ARHC14: National Report Norway

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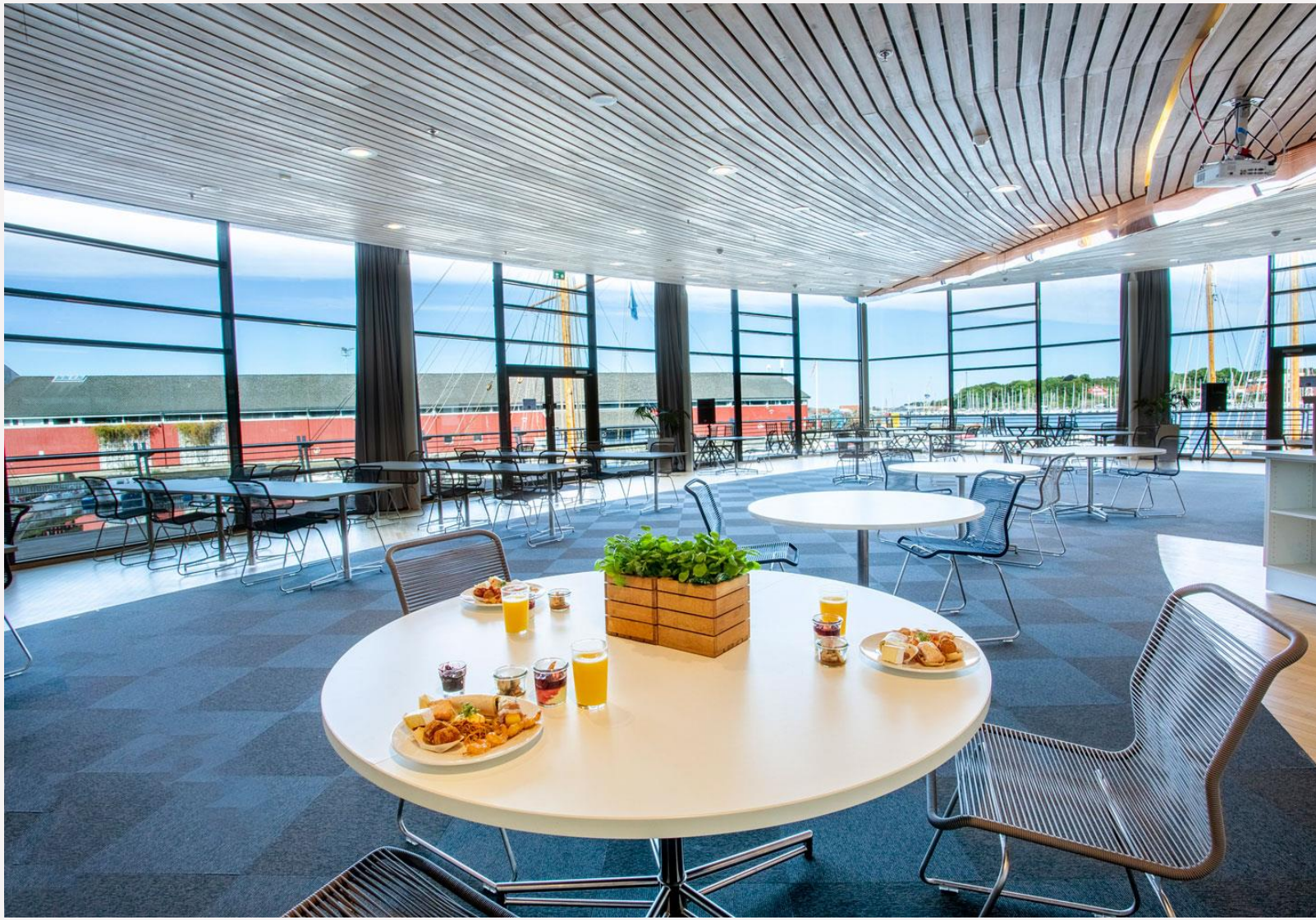
New office location

