

99 Tornadoes in 140 years

A Climatological History of Tornadoes in Northwest Oregon and Southwest Washington



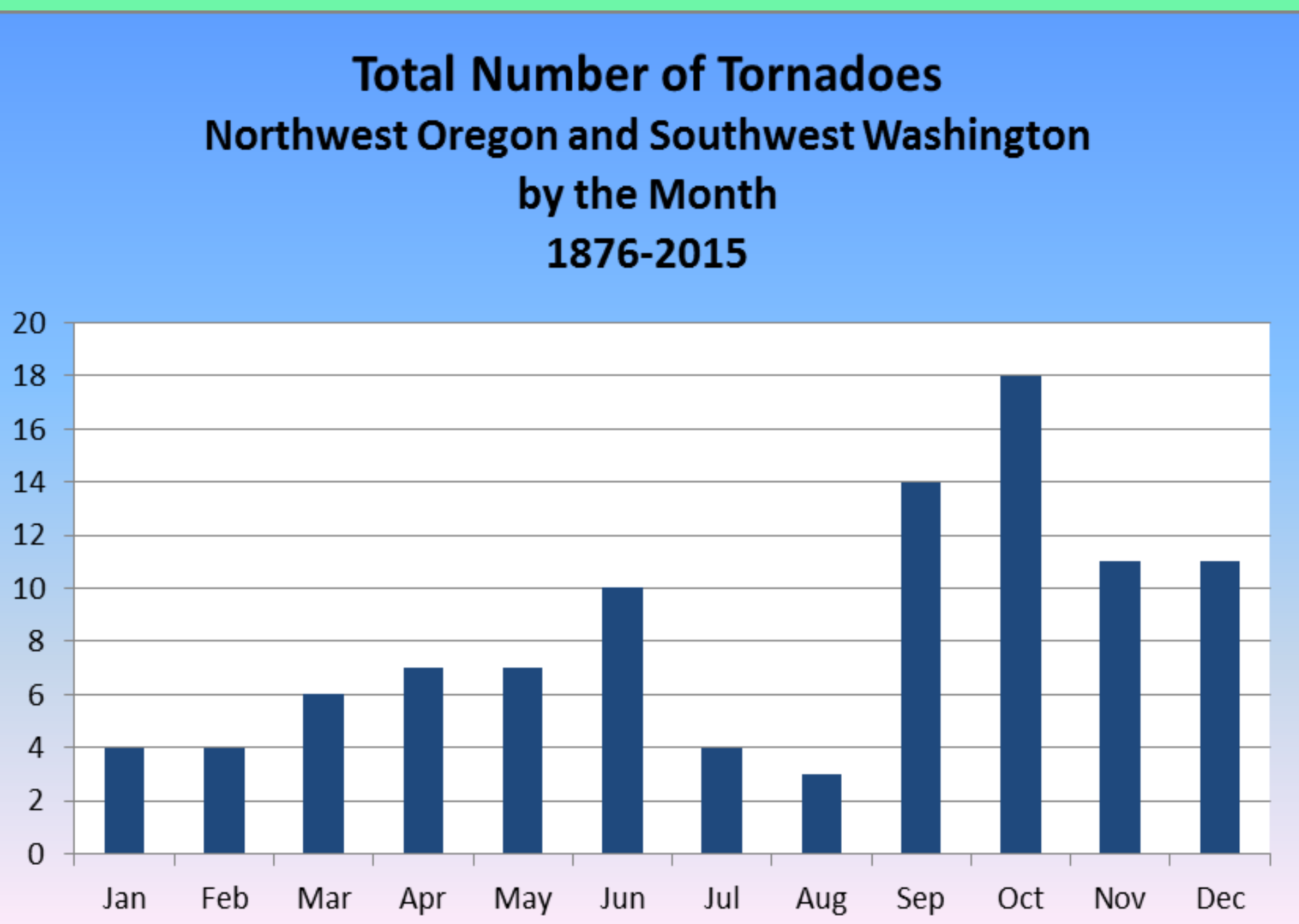
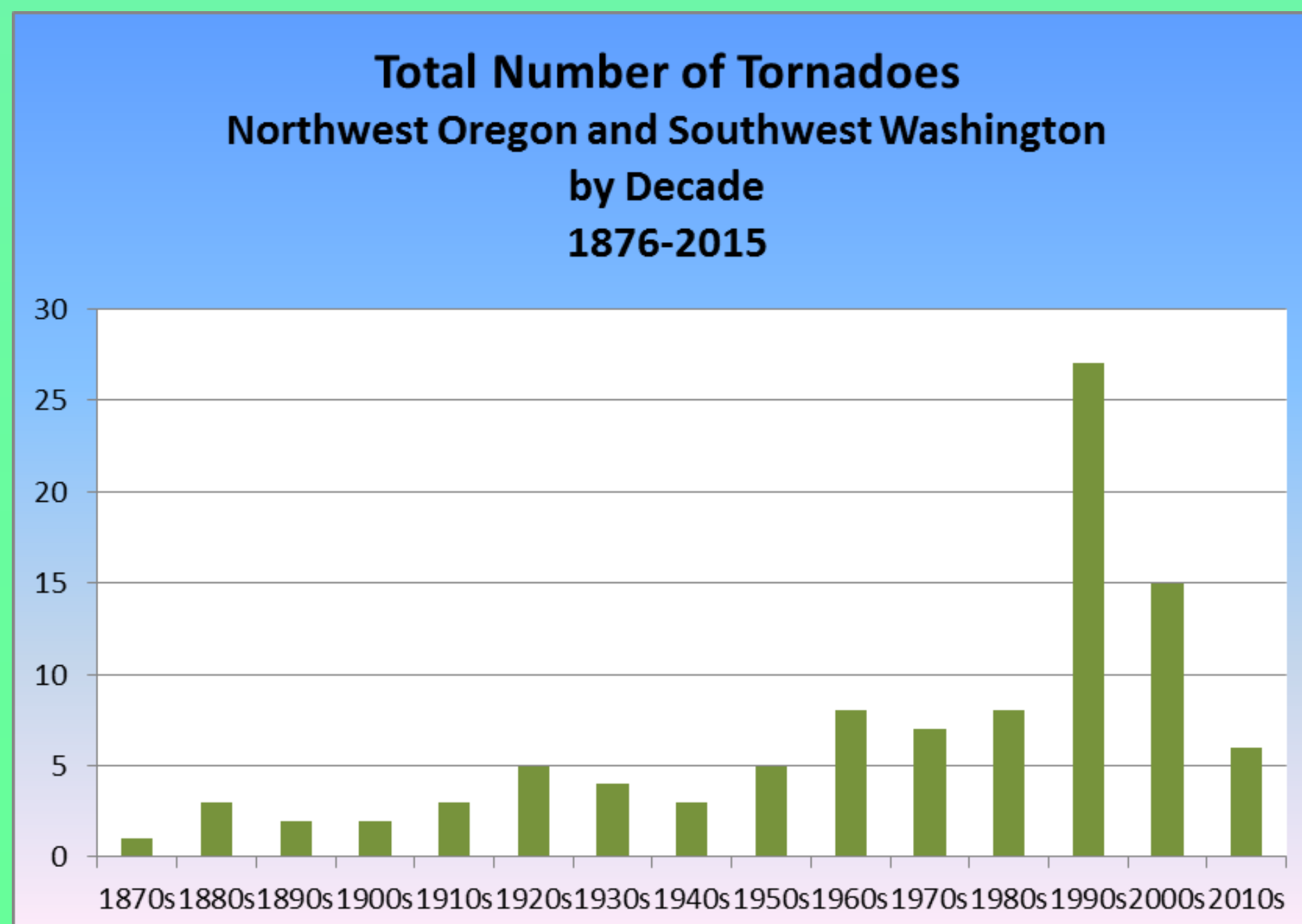
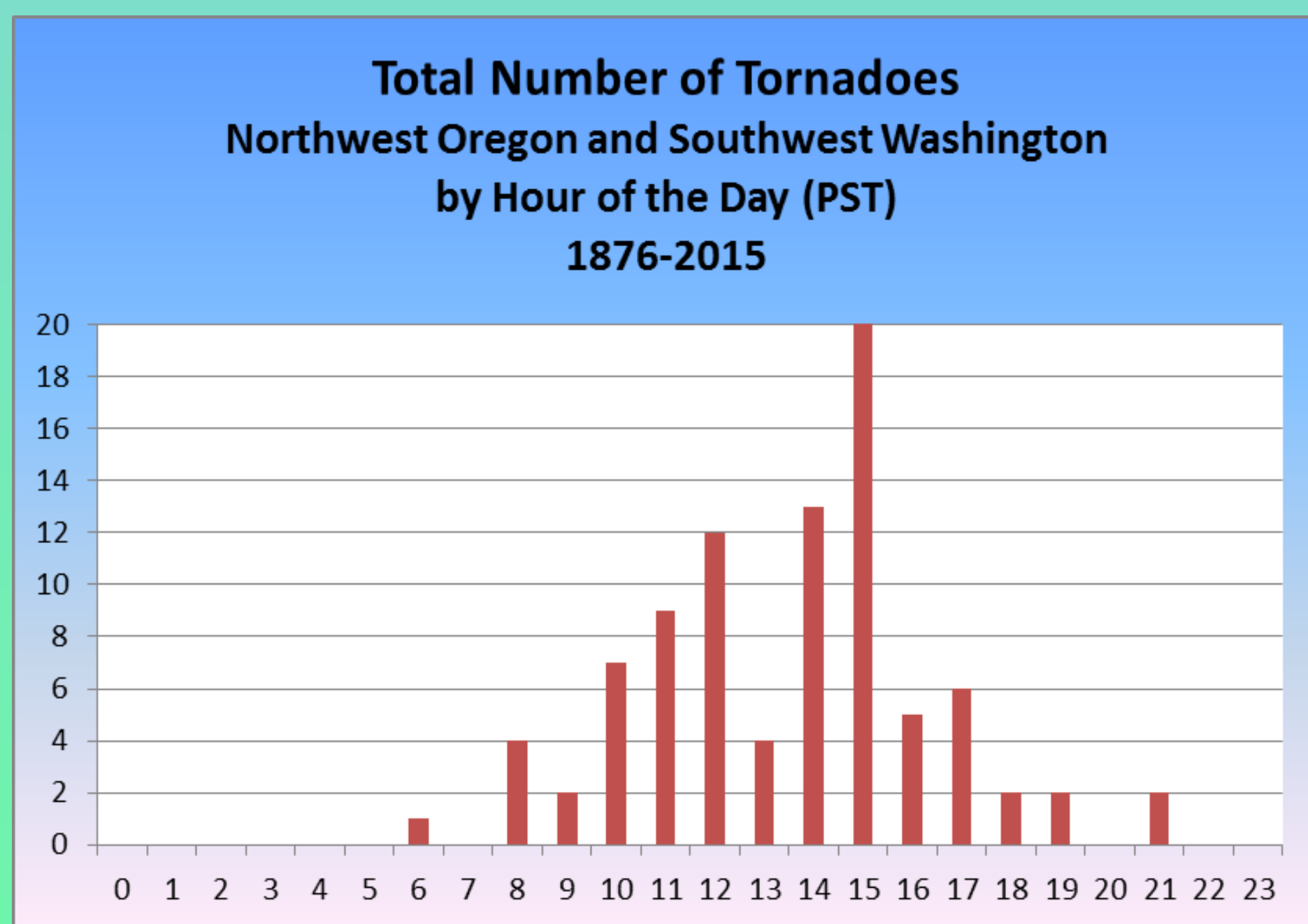
David Elson

