Alaska Outer Continental Shelf

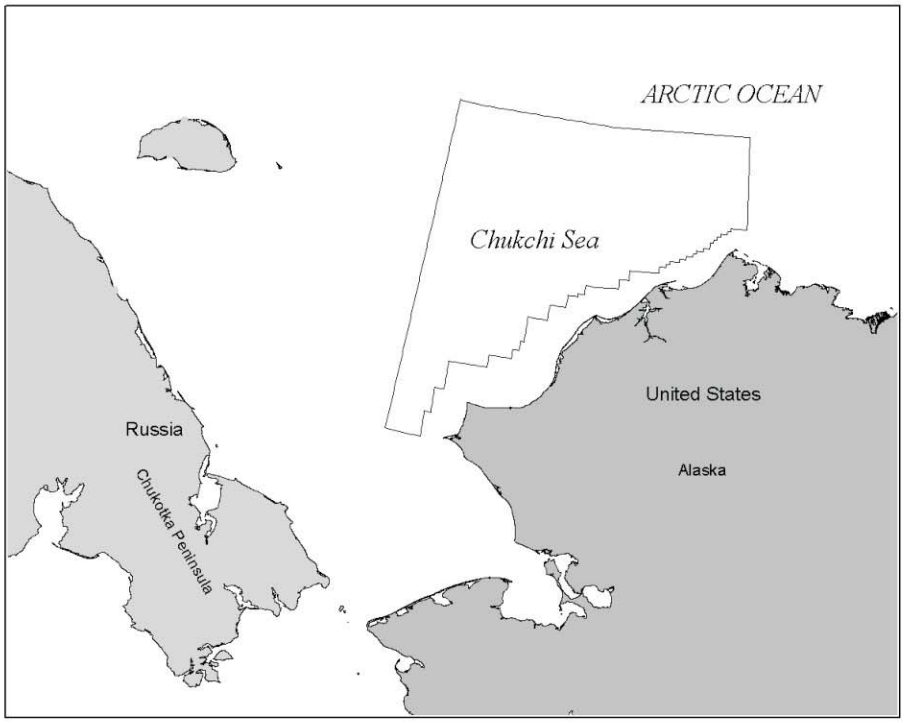
OCS EIS/EA
MMS 2006-060

Chukchi Sea Planning Area

Oil and Gas Lease Sale 193 and Seismic Surveying Activities in the Chukchi Sea

Draft Environmental
Impact Statement

Volume II
Tables, Figures, Maps, and Appendices



U.S. Department of the Interior
Minerals Management Service
Alaska OCS Region

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Final Environmental Impact Statement

Volume II
(Tables, Figures, Maps, and Appendices)

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U.S. Department of Commerce,
National Oceanographic and Atmospheric Administration,
National Marine Fisheries Service

