

National Report of Iceland

Executive summary

This report gives an overview of the work of the Hydrographic and Maritime Safety Department (HMSD) of the Icelandic Coast Guard (ICG) for the period from ARHC11 in November 2021 to date.

1. Hydrographic Office / Service

The Hydrographic Office in Iceland is a department within the ICG. The Hydrographic and Maritime Safety Department (HMSD) carries out the tasks the Icelandic Coast Guard is responsible for according to Icelandic law i.e., hydrographic surveying and nautical charting in the waters around Iceland. Current number of staff of the HMSD is eight people.

2. Surveys

In 2022 surveying continued in Ísafjarðardjúp and north of the Westfjords. The 2022 survey season is planned from May to September, 15 weeks of surveying on the survey vessel BALDUR.

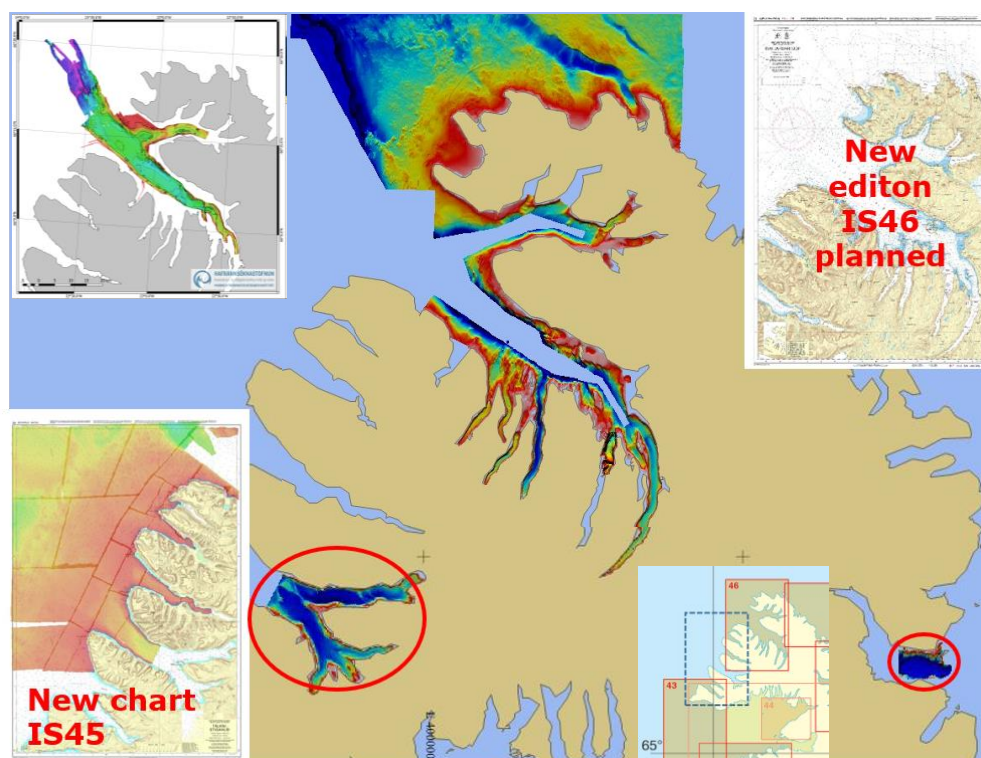


Fig. 1 The 2020, 2021 and 2022 surveys in Ísafjarðardjúp and north of the Westfjords. Addition to planned surveys in 2021 circled in red. The Marine Research Institute surveyed part of Ísafjarðardjúp in 2008. The new chart IS45, fills a gap in the 1:100.000 Coastal chart series.

As mentioned in ARHC11 IS National Report survey-focus shifted in 2020 from Breiðafjörður to Ísafjarðardjúp and northern parts of the West fjords. Before heading further north, the start of the 2020

survey season saw the surveying the narrow approach to Reykhólar, a small but locally significant port in the easternmost part of Breiðafjörður. Two new harbour plans in the area, IS432 and IS433 were published in May 2021.