NOAA/NWSFO, Portland, OR



Tornadoes show a correlation with population centers

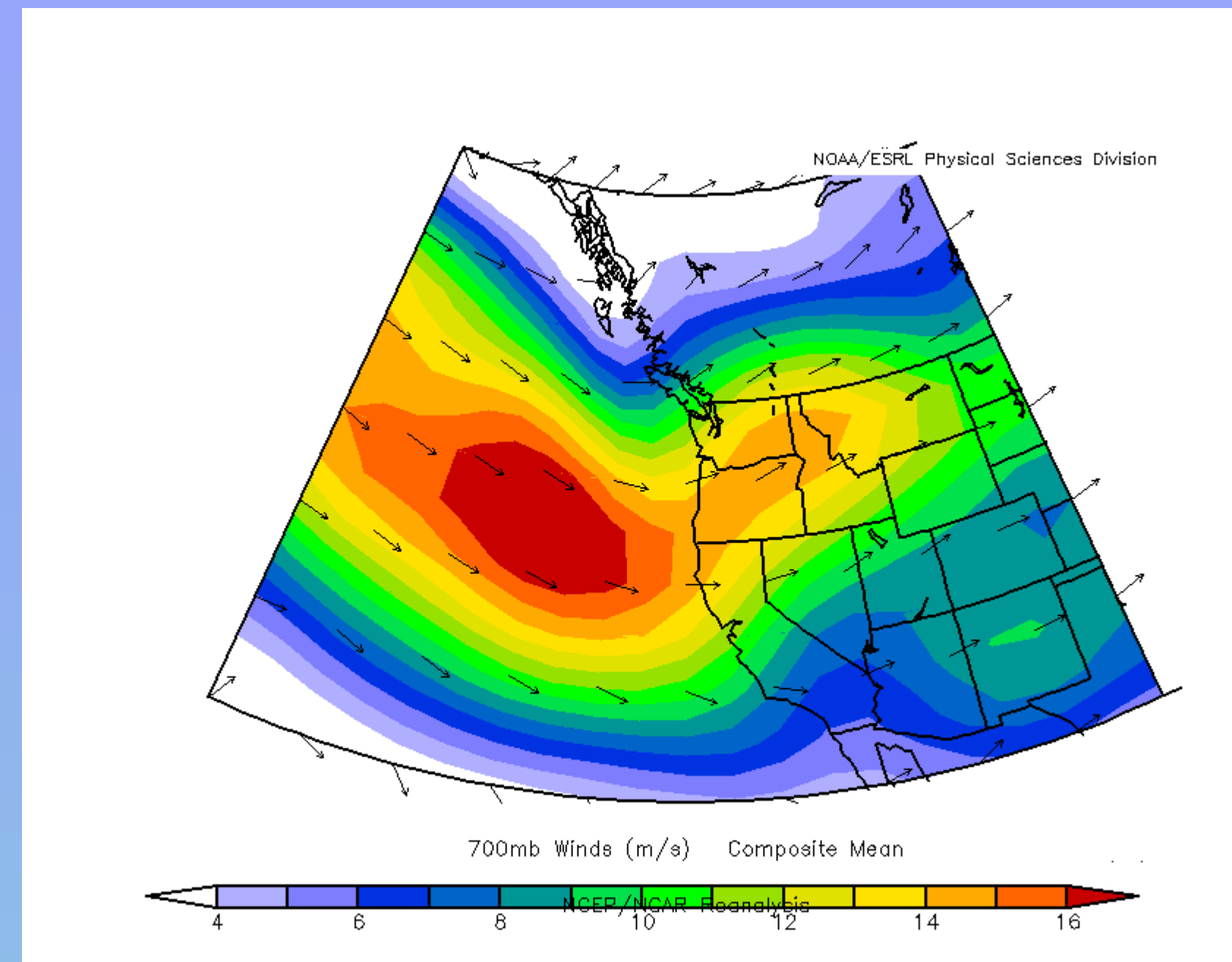
