



May 15, 2019  
NPS



May 30, 2015  
D. E. GLIDDEN



June 3, 1980  
D. E. GLIDDEN

**2019, 2015, 1980  
A,B,C**

AVC SEMI-PERMANENT SNOW BED  
COMPARISON FOR SELECTED  
SPRING YEARS  
RMNP WIND RESEARCH PROGRAM  
D. E. GLIDDEN

AVC SEMI-PERMANENT SNOW BED COMPARISON FOR SELECTED SPRING YEARS  
RMNP WIND RESEARCH PROGRAM  
D. E. GLIDDEN

**2019 A**



May 15, 2019  
NPS

AVC SEMI-PERMANENT SNOW BED COMPARISON FOR SELECTED SPRING YEARS  
RMNP WIND RESEARCH PROGRAM  
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**2019 A**



May 15, 2019  
NPS

AVC SEMI-PERMANENT SNOW BED COMPARISON FOR SELECTED SPRING YEARS  
RMNP WIND RESEARCH PROGRAM  
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**2015 B**



AVC SNOW BED MAY 30, 2015  
D. E. GLIDDEN



AVC SEMI-PERMANENT SNOW BED COMPARISON FOR SELECTED SPRING YEARS  
RMNP WIND RESEARCH PROGRAM  
D. E. GLIDDEN

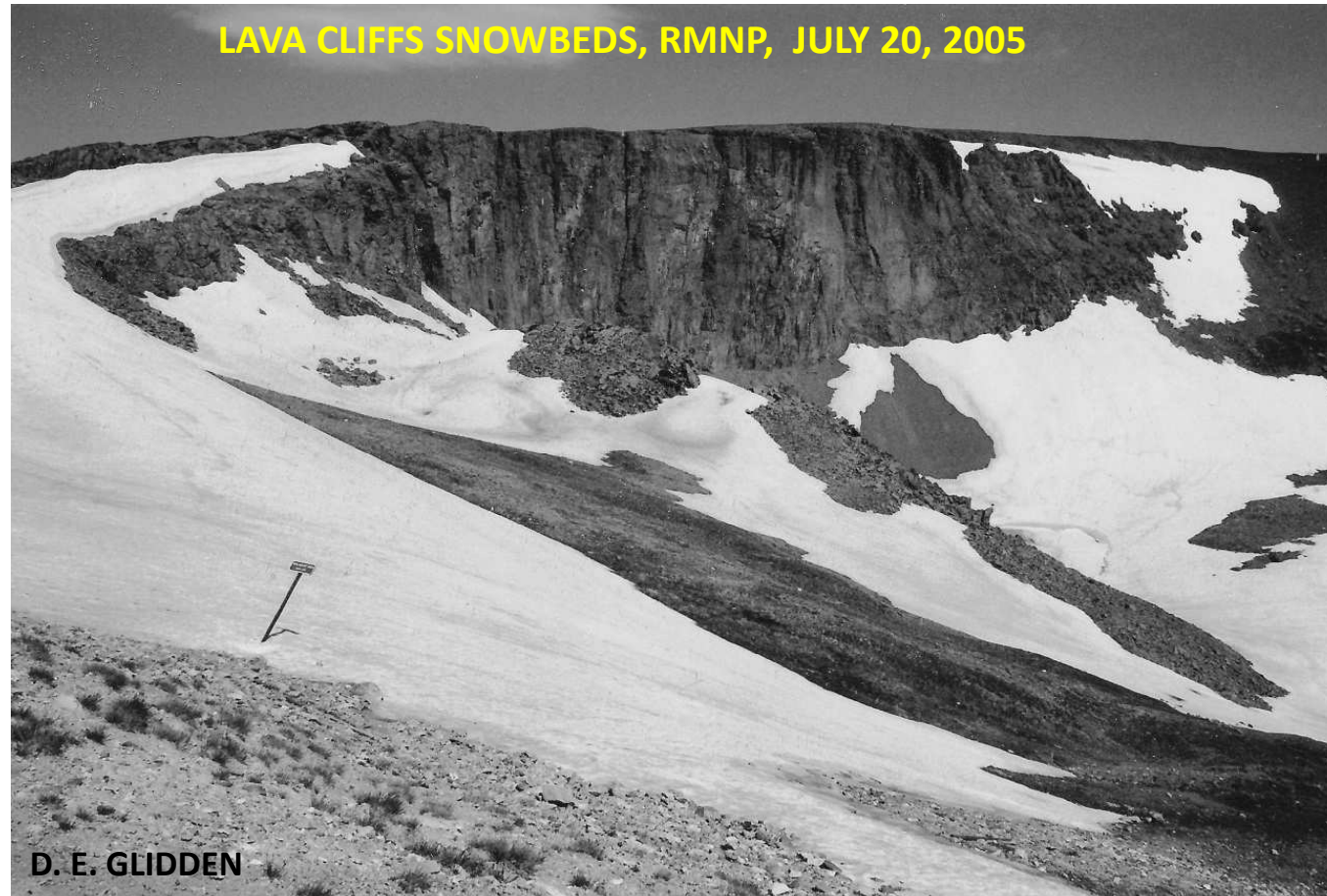
**1980 C**



June 3, 1980  
D. E. Glidden

LAVA CLIFFS SEMI-PERMANENT SNOW BED  
COMPARISON FOR SELECTED SUMMER YEARS  
RMNP WIND RESEARCH PROGRAM

2005 D





**LAVA CLIFFS SNOWBEDS, RMNP, JULY 24, 2019**

**2019 D**



**BRIAN VERHULST**

**It is remarkable how microtopography sculpts consistent and often predictable multi-decadal-long (and greater) wind patterns in many areas of the alpine.**

**Although perspective and distance of shot are important, 2019 at Lava Cliffs (following a spring of heavy snow) appears quite similar to 2005, although there may be a suggestion that the ice thickness (where the sign is located) is somewhat greater in 2005.**



LAVA CLIFFS SEMI-PERMANENT SNOW BED  