- Downtown Stavanger
- New workplace concept
- March 2025

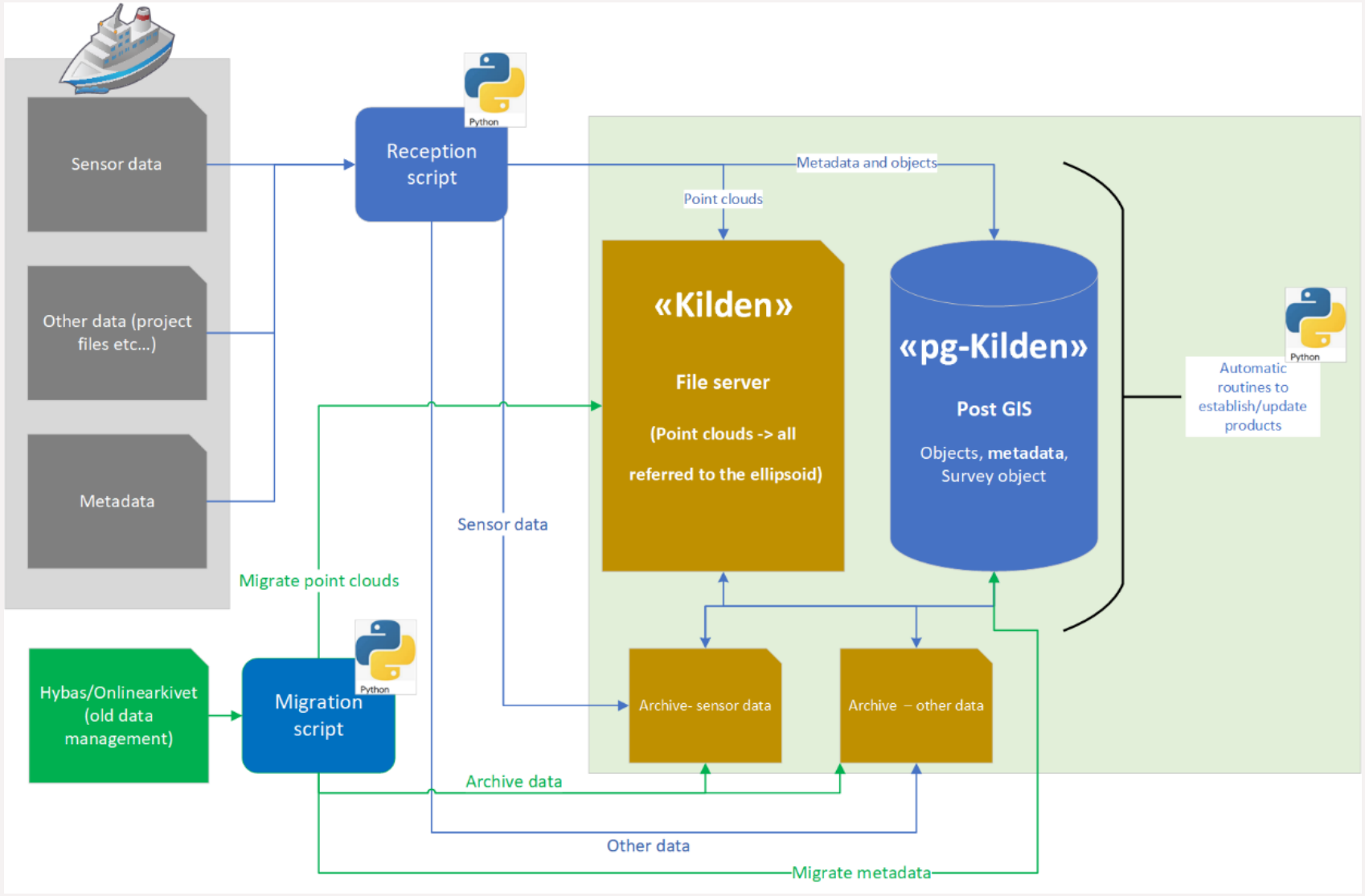


New trends

- Budget
- Defense

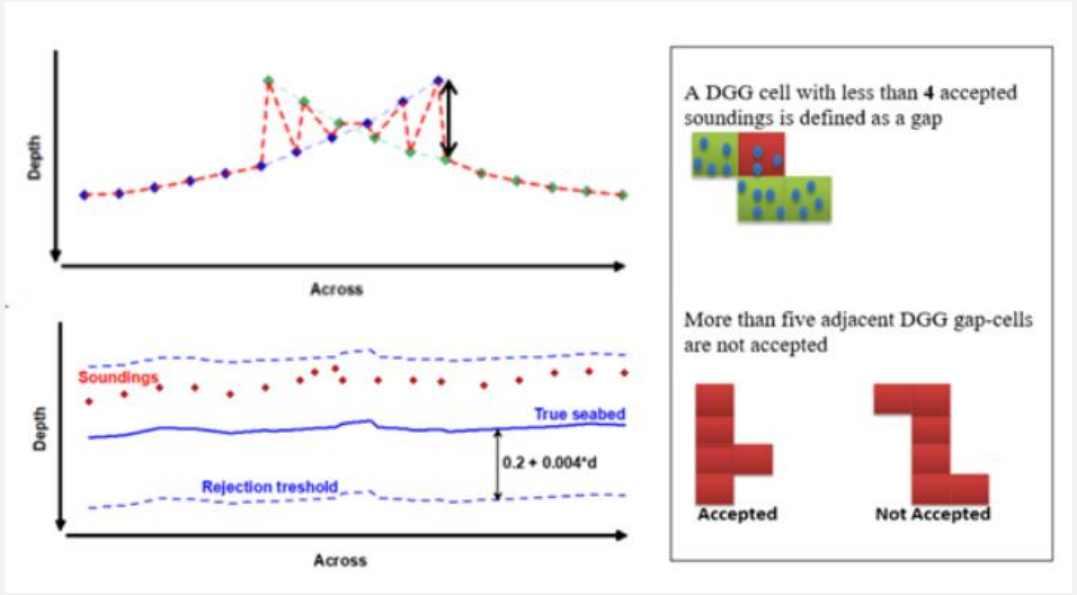
HYDRIS Data management solution

- No longer based on CARIS Bathy database server.
- By end of this year, all data migrated from old server HYBAS.