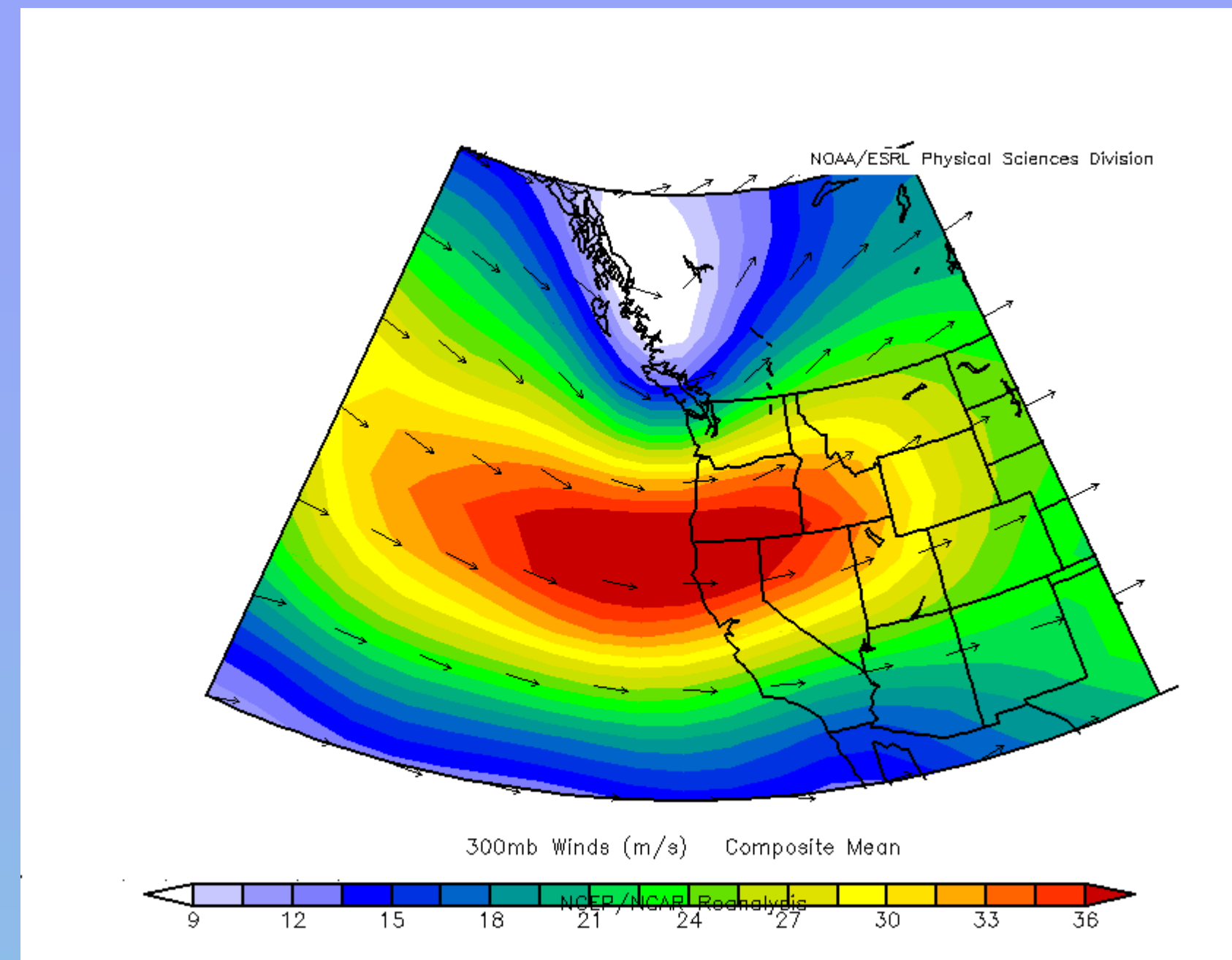
However, tornadoes also show a strong tendency to occur in the major north-south oriented valleys and along the coast.



