

# **What is a Fire Regime** *and Why Should I Care?*

***Crowsnest Conservation Society***

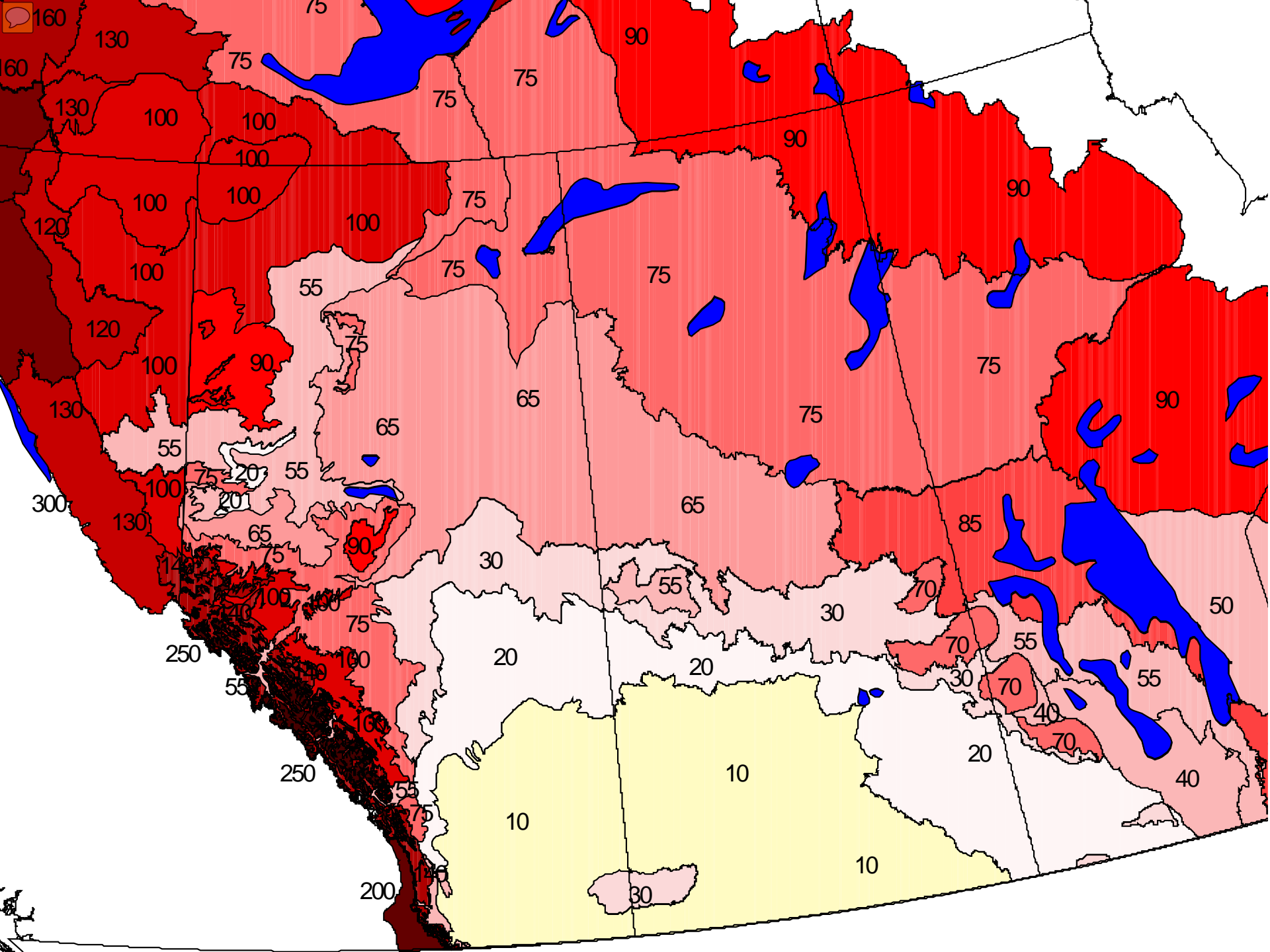
**Feb. 7, 2018**

**Dr. David Andison**

**Bandaloop Landscape-Ecosystem Services**

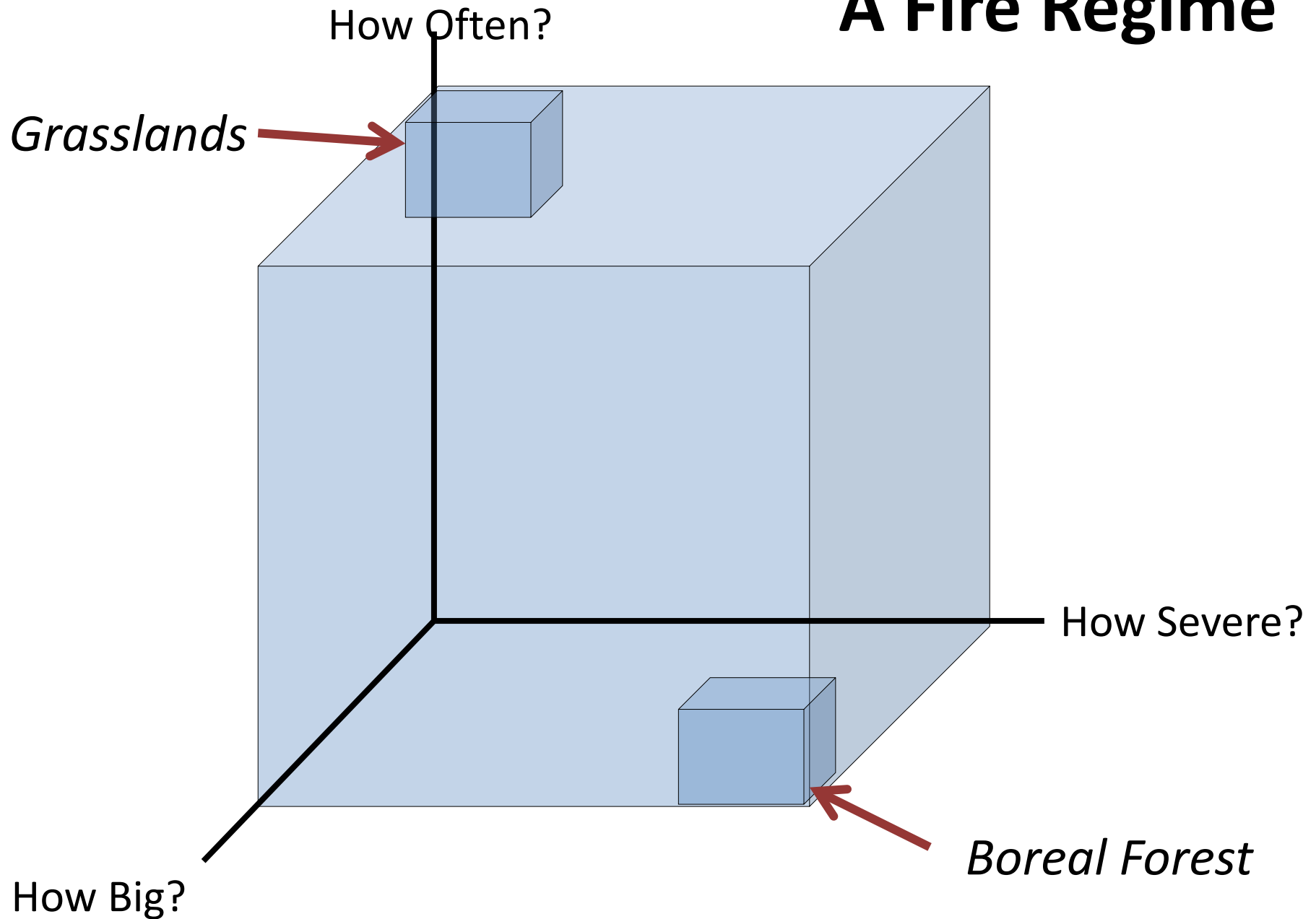


**fRI** *Research*  
Informing Land & Resource Management



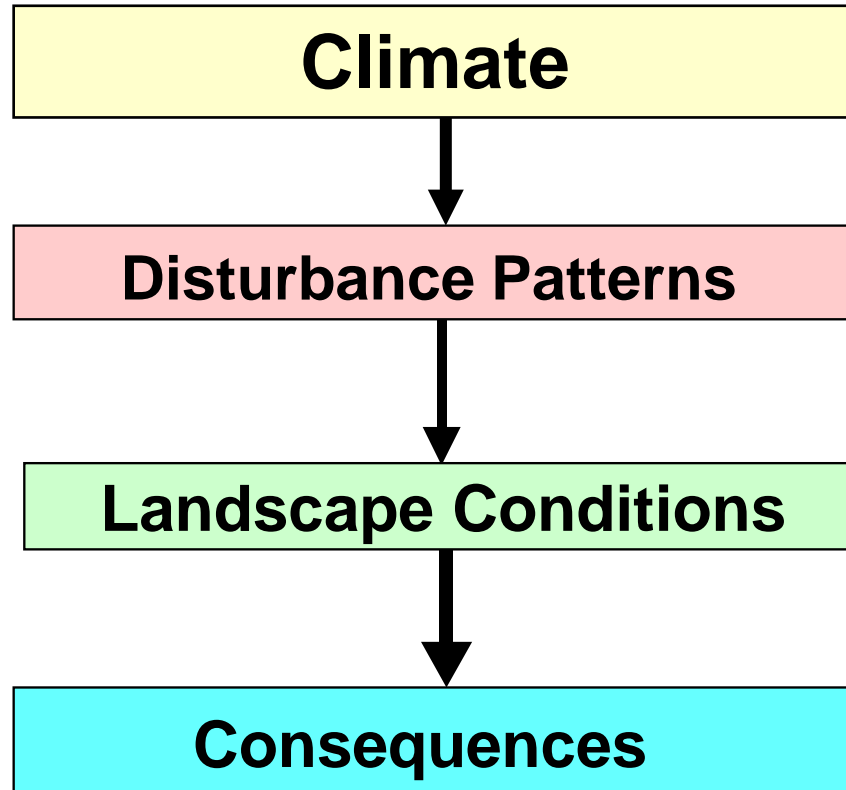


