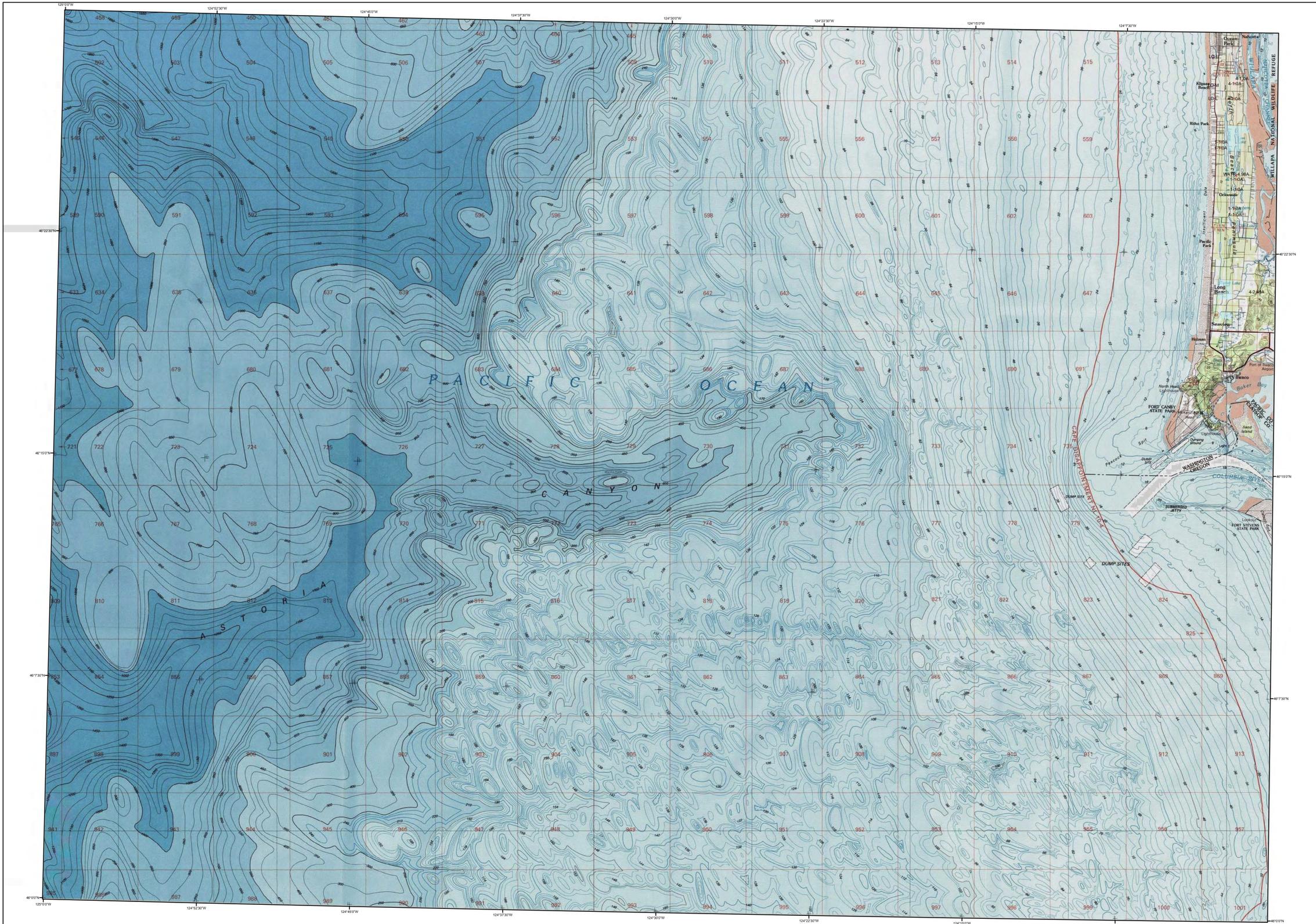


2011 Aerial Insect and Disease Survey

USGS 100K Quad: ILWACO - A146124; 1F



Mortality Agents			Other Damaging Agents		
Code	Damaging Agent	Primary Host	Code	Damaging Agent	Primary Host
1	Douglas fir beetle	Douglas fir	AB	Balsam woolly adelgid	True fir
2	Douglas fir engraver	Douglas fir	AC	Cooley spruce gall adelgid	Sitka spruce, Douglas fir
3	Spine sawfly	Spine	AD	Leaf-miner	Maple
4	Pine engraver	True fir	AE	Leaf-miner	Maple
5	Western balsam bark beetle	Sub-alpine fir	AF	Leaf-miner	Maple
6B	Mountain pine beetle	Whitebark pine	AG	Blister rust	Whitebark pine
6L	Mountain pine beetle	Lodgepole pine	AH	Blister rust	Whitebark pine
6M	Mountain pine beetle	Ponderosa pine	AI	Blister rust	Whitebark pine
6N	Mountain pine beetle	Sugar pine	AA	Blister rust	Whitebark pine
6O	Mountain pine beetle	Western white pine	AB	Blister rust	Whitebark pine
6P	Mountain pine beetle	Ponderosa pine	AC	Blister rust	Whitebark pine
6Q	Mountain pine beetle	Ponderosa pine	AD	Blister rust	Whitebark pine
6R	Mountain pine beetle	Ponderosa pine	AE	Blister rust	Whitebark pine
6S	Mountain pine beetle	Ponderosa pine	AF	Blister rust	Whitebark pine
6T	Mountain pine beetle	Ponderosa pine	AG	Blister rust	Whitebark pine
6U	Mountain pine beetle	Ponderosa pine	AH	Blister rust	Whitebark pine
6V	Mountain pine beetle	Ponderosa pine	AI	Blister rust	Whitebark pine
6W	Mountain pine beetle	Ponderosa pine	AA	Blister rust	Whitebark pine
6X	Mountain pine beetle	Ponderosa pine	AB	Blister rust	Whitebark pine
6Y	Mountain pine beetle	Ponderosa pine	AC	Blister rust	Whitebark pine
6Z	Mountain pine beetle	Ponderosa pine	AD	Blister rust	Whitebark pine
7	Western white pine	Western white pine	AE	Blister rust	Whitebark pine
8	Western white pine	Western white pine	AF	Blister rust	Whitebark pine
9	Western white pine	Western white pine	AG	Blister rust	Whitebark pine
10	Western white pine	Western white pine	AH	Blister rust	Whitebark pine
11	Western white pine	Western white pine	AI	Blister rust	Whitebark pine
12	Western white pine	Western white pine	AA	Blister rust	Whitebark pine
13	Western white pine	Western white pine	AB	Blister rust	Whitebark pine
14	Western white pine	Western white pine	AC	Blister rust	Whitebark pine
15	Western white pine	Western white pine	AD	Blister rust	Whitebark pine
16	Western white pine	Western white pine	AE	Blister rust	Whitebark pine
17	Western white pine	Western white pine	AF	Blister rust	Whitebark pine
18	Western white pine	Western white pine	AG	Blister rust	Whitebark pine
19	Western white pine	Western white pine	AH	Blister rust	Whitebark pine
20	Western white pine	Western white pine	AI	Blister rust	Whitebark pine
21	Western white pine	Western white pine	AA	Blister rust	Whitebark pine
22	Western white pine	Western white pine	AB	Blister rust	Whitebark pine
23	Western white pine	Western white pine	AC	Blister rust	Whitebark pine
24	Western white pine	Western white pine	AD	Blister rust	Whitebark pine
25	Western white pine	Western white pine	AE	Blister rust	Whitebark pine
26	Western white pine	Western white pine	AF	Blister rust	Whitebark pine
27	Western white pine	Western white pine	AG	Blister rust	Whitebark pine
28	Western white pine	Western white pine	AH	Blister rust	Whitebark pine
29	Western white pine	Western white pine	AI	Blister rust	Whitebark pine
30	Western white pine	Western white pine	AA	Blister rust	Whitebark pine
31	Western white pine	Western white pine	AB	Blister rust	Whitebark pine
32	Western white pine	Western white pine	AC	Blister rust	Whitebark pine
33	Western white pine	Western white pine	AD	Blister rust	Whitebark pine
34	Western white pine	Western white pine	AE	Blister rust	Whitebark pine
35	Western white pine	Western white pine	AF	Blister rust	Whitebark pine
36	Western white pine	Western white pine	AG	Blister rust	Whitebark pine
37	Western white pine	Western white pine	AH	Blister rust	Whitebark pine