COMPARISON FOR SELECTED SUMMER YEARS  
RMNP WIND RESEARCH PROGRAM

LAVA CLIFFS SNOWBEDS, RMNP, JULY 20, 2005



D. E. GLIDDEN

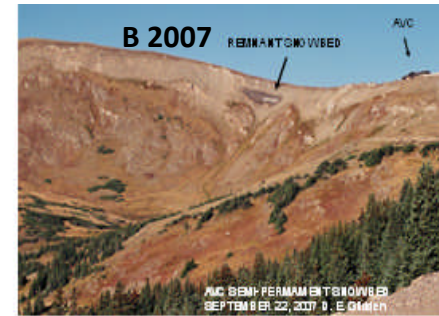
LAVA CLIFFS SNOWBEDS, RMNP, JULY 24, 2019



BRIAN VERHULST

**ALPINE VISITORS CENTER, RMNP**  
**SELECTED SNOWBED COMPARISON FOR**  
**AUGUST 1, 2006, SEPTEMBER 22, 2007,**  
**SEPTEMBER 16, 2011, SEPTEMBER 11, 2014**  
**AND SEPTEMBER 12, 2018**

D. E. GLIDDEN



In addition to glacier aerial and satellite surveys, permafrost studies, and attempts at measuring spring snow depths along Trail Ridge Road, photo-comparisons of a specific topographic site (at time of Fall minima) are always interesting and informative.

2007 and 2018 appear to reflect similarities in Fall minima, although 2018 may indicate even less segmented, visible ice extent. On a subsynoptic scale, it may suggest that even apparent extremely low snow years (as well as the effects of prevailing wind speed and direction, higher or lower average alpine temperature regimes, frequency and persistency of summer air mass exchanges, and variability of total percent of hours of cloud cover) may yet be followed by more restorative snow deposits in a (presumably) overall warming mountain environment.

All things being equal (and they rarely are), significant snowfall amounts - such as during early May 2016, for example - may be a single impactful contributor to late-season snowbed extent, especially with redistribution by exceptionally strong winds.