# Projected fire change 2000 - 2099 Unvetted preliminary rush draft from developmental code

#### Matthew Leonawicz

January 17, 2015

## 1 Projected fire change tables

In each subsection below, the third table down with percentages relates to table 8.1 in the original document. This uses strictly ALFRESCO output. The tables use years 2000 - 2009 and 2090 - 2099. There is one section for each region, Alaska and the five LCCs.

#### 1.1 Alaska

#### 1.1.1 Historical fire

Climate-change scenario	Percentile	Ignitions	Area burned
SRES B1	50th	60	3242
SRES B1	$95 \mathrm{th}$	84	17962
SRES A1B	$50 \mathrm{th}$	60	3398
SRES A1B	$95 \mathrm{th}$	86	18131
SRES A2	$50 \mathrm{th}$	59	3066
SRES A2	$95 \mathrm{th}$	85	17486

#### 1.1.2 Projected fire

Climate-change scenario	Percentile	Ignitions	Area burned
SRES B1	$50 \mathrm{th}$	66	3465
SRES B1	$95 \mathrm{th}$	89	15350
SRES A1B	$50 \mathrm{th}$	60	2929
SRES A1B	$95 \mathrm{th}$	83	19079
SRES A2	$50 \mathrm{th}$	62	5441
SRES A2	$95 \mathrm{th}$	88	33039

#### 1.1.3 Percent change

Climate-change scenario	Percentile	Ignitions	Area burned
SRES B1	50th	9.2	6.9
SRES B1	$95  ext{th}$	5.2	-14.5
SRES A1B	$50 \mathrm{th}$	0.8	-13.8
SRES A1B	$95  ext{th}$	-2.6	5.2
SRES A2	50th	4.2	77.5
SRES A2	$95 \mathrm{th}$	4.4	89.0

## 1.2 Arctic

## 1.2.1 Historical fire

Climate-change scenario	Percentile	Ignitions	Area burned
SRES B1	50th	1	10
SRES B1	$95 \mathrm{th}$	3	6347
SRES A1B	$50 \mathrm{th}$	1	22
SRES A1B	$95 \mathrm{th}$	3	5935
SRES A2	50th	1	10
SRES A2	$95 \mathrm{th}$	4	5471

## 1.2.2 Projected fire

Climate-change scenario	Percentile	Ignitions	Area burned
SRES B1	50th	1	12
SRES B1	$95 \mathrm{th}$	4	3068
SRES A1B	$50 \mathrm{th}$	1	24
SRES A1B	$95 \mathrm{th}$	4	4207
SRES A2	50th	1	134
SRES A2	$95 \mathrm{th}$	4	8263

## 1.2.3 Percent change

Climate-change scenario	Percentile	Ignitions	Area burned
SRES B1	$50 \mathrm{th}$	0.0	20.0
SRES B1	$95  ext{th}$	18.3	-51.7
SRES A1B	$50 \mathrm{th}$	0.0	9.1
SRES A1B	$95 \mathrm{th}$	18.3	-29.1
SRES A2	$50 \mathrm{th}$	0.0	1240.0
SRES A2	$95 \mathrm{th}$	0.0	51.0

## 1.3 North Pacific

## 1.3.1 Historical fire

Climate-change scenario	Percentile	Ignitions	Area burned
SRES B1	$50 \mathrm{th}$	0	2
SRES B1	$95 \mathrm{th}$	2	19
SRES A1B	$50 \mathrm{th}$	0	2
SRES A1B	$95 \mathrm{th}$	2	26
SRES A2	$50 \mathrm{th}$	0	2
SRES A2	95th	2	25

## 1.3.2 Projected fire

Climate-change scenario	Percentile	Ignitions	Area burned
SRES B1	50th	0	4
SRES B1	$95  ext{th}$	2	44
SRES A1B	$50 \mathrm{th}$	0	2
SRES A1B	$95 \mathrm{th}$	2	22
SRES A2	50th	0	5
SRES A2	$95 \mathrm{th}$	3	186

## 1.3.3 Percent change

Climate-change scenario	Percentile	Ignitions	Area burned
SRES B1	$50 \mathrm{th}$	-	-
SRES B1	$95  ext{th}$	0	131.58
SRES A1B	$50 \mathrm{th}$	-	-
SRES A1B	$95 \mathrm{th}$	-22.5	-15.38
SRES A2	$50 \mathrm{th}$	-	-
SRES A2	$95 \mathrm{th}$	64.52	644

