

An ideal way to study the relationship between pressure drop and wind development is readily available for locations worldwide at the National Data Buoy Center, at [www.ndbc.noaa.gov](http://www.ndbc.noaa.gov). Select the location of interest from a graphical display of observations, then choose the "combined plot of wind and pressure data." Examples are shown in Figure 5.5-2.

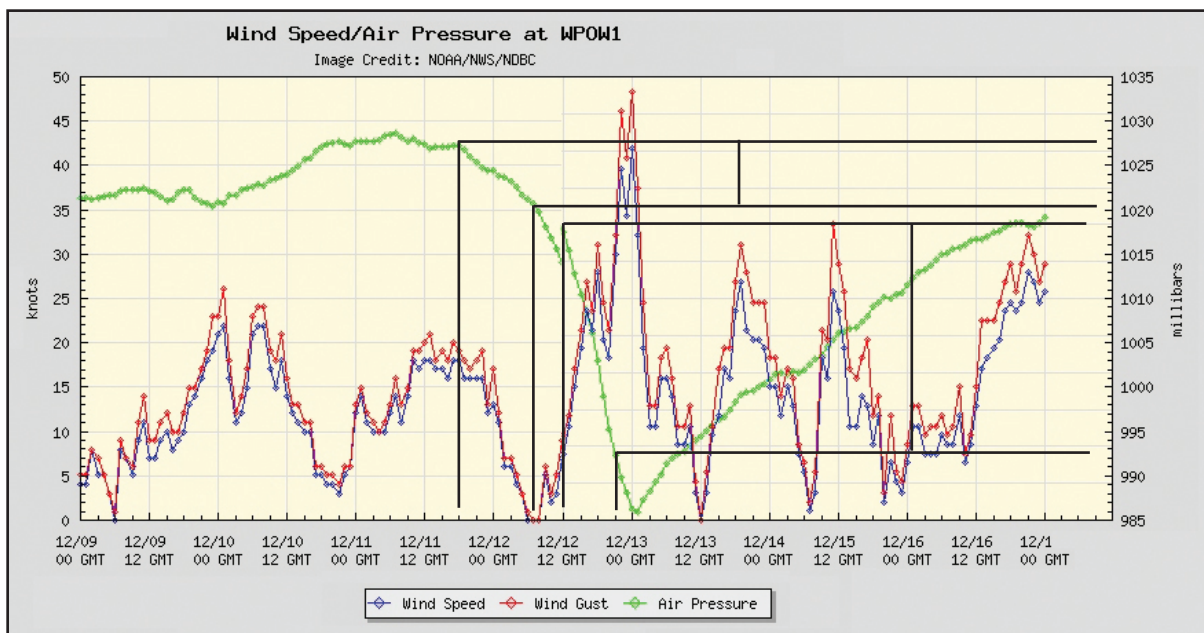
This does not represent the rate of pressure drop at edge of a storm itself. These will be higher. Severe storms and typhoons have pressure drops of 5 to 10 mb per 3 hours as the actual storm passes, and record drops are much higher near the eyes of hurricanes, and phenomenal in the very small centers of tornadoes.

Remember, though, that for *forecasting* we want to know what to look for *before* the actual storm is upon us, so it is the lesser steady drops to watch for. One way to express the guideline to help remember it is "4-5-6," that is, 4 or 5 mb in 6 hours is a definite

<i>Likely Significance</i>	<i>Steady pressure drop over 6 Hours</i>
Alert	Less than 3 mb
Caution	3 to 4 mb
Definite warning	4 to 5 mb
Too late for forecasting	More than 5 mb

warning that something is on the way. This guideline is presented in Table 5.5-4.

We presented this guideline back in the 90's and over the years have had good feedback from mariners who found it useful. It is important to remember, however, that you can get strong winds earlier than 4-5-6, especially on inland or coastal waters where the winds might be channeled to some extent. The notes in Figure 5.5-2 explain how to test this. The



**Figure 5.5-2.** Combined wind and pressure plot from [www.ndbc.noaa.gov](http://www.ndbc.noaa.gov). The ideal way to study relationship of pressure to wind or other parameters. For combined plots (many, but not all, stations offer these) you have to choose between m/s and mb or kts and inches of mercury. Here we have two pictures using each, pasted together, and hence the slight jog at 12/12. For the 14 hr before the plunge and before the wind built, the barometer dropped from 1028 to 1020, for a rate of  $8/14 = 3.4$  mb/6hr. But during the first 6hr the drop was 5/6h. At the plunge the drop was about 25 mb in 9hr or about 17 mb/6hr. At this stage it is not forecasting, there is 30+ kts of wind. This is just a random example. It roughly supports the guidelines, but more importantly it shows how you can test these ideas.