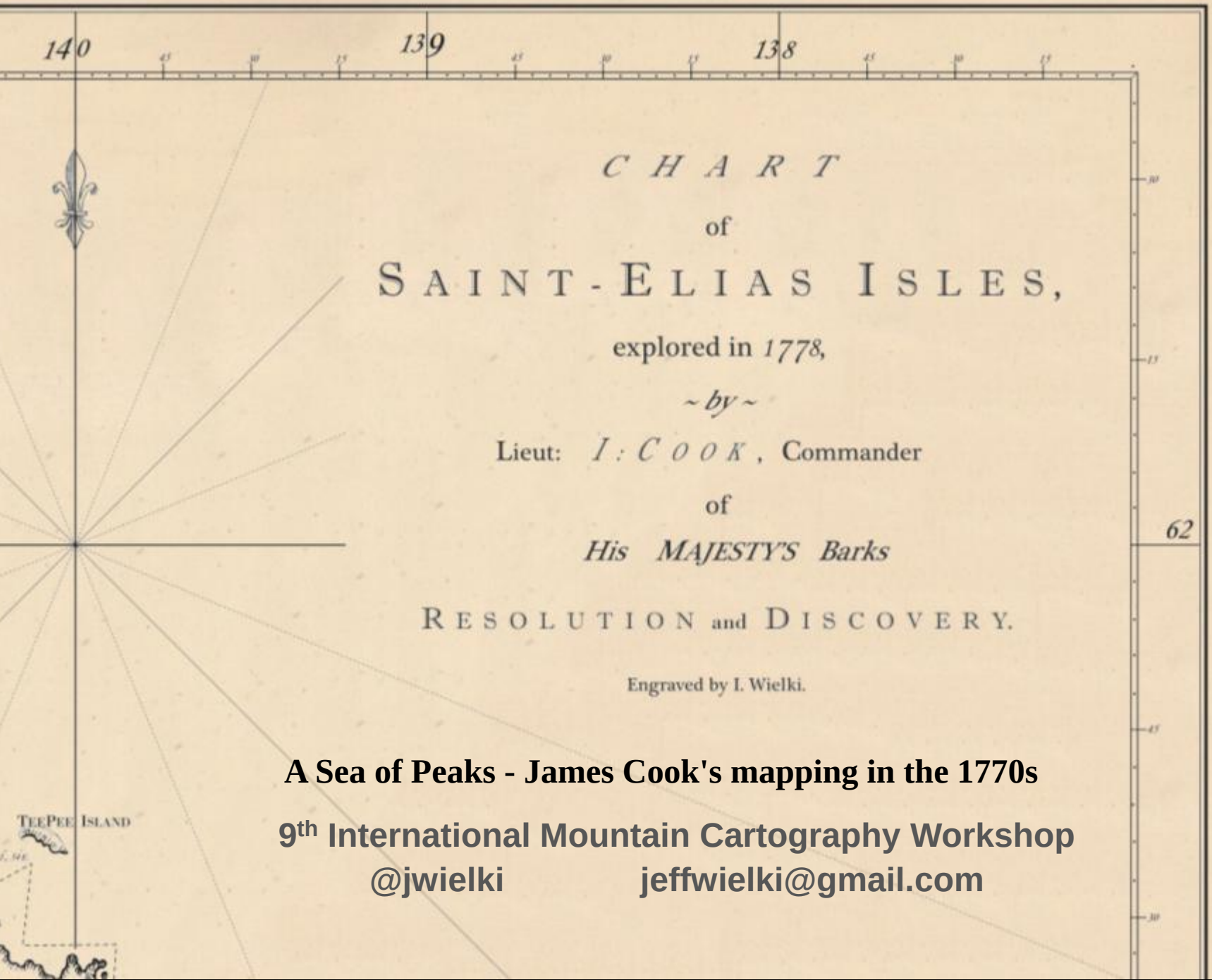
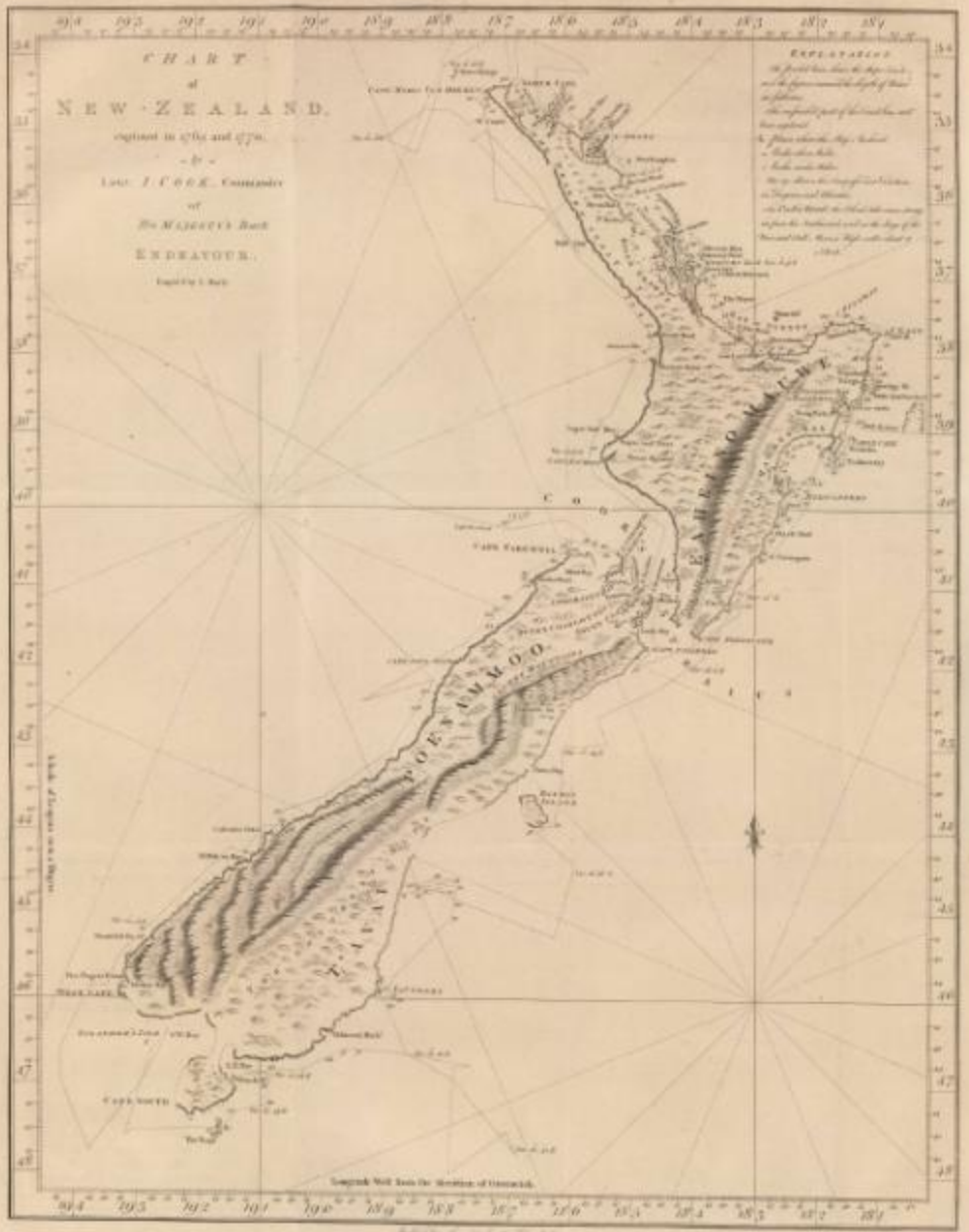


A Sea of Peaks - James Cook's mapping in the 1770s

9th International Mountain Cartography Workshop
@jwielki jeffwielki@gmail.com

Endeavour
Adventure
Discovery
Resolution



Inspiration

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Inspiration

Mountains

- Mount Logan
  - Canada's Highest (5959m)
  - One of the world's most massive
    - rises 4150m above the Seward Glacier
    - 19km ridgeline
  - Part of the St. Elias Mountains

St Elias Mountain Range

Contains the Highest 5 peaks in Canada

Logan, St. Elias, King, Steele are all above 5000m

Spans BC, Yukon, Alaska

Parks & conservation areas

Kluane National Park (Canada),

Glacier Bay National Park (USA),

Wrangell-St. Elias National Park & Preserve (USA)

Endeavour
Adventure
Discovery
Resolution

PRESIDENT BY DAY, HUNTER BY NIGHT.
TIM BURTON PRESENTS A TIMUR BEKMAMBETOV FILM
ABRAHAM LINCOLN
VAMPIRE HUNTER
TWENTIETH CENTURY FOX PRESENTS A BURTON/BEKMAMBETOV/LEMLEY PRODUCTION "ABRAHAM LINCOLN: VAMPIRE HUNTER" BENJAMIN WALKER DOMINIC COOPER ANTHONY MACKIE MARY-ELIZABETH WINSTEAD RUFUS SEWELL MARTON CSOKAS
HENRY JACKMAN MICHELE WOLKOFF JOHN J. KELLY SIMON KINBERG SETH GRAHAME-SMITH TIM BURTON TIMUR BEKMAMBETOV JIM LEMLEY SETH GRAHAME-SMITH SETH GRAHAME-SMITH AND SIMON KINBERG TIMUR BEKMAMBETOV
COMING SOON IN 3D

My fictional cartography:

Commander James Cook and his crew were the first recorded Europeans to circumnavigate the St. Elias Isles.

True

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True

View *of the* Entrance *of* NOOTKA Sound, *when the N.point of th*

View *when* Mount St. Elias *bore N.*

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LLIAMS SOUND

Montagu I.

Kayes I.

NORT

Bherings Bay

Var 24 26 E
77

Mt Fairweather

C. Fairweather

Cross Sound

Var 26 11

Var 24 11 E
77

Cross Cape

Bay of Islands

Mt Edgecumbe

C. Edgecumbe

Fiction
CHART
of
SAINT-ELIAS ISLES,
explored in 1778
- by -
Lieut. J. COOK, Commander
of
His MAJESTY'S Barks
RESOLUTION and DISCOVERY.
NISLING
SEA
GULF
OF
CHUGACH
BHERING SEA
EXPLANATION
True

