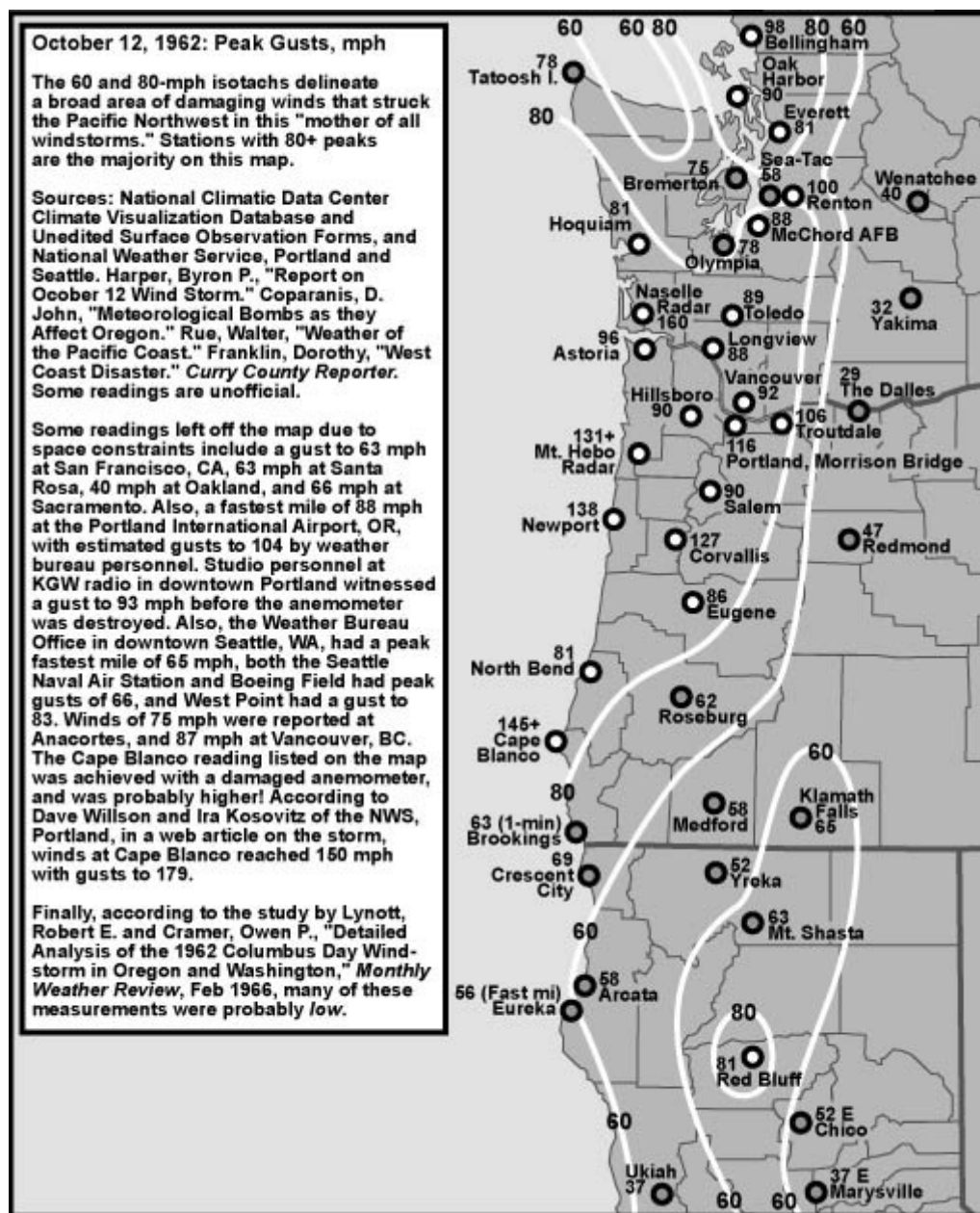


# The "Big Blow" of Columbus Day 1962

a perspective by

Wolf Read



With little fear of exaggeration, it can be stated that the Columbus Day Storm of 1962 was the most powerful windstorm to strike the Pacific Northwest in the 20th century. Certainly no windstorm since has generated as much widespread devastation as the Big Blow, not even close. Comparisons of peak gusts, where they can be had, tend to put the Big Blow at the top, but such figures are abstract, and often don't reveal the very reasons why those who lived through the Columbus Day Storm remember it so vividly. The sudden violence of the wind compelled many people to take cover in their homes or basements, a lasting memory, and the sheer magnitude of destruction, in literally all categories of accounting, puts this storm far above any other. For example, the northwest Oregon town of Lake Oswego had about 4,000 houses within its borders in 1962--the Columbus Day Storm damaged 70% of these

structures [1]. A more typical windstorm might not even harm this many houses within the entire range of its influence. Indeed throughout the Willamette Valley, undamaged homes were the exception, not the rule. In 1962 dollars, the Columbus Day Storm caused an estimated \$230-280 million in damage to property in California, Oregon, Washington and British Columbia combined, with \$170-200 million happening in Oregon alone [2]. This damage figure is comparable to eastern hurricanes that made landfall in the 1957-1961 time period: Audrey, 1957, \$150M, Donna, 1960, \$387M, and Carla, 1961, \$408M [3]. The "Big Blow" was declared the worst natural disaster of 1962 by the Metropolitan Life Insurance Company. In terms of timber loss, about 11.2 billion board feet was felled by the Big Blow in Oregon and Washington combined. In sheer gustiness of wind, as indicated by the ratio of maximum gust speed to sustained wind speed, called the gust factor, the Columbus Day Storm behaved more like a hurricane than a typical midlatitude cyclone [4]. The large number of 1,000-year-old plus trees blown down suggests that the Columbus Day Storm may have been the event of the millennium [5], though such inferences are speculative at best.

The Columbus Day Storm was born explosively when the highly degraded extratropical remains of typhoon Freda drifted into a powerful storm formation zone off of northern California and regenerated the ailing cyclone [6]. The extratropical cyclone origin gives the event a unique place among Northwest windstorms, for, as far as is known, this has not happened at any other time in the period of climatological record. Certainly the remains of dead typhoons have arrived on the Pacific Coast on many occasions since 1950, but few have come ashore as strong storms, and none but the ghostly remains of Freda in 1962 have been spun into a terrific wave cyclone. The abundant energy that arrived with the tropical system may partly explain the level of violence achieved during the Big Blow. And this tropical influence suggests that the storm of 1962 be placed in its own category. A lone, dark overachiever whose closest cousins may be those powerful extratropical storms experienced on the East Coast, such as post-landfall hurricane Hazel of 1954. There are other reasons for a unique place in Pacific Northwest climatology, such as pressure tendencies that mirrored fast-moving landfalling systems while the center of the Columbus Day cyclone stayed offshore, as will be discussed in detail in the storm data section, and simply the storm's incredible peak wind velocities (more on this shortly).

The Columbus Day Storm struck at a time when many regularly reporting weather stations were operating. This gives the Big Blow a unique place when it is compared to major events that are deeper in the past, such as the 1880 Storm King. With a large body of good data, the storm can be studied in great detail, from its formation, to its track, and its effects at a wide variety of locations. Of course, many storms have struck during the period of excellent climatological record. Out of all these tempests, the Columbus Day Storm was an event that generally stands far above the others.

It is for the above reasons that the Columbus Day Big Blow is often used as a benchmark for comparing windstorms, as is done at this website. Thus, many facts and figures about the Columbus Day Storm are found on pages dedicated to other windstorms.

However, caution should be used when making certain types of comparisons. As discussed on the December 12, 1995 windstorm page, there are aspects about the Columbus Day Storm that are different from the standard attack from a big cyclone passing northward off of the Pacific Coast. The Columbus Day cyclone's minimum central pressure of about 960 mb really wasn't that unusual among the other big

storms of history [7]. For instance, with a minimum pressure of 954 mb, the December 1995 storm was deeper, as was the November 1981 storm's 958 mb [8]. However, the Columbus Day winds were much stronger than the 1995 and 1981 storms. The 11-station average peak gust figures used on this website reveal this: 61.4 for December 1995, 65.9 for November 1981, and a screaming 80.5 for Columbus Day 1962 [9]. The Big Blow of 1962 was the only storm to break 70 in the 11-station measure for the 1950-to-present era, and it accomplished this by a large margin! The Columbus Day Storm is an outlier, a singularity. An event like the Columbus Day Storm probably won't happen again for another 100 years, maybe even 1,000. For some comparisons, the Columbus Day Storm probably should be put in its own category--especially when trying to forecast the peak wind potential of a new cyclogenetic bomb based on windstorm climatology.

### References for the Above Introduction

[1] *Oregon City Enterprise-Courier*, October 15, 1962, p. 9.

[2] Damage estimates are from many sources, including, (1) Lucia, E., *The Big Blow*, p 64. (2) Phillips, Earl L, "Columbus Day Storm in Washington October 12, 1962," Weather Bureau State Climatologist Office, no completion date given. (3) Sumner, Howard C, "Pacific Coast storm, October 11-13, 1962," *Weekly Weather and Crop Bulletin, National Summary*, U.S. Department of Commerce, Weather Bureau, Vol XLIX, No. 44, October 29, 1962. Other figures cited after this line also from these sources, unless indicated otherwise.

[3] Simpson, R. H., Riehl, H., *The Hurricane and its Impact*, p. 21.

[4] See, Simpson, R. H., Riehl, H., *The Hurricane and its Impact*, p. 204-212, for a more thorough explanation of gust factor and how it relates to hurricanes and other types of storms. Basically, a typical midlatitude storm might generate gusts about 1.3 times that of the sustained wind speed, and a hurricane's gusts often reach 1.5 times the sustained windspeed. Though many locations saw gusts in the 1.3 range in the Columbus Day Storm, there were those with significantly higher ratios: take Bellingham, WA, for instance, which reported at 23:58 PST sustained winds of 58 mph with gusts to 98. That's a ratio of over 1.6.

[5] *Oregonian*, November 17, 1981, suggested in the Editorials Section, page B4.

[6] Discussion on the storm's tropical connection can be found in several references, including: (1) Franklin, Dorothy, "West Coast Disaster," in the technical discussion, "The Terrible Tempest of the Twelfth." (2) Lynott, Robert E., Cramer Owen P, "Detailed analysis of the 1962 Columbus Day windstorm in Oregon and Washington," *Monthly Weather Review*, February 1966, Page 110.

[7] Minimum central pressure for the Columbus Day Storm is from Lynott, Robert E., Cramer Owen P, "Detailed analysis of the 1962 Columbus Day windstorm in Oregon and Washington," *Monthly Weather Review*, February 1966.