Portland Oregon (PQR) CWA Tornadoes								1876-2015		
Month	Day	Year	Time (Initial touchdown local time)	Rating	State	County	(nearest or most affected) City	(Beginning) Latitude	(Beginning) Longitude	Primary Information Sources
10	18	1876	1200 LT		OR	Clackamas	Barlow	45°15'	122°43'	Oregonian (10/19, 10/23)
2	3	1881	1500 LT		OR	Marion	Genais	45°06'	122°54'	Oregonian (2/5) Daily Astorian (2/5)
9	15	1885	1500 LT		OR	Clatsop	Astoria	46°10'	123°55'	Daily Astorian (9/16), MWR
1	19	1887			OR	Lane	Cottage Grove	43°48'	123°04'	Oregonian (1/20), Eugene City Guard (1/22)
7	14	1894			OR	Clackamas	Needy	45°10'	122°42'	The Daily Astorian (7/17) Oregonian (7/18)
6	14	1897	1500 LT		OR	Tillamook	Bay City	45°31'	123°53'	CCOS
2	26	1904	1045 LT		OR	Multnomah	Portland	45°30'	122°36'	Oregonian (2/27, 2/28), MWR, CCOS
7	13	1907			OR	Multnomah	Portland	45°31'	122°36'	Sunday Oregonian (7/14)
4	10	1911	1215 LT		OR	Clackamas	Oregon City	45°21'	122°36'	Morning Oregonian (4/11)
3	26	1916			OR	Clackamas	Wilsonville	45°16'	122°51'	Oregon City Enterprise (3/31)
11	26	1918			OR	Lincoln	Newport	44°38'	124°03'	Yaquina Bay News (11/28), CD
11	30	1920	1400 LT		OR	Washington	Beaverton	45°30'	122°46'	Morning Oregonian (12/1)
11	11	1925	1100 LT		OR	Polk/Marion	Independence/Salem	44°49'	123°12'	Eugene Register Guard (11/12), CD, RCWB, MWR
2	19	1926	1715 LT		OR	Yamhill	McMinnville	45°11'	123°13'	McMinnville Telephone Register (3/5), RCWB, MWR
5	4	1926	1040 LT		WA	Clark	Vancouver - Minnehaha	45°40'	122°37'	RCWB
9	27	1926	0600 LT		WA	Pacific	Chinook	46°16'	123°57'	RCWB
10	12	1934			OR	Columbia	Clatskanie			Oregon Journal (10/12)
7	25	1937			OR	Lane	Lowell	43°58'	122°37'	Register Guard (7/26), Capital Journal (7/26), CD
7	25	1937			OR	Lane	Rainbow, McKenzie Bridge	44°10'	122°14'	Register Guard (7/26), Capital Journal (7/26), CD
9	5	1938	1345 LT		OR	Linn	Brownsville/SE of Halsey	44°20'	123°04'	Oregonian (9/8)
10	1	1940	1200 LT		OR	Washington	Scholls	45°25'	122°55'	Oregon Journal (10/2)
10	4	1946			OR	Clackamas	Canby	45°17'	122°40'	Oregon Journal (10/5), Oregonian (10/5)
12	23	1949	1100 PST		WA	Pacific	Long Beach	46°21'	124°03'	MWR
10	2	1951	1510 PST		WA	Clark	Cherry Grove	45°47'	122°37'	Oregonian (10/3), CD Washington
12	6	1951	1540 PST	F1	OR	Lane	3 SW Junction City	44°11'	123°14'	SED
1	20	1953	0800 PST		OR	Benton	Corvallis	44°34'	123°16'	Oregonian (1/21), CD Oregon
10	22	1954	1535 PST	F0	OR	Washington	2 E Hillsboro	45°31'	122°56'	SED
4	12	1957	1200 PST	F1	OR	Clackamas	1 E Sandy	45°24'	122°15'	SED
3	8	1960	1515 PST	F1	OR	Marion	Aumsville	44°50'	122°53'	Storm Data, SED
11	5	1962	1200 PST		OR	Lincoln	Newport	44°38'	124°03'	Statesman Journal(11/6), Oregonian(11/6)