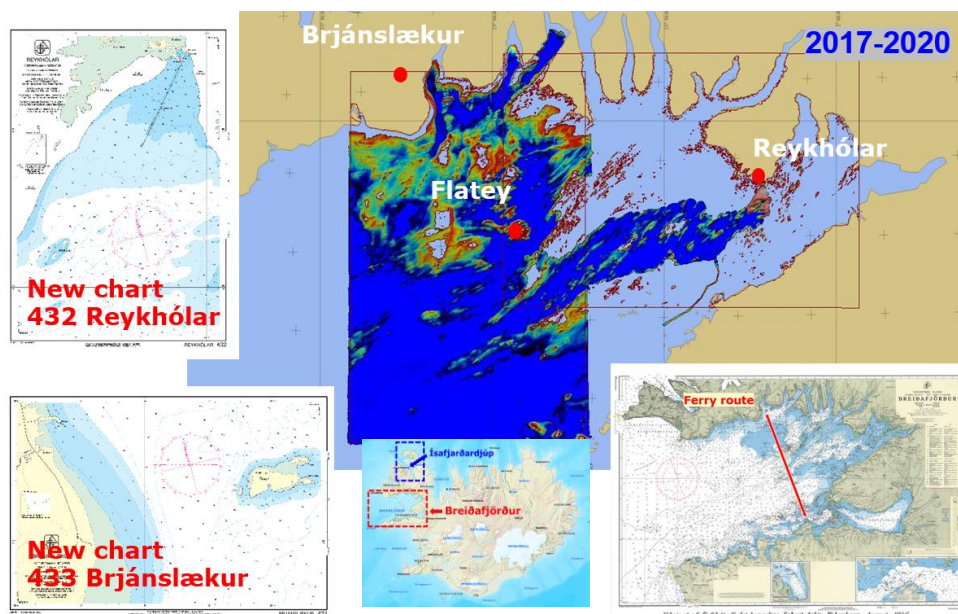


Fig. 2 The coverage of 2017-2019 surveys and the 2020 survey of the approach to Reykhólar in Breiðafjörður. New charts at scale 1:50.000 are planned to cover inner part of Breiðafjörður, including the ferry route across the bay.

In addition to scheduled survey activities, contract work was carried out for the Port Authorities in Reykjavík in relation to works in progress, dredging and key extensions. The data gathered over the years, through this contract work and regular surveys, gives a good picture of the sea floor of Kollafjörður.

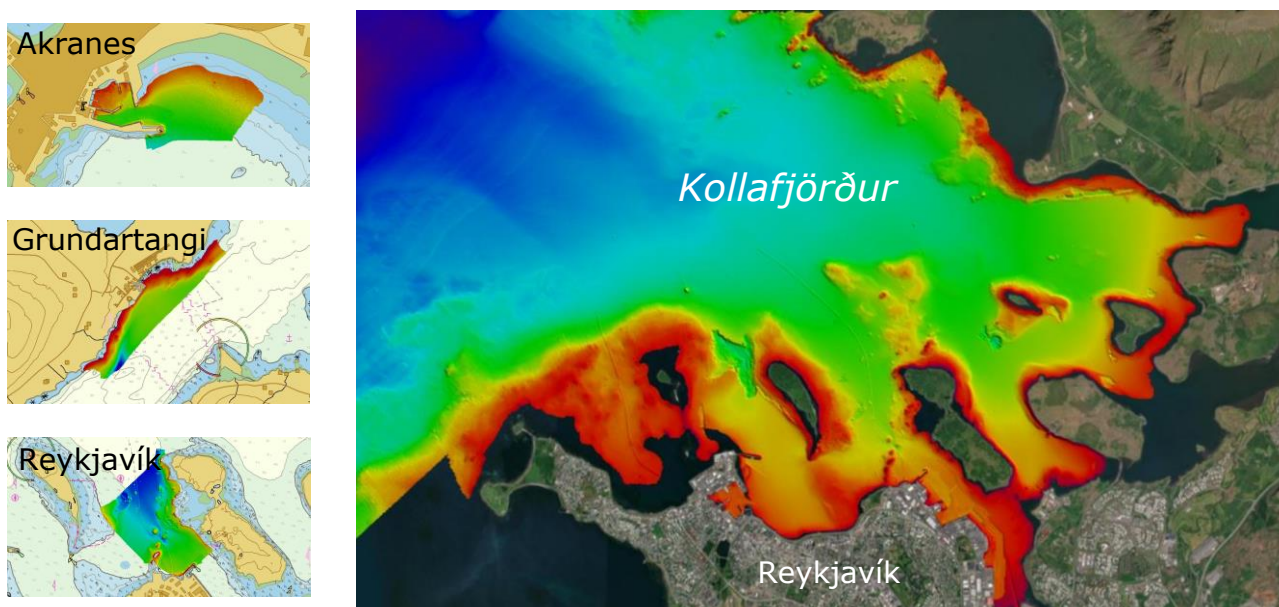


Fig. 3. Multibeam surveys cover Kollafjörður except the shallowest areas. Left side: Screen captures of surveys for the Port Authorities in Reykjavík in 2022.