# A Fire Regime



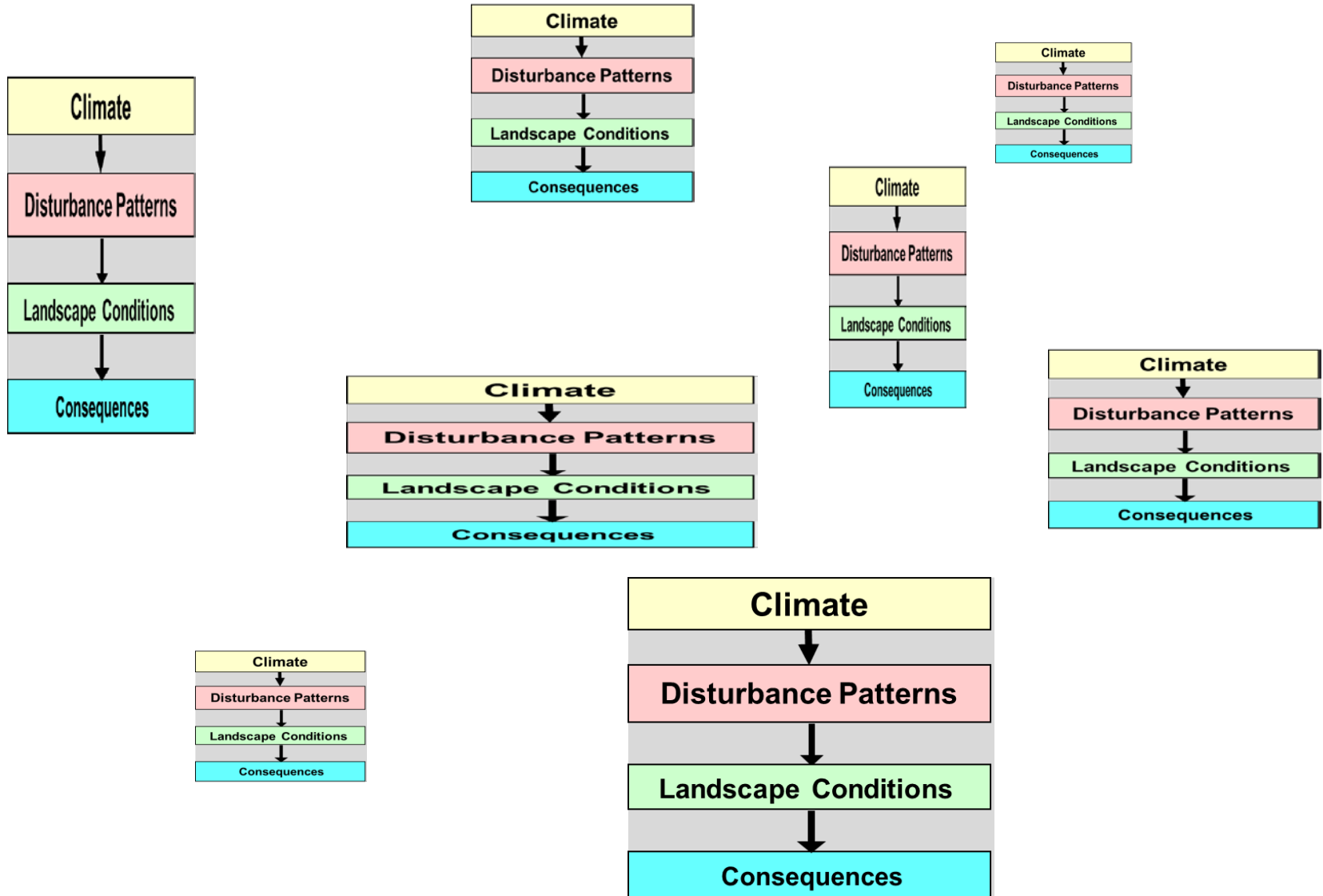


# How Ecosystems Work





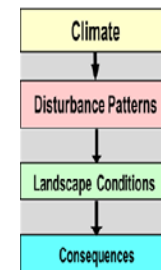
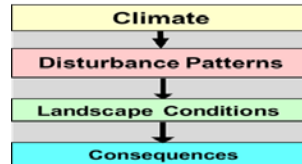
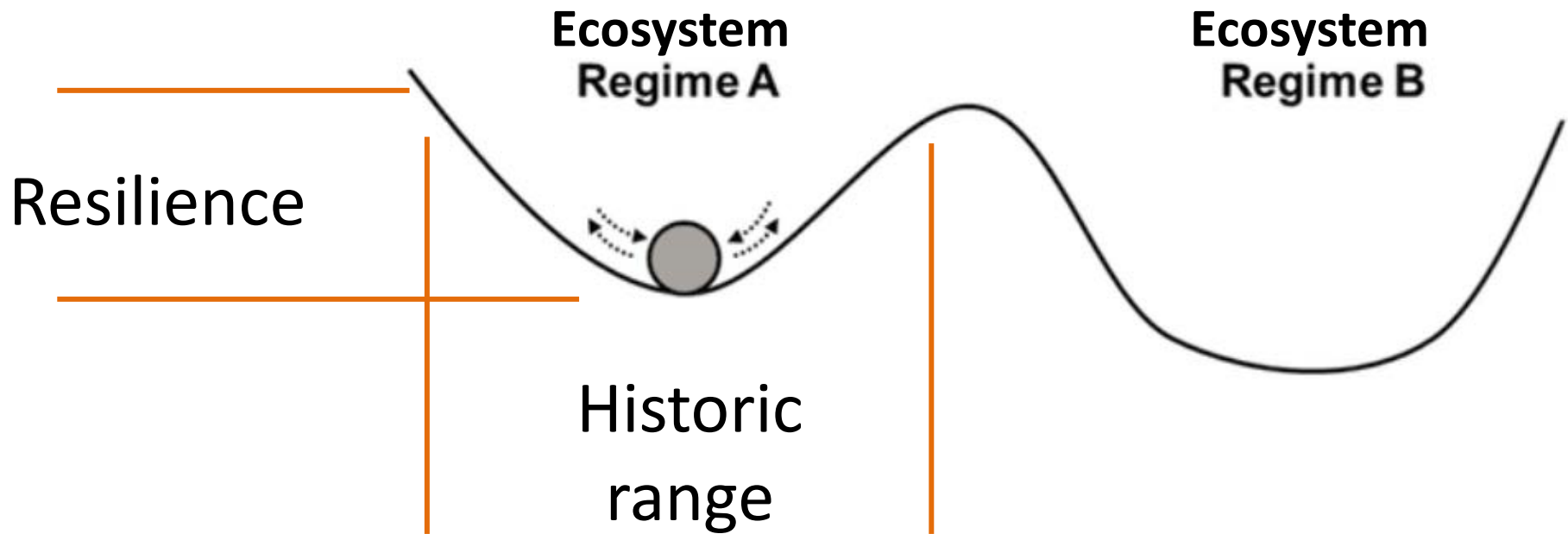
# How Biomes Work













# Castle West 1913





# Turtle Mountain and Blairmore 1912



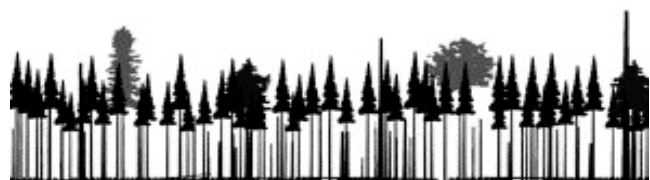