Endeavour
Adventure
Discovery
Resolution

DEM

“Raise” sea level by 2000m

Consider Cook's original course

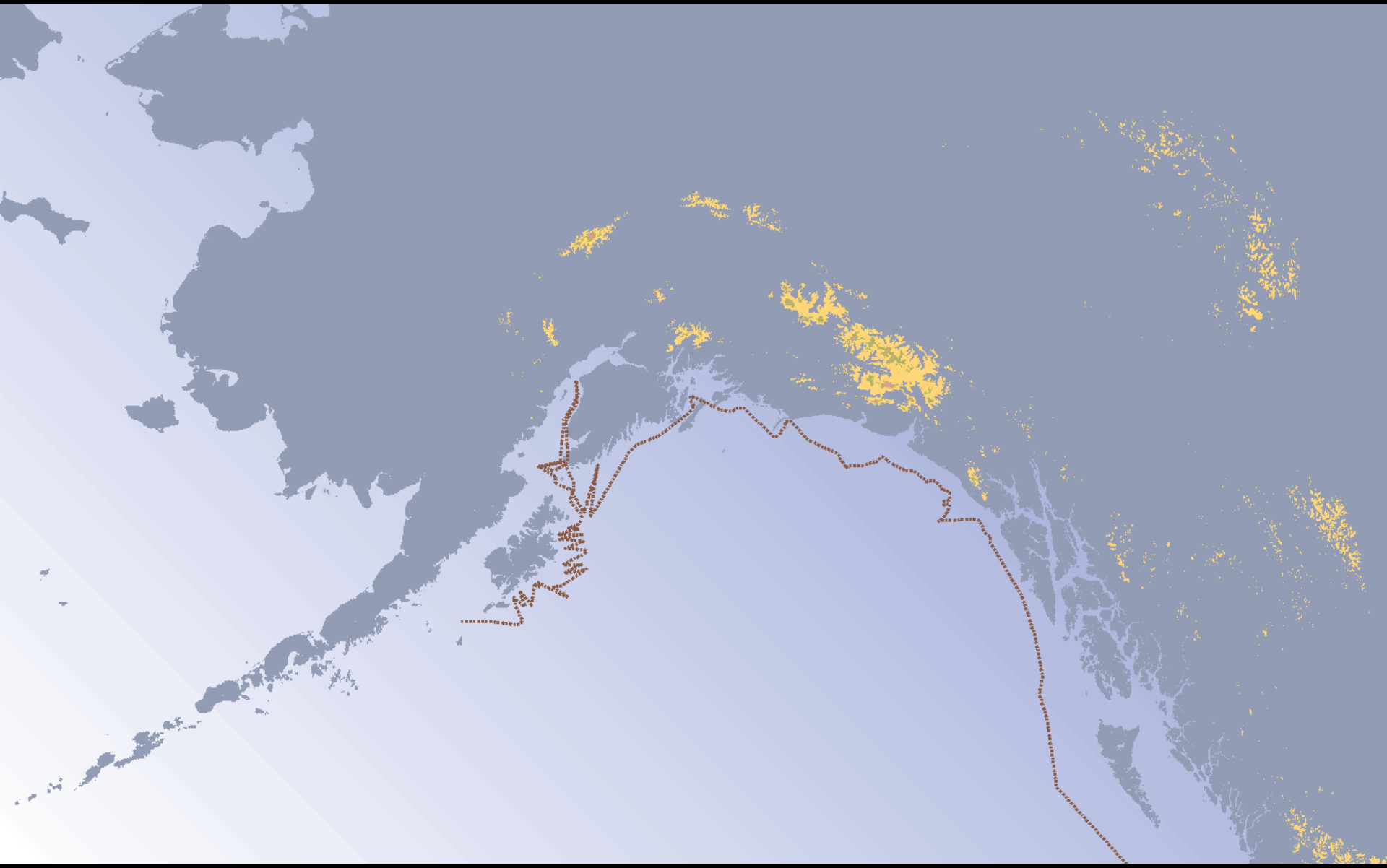
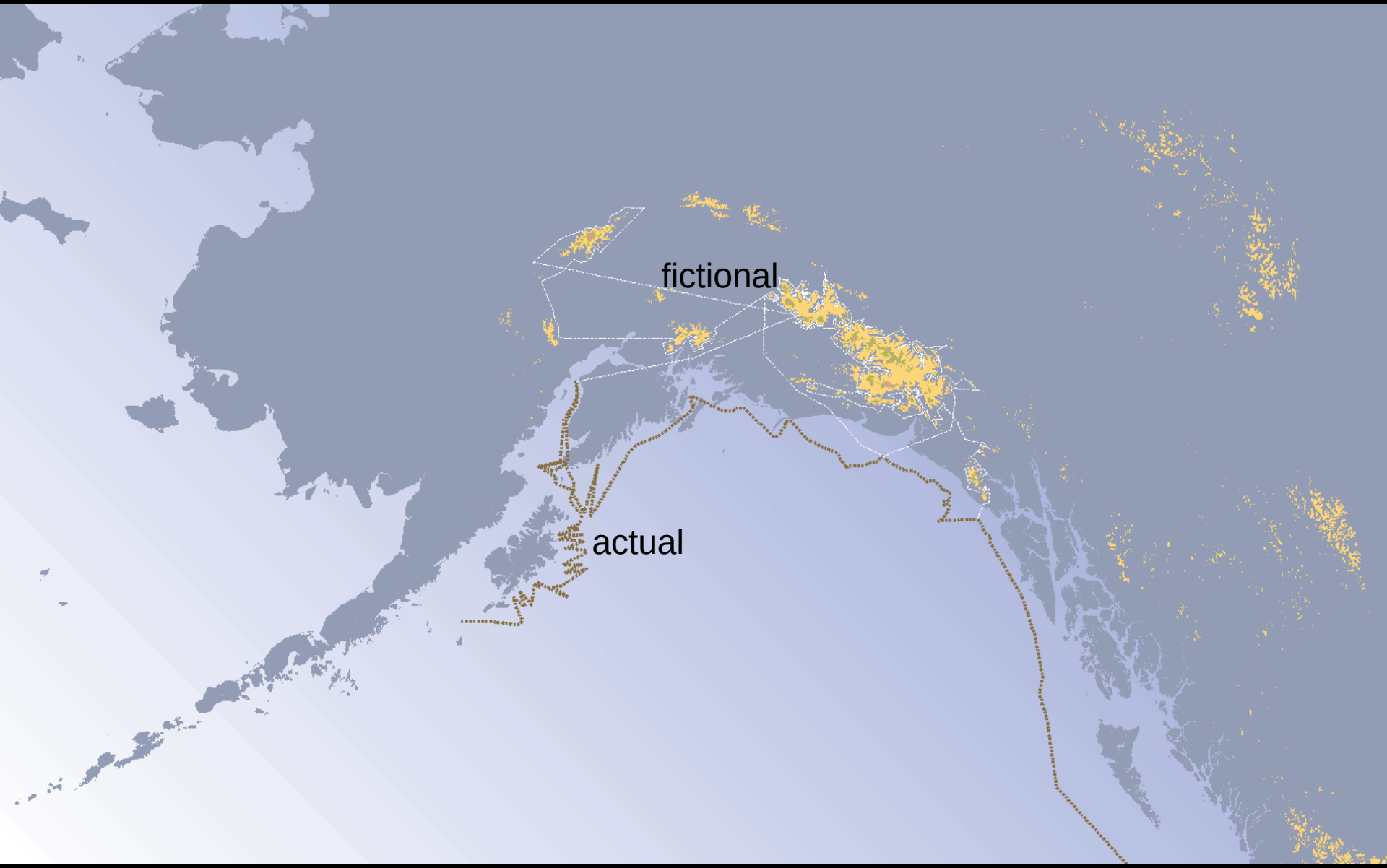
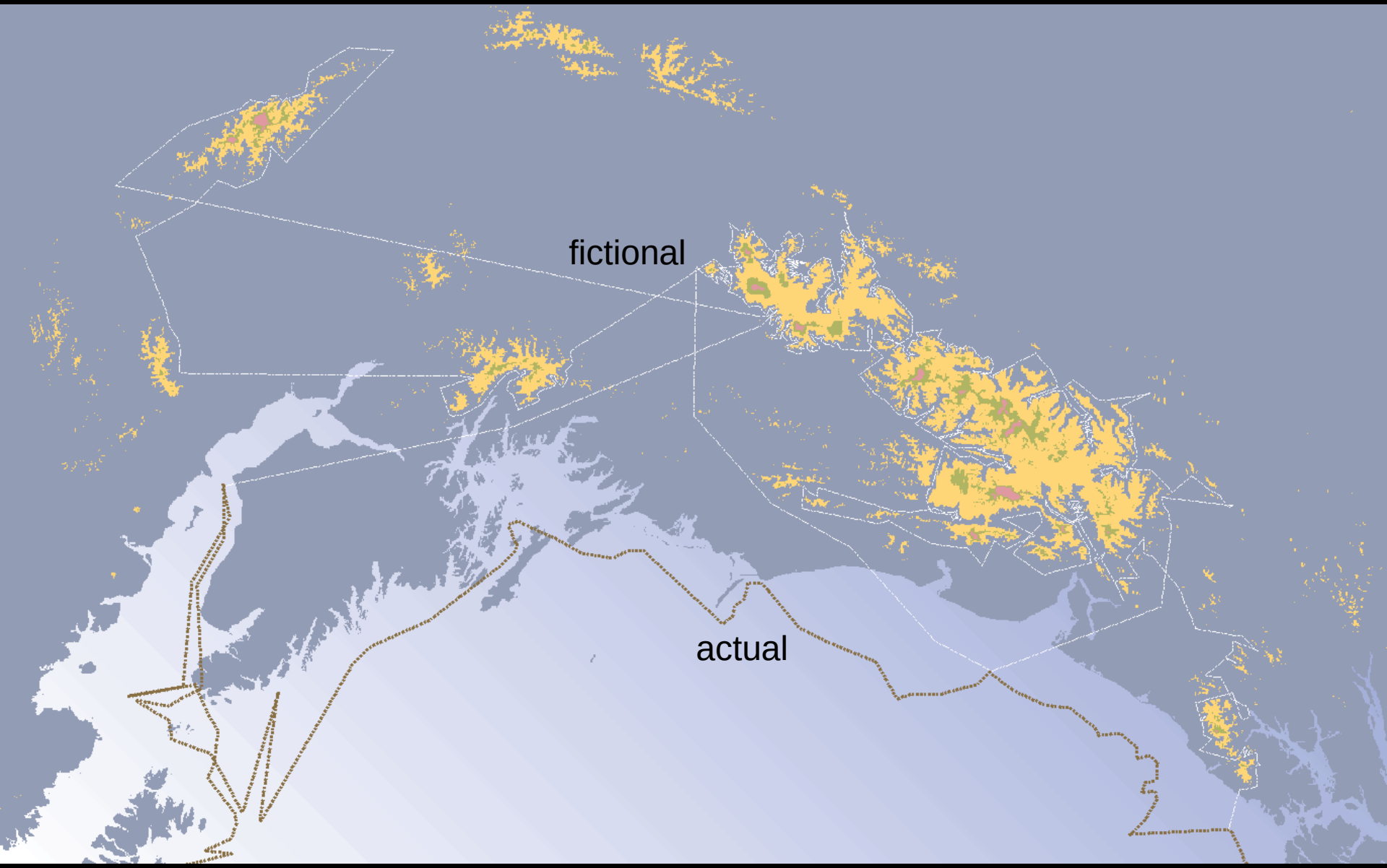
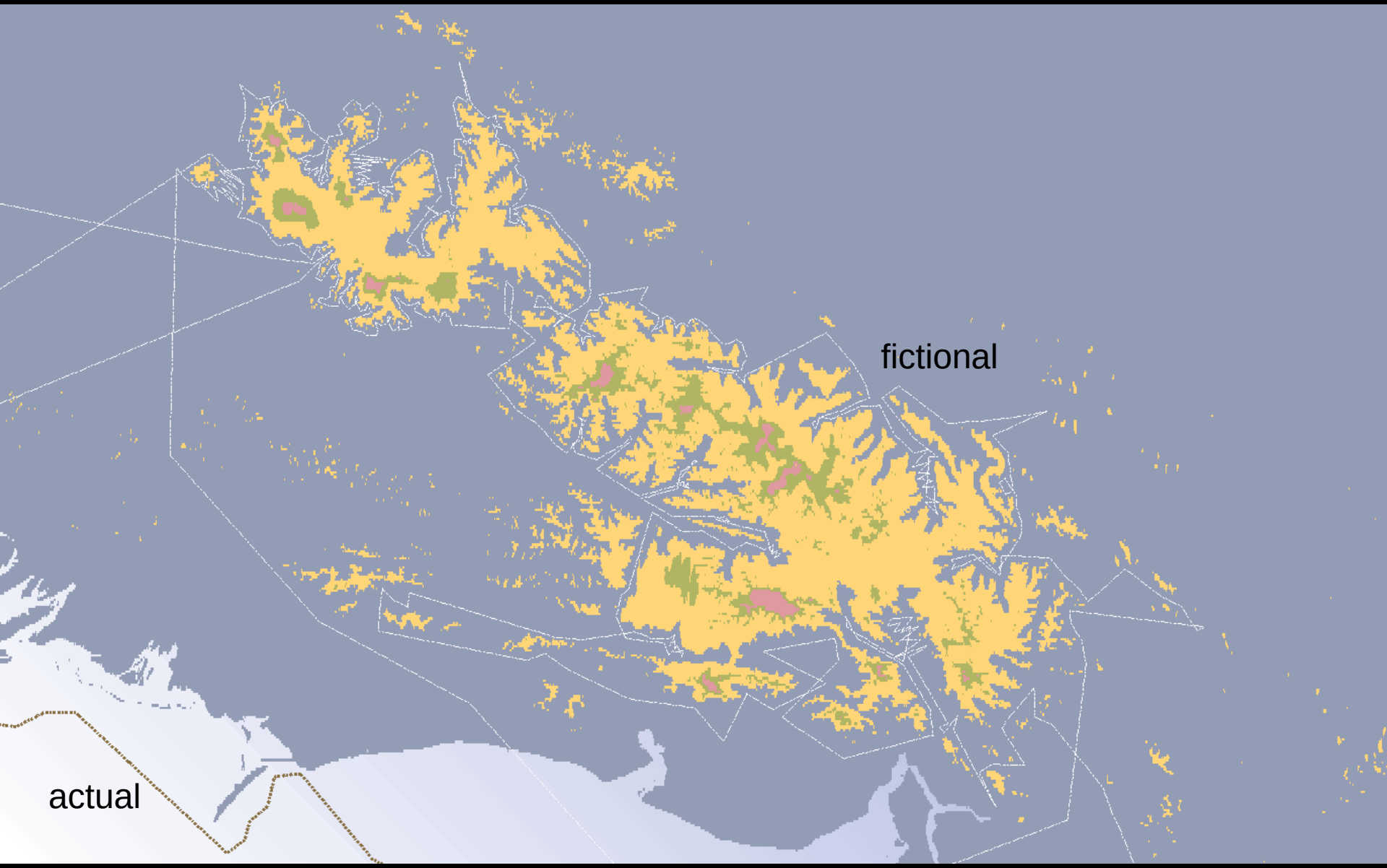


