

Glaciers of North America—

GLACIERS OF ALASKA

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With sections on COLUMBIA AND HUBBARD TIDEWATER GLACIERS
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THE 1986 AND 2002 TEMPORARY CLOSURES OF RUSSELL FIORD BY THE HUBBARD GLACIER
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GEOSPATIAL INVENTORY AND ANALYSIS OF GLACIERS: A CASE STUDY FOR THE EASTERN
ALASKA RANGE
By WILLIAM F. MANLEY

SATELLITE IMAGE ATLAS OF THE GLACIERS OF THE WORLD

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About 5 percent (about 75,000 km²) of Alaska is presently glacierized, including 11 mountain ranges, 1 large island, an island chain, and 1 archipelago. The total number of glaciers in Alaska is estimated at >100,000, including many active and former tidewater glaciers. Glaciers in every mountain range and island group are experiencing significant retreat, thinning, and (or) stagnation, especially those at lower elevations, a process that began by the middle of the 19th century. In southeastern Alaska and western Canada, 205 glaciers have a history of surging; in the same region, at least 53 present and 7 former large ice-dammed lakes have produced jökulhlaups (glacier-outburst floods). Ice-capped Alaska volcanoes also have the potential for jökulhlaups caused by subglacier volcanic and geothermal activity. Satellite remote sensing provides the only practical means of monitoring regional changes in glaciers in response to short- and long-term changes in the maritime and continental climates of Alaska. Geospatial analysis is used to define selected glaciological parameters in the eastern part of the Alaska Range.

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CONTENTS

	Page
Abstract -----	K1
Part 1—Background and History -----	2
Introduction -----	2
FIGURE 1. Map of Alaska showing distribution of glaciers-----	2
2. NOAA AVHRR image mosaic of Alaska (1991)-----	2
3. Map showing the nominal scene centers of Landsat 1, 2, and 3 MSS and RBV images that include Alaskan glaciers, and Landsat MSS image mosaic of part of Alaska-----	5
4. Section of the 1982 USGS topographic map of Seward, Alaska-----	7
5. Landsat 1 MSS image of part of the Bering Glacier and Bagley Ice Valley on 26 February 1974-----	8
TABLE 1. Optimum Landsat 1, 2, and 3 MSS and RBV images of glaciers of Alaska-----	10
FIGURE 6. Landsat ETM+ image of the terminus region of Knik Glacier and adjacent Lake George-----	18
7. Pair of Landsat 5 MSS images showing changes in the piedmont lobe of Malaspina Glacier between 1986 and 1987-----	18
8. A Landsat MSS "temporal-change composite image" showing changes between 1985 and 1986 in the termini of Hubbard, Turner, and Valerie Glaciers-----	19
Glacier Names and Place-Names in Alaska -----	18
Early Observations of Alaska and its Glaciers -----	20
Traditional Knowledge-----	20
Limited Early Descriptions of Glaciers-----	20
18th and 19th Century Explorations and Observations of Alaska and its Glaciers -----	20
Vitus Bering-----	21
James Cook-----	21
Jean François de Galaup de La Pérouse-----	21
FIGURE 9. Three maps (1797, 1961, 1972) of Lituya Bay-----	22
Alexandro Malaspina-----	22
George Vancouver-----	22
Edward Belcher-----	24
George Simpson-----	25
Mikhail Dimitrievich Teben'kov-----	25
FIGURE 10. Two maps of the Gulf of Alaska coastal area from Yakutat Bay to Cape Suckling-----	24
William P. Blake-----	25
FIGURE 11. Part of Blake's 1868 map of the Stikine River area-----	25
William H. Dall-----	26
George Davidson-----	27
FIGURE 12. 1875 sketch map of the St. Elias Alpine Region-----	26
13. Map showing the glaciers of the Icy Strait-Cross Sound region in 1902-----	27
Charles Erskine Scott Wood-----	27
John Muir-----	28
U.S. Military Expeditions-----	28
FIGURE 14. 1883 lithograph of an Alaskan glacier-----	28
15. 1887 lithograph of the terminus of Miles Glacier-----	29
George Frederick Wright-----	28
FIGURE 16. 1886 photograph of the terminus of Norris Glacier-----	29
17. Wright's 1889 sketch map of southeastern Alaska-----	30
<i>New York Times</i> Expedition-----	29
Israel C. Russell-----	30
FIGURE 18. I.C. Russell's 1891 "Sketch Map of the Mount St. Elias Region"-----	30
19. Photographs of USGS field party crossing the Malaspina Glacier in 1891 and Russell and field party on their survey of the St. Elias Mountains-----	31
Henry Fielding Reid-----	32
FIGURE 20. 1893 photograph of the terminus of Muir Glacier-----	32
Alaska-Canada Boundary Surveys-----	33
National Geographic Society Expeditions-----	33
Duke of Abruzzi-----	34
Figure 21. Part of a 1897 panoramic photograph of "The Chain of St. Elias and [Mount] Augusta..."-----	34

	Page
Postcards	35
FIGURE 22. Late 19th/early 20th century postcard of the terminus of Taku Glacier	35
Harriman Alaska Expedition	35
FIGURE 23. Photograph of John Muir at Cascading Glacier on 20 June 1899	36
Selected 20th Century Explorations and Observations of Alaska's Glaciers	36
Early USGS Investigations and Photography	36
Ralph S. Tarr and Lawrence Martin	37
FIGURE 24. Tarr and Martin's 1914 graphic showing the U.S. Capitol superimposed on Child's Glacier	39
25. Oscar D. von Engeln washing a strip of negatives in Yakutat Bay in 1910	39
Early Aerial Photography of Glaciers by the U.S. Government	38
FIGURE 26. Cameras developed by James W. Bagley for use in Alaska topographic surveys	39
27. 1929 vertical aerial photograph of the North and South Crillon Glaciers	40
28. 1926 photograph of Alaska Aerial Survey Expedition operations in Juneau Harbor	41
29. Phototriplet obtained with the Bagley 3-lens T-1 camera in 1926	41
30. 1929 oblique aerial photograph by Alaska Aerial Survey Expedition of Twin Glaciers	41
Later Vertical Aerial Photography Programs	42
FIGURE 31. Nine-lens vertical aerial photograph of Fairweather Glacier in 1959	42
32. AHAP photograph of the Alsek Glacier on 21 June 1978	44
William Osgood Field	43
FIGURE 33. American Geographical Society Glacier Studies Map 64-2-G8 compiled by W.O. Field in 1959	45
34. American Geographical Society Glacier Studies Map 64-3-G7 compiled by W.O. Field in 1964	46
35. Map of Little Jarvis Glacier on 18 September 1957	47
Bradford Washburn	48
FIGURE 36. Oblique aerial photograph of the southeastern terminus of Bering Glacier in 1938	48
37. Oblique aerial photograph of contorted medial moraines on Malaspina Glacier in 1938	49
38. Oblique aerial photograph of an array of subparallel medial moraines on Barnard Glacier in 1938	49
Austin Post	50
Robert M. Krimmel	50
Ground, Vertical, and Oblique Aerial Photographs by Other USGS Glaciologists	51
Part 2—Glaciological Topics	52
Tidewater Glaciers	52
FIGURE 39. Photograph on 15 July 1979 of the terminus of the tidewater Muir Glacier	52
40. Oblique aerial photograph of the central terminus of Bering Glacier on 16 August 1998	53
TABLE 2. Glaciological characteristics of existing and former tidewater glaciers of Alaska	56
Columbia and Hubbard Tidewater Glaciers, by Robert M. Krimmel	54
Introduction	54
FIGURE 41. Map of active and former tidewater glaciers of Alaska	53
42. Diagram of tidewater glacier cycle	55
TABLE 3. Terminus status of major tidewater glaciers of Alaska in 1999	57
Columbia Glacier	60
FIGURE 43. Two oblique aerial photographs of Columbia Glacier on 22 August 1979 and on 12 September 1986	60
44. Oblique aerial photograph of Columbia Glacier on 10 January 1993	62
45. Landsat 3 RBV image of Columbia Glacier on 7 September 1979	63
46. Mosaic of five vertical aerial photographs of the lower reach of the Columbia Glacier on 2 October 1998	65
Stereophotogrammetry	64
FIGURE 47. Graph showing changing length of Columbia Glacier between 1976 and 1999	66
48. Graph showing the seasonal variation of the length of Columbia Glacier	67
49. Graph showing surface speed of Columbia Glacier at three locations between 1977 and 1997	67
50. Graph showing average annual speed in meters per day of Columbia Glacier in 1978 and 1993	67
51. Graph showing seasonal-speed deviations from the normalized speed near the terminus of Columbia Glacier	68
52. Graph showing the surface altitude of Columbia Glacier in 1950, 1974, 1993, and 1996	69

