Production of Navigational Chart INT-905 – „Northern Weddell Sea“

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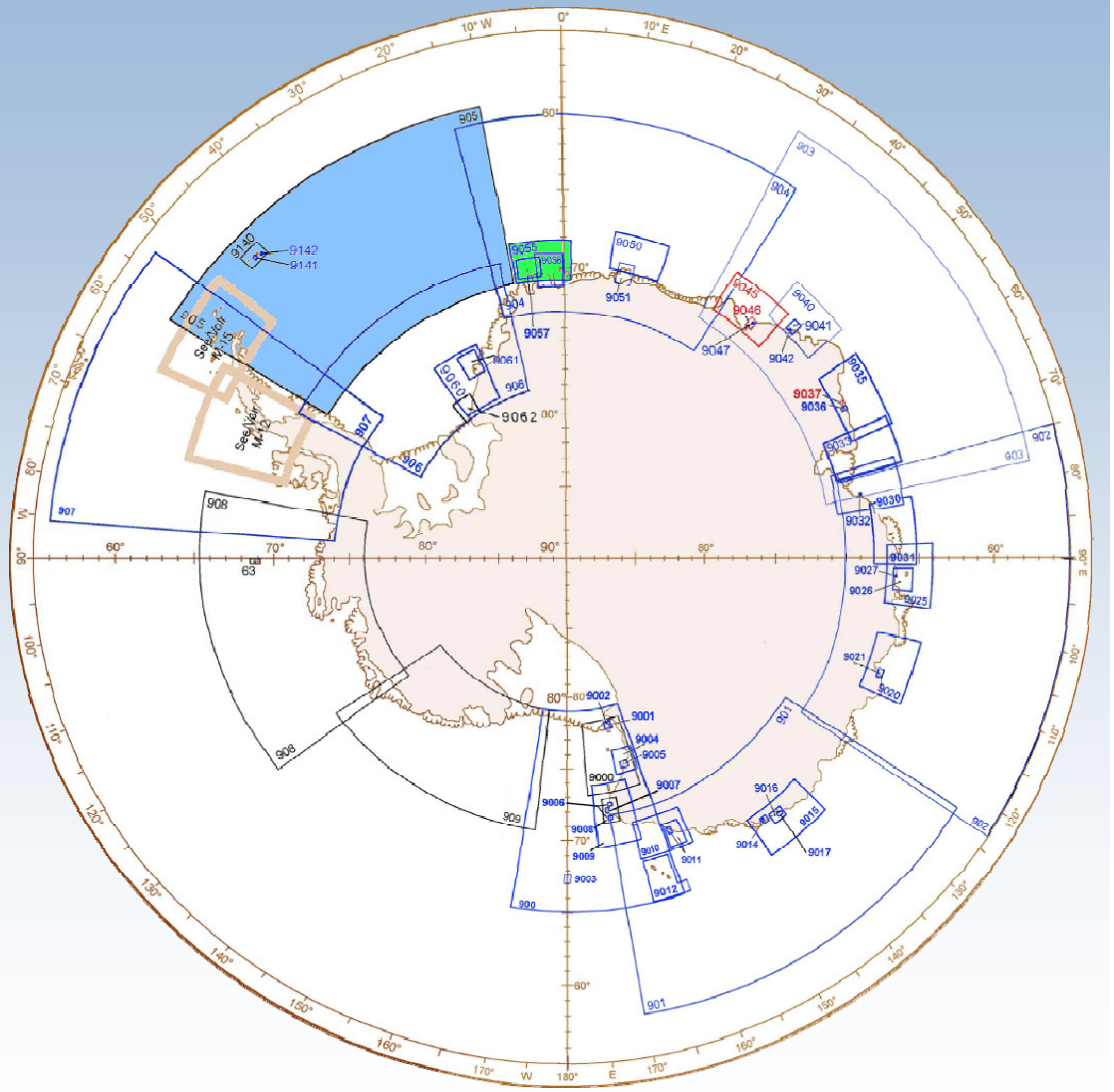
Project definition

IHO: HCA
S-11: Part B, region M
No.: INT-905
DE-1700
W / E: -59°00‘ / -11°00‘
S / N: -71°00‘ / -59°10‘
Mercator Projection
Lat_0.: 66°00‘S
S-44: overview
Scale: 1:2,000,000
HD: WGS 84
VD: Mean Sea Level