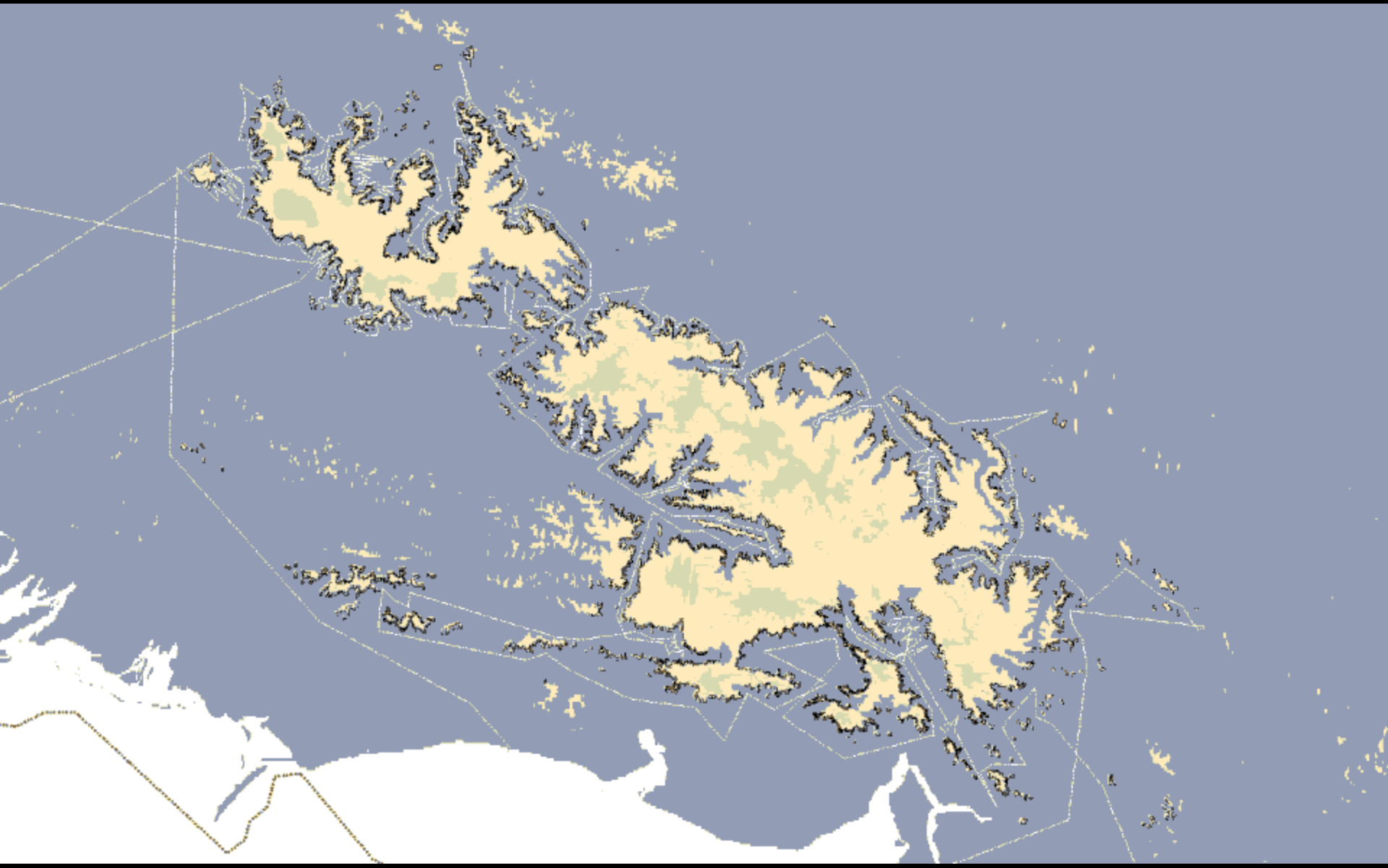
Chart Cook's fictional course



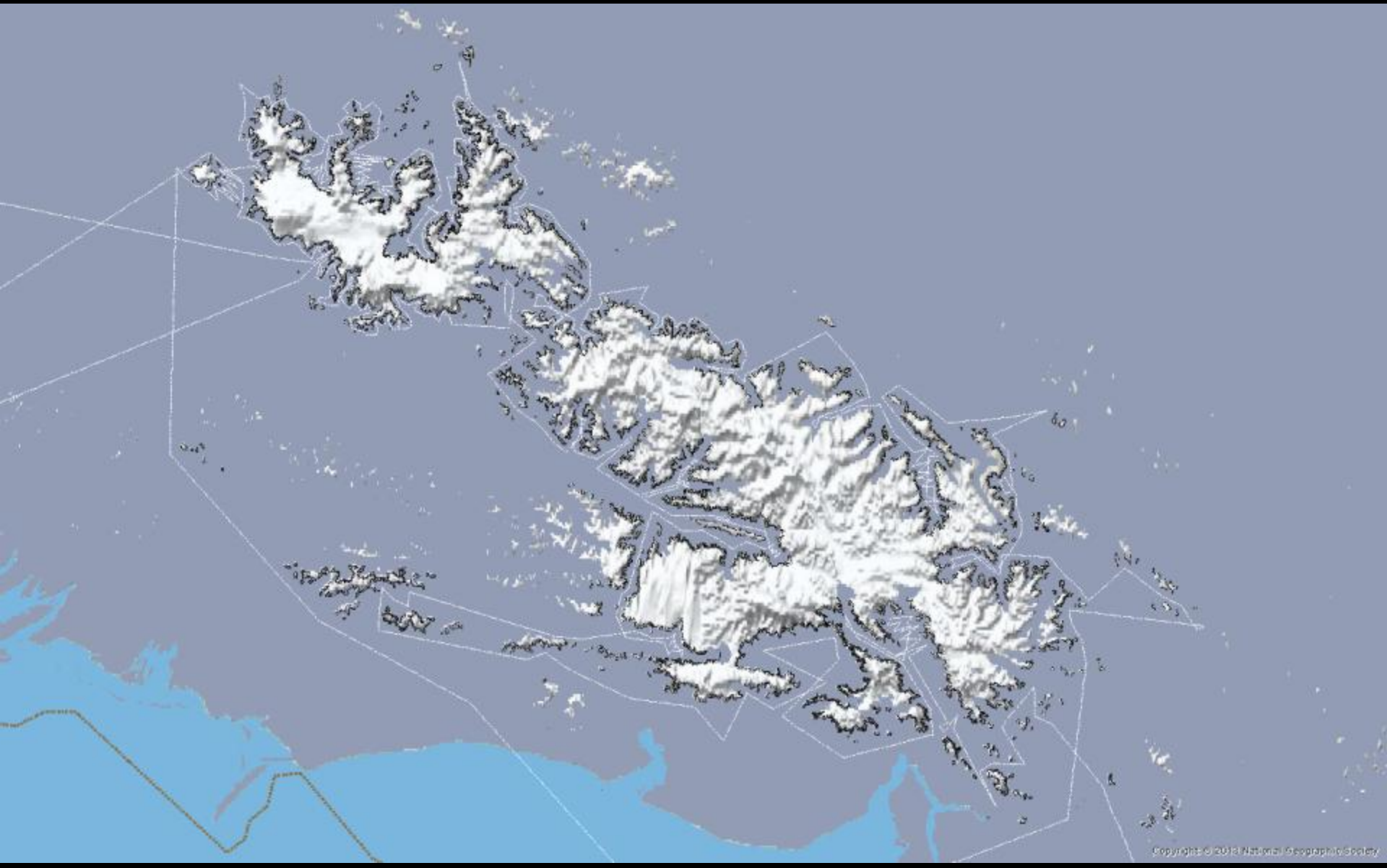

fictional
actual


fictional
actual

Mapping the Coast



HIPOLYMER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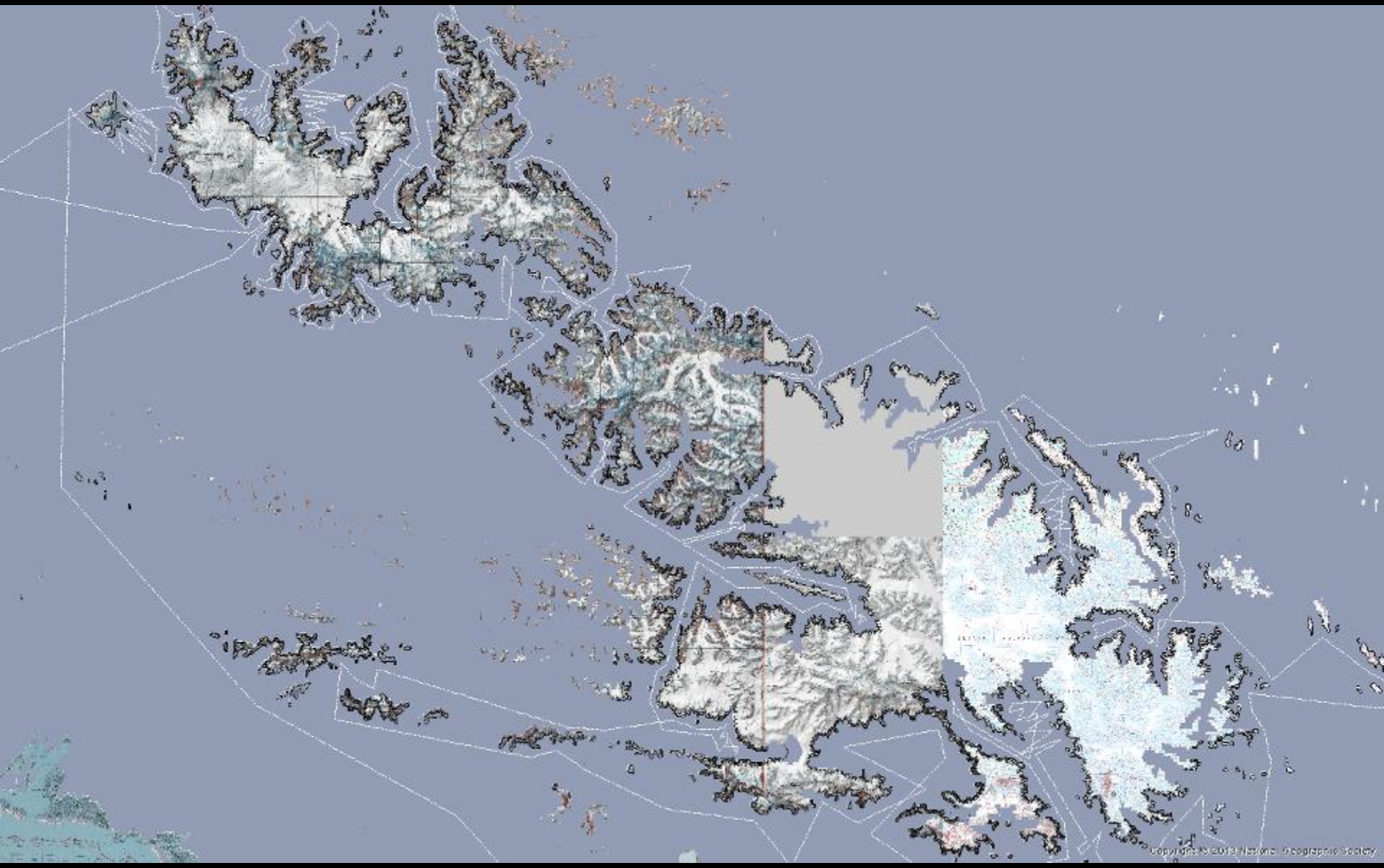