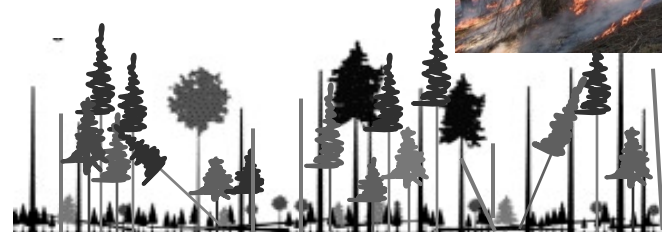


# Hot Fires

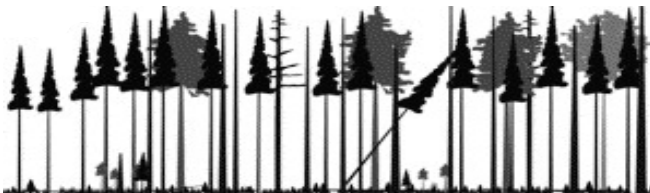
# Cool Fires



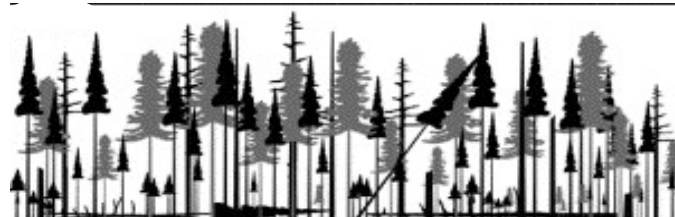
0-20 years



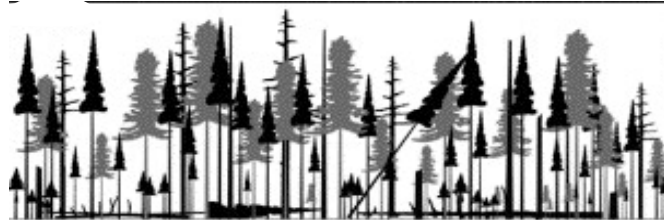
20-40 years



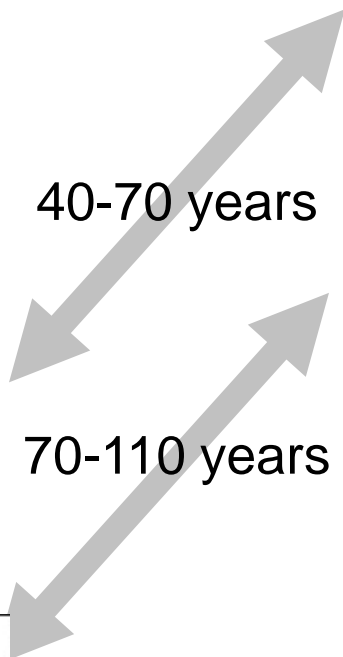
40-70 years



70-110 years



>110 years



Habitat  
Landscape diversity  
Disturbance threat  
“Old growth”