[8] Minimum central pressures for the November 1981 and December 1995 storms are from Willson, Dave, Kosovitz, Ira, "Columbus Day 1962 Storm," online summary provided by the *National Weather Service, Portland*, aired on October 2002.

[9] Peak gust data is from the *National Climatic Data Center*, unedited surface observation forms for Aracta, Medford, North Bend, Eugene, Salem, Portland,

Astoria, Olympia, Sea-Tac, Tatoosh Island and Bellingham, October 12, 1962 (forms WBAN 10A and 10B).

### As Powerful as a Hurricane

**Table 1**, below, compares the Columbus Day Storm peak gusts to those of Hurricane Hazel. There is a tendency among weather officials not to do these kinds of comparisons because the two types of storms--midlatitude cyclones and hurricanes--are so different. There is also the added "taint" from the fact that the Columbus Day Storm was generated in part by entraining the extratropical remains of typhoon Freda, and the news media in some cases suggested that the Columbus Day Storm *was* Freda. However, hurricane Hazel, after making landfall near Myrtle Beach, SC, and then shooting northward up the Eastern Seaboard, "degenerated" into a very powerful extratropical cyclone, according to some interpretations of the events in 1954. (For hurricanes that accelerate rapidly northward, it often becomes difficult to ascertain just when the core becomes extratropical. See especially Simpson, R. H., and Riehl, H, "The Hurricane and its Impact," pp. 178-184 for more a more thorough discussion of this fact.) So possibly Hazel wasn't a far cry different from the Columbus Day Big Blow--both storms seem to have spent part of their existence in a gray zone between solidly defined hurricanes and midlatitude cyclones, the mark of Nature's disdain for the hard categories often created by humans. And, indeed, there are plenty of similarities between Hazel and the Columbus Day Storm: both storms had a significant tropical influence, both made landfall in mid-October, the two storms first struck to the south and then veered northward at a fast clip and raced all the way into Canada, they kicked up record wind speeds over a large part of their prospective afflicted coastal strips, and they dumped heavy rains over large regions. And so, we have the side-by-side comparisons of wind speeds below. This is to remind the reader just how powerful the Columbus Day Storm was, evidence that the Pacific Northwest can be struck by truly severe weather on occasion.

| <b>Columbus Day Storm of October 12,1962 And Hurricane Hazel of October 15, 1954</b> |                  |                             |                  |
|--|------------------|-----------------------------|------------------|
| <b>Columbus Day 1962</b>   |                  | <b>Hazel 1954</b>           |                  |
| <i>Location</i>  | <i>Peak Gust</i> | <i>Location</i>             | <i>Peak Gust</i> |
| Newport, OR  | 138 mph          | Patuxent River NAS, MD      | 127 mph          |
| Corvallis, OR  | 127 mph          | Mt. Washington, NH          | 127 mph          |
| Portland, Morrison Bridge, OR  | 116 mph          | Washington DC Nat AP, VA    | 113 mph          |
| Troutdale, OR  | 106 mph          | Langley AFB, VA             | 111 mph          |
| Portland Intl AP, OR   | 104 mph          | Annapolis NAF, MD           | 100 mph          |
| Renton AP, WA  | 100 mph          | Willow Grove NAS, PA        | 99 mph           |
| Bellingham, WA   | 98 mph           | Norfolk NAS, VA             | 98 mph           |
| Astoria, OR  | 96 mph           | Richmond Byrd AP, VA        | 91 mph           |
| Vancouver, WA  | 92 mph           | Aberdeen Phillips Field, MD | 89 mph           |
| Salem, OR  | 90 mph           | Griffiss AFB, NY            | 88 mph           |
| Tacoma McChord Field, WA   | 88 mph           | Cherry Point MCAS, NC       | 88 mph           |
| Eugene, OR   | 86 mph           | Lakehurst, NAS, NJ          | 86 mph           |
| North Bend, OR   | 81 mph           | Fayetteville Pope AFB, NC   | 81 mph           |
| Everett Paine Field, WA  | 81 mph           | Washington DC Bolling, MD   | 81 mph           |

|                            |        |                           |        |
|----------------------------|--------|---------------------------|--------|
| Hoquiam, WA                | 81 mph | Atlantic City NAS, NJ     | 77 mph |
| Olympia AP, WA             | 78 mph | Dahlgren Weapons Lab, VA  | 76 mph |
| Crescent City, CA          | 69 mph | Quantico MCAS, VA         | 71 mph |
| Seattle NAS, WA            | 66 mph | Hempstead AFB, NY         | 70 mph |
| San Francisco Intl AP, CA  | 63 mph | Weeksville NAF, NC        | 67 mph |
| Mt. Shasta, CA             | 63 mph | Portland Intl Jetport, ME | 67 mph |
| Roseburg, OR               | 62 mph | Chicopee Falls Westo, MA  | 64 mph |
| Arcata, CA                 | 58 mph | Sumpter Shaw AFB, SC      | 58 mph |
| Medford, OR                | 58 mph | Brunswick NAS, ME         | 51 mph |
| Seattle-Tacoma Intl AP, WA | 58 mph | Manchester Grenier, NH    | 47 mph |
| Yreka, CA                  | 52 mph | Boston Logan Intl AP, MA  | 41 mph |

Sources for **Table 1**, above: For the Columbus Day Storm, sources include the *National Climatic Data Center* unedited surface observation forms and Cimate Visualization Database, the *National Weather Service*, Portland and Seattle, and Fitzgerald, Dorothy, "West Coast Disaster," 1962. All of the peak gusts for Hurricane Hazel come from the National Climatic Data Center's Climate Visualization Database, and are converted from knots.

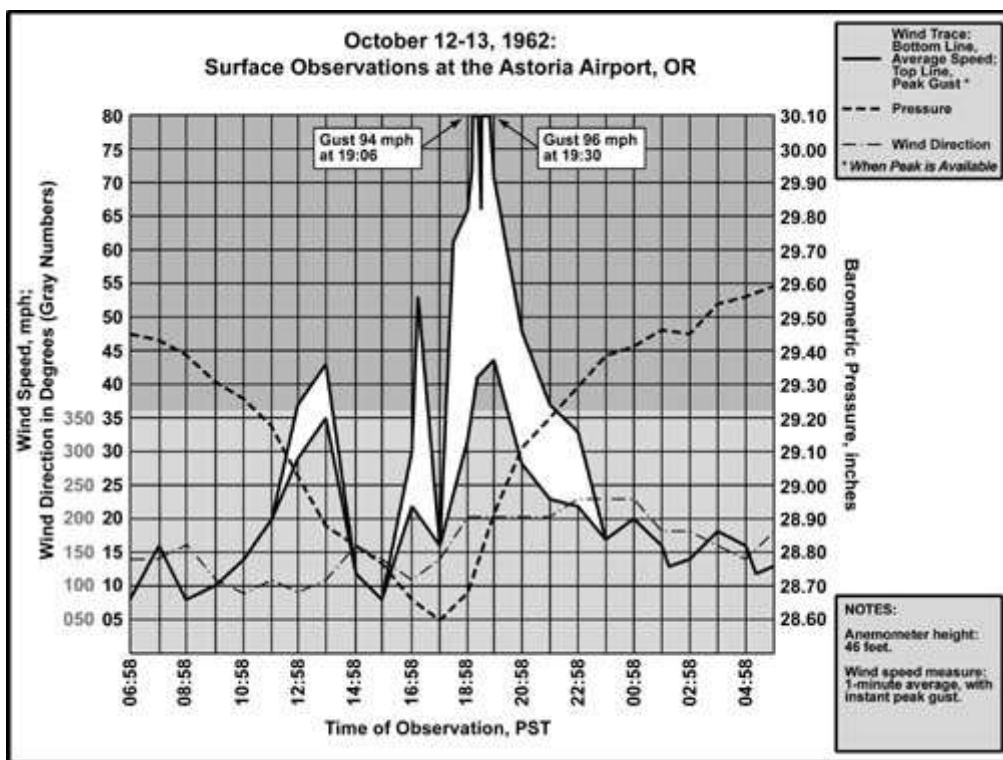
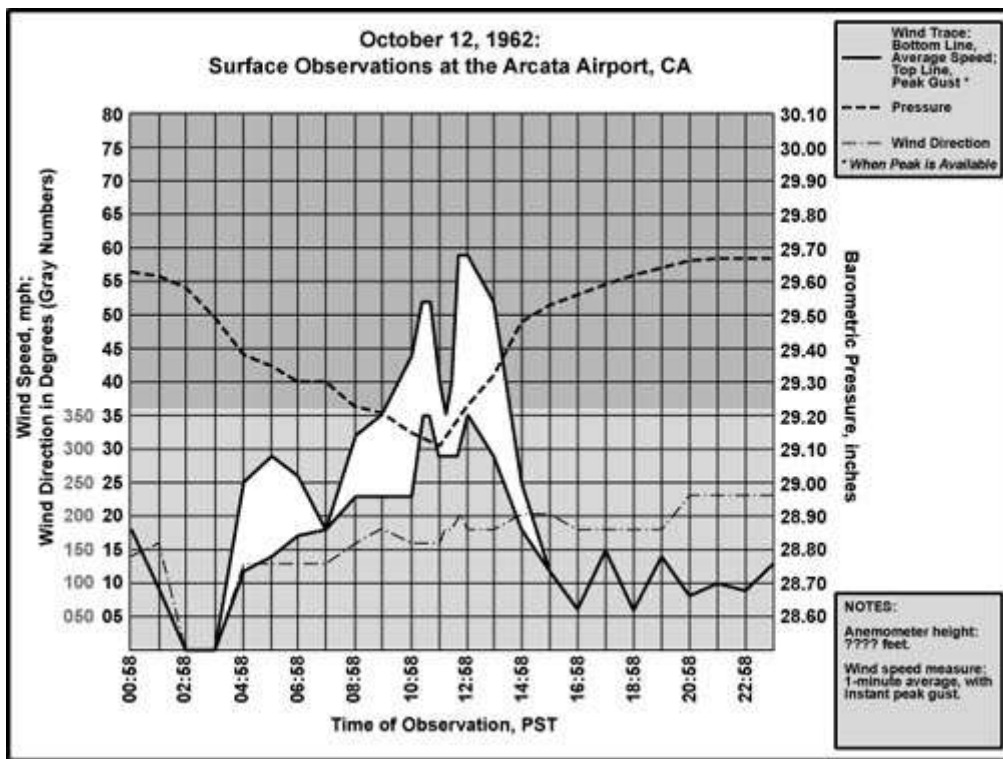
## Some Details About the Columbus Day Storm

