

Oregon Windstorms and Trees



NWS Photos by Tyree Wilde, 08 Feb 2002

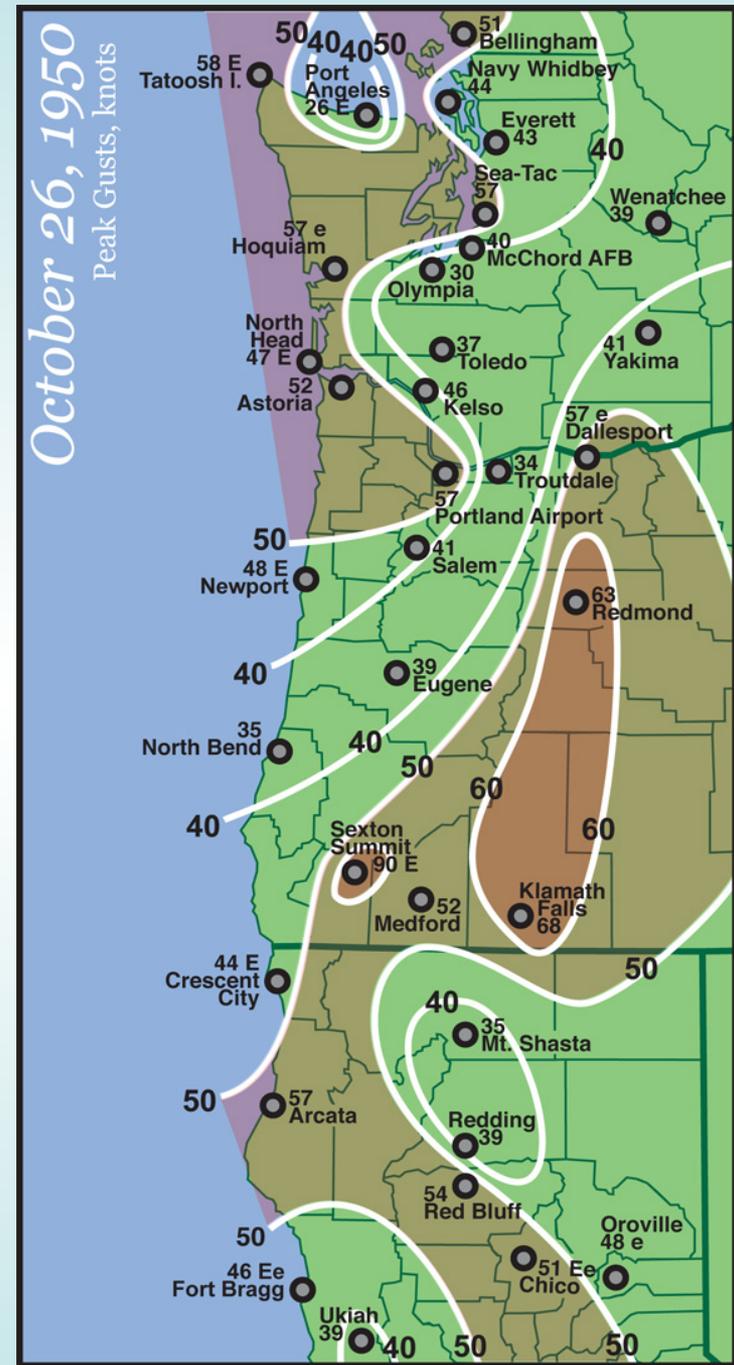
Wolf Read

Oregon Climate Service

Senior, Natural Resources, College of
Forestry, Oregon State University

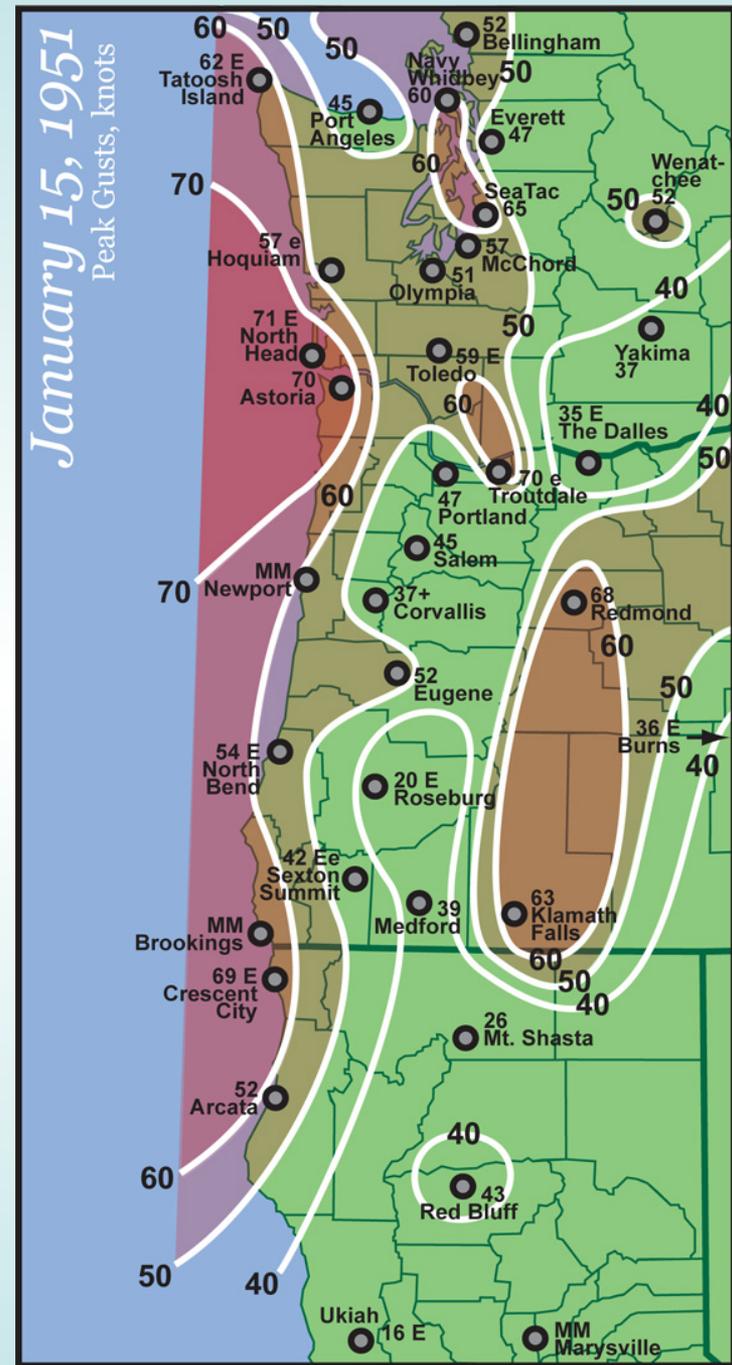
In the “beginning” . . .

- 26 Oct 1950: Strong windstorm pummels Oregon.
- Some windthrow occurs.
- However, this event pales in comparison with events due in the near future.



Four Months Later:

- Powerful storm sweeps coast on 15 Jan 1951.
- More trees topple, especially in the Coast Range.
- During the summer, Douglas-fir beetle (*Dendroctonus pseudotsugae*) populations expand in the downed timber.
- But this wasn't enough:
Another storm strikes on 10 Nov 1951, soon to be followed by ...



The Assault Continued:

- A double windstorm strike on 07 and 09 Jan 1953 adds more timber to the Douglas-fir beetle “fire.”
- By 1954 some 15 billion board feet of timber had been killed*:
- 80% from the six windstorms between Oct 1950 to Jan 1953.
- 20% from Douglas-fir beetle.

Dendroctonus pseudotsuqae



Photo courtesy of Darryl Ross, OSU Forest Science Department.