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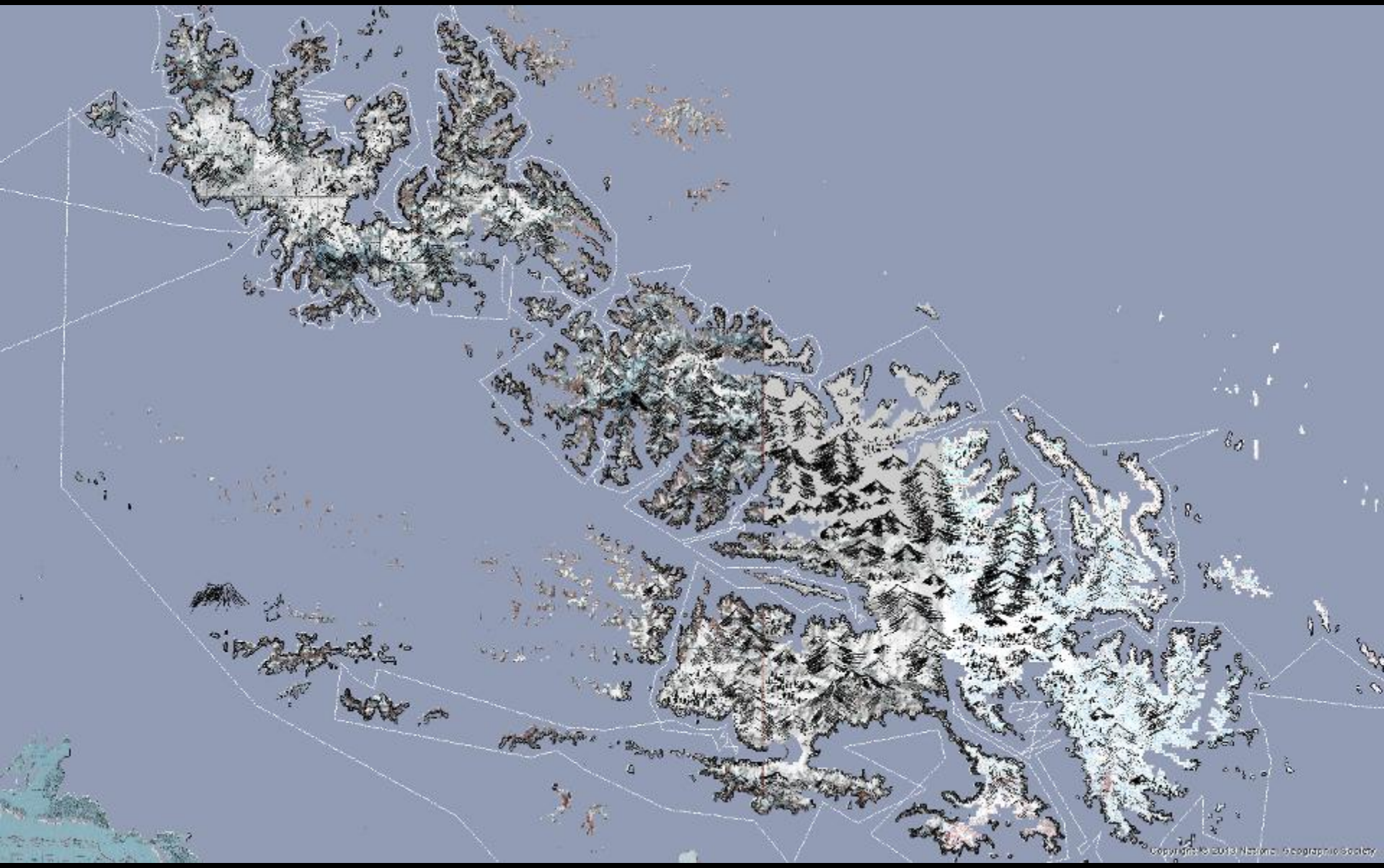
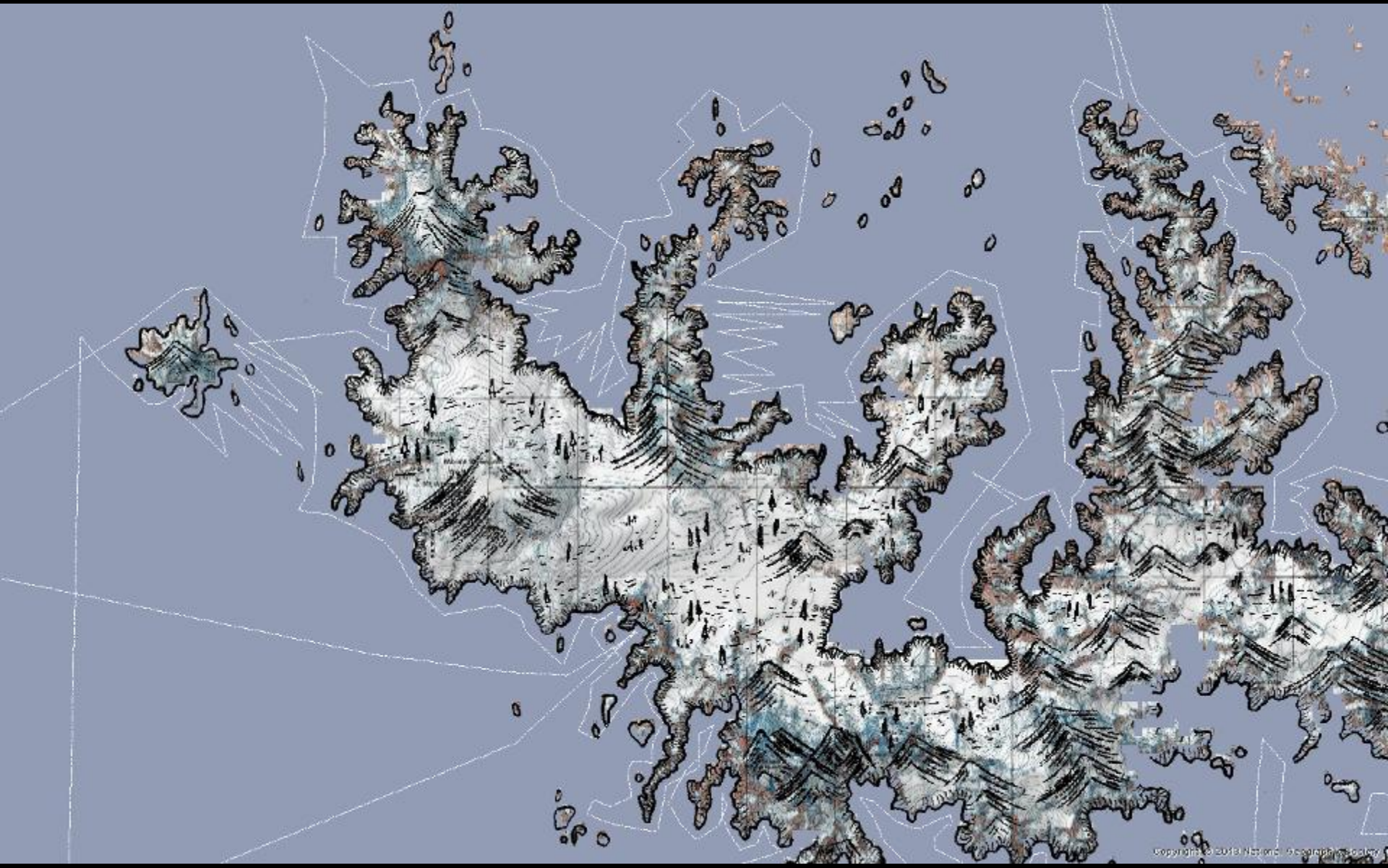
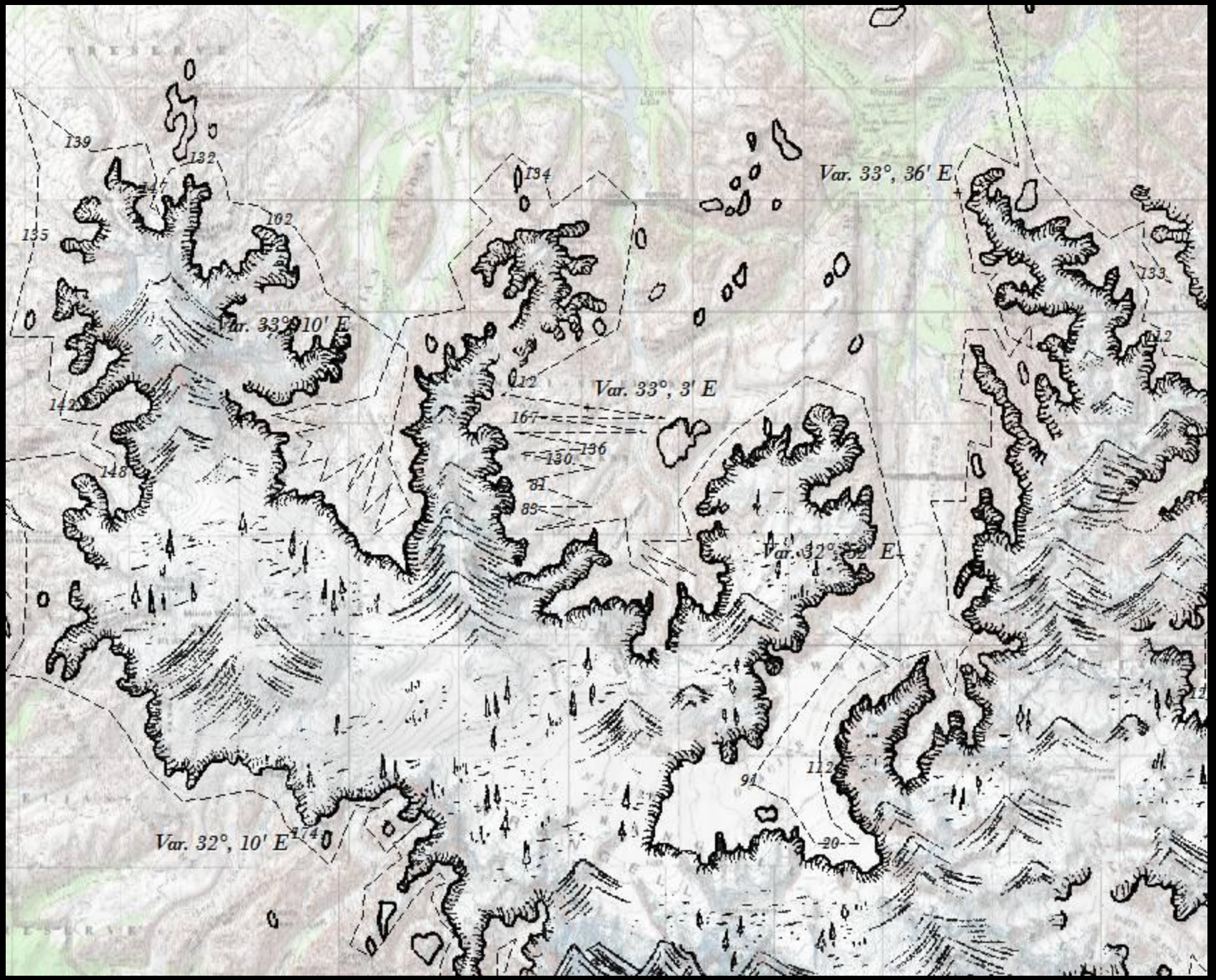
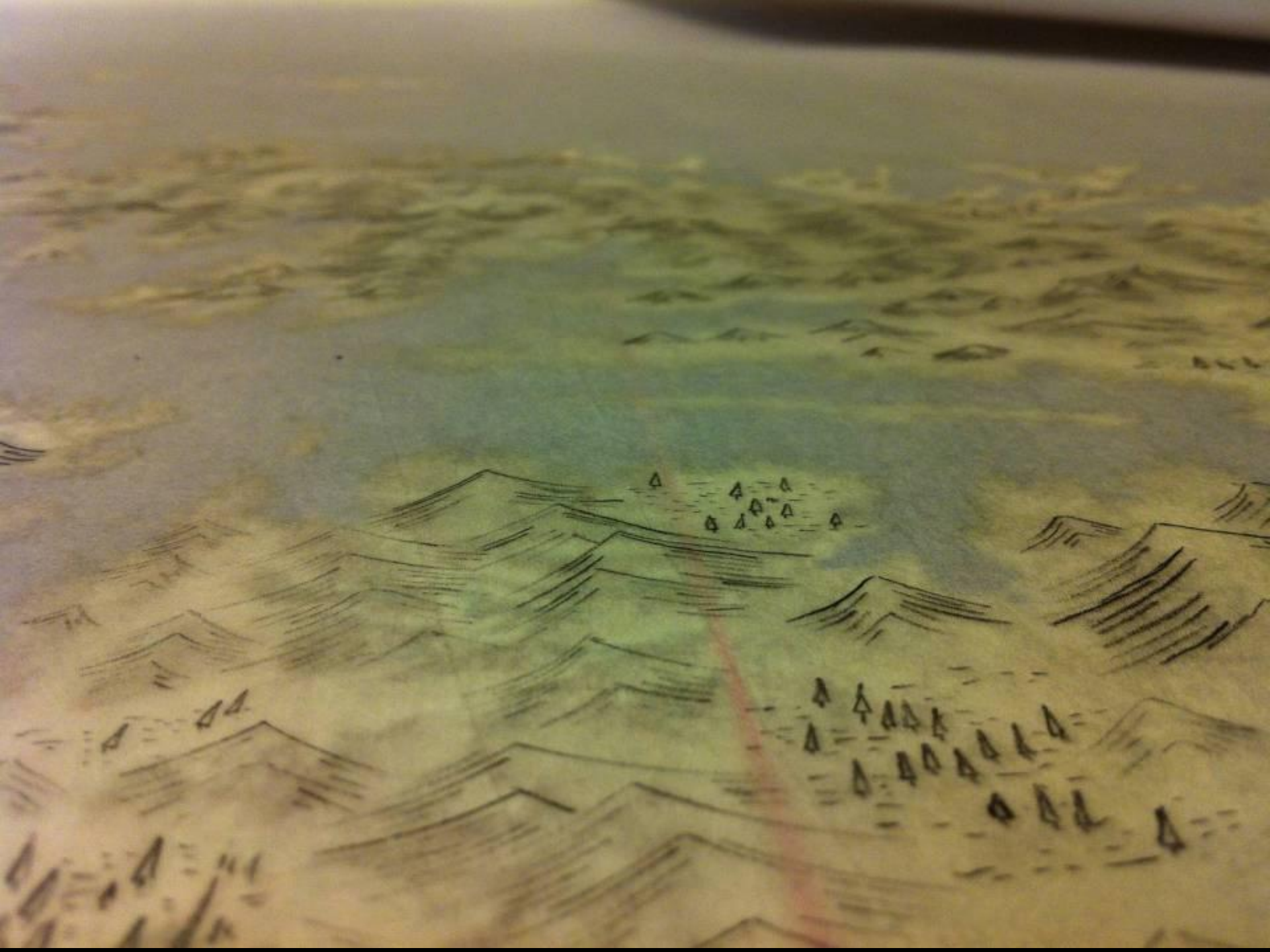

