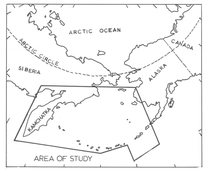
DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY



EXPLANATION

Residual magnetic contours
Contour interval is 100 γ offshore except in areas of steep magnetic gradients where the contour interval is larger.
Hachures indicate direction of decreasing magnetic intensity.

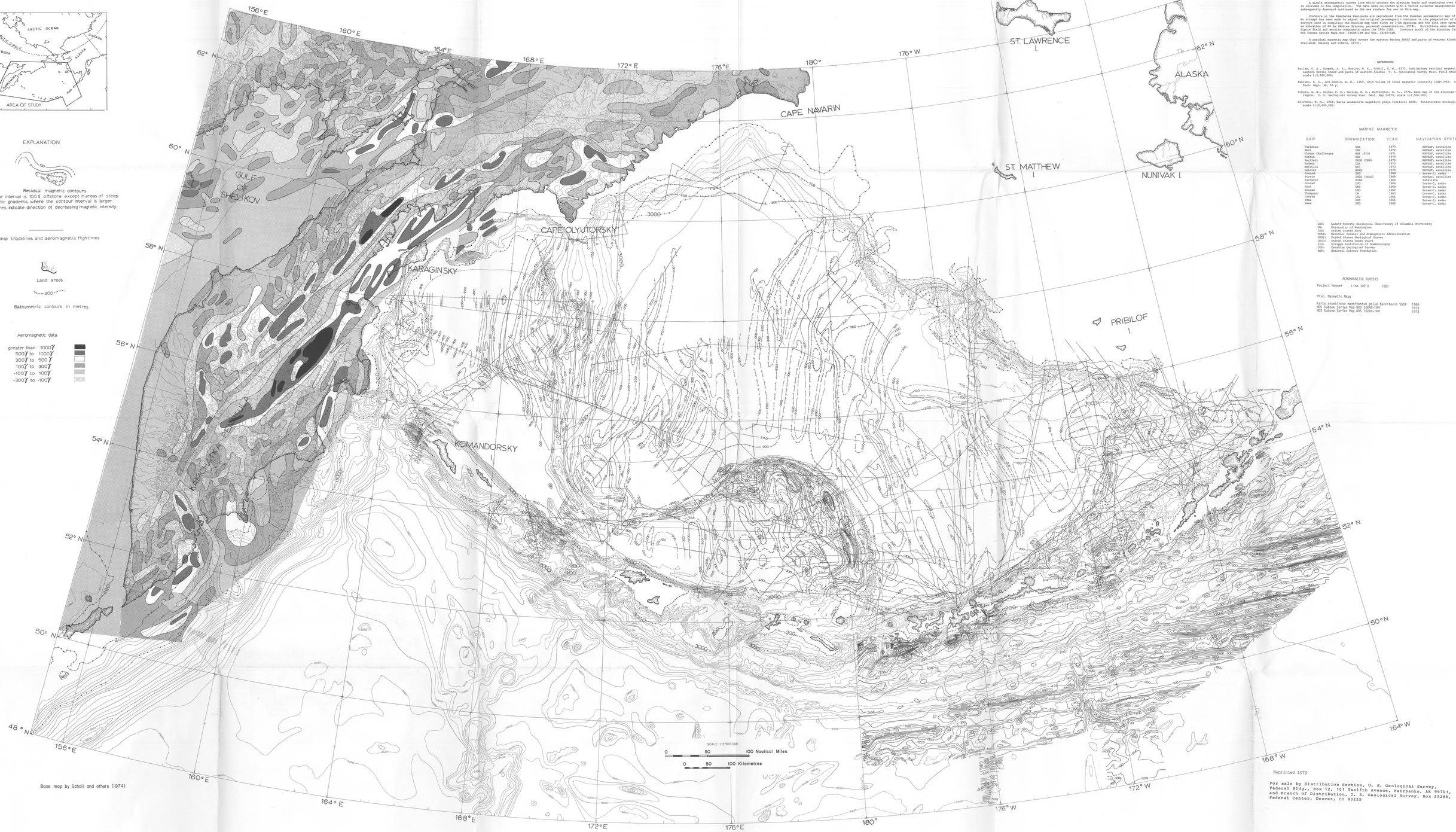
Ship tracklines and aeromagnetic flightlines

Land areas

Bathymetric contours in metres

Aeromagnetic data

greater than 1000γ	
500γ to 1000γ	
300γ to 500γ	
100γ to 300γ	
-100γ to 100γ	
-300γ to -100γ	