Tyree Wilde



* Hagenstein, W. D. and Furniss, R. L. 1955. “Cooperation speeds salvage of windthrown and beetle-killed timber in Oregon and Washington.” *Society of American Foresters Proceedings*. P 167-168.

Major Response:

- Massive cooperation, worked out by the Northwest Forest Plan Action Committee through its Douglas-Fir Beetle Subcommittee.
- Brought together forest managers both public and private.
- The goal: salvage.



Windthrow Northeast MN: 04 Jul 1999.

Courtesy of the Minnesota Department of Natural Resources.

Quick Action

By the end of 1954:

- Hundreds of miles of new roads to windthrow areas.
- 2.5 billion board feet salvaged.
- Strong policy that toppled trees should be recovered before Douglas-fir beetle could seriously affect standing timber.

Now, move forward eight years . . .

October 12, 1962

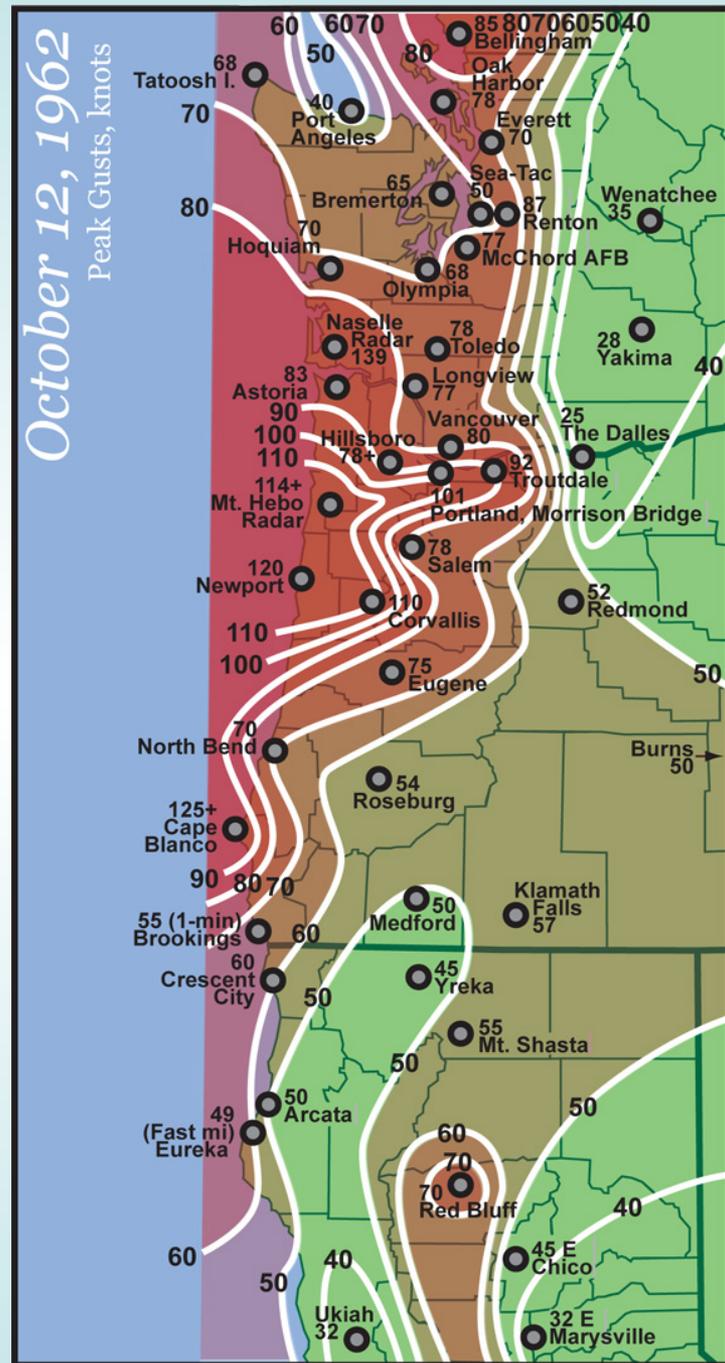
The Columbus Day Storm

“The Mother of all Windstorms”