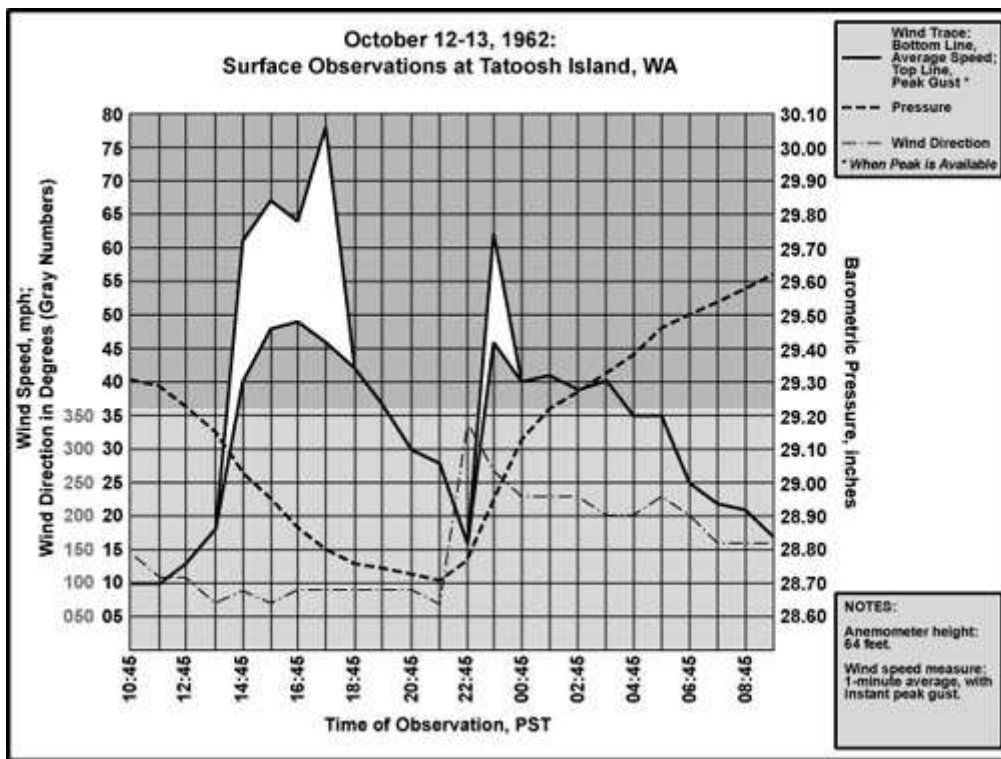
### Meteograms

Data for these charts are from microfilm copies of the original unedited surface observation forms for October 11 and 12, 1962, obtained from the *National Climatic Data Center*.

*Meteograms, coastal stations, south to north:*

These graphics reveal the rapid progress of the storm as it raced northward just offshore, hammering Arcata with a strong whole gale, throwing incredible hurricane winds at Astoria, and then weakening as the cyclone's center neared, and passed over, Tatoosh Island.

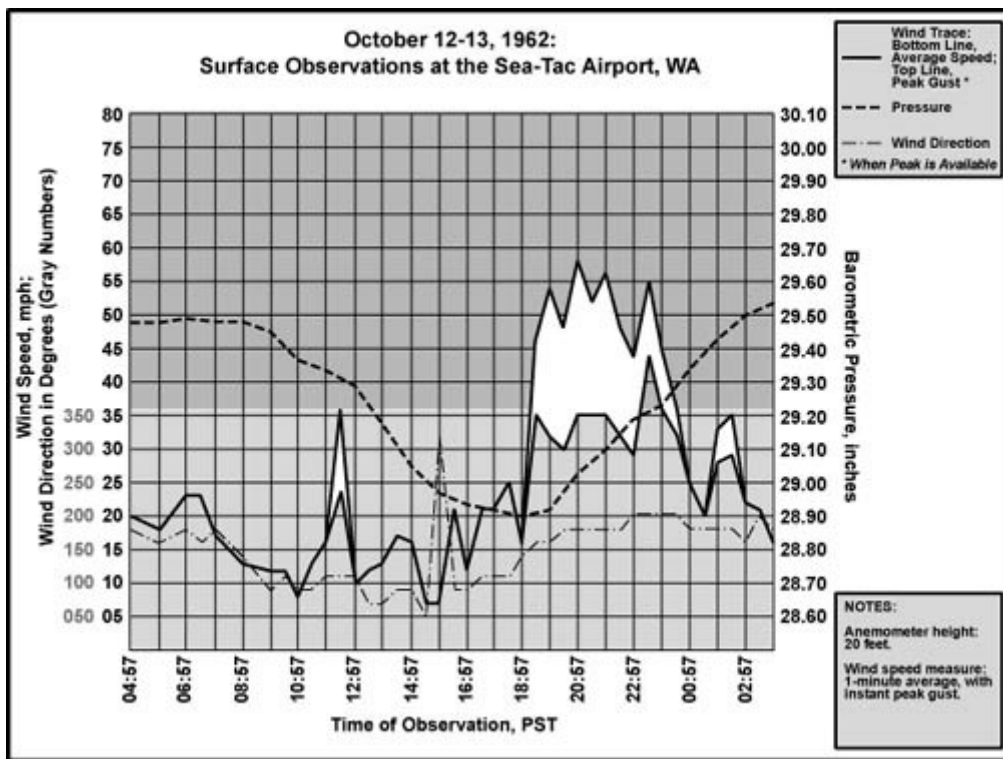




When comparing Tatoosh Island with Astoria in the above meteograms, note the strong east winds that picked up ahead of the incoming storm at both stations. East winds tend to escalate at these two stations, and others, including Portland, ahead of the big storms, as the pressure gradients tend to be favorable for airflow from that direction. On Columbus Day 1962, east gusts at Astoria reached 43 mph during the first spike of winds on the meteogram, whereas the trace at Tatoosh is much more exaggerated, with gusts as high as 78 mph. Indeed, the pre-low-center-passage easterly winds at Tatoosh were much stronger than the westerly winds that picked up after the cyclone's center passed over the island. This has created some confusion among lists of peak gusts for the Columbus Day Storm. Some meteorologists from the time didn't "count" the easterly winds that escalated ahead of the storm, and listed the peak gust as 62 mph for Tatoosh, which was the westerly maximum. This is probably because the mechanism for generating the two separate periods of maximum winds was somewhat different. However, 78 mph speaks pretty loudly, and, on this web page, I use this value for Tatoosh's peak.

*Meteograms, interior stations, south to north:*

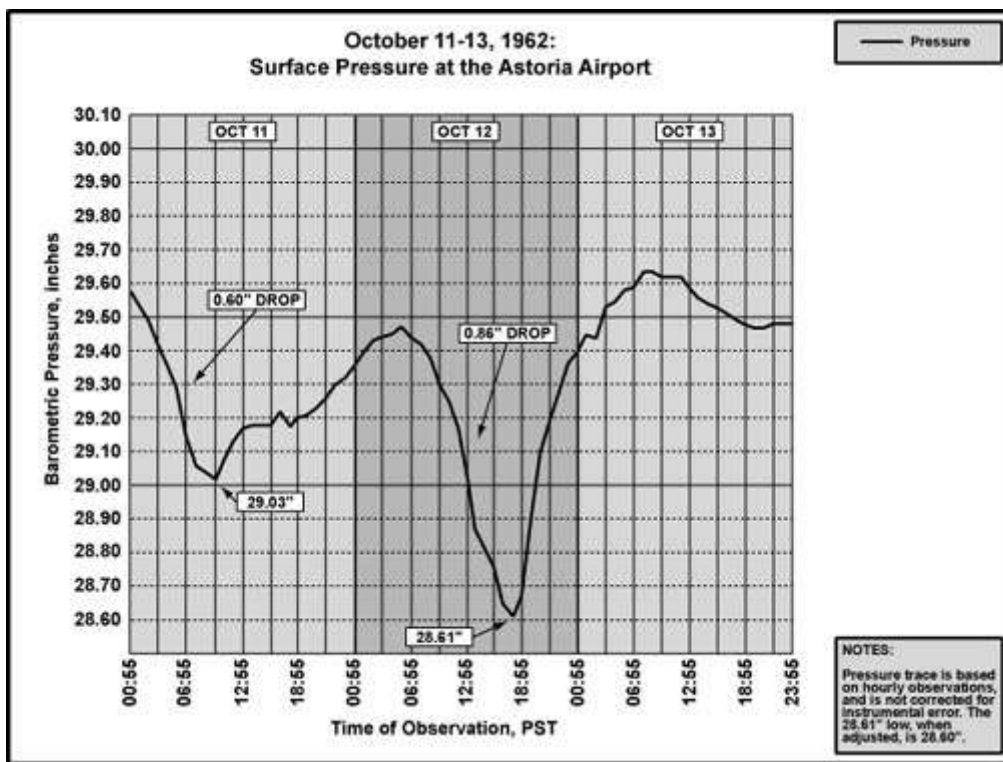
One day, when I have lots and lots of time, I'll add more to this small collection.



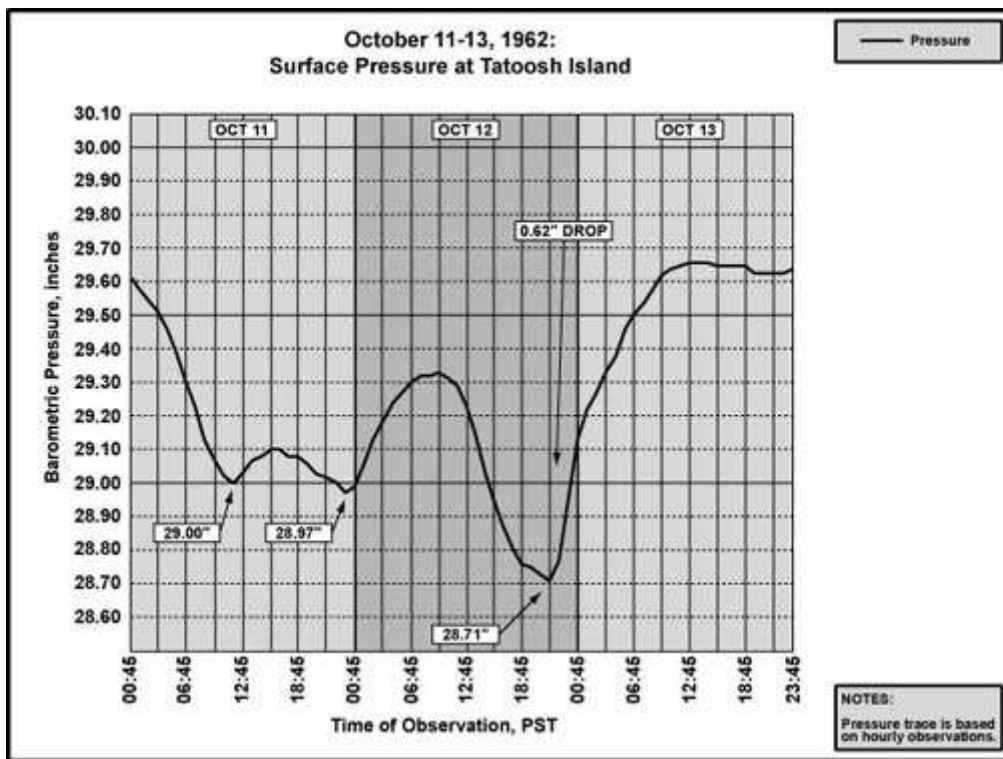
**Barograms**

Data for these charts are from microfilm copies of the original unedited surface observation forms for October 11 through 13, 1962, obtained from the National Climatic Data Center. These charts depict the uncorrected hourly observations from the surface observation forms, and do not include special reports that might have indicated pressure minima.