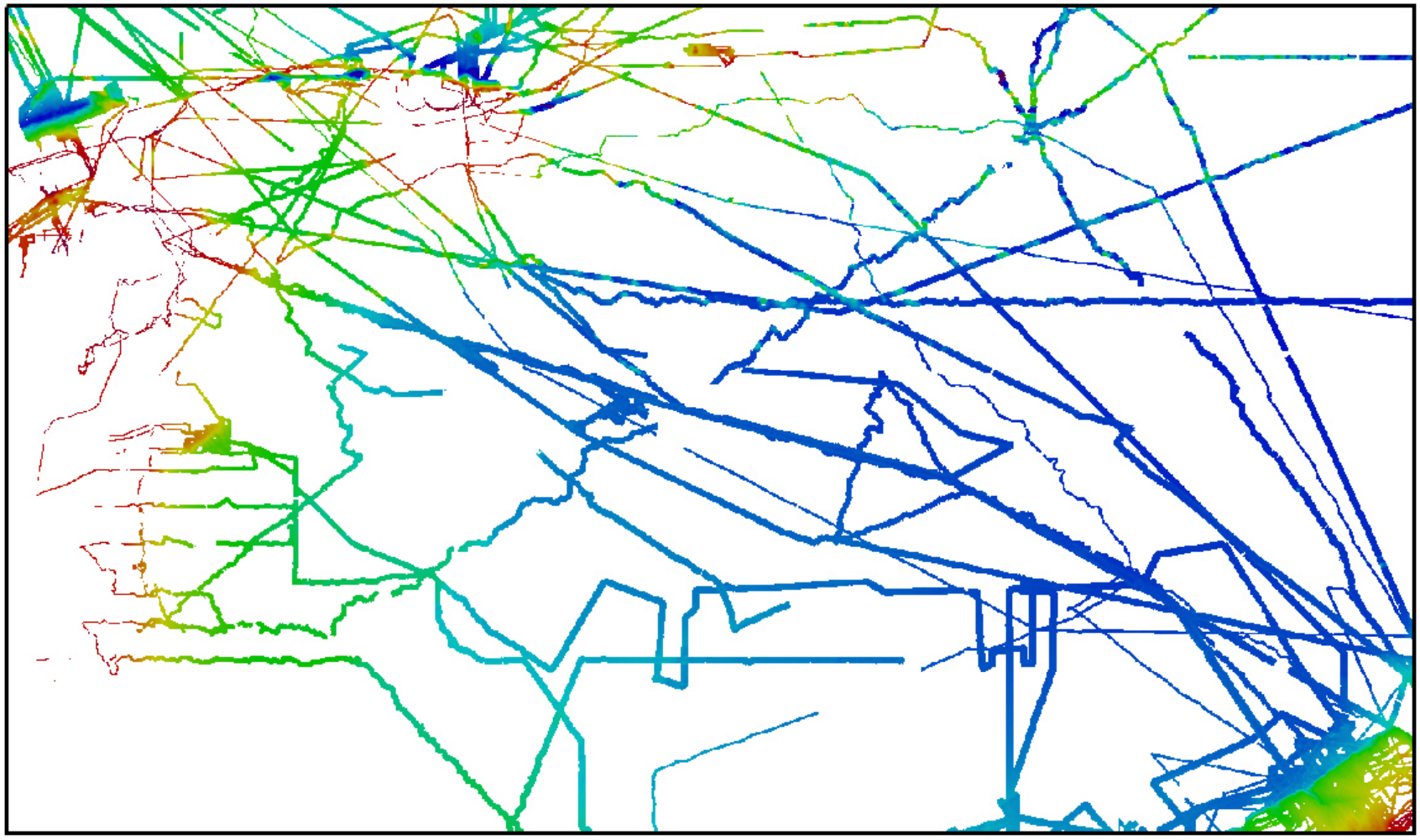


Data basis – depths

- Multibeam bathymetry
  from R.V. Polarstern
- Singlebeam profiles
  provided by UKHO (NGDC/GEODAS)
- Coast line: World Vector Shorline (NGDC)
- Contour lines
  from AWI-BCWS and adjacent INT-charts
- Land elevation from ADD5