Copyright © 2013 National Geographic Society




Var. 33°, 36′ E
Var. 33°, 10′ E
Var. 33°, 3′ E
Var. 32°, 32′ E
Var. 32°, 10′ E
139
132
134
135
102
133
142
112
167
136
130
148
81
89
91
112
114
20

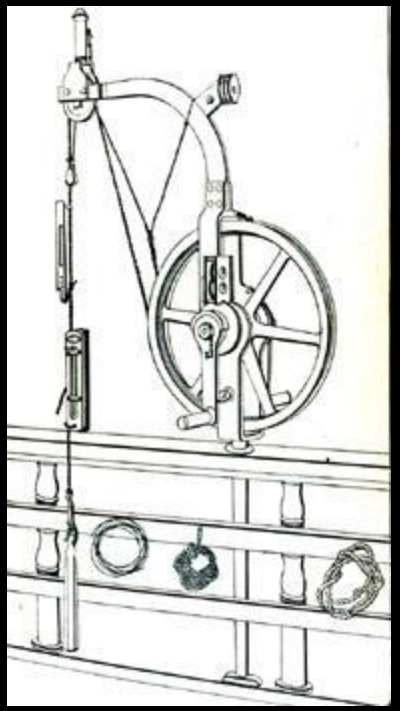
Attempting to capture the style

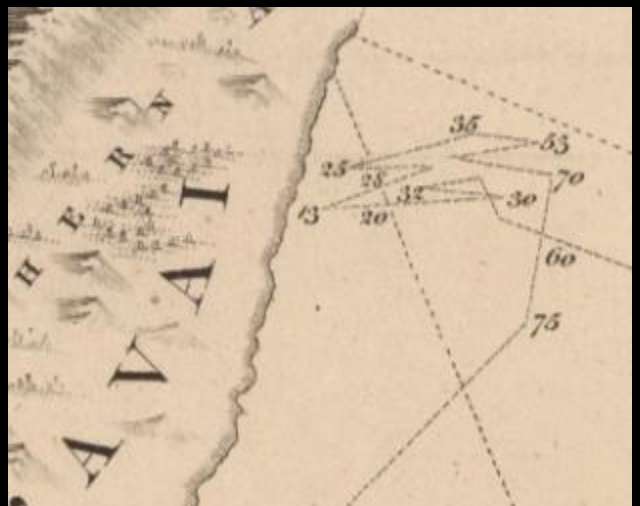
- Mountain chains
- Coastline
- Unfinished coast
- Vegetation

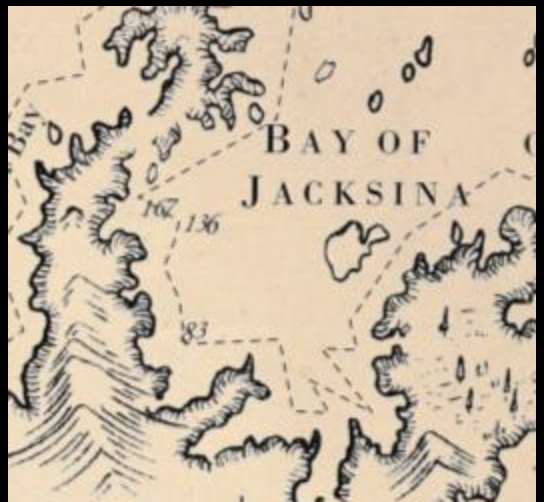


Depth Soundings

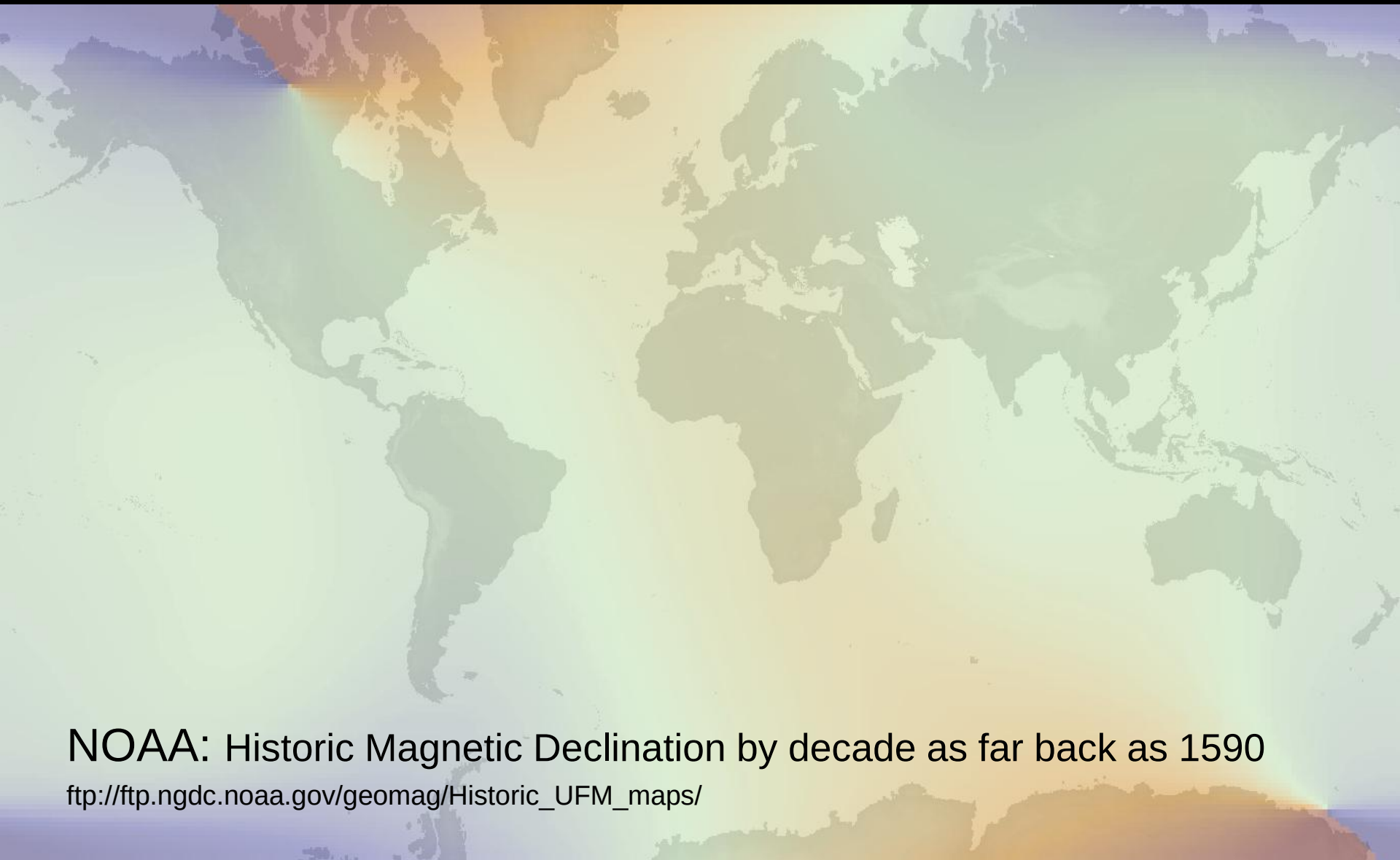
- Cook: Lead lines, measured
- Me: DEM, convert to fathoms