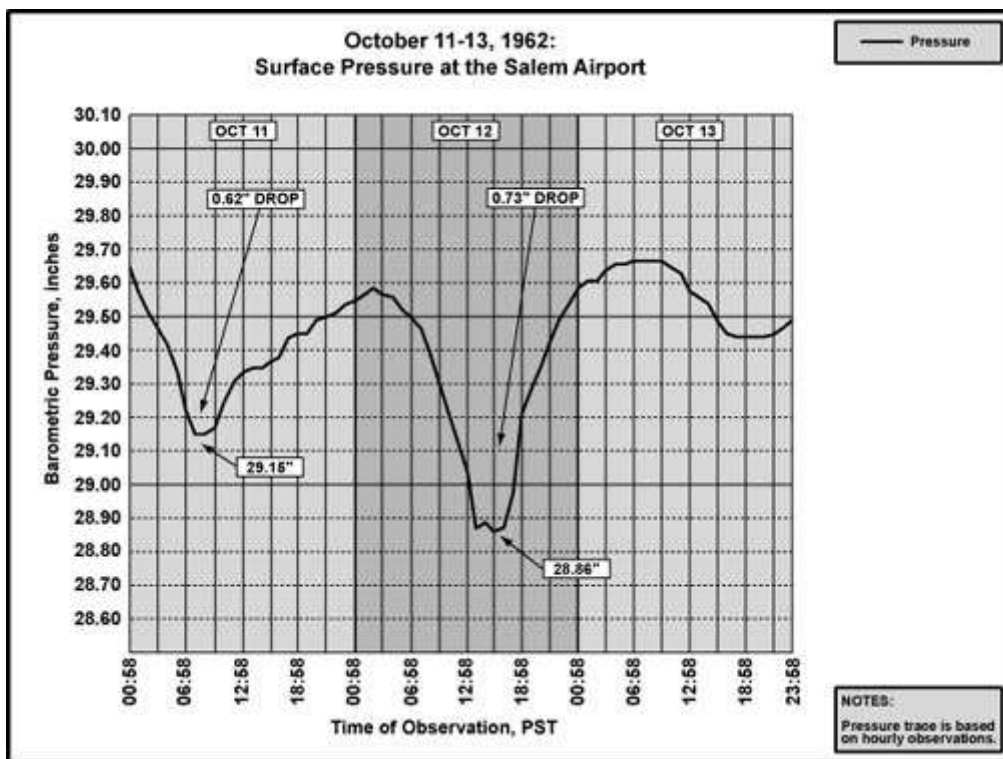
Coastal stations, south to north:

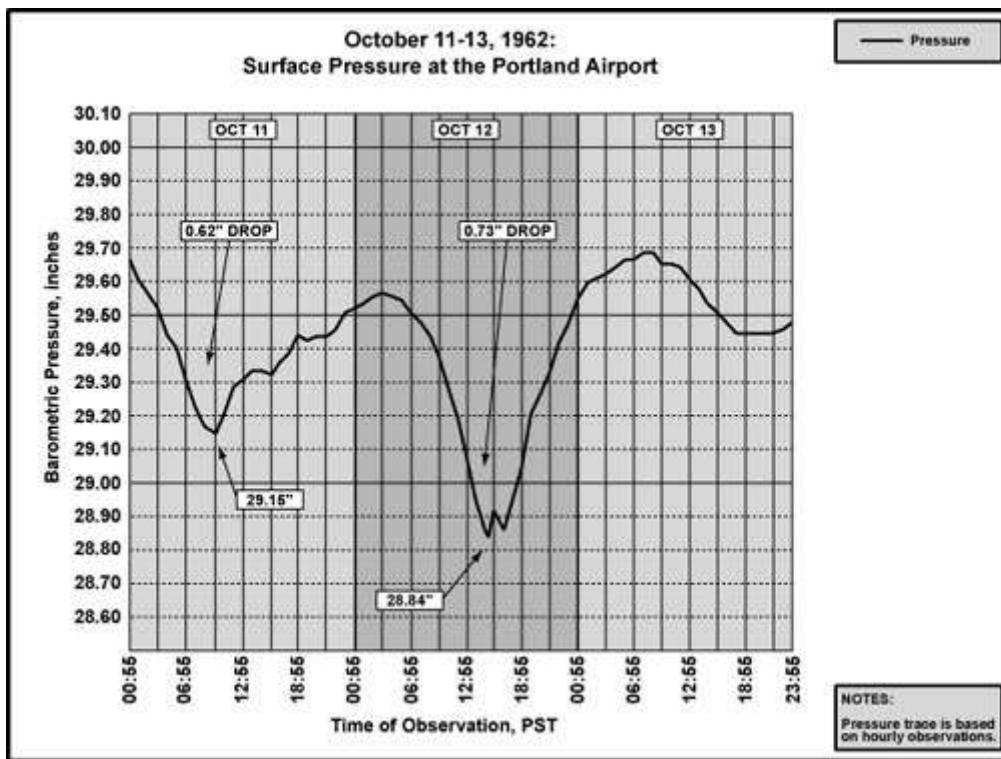






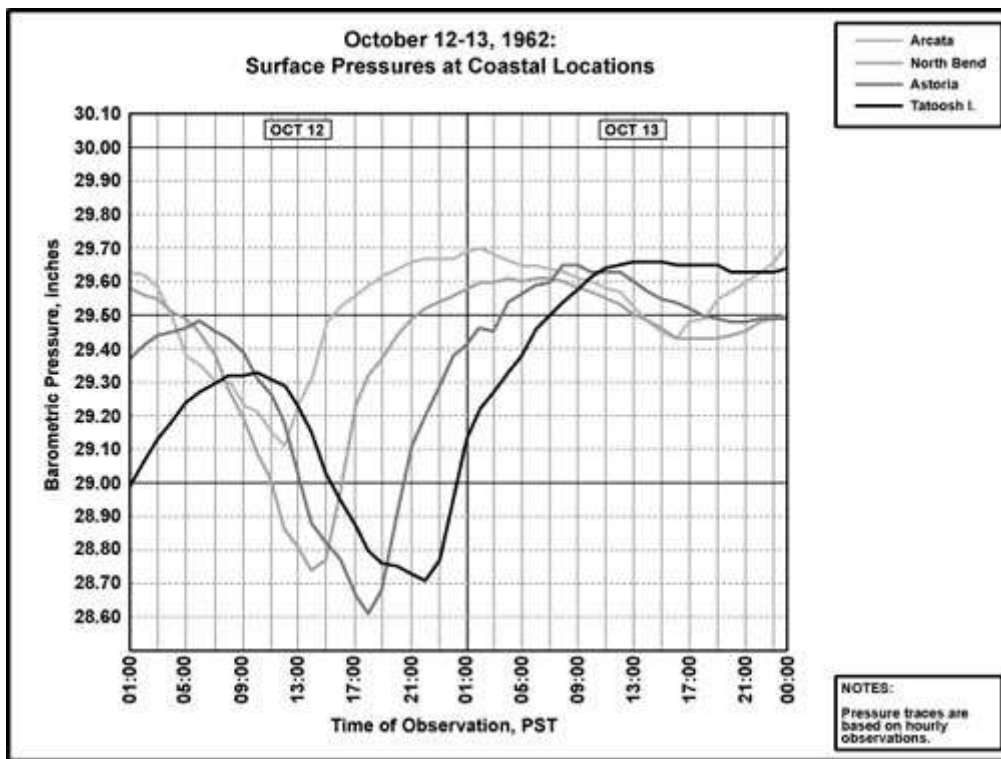
Interior stations, south to north:





## Pressure "Spectra"

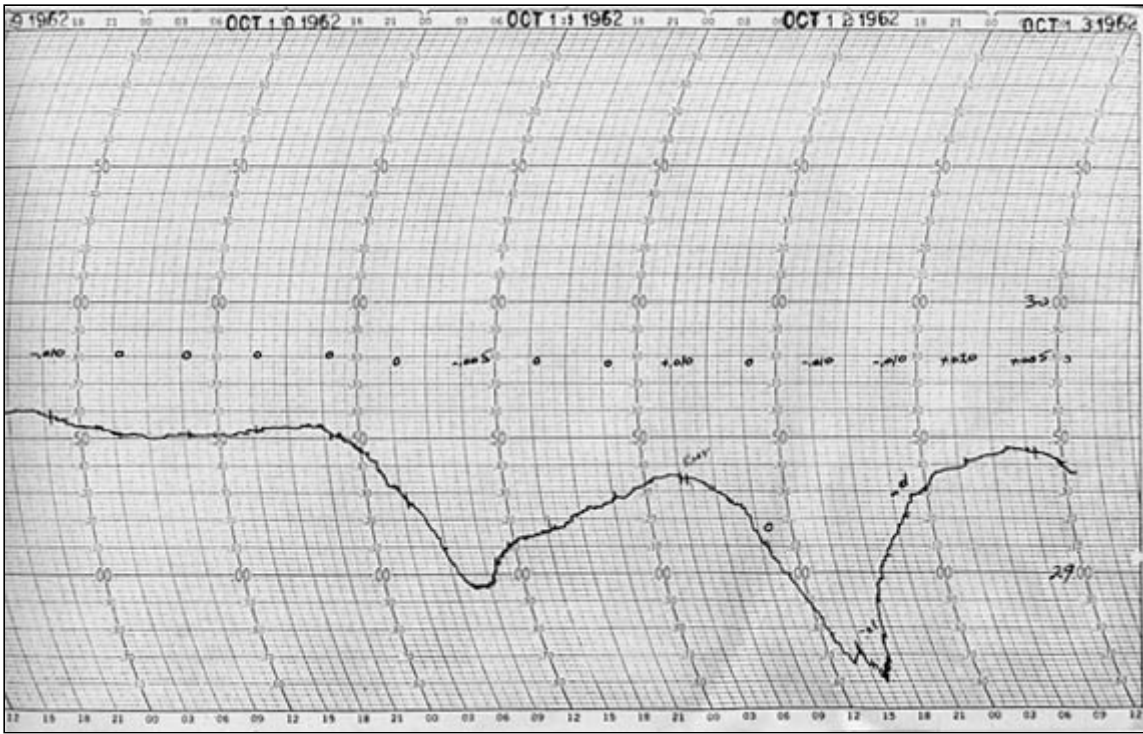
Coastal station barographic traces compared in absolute time. This graphic demonstrates the rapid intensification of the storm as it progressed northward just off the Oregon coast. Peak intensity was achieved before the time the cyclone had reached the latitude of Astoria, as indicated by a sharp V-trace, and the lowest pressure of the four stations. Note that North Bend's actual low pressure was 28.70" at 14:30, which was between the hourly observations. By the time the low had reached Tatoosh Island, it had weakened and broadened, making a curve more reminiscent of later storms, like [November 1981](#) and [December 1995](#). Note that the cyclone's center almost passed right over Tatoosh, while it raced northward about 50 miles west of Astoria. That the Tatoosh trace doesn't show a sharper curve than Astoria under these circumstances is a pretty clear sign of a degrading storm system.



