Geology 103
Paula Messina

Day and Night in Alaska

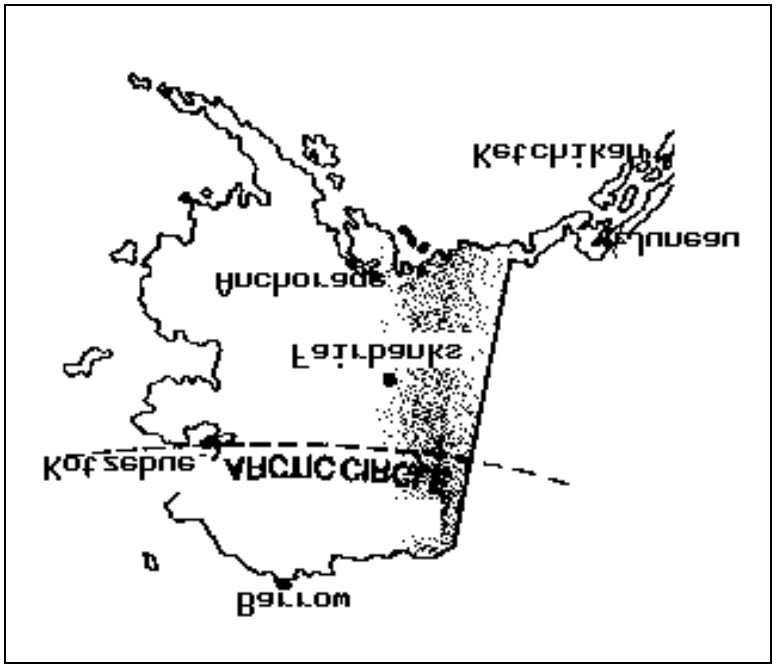
In California we're used to the days getting shorter in the fall (until the winter solstice on December 21), and we're also accustomed to the days getting longer in the spring (until the summer solstice on June 21). If we lived on the Equator (0º latitude) there would be virtually no variation in day and night over the course of a year. Days are about 12 hours long all year on the Equator. Days don't get longer as summer approaches, as they do in California.

The other extremes occur at the North and South Poles, where day and night have whole other meanings! Alaska represents the northernmost place in the U.S.A. About one third of the total landmass of Alaska lies north of the Arctic Circle!

The Arctic Circle is the latitude at which the sun does not set for one day at the summer solstice (June 21), and does not rise for one day at the winter solstice (December 21--when the sun is farthest south of the earth's Equator). The latitude of the Arctic Circle is approximately 66.5º North.

On the day of the summer solstice (usually about June 21) the sun does not set at the Arctic Circle; because of *refraction* ("bending") of sunlight, the sun appears not to set for four days. Farther north at Barrow, (the northernmost community in the North American continent) , the sun does not set from May 10 to August 2.

At the winter solstice (usually on December 21), the sun does not rise for one day at the Arctic Circle. At Barrow, it does not rise for 67 days!



Generalized Map of Alaska, the 49th State

Daylight Hours

Maximum (at summer solstice, June 21):

	Sunrise	Sunset	Daylight Hours
Barrow	May 10	August 2	84 days continuous
Fairbanks	1:59 am	11:48 pm	21:49
Anchorage	3:21 am	10:42 pm	19:21
Juneau	3:51 am	10:09 pm	18:18
Ketchikan	4:04 am	9:33 pm	17:29

Minimum (at winter solstice, December 21):

	Sunrise	Sunset	Daylight Hours
Barrow	*	*	0:00 hours
Fairbanks	10:59 am	2:41 pm	3:42
Anchorage	10:14 am	3:42 pm	5:28
Juneau	9:46 am	4:07 pm	6:21
Ketchikan	9:12 am	4:18 pm	7:06