U.S. Department of the Interior
Minerals Management Service
Alaska OCS Region

October 2006

TABLES, FIGURES, AND MAPS

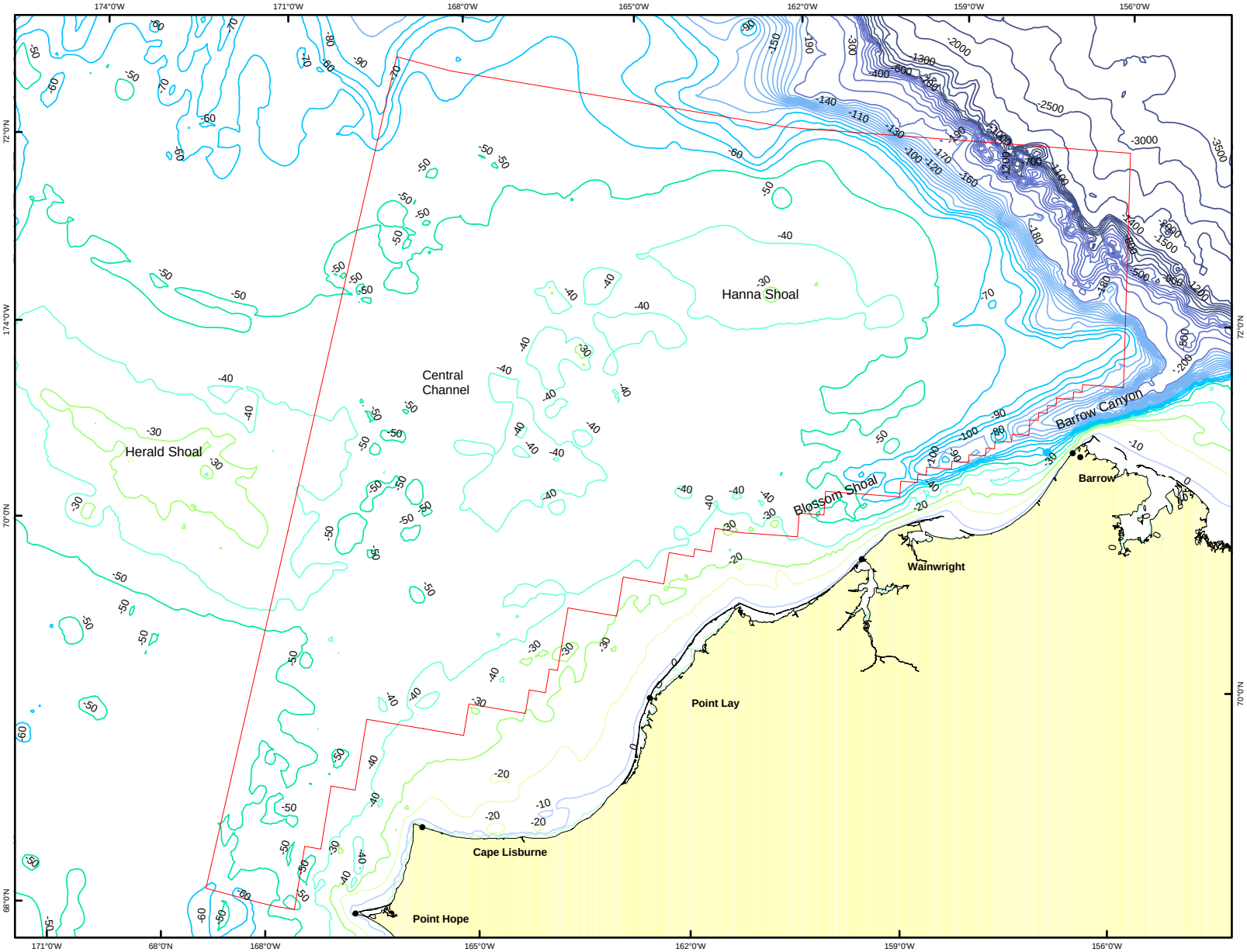


Figure III.A-1
Bathymetry
Highs
Contiguous to the
Sale 193 Area

Legend

Bathymetry in Meters

<all other values>

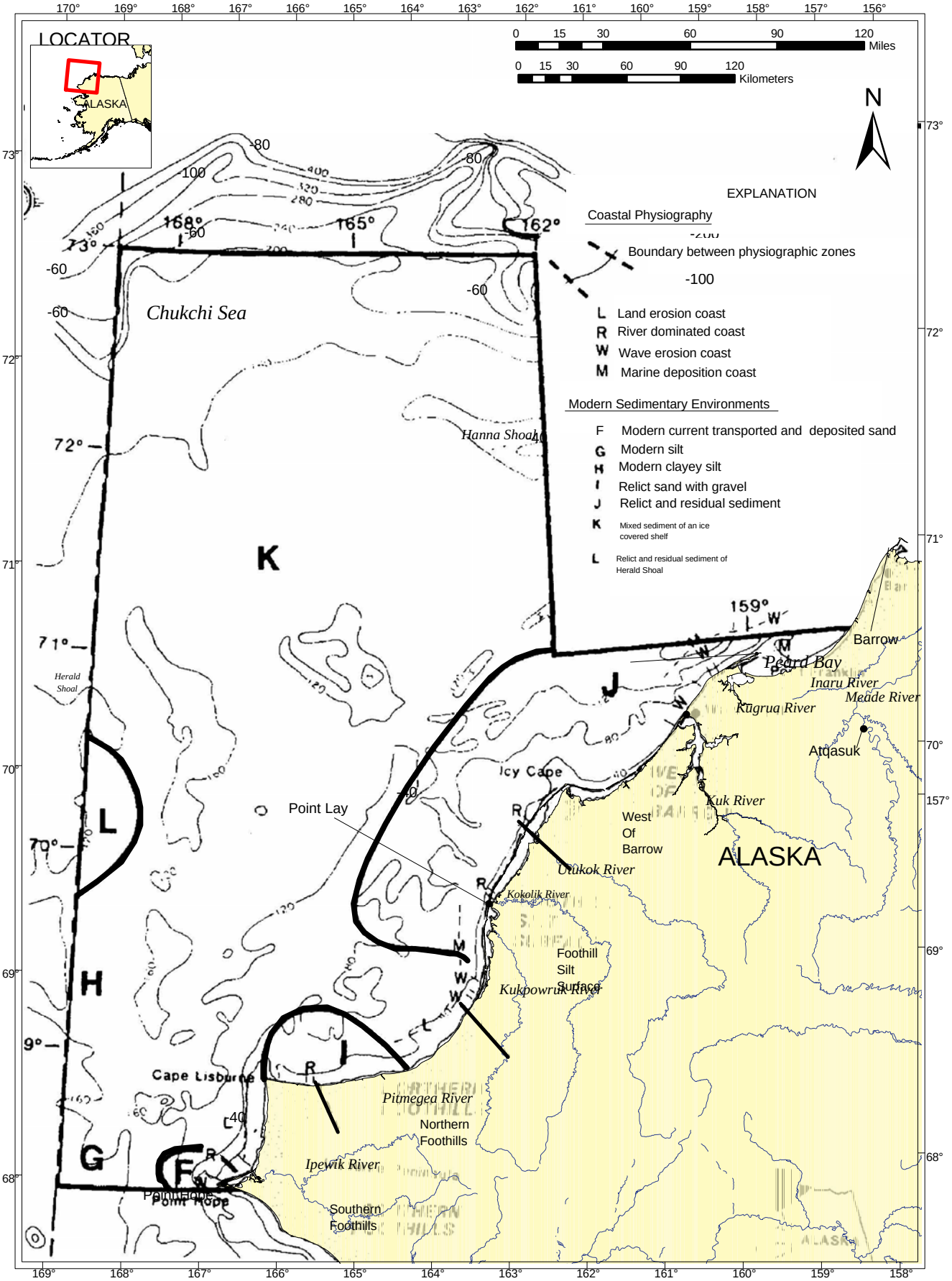
CONTOUR

-4000
-3500
-3000
-2500
-2000
-1500
-1400
-1300
-1200
-1100