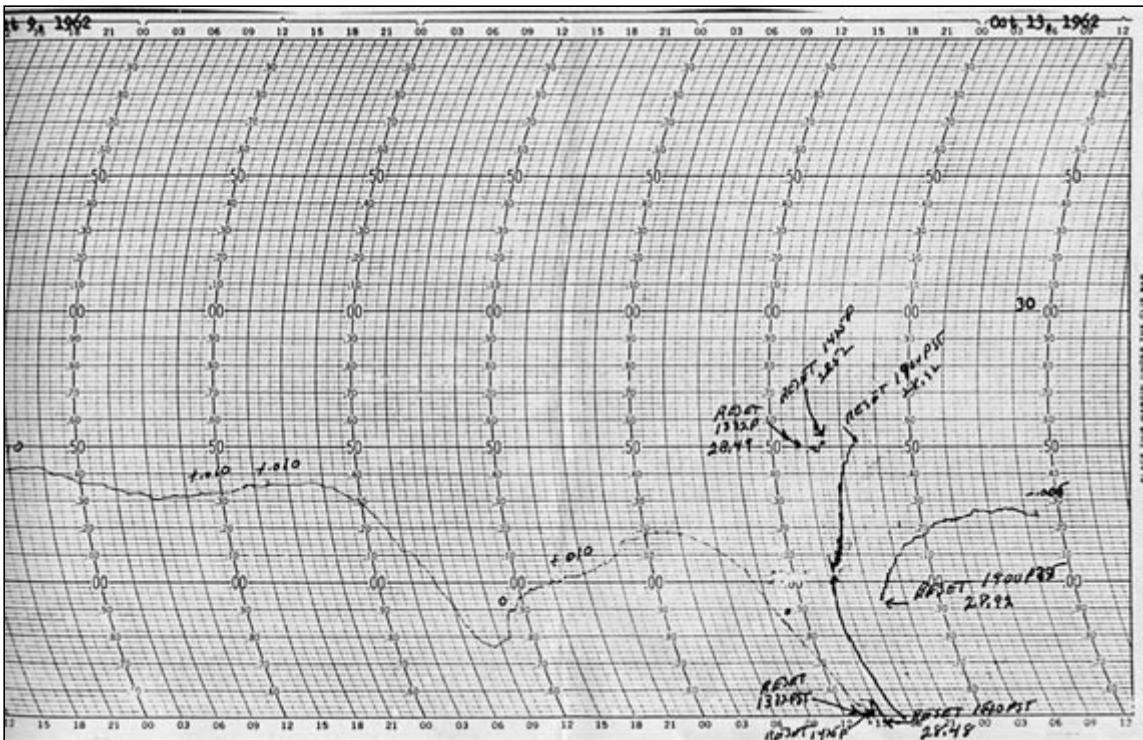
## Barograph Charts

These barographs were obtained from the National Climatic Data Center. Note that these are records of station pressure, not Sea-Level pressure. Station pressure tends to be lower than pressures adjusted to sea-level, the magnitude of the difference being related to a station's elevation.

Below is a copy of the actual Columbus Day Storm barograph trace for Salem, barometer elevation 201.3 feet. The Columbus Day Storm produced the sharp "V" to the right. This trace also shows the fairly strong dip of the October 11th storm to the left center. For the Columbus Day Storm, note the sharply defined double-dip at the bottom of the "V", a feature that was turned up strongly at Willamette Valley stations during this storm. The initial dip was due to the passage of the storm's leading front. This kind of double-dip signature has appeared in many windstorms, often more weakly than the one below. Apparently, double-dips didn't get much attention until the Columbus Day Storm's clear examples, and this feature is often remarked upon in scientific literature on the storm of '62.



Below is a copy of Eugene's barograph trace, barometer elevation 373 feet. The magnitude of the storm caused much worry over the barogram. The needle started flirting with the bottom of the graph around 13:32, forcing a reset, and the indicator was raised a full 1.00". The needle began to rise shortly after, and was reset back to its original position at 14:25. However, the storm's famous double-dip caught the forecasters off-guard, and the needle dropped below the bottom border of the graph around 15:20. The barometer was then reset 0.50" at 15:40, and left alone until 19:00, when it was returned to its original setting.



**General Storm Data**

## Minimum Pressures and Peak Gradients

**Table 2**, below, is a list of the lowest barometric pressures, and time of occurrence, produced by the two storms of October 11th and 12th, 1962. It appears that Portland's lowest pressure was achieved during the first dip in the double-dip signature shown in the storm, and Eugene and Salem had minimum during the second dip, which accounts for the earlier arrival of pressure minimum at Portland.

For the period 1950 to present, the 11-station average minimum pressure for the Columbus Day Storm, 28.84" (976.6 mb), is second only to the 28.69" (971.6 mb) value achieved during the December 12, 1995 storm.

Among the lowest pressures measured during the October 12, 1962 event was 28.54" (966.5 mb) at Destruction Island, WA, and 28.42" (962.4 mb) from the picket ship *MS*, off the Northern California coast.

Sources: Microfilm copies of the unedited surface observation forms, obtained from the *National Climatic Data Center*. Destruction Island and picket ship minimum pressures are from Sumner, Howard C, "Pacific Coast storm, October 11-13, 1962," Preliminary report, *Weekly Weather and Crop Bulletin, National Summary*, U.S. Department of Commerce, Weather Bureau, Vol XLIX, No. 44, October 29, 1962. Some minimums, including Salem, Sea-Tac and Bellingham, are from Decker, Fred W., Cramer, Owen P., Harper, Byron P, "The Columbus Day 'Big Blow' in Oregon," *Weatherwise*, December 1962.

| Location           | Lowest Pressure Storm # 1 | Storm # 1 Approx Time of Lowest Pressure | Lowest Pressure Storm # 2 | Storm # 2 Approx Time of Lowest Pressure |
|--------------------|---------------------------|--|---------------------------|--|
| <i>California:</i> |                           |  |                           |  |
| Arcata             | 29.38"                    | 08:00 HRS, 11th                          | 29.11"                    | 12:00 HRS, 12th                          |
| <i>Oregon:</i>     |                           |  |                           |  |
| North Bend         | 29.11"                    | 06:00 HRS, 11th                          | 28.70"                    | 14:30 HRS, 12th                          |
| Astoria            | 29.03"                    | 10:00 HRS, 11th                          | 28.62"                    | 18:00 HRS, 12th                          |
| Medford            | 29.33"                    | 07:00 HRS, 11th                          | 29.03"                    | 13:00 HRS, 12th                          |
| Eugene             | 29.15"                    | 08:00 HRS, 11th                          | 28.86"                    | 16:00 HRS, 12th                          |
| Salem [1]          | 29.15"                    | 08:00 HRS, 11th                          | 28.80"                    | 16:20 HRS, 12th                          |
| Portland           | 29.15"                    | 10:00 HRS, 11th                          | 28.84"                    | 15:13 HRS, 12th                          |
| <i>Washington:</i> |                           |  |                           |  |
| Quillayute [2]     | 29.00"                    | 12:00 HRS, 11th                          | 28.71"                    | 22:00 HRS, 12th                          |
| Olympia            | 29.17"                    | 11:00 HRS, 11th                          | 28.83"                    | 19:05 HRS, 12th                          |
| Seattle (Sea-Tac)  | 29.16"                    | 11:00 HRS, 11th                          | 28.88"                    | 19:00 HRS, 12th                          |
| Bellingham         | 29.23"                    | 12:00 HRS, 11th                          | 28.90"                    | 22:00 HRS, 12th                          |
|                    |                           |  |                           |  |
| AVERAGE            | 29.17"                    |  | 28.84"                    |  |

### Table 2 Notes:

[1] Among the hourly sea-level pressure notations at Salem, the lowest reading was 28.86". Sea-level pressure was not indicated in the special reports between the hourly observations. However, altimeter was noted in the special reports. In the case of Salem, the lowest altimeter pressure indicated was 28.79" at 16:20 HRS. Salem's lowest pressure has been stated as 28.80" in a number of publications.

[2] No pressure data for Quillayute, WA, for the 1962 time period. The readings are for Tatoosh Island.

**Table 3**, below, is a list of the maximum hourly pressure gradients, and time of occurrence, for the two storms. The passage of an upper-level trough behind the October 11th storm caused short-lived barometric drops for stations in the north part of the region. Pressure gradients tightened again during the night--in some cases more strongly than during the passage of the Oct 11th cyclone--and wind speeds elevated to gale force in places like Astoria and Tatoosh Island. Thus, the region strongly affected by this upper-level trough experienced three separate gale-wind events in the span of about 30 hours from October 11th to 12th.

Of the gradient measures for the Columbus Day Storm, the ACV-OTH, OTH-AST, MFR-EUG and AST-DLS readings are the highest in the 1950-to-present record. The December 12, 1995 windstorm holds the record for steepest ACV-AST with +33.9 mb (+1.00"), the October 21, 1934 storm holds the records for OTH-TTI with +33.2 mb (+0.98") and SEA-BLI with +11.5 mb (+0.34"), the October 2, 1967 storm holds the record for EUG-PDX with +13.7 mb (+0.40"), and the January 20, 1993 "Inauguration Day Storm" holds the record for PDX-SEA with a whopping +15.4 mb (+0.45"). The +17.0 mb (+0.50") reading for the MFR-EUG measure during the Columbus Day Storm is nothing short of phenomenal--the next two highest events for this measure were +14.8 mb (+0.44") on October 2, 1967 and +13.3 mb (+0.39") on December 4, 1951.