A digital survey specification

- Coverage criteria
  - Grid resolution vs. depth
  - Point count requirement
  - Data gap (holiday)
  - Cell approval ratio
  - Boundary check



[From Mareano technical specification]

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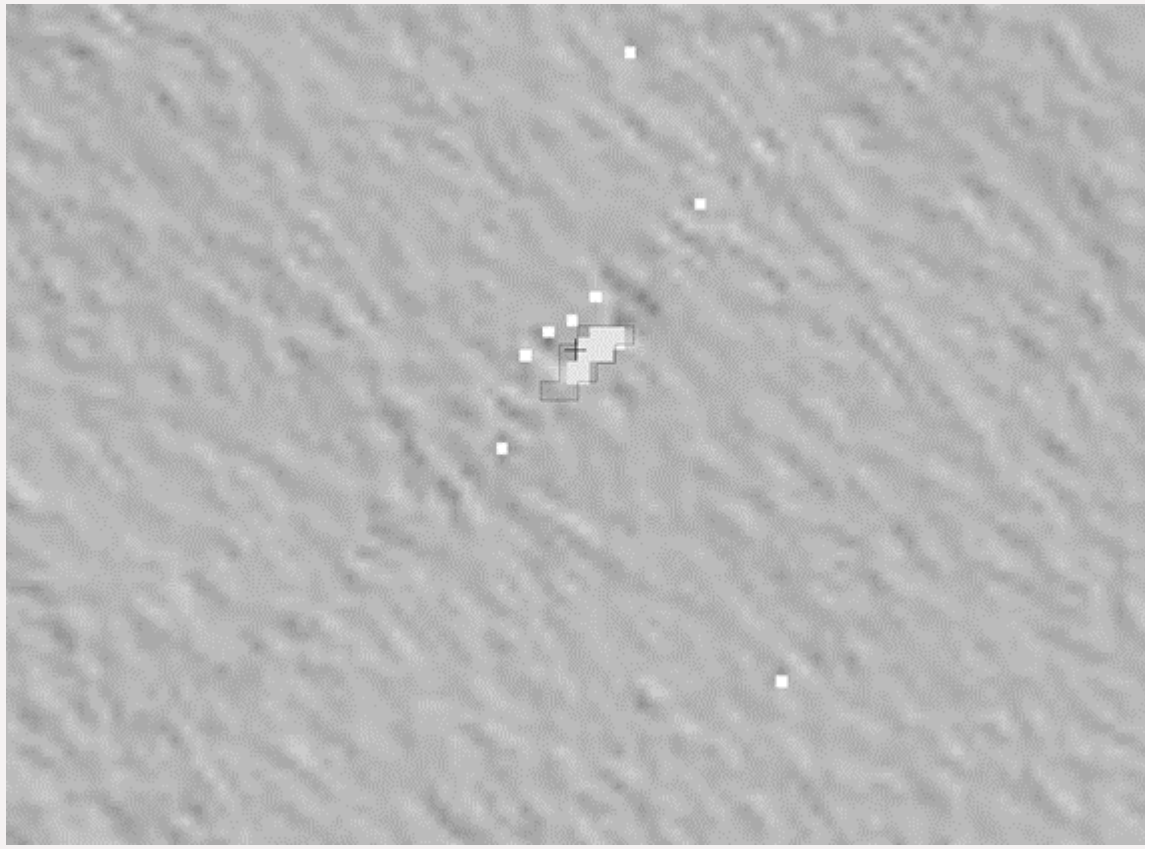
Results Coverage

Rejected grid cell clusters as raster/vector



HTML report

General information

Dataset name	[redacted]
Date processed by program	4/12/2023
Hydris version used	0.1.119
Pyproj version used	3.6.1
PROJ version used	9.3.0
Total runtime	7 min, 32 sec

Dataset status

0.1% criteria	Accepted		**Units**
Total soundings	734755120	63.543	soundings/average per cell
Soundings outside boundary	128020	0.001	soundings/percent of total
Depth range, MSL depth	145.34833544083224	348.1499938964844	m
Projected datum/zone	ETRS89 / UTM zone 32N	EPSG:25832	
Projected vertical datum	MSL depth	EPSG:5715	
North (min/max)	6382592.0	6426624.0	m
East (min/max)	323584.0	362112.0	m