Magnetic Variation

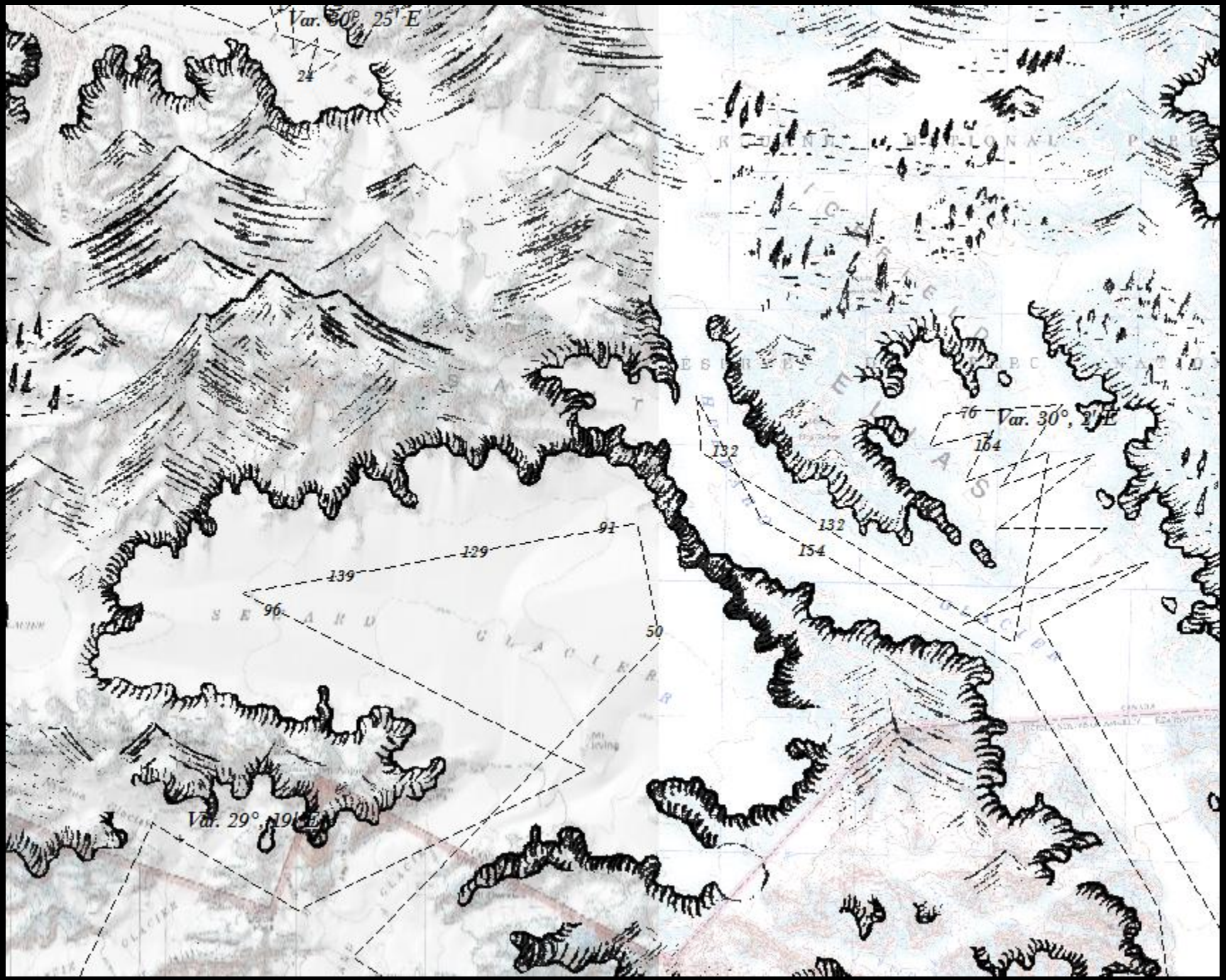


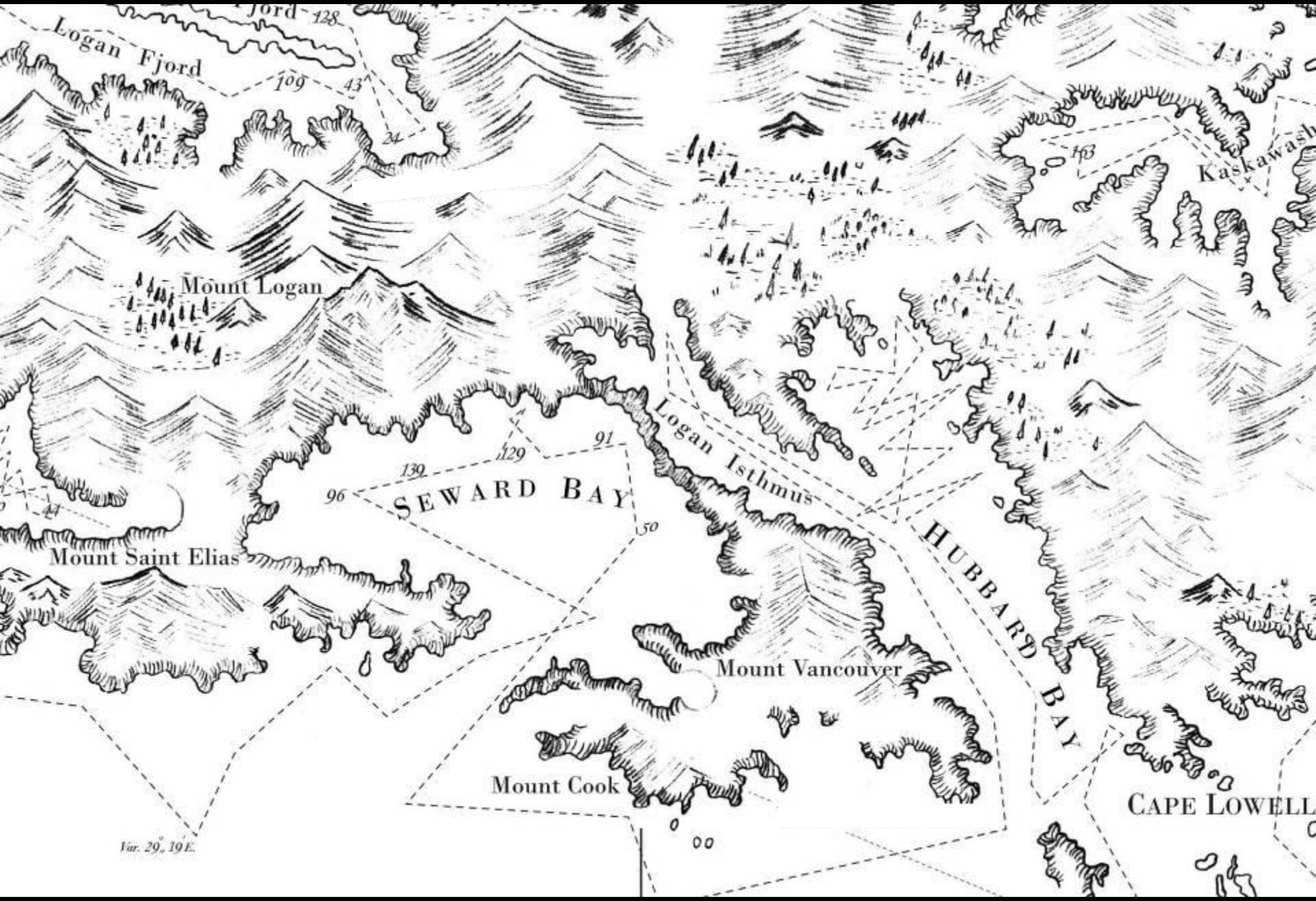
NOAA: Historic Magnetic Declination by decade as far back as 1590

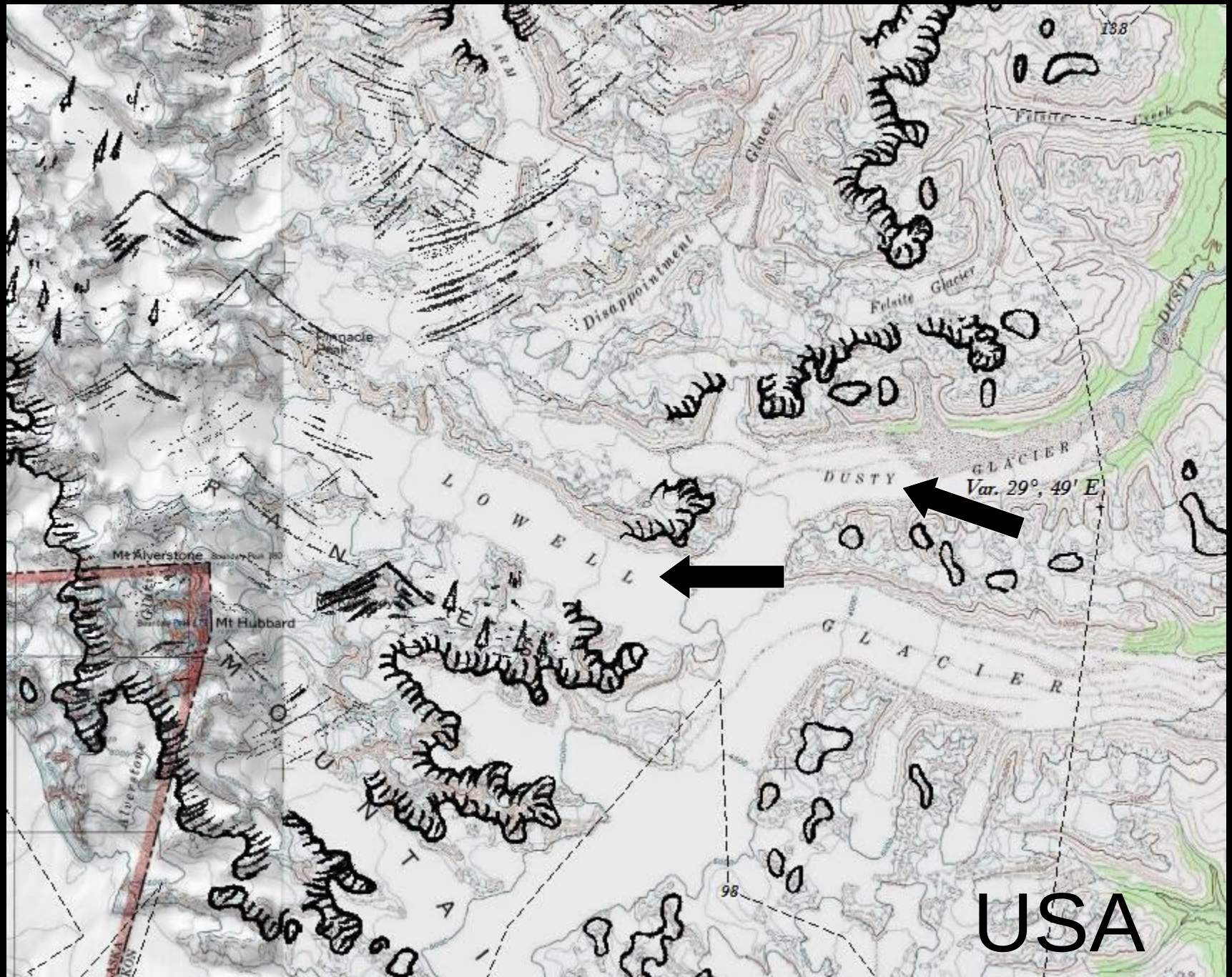
ftp://ftp.ngdc.noaa.gov/geomag/Historic_UFM_maps/