-1000
-900
-800
-700
-600
-500
-400
-300
-200
-190
-180
-170
-160
-150
-140
-130
-120
-110
-100
-90
-80
-70
-60
-50
-40
-30
-20
-10
0

0 15 30 60 Miles

0 25 50 100 Kilometers

Locator Map



Source: McManus et al., 1969; Hartwell, 1973; Thurston and Theiss, 1987.

Figure III.A-2. Coastal Physiography.

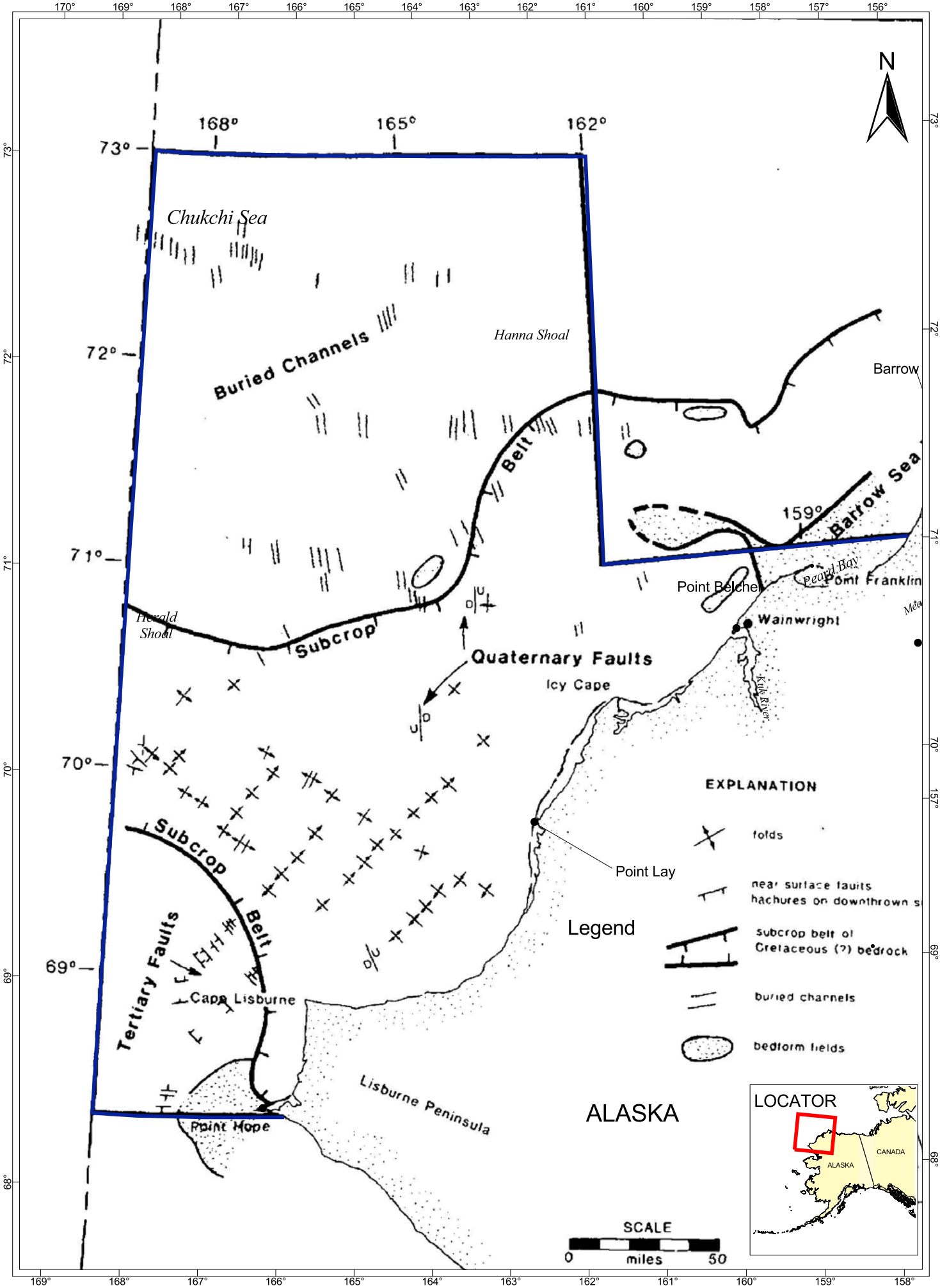
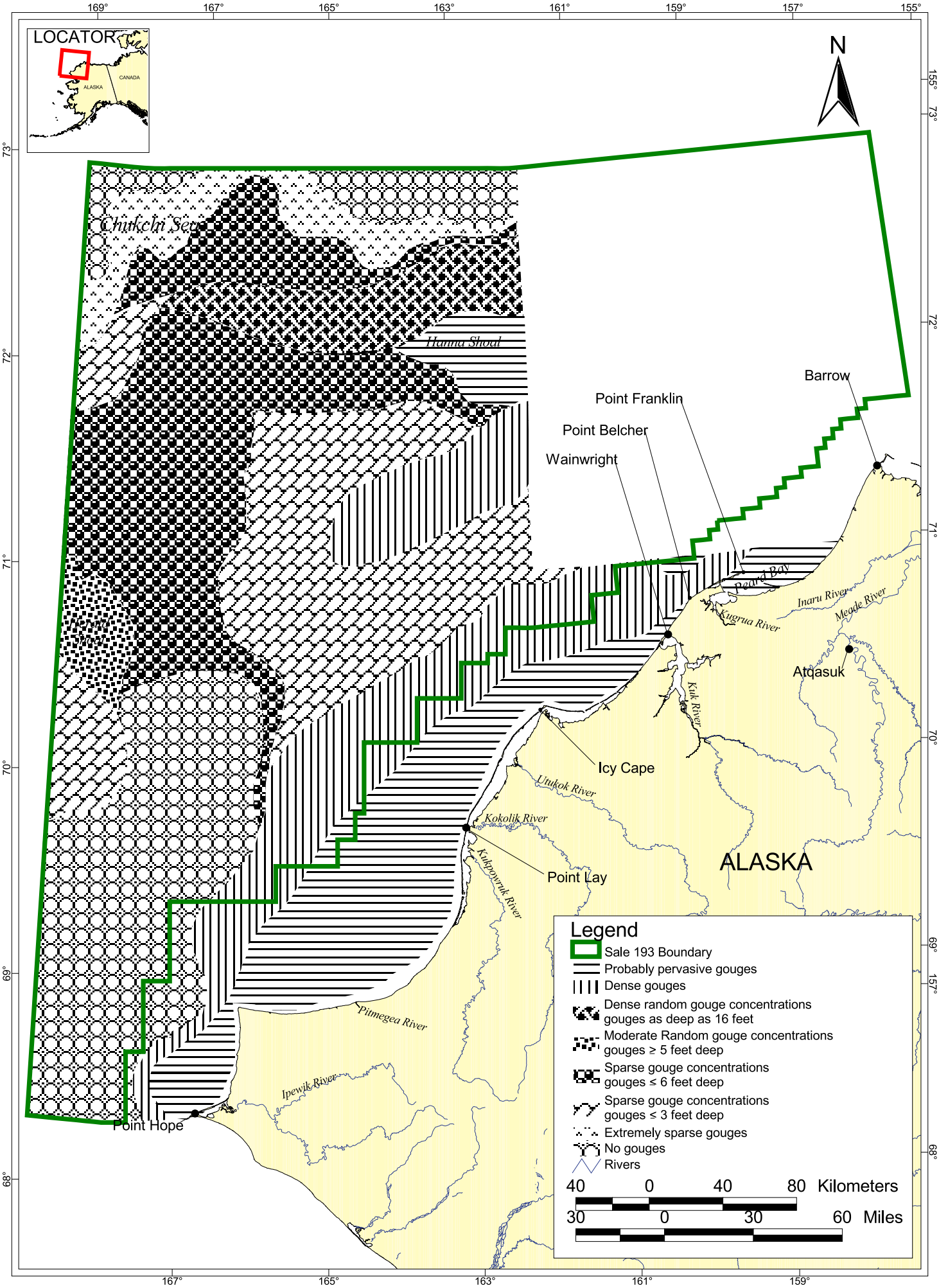