In the years from 2017 to 2020 the department experienced a painful fall in number of staff to mere six people. The survey section which now has two hydrographic surveyors plus a surveyor in training, has therefore to deal with extensive backlog. The future looks brighter though. Current estimate is that it will take 2-3 years to get survey processing back on track. Unfortunately, two employees have been on sick leave. One started on sick leave in November 2021 but has now returned to work part-time. The other went on sick leave in July 2022. It is not known when the person will return to work. This has, of course, had a considerable impact on the department's work.

3. New charts & updates

ENCs

International Centre for ENCs (IC-ENC) distributes Icelandic ENCs. In 2021, two new cells were issued, 17 new editions made and 14 updates. In 2022 26 new editions have been made and 3 updates. Iceland produces and maintains 73 ENC cells.

National paper charts

Twelve new editions have been published since last report in November 2021. The table below list this.

New editions

National No.	Title	Scale	Pub. month
362	Reykjavík	1:10 000	01/2022
715	Eskifjörður	1:10 000	01/2022
716	Reyðarfjörður	1:10 000	01/2022
717	Fáskrúðsfjörður	1:10 000	01/2022
416	Bolungarvík	1:10 000	03/2022
422	Ólafsvík	1:10 000	03/2022
523	Ólafsfjörður	1:10 000	05/2022
524	Dalvík	1:10 000	05/2022
611	Þórshöfn	1:10 000	05/2022
42	Breiðafjörður	1:160 000	06/2022
421	Rif	1:10 000	06/2022
522	Siglufjörður	1:10 000	07/2022

Planned new harbour plans

Ten new harbour plans (size A3) are planned for publication either before end of 2022 (Q4) or in first quarter of 2023 (Q1).

Once published these harbour plans will mark a milestone in publication of Icelandic harbour plans. Nearly all active ports will by then have been covered. Harbour plans A3 size will be available for all medium and almost all small size ports in Iceland. The following table lists these harbour plans.

National No.	Title	Scale	Planned
322	Arnarstapi	1:10.000	Q4 2022
517	Blönduós	1:10.000	Q4 2022
513	Drangsnes	1:10.000	Q4 2022
525	Hrísey	1:10.000	Q4 2022
526	Árskógssandur	1:10.000	Q4 2022
527	Hauganes	1:10.000	Q4 2022
531	Grenivík	1:10.000	Q4 2022
536	Kópasker	1:10.000	Q4 2022
612	Bakkafjörður	1:10.000	Q4 2022
710	Borgarfjörður eystri	1:10.000	Q4 2022

In addition to this, new editions of all coastal charts in scale 1:100.000 is planned for 2022 (Q3-Q4).

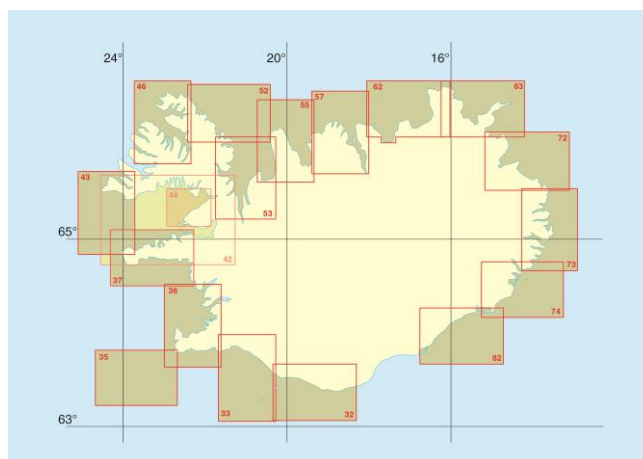


Fig.4. New editions of the 17 coastal charts is planned in 2022.

A New Edition of IS42 Breiðafjörður was published in June 2022 and is now available as POD. The chart was first published in 1946 by the Royal Danish Hydrographic Office. The new edition reflects status of the chart in relation to more recent larger scale IS charts. Parts of IS42 have been cancelled.