# 1.4 Northwest Interior Forest North

## 1.4.1 Historical fire

Climate-change scenario	Percentile	Ignitions	Area burned
SRES B1	$50 \mathrm{th}$	42	2270
SRES B1	$95 \mathrm{th}$	61	10507
SRES A1B	$50 \mathrm{th}$	42	2255
SRES A1B	$95 \mathrm{th}$	62	10642
SRES A2	$50 \mathrm{th}$	42	2203
SRES A2	95th	62	10536

## 1.4.2 Projected fire

Climate-change scenario	Percentile	Ignitions	Area burned
SRES B1	50th	47	2527
SRES B1	$95 \mathrm{th}$	66	8025
SRES A1B	$50 \mathrm{th}$	46	2223
SRES A1B	$95  ext{th}$	65	10164
SRES A2	50th	45	3292
SRES A2	$95 \mathrm{th}$	65	16612

## 1.4.3 Percent change

Climate-change scenario	Percentile	Ignitions	Area burned
SRES B1	$50 \mathrm{th}$	10.6	11.3
SRES B1	$95  ext{th}$	7.3	-23.6
SRES A1B	$50 \mathrm{th}$	7.1	-1.4
SRES A1B	$95 \mathrm{th}$	4.4	-4.5
SRES A2	$50 \mathrm{th}$	8.4	49.4
SRES A2	$95 \mathrm{th}$	4.4	57.7

# 1.5 Northwest Interior Forest South

## 1.5.1 Historical fire

Climate-change scenario	Percentile	Ignitions	Area burned
SRES B1	50th	10	198
SRES B1	$95 \mathrm{th}$	20	2346
SRES A1B	$50 \mathrm{th}$	10	268
SRES A1B	$95 \mathrm{th}$	20	2240
SRES A2	50th	10	204
SRES A2	$95 \mathrm{th}$	20	2308

## 1.5.2 Projected fire

Climate-change scenario	Percentile	Ignitions	Area burned
SRES B1	50th	11	268
SRES B1	$95 \mathrm{th}$	20	2139
SRES A1B	$50 \mathrm{th}$	9	164
SRES A1B	$95 \mathrm{th}$	18	1364
SRES A2	$50 \mathrm{th}$	10	411
SRES A2	$95 \mathrm{th}$	22	12503

## 1.5.3 Percent change

Climate-change scenario	Percentile	Ignitions	Area burned
SRES B1	50th	15.8	35.4
SRES B1	$95 \mathrm{th}$	-1.0	-8.8
SRES A1B	50th	-14.3	-38.8
SRES A1B	$95 \mathrm{th}$	-10.2	-39.1
SRES A2	50th	10.5	101.5
SRES A2	$95 \mathrm{th}$	10.2	441.7

## 1.6 Western Alaska

## 1.6.1 Historical fire

Climate-change scenario	Percentile	Ignitions	Area burned
SRES B1	50th	8	364
SRES B1	$95 \mathrm{th}$	17	8077
SRES A1B	$50 \mathrm{th}$	9	736
SRES A1B	$95 \mathrm{th}$	17	7672
SRES A2	50th	8	316
SRES A2	$95 \mathrm{th}$	17	6787

## 1.6.2 Projected fire

Climate-change scenario	Percentile	Ignitions	Area burned
SRES B1	50th	8	936
SRES B1	$95 \mathrm{th}$	17	8516
SRES A1B	$50 \mathrm{th}$	7	364
SRES A1B	$95 \mathrm{th}$	16	9236
SRES A2	50th	8	936
SRES A2	$95 \mathrm{th}$	16	10232

## 1.6.3 Percent change

Climate-change scenario	Percentile	Ignitions	Area burned
SRES B1	50th	6.2	157.1
SRES B1	$95  ext{th}$	0.0	5.4
SRES A1B	$50 \mathrm{th}$	-22.2	-50.5
SRES A1B	$95 \mathrm{th}$	-7.9	20.4
SRES A2	$50 \mathrm{th}$	-5.9	196.2
SRES A2	$95 \mathrm{th}$	-5.9	50.8

# 2 Percentile fire trends by scenario

The below graph relates to figure 8.2 in the original document. This uses strictly ALFRESCO output.

