Natural Hazards: Wildfires

Mark Johnston\textsuperscript{1}

Saskatchewan Flood and Natural Hazard Risk Assessment - Workshop

\textsuperscript{1}Saskatchewan Research Council

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Introduction

• Fire has always been part of the natural forest environment

• Plant and animal species are adapted to survive fire or repopulate after fire

• Fire ‘resets’ forest ecosystems, stimulating new growth and reducing diseased vegetation

• Fire by itself is not a hazard, it becomes one when it threatens human values on the landscape (e.g. human life, infrastructure, valuable timber stands, water quality, etc.)
Define the hazard

- Saskatchewan has one of the highest rates of wildfire in the country
- On average, 50% of fires are human caused, but burn less than 10% of total area
- Average over 1990-2015:
  - Number of fires: 598 (min 302, max 1,266)
  - Area burned: 530,201 ha (min 3,885 ha, max 1,734,806 ha)
- 2010: 1,734,806 ha
- 2015: 1,721,912 ha
- Evacuations of northern communities
- Some loss of infrastructure
- Some loss of timber stands
Fires in Canada, 1980 to 2015

1980-2015
Forest Fire Perimeters
Périmètres des feux de forêt
(Forest fires / Incendies de forêt > 200 ha)

Fire data has been collected from fire management agencies. Not all fires are shown. Locations are approximate.
Les données sur les feux ont été recueillies auprès des agences responsables de la gestion des feux de forêt. Tous les feux ne sont pas illustrés, et leur position est approximative.

Historic exposure

Historic impacts

• No public fatalities due to direct impacts of fire

• Some loss of life due to firefighting aircraft accidents

• Fires in 2015:
  • Over 250 occurrences of property damage, including cabins, vehicles, outbuildings, commercial properties, etc.
  • Over 10,000 evacuations
Historic impacts

• Would like to know more about grass fires – is there any central source of data?
  • We’ve heard that there is data at the Office of Fire Commissioner
  • Do you submit data there? Length of data set?
2016 Wildfire (Grassfire/brushfire in S. SK)

Were there more than these?

Source: Wildfire Management Branch
SK Wildfire Evacuations, 1980-2015

- 10,451 in 2015
- 370 in 2010

Source: Canadian Forest Service fire evacuation database
Current mitigation

• Provincial fire suppression capacity
  • Firefighter & Air support

• Biannual Strategic Risk Assessment
  • Done every 2 years; most recent 2017

• Fire behavior modeling, fuel type mapping

• Assisted by resources (personnel, air support etc) from other jurisdictions when needed, coordinated by the Canadian Interagency Forest Fire Centre.

• Hazard reduction in and around communities (FireSmart)

• Human-caused fire prevention education
Conclusions

• Fire is a natural part of the Saskatchewan environment

• Becomes a hazard when human values are threatened

• Significant suppression capacity exists

• Hazard reduction programs have the greatest impact on reducing risk to communities

• Reducing the number of human-caused wildfires will significantly reduce risk of wildfire impacts to people and communities

• Community evacuations continue to be an important part of health risk mitigation
Questions?
References

Canadian National Fire Database:  
http://cwfis.cfs.nrcan.gc.ca/ha/nfdb

Canadian Forest Service Fire Evacuation Database, contact:  
Dr. Amy Christianson  
Canadian Forest Service, Edmonton  
Email: amy.christianson@canada.ca

Saskatchewan FireSmart program:  