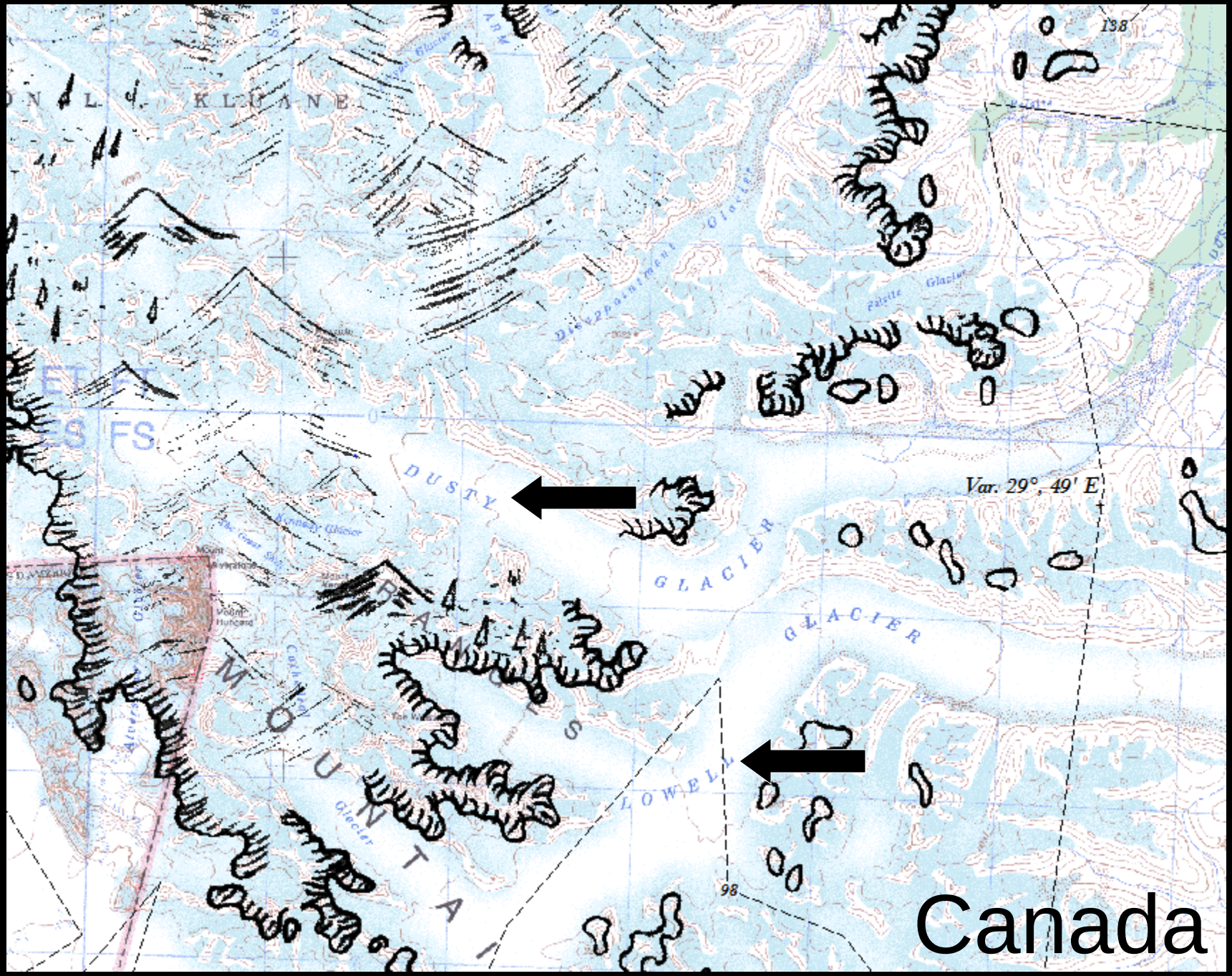
The Names Remain the Same

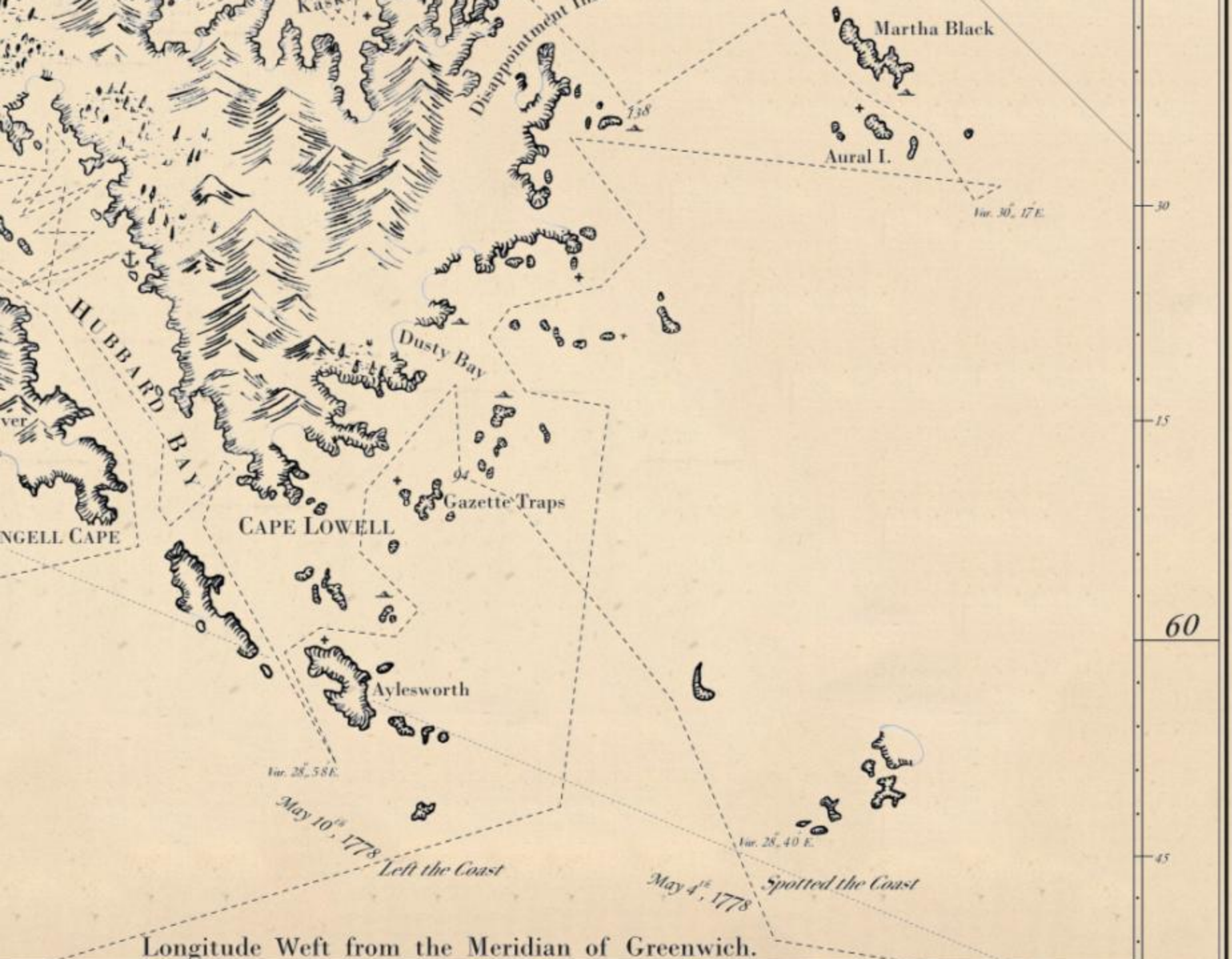
- Glacier might become a Bay
- Peak may become an island
- Ridge could transform into an Isthmus, Point, or Cape
- Range might be sunk and is now a sea, or an island
- Big mountains remain big mountains


Var. 30° 25' E
24
Var. 30° 2' E
76
164
132
132
154
91
129
139
96
50
Var. 29° 19' E


Logan Fjord
128
109
43
24
Mount Logan
Kaskawash
153
Logan Isthmus
91
129
139
96
SEWARD BAY
50
44
Mount Saint Elias
HUBBARD BAY
Mount Vancouver
Mount Cook
CAPE LOWELL
Var. 29° 19 E.


Mt Silverstone
Mt Hubbard
Disappointment
Glacier
Felsite Creek
Felsite Glacier
DUSTY
GLACIER
Var. 29°, 49' E
LOWELL
GLACIER
MOUNTAIN
RANGE
138
98
USA


138
Var. 29°, 49' E
DUSTY
GLACIER
LOWELL
GLACIER
98
Canada


Martha Black
Aural I.
Var. 30°. 17 E.
Disappointment
138
Dusty Bay
HUBBARD BAY
94
Gazette Traps
CAPE LOWELL
NGELL CAPE
Aylesworth
Var. 28°. 58 E.
May 10th, 1778
Left the Coast
Var. 28°. 40 E.
May 4th, 1778
Spotted the Coast
30
15
60
45
Longitude West from the Meridian of Greenwich.