	Page
Hubbard Glacier	70
FIGURE 53. Landsat 5 TM image of Hubbard Glacier on 7 August 1985	71
54. Map showing advance of Hubbard Glacier terminus between 1965 and 1997	72
55. Oblique aerial photograph of terminus of Hubbard Glacier on 29 August 1984	72
56. Oblique aerial photograph of the Hubbard Glacier ice dam on 12 September 1986	73
Surge-Type Glaciers	74
FIGURE 57. Oblique aerial photograph of the Susitna Glacier on 5 September 1966	75
Glacier-Dammed Lakes and Glacier-Outburst Floods (Jökulhlaups)	76
Figure 58. AHAP photograph of ice-marginal lake surrounding the terminus of Sheridan Glacier and debris-covered terminus of Sherman Glacier on 13 August 1982	77
59. AHAP photograph of Kenibuna Lake, Chakachamna Lake, and Shamrock Glacier on 20 July 1980	78
Jökulhlaups at Bering Glacier	79
Figure 60. 12 September 1986 oblique aerial photograph of jökulhlaup from Berg Lake, and photograph showing the exposed lakebed on 11 August 1998	80
61. Oblique aerial photograph of a channel cut through the eastern terminus of the Bering Glacier on 29 July 1994	81
Debris-Covered Glaciers	81
Part 3—Descriptions of Alaska's 14 Glacierized Geographic Regions	84
Introduction	84
Analysis of Glacier Activity	84
Evidence of Glacier Retreat Used in This Analysis	85
FIGURE 62. Oblique aerial photograph on 20 August 1977 of a valley glacier (informally called <i>Five Stripe Glacier</i>) in the Chugach Mountains	85
63. Oblique aerial photograph on 3 October 1979 of an unnamed hanging glacier in Glacier Bay	85
Evidence of Glacier Advance Used in This Analysis	86
FIGURE 64. 15 July 1978 photograph of part of the terminus of Harriman Glacier	86
65. 14 July 1994 oblique aerial photograph of a lobe of Bering Glacier overriding an alder forest	86
66. Photograph of a late 19th century advance of La Perouse Glacier on 18 June 1899	86
67. 12 July 1991 photograph of three sheared tree trunks exposed by retreat of the Bering Glacier	87
Evidence of Glacier Stagnation Used in This Analysis	86
FIGURE 68. Oblique aerial photograph of vegetation growing on the surface of Bering Glacier on 8 June 1976	87
69. Photograph of a debris-covered ice-cored moraine near the retreating terminus of Herbert Glacier on 8 July 1968	87
70. AHAP photograph of large thermokarst pits on Bering Glacier on 27 July 1983	88
Coast Mountains	89
FIGURE 71. Index map and NOAA AVHRR image mosaic of the Coast Mountains	88
Portland Canal to Burroughs Bay and the Unuk River	91
FIGURE 72. Part of a Landsat 2 MSS image from the Portland Canal to Burroughs Bay and the Unuk River on 10 August 1980	90
73. Part of an AHAP photograph of the unnamed, southeasternmost glacier in Alaska on 12 August 1979	91
74. Part of an AHAP photograph of the retreating Soule Glacier on 14 August 1979 and part of the 1955 USGS Ketchikan 1:250,000-scale map showing Soule Glacier	92
75. AHAP photograph of the lower 8 km of the Chickamin Glacier and other nearby glaciers on 14 August 1979	93
Burroughs Bay and the Unuk River to the Stikine River	92
FIGURE 76. Landsat 2 MSS image mosaic of the Coast Mountains from Burroughs Bay and the Unuk River to the Stikine River (10 and 11 August 1980)	93
77. Part of an AHAP photograph of Nelson Glacier on 11 August 1979	94
Stikine River to Taku River	94
Figure 78. Landsat 2 MSS image mosaic of the Coast Mountains from Stikine River to Taku River (19 August 1979, 11 August 1980) and an August 1997 space shuttle photograph of part of the <i>Stikine Icefield</i>	95
79. Part of an AHAP photograph of Popof Glacier, and smaller, unnamed glaciers on 11 August 1979	97
80. AHAP photograph of Shakes Glacier on 11 August 1979, and an oblique aerial photograph of the terminus of Shakes Glacier on 23 August 1990	98

	Page
21. Map of Frederick Sound and Le Conte Bay showing bathymetry and terminus positions of Le Conte Glacier	99
82. AHAP photograph of the terminus of Baird Glacier and other nearby glaciers on 11 August 1979	100
83. Oblique aerial photograph of the terminus of South Sawyer Glacier on 26 August 1960	102
84. Landsat 5 TM image of the Coast Mountains from just south of Tracy Arm to the Taku River on 9 September 1984	103
Taku River to the Canadian Border East of Gilkey Glacier	104
Figure 85. Landsat 2 and 3 MSS image mosaic of the Coast Mountains from the Taku River to the Canadian border (31 August 1977, 30 July 1978, 19 August 1979)	104
86. Landsat 5 TM image of the Coast Mountains from east of the Taku River to west of Berners Bay on 9 September 1984	105
87. AHAP photograph of Taku Inlet and surrounding area on 11 August 1979	106
88. Oblique aerial photograph of the northeastern terminus of the advancing Taku Glacier on 14 September 1968	107
89. Map of the Taku Inlet and River area showing terminus positions of Taku, Norris, and Hole-in-the-Wall Glaciers	108
90. Oblique aerial photograph of the bulbous terminus of the advancing Hole-in-the-Wall Glacier on 28 July 1968	109
91. AHAP photograph of the termini of East and West Twin Glaciers on 11 August 1979	110
92. Bagley camera vertical and oblique aerial photographs of East and West Twin Glaciers in 1929	110
93. 5 July 1985, 29 May 1986, 27 June 1988, and 2 July 1989 photographs of Mendenhall Glacier and environs	112
94. Oblique aerial photograph of the lower reaches of the retreating Herbert Glacier on 24 August 1963	114
95. AHAP photographic mosaic of Gilkey Glacier and some of its principal tributaries on 11 August 1979	115
Glaciers North of the Juneau Icefield	115
FIGURE 96. Part of the 1961 USGS 1:250,000-scale Skagway, Alaska-Canada map	116
97. AHAP photograph of an unnamed glacier west of Chilkat Glacier on 11 August 1979	118
Summary	118
Alexander Archipelago	119
FIGURE 98. Index map and NOAA AVHRR image mosaic of the Alexander Archipelago	119
Revillagigedo Island	119
Prince of Wales Island	120
Kupreanof Island	120
Baranof Island	120
FIGURE 99. AHAP photograph of Baranof Island, north of Mount Furuhelm and east of Sitka on 11 August 1979	121
Chichagof Island	120
Admiralty Island	121
Summary	121
St. Elias Mountains	123
Introduction	123
FIGURE 100. Index map and NOAA AVHRR image mosaic of the St. Elias Mountains	122
101. Aerial photograph of the summit of Mount St. Elias on 28 July 2001	124
Southeastern St. Elias Mountains Segment: From the Lynn Canal and Chilkat Inlet and River to the Eastern Side of the Alsek River	124
FIGURE 102. Landsat 2 and 3 MSS image mosaic of the St. Elias Mountains from Lynn Canal to the Alsek River (31 August 1977, 30 July 1978, 28 August 1978, 19 August 1979)	125
103. AHAP photograph of the area around the Tsirku River on 11 August 1979	126
104. August 1946 and 31 August 1978 aerial photographs of Davidson Glacier	127
Glacier Bay National Park and Preserve	128
FIGURE 105. Landsat 1 MSS image of Glacier Bay and environs on 12 September 1973, and map showing contours of equal snowline altitude	128
106. Landsat 3 RBV image mosaic of most of Glacier Bay National Park and Preserve on 12 August 1979	131
TABLE 4. Accumulation area ratios for glaciers in Glacier Bay and environs	132