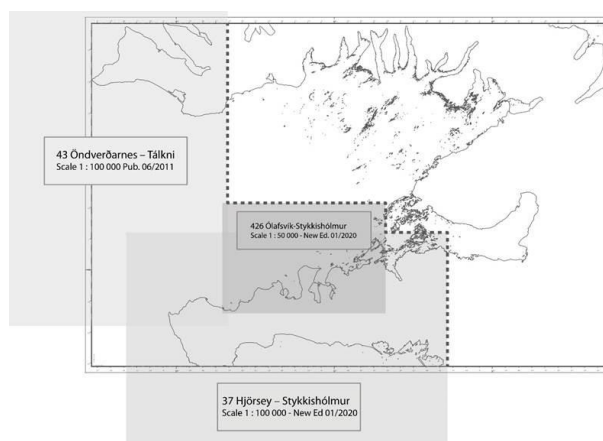


Fig. 5. Cancelled parts of IS42 with reference to newer larger scale chart which mariners are advised to use.

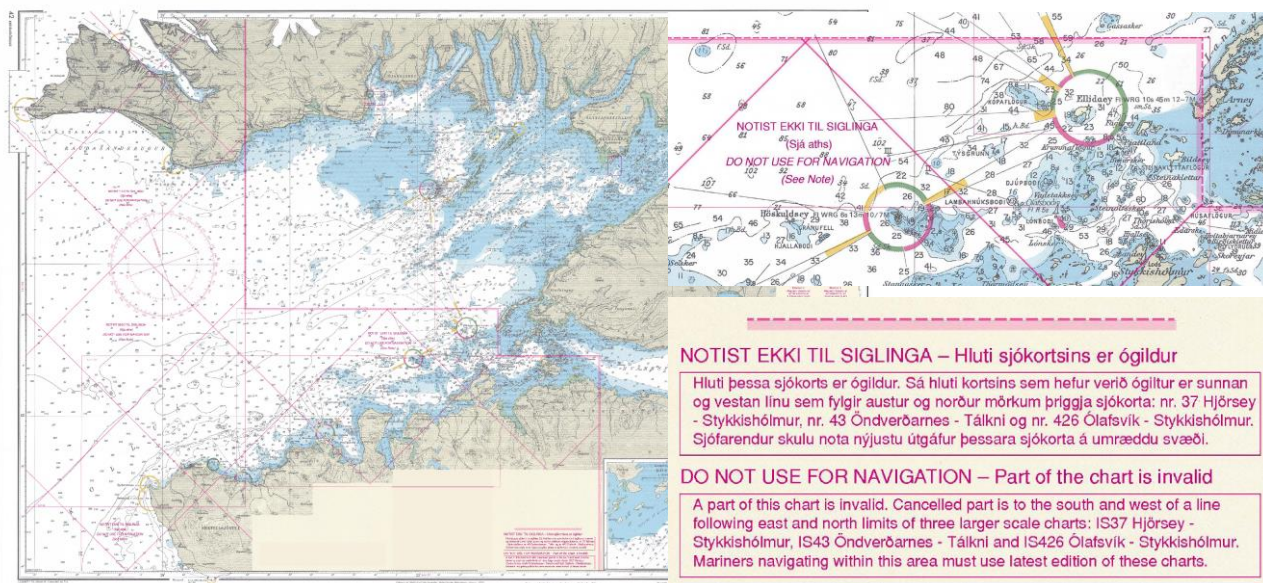


Fig. 6. The new edition of IS42 and the Note instructing mariners to use the three larger scale charts.

4. New publications & updates

The annual publications, *Tide Tables 2023*, and *Tide Almanac 2023* are planned in October. The pdf-publication, *List of Lights and Catalogue of charts* have been updated. Both are available for download at www.lhg.is. The *List of Lights* is published on behalf of the Road and Coastal Administration.

Four issues of *Notices to Mariners* were published in 2021, 29 NMs in total. Eight issues of NMs have been published so far in 2022, total of 46 NMs. In connection with NMs 1/2021 a new form of the *Cumulative list of Notices to Marines for Icelandic Charts* was launched. The document list charts in numerical order and the headings of NMs that apply to current edition. The document is available for download at www.lhg.is.

