

Southeastern Park Units

Climate Variable	Projected Change by 2050	Projected Change by 2100	Confidence	Source
Temperature	+2°C ±1.5°C	+4°C ±2°C	>95% chance of increase	IPCC (2007); SNAP/UAF
Precipitation (rain and snow)	Increased precip (10%-20%), possible decrease in winter snow	Increased precip (20%-40%), possible decrease in winter snow	High uncertainty in timing of snowmelt	AMAP/SWIPA; SNAP/UAF
Freeze-up Date	5-10 days inland; freezeup may not regularly occur in coastal areas	10-20 days inland; freezeup may not regularly occur in coastal areas	>90%	SNAP/UAF
Length of Ice-free Season (rivers, lakes)	7-10 days inland; freezeup may not regularly occur in coastal areas	14-21 days; freezeup may not regularly occur in coastal areas	>90%	IPCC (2007); SNAP/UAF
River and Stream Temps	1–3°C	2–4°C	>90%	Kyle & Brabets (2001)
Length of Growing Season	increase of 10–20 days	increase of 20–40 days	>90%	IPCC (2007); SNAP/UAF
Sea Level	3–24 inches	7–72 inches	>90% chance of increase	IPCC (2007)
Water Availability (soil moisture = precip minus PET)	decrease of 0–20+%	decrease of 10–40+%	>66%; varies by region	SNAP/UAF; Wilderness Society
Relative Humidity	0% ±10% increase or decrease	0% ±15% increase or decrease	50% = <i>as likely as not</i>	SNAP/UAF
Wind Speed	2–4% increase	4–8% increase	>90% chance of increase	Abatzoglou & Brown
Pacific Decadal Oscillation (PDO)	Uncertain effect of atm circulation anomalies on Alaska's climate	Uncertain effect of atm circulation anomalies on Alaska's climate	High degree of natural variation	Hartmann & Wendler (2005)
Extreme Events: Temperature	3-6 times more warm events; 3-5 times fewer cold events	5-8.5 times more warm events; 8-12 times fewer cold events	>95%	Abatzoglou & Brown; Timlin & Walsh (2007)
Extreme Events: Precipitation	Change of –20% to +50%	Change of –20% to +50%	<i>Uncertain</i>	Abatzoglou & Brown
Extreme Events: Storms	Increase in frequency/intensity	Increase in frequency/intensity	>66%	Loehman (2011)