

## Humans and Fire: An introduction

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Fire is a critical component of the earth system, influencing nearly all biomes of the world and playing an important role in regulating ecosystem processes and biodiversity. In recent decades, fire activity has increased in many temperate forests worldwide, even in ecosystems where natural ignitions are scarce, and this increase begs questions of whether climate change, human ignitions, land-use change, and/or altered vegetation are responsible. This lab activity provides an introduction to the interaction between human activities and fire.



Image from NASA: <http://www.nasa.gov/topics/earth/features/climate-fire.html>



- 4) In the article in *Global Ecology and Biogeography* McWethy et al. (2013) write, “In recent decades, fire activity has increased in many temperate forests world-wide, even in ecosystems where natural ignitions are scarce, and this increase begs questions of whether climate change, human ignitions, land-use change and/or altered vegetation are responsible.” In order to better understand increasing fire, McWethy et al. examine human and fire relationships in four different locations, over long periods of time. Summarize the conclusions they draw in each area from prior research (\*you may find the table on page 6 as well as the discussion helpful).

Tasmania:

Northwestern U.S.:

Southern South America:

New Zealand:

- 5) In McWethy et al. 2010, the authors find a very clear link between the arrival of Maori people, increased fire, and vegetation change in New Zealand. How did the authors arrive at this conclusion?

6) Return to the original observations your group discussed in your first and second answers. Write a hypothesis that might help you test which factor you believe is most responsible for increased fire. How might you test this hypothesis

7) How does today's perspective on fire inform the way you believe fire should be managed in our landscape?