FIGURE 107. Map of the Glacier Bay region showing the retreat of Glacier Bay ice cover between 1750 and the 1990s, and oblique orbital view of Glacier Bay and environs (combined Landsat 7 ETM+ image and USGS NED)	133
108. Part of a Landsat 1 MSS image of the Glacier Bay region on 12 September 1973	135
Muir Inlet	137
Figure 109. Landsat MSS images of upper Muir Inlet on 12 September 1973 and 6 September 1986	138
Adams Inlet	138
FIGURE 110. AHAP photograph of central Adams Inlet and the area to the north on 11 August 1979	138
Wachusett Inlet	139
FIGURE 111. AHAP photograph of upper Wachusett Inlet on 11 August 1979	139
112. Oblique aerial photograph of Burroughs Glacier on 12 September 1986	140
113. Oblique aerial photograph of the rapidly retreating Plateau Glacier on 25 August 1968	140
Upper Muir Inlet	141
Figure 114. AHAP photographic mosaic of upper Muir Inlet on 11 August 1979	141
115. Oblique aerial photograph of the retreating terminus of McBride Glacier on 28 June 1980	142
116. Oblique aerial photograph of the terminus of Riggs Glacier on 3 October 1979	142
117. Oblique aerial photograph of Upper Muir Inlet on 24 August 1963	143
118. Oblique aerial photograph of Muir Glacier on 12 September 1986	143
Queen Inlet	144
Rendu Inlet	144
FIGURE 119. AHAP photograph of Rendu Glacier, Romer Glacier, and several unnamed retreating glaciers on 11 August 1979	144
Tarr Inlet	144
FIGURE 120. AHAP photograph of the termini of Margerie and Grand Pacific Glaciers on 11 August 1979	145
121. Segments of four Landsat MSS images of Margerie Glacier, between 12 September 1973 and 7 September 1986	146
Johns Hopkins Inlet	146
FIGURE 122. Oblique aerial photograph of Johns Hopkins Glacier on 12 September 1986	147
123. AHAP photograph of numerous glaciers at the head of Johns Hopkins Inlet on 14 August 1978	147
124. 11 August 1979 AHAP photographic mosaic of the lower reaches of Lamplugh and Reid Glaciers	148
125. Photograph of the summit of Mount Abbe on 27 July 1980	148
Reid Inlet	148
Hugh Miller, Charpentier, and Geikie Inlets	148
FIGURE 126. Photograph by G.K. Gilbert of part of the West Arm of Glacier Bay in June 1899	149
127. AHAP photographic mosaic of glaciers on the southwest side of Glacier Bay on 11 August 1979	149
Glaciers of the Glacier Bay National Park and Preserve Region from West of Glacier Bay to the Alsek River	149
FIGURE 128. Oblique aerial photograph of glaciers flowing into the trench of the Fairweather Fault on 24 August 1987	149
Brady Glacier	150
FIGURE 129. AHAP photographic mosaic of the Brady Glacier and Taylor Bay on 12 August 1979	150
130. Oblique aerial photograph of the advancing terminus of Brady Glacier on 16 September 1966	151
131. Oblique aerial photograph of a retreating and thinning unnamed glacier north of Palma Bay on 12 September 1973	151
Finger and La Perouse Glaciers	152
FIGURE 132. AHAP photograph of Finger Glacier and La Perouse Glacier on 12 August 1979	152
133. Oblique aerial photograph of the eastern terminus of La Perouse Glacier on 12 September 1986	153
134. Oblique aerial photograph of part of the eastern terminus of La Perouse Glacier on 18 June 1978	153
135. Two oblique aerial photographs of the eastern lobe terminus of La Perouse Glacier on 16 September 1966	153

	Page
Glaciers of Lituya Bay	154
FIGURE 136. AHAP photograph showing North Crillon, Lituya, and Cascade Glaciers on 12 August 1979	154
137. Aerial photograph showing the head of Lituya Bay on 2 August 1999	155
138. Photograph of the terminus of Cascade Glacier on 18 July 1979	155
139. Aerial photograph mosaic of Lituya Glacier, Desolation Glacier, and proglacial Desolation Lake on 25 June 1998	156
Fairweather and Sea Otter Glaciers	157
Figure 140. AHAP photograph of Fairweather Glacier and Sea Otter Glacier on 12 August 1979	157
Grand Plateau Glacier	157
FIGURE 141. Digital X-band radar image of the terminus of Grand Plateau Glacier in 1988	158
Alsek Glacier	157
FIGURE 142. Oblique aerial photograph of the terminus of Alsek Glacier on 25 August 1960	158
143. AHAP photograph of the retreating, thinning terminus of Alsek Glacier on 12 August 1978	159
South-central St. Elias Mountains Segment: From the Western Side of the Alsek River to the Western Side of Yakutat Bay	159
FIGURE 144. Landsat 2 MSS image of the western St. Elias Mountains, including Malaspina Glacier, Hubbard Glacier, and other nearby glaciers on 24 August 1979	160
145. Oblique aerial photograph of Harlequin Lake and the terminus of Yakutat Glacier on 12 September 1986	161
Glaciers of the Eastern Yakutat Bay Region	161
Southern Russell Fiord	161
Hidden Glacier	162
FIGURE 146. Photograph by G.K. Gilbert of the terminus of Hidden Glacier on 20 June 1899	162
147. Map showing changes in the position of the terminus of Hidden Glacier between 1905 and 1970	162
Nunatak Fiord	162
FIGURE 148. AHAP photograph of Nunatak Fiord and the termini of Art Lewis Glacier and East and West Nunatak Glaciers	162
West Nunatak Glacier	162
East Nunatak Glacier	163
Glaciers of Disenchantment Bay	163
Variegated Glacier	164
FIGURE 149. AHAP photographic mosaic of Disenchantment Bay and environs on 18 August 1978	164
150. Landsat 3 RBV image of glaciers north and east of Yakutat on 19 August 1978	165
151. Sketch map of Disenchantment Bay showing Malaspina's 1791 survey of Hubbard Glacier	166
152. Two oblique aerial photographs of the terminus of Variegated Glacier on 29 August 1964 and 22 August 1965 showing changes resulting from a surge	167
153. Two photographs of Variegated Glacier showing surge features on 4 June 1983 and on 7 July 1983	167
Hubbard Glacier	168
FIGURE 154. Photograph by I.C. Russell of the terminus of Hubbard Glacier in 1890	168
The 1986 and 2002 Temporary Closures of Russell Fiord by Hubbard Glacier, by Bruce F. Molnia, Dennis C. Trabant, Rod S. March, and Robert M. Krimmel	170
FIGURE 155. Landsat 5 TM images of the terminus of Hubbard Glacier on 7 August 1985 and 11 September 1986	170
156. Three graphs of the filling and emptying of <i>Russell Lake</i> during the 1986 and 2002 closures events	171
157. Oblique aerial photograph of the advancing terminus of Hubbard Glacier on 13 June 2002	173
Southwestern St. Elias Mountains Segment: From the Western Side of Yakutat Bay to the Western Bagley Ice Valley, the Western Robinson Mountains, and the Bering Lobe	174
FIGURE 158. Two aerial photographs of the termini of Haenke and Turner Glaciers on 25 August 1969 and 2 August 1999	175
159. Photograph by I.C. Russell of the tidewater terminus of Turner Glacier in August 1891	176
Malaspina Glacier System	176
FIGURE 160. Landsat 1 MSS image of Malaspina Glacier and environs on 12 February 1973	177
161. AHAP photograph of the southern margin of Malaspina Glacier in August 1978	178
162. Oblique aerial photograph of part of the terminus of Malaspina Glacier at Sitkagi Bluffs on 30 July 1999	178