Source: Microfilm copies of the unedited surface observation forms, obtained from the *National Climatic Data Center*.

| Location         | Max Gradient, mb Storm # 1 | Approx Time of Max Gradient Storm # 1 | Max Gradient, mb Storm # 2 | Approx Time of Max Gradient Storm # 2 |
|------------------|----------------------------|---------------------------------------|----------------------------|---------------------------------------|
| <i>Coast:</i>    |                            |                                       |                            |                                       |
| ACV-OTH          | 10.3                       | 06:00 HRS, 11th                       | 24.0                       | 15:00 HRS, 12th                       |
| OTH-AST          | 8.5                        | 11:00 HRS, 11th                       | 23.9                       | 18:00 HRS, 12th                       |
| AST-TTI [1]      | 5.1                        | 13:00 HRS, 11th                       | 17.7                       | 23:00 HRS, 12th                       |
| ACV-AST          | 16.3                       | 10:00 HRS, 11th                       | 33.0                       | 18:00 HRS, 12th                       |
| OTH-TTI          | 12.4                       | 12:00 HRS, 11th                       | 27.3                       | 22:00 HRS, 12th                       |
| <i>Interior:</i> |                            |                                       |                            |                                       |
| MFR-EUG          | 10.8                       | 15:00 HRS, 11th                       | 17.0                       | 16:00 HRS, 12th                       |
| EUG-PDX          | 3.7                        | 10:00 HRS, 11th                       | 9.6                        | 18:00 HRS, 12th                       |
| PDX-SEA          | 3.7                        | 14:00 HRS, 11th                       | 9.9                        | 20:00 HRS, 12th                       |
| SEA-BLI          | 2.4                        | 19:00 HRS, 11th                       | 9.2                        | 00:00 HRS, 13th                       |
| AST-DLS          | -13.8                      | 08:00 HRS, 11th                       | -17.5                      | 18:00 HRS, 12th                       |

**Table 3 Notes:**

[1] No pressure data for Quillayute, WA, for the 1962 time period. Tatoosh Island was the primary station in Northwest Washington before 1964.

**Pressure Tendencies**

**Table 4**, *below*, lists the maximum hourly pressure falls and rises achieved during the Columbus Day Storm for 11 Pacific Northwest stations. These tendencies are phenomenal, the mark of a truly unique storm. The 11-station average peak declension of -4.6 mb (-0.14") per hour is the highest in the 1950-to-present era. Only the windstorms of December 21, 1955 with -4.1 mb (-0.12") and December 4, 1951 with -4.4 mb (-0.13") have come close to the extreme Columbus Day Storm value. The story is the same for average pressure rise. The Columbus Day Storm's average value of +6.2 mb (+0.18") is in a class by itself, with the runners-up being the Thanksgiving Day storm of 1983 with +4.4 mb (+0.13"), the powerful cyclone of December 12, 1995 with +4.5 mb (+0.133") and the windstorm of February 24, 1958 with +5.2 mb (+0.15") for eight of these stations (TTI, EUG and PDX missing pressure data during the February 24, 1958 storm).

Interestingly, despite the high average tendencies, when individual stations are examined, very few long-standing records were set on Columbus Day 1962. Only the peak climb values for Medford, Eugene, Salem and Bellingham still stand as records today, and Eugene only because the pressure surge from the [February 7, 2002 South Valley Surprise](#) started between the regular observation times, resulting in a +7.5 mb (+0.21") peak reading on the hour (16:54), when indeed a +10.2 mb (+0.30") rise occurred in about 48 minutes (from 16:24 to 17:12).

The high average hourly declension for the Columbus Day Storm is no different. Still-standing records were set at just Astoria and Salem during the Columbus Day Storm. The storms that produced the higher readings for both pressure fall and climb at the other stations are quite varied. Often the record setter is a cyclone that passed very close to a particular station, and because of this nature, it is almost always a different storm for each station's record. The list is long and convoluted. For example, there's North Bend. The +8.8 mb (+0.26") surge on Columbus Day of 1962 was incredible--rarely do one-hour pressure rises reach into the eight-mb range in the Pacific Northwest--but it is far short of the truly astounding one-hour surge of +16.6 mb (+0.49") during a landfalling cyclone on November 10, 1975 and +14.2 mb (+0.42") also during another landfalling storm on February 7, 2002. The 1975 and 2002 storms were very localized to Southwest Oregon. For example, on february 7, 2002, Astoria, at the north end of the state, had a meager +2.4 mb (+0.07") maximum climb out of the event, far short of the +7.7 mb (+0.23") surge seen on Columbus Day 1962, and Astoria's all-time biggest hourly jump of +8.0 mb (+0.24") during the [Inauguration Day storm](#) of 1993.

That the Columbus Day Storm set the all-time maximum average pressure tendencies for the 1950-to-present era while not setting most individual station records, reflects on an event that strongly affected the entire region quite uniformly, unlike many of the individual station record-setters.

Source: Pressure data is from the *National Climatic Data Center*, unedited surface observation forms.

|  |
|--|
| <b>Maximum Pressure Tendencies for the 1962 Columbus Day Storm</b> |
|--|

| Location           | Max Hrly Fall mb | Time of Max Fall PST | Max Hrly Rise mb | Time of Max Rise PST |
|--------------------|------------------|----------------------|------------------|----------------------|
| <i>California:</i> |                  |                      |                  |                      |
| Arcata             | -3.7             | 05:00 HRS, 12th      | +5.4             | 15:00 HRS, 12th      |
| <i>Oregon:</i>     |                  |                      |                  |                      |
| North Bend         | -5.0             | 12:00 HRS, 12th      | +8.8             | 17:00 HRS, 12th      |
| Astoria            | -5.1             | 13:00 HRS, 12th      | +7.7             | 20:00 HRS, 12th      |
| Medford            | -3.5             | 12:00 HRS, 12th      | +5.8             | 15:00 HRS, 12th      |
| Eugene             | -5.0             | 13:00 HRS, 12th      | +7.6             | 18:00 HRS, 12th      |
| Salem              | -5.5             | 14:00 HRS, 12th      | +7.6             | 19:00 HRS, 12th      |
| Portland           | -4.4             | 14:00 HRS, 12th      | +5.5             | 20:00 HRS, 12th      |
| <i>Washington:</i> |                  |                      |                  |                      |
| Tatoosh Island     | -4.0             | 15:00 HRS, 13th      | +6.2             | 00:00 HRS, 13th      |
| Olympia            | -5.4             | 15:00 HRS, 12th      | +4.3             | 23:00 HRS, 12th      |
| Seattle            | -4.6             | 15:00 HRS, 12th      | +3.9             | 01:00 HRS, 13th      |
| Bellingham         | -4.1             | 16:00 HRS, 12th      | +5.8             | 02:00 HRS, 13th      |
|                    |                  |                      |                  |                      |
| AVERAGE            | -4.6             |                      | +6.2             |                      |

## Peak Wind and Gust

**Table 5**, below, details the peak winds for the Columbus Day Storm at eleven key weather stations in the Pacific Northwest. "Peak Wind" is the highest observed 1-minute average, and "Peak Gust" is highest instantaneous speed (sometimes referred to a peak 1-second gust). Power outages afflicted Astoria, Salem, Portland and Olympia as the storm built in intensity at the respective sites, which resulted in either estimated, or low readings.

An 11-station average peak wind of almost 50 mph with an average peak gust of just above 80 mph puts this storm *far* above any other since 1950. Many windstorms struggle for an average peak *gust* that is the equivalent to the Columbus Day Storm's average peak *wind*! The next closest storm was the November 14, 1981 event, which produced an average peak gust of 65.9 mph, fully 14 points below the tempest of 1962.

Another way of looking at this is that for the Willamette Valley, the *lowest* official peak gust was the 86 mph burst that hit Eugene. This "low" reading of 86 mph



is higher than the highest official peak gust for any other Willamette Valley storm 1948-2003!

Source: All these readings are from the *National Climatic Data Center*, microfilm copies of the unedited surface observation forms.

| Location           | Peak Wind<br>mph | Direction<br>Pk Wnd<br>16ths | Obs Time of<br>Peak Wind<br>PST | Peak<br>Gust<br>mph | Direction<br>Pk Gst<br>16ths | Obs Time of<br>Peak Gust<br>PST |
|--------------------|------------------|------------------------------|---------------------------------|---------------------|------------------------------|---------------------------------|
| <i>California:</i> |                  |                              |                                 |                     |                              |                                 |
| Arcata             | 35               | S                            | 12:58 HRS, 12th                 | 58                  | S                            | 12:58 HRS, 12th                 |
| <i>Oregon:</i>     |                  |                              |                                 |                     |                              |                                 |
| North Bend         | 35               | SSW                          | 15:40 HRS, 12th                 | 81                  | S                            | 14:58 HRS, 12th                 |
| Astoria [1]        | 44               | SSW                          | 19:58 HRS, 12th                 | 96                  | SSW                          | 19:30 HRS, 12th                 |
| Medford            | 40               | SSW                          | 14:40 HRS, 12th                 | 58                  | SSW                          | 14:40 HRS, 12th                 |
| Eugene             | 63               | S                            | 15:56 HRS, 12th                 | 86                  | S                            | 15:56 HRS, 12th                 |
| Salem              | 58               | S                            | 17:58 HRS, 12th                 | 90                  | S                            | 17:58 HRS, 12th                 |
| Portland [2]       | 63               | SSW                          | 18:57 HRS, 12th                 | 104                 | SSW                          | 18:55 HRS, 12th                 |
| <i>Washington:</i> |                  |                              |                                 |                     |                              |                                 |
| Tatoosh I.         | 49               | E                            | 16:52 HRS, 12th                 | 78                  | E                            | 17:49 HRS, 12th                 |
| Olympia            | 58               | SW                           | 19:20 HRS, 12th                 | 78                  | SW                           | 19:20 HRS, 12th                 |
| Sea-Tac            | 44               | SSW                          | 23:31 HRS, 12th                 | 58                  | S                            | 20:57 HRS, 12th                 |
| Bellingham         | 58               | SSE                          | 23:58 HRS, 12th                 | 98                  | SSE                          | 23:58 HRS, 12th                 |
|                    |                  |                              |                                 |                     |                              |                                 |
| AVERAGE            | 49.7             | S                            |                                 | 80.5                | S                            |                                 |

#### Table 5 Notes:

[1] Power outage at 18:08 resulted in estimated wind direction after this time.