Figure III.A-3. Surficial Features (folds; near-surface and surface faults; subcrop of bedrock; buried channels; and bedform fields).



Source: Grantz et al., 1982; Thurston and Theiss, 1987

Figure III.A-4. Ice Gouge Density.

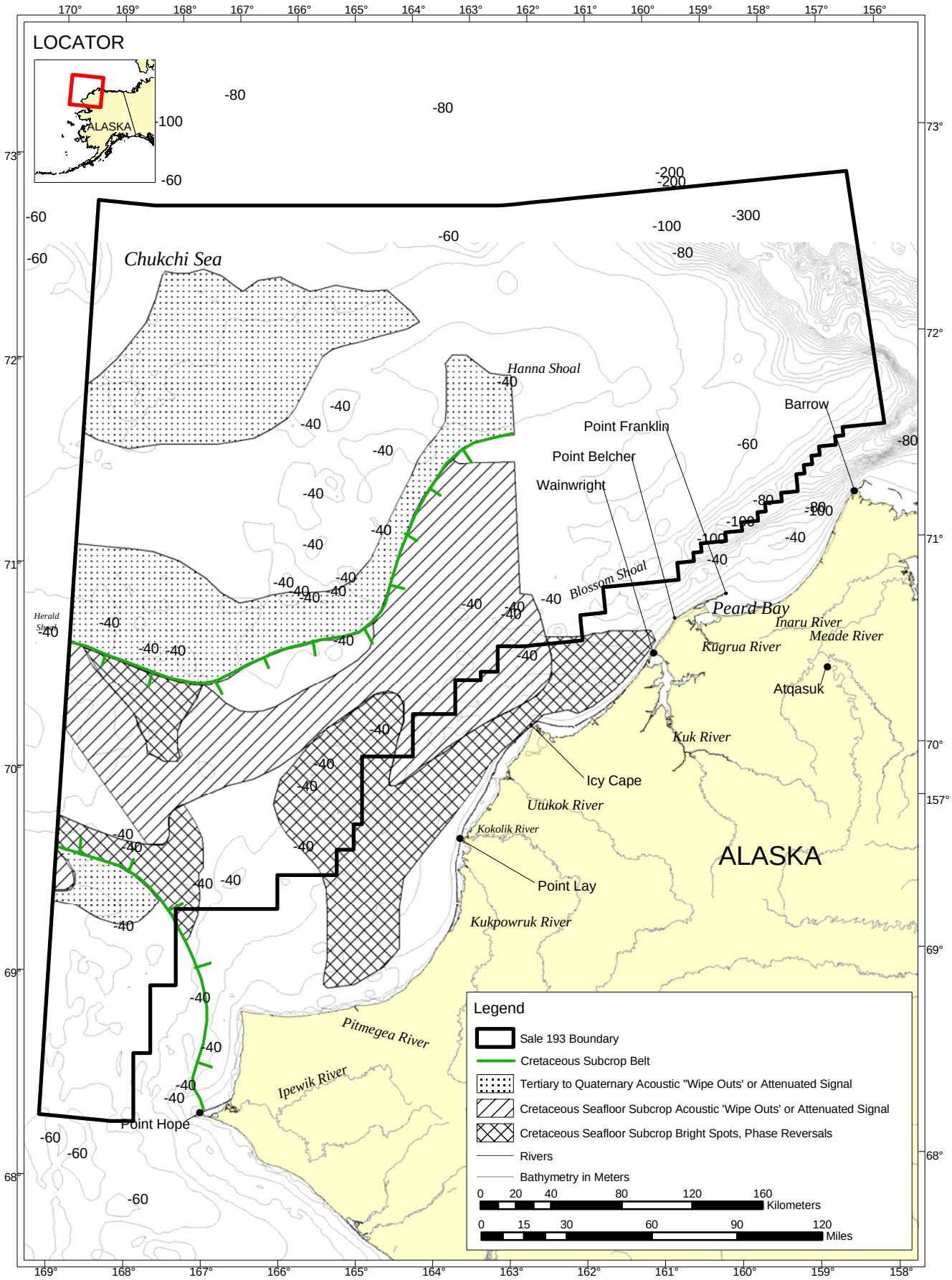
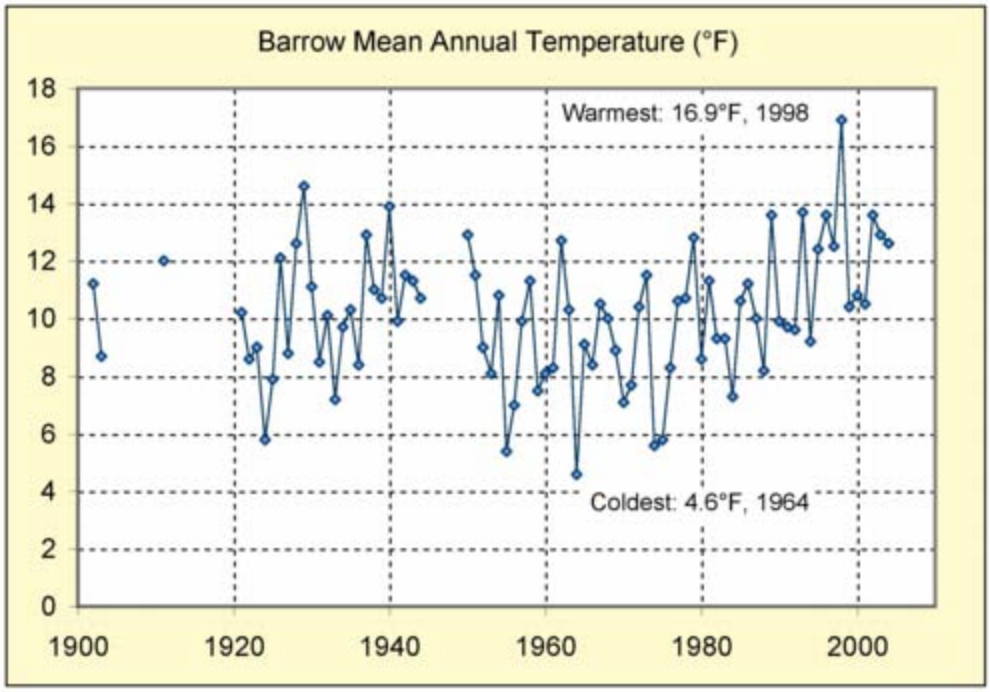