$\Rightarrow$ (DTM,) Contour lines and Soundings

Data basis – Multibeam bathymetry



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Data basis – Singlebeam bathymetry

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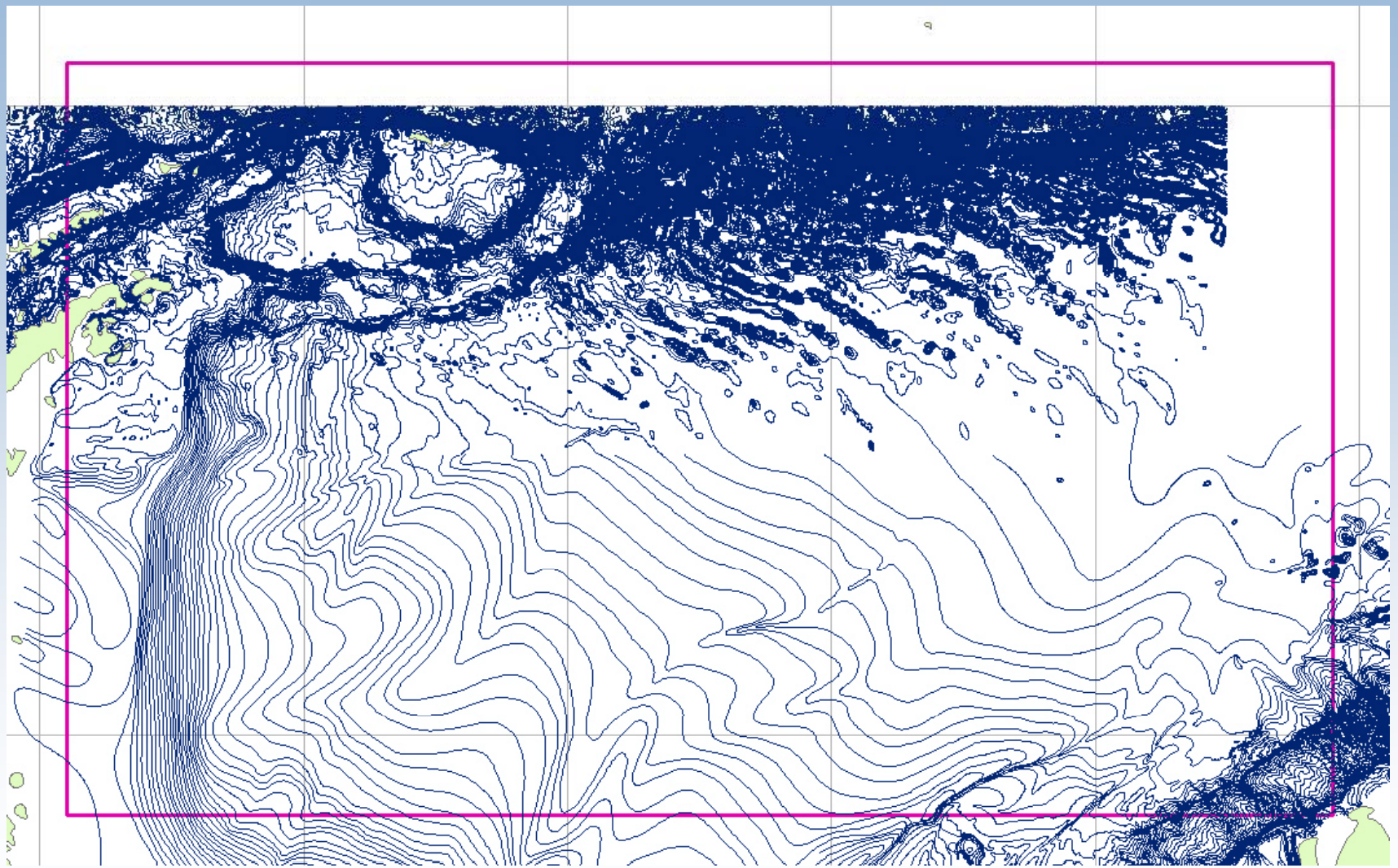
Data basis – contour lines



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Data basis – adjacent charts