Cell statistics

Categories of cell coverage	**Cell count:**	**Percent:**
Total number of cells	11563170	100.0
Accepted cells	11563094	99.999
Rejected cells	76	0.001
Cells without soundings	2	0.001
Cells with soundings	11563168	99.999
Rejected cells with soundings	74	97.368

Rejected cell clusters statistics

Cluster size	1	2	3	8
Number of clusters	54	4	2	1
Number of cells	54	8	6	8
Marked as accepted	Yes	Yes	Yes	No

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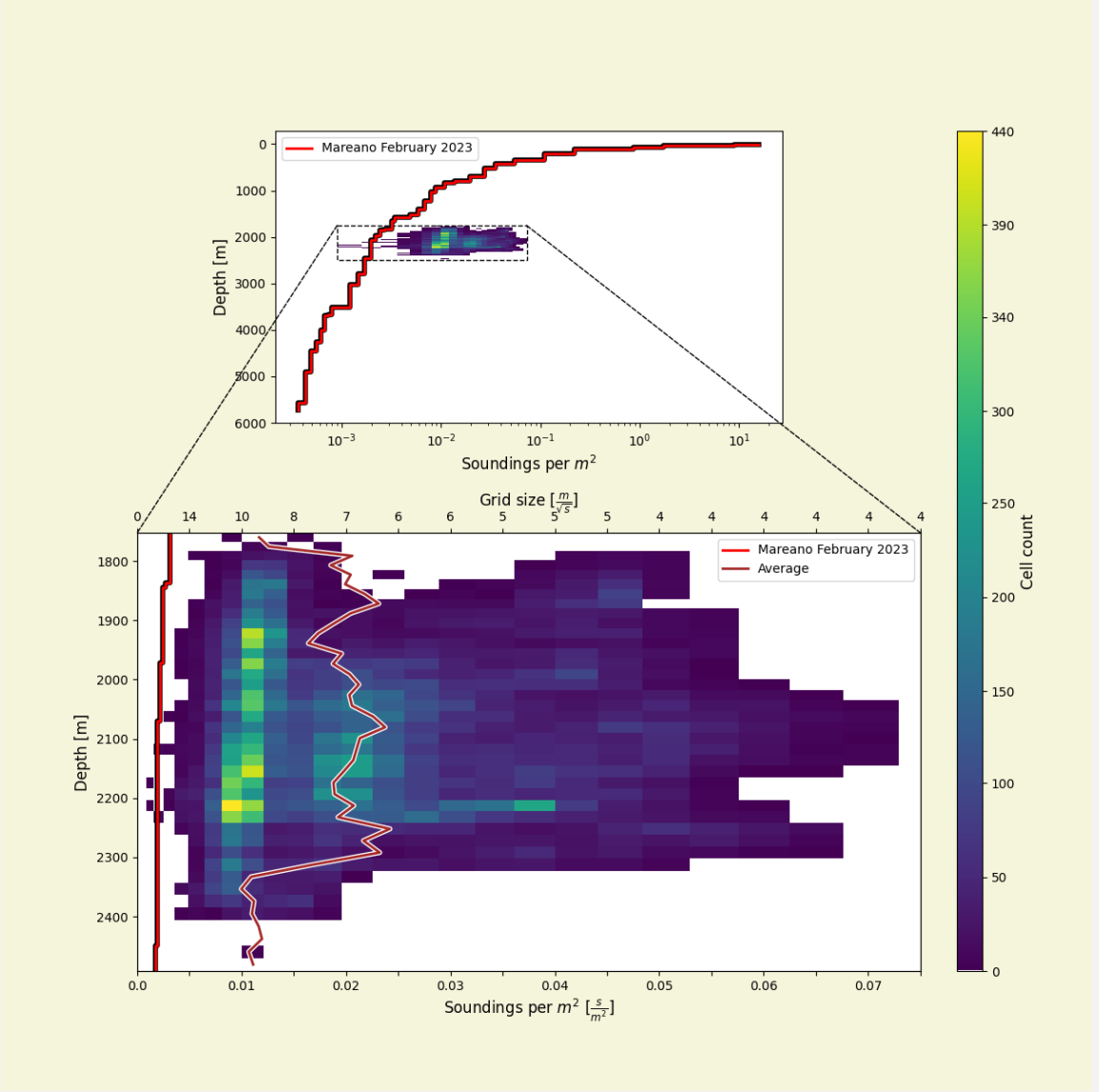
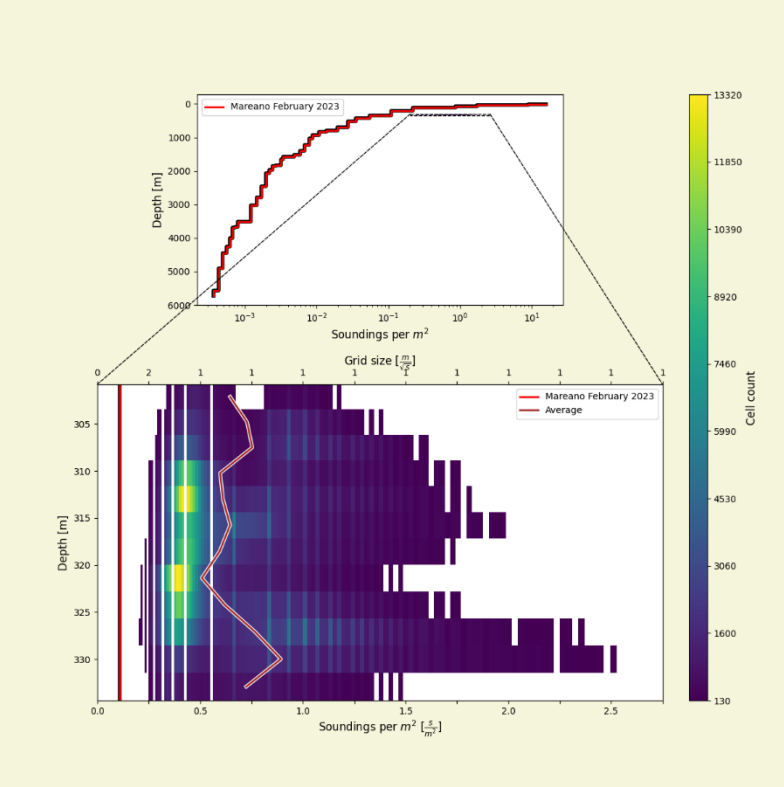
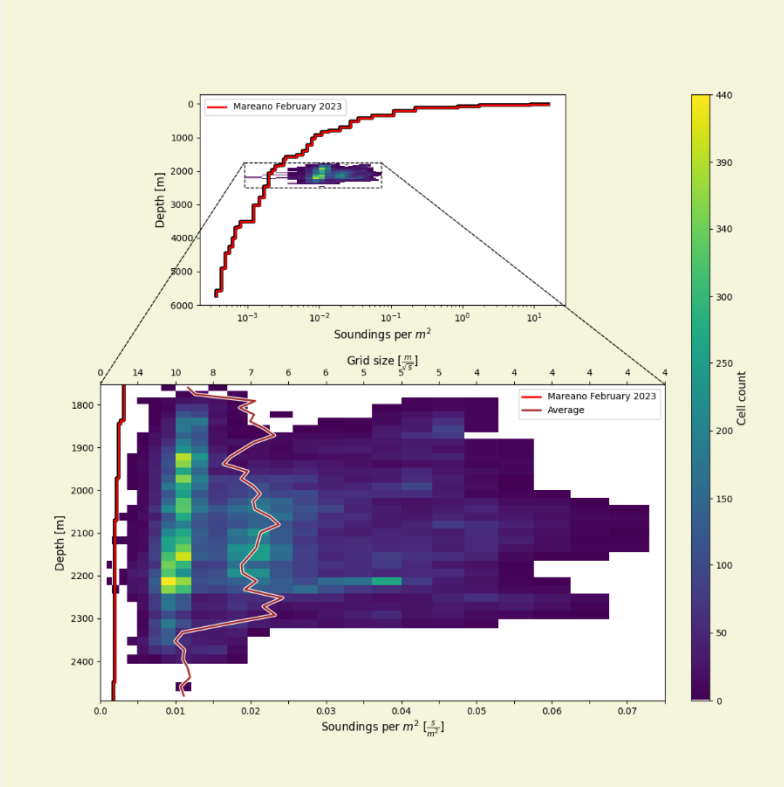
Survey insight at a glance