11	10	1965	1455 PST	F0	OR/WA	Columbia/Cowlitz	Rainier, Longview	46°05'	122°56'	Storm Data, SED
6	23	1966	1630 PST	F0	OR	Washington	6 W Banks	45°38'	123°16'	Storm Data, SED
10	20	1966	1530 PST	F0	OR	Clatsop	Seaside	46°00'	123°55'	Storm Data, SED
3	22	1967	1740 PST		OR	Marion	Butteville (Aurora)	46°16'	122°48'	Canby Herald, George Miller
10	3	1967	1305 PST	F1	OR	Clatsop	2 SW Warrenton	46°08'	123°57'	Storm Data, SED
10	13	1968	1300 PST	F0	OR	Washington	3 S Cornelius	45°28'	123°02'	Storm Data, SED
5	25	1971	1555 PST	F0	OR	Yamhill	1.8 mi SSE McMinnville	45°11'	123°11'	Storm Data, SED
4	5	1972	1250 PST	F3	OR/WA	Multnomah/Clark	Vancouver	45°36'	122°38'	Storm Data, SED
12	13	1973	1205 PST		OR	Lincoln	Newport	44°38'	124°03'	Oregonian(12/14), Storm Data
8	18	1975	1500 PST	F0	OR	Lane	Eugene	44°03'	123°05'	Storm Data, SED
12	12	1975	2120 PST	F1	OR	Tillamook	Tillamook	45°27'	123°51'	Storm Data, SED
8	16	1978	1420 PST	F1	OR	Columbia	Scappoose	45°47'	122°52'	Storm Data, SED
8	20	1978	1700 PST	F0	OR	Yamhill	Amity	45°07'	123°12'	Storm Data
4	18	1984		F0	OR	Yamhill	Woodland Heights (3 S Amity)	45°05'	123°11'	Storm Data, SED
5	14	1984	1500 PST	F0	OR	Lane	3 mi S Junction City	44°10'	123°12'	Storm Data, SED
10	13	1984	1200 PST	F1	WA	Clark	1 N Woodland	45°56'	122°45'	Storm Data, SED
10	26	1984	1230 PST	F0	OR	Marion	2 NW Donald	45°14'	122°53'	Storm Data, SED
11	2	1984	1700 PST	F0	OR	Lincoln	Walpole	44°26'	124°04'	Storm Data
3	28	1985	1630 PST	F1	WA	Cowlitz	Lexington	46°11'	122°54'	Storm Data, SED
6	29	1989	1730 PST	F1	WA	Clark	2 SW LaCenter	45°50'	122°42'	Storm Data, SED
11	24	1989	1630 PST	F1	OR	Lane	Eugene	44°00'	123°05'	Storm Data, SED
12	1	1990	1000 PST	F0	WA	Pacific	South Bend	46°40'	123°48'	Storm Data, SED
4	9	1991	1530 PST	F0	OR	Multnomah	Gresham	45°30'	122°26'	Storm Data, SED
6	13	1991	1100 PST	F0	WA	Pacific	Megler	46°15'	123°51'	Storm Data, SED
11	12	1991	1435 PST	F1	OR	Multnomah	1 N Troutdale	45°33'	122°24'	Storm Data, SED
11	12	1991	1500 PST	F1	OR	Washington	Tualatin	45°23'	122°47'	Storm Data, SED
11	12	1991	1600 PST	F0	OR	Marion	2 SE Silverton	44°59'	122°46'	Storm Data, SED
12	8	1993	1400 PST	F2	OR	Yamhill/Washington	1 N St. Paul	45°15'	122°57'	Storm Data, SED
2	13	1994	0834 PST	F0	OR	Clatsop	1 N Warrenton	46°11'	123°55'	Storm Data, SED
3	22	1994	1440 PST	F0	OR	Linn	Albany	44°38'	123°05'	Storm Data, SED
9	15	1996	1721 PST	F0	OR	Clatsop	3 N Gearhart	46°05'	123°56'	Storm Data, SED
10	24	1996	1400 PST	F0	OR	Lincoln	Cape Foulweather (8 N Newport)	44°46'	124°04'	Storm Data, SED
12	5	1996	1145 PST	F0	OR	Lane	Eugene	44°04'	123°07'	Storm Data, SED
5	31	1997	1010 PST	F0	OR	Marion	1 E Keizer	45°00'	122°59'	Storm Data, SED