[2] Values for Portland are officially estimated readings. Peak SSW winds reached 46 mph gusting to 72 at 17:32--the last instrument reading before a power failure at 17:46 stopped the instruments. A fastest mile taken up to 17:46 yielded 88 mph, the highest value for this wind measure ever recorded at Portland. The estimated peak gust of 90 knots (104 mph) falls closely in line with the peak of 106 mph reported at the nearby Troutdale Airport. Had there been no wind estimations at the Portland Airport, the readings from Troutdale would have been the substitutes. The peak winds of 69 mph and already mentioned triple-digit gust wouldn't have changed the storm's 11-station averages significantly.

**Table 6**, below, lists peak wind values for additional stations throughout the Pacific Northwest and Northern California. "Peak Wind" is the highest observed 1-minute average, and "Peak Gust" is highest instantaneous speed (sometimes referred to a peak 1-second gust), with some exceptions: The Oak Harbor NAS average reading is for a 1-hour period, with peak instant gust. Power was lost during the height of the storm at some of these stations, including Red Bluff, Sexton Summit, Roseburg, and Paine Field. This could have resulted in missed wind readings, which suggests the possibility that the values in the record weren't the maximum velocities during the storm.

Source: All these readings are from the *National Climatic Data Center*, microfilm copies of the unedited surface observation forms, with the following exceptions: Renton, WA, the U.S. Navy Sea Plane Base on Whidbey Island (listed as Oak Harbor), and Stampede Pass are from "Columbus Day Storm in Washington," report prepared at the Weather Bureau State Climatologist Office by Earl L. Phillips, and the Klamath Falls data is from "West Coast Disaster," by Dorothy Franklin, 1963.

| <b>Location</b>    | <b>Peak Wind<br/>mph</b> | <b>Direction<br/>Pk Wnd<br/>16ths</b> | <b>Obs Time of<br/>Peak Wind<br/>PST</b> | <b>Peak<br/>Gust<br/>mph</b> | <b>Direction<br/>Pk Gst<br/>16ths</b> | <b>Obs Time of<br/>Peak Gust<br/>PST</b> |
|--------------------|--------------------------|---------------------------------------|--|------------------------------|---------------------------------------|--|
| <i>California:</i> |                          |                                       |  |                              |                                       |  |
| San Francisco      | 43                       | S                                     | 16:54 HRS, 12th                          | 63                           | S                                     | -- HRS, 12th                             |
| San Jose           | 25                       | SE                                    | 17:50 HRS, 12th                          | 35                           | SE                                    | 17:50 HRS, 12th                          |
| Hayward            | 35                       | SSE                                   | 18:00 HRS, 12th                          | 48                           | SSE                                   | 18:00 HRS, 12th                          |
| Oakland            | 35                       | SSE                                   | 17:19 HRS, 12th                          | 40                           | SSE                                   | 16:58 HRS, 12th                          |
| Alameda NAS        | 36                       | W                                     | 17:58 HRS, 12th                          | 46                           | W                                     | 17:38 HRS, 12th                          |
| Sacramento         | 42                       | SW                                    | 18:22 HRS, 12th                          | 66                           | SW                                    | 18:22 HRS, 12th                          |
| Santa Rosa         | 40                       | S                                     | 15:09 HRS, 12th                          | 63                           | S                                     | 15:09 HRS, 12th                          |
| Ukiah              | 29                       | SSE                                   | 12:58 HRS, 12th                          | 37                           | SSE                                   | 12:58 HRS, 12th                          |
| Stockton [1]       | 23                       | SSE                                   | 18:58 HRS, 12th                          | 35                           | SSE                                   | 18:58 HRS, 12th                          |
| Modesto            | 30                       | ESE                                   | 16:00 HRS, 12th                          | 44                           | ESE                                   | 16:00 HRS, 12th                          |
| Sacramento         | 42                       | SW                                    | 18:22 HRS, 12th                          | 66                           | SW                                    | 18:22 HRS, 12th                          |
| Red Bluff          | 54                       | SSE                                   | 12:58 HRS, 12th                          | 71                           | SSE                                   | 12:58 HRS, 12th                          |
| Redding [2]        | 58                       | SSE                                   | 15:00 HRS, 12th                          | 81                           | SSE                                   | 15:00 HRS, 12th                          |
| <i>Oregon:</i>     |                          |                                       |  |                              |                                       |  |
| Sexton Summit      | 56                       | S                                     | 13:35 HRS, 12th                          | MM                           | MM                                    | MM                                       |
| Roseburg           | 34                       | S                                     | 15:58 HRS, 12th                          | 62                           | S                                     | 15:58 HRS, 12th                          |
| Corvallis          | 69                       | SSE                                   | 16:00 HRS, 12th                          | 127                          | SSE                                   | 16:00 HRS, 12th                          |
| Troutdale          | 69                       | SSW                                   | 19:07 HRS, 12th                          | 106                          | SSW                                   | 19:10 HRS, 12th                          |
| Klamath Falls      | --                       | --                                    | --                                       | 65                           | --                                    | 16:00 HRS, 12th                          |
| Redmond            | 46                       | SSW                                   | 16:37 HRS, 12th                          | 60                           | SSW                                   | 16:37 HRS, 12th                          |
| The Dalles         | 17                       | SW                                    | 19:58 HRS, 12th                          | 29                           | SW                                    | 19:58 HRS, 12th                          |
| Pendleton          | 41                       | WSW                                   | 19:34 HRS, 12th                          | 53                           | WSW                                   | 19:34 HRS, 12th                          |
| <i>Washington:</i> |                          |                                       |  |                              |                                       |  |
| Hoquiam            | 48                       | S                                     | 20:58 HRS, 12th                          | 81                           | S                                     | 20:20 HRS, 12th                          |
| Toledo             | 58                       | S                                     | 18:58 HRS, 12th                          | 89                           | S                                     | 18:58 HRS, 12th                          |
| Tacoma,<br>McChord | 52                       | S                                     | 20:25 HRS, 12th                          | 87                           | S                                     | 20:25 HRS, 12th                          |
| Renton [3]         | 46                       | SSE                                   | 21:57 HRS, 12th                          | 100                          | SSE                                   | 20:00 HRS, 12th                          |
| Boeing Field       | 44                       | SSE                                   | 19:58 HRS, 12th                          | 66                           | SSE                                   | 19:47 HRS, 12th                          |
| Seattle NAS        | 40                       | S                                     | 20:55 HRS, 12th                          | 66                           | S                                     | 20:19 HRS, 12th                          |
| Everett, Paine     | 52                       | SE                                    | 22:06 HRS, 12th                          | 81                           | SE                                    | 22:06 HRS, 12th                          |
| Oak Harbor         | 46                       | SE                                    | 22:00 HRS, 12th                          | 90                           | SE                                    | 22:00 HRS, 12th                          |
| Navy Whidbey       | 41                       | SSE                                   | 21:55 HRS, 12th                          | 67                           | SSE                                   | 22:15 HRS, 12th                          |
| Stampede Pass      | 31                       | E                                     | 15:58 HRS, 12th                          | 47                           | E                                     | 15:58 HRS, 12th                          |
| Yakima             | 21                       | SSW                                   | 00:58 HRS, 13th                          | 32                           | SSW                                   | 00:58 HRS, 13th                          |

|            |    |    |                 |    |    |                 |
|------------|----|----|-----------------|----|----|-----------------|
| Wenatchee  | 29 | SE | 23:58 HRS, 12th | 40 | SE | 00:58 HRS, 13th |
| Moses Lake | 39 | S  | 23:25 HRS, 12th | 66 | S  | 22:25 HRS, 12th |

**Table 6 Notes:**

- [1] Last of several occurrences for both peak wind and gust.
- [2] The gusts noted at Redding are designated as estimated readings.
- [3] Last of several occurrences for peak wind (not gust).

**A Vast Trail of Destruction**

Shown below is a copy of the original surface observation form for Corvallis, OR, used for the time period October 10th to October 15th. Weather observations were fairly routine up to 14:00 on October 12th. Then the 15:00 observation was missed, and what followed is quite extraordinary. Winds at 16:00 had elevated to 60 knots gusting to 85 (69 mph gusting to 98), with a peak gust noted at 110 knots (127 mph)! Just a few moments later, at 16:15, "ABANDONED STATION" is clearly written in the middle of the form. The next day, it is also noted, "Unreported from 04:00 - 12:00 due power failure and instruments demolished." This is the only time in the history of the Pacific Northwest that an officially supervised weather station had to be abandoned due to high winds. A strong reminder of just how powerful the Columbus Day Storm was.

NOAN 02A U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU  
SURFACE WEATHER OBSERVATIONS  
(Rev. 1-1-55) STATION CORVALLIS, ORE. DATE 10/10/62 (cont.)

