flooding (NOAA NWS) 8.0 ft.

Terminology:

Action Stage: The stage or level where the NWS or a partner/user needs to take action in preparation for possible significant hydrologic activity (NOAA NWS).

King Tide: A non-scientific term often used to describe exceptionally high tides (NOAA National Ocean Service).

Minor Flooding: Minimal or no property damage, but possibly some public threat (NOAA NWS).

Moderate Flooding: Some inundation of structures and roads. Some evacuations of people and/or transfer of property to higher elevations (NOAA NWS).

Major Flooding: Extensive inundation of structures and roads. Significant evacuations of people and/or transfer of property to higher elevations (NOAA NWS).

High Tide Flooding (HTF): Heights ranging from about 0.5 to 0.65 meters above mean higher high water and varying regionally with tide range. HTF height thresholds are based upon the minor-flood thresholds set by NWS Weather Forecasting Offices (WFOs) and on-the-ground local emergency managers who prepare for response to impending conditions (NOAA National Ocean Service).

-Tidelines Editors