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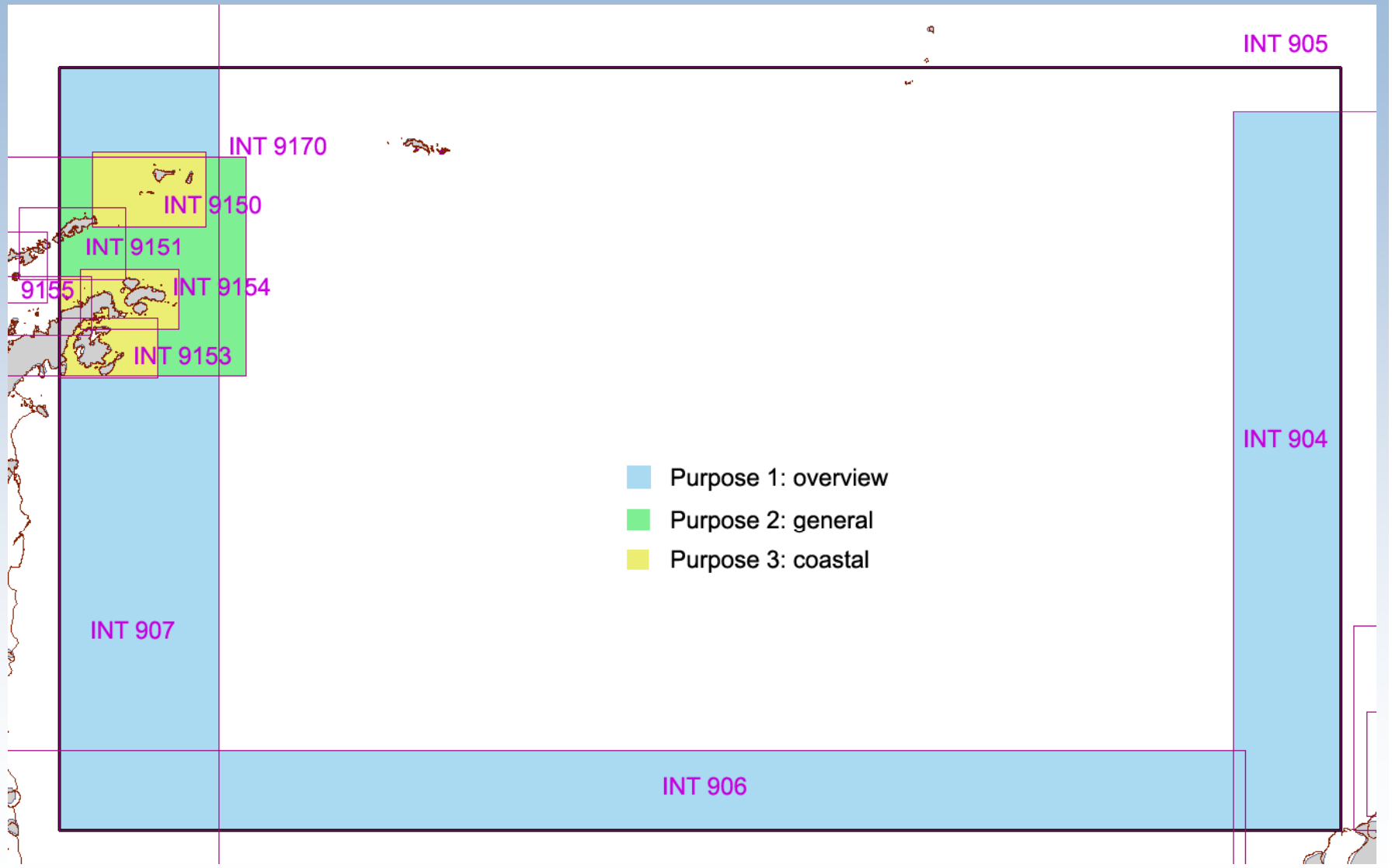

Feature labelling

- IHO B-8 (GEBCO – SCUFN) – July 2010
- IHO S-23: limits of the seas – 4th edition
- SCAR Composite Gazetteer of Antarctica (CGA) – online
- UKHO Admiralty Sailing Directions (ASD) – 7th ed. 2009

Names of Undersea Features:	CGA: 31 / SCUFN: 35
Names of islands:	CGA: 22 / ASD: 24
Names of land regions:	CGA: 4 / ASD: 4
Names of the seas:	CGA: 4 / ASD: 4 / S-23: 7
Names of research stations*:	CGA: 9 / ASD: 14