Base map by Scholl and others (1974)

PRELIMINARY RESIDUAL MAGNETIC MAP OF THE BERING SEA BASIN AND THE KAMCHATKA PENINSULA

BY

Alan K. Cooper, Kimberly A. Bailey, John I. Howell, Michael S. Marlow, and David W. Scholl

1976

MISCELLANEOUS FIELD STUDIES
MAP MF–715

A list of all surveys used in compiling this map is given below. Marine magnetic data were collected using a single-channel proton precession magnetometer towed behind a survey vessel. Anomalies were calculated by removing the main dipole field and secular components (based on the International Geomagnetic Reference Field (IGRF), epoch 1965, Fabiano and Peddie, 1969), from the observed data. A constant value has been added to the residual data along some tracklines to correct for the removal of different IGRF regional fields in different years; this correction makes the trackline crossings agree within 25-50 gamma. Corrections for diurnal variations and magnetic storms have not been made.

A single aeromagnetic survey line which crosses the Aleutian Basin and terminates over Bowers Basin is included in the compilation. The data were collected with a vector airborne magnetometer and were subsequently downward continued to the sea surface for use on this map.

Contours on the Kamchatka Peninsula are reproduced from the Russian aeromagnetic map of Soloveva (1968) No attempt has been made to adjust the original aeromagnetic contours in the preparation of this map. The surveys used in compiling the Russian map were flown at 2-km spacings and the data were upward continued to an elevation of 20 km (Andrew Griscom, personal communication, 1974). Corrections were made for the main dipole field and secular components using the 1950 IGRF. Contours south of the Aleutian Islands are from NOS Subsea Series Maps Nos. 15640-14M and Nos. 14240-14M.

A residual magnetic map that covers the eastern Bering Shelf and parts of western Alaska is also available (Bailey and others, 1975).

REFERENCES

Bailey, K. A., Cooper, A. K., Marlow, M. S., Scholl, D. W., 1975, Preliminary residual magnetic map of the eastern Bering Shelf and parts of western Alaska: U. S. Geological Survey Misc. Field Studies Map 715, scale 1:2,500,000.

Fabiano, E. G., and Peddie, N. W., 1969, Grid values of total magnetic intensity IGRF-1965: U. S. ESSA Tech. Rept. 38, 55 p.

Scholl, D. W., Alpha, T. R., Marlow, M. S., Buffington, E. C., 1974, Base map of the Aleutian-Bering Sea region: U. S. Geological Survey Misc. Geol. Map I-879, scale 1:2,500,000.

Soloveva, N. N., 1968, Karta anomalnovo magnitovo polya territorii SSSR: Ministerstvo Geologii SSSR, scale 1:10,000,000.

MARINE MAGNETIC

SHIP	ORGANIZATION	YEAR	NAVIGATION SYSTEMS
Parimean	CGS	1973	NAVSAT, satellite
Bent	USN	1972	NAVSAT, satellite
Glomar Challenger	NSF (SIO)	1971	NAVSAT, satellite
Baffin	CGS	1970	NAVSAT, satellite
Hartlett	USCGS (USN)	1970	NAVSAT, satellite
Hudson	CGS	1970	NAVSAT, satellite
Melville	NSF	1970	NAVSAT, satellite
Surveyor	NOAA	1970	NAVSAT, satellite
Conrad	LDO	1969	Loran-C, radar
Stocia	USCGS (SBCO)	1969	NAVSAT, satellite
Surveyor	NOAA	1969	Loran-C
Conrad	LDO	1968	Loran-C, radar
Hunt	USN	1968	Loran-C, radar
Conrad	LDO	1967	Loran-C, radar
Thompson	UW	1967	Loran-C, radar
Conrad	LDO	1966	Loran-C, radar
Vema	LDO	1965	Loran-C, radar
Vema	LDO	1965	Loran-C, radar

LDO: Lamont-Doherty Geological Observatory of Columbia University
UW: University of Washington
USN: United States Navy
NOAA: National Oceanic and Atmospheric Administration
CGS: Canadian Geological Survey
USCGS: United States Coast Guard
SIO: Scripps Institution of Oceanography
CGS: Canadian Geological Survey
NSF: National Science Foundation

AEROMAGNETIC SURVEYS

Project Magnet Line 302 B 1961

Misc. Magnetic Maps

Karta anomalnovo magnitonovo polya territorii SSSR	1968
NOS Subsea Series Map NOS 15640-1M	1973
NOS Subsea Series Map NOS 15240-1M	1973

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