Chimney Ridge  
1913

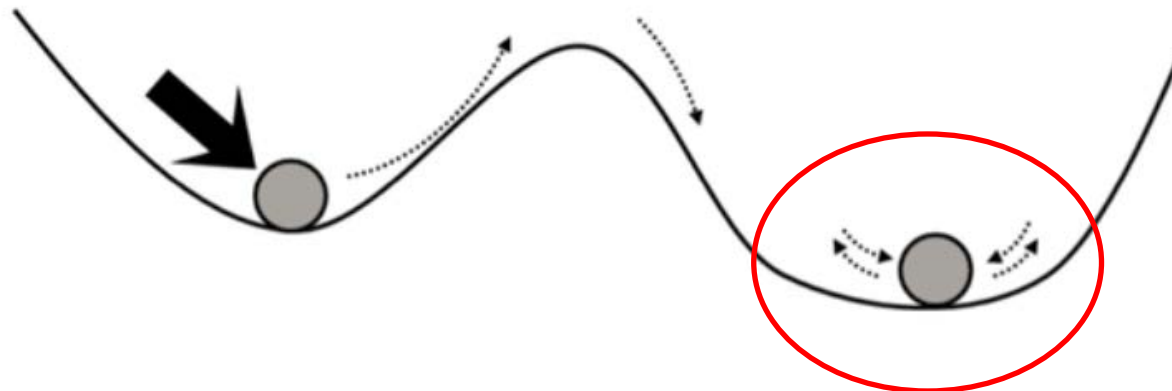
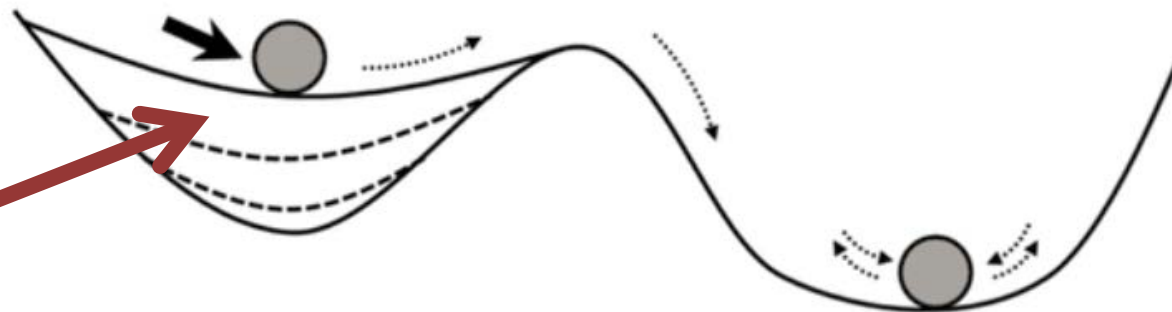
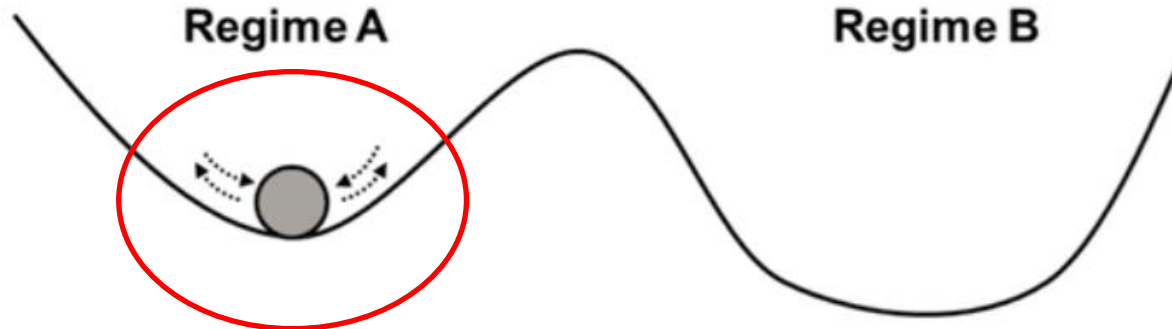




Historic

Regime A

Regime B



100 yrs of  
human  
influence

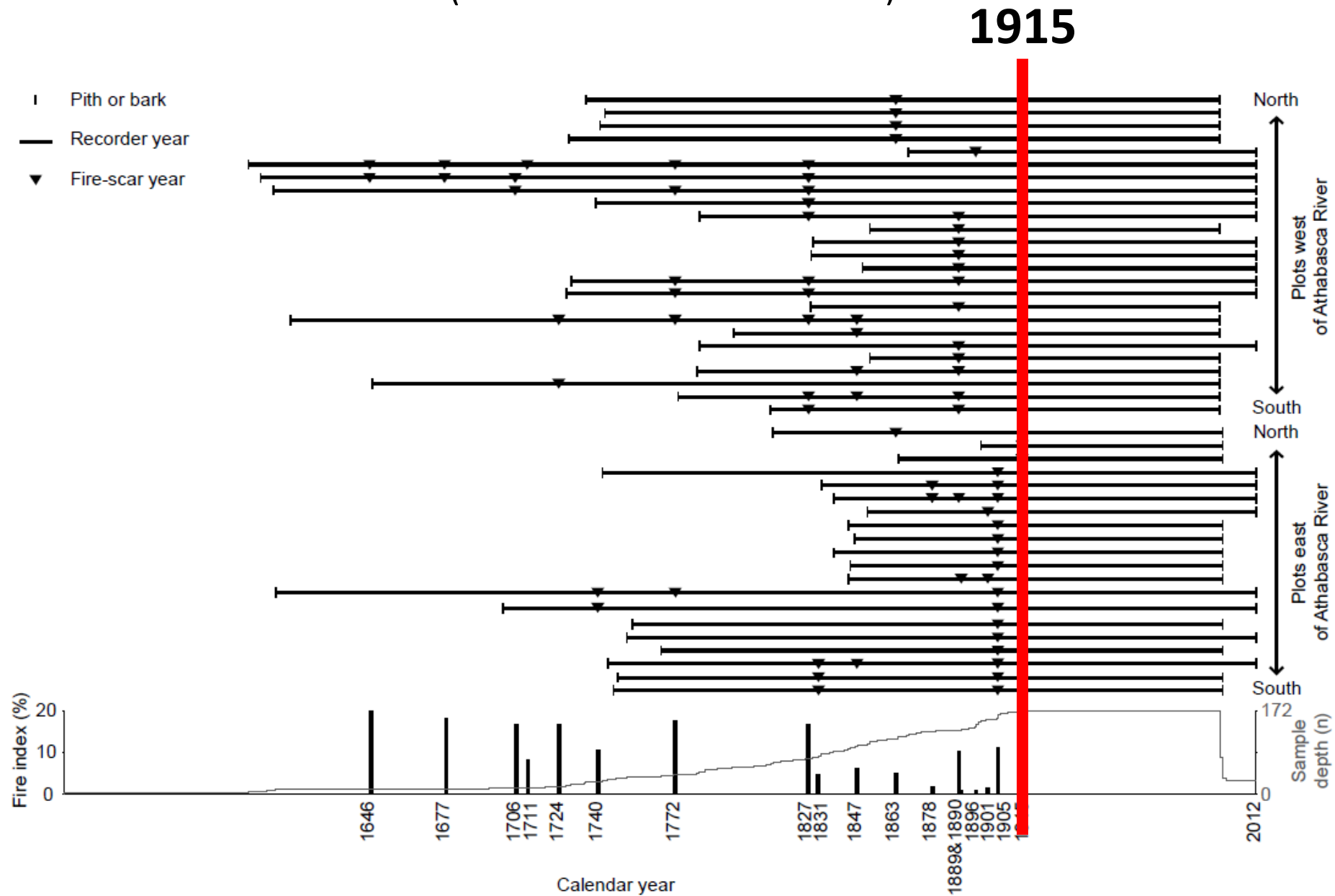
Today





# Fire History in Jasper National Park

(From Chavardes et al. 2018)