(*) not all names are registered; variations between the names

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Feature labelling

Transliteration of feature names:

Electronic Nautical Chart (ENC):
Variables for both: OBJNAM, NATNAM
Paper Chart:
Convention recommended

Geographic representation:

	SCUFN:	POINT or LINESTRING
	CGA:	POINT
	S-23:	POLYGON, textual description
	ASD:	textual description
⇒	ENC:	POLYGON

Chart production

- Cleaning of Swath Sonar Bathymetry (HIPS / SIPS)
- Grid /DTM calculation – using shoales depths; filtering and interpolation (HIPS / SIPS)
- Combination of grids from singlebeam and multibeam bathymetry (Base Editor)
- Calculation of soundings from grids (Base Editor)
- Adjustment of AWI-BCWS contours compared to DTM and high density soundings (Base Editor)
- Generalisation of costlines if necessary (Base Editor)
- Import data to HPD – Source Editor / Validation
- Production of ENC (S-57 Composer)
- Production of paper chart (Paper Chart Editor)

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Chart production – Quality assessment

Difference between singlebeam profiles and GEBCO

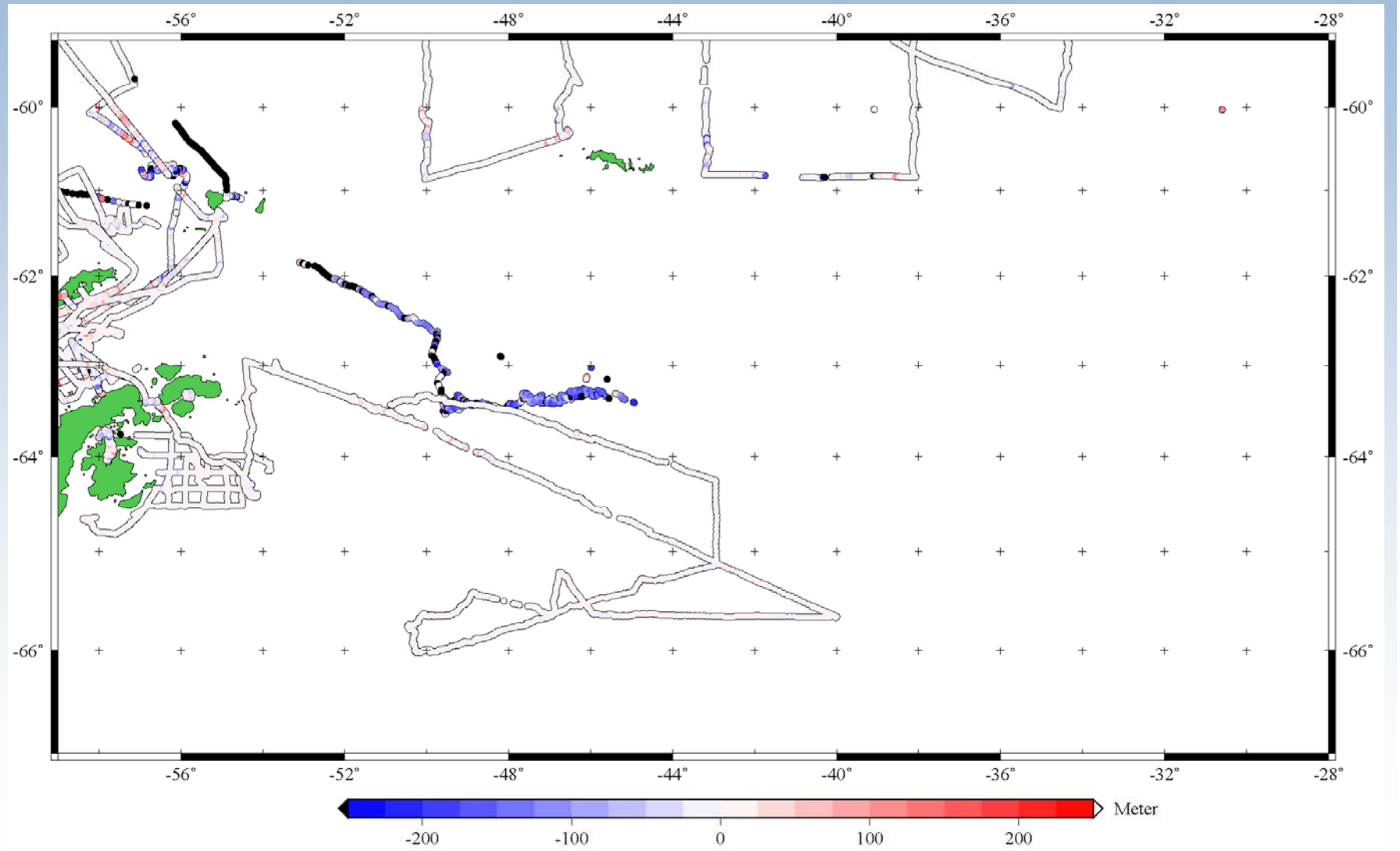

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Chart production – Quality assessment