Type

- Ideally: manual, hand labelled
- Time constraints: True type font

Typeface checklist

- “Modern” fonts date from the late 18th century
  - Acute distinction between thick & thin strokes
- Serifs
  - Straight serifs

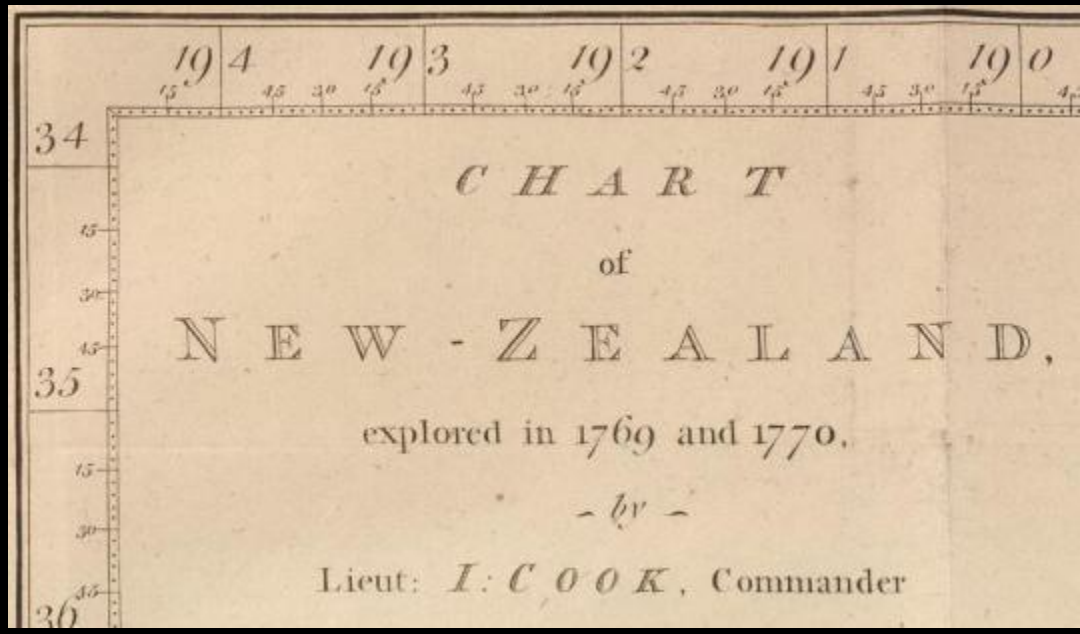
Dominant Typeface: ✓ Botoni

Type quirks

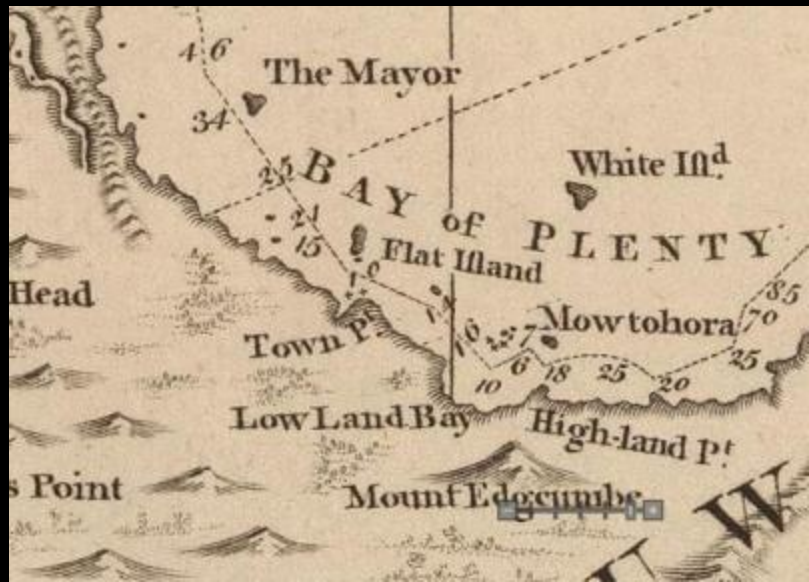
- Botoni
  - Increased leading
  - Exaggerated tilt in italics
  - Deeper descenders
  - Prominent features as Small Caps

Type quirks

- Title block
  - 4 different fonts
  - 8 different sizes



- Numbers
  - Exaggerated descenders
  - Mixed fonts & sizes
  - Extreme kerning (x,y shifts)
  - Degrees: o vs o



Endeavour
Adventure
Discovery
Resolution

The Resolution

Be confident. Use ink.

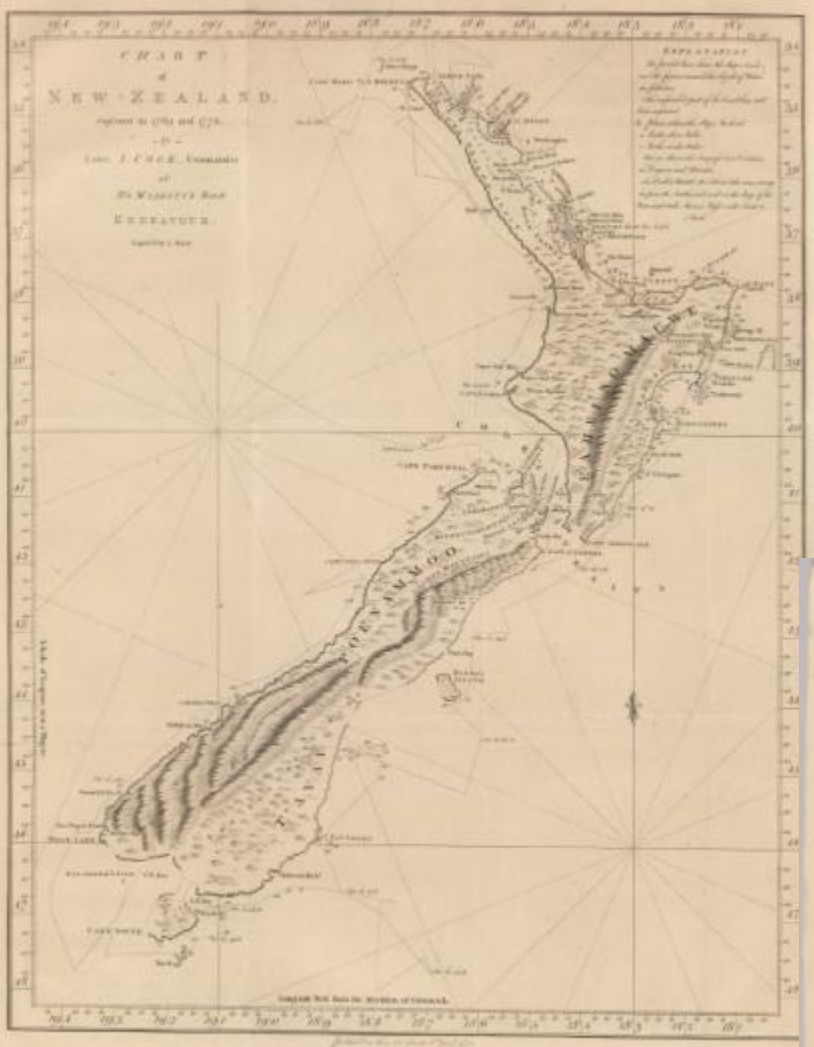


CHART
of
NEW-ZEALAND.
explored in 1769 and 1770.
by
Lieut. J. COOK, Commander
of
His Majesty's Bark
ENDEAVOUR.
NEW ZEALAND

CHART
of
SAINT ELIAS ISLES,
explored in 1778.
by
Lieut. J. COOK, Commander
of
His MAJESTY'S Ships
RESOLUTION and DISCOVERY.
NISLING
SEA
GULF
OF
CHUGACH
BHERING SEA

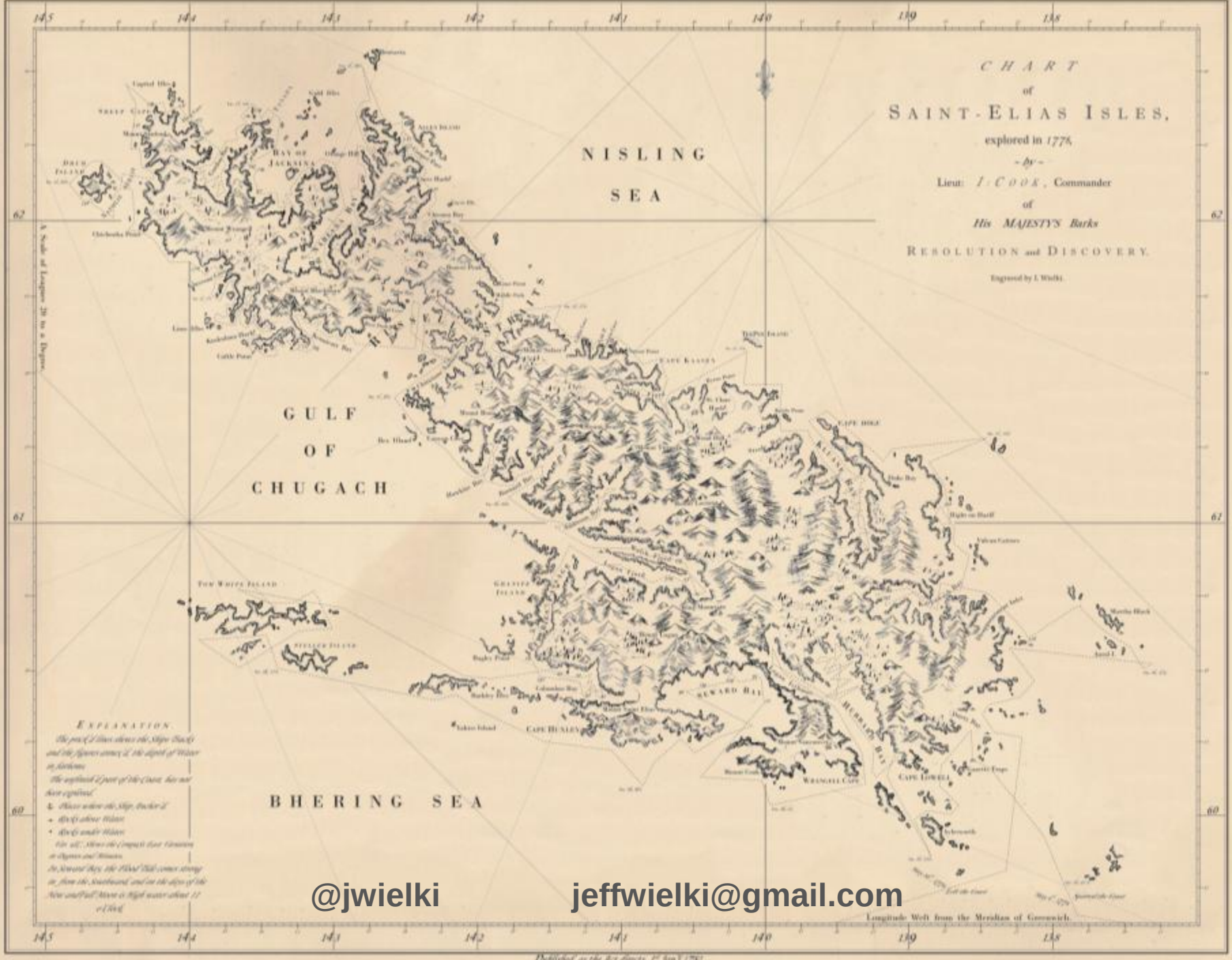


CHART
of
SAINT-ELIAS ISLES,
explored in 1778.
- by -
Lieut: J. COOK, Commander
of
His MAJESTY'S Barks
RESOLUTION and DISCOVERY.
Engraved by I. Wielki.
NISLING
SEA
GULF
OF
CHUGACH
BHERING SEA
EXPLANATION.
@jwielki
jeffwielki@gmail.com
Longitude West from the Meridian of Greenwich.
Published as the Act directs 1st Jany 1782.

Sources

- Captain Cook Society

  http://www.captaincooksociety.com/
- Elevation Model: GTOPO30

  http://eros.usgs.gov
- Topo maps
  - ArcGIS NGS Topo US 2D

    server.arcgisonline.com/arcgis/services/NGS_Topo_US_2D/MapServer
  - Natural Resources Canada, CanMatrix

    http:..geogratis.cgdi.gc.ca
- NOAA (Magnetic Data)

  ftp://ftp.ngdc.noaa.gov/geomag/Historic_UFM_maps/
- David Rumsey Cartography Associates.

  www.davidrumsey.com

@jwielki **jeffwielki@gmail.com**