#### 2.1 Alaska

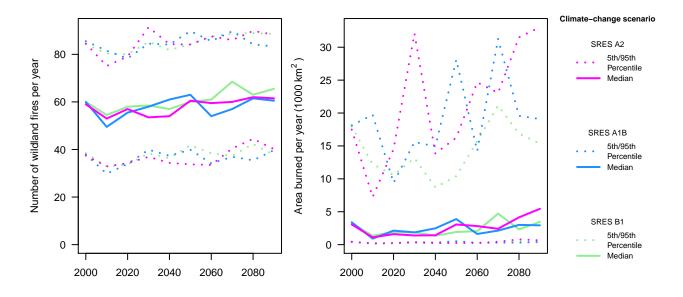


Figure 1: Alaska

All five following separate LCC graphs relate to figure 8.3 in the original document. This uses strictly ALFRESCO output.

#### 2.2 Arctic

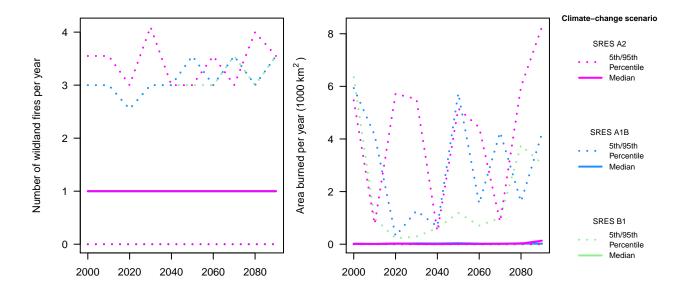


Figure 2: Arctic

#### 2.3 North Pacific

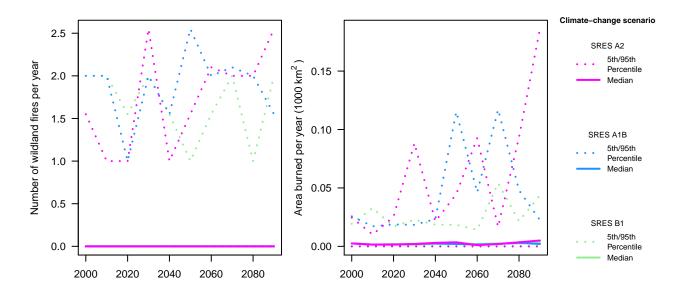


Figure 3: North Pacific

## 2.4 Northwest Interior Forest North

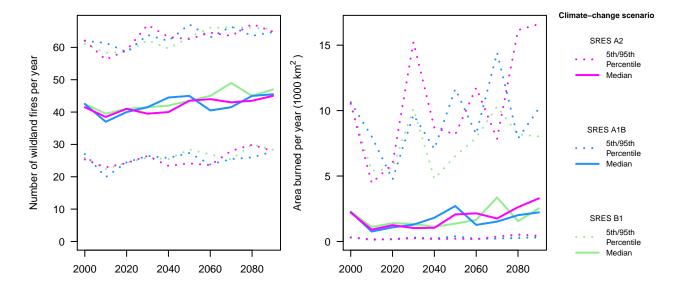


Figure 4: Northwest Interior Forest North

#### 2.5 Northwest Interior Forest South

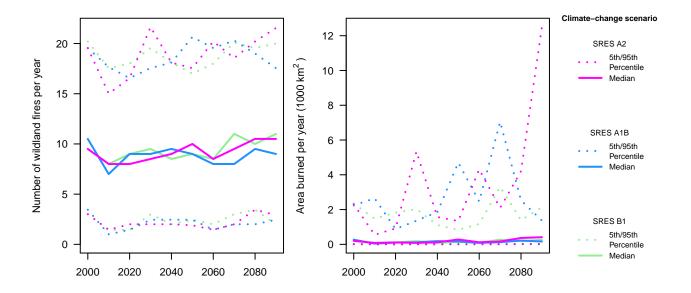


Figure 5: Northwest Interior Forest South

#### 2.6 Western Alaska

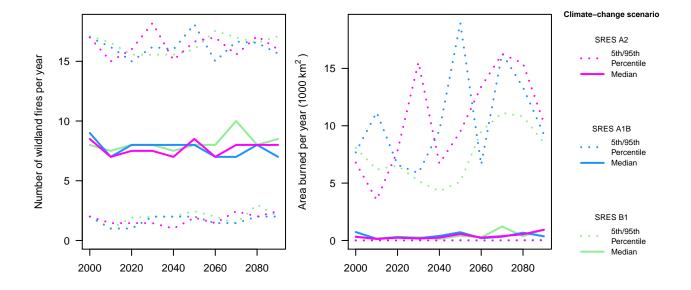


Figure 6: Western Alaska