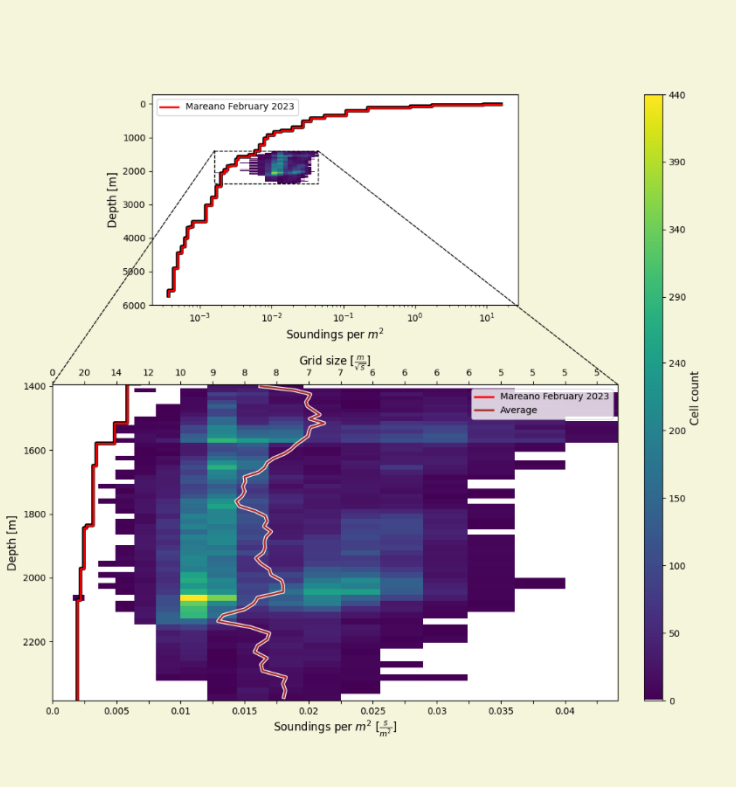
The automatic analysis for coverage summarized in an easy to interpret graph.