38	Western white pine	Western white pine	AI	Blister rust	Whitebark pine
39	Western white pine	Western white pine	AA	Blister rust	Whitebark pine
40	Western white pine	Western white pine	AB	Blister rust	Whitebark pine
41	Western white pine	Western white pine	AC	Blister rust	Whitebark pine
42	Western white pine	Western white pine	AD	Blister rust	Whitebark pine
43	Western white pine	Western white pine	AE	Blister rust	Whitebark pine
44	Western white pine	Western white pine	AF	Blister rust	Whitebark pine
45	Western white pine	Western white pine	AG	Blister rust	Whitebark pine
46	Western white pine	Western white pine	AH	Blister rust	Whitebark pine
47	Western white pine	Western white pine	AI	Blister rust	Whitebark pine
48	Western white pine	Western white pine	AA	Blister rust	Whitebark pine
49	Western white pine	Western white pine	AB	Blister rust	Whitebark pine
50	Western white pine	Western white pine	AC	Blister rust	Whitebark pine
51	Western white pine	Western white pine	AD	Blister rust	Whitebark pine
52	Western white pine	Western white pine	AE	Blister rust	Whitebark pine
53	Western white pine	Western white pine	AF	Blister rust	Whitebark pine
54	Western white pine	Western white pine	AG	Blister rust	Whitebark pine
55	Western white pine	Western white pine	AH	Blister rust	Whitebark pine
56	Western white pine	Western white pine	AI	Blister rust	Whitebark pine
57	Western white pine	Western white pine	AA	Blister rust	Whitebark pine
58	Western white pine	Western white pine	AB	Blister rust	Whitebark pine
59	Western white pine	Western white pine	AC	Blister rust	Whitebark pine
60	Western white pine	Western white pine	AD	Blister rust	Whitebark pine
61	Western white pine	Western white pine	AE	Blister rust	Whitebark pine
62	Western white pine	Western white pine	AF	Blister rust	Whitebark pine
63	Western white pine	Western white pine	AG	Blister rust	Whitebark pine
64	Western white pine	Western white pine	AH	Blister rust	Whitebark pine
65	Western white pine	Western white pine	AI	Blister rust	Whitebark pine
66	Western white pine	Western white pine	AA	Blister rust	Whitebark pine
67	Western white pine	Western white pine	AB	Blister rust	Whitebark pine
68	Western white pine	Western white pine	AC	Blister rust	Whitebark pine
69	Western white pine	Western white pine	AD	Blister rust	Whitebark pine
70	Western white pine	Western white pine	AE	Blister rust	Whitebark pine
71	Western white pine	Western white pine	AF	Blister rust	Whitebark pine
72	Western white pine	Western white pine	AG	Blister rust	Whitebark pine
73	Western white pine	Western white pine	AH	Blister rust	Whitebark pine
74	Western white pine	Western white pine	AI	Blister rust	Whitebark pine
75	Western white pine	Western white pine	AA	Blister rust	Whitebark pine
76	Western white pine	Western white pine	AB	Blister rust	Whitebark pine
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81	Western white pine	Western white pine	AG	Blister rust	Whitebark pine
82	Western white pine	Western white pine	AH	Blister rust	Whitebark pine
83	Western white pine	Western white pine	AI	Blister rust	Whitebark pine
84	Western white pine	Western white pine	AA	Blister rust	Whitebark pine
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92	Western white pine	Western white pine	AI	Blister rust	Whitebark pine
93	Western white pine	Western white pine	AA	Blister rust	Whitebark pine
94	Western white pine	Western white pine	AB	Blister rust	Whitebark pine
95	Western white pine	Western white pine	AC	Blister rust	Whitebark pine
96	Western white pine	Western white pine	AD	Blister rust	Whitebark pine
97	Western white pine	Western white pine	AE	Blister rust	Whitebark pine
98	Western white pine	Western white pine	AF	Blister rust	Whitebark pine
99	Western white pine	Western white pine	AG	Blister rust	Whitebark pine
100	Western white pine	Western white pine	AH	Blister rust	Whitebark pine