Difference between singlebeam and multibeam bathymetry

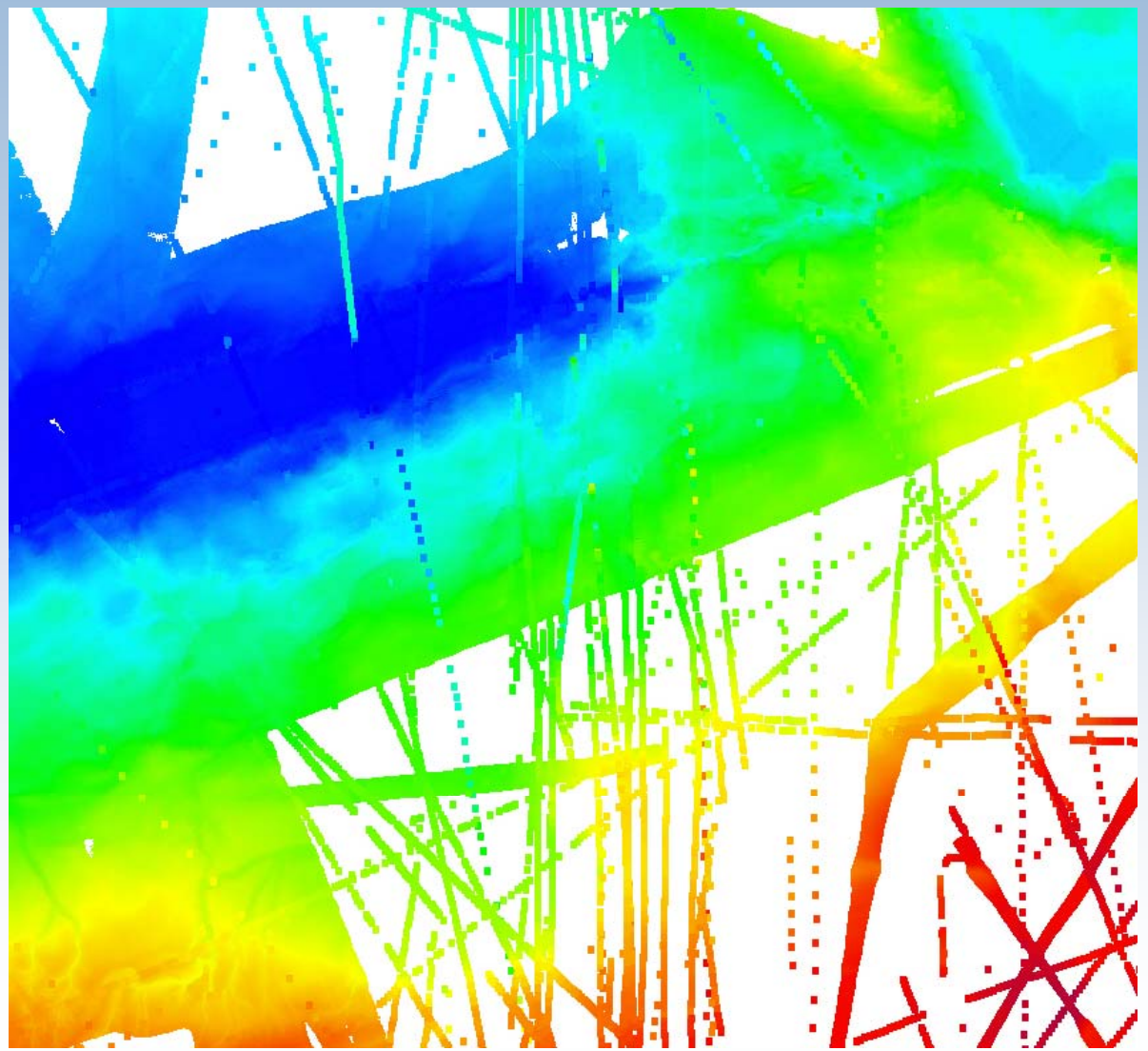

Chart production – Quality assessment

Modelling by comparison and