Comparison of different surveys

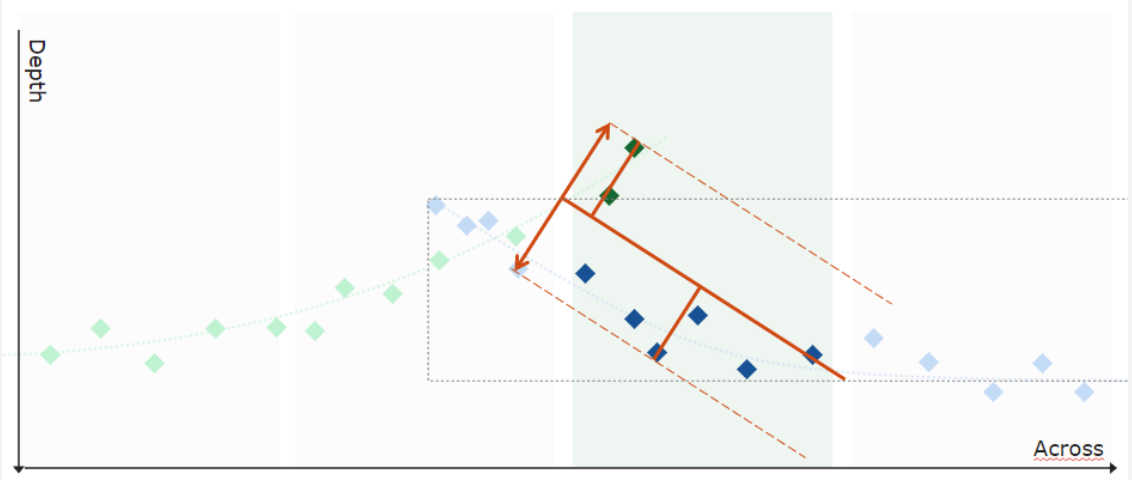






Vertical noise validation

- Vertical accuracy/uncertainty
  - Grid resolution vs. depth
  - Statistical binning
  - Plane fitting
  - Compare to TVU requirement