163. Oblique aerial photograph of the medial moraines of the <i>Seward Lobe</i> of Malaspina Glacier on 17 September 1972	179
164. Oblique aerial photograph showing the developing Malaspina Lake on 25 August 1969	179
165. Side-looking airborne radar (SLAR) image of the piedmont lobe of the Malaspina Glacier in November 1986	181
Glaciers of Icy Bay	183
FIGURE 166. Physiographic diagram showing 1974 glacier positions and the pre-1910 position of the large terminal moraine of Guyot Glacier	184
167. Oblique aerial photograph showing the retreating glaciers at the head of Icy Bay on 24 August 1963	184
168. Oblique aerial photographs showing the retreat of Tyndall Glacier on 24 August 1963, 12 September 1986, and 13 August 1998	185
169. Oblique aerial photographs showing the slowly retreating Guyot and Yahtse Glaciers in 1938, on 25 August 1969, and on 12 September 1986	186
170. Photograph of a part of the subglacial channel under the <i>Guyot Remnant</i> on 28 July 1999	187
171. Oblique aerial photograph showing the retreating glacier margins at the head of Tsaa Fiord on 22 July 1980	187
Glaciers West of Icy Bay	188
FIGURE 172. AHAP photograph of White River, Eberly, and Yakataga Glaciers on 18 August 1978	188
173. Oblique aerial photograph of Mount Miller and numerous retreating glaciers on 12 September 1986	189
Northwestern St. Elias Mountains Segment: From the Canadian Border (long 141° W.) to White River, Chitstone River, Tana River, the Eastern Wall of the Valley of Tana Glacier, and the Southern Side of the Bagley Ice Valley	189
FIGURE 174. Oblique aerial photograph of the confluence of the Walsh and Logan Glaciers on 31 August 1984	190
175. Landsat 3 RBV image of surging glaciers in the northwestern St. Elias Mountains on 5 July 1980	191
176. AHAP photograph of the confluence of Logan and Chitina Glaciers on 9 July 1978	192
177. AHAP photograph of the northern part of the Granite Range showing many of its glaciers on 27 July 1982	192
178. Oblique aerial photographs of small valley glaciers in the Granite Range on 10 August 2001	193
179. AHAP photographic mosaic of numerous valley glaciers along Granite Creek on 18 August 1978	193
180. Photograph showing a small actively surging glacier in Goat Creek drainage south of Barnard Glacier on 14 September 1986	195
181. Oblique aerial photograph of Barnard Glacier on 31 August 1984	195
Summary	196
Chugach Mountains	197
Introduction	197
FIGURE 182. Index map and NOAA AVHRR, and Landsat MSS image mosaic of the Chugach Mountains	199
Bering Glacier System Segment	202
Introduction	202
FIGURE 183. Landsat 2 MSS image of the Bering Glacier System and Icy Bay on 23 September 1977	203
184. Map of Vitus Lake and the margin of Bering Glacier showing bathymetry of the lake	204
185. Map of the lower reaches of the Bering Glacier	204
186. Map and sketch showing the Bering Trough and glacially eroded morphology of the continental shelf in the vicinity of Bering Glacier	205
187. Photograph of the only bedrock outcrop along the perimeter of Bering Glacier on 13 August 1992	206
188. Side-looking airborne radar image of the Bering Glacier's <i>Piedmont Lobe</i> on 3 August 1990	206
189. AHAP photograph of the retreating terminus of the Bering Lobe on 18 August 1978	207
190. Two oblique aerial photographs of the Central Medial Moraine Band in 1938 and in September 1986	207
191. Three oblique aerial photographs of the northwestern terminus of the Steller Lobe of Bering Glacier in 1938, on 6 October 1974, and on 12 August 2001	208
Pre-20th Century Observations of Bering Glacier	209
FIGURE 192. Part of a late 19th century chart by the U.S. Coast and Geodetic Survey of the Gulf of Alaska	209

	Page
FIGURE 193. Map showing positions of the terminus of Bering Glacier between 1900 and 1993	210
194. Oblique aerial photograph of the eastern margin of the Bering Glacier on 12 August 1961	211
195. Oblique aerial photograph showing retreat of the surge-terminus region of Bering Glacier on 17 August 1979	211
20th Century Observations of Bering Glacier	211
Berg Lake	212
Surges of the Bering Glacier	213
The 1957–60, 1965–67, and 1993–95 Surges of the Bering Glacier	214
1957–60 and 1965–67 Surges	214
FIGURE 196. Oblique aerial photograph showing retreat of the <i>Piedmont Lobe</i> region of Bering Glacier on 20 July 1993	215
197. Photograph showing part of a mass of debris-covered stagnant Bering Glacier ice on 29 July 1990	215
The 1993–95 Surge	215
FIGURE 198. Oblique aerial photograph of the disintegrating terminus of the Bering Glacier on 6 October 1993	216
The 1993–94 Phase	216
FIGURE 199. Oblique aerial photograph of surge-thickened ice of the Bagley Ice Valley on 6 October 1993	217
200. Photograph of fracturing in the Central Medial Moraine Band on 24 July 1994	217
201. Map showing terminus positions of Bering Glacier between 10 July 1993 and 7 September 1994	217
202. Two aerial photographs of the Tsitus (<i>Arrowhead</i>) Island area on 7 October 1993 and 9 July 1995	218
Surge-Produced Changes in Vitus Lake	219
The 1995 Phase	219
FIGURE 203. Photographs showing two views of changes occurring on the southeast shoreline of Vitus Lake on 6 and 9 July 1995	220
204. Oblique aerial photographs of fracturing and crevassing that occurred during the 1993–1994 surge, on 9 May 1994 and 24 July 1994	221
The 1994–1995 Jökulhlaup	222
FIGURE 205. Oblique aerial photograph of a blue-water lake formed on the surface of Bering Glacier on 24 July 1994	222
206. Three photographs of the evolution of kettle ponds that formed during the 1994–95 jökulhlaup on 30 April 1996, 1 May 1996, and 20 July 1996	223
207. Vertical aerial photograph of Seal River on 7 September 1994	224
208. Photographs showing multiple views of the sediment plume from the Seal River in 1938, on 24 August 1978, on 12 July 1976, and on 22 August 2003	224
Post-Surge Retreat of Bering Glacier	226
FIGURE 209. Two oblique aerial photographs of the continued retreat of Bering Glacier on 6 June 1997 and 12 August 2001	227
210. Oblique aerial photograph of the post-surge retreat of Bering Glacier on 10 August 1998	227
211. Oblique aerial photograph of the post-surge retreat of Bering Glacier on 12 August 1998	228
212. Photograph of an uplifted pyramidal-shaped piece of ice in the calving embayment of Bering Glacier in Vitus Lake on 26 September 1997	228
213. Oblique aerial photograph of the terminus of Bering Glacier on 12 August 2001	229
Stellar Glacier Activity	229
FIGURE 214. Two oblique aerial photographs of the effects of the surge on the ice-cored lateral moraine of the Stellar Lobe on 12 August 2000 and 12 August 2001	229
Glaciers of Waxell Ridge	229
FIGURE 215. Photograph showing view of Mount Steller and a number of retreating, unnamed glaciers on 8 August 2001	230
Glaciers of the Southern Side of Juniper Island	230
FIGURE 216. Oblique aerial photograph of the Juniper Island area on 12 August 2001	230
Holocene History of Bering Glacier	231
FIGURE 217. Close-up photograph on 13 August 1992 of an <i>in situ</i> mollusk in the Yakataga Formation	231
218. Photograph of part of a peat deposit on the northeast side of Tashalich Arm on 13 August 1992	231
219. Five sketch maps that depict positions of the terminus of the Bering Glacier during the last half of its Holocene history	232