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Kort nr./ Chart No.	Titill/Title	Mælikv./ Scale 1:	Útg. mál/ Ed. MY	Nr. tilk./ NM No.	Efni tilkynningar	Subject of NM
10 INT 112	Ísland – Grænland	500.000	12/2011	2020: 23(T)	(T) A-land. Seley. Radarsvari óvirkur.	(T) E-Coast. Seley. Racon out of order.
15	Ísland - efnahagslögsaga	2.000.000	12/2011	2020: 23(T)	(T) A-land. Seley. Radarsvari óvirkur.	(T) E-Coast. Seley. Racon out of order.
21 INT 1010	Ísland	1.000.000	03/2008	2008: 5 2008: 23 2008: 25 2008: 30 2009: 11 2012: 8 2012: 9 2020: 23(T)	Dýpi. Leiðrétting. Kort nr. 21, 31, 51 og 61. Ísland. Suðurströnd. Neðansjárvarstrengr. V-land. Breiðafjörður. Dýpi. Ísland. Suðurströnd. Neðansjárvarstrengr. NA-land. Þistillfjörður. Ásmundarstaðaey. Radarsvari lagður niður. SV-land. Faxaflói. Þormóðskersvíti. Radarsvari lagður niður. SV-land. Faxaflói. Gröttuviti. Radarsvari settur upp. (T) A-land. Seley. Radarsvari óvirkur.	Depths. Correction. Charts No. 21, 31, 51 and 61. Iceland. S-Coast. Submarine cable. W-Coast. Breiðafjörður. Depth. Iceland. S-Coast. Submarine cable. NE-Coast. Þistillfjörður. Ásmundarstaðaey. Racon discontinued. SW-Coast. Faxaflói. Þormóðskeri. Racon discontinued. SW-Coast. Faxaflói. Grötta. Racon established. (T) E-Coast. Seley. Racon out of order.
31 INT 1103	Dýrhólaey - Snæfellsnes	300.000	01/2020	2020: 5	S-land. Eyjasund. Öldudúfi.	S-Coast. Eyjasund. Wave rider buoy.
32	Alvírúhamrar - Vestmannaeyjar	100.000	05/2017	2019: 1 2019: 14 2020: 5	S-land. Eyjasund. Öldudúfi. S-land. Dýrhólaey. Víti, síónmál. S-land. Eyjasund. Öldudúfi.	S-Coast. Eyjasund. Wave rider buoys. S-Coast. Dýrhólaey. Light. range. S-Coast. Eyjasund. Wave rider buoy.
33	Selvogur - Vestmannaeyjar	100.000	10/2015			
35	Fuglasker	100.000	05/2008			
36 INT 1112	Selvogur - Hjórey	100.000	10/2016	2017: 1 2017: 12 2017: 35 2019: 6 2021: 1 2021: 8	SV-land. Faxaflói. Borgarfjörður. Dýpi. V-land. Hvalfjörður. Sæstrengir. SV-land. Kollafjörður. Akkentslægi. SV-land. Reykjavík. Víti lagður niður. SV-land. Flak. SV-land. Kollafjörður. Vatnsleiðsla færð.	SW-Coast. Faxaflói. Borgarfjörður. Depth. SW-Coast. Hvalfjörður. Submarine cables. SW-Coast. Kollafjörður. Anchor berths. SW-Coast. Reykjavík. Delete light. SW-Coast. Wrecks. SW-Coast. Kollafjörður. Pipeline. Amend.
37	Hjórey - Stykkishólmur	100.000	01/2020			
41 INT 1104	Vestfirðir	300.000	03/2014	2014: 27 2015: 13 2017: 2 2017: 3 2019: 29 2021: 2	V-land. Amarfjörður. Sæstrengur. Vestfirðir. Norðan Ísafjarðardjúps. Vestur af Aðalvík. Flak. V-land. Ísafjarðardjúpi. Dýpi. V-land. Amarfjörður. Sæstrengur. V-land. Sjókort nr. 41 Vestfirðir. Dýpt. V-land. Sæstrengur. Tálkni og Radarsvari. Efnahagslögsaga.	NW-Coast. Amarfjörður. Submarine cable. NW-Coast. North of Ísafjarðardjúpi. West of Aðalvík. Wreck. NW-Coast. Ísafjarðardjúpi. Depths. NW-Coast. Amarfjörður. Submarine cable. NW-Coast. Chart No. 41 Vestfirðir. Depths. NW-Coast. Sæstrengur. Tálkni og Radarsvari. Efnahagslögsaga.

Fig. 7. New form of the Cumulative list of Notices to Marines for Icelandic Charts. The document lists charts in numerical order and lists headings of NMs that apply to current chart edition.