5	31	1997	1645 PST	F0	WA	Clark	Vancouver	45°38'	122°40'	Storm Data, SED
6	1	1997	1137 PST	F0	OR	Benton	6 NW Philomath	44°38'	123°26'	Storm Data, SED
9	15	1997	1030 PST	F0	OR	Polk	5.5 N Rickreall	45°00'	123°13'	Storm Data, SED
9	15	1997	1202 PST	F0	OR	Tillamook	Garibaldi	45°35'	123°55'	Storm Data, SED
9	15	1997	1240 PST	F0	OR	Polk	4 N Rickreall	45°00'	123°13'	Storm Data, SED
9	15	1997	1840 PST	F0	WA	Clark	3 W Yacolt	45°52'	122°29'	Storm Data, SED
9	17	1997	1035 PST	F0	OR	Marion	2 SW Turner	44°49'	122°59'	Storm Data, SED
9	17	1997	1105 PST	F0	OR	Marion	3 N Aumsville	44°53'	122°53'	Storm Data, SED
9	18	1997	0815 PST	F0	OR	Tillamook	1 S Pacific City	45°11'	123°58'	Storm Data, SED
9	18	1997	0830 PST	F0	OR	Tillamook	2 S Neskowin	45°04'	123°59'	Storm Data, SED
1	5	1998	1300 PST	F0	OR	Clatsop	Seaside	46°00'	123°55'	Storm Data, SED
10	3	1998	1430 PST	F0	OR	Marion	Silverton	45°00'	122°48'	Storm Data, SED
10	3	1998	1545 PST	F0	OR	Clackamas	Canby	45°16'	122°42'	Storm Data, SED
12	2	1999	1400 PST	F0	OR	Lane	Creswell	43°55'	123°01'	Storm Data, SED
4	28	2000	1500 PST	F0	OR	Columbia	St. Helens	45°52'	122°49'	Storm Data, SED
5	11	2000	1535 PST	F0	WA	Clark	Battle Ground	45°46'	122°31'	Storm Data, SED
10	9	2000	1815 PST	F1	OR	Clackamas	2 W Molalla	45°09'	122°37'	Storm Data, SED
10	9	2000	1910 PST	F1	OR	Clackamas	3 SE Oregon City	45°19'	122°33'	Storm Data, SED
6	21	2003	0900 PST	F1	OR	Polk	Independence	44°51'	123°11'	Storm Data, SED
5	27	2004	1430 PST	F0	WA	Clark	2 NE La Center	45°52'	122°40'	Storm Data, SED
6	6	2004	1415 PST	F0	OR/WA	Columbia/Cowlitz	Rainier	46°03'	122°53'	Storm Data, SED
6	18	2004	0945 PST	F0	OR	Washington	Sherwood	45°21'	122°51'	Storm Data, SED
9	13	2004	1040 PST	F0	WA	Clark	1 W Ridgefield (in Wildlife Refuge)	45°49'	122°46'	Storm Data, SED
12	16	2006	1500 PST	F0	OR	Marion	8 NE Salem	45°01'	122°53'	Storm Data, SED
9	28	2007	1900 PST	F0	OR	Linn	3 N Lebanon	44°35'	122°54'	Storm Data, SED
1	10	2008	1215 PST	F1	WA	Clark	Vancouver	45°40'	122°45'	Storm Data, SED
6	4	2008	1445 PST	F0	OR	Linn	2 N Peoria	44°29'	123°12'	Storm Data, SED
10	26	2009	1415 PST	F0	OR	Clackamas	2 E Oregon City	45°23'	122°31'	SED
11	6	2009	2130 PST	F0	OR	Lincoln	Roads End (2.5 N Lincoln City)	45°01'	124°01'	Storm Data, SED
12	14	2010	1144 PST	F2	OR	Marion	Aumsville	44°50'	122°52'	Storm Data, SED
3	21	2013	1510 PST	EF0	WA	Clark	2 NE Hockinson	45°45'	122°27'	Storm Data, SED
6	13	2013	1533 PST	EF1	OR	Yamhill	McMinnville	45°13'	123°11'	Storm Data, SED
10	23	2014	1140 PST	EF1	WA	Cowlitz	Longview	46°08'	122°57'	Storm Data, SED
4	14	2015	1505 PST	EF0	OR	Lane	Eugene	44°01'	123°02'	Storm Data, SED
12	10	2015	1115 PST	EF1	WA	Clark	Battle Ground	45°45'	122°34'	Storm Data, SED