interpretation of morphology

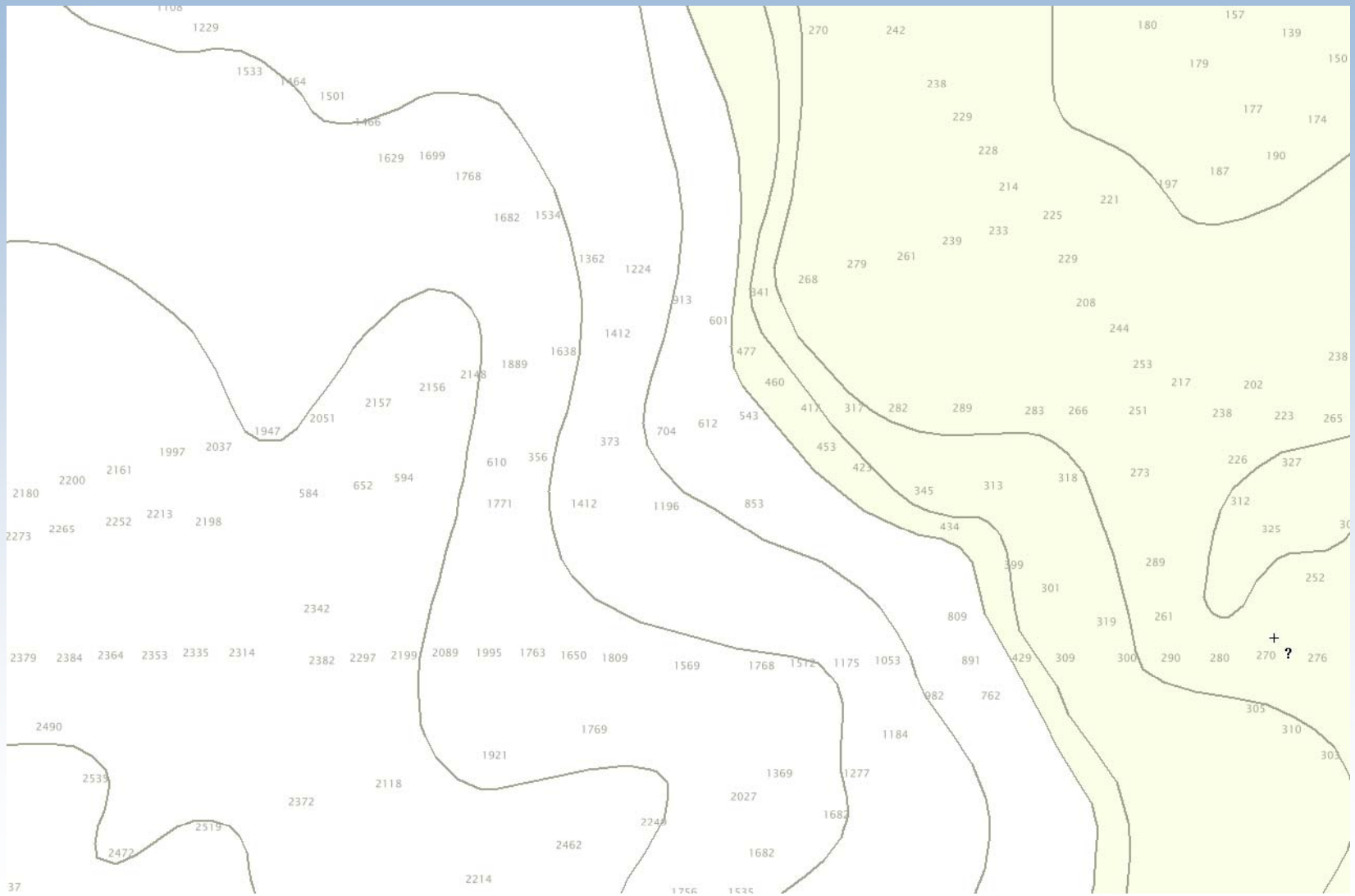

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Chart production – Quality assessment

