

Anatomy of a Fire

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2002 Biscuit Fire, OR



http://blog.oregonlive.com/breakingnews/2007/10/wildfires_spew_more_mercury_th.html

The Forest Service Synopsis

- Located in southern Oregon and northern California.
- Began on July 13, 2002 and reached 499,965 acres.
- One of Oregon's largest in recorded history.
- Stretched from 10 miles east of the coastal community of Brookings, Oregon; south into northern California; east to the Illinois Valley; and north to within a few miles of the Rogue River.
- Burned in a mosaic pattern
 - Approximately 20% of the area burned lightly, with less than 25% of the vegetation killed,
 - Another 50% of the area burned very hot, with more than 75% of the vegetation killed.



http://www.google.com/imgres?imgurl=http://www.uwec.edu/jolhm/EH3/Group9/wildfire_biscuit.jpg&imgrefurl=http://www.uwec.edu/jolhm/EH3/Group9/wildfirebiscuitfire.htm



http://www.uwec.edu/jolhm/EH3/Group9/wildfire_biscuit.jpg

- "It's going to be days (before it's stopped) and it keeps chunking along," Rosin [an Oregon Department of Forestry spokeswoman] said of the fire. "It's not rushing anywhere, it's just creeping along."



<http://community.seattletimes.nwsources.com/archive/?date=20020812&slug=oregonfire12m>

<http://wwwdata.forestry.oregonstate.edu/terra/biscuit.htm>

NASA Aster Image



<http://www.google.com/imgres?imgurl=http://asterweb.jpl.nasa.gov/gallery/images/biscuit.jpg&imgrefurl=http://asterweb.jpl.nasa.gov/gallery-detail.asp>

***From a Firefighting
crew (Zone 3):***

Info from Aug 13th:

Acres Burned: 390,276

Contained: 26 Percent

Current Weather Conditions:

Wind Speed: 2-15 mph

Temperature: 90-102

Wind Direction: Variable

Relative Humidity: 12-22

Residences Threatened, 4,019, Destroyed 4

Outbuildings Threatened 2,200, Destroyed 9

Commercial Property Threatened 250, Destroyed 0



- **Observed Fire Behavior:** The fire continues to back down-slope on the west side to the Chetco River. With the air clearing slightly, fire activity increased.
- **Significant Events of the day:** Crews made good progress on containing the fire by completing a burnout operation between the Chetco River and Long Ridge
- **Personnel on the fire:** 6,410 total (of which 2,683 are private), including 46 type 1 crews, 125 type 2 crews, 200 engine crews, 119 dozers, 114 water tenders, 23 camp crews, 40 helicopters, and 1,765 overhead (of which 513 are private). Canadians were working with us.
- **Projected incident spread during next operational period:** The concern is that the fire could continue to move west along the Chetco River drainage and impact private property and private timber lands. The heavy dry fuel conditions are currently dictating an indirect strategy with direct attack where conditions allow.



http://www.google.com/imgres?imgurl=http://www.salem-news.com/stimg/june132007/biscuit-burnout_8dollarb-3501.jpg

From The Oregonian

- On the northwestern portion, crews with bulldozers, drip torches and chain saws worked through the day to establish a burnout barrier along a U.S. Forest Service road that allows them access to the area's rugged wilderness. It's also their only way out.
- Commanders on Friday night had withdrawn about 200 firefighters from the northwest fire line after a butte near the road erupted into columns of flames, threatening to seal off their exit.
- 'It really caught us off guard,' said Ray Hershey, supervisor of firefighter Division U working to build containment lines around the massive fire's northern head. 'We looked up and said, "Where's that coming from? Oh, many, that's not a cloud up there. It was a huge plume of smoke." It was get out or face getting trapped.'