List of Lights: https://www.lhg.is/media/sjomaelingar_islands/Vitaskra_28.03.2022.pdf

Catalogue of charts: https://www.lhg.is/media/sjokort/kortaskra_IS_Catalogue_of_Charts_15.06.2022.pdf

For Icelandic NMs visit <https://www.lhg.is/starfsemi/sjomaelingasvid/tts/nyjustu-tts/>

Cumulative list of NMS for Icelandic Charts: <https://www.lhg.is/starfsemi/sjomaelingasvid/tts/uppsafnadar-tilkynningar/>

5. MSI

The Icelandic Coast Guard runs VTS. MSI service is an integrated part of that operation. The ICG VTS services Iceland and Greenland. NAVTEX messages in 2021 were in total 12.038 (11.748 in 2020) for Iceland and 5656 (5.063 in 2020) for Greenland. The figures include storm and ice warnings.

6. C-55

Last update was made in November 2016. Long overdue update is planned in Q1 2023. Work on the update has started. The screen captures below show multibeam survey coverage (left) and combined multibeam and single beam coverage (right). Considerable time has been invested in the updating and organizing the file-based data management system in connection with work on incorporating CARIS Bathy DataBase (BDB) into the Data management and Chart Production Processes although there is still work to do to finalize BDB implementation.

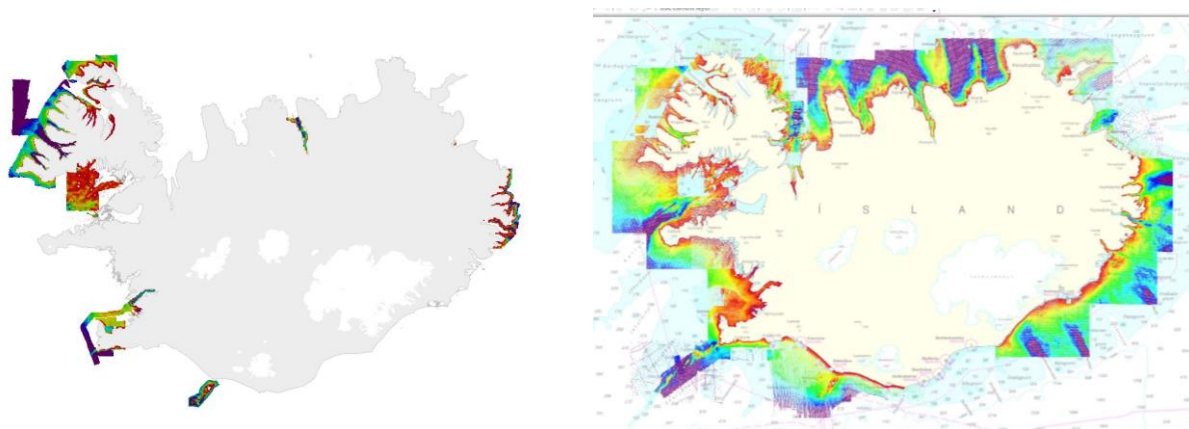


Fig. 8. Coverage of ICG multibeam surveys (left) and combined multibeam and single beam coverage (right).

7. Capacity Building

All members of staff attended IC-ENC Introduction to S-100 Training in December 2021.

In January 2022 the Nautical Cartographers received a 5-day training in using CARIS S-57 Composer 4.1 to produce ENCs. Included was one guest participant from Umhvørvisstovan in the Faeroe Islands.

A Bilateral Arrangement between Iceland and the Faeroes was signed on December 21st, 2021. The Bi-Lat between Iceland and Denmark needs to be updated to reflect changes in relations between the Faeroes and Denmark regarding hydrography and nautical charting. The plan is to finalize the update before end of 2022.

In February 2022 one member of the Hydrographic surveying team attended a 5-day online CARIS HIPS training.

In February 2022 the HO staff had half day introductory course on QGIS (Open-Source Geographic Information System) by the Program Director of Spatial Data Infrastructure and Data sharing at the National Land Survey of Iceland.

EMODnet Bathymetry

Iceland has delivered a sounding dataset to EMODnet Bathymetry to be included in next EMODnet bathymetry release. The dataset is a collection of xyz export files from Icelandic charts in June 2019. The files hold all depth data used to compile the charts (processed data). The dataset will not be updated as it is. Future updates will come from the CARIS Bathy DataBase once it is launched.

