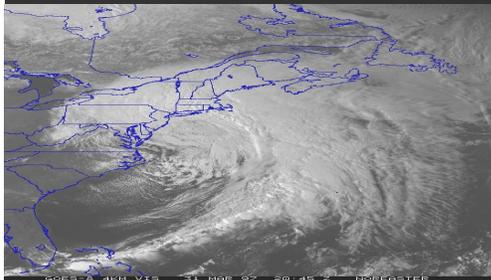


# Top Five Facts: Nor'easters vs. Hurricanes

*"Nor'easters may have more impact on the East Coast than any other type of event." (Zielinski, 2002)*

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"What nor'easters don't achieve in wind-speed as compared to hurricanes, they achieve in duration (up to a week) and size (up to 1000 miles or more in diameter)." (Jacqueline Porter-Clinton, 2009)



"Most importantly, nor'easters have the potential to impact society over a much greater extent than hurricanes and tornadoes, as was the case for the March 1993 Superstorm that essentially shut down the entire East Coast." (Zielinski, 2002)



"A hurricane can have more impact in a single storm, but collectively, nor'easters have more impact over a long period of time." (Zielinski, 2002)



"Since they strike more frequently, winter storms cumulatively cause more annual damage to property than hurricanes." (Connecticut Coastal Hazards, 2009)



## 1. Nor'easters Span Thousands of Miles

Nor'easters and other extra-tropical storms can have diameters that reach thousands of miles. This puts vast areas of coastline at risk for damage. Unlike hurricanes which typically span 300 miles, nor'easters often have diameters of 3-4 times the size, impacting much larger areas of coastline. With this increase in diameter more homes and property become susceptible to damage as the size and potential of a storm intensifies.

## 2. Nor'easters Hang Around for Days

The forward speed of nor'easters is usually much slower than hurricanes. This means that the storm's duration is greatly increased. A coastal storm that lingers for days and through multiple tide cycles has the potential to do immense damage. The slower wind speed, though at first glance disarming, is one reason a nor'easter can remain in one area and cause such tremendous destruction. Structures are battered day after day by wind-driven rain as the persistent storms slowly follow their course.

## 3. Nor'easters Occur Every Year

The Northeast sees one hurricane make landfall every five years, while annually we have 20-40 nor'easters. Beginning in October and ending in April, the nor'easter season runs for seven months. The frequency of nor'easters is much higher than hurricanes and out of the 20-40 annual storms, at least two are severe.

## 4. Nor'easters Aren't Taken Seriously Enough

Due to the frequency of nor'easters, it is crucial to prepare for the ferocity of these storms. Despite this, coastal inhabitants do not heed warnings for nor'easters. Nor'easters have the potential to cause massive amounts of damage, however they are often dismissed as low risk events. Compounded by a lack of universal rating scales (such as the Saffir-Simpson Hurricane Scale), nor'easter data is rarely compiled in a way that demonstrates their ability to generate damage.

## 5. Nor'easters Cause Billions of Dollars of Damage

Although a hurricane may cause more damage in a single event, the cumulative damages from nor'easters can outweigh hurricanes. While hurricanes rarely make landfall in the Northeast, nor'easters batter New England year after year, causing billions of dollars of damage. Massive amounts of precipitation and storm surge combined with severe winds strike coastal areas throughout the storm. Wind-borne debris compromises structures as windows and entryways are breached and internal pressurization threatens to detach roofs. All of these factors combine to cause immense damage.

**The majority of coastal storm damage can be avoided with advanced wind mitigation products such as those provided by Storm Solutions Inc.**

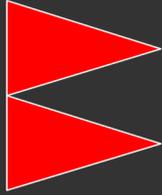
## United States Coast Guard Storm Flags



**Small Craft Advisory**

### Small Craft Advisory:

To alert mariners to sustained (more than two hours) weather or sea conditions, either present or forecast, that might be hazardous to small boats. The threshold conditions for the Small Craft Advisory are usually 18 knots of wind (less than 18 knots in some dangerous waters) or hazardous wave conditions.



**Gale Warning**

### Gale Warning:

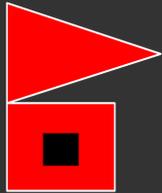
A warning of 1-minute sustained surface winds in the range 34 kt (39 mph or 63 km/hr) to 47 kt (54 mph or 87 km/hr) inclusive, either predicted or occurring and not directly associated with tropical cyclones.



**Storm Warning**

### Storm Warning:

A warning of 1-minute sustained surface winds of 48 kt (55 mph or 88 km/hr) or greater, either predicted or occurring, not directly associated with tropical cyclones.



**Nor'easterly Winds**

### Nor'easter

A strong low pressure system that affects the Mid Atlantic and New England States. These winter weather events are notorious for producing heavy snow, rain, and tremendous waves that crash onto Atlantic beaches, often causing beach erosion and structural damage. Wind gusts associated with these storms can exceed hurricane force in intensity. A nor'easter gets its name from the continuously strong nor'easterly winds blowing in from the ocean ahead of the storm and over the coastal areas.



**Hurricane Warning**

### Hurricane Warning:

A warning that sustained winds 64 kt (74 mph or 119 km/hr) or higher associated with a hurricane are expected in a specified coastal area in 24 hours or less. A hurricane warning can remain in effect when dangerously high water or a combination of dangerously high water and exceptionally high waves continue, even though winds may be less than hurricane force.



### Hurricane Watch:

An announcement for specific coastal areas that hurricane conditions are possible within 36 hours.

## Beaufort Wind Scale

Force	Wind (Knots)	WMO Classification	Appearance of Wind Effects	
			On the Water	On Land
0	Less than 1	Calm	Sea surface smooth and mirror-like	Calm, smoke rises vertically
1	1-3	Light Air	Scaly ripples, no foam crests	Smoke drift indicates wind direction, still wind vanes
2	4-6	Light Breeze	Small wavelets, crests glassy, no breaking	Wind felt on face, leaves rustle, vanes begin to move
3	7-10	Gentle Breeze	Large wavelets, crests begin to break, scattered whitecaps	Leaves and small twigs constantly moving, light flags extended
4	11-16	Moderate Breeze	Small waves 1-4 ft. becoming longer, numerous whitecaps	Dust, leaves, and loose paper lifted, small tree branches move
5	17-21	Fresh Breeze	Moderate waves 4-8 ft taking longer form, many whitecaps, some spray	Small trees in leaf begin to sway
6	22-27	Strong Breeze	Larger waves 8-13 ft, whitecaps common, more spray	Larger tree branches moving, whistling in wires
7	28-33	Near Gale	Sea heaps up, waves 13-20 ft, white foam streaks off breakers	Whole trees moving, resistance felt walking against wind
8	34-40	Gale	Moderately high (13-20 ft) waves of greater length, edges of crests begin to break into spindrift, foam blown in streaks	Whole trees in motion, resistance felt walking against wind
9	41-47	Strong Gale	High waves (20 ft), sea begins to roll, dense streaks of foam, spray may reduce visibility	Slight structural damage occurs, slate blows off roofs
10	48-55	Storm	Very high waves (20-30 ft) with overhanging crests, sea white with densely blown foam, heavy rolling, lowered visibility	Seldom experienced on land, trees broken or uprooted, "considerable structural damage"
11	56-63	Violent Storm	Exceptionally high (30-45 ft) waves, foam patches cover sea, visibility more reduced	
12	Cat 1: 64-82 Cat 2: 83-95 Cat 3: 96-113 Cat 4: 114-135 Cat 5: 135 >	Hurricane	Air filled with foam, waves over 45 ft, sea completely white with driving spray, visibility greatly reduced	