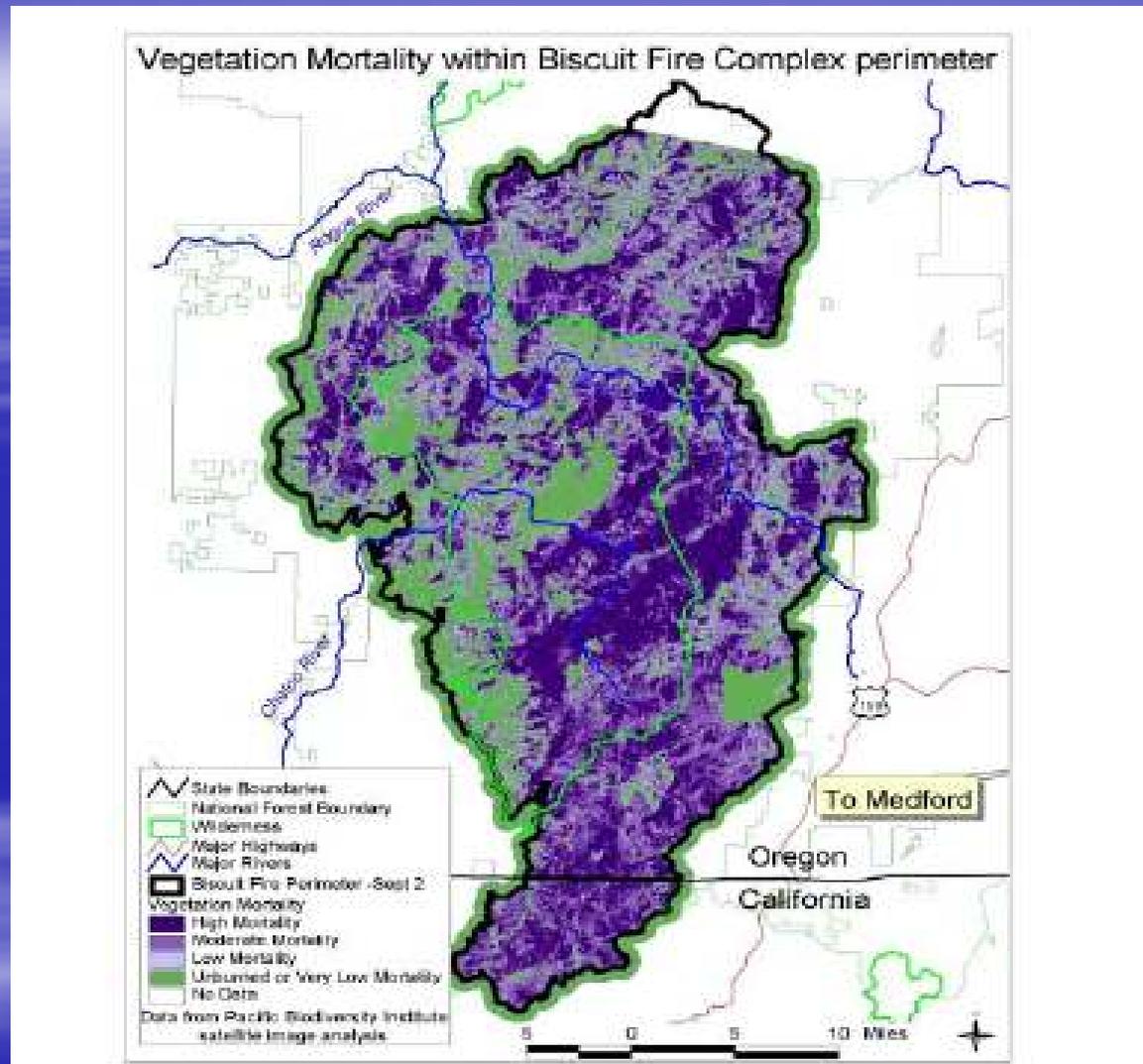
From the USDA Forest Service Summary Analysis of the Biscuit Fire

- 63% of the combined sample of nonreserved and wilderness land was classified as low/very low burn severity.
- Within each broad forest type, 55 % of the softwood area and 82 % of the hardwood area was classified as low/very low burn severity.
- Douglas-fir forest types burned less severely than most other softwood forest types, with less than 35 % classified as high/moderate burn severity.
- Less than 6 % of the tanoak area was classified as high/moderate burn severity.