| TYPE   | TIME (LST) | SKY and CEILING (Hundreds of Feet) | VISIB (Miles) | WEATHER and OBSTRUCTIONS TO VISION | SEA LEVEL PRESS (Inches) | TEMP (F) | DEW PT (F) | WIND       |       | ALTIM (Feet) | REMARKS AND SUPPLEMENTAL CODED DATA | OBSER | WIND | WIND |  |
|--|------------|------------------------------------|---------------|------------------------------------|--------------------------|----------|------------|------------|-------|--------------|-------------------------------------|-------|------|------|--|
|  |            |                                    |               |                                    |                          |          |            | DIREC-TION | SPEED |              |                                     |       |      |      |  |
| R  | 1200       | E 300/10                           | 20            |                                    | 30.49                    | 51.49    | 51.49      | R          | 15    | E 922        |                                     |       |      |      |  |
| R  | 1300       | E 200/10                           | 20            |                                    | 31.47                    | 51.47    | 51.47      | R          | 15    | E 927        |                                     |       |      |      |  |
| 10/10/62   |            |                                    |               |                                    |                          |          |            |            |       |              |                                     |       |      |      |  |
| RS   | 0900       | 500 E 250                          | 7             | R                                  |                          | 51.49    | 51.49      | R          | 7     | E 915        |                                     |       |      |      |  |
| RS   | 1000       | 500 W 15 X                         | 5             | R                                  |                          | 51.47    | 51.47      | R          | 30    | E 925        | PRESRR                              |       |      |      |  |
| S  | 1030       | 500 E 300                          | 20            |                                    |                          |          |            |            |       | E 925        |                                     |       |      |      |  |
| R  | 1100       | E 250                              | 30            |                                    |                          | 52.47    | 52.47      | R          | 20    | E 929        | FIN OVER W HILLS                    |       |      |      |  |
| R  | 1200       | 250 E 500                          | 30            |                                    |                          | 54.49    | 54.49      | R          | 20    | E 933        |                                     |       |      |      |  |
| R  | 1300       | 300 E 200                          | 30            |                                    |                          | 56.45    | 56.45      | R          | 25    | E 935        |                                     |       |      |      |  |
| R  | 1400       | E 450/10                           | 30            |                                    |                          | 56.44    | 56.44      | R          | 25    | E 936        |                                     |       |      |      |  |
| R  | 1500       | 550/10                             | 30            |                                    |                          | 57.45    | 57.45      | R          | 25    | E 937        |                                     |       |      |      |  |
| R  | 1600       | E 500/10                           | 30            |                                    |                          | 57.43    | 57.43      | R          | 25    | E 939        |                                     |       |      |      |  |
| R  | 1700       | E 500/10                           | 30            | R                                  |                          | 57.45    | 57.45      | R          | 20    | E 939        |                                     |       |      |      |  |
| R  | 1800       | E 25/10                            | 15            | R                                  |                          | 50.45    | 50.45      | R          | 15    | E 943        |                                     |       |      |      |  |
| R  | 1900       | M 55/10                            | 15            | R                                  |                          | 47.44    | 47.44      | R          | 15    | E 944        |                                     |       |      |      |  |
| 10/12/62   |            |                                    |               |                                    |                          |          |            |            |       |              |                                     |       |      |      |  |
| RS   | 0900       | M 20 X                             | 7             | R                                  |                          | 47.45    | 47.45      | R          | 7     | E 941        |                                     |       |      |      |  |
| R  | 1000       | M 20 X                             | 7             | R                                  |                          | 47.46    | 47.46      | R          | 12    | E 925        | PRESRR                              |       |      |      |  |
| R  | 1100       | E 200/50                           | 7             | R                                  |                          | 47.46    | 47.46      | R          | 17    | E 917        | PRESRR                              |       |      |      |  |
| RS   | 1200       | 200 E 500                          | 30            |                                    |                          | 49.47    | 49.47      | R          | 15    | E 949        | PRESRR                              |       |      |      |  |
| RS   | 1300       | 500 E 500                          | 30            |                                    |                          | 49.47    | 49.47      | R          | 7     | E 943        | PRESRR                              |       |      |      |  |
| R  | 1400       | E 200/10                           | 15            | R                                  |                          | 50.46    | 50.46      | R          |       | E 944        |                                     |       |      |      |  |
| R  | 1500       | M 550                              |               |                                    |                          |          |            |            |       |              |                                     |       |      |      |  |
| RS   | 1600       | 200 E 500                          | 30            |                                    |                          | 40.47    | 40.47      | R          | 15    | E 949        | W GUSTY TO 110K                     |       |      |      |  |
| 10/15 ABANDONED STATION  |            |                                    |               |                                    |                          |          |            |            |       |              |                                     |       |      |      |  |
| 10/16/62   |            |                                    |               |                                    |                          |          |            |            |       |              |                                     |       |      |      |  |
| NOX UNREPORTED FROM 0900 - 1200 DUE POWER FAILURE AND INSTRUMENTS DEMOLISHED |            |                                    |               |                                    |                          |          |            |            |       |              |                                     |       |      |      |  |
| R  | 1200       | 300 E 500                          | 30            |                                    |                          | 56.44    | 56.44      | R          | 5     | E 961        |                                     |       |      |      |  |
| R  | 1300       | POWER OUT                          |               |                                    |                          |          |            |            |       |              |                                     |       |      |      |  |
| R  | 1400       | POWER OUT                          |               |                                    |                          |          |            |            |       |              |                                     |       |      |      |  |
| R  | 1500       | 500 W 200                          | 30            |                                    |                          | 56.44    | 56.44      | R          |       | E 950        |                                     |       |      |      |  |
| R  | 1600       | 500 W 200                          | 30            |                                    |                          | 56.44    | 56.44      | R          | 5     | E 946        |                                     |       |      |      |  |
| R  | 1700       | 400 W 100                          | 30            |                                    |                          | 57.44    | 57.44      | R          | 7     | E 944        |                                     |       |      |      |  |
| R  | 1800       | 400 E 500                          | 20            |                                    |                          | 55.44    | 55.44      | R          |       | E 942        |                                     |       |      |      |  |
| R  | 1900       | W 100                              | 20            |                                    |                          | 55.44    | 55.44      | R          |       | E 942        |                                     |       |      |      |  |
| 10/18/62   |            |                                    |               |                                    |                          |          |            |            |       |              |                                     |       |      |      |  |
| R  | 1000       | E 300/10                           | 20            |                                    |                          | 50.50    | 50.50      | R          |       | E 924        |                                     |       |      |      |  |
| R  | 1100       | 100 E 300                          | 20            |                                    |                          | 54.49    | 54.49      | R          |       | E 900        |                                     |       |      |      |  |
| R  | 1200       | 100 E 300                          | 20            |                                    |                          | 57.49    | 57.49      | R          |       | E 903        |                                     |       |      |      |  |
| R  | 1300       | 100 E 200                          | 20            |                                    |                          | 57.48    | 57.48      | R          | 6     | E 906        |                                     |       |      |      |  |
| R  | 1400       | 100 E 300                          | 20            |                                    |                          | 57.48    | 57.48      | R          | 8     | E 908        |                                     |       |      |      |  |
| R  | 1500       | E 300/10                           | 20            |                                    |                          | 58.47    | 58.47      | R          | 10    | E 912        |                                     |       |      |      |  |
| R  | 1600       | E 300/10                           | 20            |                                    |                          | 57.46    | 57.46      | R          | 15    | E 914        |                                     |       |      |      |  |
| R  | 1700       | E 300/10                           | 20            |                                    |                          | 58.46    | 58.46      | R          | 12    | E 916        |                                     |       |      |      |  |
| R  | 1800       | 300/10                             | 20            |                                    |                          | 52.45    | 52.45      | R          | 12    | E 919        |                                     |       |      |      |  |
| R  | 1900       | 100                                | 20            |                                    |                          | 52.45    | 52.45      | R          | 18    | E 923        |                                     |       |      |      |  |
| 10/15/62   |            |                                    |               |                                    |                          |          |            |            |       |              |                                     |       |      |      |  |
| R  | 1000       | E 35/10                            | 20            |                                    |                          | 58.47    | 58.47      | R          |       | E 945        |                                     |       |      |      |  |
| R  | 1100       | 35 E 70                            | 20            |                                    |                          | 58.48    | 58.48      | R          |       | E 945        |                                     |       |      |      |  |
| R  | 1200       | E 40/10                            | 20            |                                    |                          | 58.47    | 58.47      | R          |       | E 945        |                                     |       |      |      |  |
| R  | 1300       | E 40/10                            | 20            |                                    |                          | 60.47    | 60.47      | R          |       | E 945        |                                     |       |      |      |  |

Photos Courtesy of the Oregon Climate Service

Much thanks to George Taylor for sending the following Columbus Day Storm pictures to me.

Photo 1, below: North Willamette Experimental Station.



**Photo 2, below:** Smashed Dodge Dart, Oregon State University campus.



**Photo 3, below:** Van Buren Bridge, Corvallis.



**Photo 4, below:** Oregon State University campus, Corvallis.



### **Like a Hurricane**

Many eyewitness accounts suggested that the Columbus Day Storm was like a hurricane. These comments were sometimes made by people who had experienced hurricanes beforehand. Here's a piece of weather data that just about corroborates these claims, from Red Bluff, California: Rainfall 0.41" in 5 minutes, accumulating to 0.98" within 15 minutes, with peak average wind 68 mph (fastest mile), gusts higher, and a temperature around 64 F. The temperature is slightly cool for a

hurricane, and the average winds weren't quite at the 75 mph cutoff for hurricane status (plus the highest winds occurred before the heavy rain event), but the figures aren't too far off the mark, especially with rainfall rates at 8.20"/hr for that first 5-minute period. A person witnessing the conditions generated by the Columbus Day Storm would have compelling evidence to make the claim "Like a hurricane."

### **Annotated Bibliography**

For those wishing to find out more about the mother of all Pacific Northwest windstorms, here's a list of known articles and books on the Columbus Day Storm, many of which were used as references for this web page:

#### **Books:**

1) Franklin, Dorothy. "West Coast Disaster." Gann Publishing Co. 1963? 180 pages. Many photos. Includes some technical discussion by Jack Capell, KGW-TV Meteorologist, and maps from a Bonneville Power Administration study by Byron P. Harper (see articles, below). This is a very accessible account of the storm's progress through California, Oregon, Washington and British Columbia.

2) Lucia, Ellis. "The Big Blow." News-Times Publishing Co. 1963. 64 pages. Photos. A nicely written summary of the major disaster, especially as it affected Oregon.

3) Taylor, George, Hatton, Raymond R. "The Oregon Weather Book: A State of Extremes." Oregon State University. 1999. Aside from covering the broad and complex topic of Oregon climate, the book also includes a summary of the state's high wind events, and takes a look at the Columbus Day Storm.

#### **Articles:**

1) Coparanis, John D. "Meteorological bombs as they affect Oregon." *National Weather Service, Portland*, document. January 1985. This insightful examination of the forecasting aspects of powerful cyclones includes study of the Columbus Day Storm. 21 pages with at least 17 pages of supplemental material. Good tables, charts, and some satellite photos of other storms (not the Columbus Day event).

2) Decker, Fred W., Cramer, Owen P., Harper, Byron P. "The Columbus Day 'Big Blow' in Oregon." *Weatherwise*. December 1962. Pages 238-245. An excellent summary of the storm.

3) Harper, Byron P. "Report on October 12 wind storm." Bonneville Power Administration Power Operations Branch, Forecasting Unit. October 31, 1962. Six pages, plus five with supplemental information.

4) Lynott, Robert E., Cramer Owen P. "Detailed analysis of the 1962 Columbus Day windstorm in Oregon and Washington." *Monthly Weather Review*. February 1966. Pages 105-117. This is as advertised--a very detailed and technical examination of the storm. Includes upper air analysis as well as extensive surface analysis.

5) Phillips, Earl L. "Columbus Day Storm in Washington October 12, 1962." Weather Bureau State Climatologist Office. No completion date given. Seven pages. Has tables listing the hourly observations at many stations.

6) Sumner, Howard C. "Pacific Coast storm, October 11-13, 1962." Preliminary report. *Weekly Weather and Crop Bulletin, National Summary*. U.S. Department of Commerce, Weather Bureau. Vol XLIX, No. 44. October 29, 1962. Two pages. Quick summary of the storm events. Has a summary table of minimum pressures and peak winds.

#### **Online Publications:**

1) Clements, Kathleen C. "[Columbus Day Storm: 'Worst Disaster Ever' October 12, 1962.](#)" Salem History Project by the Oregon State Library. No air date given, found January 2003. Nice summary of events in Salem. Includes some photographs.

2) Willson, Dave, Kosovitz, Ira. "[Columbus Day 1962 Storm.](#)" Provided by the *National Weather Service, Portland*. Aired on October 2002. Includes links to many storm damage photos and records of the KGW radio broadcasts from Portland during the storm.

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