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FloodIQ: Raising Awareness around Flooding through Free Online Tools and Resources

With sea levels rising at unprecedented levels, everyone should have the right to understand the risk from potential consequences, both today and in the near future. That was why we built Flood iQ (floodiq.com). Currently, it holds data for many states along the East Coast and continues to expand to include information on properties in the remaining at-risk U.S. coastal regions. Our free flood risk tool was developed in consultation with many government, academic, and private sector advisers and is designed to make difficult information easily accessible and digestible for all.

Our models forecast two types of flooding events. 1) Tidal flooding events (also referred to as King Tides) can cause temporary flooding of low-lying areas near the coast during exceptionally high tide events, such as full and new moons. As the sea level rises, more areas are at risk. Areas already at risk face even greater risk. 2) Hurricanes can cause flooding by creating a storm surge. The surge occurs when a storm pulls up water from the ocean and carries it to affected areas as a result of wind and low-pressure events. We combine these forecasts with information on Sea level Rise levels per the US Army Corps of Engineers (USACE). By using data from local tide gauges, the USACE online tool provides projection scenarios at regionally specific locations.

Once our data is modeled, Risk Scores are determined by calculating how much of your property and your neighborhood may be impacted by flooding and how soon. Any amount of water that affects property is a risk in our calculations. Tidal Flooding and Hurricane Risk scores are calculated separately. Property flooding was calculated through the interaction of current and future water levels compared to fine resolution elevation data. Tidal flooding can occur multiple times a year. We have mapped the elevation of properties against the highest daily tide levels from the National Oceanic and Atmospheric Administration (NOAA) to calculate the percent (area) of your property that could repeatedly flood (approximately 10 or more days a year). Hurricanes flooding was based on potential storm surge, with the more severe the hurricane, the greater the storm surge. These projections leverage the National

Oceanic and Atmospheric Administration (NOAA) SLOSH models to determine where the storm surge may occur.

In addition to property statistics, neighborhood flooding percentage is calculated by taking the number of properties that could be flooded within a 1/4-mile radius of your property divided by the total number of properties in your neighborhood and nearby road flooding is also computed by examining all road surface within a quarter mile of your property that experiences some level flooding.

Ultimately, our goal in this presentation is to share our experiences in the development of the tool and solicit feedback from experts, as well as potential users, in regard to their thoughts on the tool and ways that we can improve the tool to best meet our mission of providing free and accessible tools for the better understanding of SLR and its consequences.