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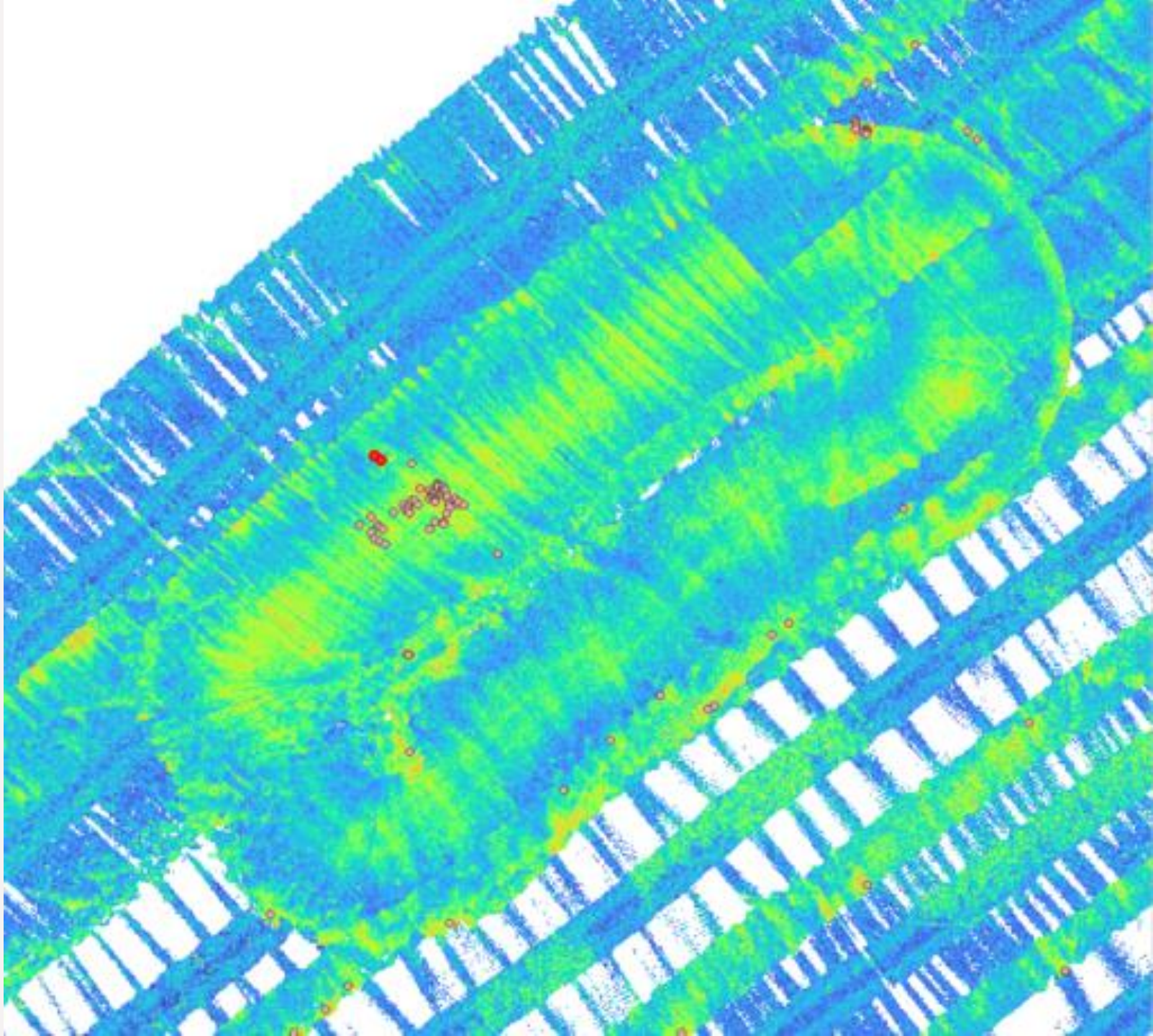
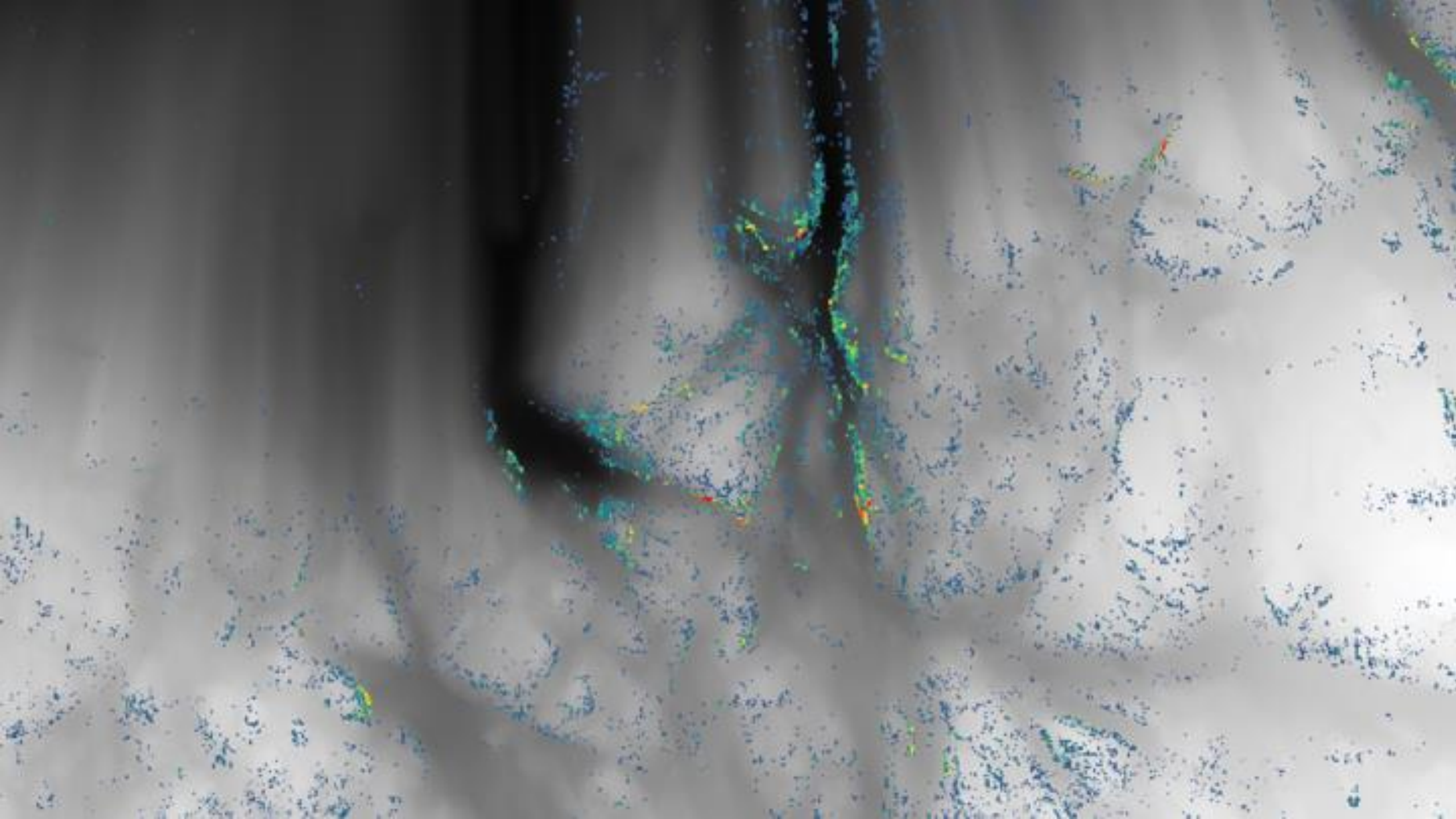
Noise validation