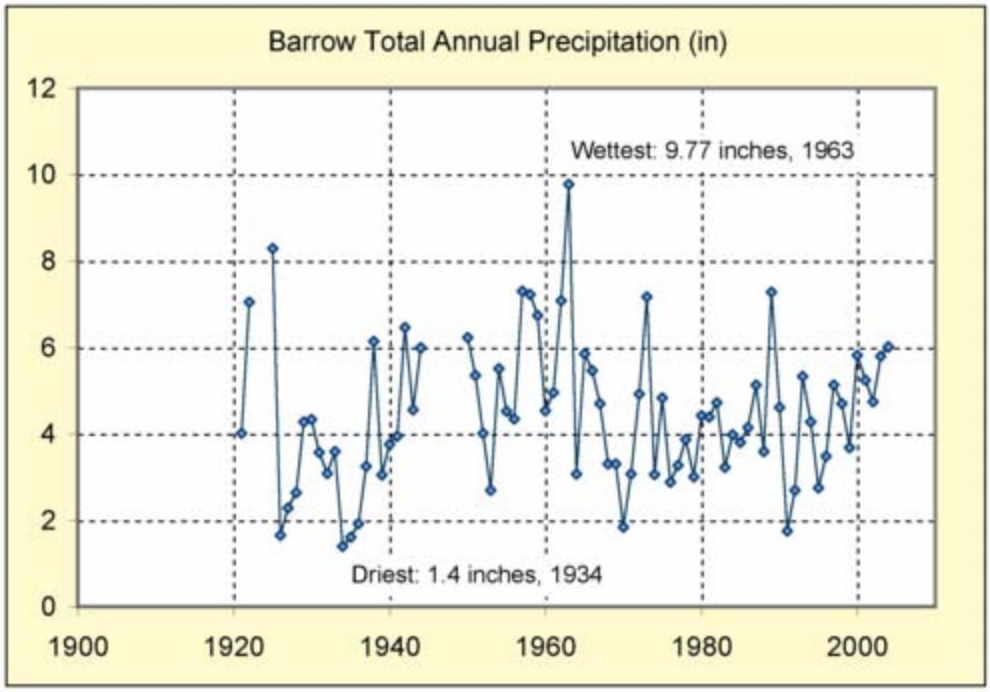
Figure III.A-5 Distribution of Near-Surface Acoustic Anomalies Possibly Related to Shallow Gas