Modelling by comparison and interpretation of morphology

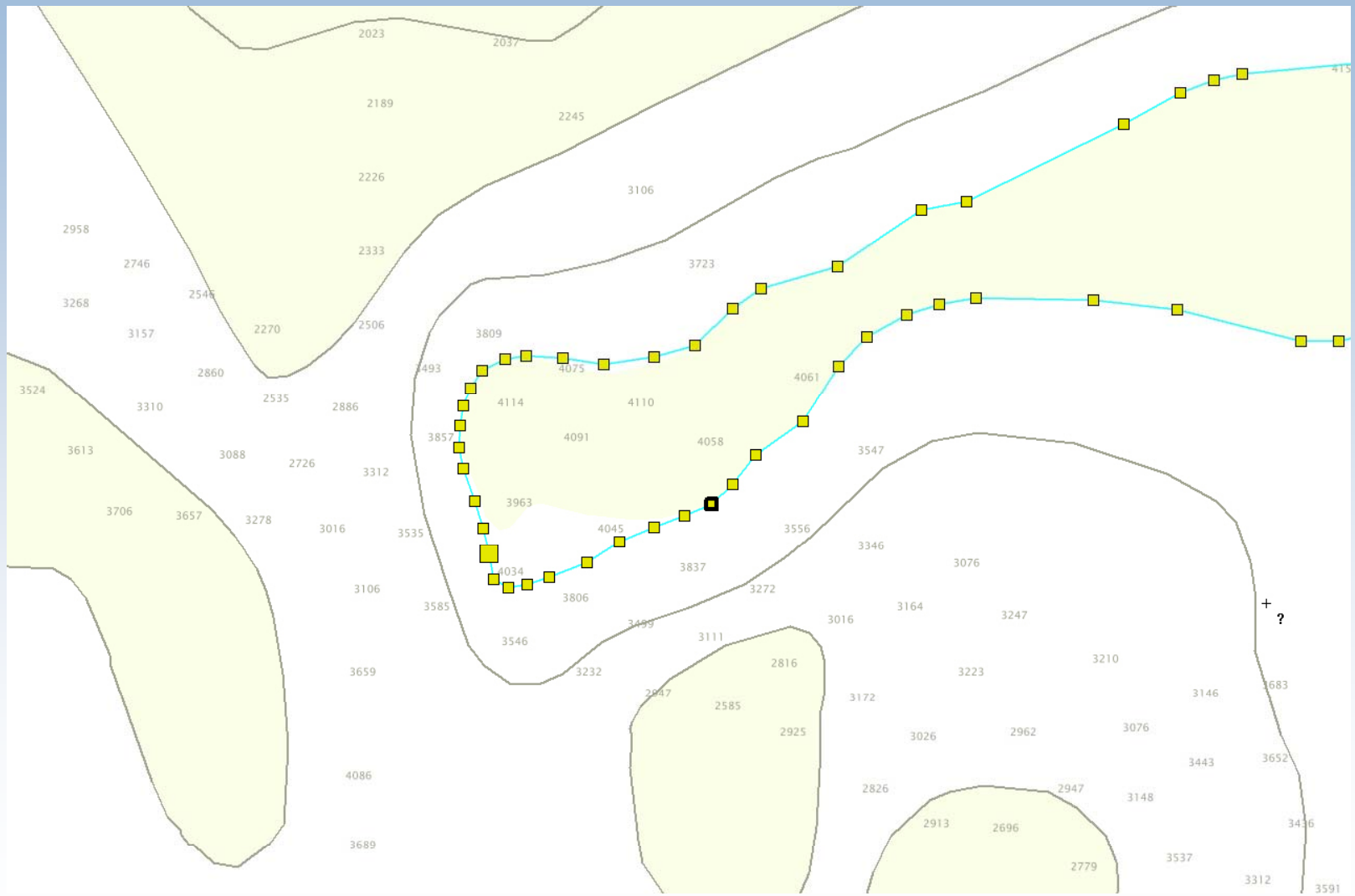

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Chart production – Result

Documentation: http://apps3.awi.de/eBathy/int905/int905.html

THANK YOU
FOR YOUR ATTENTION