Copper River Drainage Segment (Including Glaciers That Drain Directly into the Copper River Delta)	233
Martin River Glacier–Martin River–Lower Copper River–Bremner River–West Fork Tana River–Tana Glacier Subdivision	234
Ragged Mountains	234
Martin River Glacier	234
FIGURE 220. Oblique aerial photograph on 31 July 1999 of a pair of small, retreating unnamed glaciers	235
Slide Glacier	236
FIGURE 221. Two oblique aerial photographs of Slide Glacier, with 1964 earthquake-produced rock avalanches on 6 October 1974 and 13 August 1990	236
Johnson Glacier	237
McPherson Glacier	237
Miles Glacier	237
FIGURE 222. Two photographs of the terminus area of Miles Glacier in Miles Lake on 13 August 1994 and 12 August 2001	238
Van Cleve Glacier	239
FIGURE 223. Aerial photograph of the southern part of Van Cleve Lake on 7 September 1994	239
Large Glaciers North of Miles Glacier	239
Wernicke Glacier	239
Fan Glacier	240
FIGURE 224. Two aerial photographs of Fan Glacier on 18 August 1978 (AHAP) and 16 August 2000	240
225. AHAP photograph mosaic of the debris-covered Bremner Glacier on 18 August 1978	241
Bremner Glacier	242
Tana Glacier	242
FIGURE 226. AHAP photograph of the terminus of the eastern distributary of Tana Glacier on 18 August 1978	243
The Bremner River–Upper Copper River–Chitina River–Tana River Subdivision (Located East of the Copper River)	243
FIGURE 227. Photograph by Moffitt showing early 20th century evidence of retreat of an unnamed glacier	243
The Western Copper River Delta–Lower Copper River–Tasnuna River Subdivision (Located on the West Side of the Copper River)	244
FIGURE 228. AHAP photographic mosaic of the area between Copper River and Glacier River on 13 August 1982	244
Saddlebag Glacier	244
Sherman Glacier	245
FIGURE 229. Three aerial photographs of Sherman Glacier on 24 August 1964, 22 August 1979, and 29 August 1984	246
Sheridan Glacier	247
FIGURE 230. Aerial photograph of the terminus of Sheridan Glacier on 22 August 1979	248
231. Oblique aerial photograph of the ice-marginal lakes in front of Sheridan Glacier on 17 August 2000	248
Scott Glacier	248
FIGURE 232. Two aerial photographs of Scott Glacier on 24 July 1987 and 17 August 2000	249
Glaciers Draining into the Tasnuna River	249
Woodworth Glacier	249
FIGURE 233. Near-vertical aerial photograph of glacial landforms in front of Woodworth Glacier in August 1938	249
234. AHAP photograph of Woodworth Glacier on 25 August 1978	250
Schwan Glacier	250
FIGURE 235. AHAP photograph of Schwan Glacier on 9 July 1978	251
Small Glaciers Between Schwan and Heney Glaciers	250
Heney Glacier	251
Allen Glacier	251
FIGURE 236. Two oblique aerial photographs of Allen Glacier on 17 August 2000	252
Grinnell Glacier	252
FIGURE 237. Oblique aerial photograph of Grinnell Glacier on 17 August 2000	253
Childs Glacier	253

FIGURE 238. Aerial photograph on 13 August 1994 and oblique aerial photographic mosaic of the terminus of Childs Glacier on 17 August 2000	254
Goodwin Glacier	254
Cleave Creek Glacier—Upper Copper River—Stephens Glacier—Tonsina Glacier	
Northwestern Subdivision	254
Cleave Creek Glacier	255
FIGURE 239. Oblique aerial photograph of the retreating terminus of Cleave Creek Glacier on 8 August 1996	255
Worthington Glacier	255
Tonsina Glacier	256
FIGURE 240. AHAP photograph of the terminus of Tonsina Glacier on 25 August 1978	257
Klutina and Stephens Glaciers	257
FIGURE 241. Oblique aerial photograph of Klutina Glacier on 30 August 2000	257
Prince William Sound Segment—Heney Range to the East Side of Valdez Arm Subdivision	258
Shepard Glacier	258
Glaciers of the Rude River Drainage	258
Cordova Glacier	258
Glaciers South of Lowe River	258
FIGURE 242. Three oblique aerial photographs of unnamed glaciers in the Rude River drainage on 8 August 2000	259
Wortmanns Glacier	259
FIGURE 243. AHAP photograph of the terminus of Wortmanns Glacier and other nearby glaciers on 25 August 1978	259
Bench Glacier	259
Heiden Glacier	260
Deserted Glacier	260
Glaciers North of Lowe River and West of Keystone Canyon	260
Valdez Glacier	260
FIGURE 244. Two photographs showing changes at Valdez and Camicia Glaciers in 1905 and on 8 August 2000	261
Prince William Sound Segment—The Northern Prince William Sound Subdivision	262
Figure 245. Landsat 3 MSS image of the western Chugach Mountains on 26 August 1978	262
Shoup Glacier	263
FIGURE 246. Two photographs of Shoup Glacier showing the position of its terminus on 13 July 1908 and 8 August 2000	263
Columbia Glacier	264
FIGURE 247. AHAP photograph of the terminus of Columbia Glacier on 24 August 1978	264
248. Photographs of the lower Columbia Glacier on 25 and 26 June 1899	266
249. Map of the lower 15 km of Columbia Glacier on 25–28 June 1899	267
250. Three photographs showing late 19th century features at the terminus of Columbia Glacier on 26 June 1899	268
251. Four oblique aerial photographs show changes in the terminus region of Columbia Glacier on 3 September 1966, 15 August 1981, 13 August 1990, and 8 August 2000	270
252. Three oblique aerial photographs of features along the margin of Columbia Glacier on 8 August 2000	271
Meares Glacier	271
FIGURE 253. Aerial photograph of the terminus of Meares Glacier on 17 August 1999	272
254. Map of the terminus of Meares Glacier showing fluctuations in its terminus from 1910 to 2000	273
Pedro and Brilliant Glaciers	273
Raney and Baby Glaciers	274
Glaciers of College Fiord	274
FIGURE 255. ASTER image of upper College Fiord on 24 June 2000	274
256. View of College Fiord shows five tidewater glaciers located on the west side on 8 August 2000	275
Cap and Tommy Glaciers	276
Crescent and Amherst Glaciers	276
FIGURE 257. Photograph of Amherst Glacier on 14 July 1978	276
Lafayette Glacier	277

	Page
Glaciers Draining into Coghill Lake	277
Williams Glacier	277
Muth Glacier	277
Dartmouth Glacier	277
Bathymetry of College Fiord	277
Glaciers of Yale Arm	278
Yale Glacier	278
FIGURE 258. View of the retreating Yale Glacier on 15 August 1978	280
Unnamed Glaciers of Yale Arm	280
Glaciers of Harvard Arm	280
Harvard Glacier	280
FIGURE 259. Map of Harvard Glacier showing fluctuations in the position of its terminus from 1899 to 2000	280
260. AHAP photograph of upper Harvard Arm and Harvard Glacier on 25 August 1978	282
261. Photographs showing details of the advancing Harvard Glacier on 14 August 1978 and 31 August 2000	283
Radcliffe Glacier	284
Baltimore Glacier	284
Smith Glacier	285
FIGURE 262. Two photographs show changes of Smith Glacier between 15 August 1978 and 8 August 2000	286
Bryn Mawr Glacier	285
FIGURE 263. Oblique aerial photograph of terminus of Bryn Mawr Glacier on 8 August 2000	287
Vassar Glacier	287
FIGURE 264. Photograph of the debris-covered terminus of Vassar Glacier on 15 June 1978	287
Wellesley Glacier	288
FIGURE 265. Oblique aerial photograph of the retreating terminus of Wellesley Glacier on 8 August 2000	288
Barnard Glacier	288
Holyoke Glacier	289
Barry Arm and Harriman Fiord	289
FIGURE 266. AHAP photographic mosaic of Harriman Fiord and Barry Arm on 24 August 1978	289
Glaciers of Barry Arm	290
Barry Glacier	290
FIGURE 267. Map of the lower Harriman Fiord and Barry Arm, showing Cascade, Barry, and Coxe Glaciers in 1910	291
268. Oblique aerial photographs showing changes in Cascade, Barry, and Coxe Glaciers between 8 August 1981 and 8 August 2000	292
Coxe Glacier	292
Cascade Glacier	293
Glaciers of Harriman Fiord	293
Serpentine Glacier	293
FIGURE 269. Photographs showing changes in Serpentine Glacier between 1899 and 6 September 2000	293
270. Oblique aerial photograph of Serpentine Glacier on 8 August 2000	294
Penniman Glaciers, Baker Glacier, and Detached Glacier	295
FIGURE 271. Two photographs showing changes in Baker and Detached Glaciers between 1909 and 6 September 2000	295
Surprise Glacier	296
FIGURE 272. Aerial photograph of Surprise Inlet and Surprise and Cataract Glaciers on 8 August 2000	296
Cataract Glacier	296
FIGURE 273. Two photographs showing changes at Cataract Glacier during the 91-year period from 1909 to 6 September 2000	297
Roaring Glacier	297
FIGURE 274. Photograph of the retreating terminus of Roaring Glacier on 12 July 1978	298
Harriman Glacier	297
FIGURE 275. Three photographs showing characteristics of Harriman Glacier during its advance in the late 20th century on 8 June 1976, 15 July 1978, and 6 September 2000	299
Dirty and Wedge Glaciers	300
Toboggan Glacier	300
Glaciers of Port Wells	301