Figure III.A-6



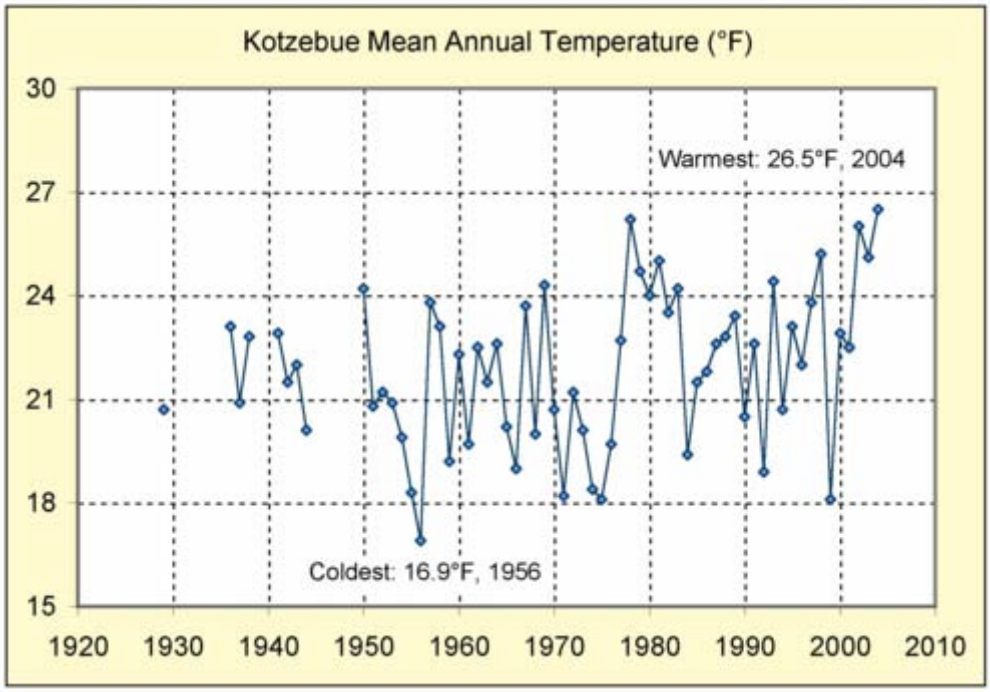
Source: Alaska Climate Research Center

Figure III.A-7



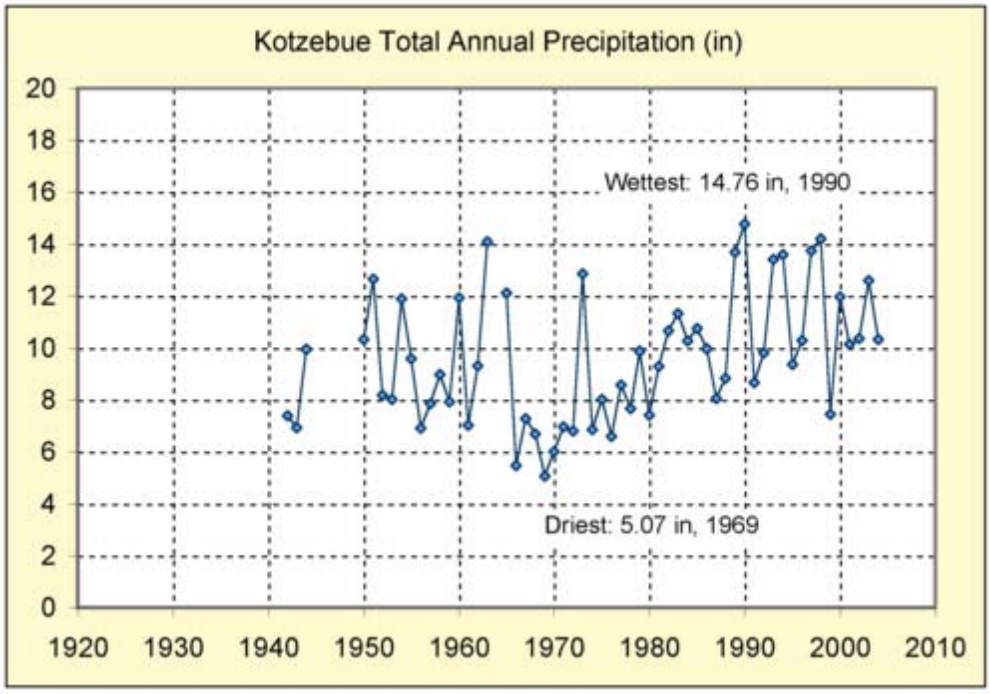
Source: Alaska Climate Research Center

Figure III.A-8



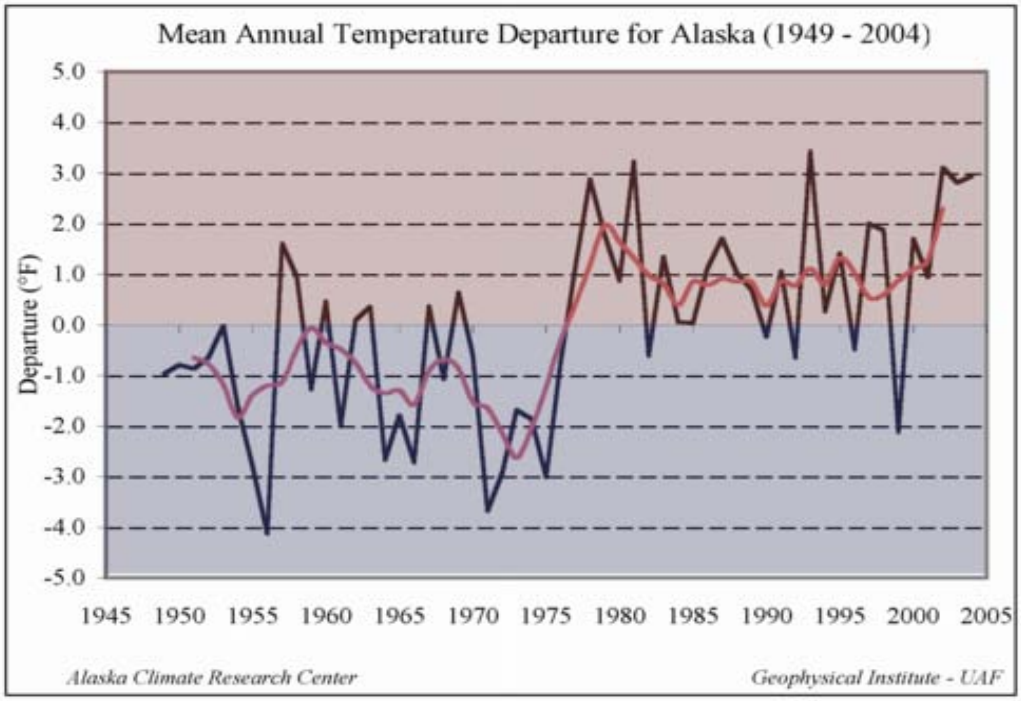
Source: Alaska Climate Research Center

Figure III.A-9

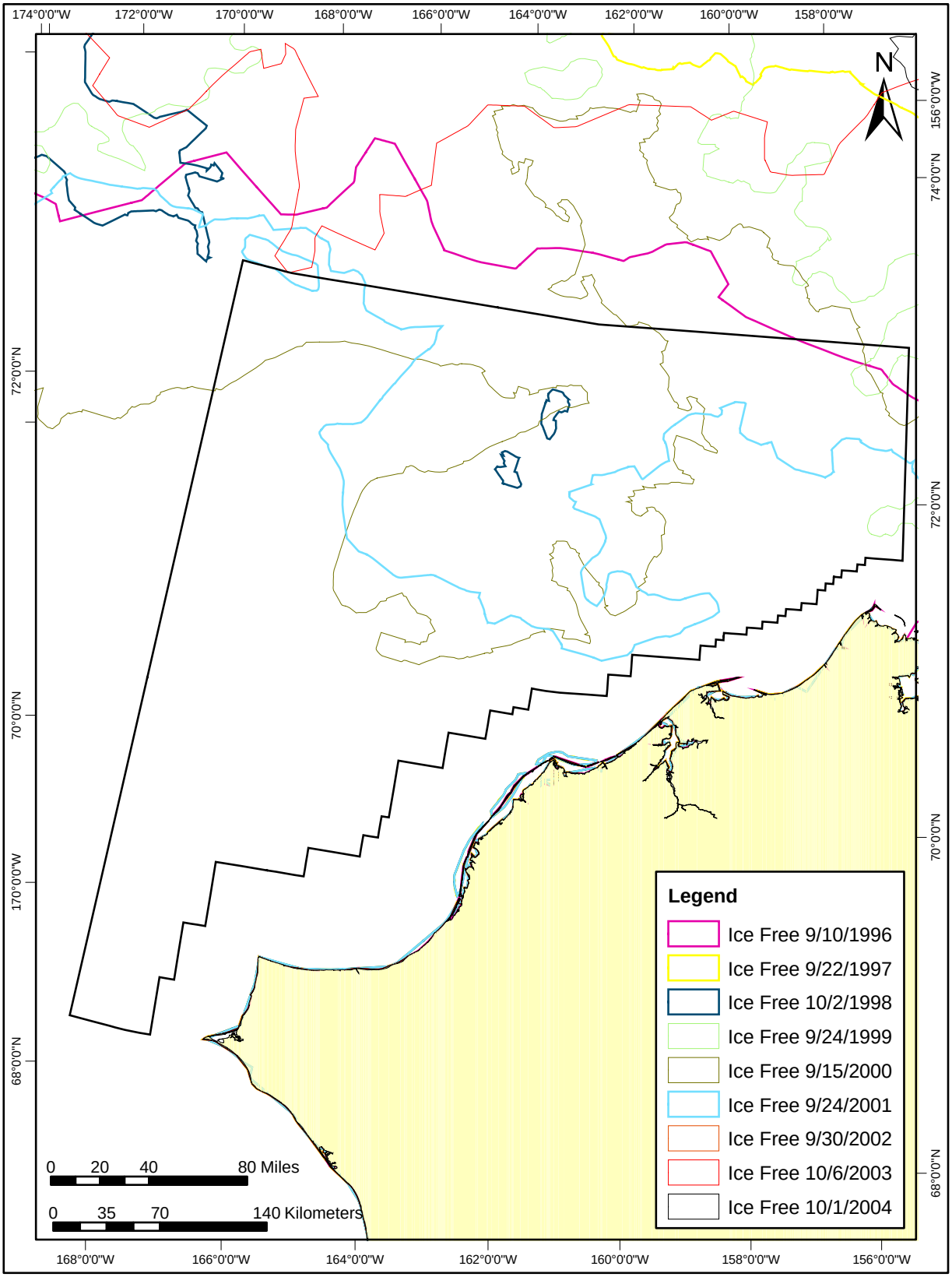


Source: Alaska Climate Research Center

Figure III.A-10

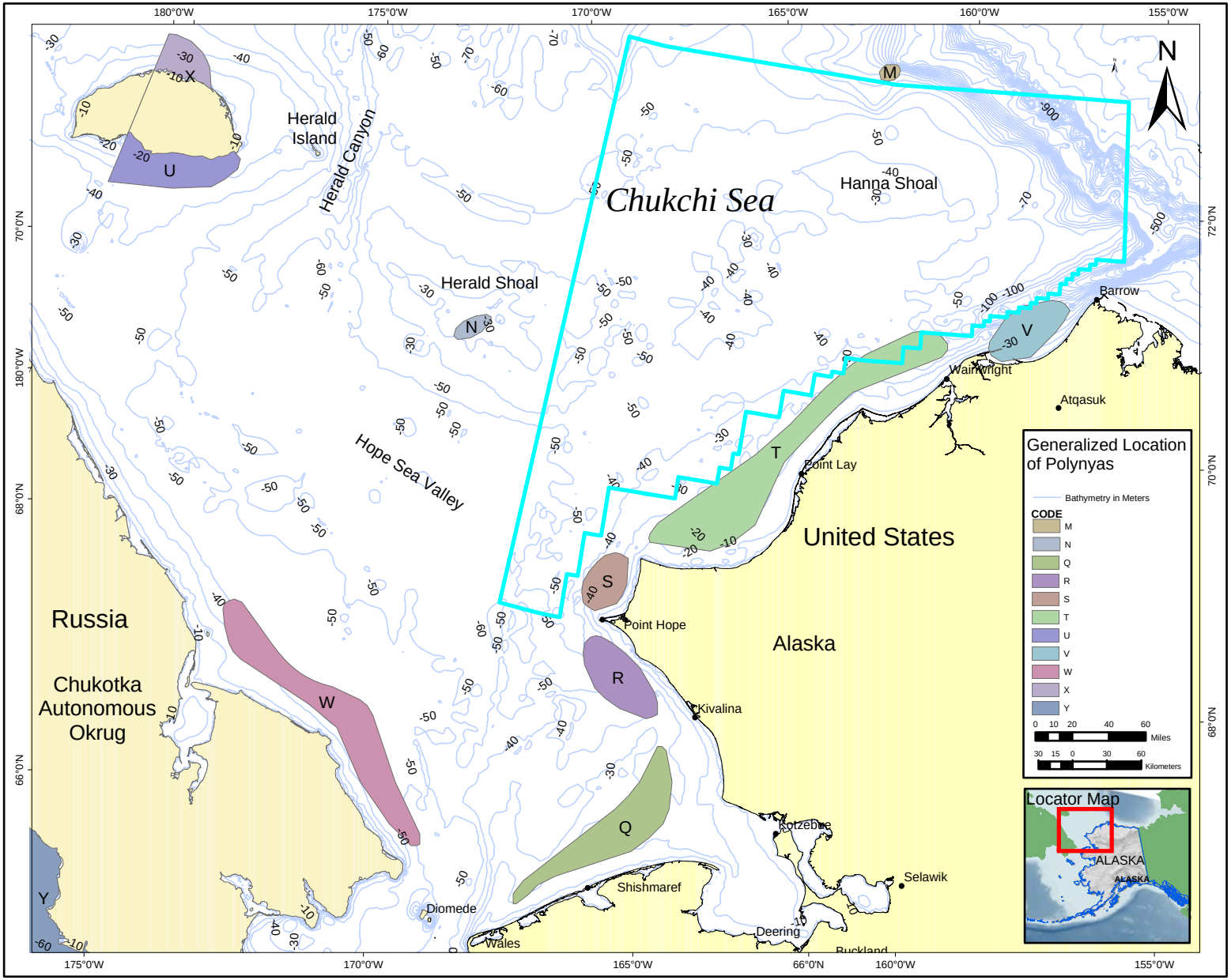


The heavy black line on the graph represents the aggregate mean annual temperature departure.
The heavy red line on the graph represents the 5-year moving average temperature.



Source: National Ice Center 1996-2004

Figure III.A-11 Generalized Maximum Retreat of Sea Ice 1996-2004



Source: Stringer et al. 1991.