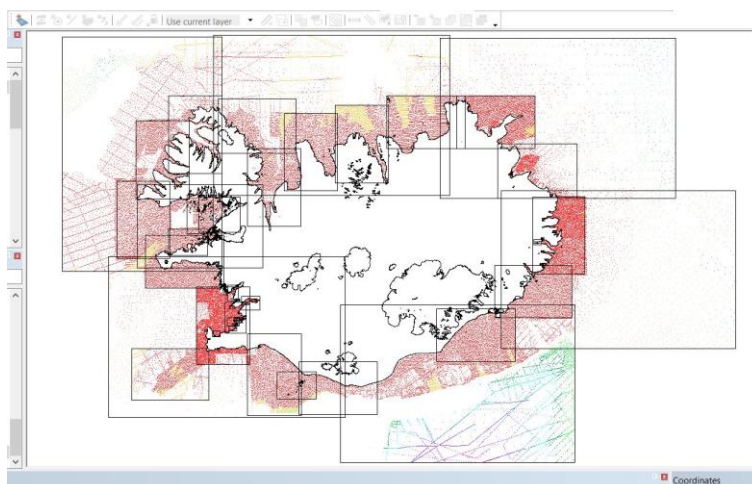


Fig. 9. Sounding dataset (xyz) delivered to EMODnet Bathymetry as a collection of sounding data export files from Icelandic chart, scales between 1:300.000 and 1:10.000.

8. Oceanographic activities

The project of surveying the EEZ of Iceland, outside coastal waters, which the *Marine & Freshwater Research Institute* (MFRI) leads, and ICG takes part in, continues. The focus of ICG-HMSD lies approx. within the circular extent of the 200 m depth contour, which is somewhat larger than the area of the Territorial Waters. Red line on the image on the right below shows the TW (12 NM) and the extent of ICG-HMSD modern hydrographic surveys in red and blue.

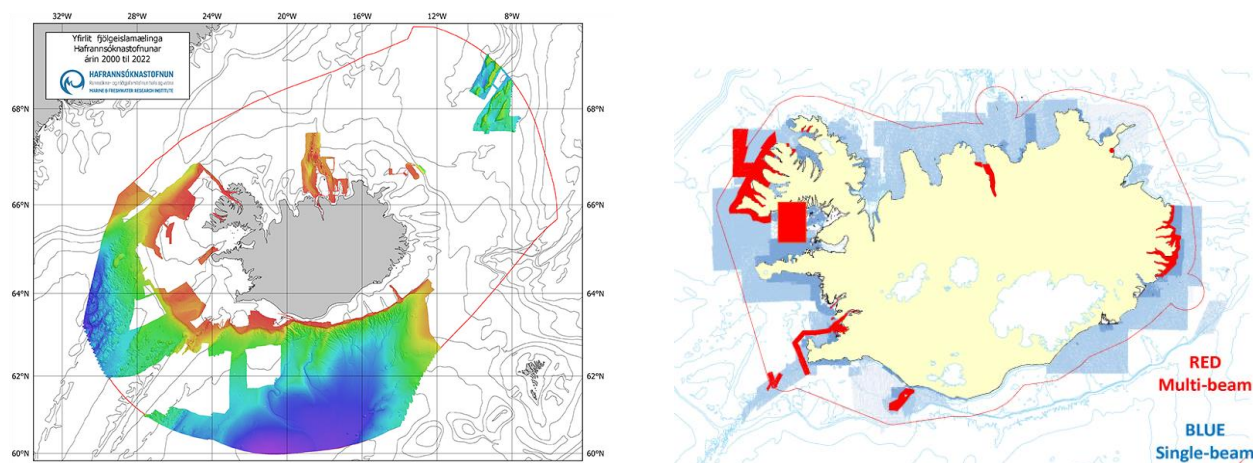


Fig.10. Status of surveying the EEZ of Iceland in 2022. The image on left shows data from MFRI. Image on right shows coastal surveying by the ICG.

The MFRI data is available for download at <https://www.hafogvatn.is/en/research/seabed-mapping>

9. Spatial data infrastructures

The ICG-HMSD has been more of an observer than a player for the past 5 to 10 years when it comes to MSDI. The department hasn't had capacity to put any effort in MSDI matters. Representatives of ICG-HMSD have in the past however taken part, on and off, in the work of the ARHCs ARMSDIWG and the BS-NSMSDIWG. Current plan of ICG-HMSD looks 3-5 years ahead from now with the intention to determine how the department can best serve its MSDI related commitments.

The ICG-HMSD has good relations with the National Land Survey Iceland (NLSI) which is responsible for SDI in Iceland since 2011 when the Icelandic Parliament passed the Digital Spatial Data Infrastructure Act.

Marine Spatial Planning and MSP and SDI/MSDI awareness is gradually growing on government and municipality level. A web portal "Hafsjá" was launched by NLSI in October 2021. Themes shown include fisheries management and fish stocks monitoring, aquaculture and fish farming, maritime limits & boundaries.