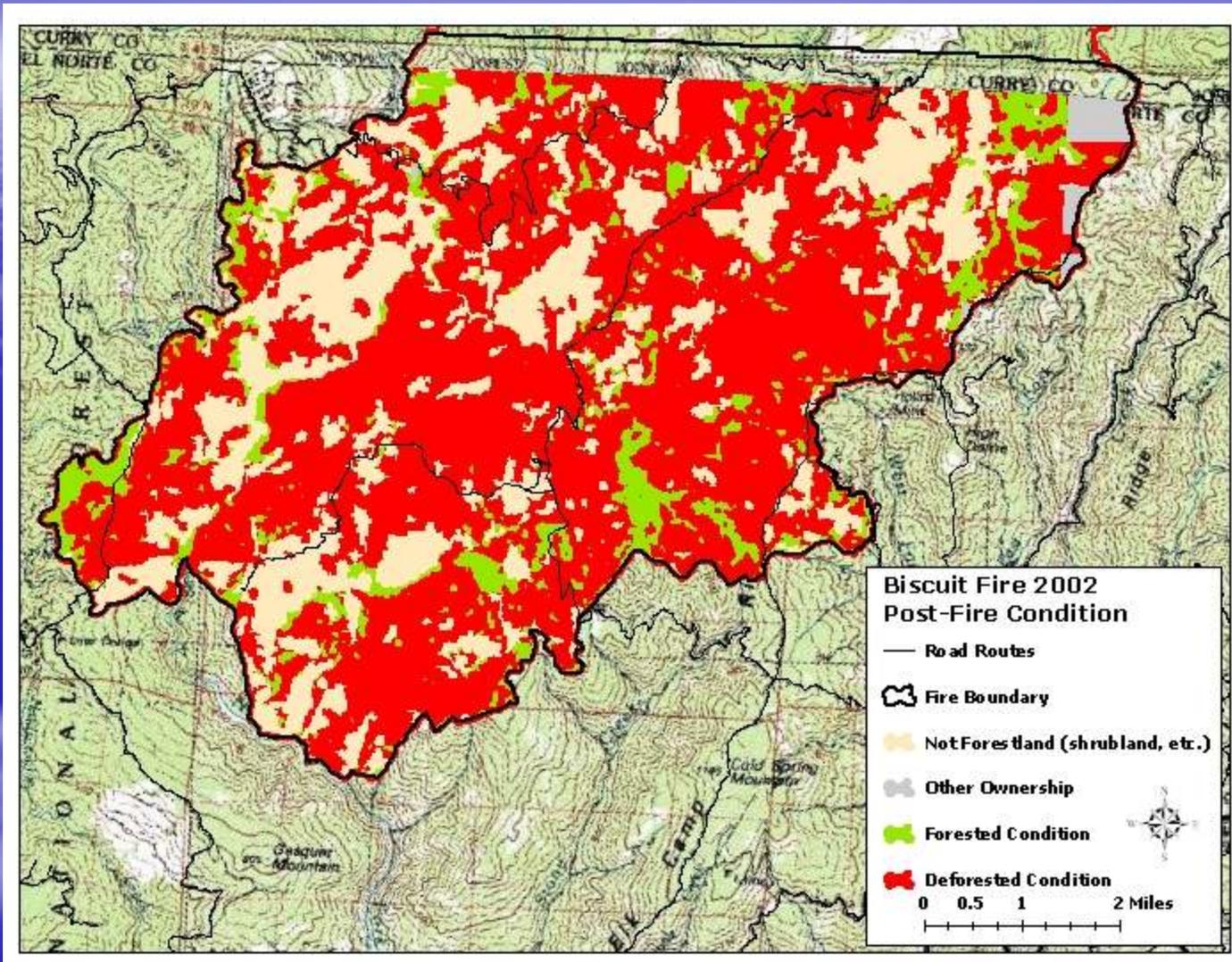
- For hardwoods and softwoods combined, 76 % of the stands of very large trees (trees >20 inches in diameter at breast height) was classified as low/very low severity.
- Sites classified predominantly as high/moderate fire severity tended to have more prefire brush, have lower stand volumes, contain less large diameter woody debris, and occur on low-productivity land.

From the GAO Report to Congress

- Following the initial days of the Biscuit Fire, delays in obtaining needed personnel hampered efforts to fight the rapidly growing fire. Specifically, officials faced problems obtaining (1) highly experienced management teams to direct suppression strategies and crews to carry the strategies out, (2) supervisors to manage crews and equipment, and (3) support staff to monitor the training and experience of contracted crews. An unusually severe fire season, with many other higher priority fires, affected the availability of personnel needed to fight the Biscuit Fire.



http://www.pacificbio.org/publications/wildfire_studies/Assessment_of_2002_Biscuit_Fire_Complex.pdf



<http://www.fs.fed.us/r5/rsi/projects/postfirecondition/images/2002/BiscuitFire.jpg>

- *Of the information just presented, which gives the "best" account of the fire?*

Why?

- *Which question(s) does each type of information answer?*

Qualitative & Quantitative Methods

- Qualitative methods involve the description of characteristics of the subject of study.
 - Often described as interpretive.
- Quantitative methods use measurements and amounts to characterize the subjects.
 - Seek to explain, predict, generalize to other situations or subjects.

Examples

- Qualitative: Historical perspectives, biographies, case studies, ethnographies, some surveys and questionnaires, photos, maps
- Quantitative: Some surveys and questionnaires, experiments, graphs, statistical analyses
- The choice of method(s) should be guided by the question(s) the researcher aims to answer!!

- *Overview of the quarter.*