Figure III.A-12 Generalized Location of Chukchi Polynyas

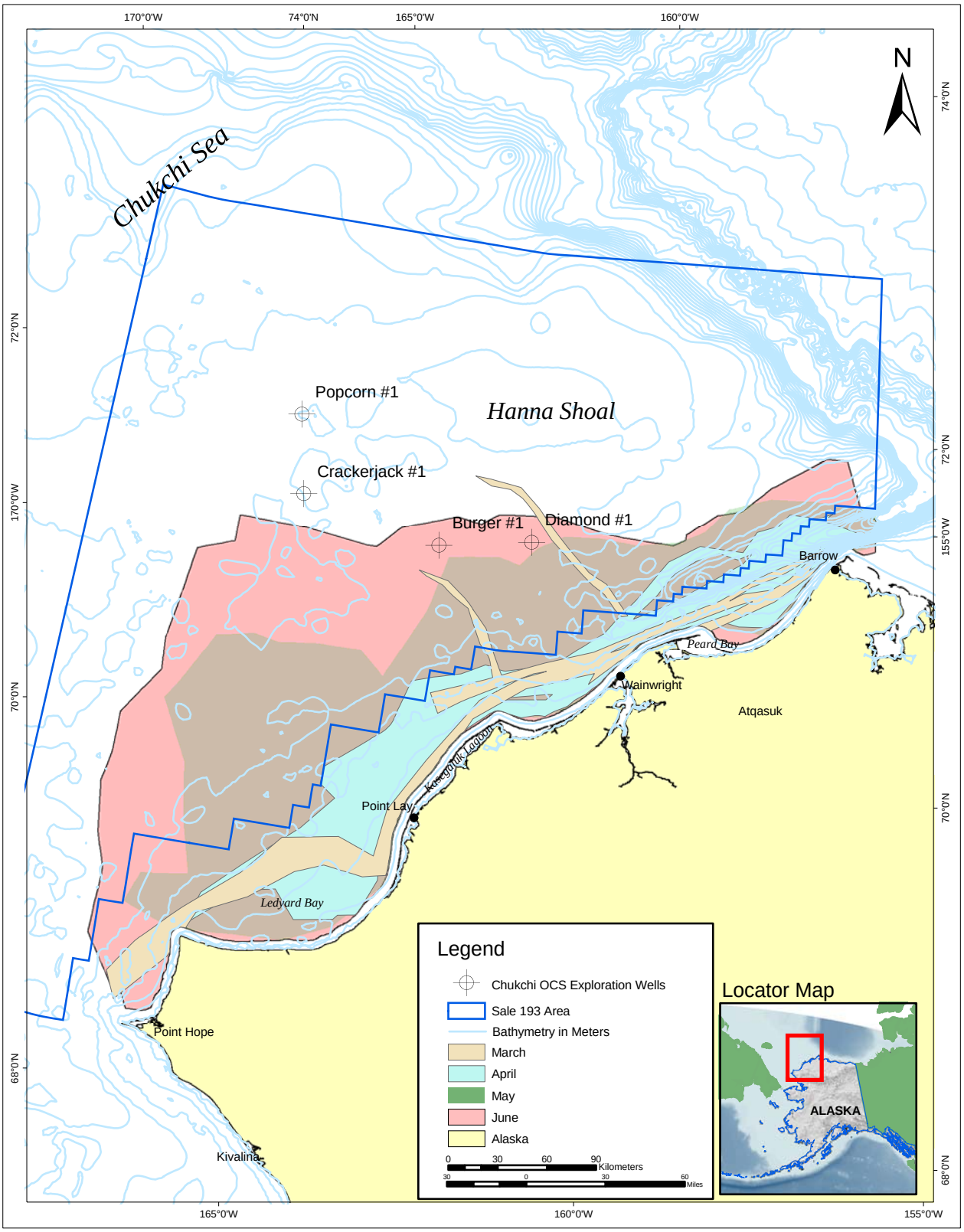
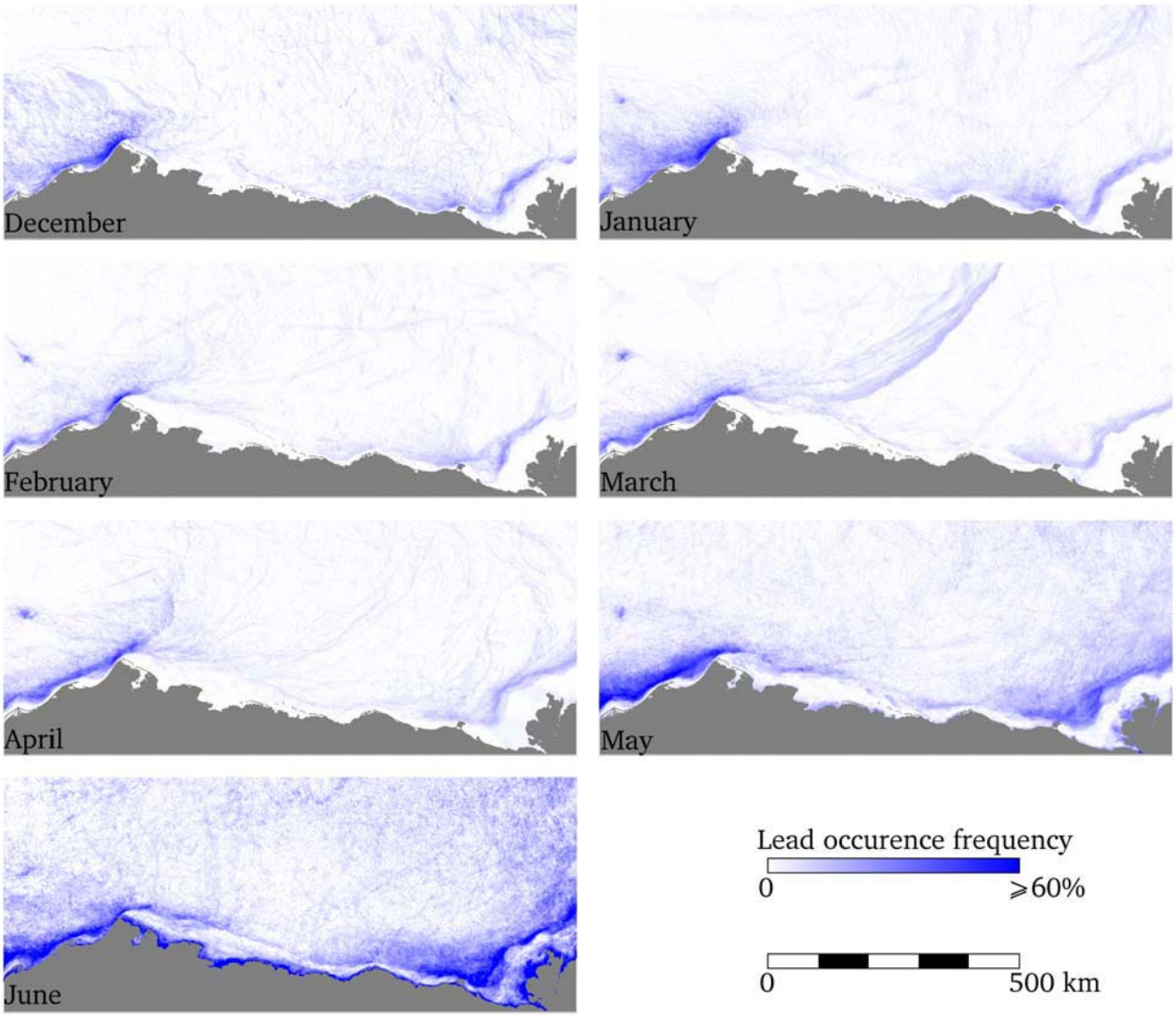


Figure III.A-13 Maximum Polynya and Flaw Lead for 1995, 1997, 2003, and 2004.



Source: Eiken et al., 2006

Figure III.A-14. Monthly Recurrence Probability of Leads Derived from All Images for the Time Period 1993-2004.

Average August 1998-2005

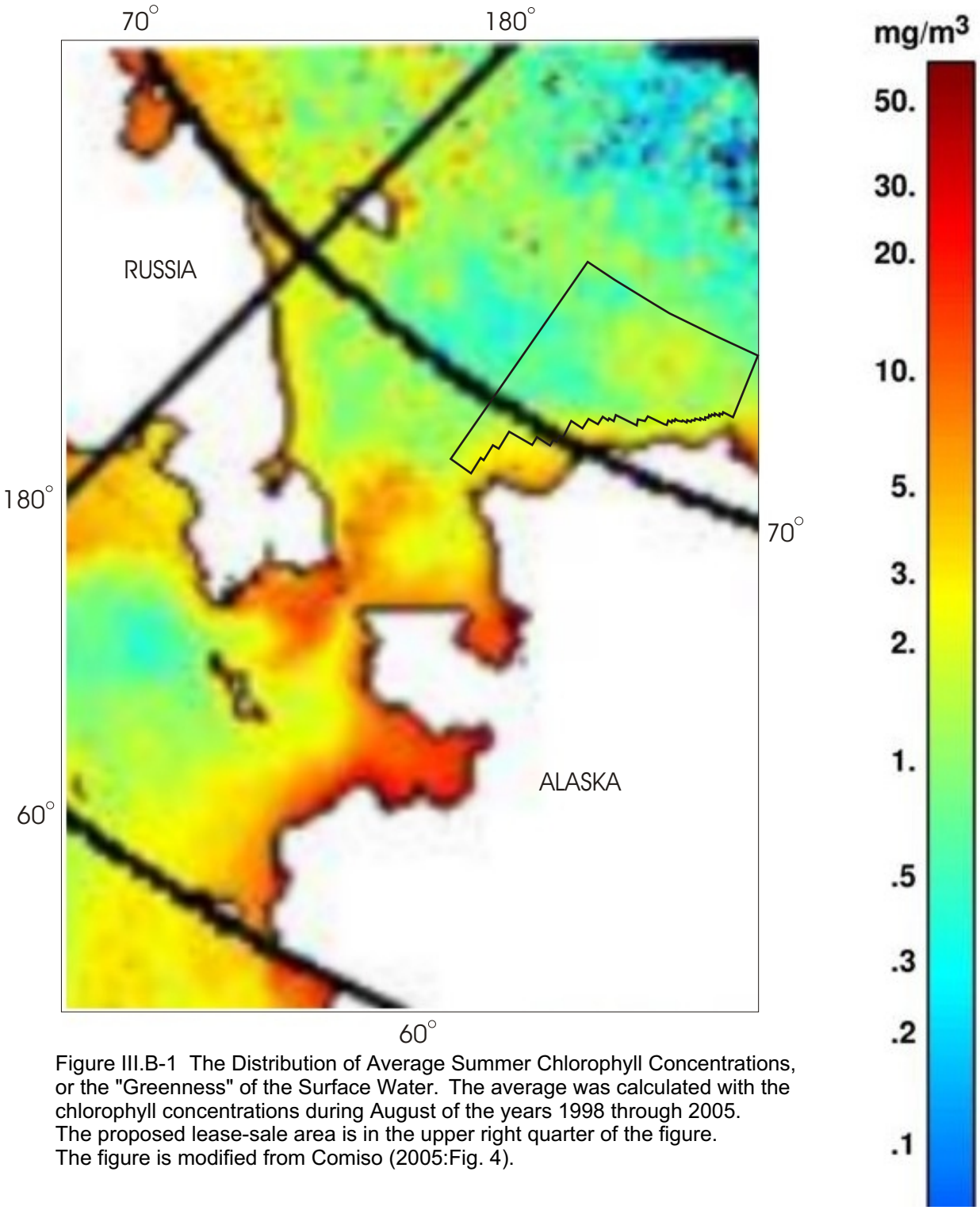


Figure III.B-1 The Distribution of Average Summer Chlorophyll Concentrations, or the "Greenness" of the Surface Water. The average was calculated with the chlorophyll concentrations during August of the years 1998 through 2005. The proposed lease-sale area is in the upper right quarter of the figure. The figure is modified from Comiso (2005:Fig. 4).