# Crowsnest 1913 & 2010





# Willoughby Ridge 1913 & 2006



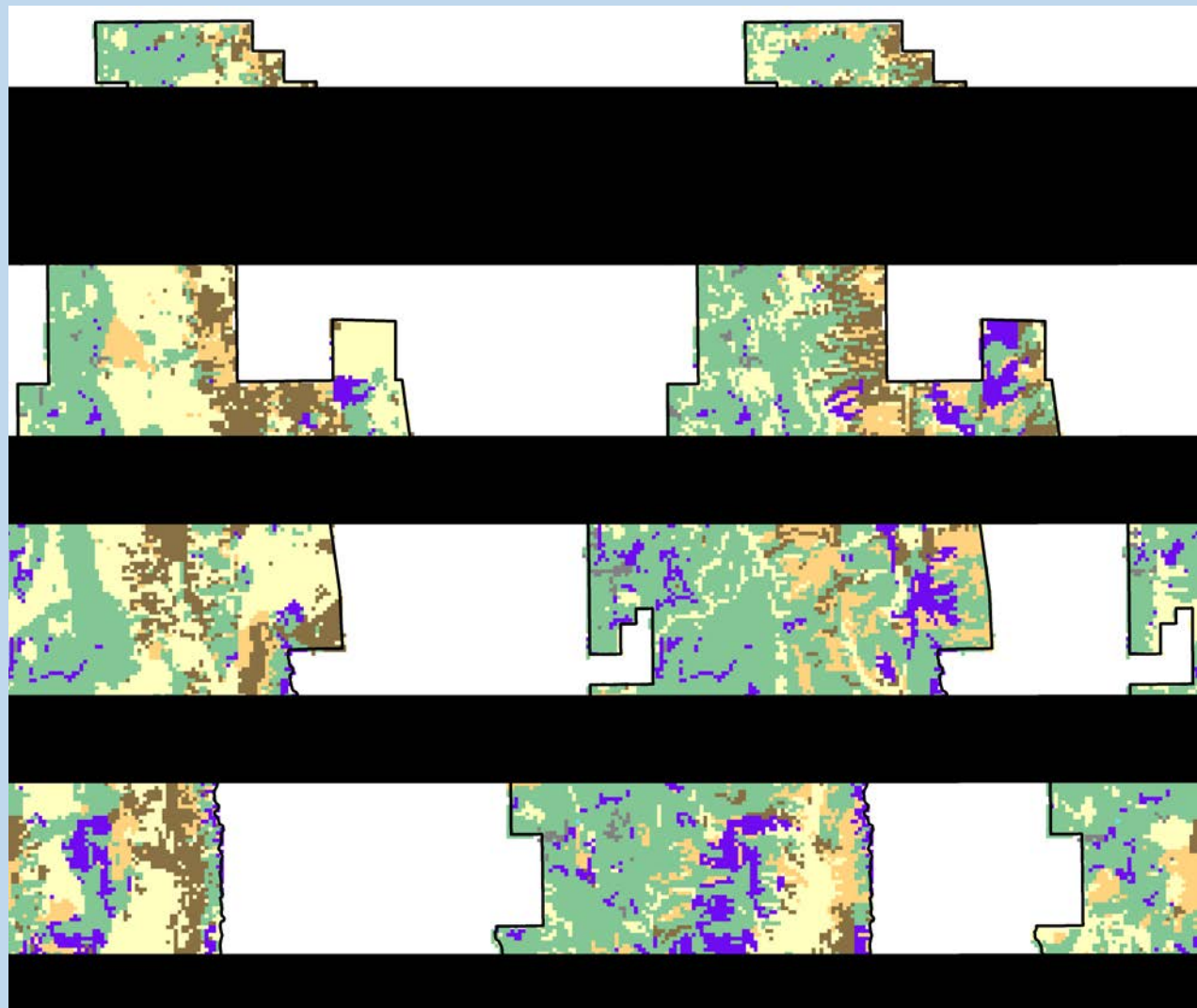
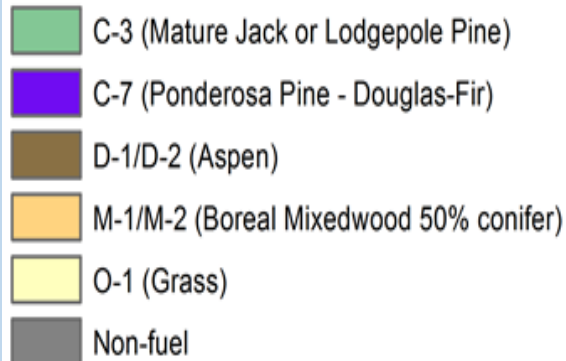




# 105 Year Fuels Differences in the Bob Creek Wildland

D1 (aspen) - 17%  
O1 (grass) - 52%  
C7 (pine, fir) + 150%  
C3 (pine) + 18%  
M1 (mixed) + 186%

## FBP Fuel Type



1909

2014

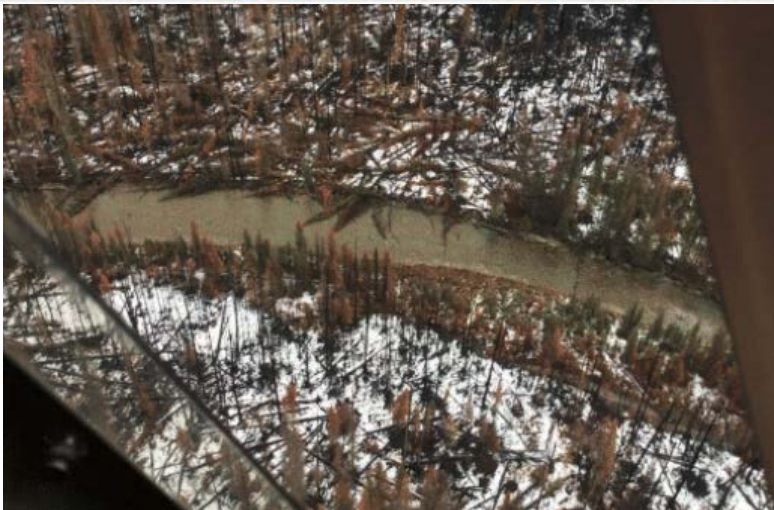
From Stockdale (2017)