	Page
Bettles and Pigot Glaciers	301
FIGURE 276. Oblique aerial photograph of Pigot Glacier on 8 August 2000	301
Glaciers of Passage Canal	302
Seth and Billings Glaciers	302
FIGURE 277. Oblique aerial photograph of the retreating and thinning Billings Glacier on 8 August 2000	302
Northwestern Chugach Mountains Segment—North-Flowing Large Valley Glacier Subdivision	302
FIGURE 278. Landsat 7 ETM+ image of the northwestern part of the Chugach Mountains on 1 August 2002	303
Matanuska Glacier	303
FIGURE 279. Oblique aerial photograph of the debris-covered terminus of Matanuska Glacier on 30 August 2000	304
Nelchina Glacier	304
FIGURE 280. Oblique aerial photograph of the thinning and retreating terminus of Nelchina Glacier on 30 August 2000	305
Tazlina Glacier	305
FIGURE 281. Oblique aerial photograph of Tazlina Glacier on 30 August 2000	306
Northwestern Chugach Mountains Segment—The Turnagain Arm—Western Chugach Mountains Subdivision	306
Marcus Baker Glacier	306
FIGURE 282. Oblique aerial photograph of the debris-covered terminus of Marcus Baker Glacier on 30 August 2000	306
Knik Glacier	306
FIGURE 283. Oblique aerial photograph of the northern part of the terminus of Knik Glacier on 30 August 2000	307
284. Vertical aerial photograph of the southwestern part of the terminus of Knik Glacier on 17 August 1999	307
285. Oblique aerial photograph of the westernmost part of Knik Glacier and The Gorge on 30 August 2000	308
Gannett Glacier	308
FIGURE 286. Aerial photograph of the retreating and thinning terminus of Gannett Glacier on 17 August 1999	309
Colony Glacier	308
FIGURE 287. Aerial photographs of Colony Glacier and the surrounding area on 25 August 1978 and on 15 August 2000	309
Lake George Glacier	310
Glaciers West of Knik Glacier, Upper Lake George, and Lake George Glacier	310
FIGURE 288. Oblique aerial photograph of Hunter Creek Glacier on 30 August 2000	310
Glaciers of the Eagle River and Crow Creek Drainages	311
Eagle Glacier	311
FIGURE 289. Oblique aerial photograph of Eagle Glacier on 30 August 2000	311
Eklutna Glacier	312
FIGURE 290. Oblique aerial photograph of Eklutna Glacier on 30 August 2000	312
Twentymile Glacier	312
FIGURE 291. Oblique aerial photograph of the terminus of Twentymile Glacier on 18 July 1978	313
Summary	313
Kenai Mountains	314
Introduction	314
FIGURE 292. Index map and NOAA AVHRR image mosaic of the glacierized Kenai Mountains	314
293. Landsat 1 MSS image of the Harding and Sargent Icefields on 17 August 1973, and Landsat MSS image mosaic of the Kenai Mountains	316
294. Graph showing lifespans of cross-dated, glacially overridden subfossil trees	318
Unnamed Ice Field North of the Sargent Icefield	318
Portage Glacier	318
FIGURE 295. Landsat 7 ETM+ image showing an unnamed ice field north of Sargent Icefield on 26 September 1999, and oblique aerial photograph of Portage Glacier and the lake formed by its retreat on 8 August 2000	319
Whittier Glacier	320

	Page
Glaciers of Blackstone Bay	320
FIGURE 296. Two aerial photographs of several glaciers in the Blackstone Bay area on 8 August 1981 and on 12 August 1984	321
297. Oblique aerial photograph of the terminus of Lawrence Glacier on 15 July 2000	322
298. Oblique aerial photograph of Tebenkof Glacier on 15 July 2000	322
Glaciers of the Western Side and South of Kings Bay	322
FIGURE 299. Oblique aerial photograph of Taylor and Cotterell Glaciers on 3 September 1966	323
300. Two aerial photographs showing changes in Claremont Glacier between 3 September 1966 and 15 July 2000	324
Glaciers of Upper Kings River	325
Wolverine Glacier	325
FIGURE 301. Oblique aerial photograph showing Wolverine Glacier on 3 September 1996 and sketch map of retreat of terminus between 1713 and 2000	325
Glaciers of Snow River	326
Trail Glacier	326
Glaciers of Placer River	326
Sargent Icefield	327
FIGURE 302. Landsat 7 ETM+ image showing the Sargent Icefield on 26 September 1999	327
Glaciers on the Eastern Side of Kings Bay	328
FIGURE 303. Three photographs showing changes in the terminus of Falling Glacier, in 1924, on 3 September 1966, and on 15 July 2000	328
304. Oblique aerial photograph of the termini of Applegate and Langdon Glaciers on 3 September 1966	329
Glaciers of Port Nellie Juan	329
FIGURE 305. Oblique aerial photograph of Nellie Juan Glacier on 3 September 1966	330
Glaciers of Icy Bay	331
FIGURE 306. Oblique aerial photograph of Chenaga and Tigertail Glaciers on 15 July 2000	331
307. Two photographs showing late 20th century changes in Nassau Fiord between 3 September 1966 and on 15 July 2000	332
308. Two photographs showing the late 20th century position of Tiger Glacier between 3 September 1966 and 15 July 2000	333
Glaciers of Port Bainbridge	333
FIGURE 309. Oblique aerial photograph of Bainbridge Glacier on 15 July 2000	333
Glaciers of the Puget Bay Region	333
Glaciers of Johnstone Bay	334
FIGURE 310. Three aerial photographs of Excelsior Glacier showing changes between 3 September 1966 and 15 July 2000	334
Glaciers of Day Harbor	336
FIGURE 311. Two aerial photographs of Ellsworth Glacier showing changes between 3 September 1966 and 15 July 2000	336
Glaciers of Nellie Juan River	337
Glaciers of Resurrection Peninsula	337
Harding Icefield	337
FIGURE 312. Landsat 7 ETM+ image showing the Harding Icefield and the unnamed ice field to the southwest on 9 August 2000	338
FIGURE 313. AHAP photograph of Bear Glacier on 14 August 1984	339
TABLE 5. Changes in outlet glaciers of the Harding Icefield: 1950s to middle 1990s	340
Glaciers of Lower Resurrection Bay	340
Glaciers of Aialik Bay	340
FIGURE 314. Oblique aerial photograph of the terminus of Aialik Glacier on 15 July 2000	341
315. Oblique aerial photograph of the terminus of Pederson Glacier on 15 July 2000	341
316. Oblique aerial photograph of the terminus of Holgate Glacier on 15 July 2000	341
Glaciers of Harris Bay	342
FIGURE 317. Part of a mosaic of 1963 and 1953 maps and a 15 July 2000 oblique aerial photograph showing changes at Northwestern Glacier during the late 20th century	342
318. Oblique aerial photograph of the terminus of <i>Ogive Glacier</i> on 15 July 2000	343
319. Oblique aerial photograph showing the terminus of <i>Anchor Glacier</i> on 15 July 2000	343