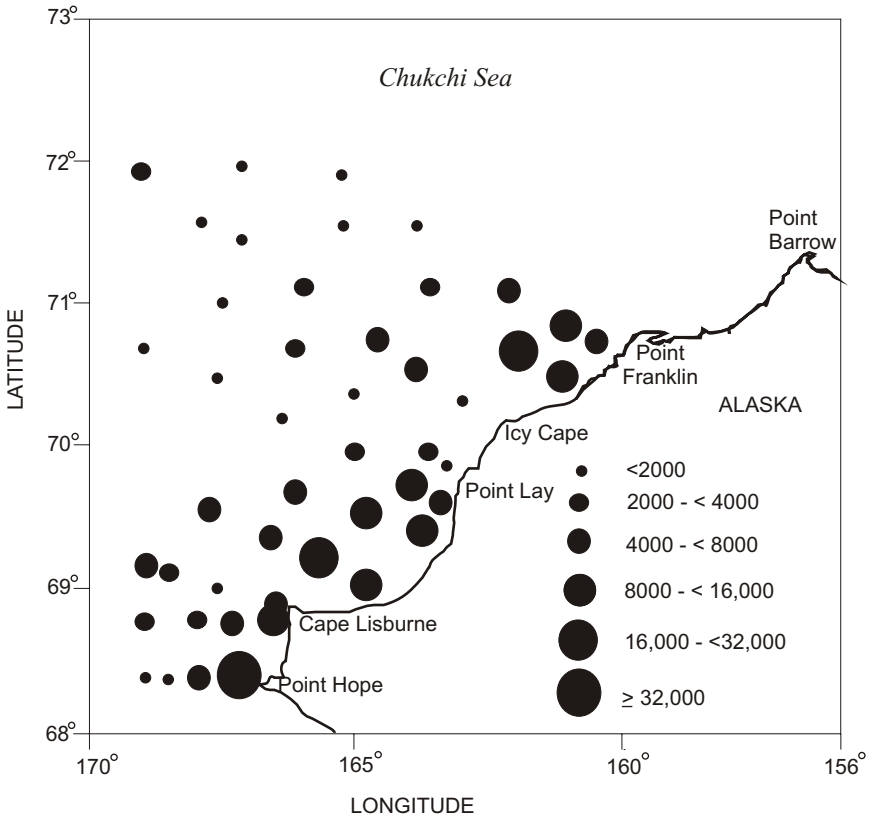
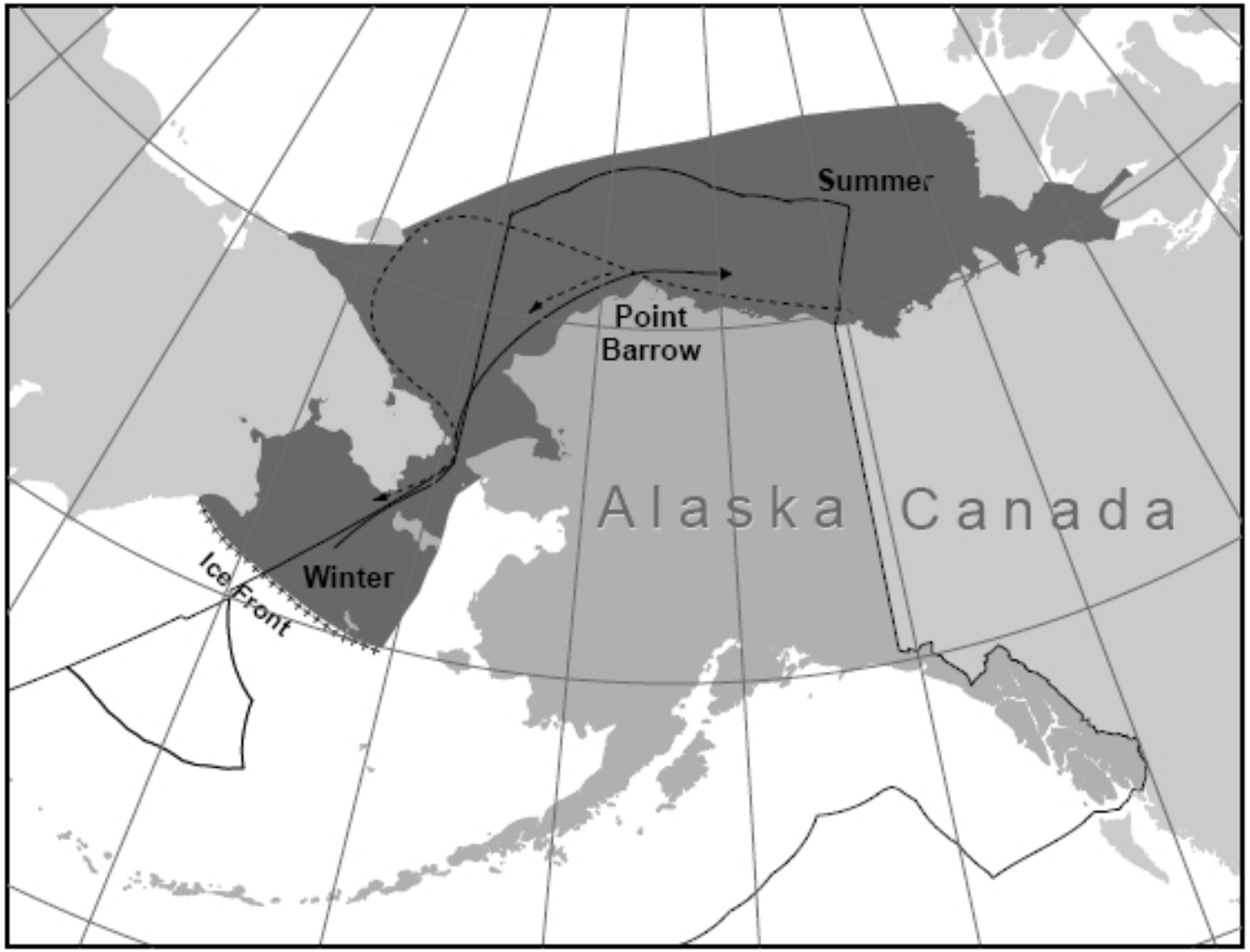


Figure III.B-2. Abundance (ind/m^2) of Snails and Other Epifaunal Mollusks in the Northeastern Chukchi Sea, based on Feder et al. (1994: Fig. 8a).



Source: Angliss and Outlaw (2005[Rev. 12/23/05]; Fig. 43)

Figure III.B-3 Approximate Distribution of the Western Arctic Stock Bowhead Whales (shaded dark area). Winter, Summer, and Spring/Fall Distributions are Depicted.