Does Fire Management Make a Difference?
Short- and long-term effects of fire suppression

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# Human- versus Lightning-caused Fires 1956-2000

<table>
<thead>
<tr>
<th></th>
<th>#</th>
<th>%</th>
<th>(ha)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fires</td>
<td>Total Fires</td>
<td>Area Burned</td>
<td>Area Burned</td>
</tr>
<tr>
<td>Human-caused</td>
<td>12,835</td>
<td>61.54%</td>
<td>1,344,979</td>
<td>10.03%</td>
</tr>
<tr>
<td>Lightning-caused</td>
<td>8,022</td>
<td>38.46%</td>
<td>12,060,382</td>
<td>89.97%</td>
</tr>
</tbody>
</table>
Lightning-caused Fires 1956-2000
Human-caused Fires 1956-2000
Total number of fires per unit area from 1950-2000.

DeWilde 2003

DeWilde 2003
Time Series of Simulated Average Stand-Ages

* Implies an increase in landscape flammability

Duffy et al. 2006 – submitted CJFR
Is the landscape more flammable now (2000) because of past (1950-2000) suppression efforts?
**Average VFI across 100 Reps w/ 10\textsuperscript{th} and 90\textsuperscript{th} % - tiles (dashed lines)**

**Fire Diagnostics (1950 - 2000): (1 km\textsuperscript{2} cells \iff 100 Hectares)**

<table>
<thead>
<tr>
<th>Scenario:</th>
<th>Mean Area Burn / Year</th>
<th>Max Area Burn / Year</th>
<th>Area Burn / Fire</th>
<th>Max Area Burn / Fire</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950 - 2000 Observed (Corrected*)</td>
<td>468 (936)</td>
<td>3763 (7526)</td>
<td>68 (136)</td>
<td>2254 (4508)</td>
</tr>
<tr>
<td>ALFRESCO - Suppression</td>
<td>367</td>
<td>4201</td>
<td>59</td>
<td>2409</td>
</tr>
<tr>
<td>ALFRESCO - No Suppression</td>
<td>945</td>
<td>8500</td>
<td>184</td>
<td>4172</td>
</tr>
</tbody>
</table>

* We assume a suppression factor of 2 X
VFI Distribution (100 Reps) Year 2000

Suppression

No Suppression

vfi.supp[141,]

vfi.nosupp[141,]
Projected Temperature Change 1990-2090
Source - Alaska Dept. of Labor and Workforce Development

Middle Projection Level