

Name: _____ Date: _____

Prescribed Burn Calculations Worksheet

Directions: Discover how long the effects of a forest fire are visible, and calculate the rate of recovery by following these steps:

1. 1. Use Google Earth Pro to measure the perimeter (P) and area (A) of burned land that can be seen from space.
2. 2. Calculate the rate of recovery by dividing the amount of visibly burned land by the amount of time since the fire occurred.
3. 3. Use your calculations to create an estimate of how long it will take for the forest to recover from the fire.

① Using the steps outlined in the Guide to Using Google Earth Pro, draw a polygon around the burned land seen in the NBR (Normalized Burn Ratio) imagery and find the perimeter, P, in kilometers (km) and the area, A, in square kilometers (km²) from Google Earth. Record your measurements in Perimeter and Area columns of the Burned Area Chart on page 2.

② Calculate the rate of recovery, in days. To do this use the following equation:

$$\% \text{ Recovery} = \left(\frac{\text{Area}(\text{km}^2) \text{ Early Date} - \text{Area}(\text{km}^2) \text{ Later Date}}{\text{Area}(\text{km}^2) \text{ Early Date}} \right) * 100$$

BURNED AREA

Date	Perimeter (km)	Area (km ²)
December 07, 2014		
January 01, 2015		
March 29, 2015		
April 30, 2015		

③ What is the percentage of change in the area of burned land for the following:

From Dec 07, 2014 to Jan. 01, 2015:

From Jan. 01, 2015 to Mar. 29, 2015:

From Mar. 29, 2015 to Apr. 30, 2015:

From Dec 07, 2014 to Apr. 30, 2015:

④ Do your measurements show that the rate of change is increasing or decreasing? Other than changes in size, what other changes do you see in the area where the fire took place?

⑤ Using the average rate of change in size of the burned area between Dec. 7, 2014 to Apr. 30 2015, in how many months do you expect the burn scar to disappear? Check your estimate by looking at the image in Google Earth from January 11, 2016. Was your estimate right?