	Page
320. Oblique aerial photograph of <i>Southwestern Glacier</i> , a former tributary to Northwestern Glacier, on 15 July 2000	343
Glaciers of Nuka Bay	343
FIGURE 321. 1963 map and 15 July 2000 oblique aerial photograph showing changes at McCarty Glacier	344
Glaciers of the Western Harding Icefield	344
Unnamed Ice Field Southwest of Harding Icefield	345
FIGURE 322. AHAP photograph of the lower Tustumena Glacier and the terminus of Truuli Glacier on 14 August 1984	345
Glaciers of the Islands of Prince William Sound	346
FIGURE 323. AHAP photograph of central Montague Island on 13 August 1982	346
Summary	346
Kodiak Island	347
FIGURE 324. Index map and NOAA AVHRR image mosaic of Kodiak Island showing glacierized areas	347
325. Landsat 2 MSS image mosaic of the glacierized mountains on Kodiak Island on 18–19 July 1977	348
326. AHAP photograph of south-central Kodiak Island on 25 July 1979	349
Summary	349
Aleutian Range	349
Introduction	349
FIGURE 327. Index map and NOAA AVHRR image mosaic of the Aleutian Range	350
Glaciers of the Neacola and Chigmit Mountains	351
Glaciers of the Neacola Mountains	351
FIGURE 328. Part of a Landsat 7 ETM+ image mosaic of Lake Clark National Park and environs on 6 September 1999	353
329. Oblique aerial photograph of the Neacola Mountains on 4 September 1966	353
330. Oblique aerial photograph of the terminus of Shamrock Glacier on 8 September 2000	353
331. Two oblique aerial photographs of the two retreating termini of Blockade Glacier on 8 September 2000	354
332. Three oblique aerial photographs of Lake Clark Pass showing changes of Tanaina Glacier, an unnamed glacier, and Summit Lake on 25 August 1963, in August 1970, and on 8 September 2000	354
Glaciers of the Chigmit Mountains	355
FIGURE 333. Map and two oblique aerial photographs showing Double Glacier on 8 September 2000	356
Glaciers of Redoubt Volcano	357
FIGURE 334. Oblique aerial photograph of the summit and upper 1,500 m of Redoubt Volcano on 29 July 1978	357
Glaciers of Iliamna Volcano	358
FIGURE 335. Oblique aerial photograph of Iliamna Volcano on 8 August 2000	358
336. Two oblique aerial photographs of Tuxedni Glacier on 8 August 2000	358
337. Two aerial photographs of the terminus and lower reaches of Red Glacier on 26 August 1978 and on 8 August 2000	359
338. Oblique aerial photograph of the Iliamna Volcano and glaciers on its southwest side on 8 August 2000	359
339. Oblique aerial photograph of Iliamna Volcano and three glaciers on 8 August 2000	359
Glaciers West and South of Redoubt and Iliamna Volcanoes	360
FIGURE 340. Oblique aerial photograph of shrinking and disappearing cirque glaciers in the southwestern Chigmit Mountains on 8 August 2000	360
Glaciers of the Kamishak Bay–Big River Area	360
FIGURE 341. Landsat 7 ETM+ image of the Kamishak Bay–Big River area on 16 August 2000	360
342. Photograph of small cirque and cliff glaciers west of Kamishak Bay in July 1923	362
Glaciers of the Ninagiak River–Puale Bay Area	362
FIGURE 343. Landsat images of Katmai National Park and Preserve and environs on 10 October 1977 and on 16 August 2000	363
Glaciers of the Icy Peak–Mount Kialagvik–Mount Chiginagak Area	365
FIGURE 344. 1919 panorama of unnamed cirque and mountain glaciers that descend from the north side of Icy Peak	365
345. Oblique aerial photograph of the glacier-covered summit of Mount Chiginagak in August 1960	365
Glaciers of the Aniakchak Crater Area	366

	Page
FIGURE 346. Landsat 7 ETM+ image of the central Alaska Peninsula on 31 October 1999, and oblique aerial photograph of the Aniakchak caldera in 1977	366
Glaciers of the Mount Veniaminof–Stepovak Bay Area	367
FIGURE 347. Landsat image on 24 March 1976 and oblique aerial photograph on 23 January 1984 of Mount Veniaminof	368
Glaciers of Pavlof Volcano–Frosty Peak Area	367
FIGURE 348. Part of an annotated Landsat 2 MSS image of the southern Aleutian Range on 6 August 1979	369
Summary	369
FIGURE 349. Part of the provisional 1:63,360-scale topographic map of the Cold Bay, Alaska A-3 quadrangle	370
Aleutian Islands	371
Introduction	371
FIGURE 350. Index map and NOAA AVHRR image mosaic of the glacierized Aleutian Islands	373
Unimak Island	373
FIGURE 351. Annotated space shuttle photographs of the glacierized volcanoes of Unimak Island and environs in September 1992	374
352. Two oblique aerial photographs of Shishaldin Volcano and environs, Unimak Island, in 1932 and on 21 September 1990	375
Akutan Island	373
Unalaska Island	373
FIGURE 353. Oblique aerial photograph of the summit region of Makushin Volcano in August 1982	375
Umnak Island	376
FIGURE 354. Landsat 2 MSS image of glaciers on Umnak Island on 2 September 1977	376
Herbert Island	377
FIGURE 355. International Space Station photograph on 1 January 2001 of part of the Aleutian Islands and oblique color aerial photograph of the summit crater of Herbert Island on 27 September 1996	377
Atka Island	378
FIGURE 356. Part of a Landsat 2 MSS image of Korovin Volcano and Mount Kliuchef, Atka Island, on 23 September 1977	378
Great Sitkin Island	378
Tanaga Island	378
Gareloi Island	378
Kiska Island	378
Summary	378
Wrangell Mountains	379
Introduction	379
FIGURE 357. Index map and NOAA AVHRR image mosaic of the glacierized Wrangell Mountains	379
358. Landsat 1 MSS image of the Wrangell Mountains on 18 August 1972, and contour map of equal snowline altitude	380
TABLE 6. Wrangell Mountains accumulation area ratios	381
FIGURE 359. Part of a 1:750,000-scale map of the Mount Wrangell District, Alaska	382
360. Oblique aerial photograph of a rock glacier on the west side of Bonanza Peak in 1961	382
Glaciers of the Regal Mountain – Frederika Mountain Area and the Eastern Wrangell Mountains	383
FIGURE 361. Oblique aerial photograph of the retreating terminus of Chisana Glacier on 30 August 2000	383
362. Oblique aerial photograph of an unnamed surging glacier in the Bow Pass area on 30 August 2000	384
363. Two oblique aerial photographs of parts of Middle Fork Glacier on 30 August 2000	384
364. Two 20th century views (in 1905 and 1966) of Hole-in-the-Wall Glacier	385
365. Map, Landsat 7 ETM+ image on 10 September 2001, and oblique aerial photograph of Nizina Glacier on 30 August 2000	386
366. Oblique aerial photograph of the central Rohn Glacier adjacent to Chimney Mountain on 30 August 2000	388
Glaciers of Mount Blackburn and the Southeastern Wrangell Mountains	388
FIGURE 367. Map, Landsat image on 10 September 2001, and two oblique aerial photographs on 30 August 1999 and 30 August 2000, of the Kennicott Glacier	389
368. An early 20th century photograph of typical small cirque and mountain glaciers in 1919	391