Validates noise automatically according to Mareano survey specification

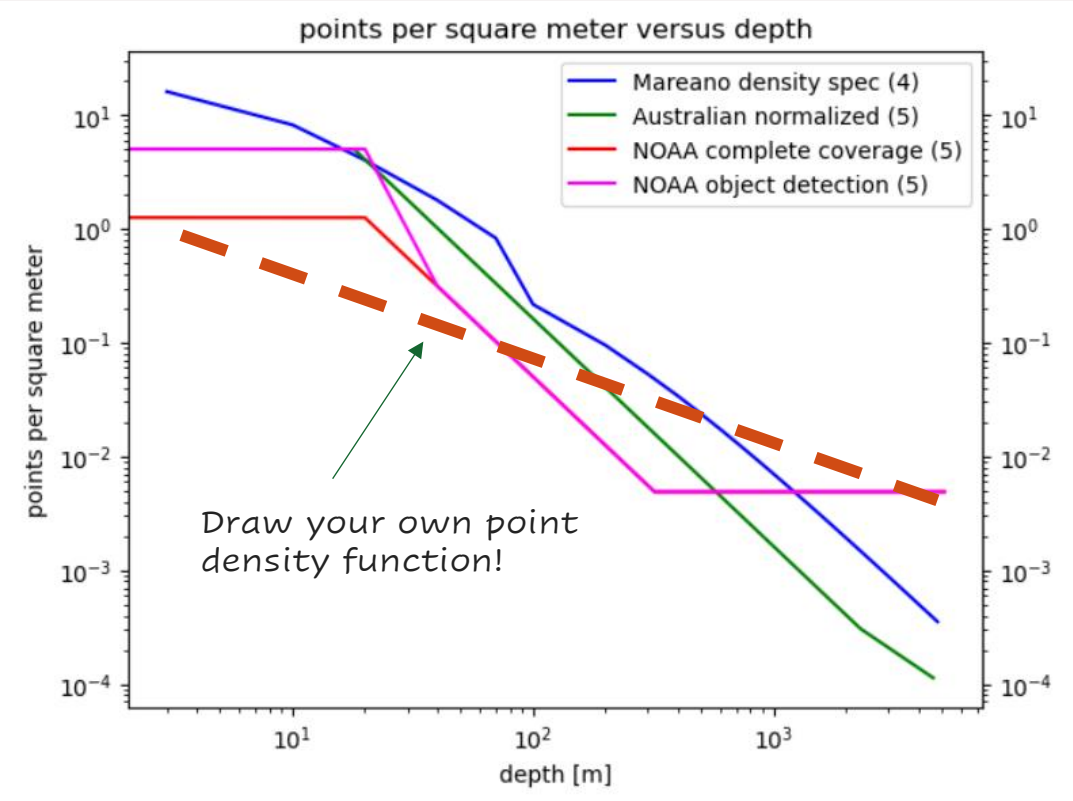
98% match with manually identified noisy areas





Next steps

- Other specifications
  - Open source (2024)
  - Collaboration
  - Revision of technical specification
  - New source: .all/.kmall



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Saving time and effort

1. Quality control takes less time, saving more than 90% of the man hours.
2. We can validate for criteria previously unattainable.
3. We can compare effect of (post-) processing, finding what’s «good enough».
4. Establishing a reconciled understanding of survey quality.

Run-time characteristics:

On a survey with 1 billion soundings

- Coverage validation runtime: 15 minutes
- Vertical accuracy: 2 hours