-- NWS, Portland

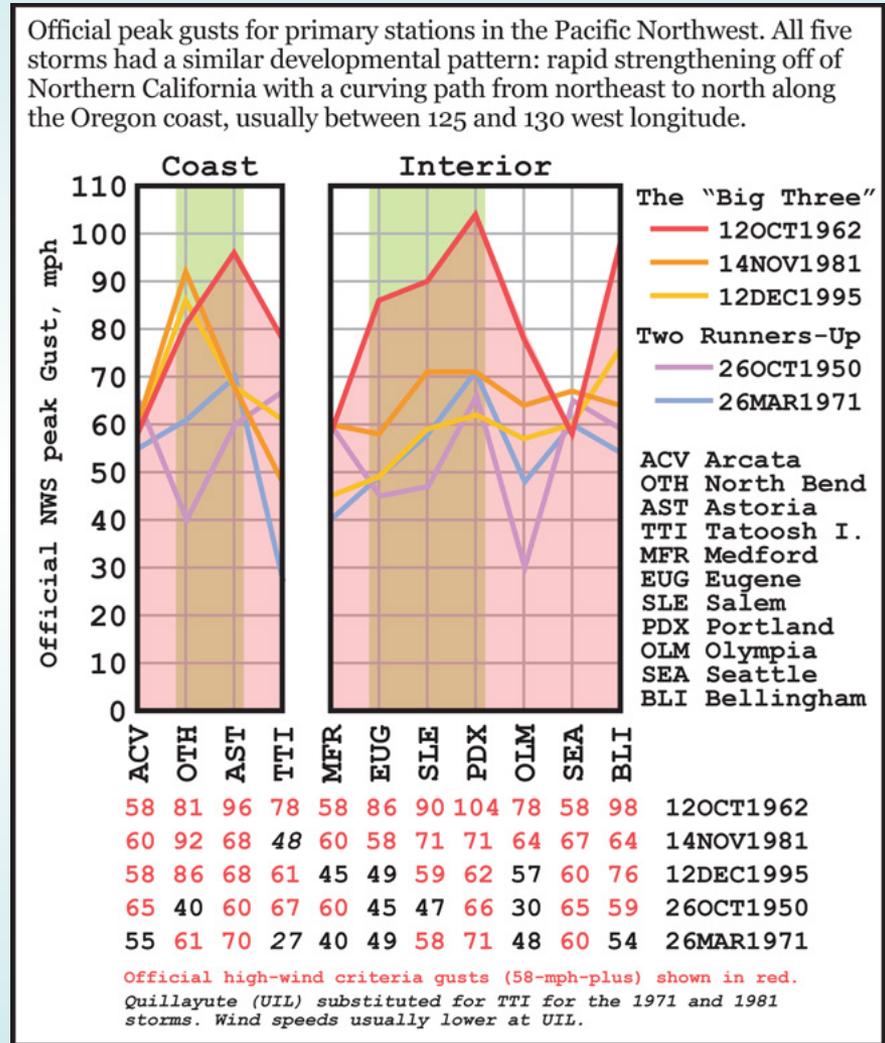
A storm with many names, which reflects the magnitude of this event in the minds of those Oregonians who lived through it:

- “The Big Blow”
- “The Terrible Tempest of the Twelfth”
- “Typhoon Freda”
- “The Columbus Day Storm” (CDS)