	Page
Kennicott Glacier	389
FIGURE 369. Oblique aerial photograph of the northeast tributary and the main trunk of the Kuskulana Glacier on 31 August 1984	392
Glaciers of Mount Wrangell	393
FIGURE 370. Radar image and oblique aerial photograph in 1981 of Mount Wrangell	393
Glaciers Descending from Mount Wrangell's Summit Caldera	394
FIGURE 371. Oblique aerial photograph of the pitted and hummocky terminus of Long Glacier on 30 August 2000	394
372. Maps, Landsat 7 ETM+ image on 10 September 2001, and aerial photographs on 26 August 1981 and 30 August 2000 of Nabesna Glacier	394
Mount Drum	398
FIGURE 373. Map and oblique aerial photograph on 30 August 2000 of the glaciers of Mount Drum	398
Mount Sanford	398
FIGURE 374. Landsat 7 ETM+ image of Sanford Glacier on 10 September 2001	400
Glaciers of Mount Jarvis and Mount Gordon and the Ice Fields Plateau	398
Summary	401
Talkeetna Mountains	401
FIGURE 375. Index map and NOAA AVHRR image mosaic of the Talkeetna Mountains	401
376. Landsat 3 MSS image mosaic showing the Talkeetna Mountains on 27 August 1978	402
377. Two aerial photographs of glaciers at the head of the Sheep River on 3 August 1983 and 31 August 2000	403
378. Two aerial photographs of Chickaloon Glacier and its surrounding area on 3 August 1983 and 31 August 2000	404
379. Oblique aerial photograph of Talkeetna Glacier and its surrounding area on 31 August 2000	405
380. Oblique aerial photograph of several large rock glaciers on 31 August 2000	405
Summary	405
Alaska Range	406
Introduction	406
FIGURE 381. Index map of the Alaska Range showing glacierized areas	406
382. NOAA AVHRR image mosaic of the Alaska Range in summer 1995	406
The Mentasta and Nutzotin Mountains Segment between the Canadian Border and Mentasta Pass	408
The Mount Kimball-Mount Gakona Segment between Mentasta Pass and the Delta River	409
FIGURE 383. AHAP photograph of glaciers southeast of Needle Peak on 26 August 1981	409
384. Two oblique aerial photographs of small glaciers and rock glaciers in the Nutzotin Mountains on 30 August 2000	409
FIGURE 385. Oblique aerial photograph of the icefall of Gerstle Glacier on 22 August 1960	410
386. AHAP photograph of the termini of Gulkana, West Gulkana, and College Glaciers on 24 August 1981	411
Gulkana Glacier	412
FIGURE 387. Four photographs showing changes in Gulkana Glacier between 31 August 1967, 1975, 11 July 1993, and 18 August 1999	412
West Gulkana Glacier	415
Jarvis Glacier	416
The Mount Hayes-Mount Deborah Segment between Delta River and Broad Pass	416
FIGURE 388. Landsat 3 RBV image of Black Rapids Glacier and other glaciers in the Alaska Range on 8 August 1981	417
389. Three photographs of the terminus of Susitna Glacier in pre-1915, August 1941, and mid-1970s	418
390. Oblique aerial photograph of the terminus of an unnamed glacier on 14 September 1999	419
391. Oblique aerial photograph of the terminus of an unnamed rock glacier on 14 September 1999	419
Black Rapids Glacier	419
FIGURE 392. Vertical aerial photograph of part of Black Rapids Glacier on 18 August 1999	421
Rock Avalanches onto Glaciers Resulting from the 3 November 2002 Earthquake (<i>M</i> 7.9) on the Denali Fault	421
FIGURE 393. Map and photograph of the results of the 3 November 2002 earthquake	422

394. Oblique aerial photographs of the 3 November 2002 rock avalanches on McGinnis and Black Rapids Glaciers 423

Geospatial Inventory and Analysis of Glaciers: A Case Study for the Eastern Alaska Range, by William F. Manley 424

Abstract 424

Introduction 425

 FIGURE 395. Two maps of glaciers and terrain in the eastern Alaska Range 426

Methods 426

 FIGURE 396. Flow diagram for processing the original cartographic source material 428

 397. Close-ups of selected GIS processing steps and results 429

 TABLE 7. Results of the spatial analysis of 279 glaciers in the eastern Alaska Range 430

Error Analysis 431

 FIGURE 398. Comparison of GIS results for area and length with the 19-glacier inventory 432

Results 433

 FIGURE 399. Shaded-relief maps of the glaciers color-coded for selected GIS results 434

 400. Frequency distribution of glaciers by area 435

 401. Polar diagram of glacier area versus aspect 436

 402. Plots of four geospatial measurements versus glacier area 437

 403. Area-altitude distribution integrated for all glacier ice in the region compared with curves for selected glaciers 438

Discussion 438

Acknowledgments 439

The Mount McKinley-Mount Foraker Segment between Broad Pass and Rainy Pass 440

 FIGURE 404. Landsat 3 and 5 MSS image mosaic of Mount McKinley area and environs, Alaska Range, between 24 August 1979 and 11 September 1984 440

 405. Landsat 1 MSS image of Mount McKinley and Denali National Park and Preserve on 31 August 1977 441

 406. Three views of Mount McKinley: 1923 photograph, computer-generated view using Landsat images and DEM data, and oblique aerial photograph in October 1965 443

 407. Oblique aerial photograph of Muldrow Glacier on 13 September 1986 443

 408. Oblique aerial photograph of Tokositna Glacier on 30 August 1984 444

 409. Oblique aerial photograph of the terminus area of Straightaway Glacier on 14 September 1999 444

 410. Oblique aerial photograph of the terminus area of Foraker Glacier on 14 September 1999 444

 411. Oblique aerial photograph of the upper part of Yentna Glacier on 31 August 1967 445

 412. Oblique aerial photograph of the upper part of Lacuna Glacier on 31 August 1967 446

 413. Two 1910 photographs showing two unnamed glaciers at the head of Hidden Creek 446

 414. Two oblique aerial photographs of Ruth Glacier on 4 September 1966 and on 14 September 1999 447

Tokositna Glacier 448

Polychrome Glacier 448

Muldrow Glacier 448

Kichatna Mountains 449

 FIGURE 415. Two views of cirque and small valley glaciers in the Kichatna Mountains in 1902 and 24 August 1979 449

The Mount Gerdine-Mount Spurr Segment between Rainy Pass and Merrill Pass 450

 FIGURE 416. Landsat 2 image of the Tordrillo Mountains, southwestern Alaska Range on 2 August 1978 450

 417. AHAP photograph of the lower part and terminus of Hayes Glacier on 20 July 1982, and oblique aerial photograph of Trimble Glacier on 8 September 2000 451

 418. Two oblique aerial photographs of the terminus of Triumvirate Glacier on 8 September 2000 452

 419. Two oblique aerial photographs of Capps Glacier on 8 September 2000 452

 420. Three oblique aerial photographs of Kidazqeni Glacier in September 1966, on 2 September 1970, and on 22 September 1992 453

 421. Two oblique aerial photographs of Barrier Glacier on 4 September 1966 and 8 September 2000 454

 422. Oblique aerial photograph west of the South Branch of Trimble Glacier on 8 September 2000 456

 423. AHAP photograph of the lower part of an unnamed glacier on 26 August 1978 456

Summary 457

	Page
Wood River Mountains	457
FIGURE 424. Index map and NOAA AVHRR image mosaic of the Wood River Mountains	458
425. Landsat MSS composite image showing the northern Wood River Mountains and the adjacent Kuskokwim Mountains on 28 July 1978	459
426. Map showing elevations and locations of glaciers in the central Wood River Mountains	460
427. AHAP photograph of Mount Waskey and environs on 15 August 1984	461
428. Photograph of the glacier-covered summit of the Mount Waskey massif in July 1999	462
429. Oblique aerial photograph of Chikuminuk Glacier on 6 September 1957	462
Summary	463
Kigluaik Mountains	463
FIGURE 430. Index map and NOAA AVHRR image mosaic of the Kigluaik Mountains, the only glacierized part of the Seward Peninsula	464
431. Landsat 2 MSS image of much of the Seward Peninsula, including the Kigluaik Mountains, on 26 June 1977	465
432. Photograph by A.H. Brooks of a small retreating cirque glacier in summer 1900	466
433. AHAP photograph of the Mount Osborn area on 1 August 1985	466
434. Photograph of the Grand Union Glacier in summer 1983	467
Summary	467
Brooks Range	467
Introduction	467
FIGURE 435. Index map and NOAA AVHRR image mosaic of the Brooks Range	469
436. Three photographs of Okpilak Glacier, Romanzof Mountains, in June 1907	469
Romanzof Mountains	470
FIGURE 437. Landsat 2 MSS image of the Brooks Range on 5 August 1981	471
438. Landsat 3 MSS image of the Franklin and Romanzof Mountains on 29 August 1978	472
439. AHAP photograph of the eastern Romanzof Mountains showing Okpilak Glacier and other glaciers on 24 August 1982	473
440. AHAP photograph of the eastern Romanzof Mountains showing multiple glaciers on 24 August 1982	474
441. Topographic map of McCall Glacier	475
Franklin Mountains	476
FIGURE 442. AHAP photographic mosaic of the central Franklin Mountains on 24 August 1982	477
Philip Smith and Endicott Mountains	478
Schwatka Mountains	479
Summary	479
Summary and Conclusions	480
Acknowledgments	486
References Cited	487
Appendix A	505
Appendix B	507
Appendix C	508
Appendix D	522