ORCS = Oregon Climate Service
MWR = Monthly Weather Review
CCOS = Climate and Coasts Oregon Section
RCWB = Report of the Chief of the Weather Bureau
CD = Climate Data
SED = Storm Events Database

20 tornadoes F1/EF1 or greater



Using Salem (SLE) soundings:

Characteristic

Low CAPE:

Low EL:

High 0-3km Helicity:

Average

82 J kg⁻¹

690 mb

252 m² s⁻²

Max/High

216 J kg⁻¹

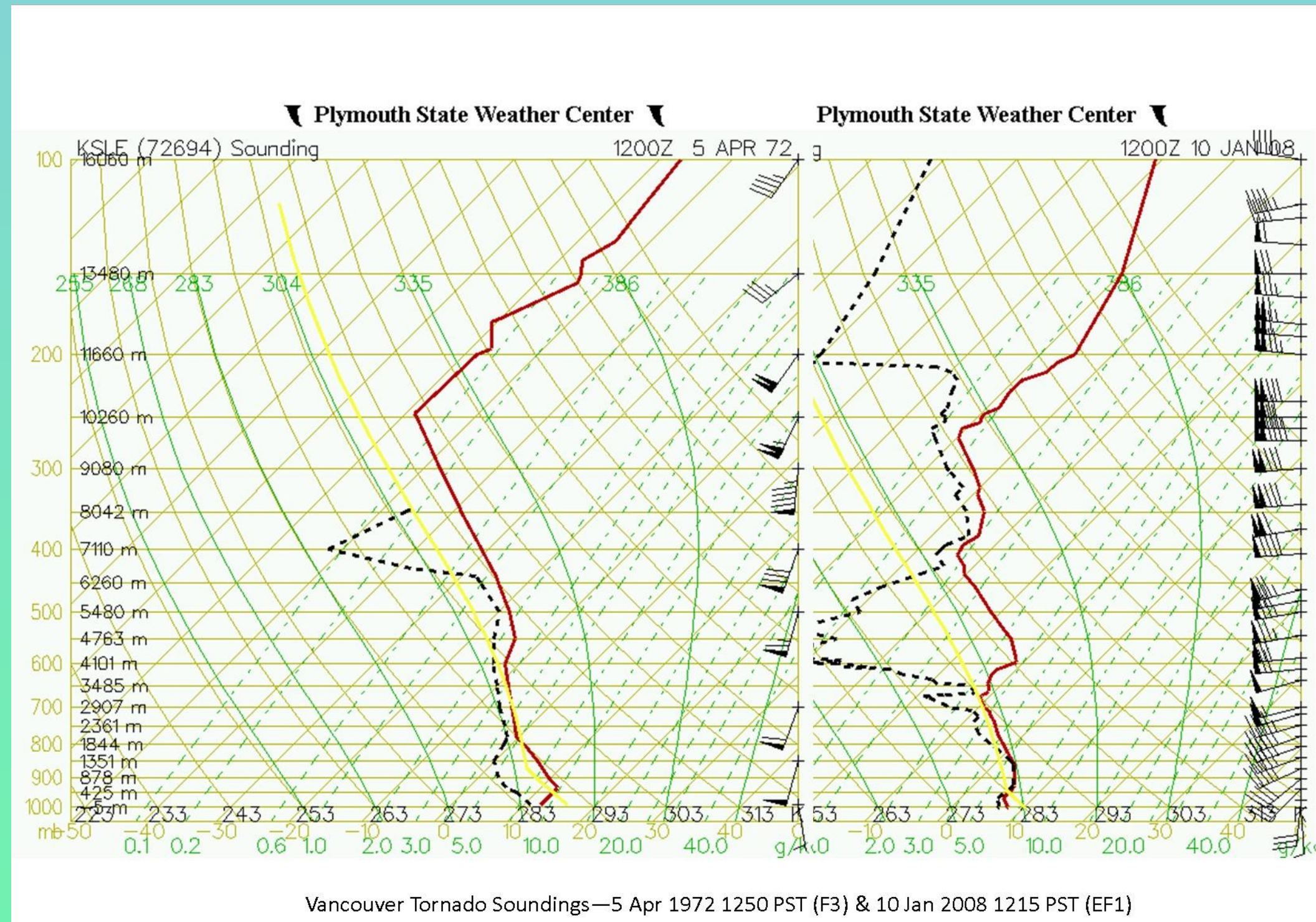
473 mb

710 m² s⁻²

Vancouver WA

F3 April 1972

F1 January 2008



Aumsville OR

F1 March 1960

F2 December 2010