# Different ecosystem fingerprint

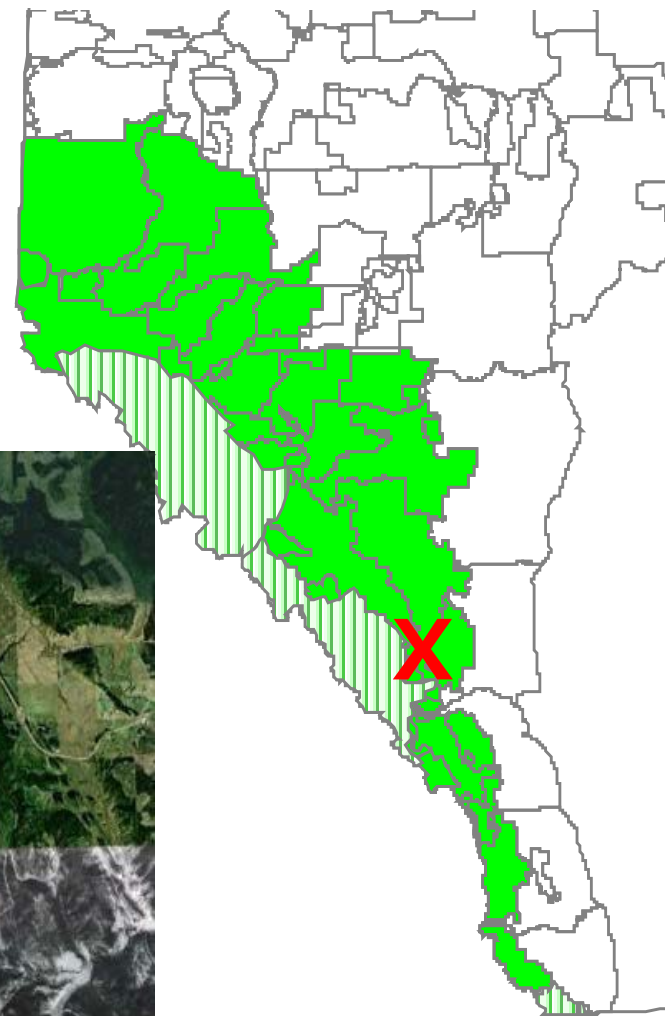
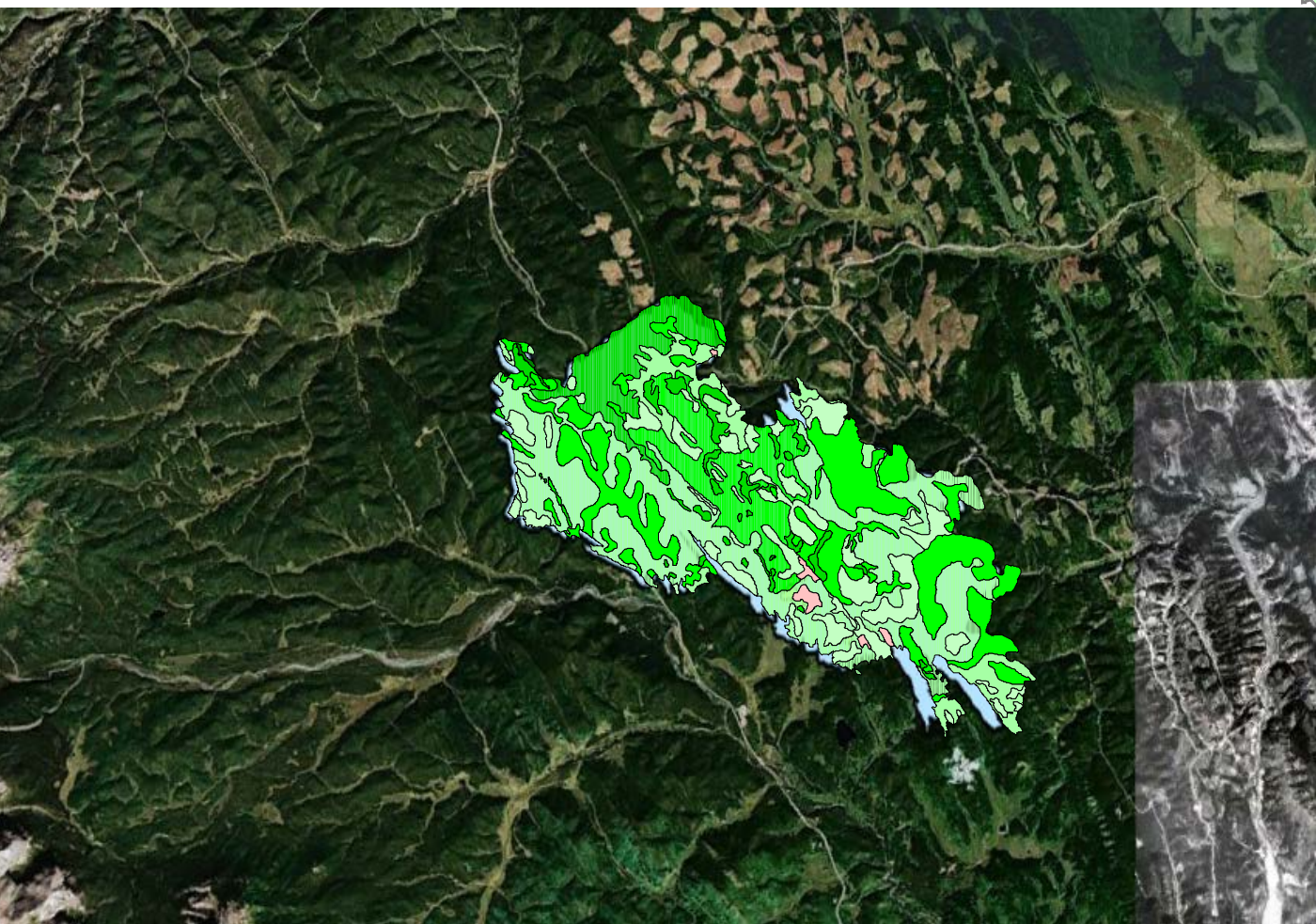
*different response*



