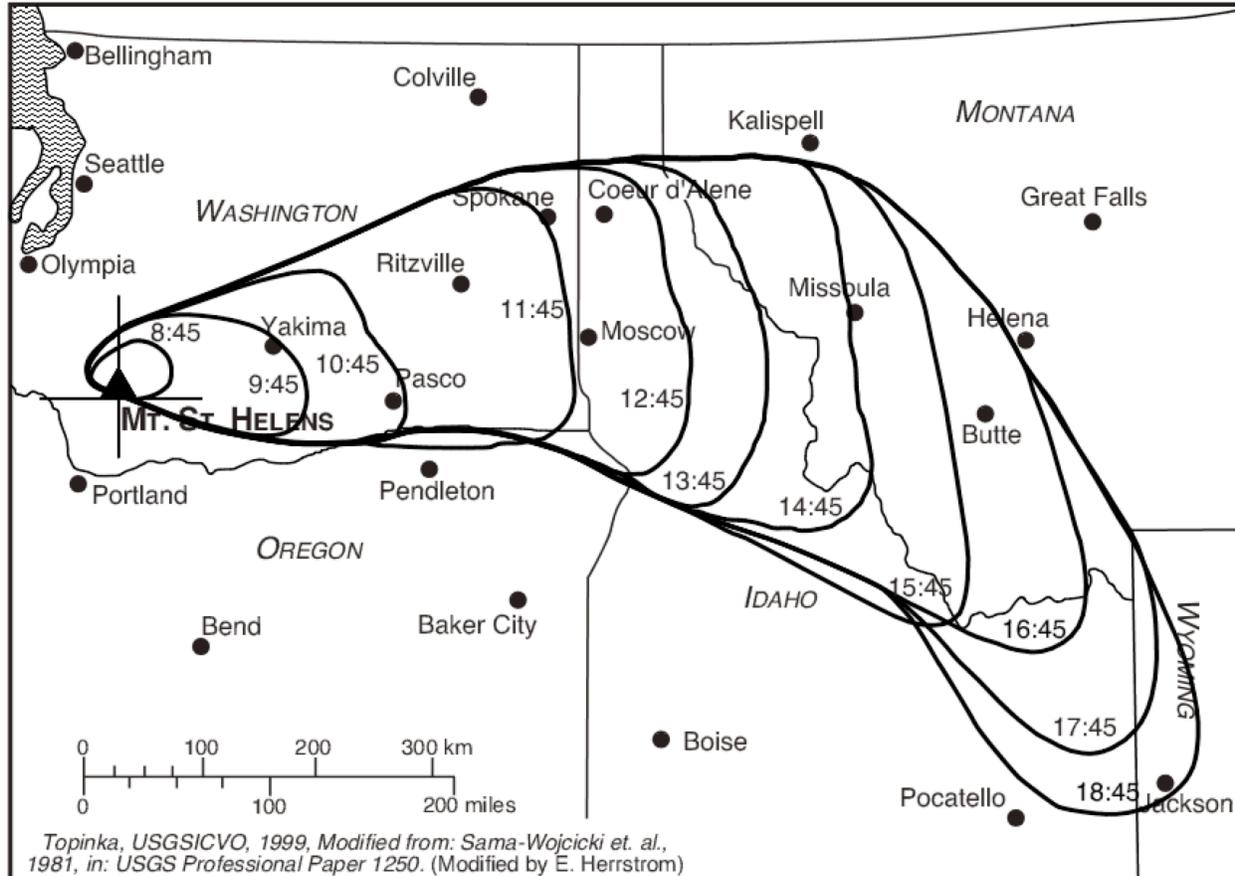


Mt. St. Helens Volcanic Ashfall Eruption Key May 18, 1980

1. – 5. Tracings overlain on map:



6. Lay your composite image of the ash cloud over the map that you printed in #1. Align the triangle representing the volcano and the north-south and east-west lines. List the cities shown on the map that were affected by the ash-fall.

Yakima, Pasco, Ritzville, Spokane, Coeur d'Alene, Moscow, Missoula, Butte, Jackson

7. In which city affected by the ashfall would you expect the accumulated ash layer to be thickest?

Yakima

8. In which city affected by the ashfall would you expect the accumulated ash layer to be thinnest?

Jackson

9. At what velocity did the ash travel from Mt. St. Helens to the city of Moscow, Idaho? Use the formula “distance = rate x time ($D = RT$)”, solve for R, and show your work.

$$D = 400 \text{ km}; T = 11:55 - 8:32 = 3:23 \text{ hours} = 3 \text{ hours } 23 \text{ minutes} = 3.38 \text{ hours}$$

$$R = D / T = 400 \text{ km} / 3.38 \text{ hr} = 118 \text{ km/hr}$$

$$\text{English system: } R = 248 \text{ mi} / 3.38 \text{ hr} = 73 \text{ mi/hr}$$

10. At what velocity did the ash travel between Moscow, Idaho, and its farthest extent on your drawing? Show your work.

$$D = 625 \text{ km}; T = 18:45 - 11:55 = 7:10 \text{ hours} = 7 \text{ hours } 10 \text{ minutes} = 7.17 \text{ hours}$$

$$R = D / T = 625 \text{ km} / 7.17 \text{ hr} = 87 \text{ km/hr}$$

$$\text{English system: } R = 388 \text{ mi} / 7.17 \text{ hr} = 54 \text{ mi/hr}$$