The CDS Outclasses All Storms 1948-2004

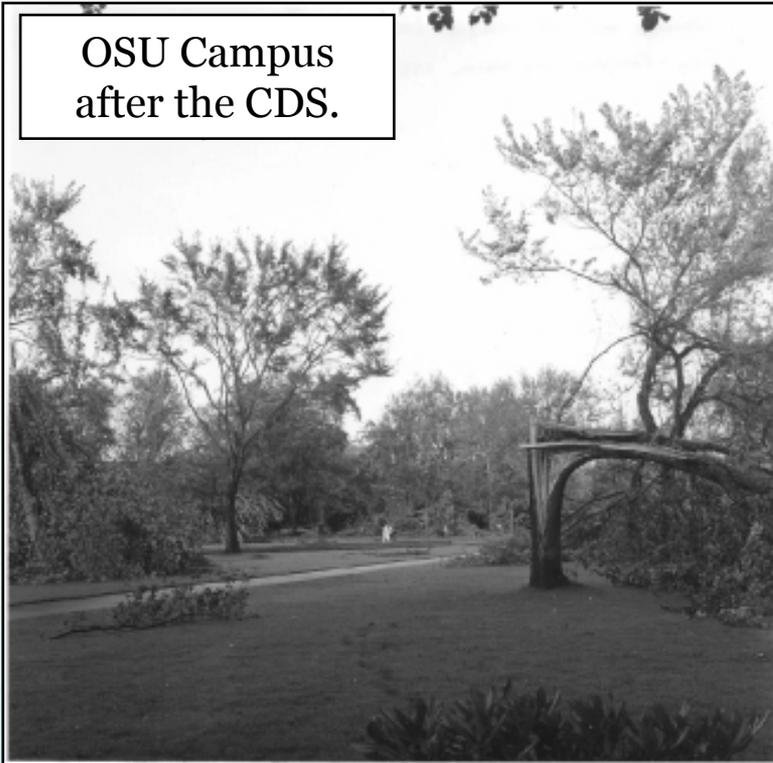
- Especially for western Oregon, all the other big events fall far short of the CDS.
- The CDS may be a “3-sigma event,” according to Cliff Mass, UW Atmospheric Sciences.
- A storm of similar magnitude may have a return interval of 200 to 300 years.



Scenes Like the Ones Below Were Commonplace in Western Oregon After the Columbus Day Storm

- The damaged home was the *rule*, the undamaged home the exception.

OSU Campus after the CDS.



This image, from 08Feb2002, informs that CDS-level winds can return to western Oregon.



Tyree Wilde

The List of Destruction is Long

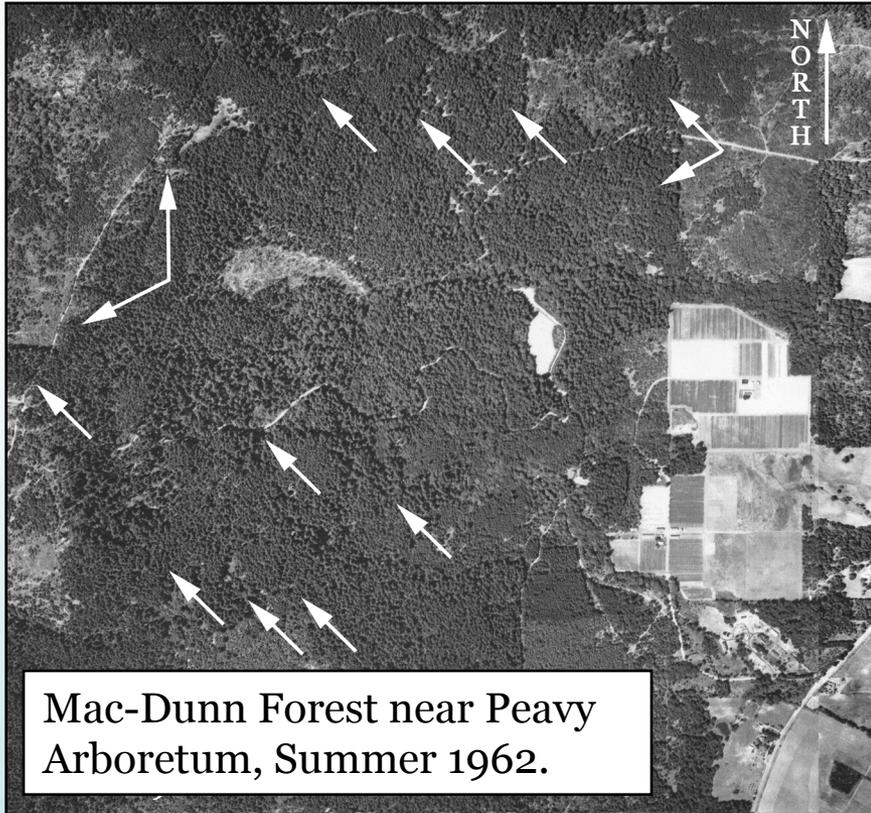
- \$170 to \$200 million in 1962 dollars for Oregon alone.
- Adjusted for inflation and increase in property since 1962, this translates into a \$5 to \$10 billion disaster in 2001 terms.
- In northwest Oregon, nearly the entire power grid had to be rebuilt from the ground up.
- 46 fatalities, of which 23 occurred in Oregon.