Photos: K. Stuart-Smith



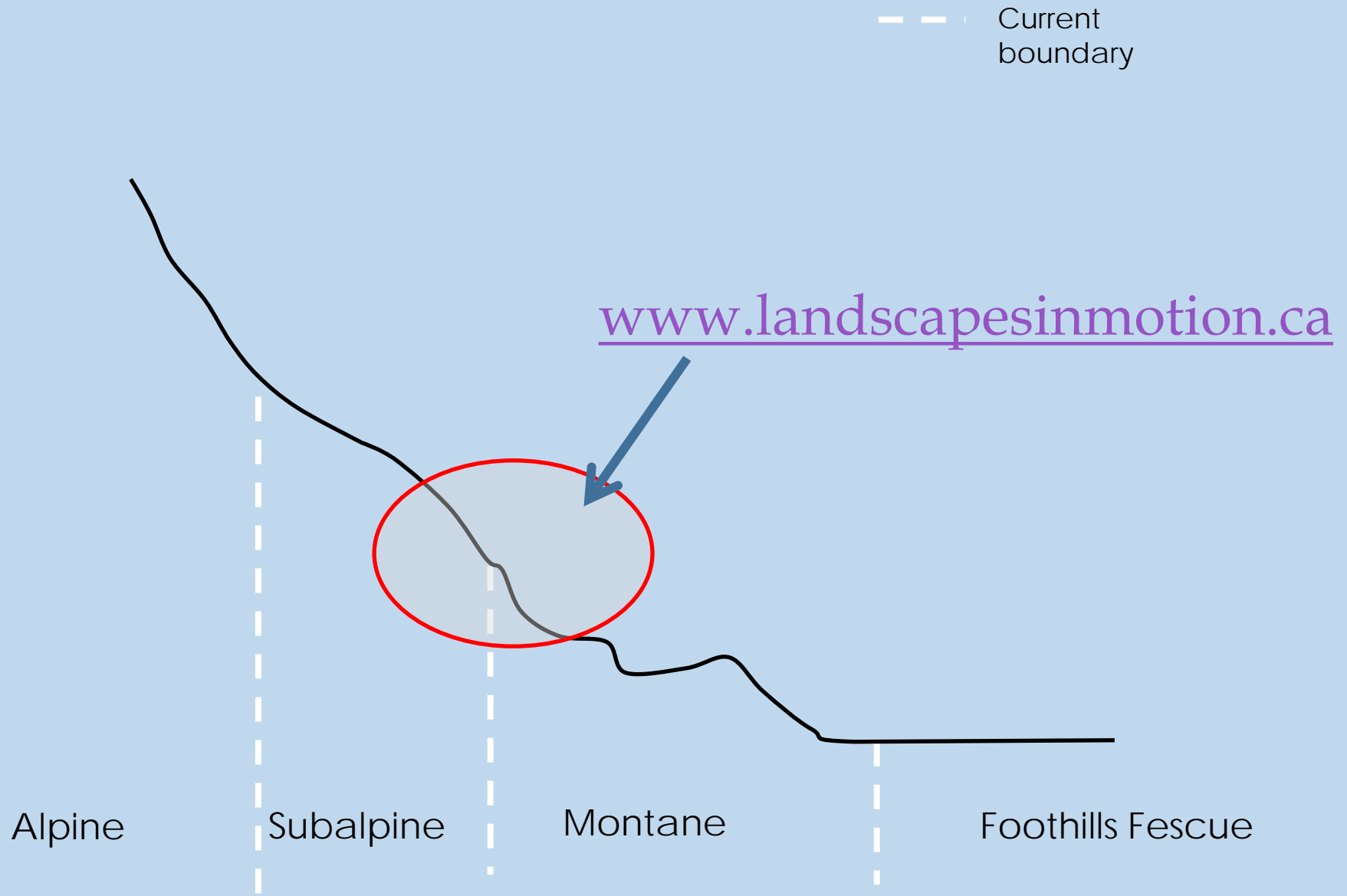
# Forest Harvesting

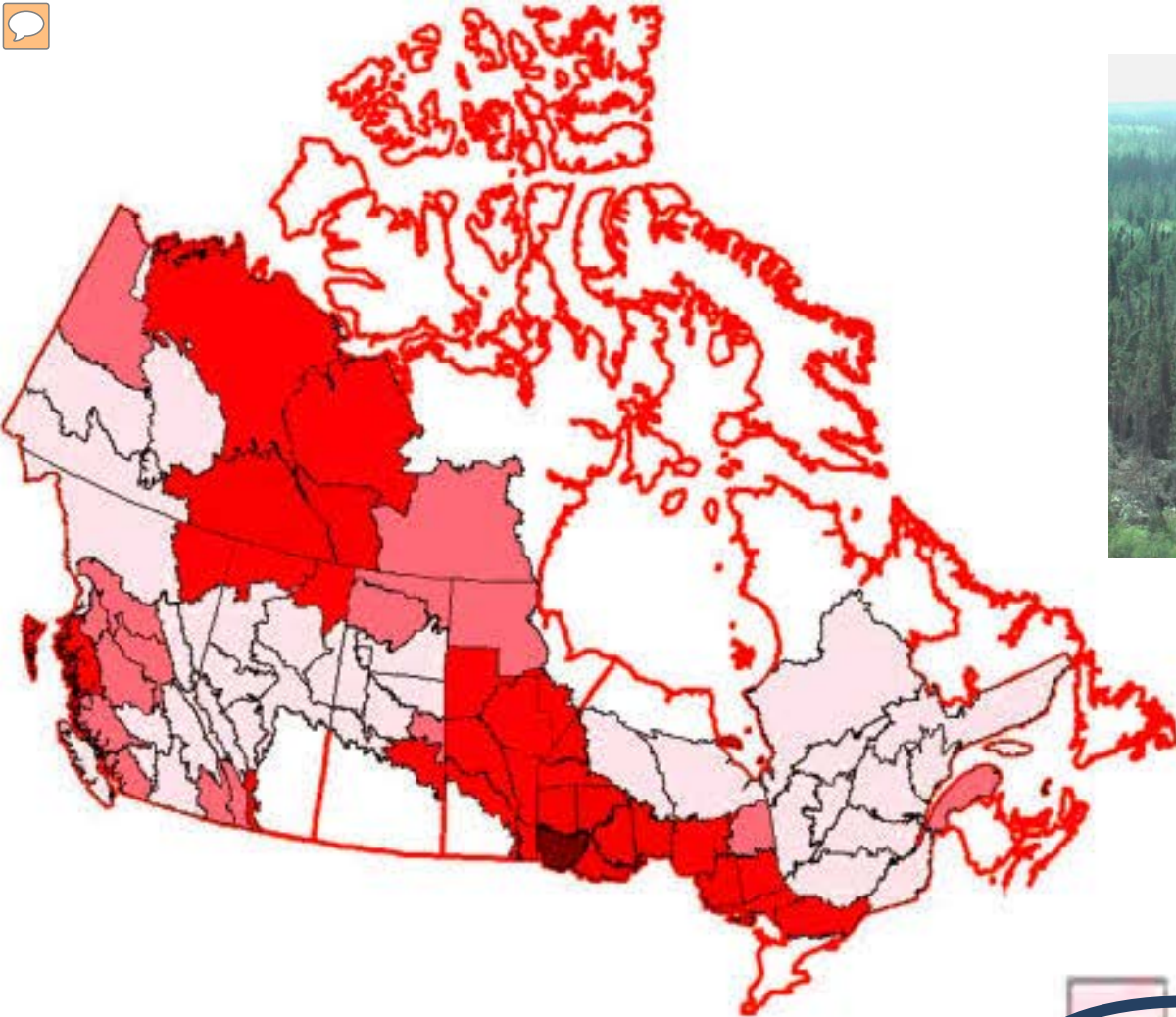




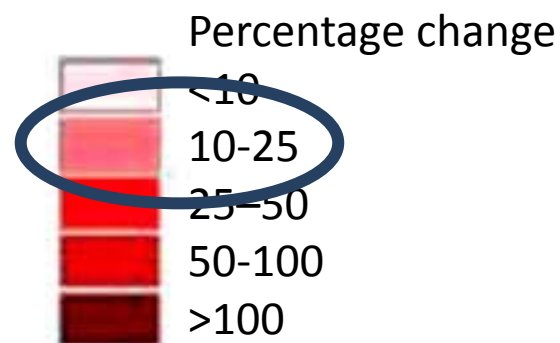


# Ecotones and Fire Regimes



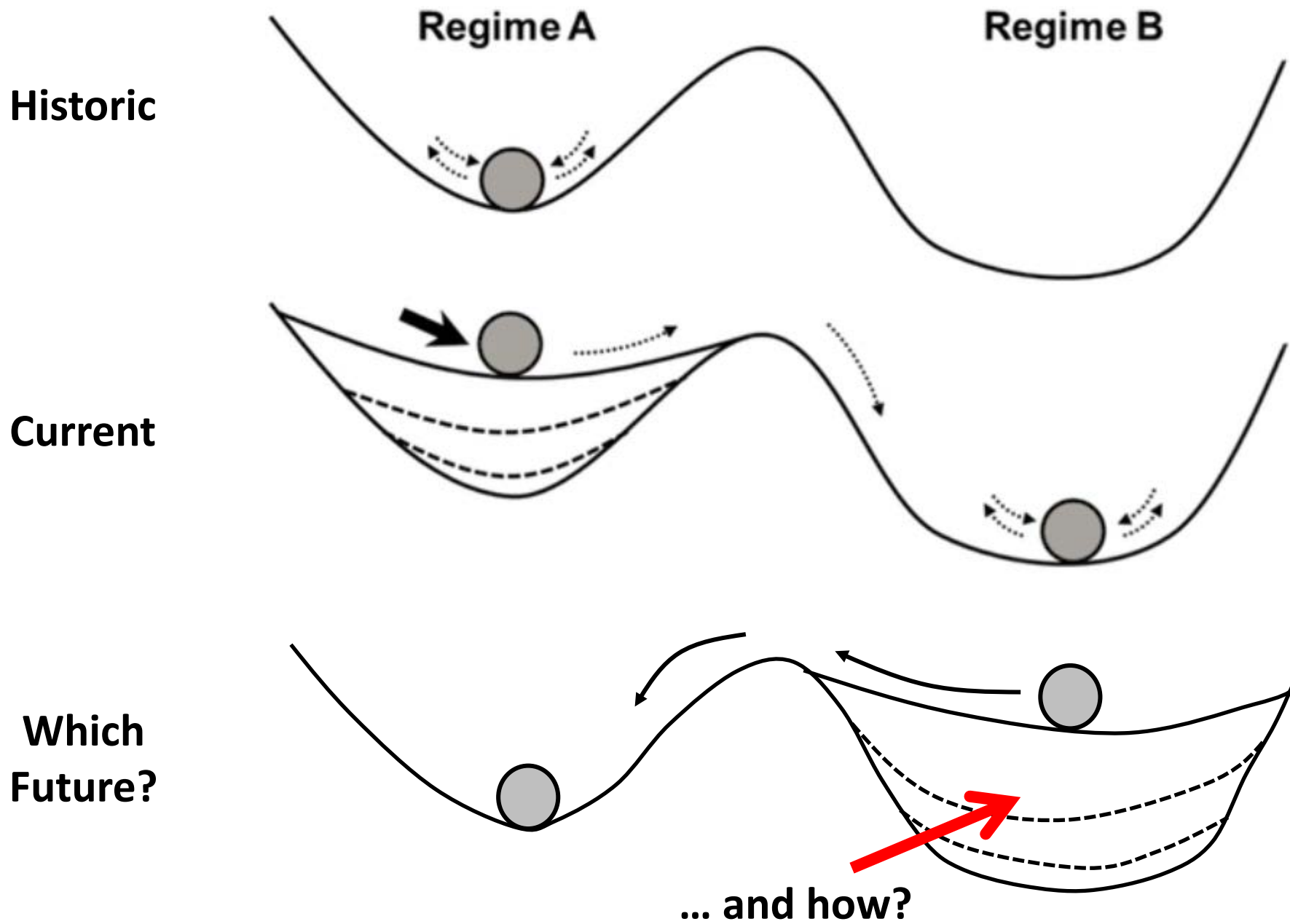


Relative change (percentage increase) in fire occurrence between future (2030 and baseline scenarios for the Canadian Climate Centre GCM (global circulation model).



