

Errata

Free Air Gravity Anomaly map:

Data Source

for: Japan Antarctic Research Expedition

read: **Japanese Antarctic Research Expedition**

Brief Topography:

for: AMUNDSEN SEA

read: **AMUNDSEN SEA**

for: SOUTH ORKNEY ISLAND

read: **SOUTH ORKNEY ISLANDS**

Free Air Gravity Anomaly of Antarctic Region

Compiled by
Jiro Segawa,
Takeshi Matsumoto
Ocean Research Institute, University of Tokyo
and
Katsutada Kaminuma
National Institute of Polar Research

Data Source

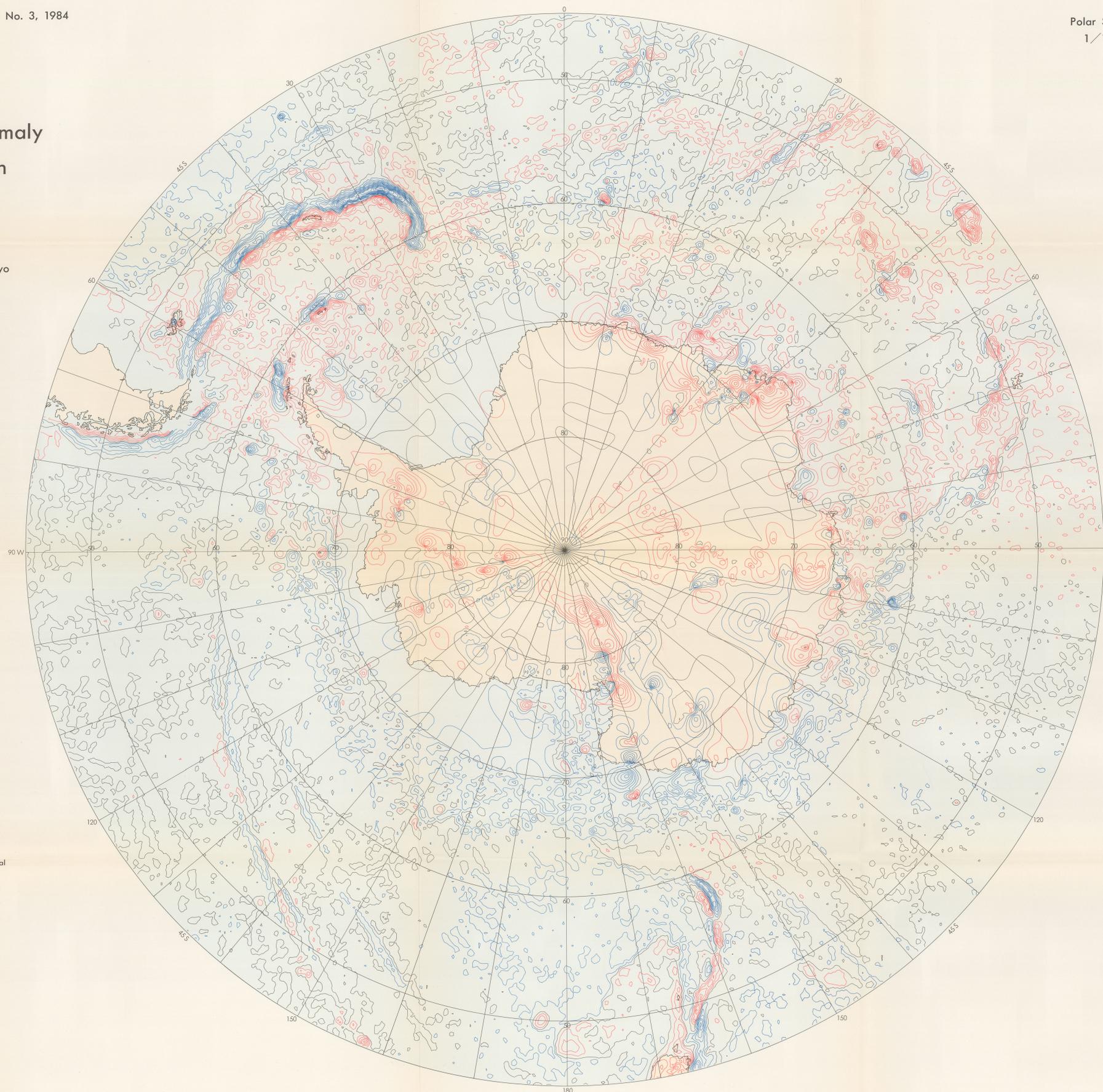
1. Japan Antarctic Research Expedition (JARE) 2-24 (1957-1982)
land : geodetic data of JARE during both austral summer and wintering
sea : surface ship measurements on board Icebreakers Fuji and Shirase
2. Land data:
 - Grushinsky et al. (1972)
 - Behrendt (1962)
 - Bureau Gravimetrique International (1974)
3. SEASAT and GEOS-3 altimeter data converted to gravity
4. Surface ship measurements of gravity during USNS Eltanin Cruises 28-32 (1972)
5. New Zealand Department of Scientific and Industrial Research, Geophysics Division (1979): Gravity map of New Zealand 1:1,000,000, South Island

Legend

unit in mgal ($10^{-4}N/kg$)
contour interval 20mgal
red : positive anomaly
black : zero anomaly
blue : negative anomaly
Normal gravity formula : IGSN 1967 (Tchebycheff's polynomial)
 $(\gamma = 978.03185 (1 + 0.005278895 \sin^2 \phi + 0.000023462 \sin^4 \phi) \text{ gal})$
Normal ellipsoid for evaluation of satellite altimeter height: GRS80
($a = 6378137m, f = 1/298.257222$)

Method of data compilation

Average gravity anomalies within $20km \times 20km$ are the basis of data for contouring in most area. Where data is lacking, 2-dimensional Briggs' curve fitting is applied.



Brief Topography in Antarctic Region for Reference for Gravity Anomaly Chart

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Jiro Segawa,
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Ocean Research Institute, University of Tokyo
and
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National Institute of Polar Research

Unit in 1000 meter
Contour interval 500m
(basement topography inside Antarctica and bottom
topography at sea)

- Reference
- 1/10,000,000 Karta Kornnogo Relbefa Antarktidy, 1975 (published in 1977)
 - GEBCO (General Bathymetric Chart of the Oceans), fifth edition
Sheets 5.09 to 5.16 (1/10,000,000 at equator)
and 5.18 (1/6,000,000 at 75°S lat.)