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2011 Aerial Insect and Disease Survey
Map Scale: 1:100,000
Date: 13 December 2011

Legend

- Defoliating Agents
- Mortality Agents
- Other Damage
- Areas Not Flown
- 2011 Large Fires
- 2011 Special Swiss Needle Cast Survey

Source: Northwest Interagency Coordination Center

The TOPO! maps are seamless, scanned images of United States Geological Survey (USGS) paper topographic maps. For more information on this map, visit us online at <http://www.foresthealth.usda.gov>

A data dictionary, digital copies of this map and Arctis insect and disease data are available at www.fs.usda.gov/goto/r6/fhp/ads

How the Aerial Surveys Are Conducted

Data represented on this map are based on trees visibly affected by forest insects and diseases detected and recorded during aerial survey flights conducted by the USDA Forest Service, the Washington Department of Natural Resources and the Oregon Department of Forestry. Observers have just a few seconds to recognize the color difference between healthy and damaged trees of different species; diagnose causal agents correctly; estimate intensity; delineate the extent of damage; and precisely record this information on a georeferenced, digital map. Air turbulence, cloud shadows, distance from aircraft, haze, smoke and observer experience can all affect the quality of the survey. These data summaries provide an estimate of conditions on the ground and may differ from estimates derived by other methods.

The aerial survey provides information on the current status for many causal agents, and is important when examining insect activity trends by comparing historical and current survey data over large areas.

Overview surveys are a 'snap shot' in time and therefore may not be timed to accurately capture the true extent or severity of a particular disturbance activity. Specially designed surveys with modified flight patterns and timing may be conducted to more accurately delineate the extent and severity of a particular disturbance agent. Special surveys, such as Swiss needle cast surveys, are conducted when resources are available to address situations of sufficient economic, political or environmental importance.





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DISCLAIMER
 Forest Health Protection (FHP), Washington Department of Natural Resources (WDNR) and Oregon Department of Forestry (ODF) strive to maintain an accurate Aerial Detection Survey (ADS) Dataset, but due to the conditions under which the data are collected, FHP, WDNR and ODF shall not be held responsible for missing or inaccurate data. ADS are not intended to replace more specific information. An accuracy assessment has not been done for this dataset; however, ground checks are completed in accordance with local and national guidelines. <http://www.fs.fed.us/foresthealth/ads/>