From Flannigan et al. (2009)

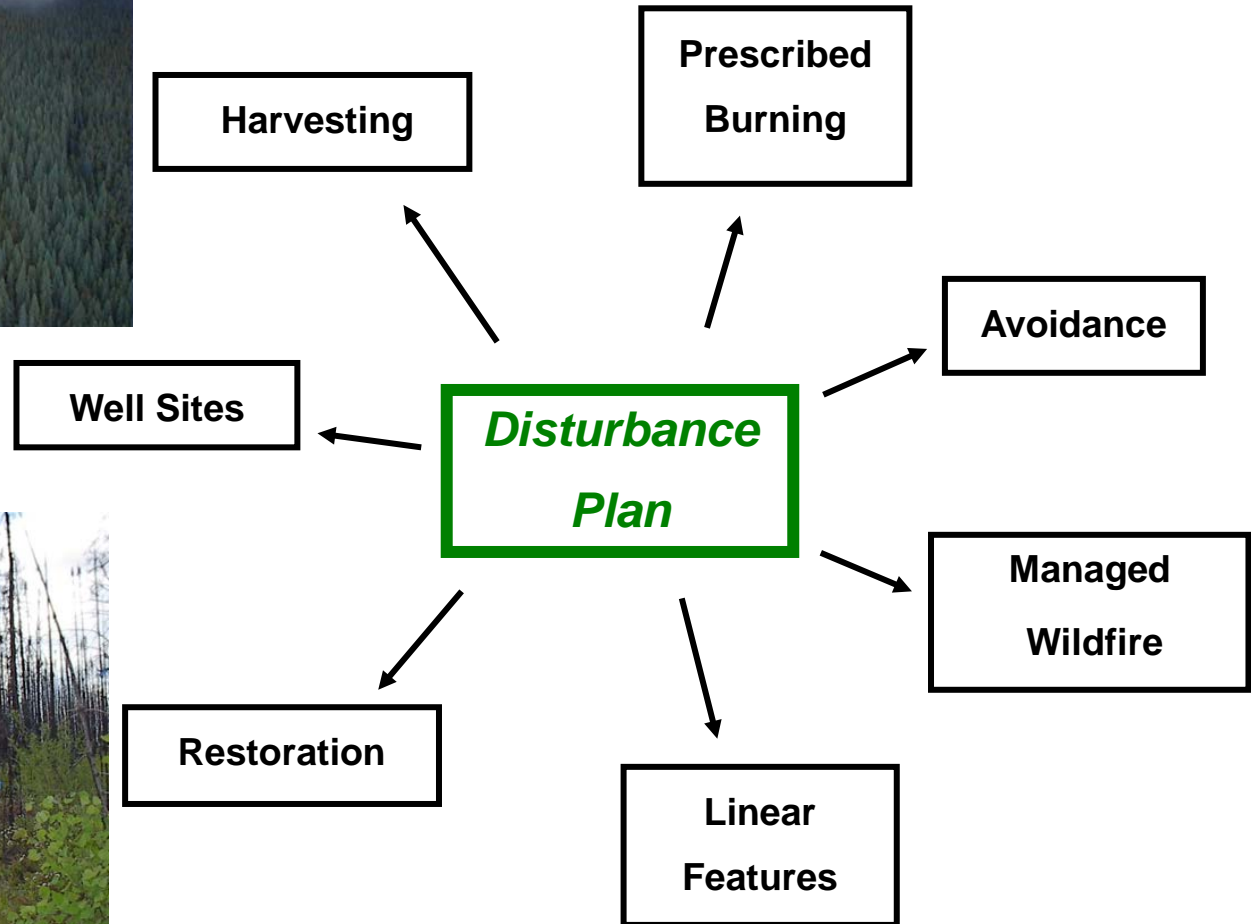
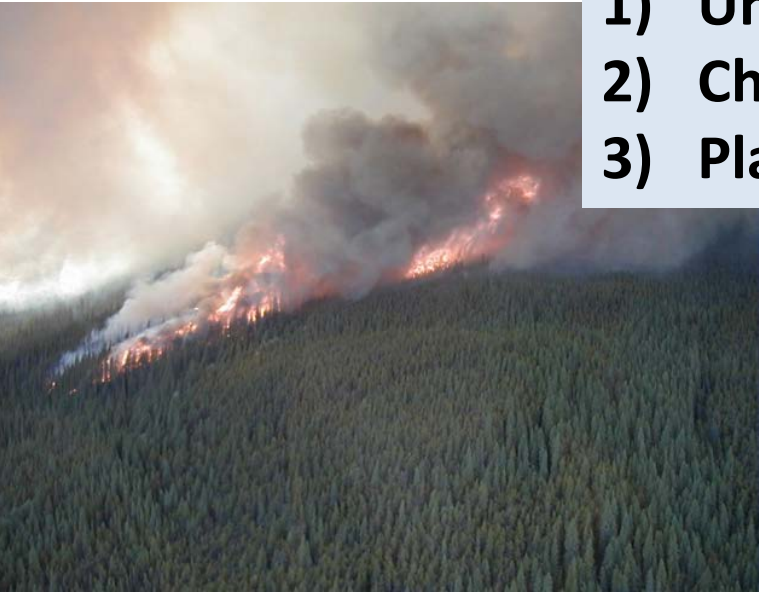






## ***What Now? – One Option:***

- 1) Understand the regime *fingerprint* options
- 2) Choose a desired future
- 3) Plan collaboratively





# 2000



- FSC
- CBFA
- Provincial guidelines

# 2014





# Questions?



Chimney Ridge  
1913 & 2008