Timber Destruction

- Estimates range from 11 to 15 billion board feet for CA+OR+WA, much of which was in Oregon.
- This was equivalent to the annual timber harvest in OR and WA in the time period of the storm.
- This is also approximately equivalent to the timber destruction wrought by the *six* windstorms from 1950 to 1953.
- The CDS accomplished this in just 12 hours!

Scenes from the Mac-Dunn Forest

- White arrows point to areas that were swathed by the CDS, and salvaged; even a decade later, the changes wrought by the storm are quite clear.
- Marv Rowley was busy!



Some Comments on the CDS from Marv Rowley, Contract Forester for the Mac-Dunn*

- “*IT* was the most significant event that we've had.”
- “The Columbus Day storm rather drastically altered the pattern on the Forest. We really viewed it as catastrophic, which it was, as a devastation. It was probably one of the biggest eye-openers that I had in forestry.”

* From Jackson, Royal G., Lee, Jennifer, Zybach, Bob. 1996. “Marvin Rowley Family History and Management of OSU Research Forests Benton and Polk Counties, Oregon: 1946-1986.” Soap Creek Valley History Project, OSU College Forests, Monograph #15.

With the Experience from the 1950s

- “. . . downed timber, that's just duck soup for the [Douglas-fir] beetle. They build up a big population that jumps on the green trees and kills a lot of them. So we started in Monday morning and we had some of those logs at the sawmill by 10 o'clock.” --Bill Davies, Official Manager, Mac-Dunn in, 1962* .
- This statement reflects the massive salvage operation undertaken across region, one that would continue for years.

* Jackson, Royal G., Lee, Jennifer. 1998. “William A. Davies Biographical Sketch and Management of O.S.U. Research Forests Benton & Polk Counties, Oregon: 1946-1973.” Soap Creek Valley History Project, OSU College Forests, Monograph #13.

The Columbus Day Storm's Lasting Effects

- Hundreds more miles of new roads built to salvage timber downed by the CDS.
- Many of these access roads are used by foresters, hunters and recreationists today.
- Case in point: Many of the roads on the MacDunn were put in my Marv's crew during the salvage effort.

Take home message: Windstorms generate roads.

The Columbus Day Storm's Lasting Effects

Consider:

If a storm of similar magnitude were to strike today, would the response be the same?

In other words, would a new wave of road building to areas of widespread windthrow commence?

What challenges have emerged after recent major fires, such as the Biscuit?

The Columbus Day Storm's Lasting *Ecological* Effects

Deborah Johnson, College Forests, March 2004:

- “I think the storm helped create more complex stand structures in many places.”
- “One example is the Dunn Forest on ‘Forest Peak.’ This stand was opened up by the storm and natural regeneration was able to get established. It is currently the site of an uneven-aged research project that Bill Emmingham is doing.”

42 years after the storm !!!

Questions? Comments?



Tyree Wilde