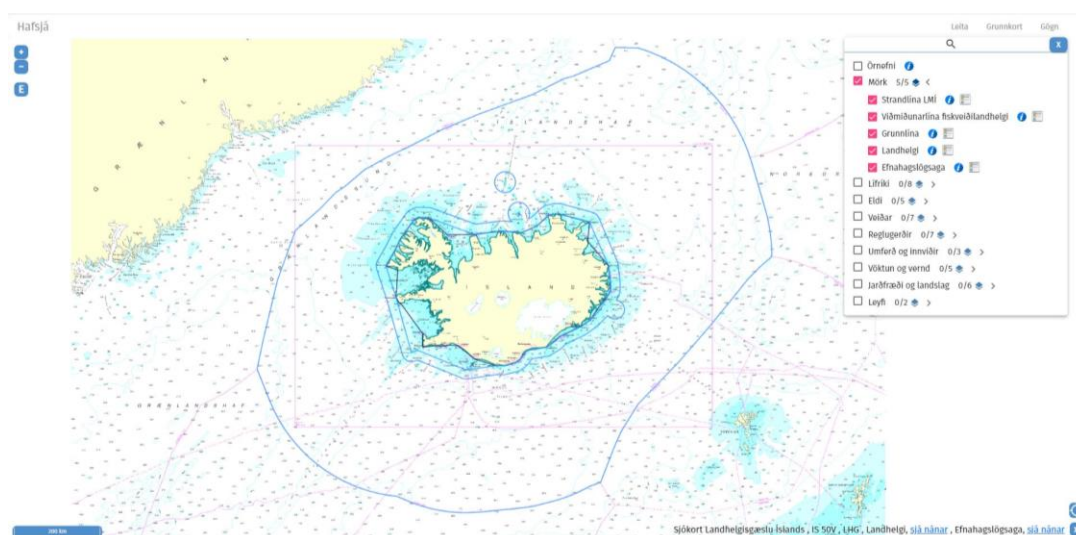


Fig. 11. The Icelandic Ocean Portal "Hafsjá" <https://atlas.lmi.is/mapview/?application=haf>

10. Innovation

Print on Demand (PoD)

Conventional offset printing of Icelandic charts was terminated as of June 1st 2021. A Print on Demand (PoD) service was launched at the same time. All Icelandic paper charts affected by NMs are now available, updated to the latest NMs. Preparations for a full PoD service for overseas chart agents that have established PoD services were finished towards the end of 2021. Fully functional PoD for Icelandic charts was launched in March 2022. By spring 2022 five international agents had signed a Pod contract and now have active POD services for Icelandic charts.

CARIS BDB

Work on incorporating *CARIS Bathy DataBASE (BDB)* into the Data management and Chart Production Processes of the Hydrographic and Maritime Safety Department will continue and extend well into 2023. In November 2021, the ICG-HMSD introduced a 3-5 year plan of setting up fully functional database to serve the needs of the department and allowing public access to depth data for the benefit of society.

11. Other activities.

IHO RHCs, WGs and other work

Iceland planned and hosted the NSHC35 in the first week of April 2022. <https://iho.int/en/nshc35-2022>

Representatives of ICG-HMSD participated in the following meetings or workshops held by IHO bodies:

- NHC strategic workshop in December 2021
- NHC65 meeting in Stavanger, Norway, in April 2022 <https://iho.int/en/65th-meeting-2022>

Representatives of ICG-HMSD participated in three IC-ENC Technical Committee meetings in 2021/22 and the IC-ENC SC23 meeting in July 2022.

Maritime Administration in Iceland

The tasks and obligations of Maritime Administration in Iceland is divided between two government agencies. The *Icelandic Road and Coastal Administration* (IRCA) and *Icelandic Transport Authority* (ICETRA).

IRCA <http://www.vegagerdin.is/>

ICETRA <https://www.samgongustofa.is/>

IRCA is responsible for all harbour and lighthouse operations as well as surveying of ports. POCs at ICG and IRCA exchange information and data on a regular basis.

ICETRA is responsible for the administration and supervision of aviation, maritime and road traffic safety and the safety and supervision of transport infrastructure and navigation systems. POCs at ICG and ICETRA exchange information and data as and when needed.

12. Conclusions:

This report highlights activities of the Hydrographic and Maritime Safety Department of the Icelandic Coast Guard for the period from November 2021 through August 2022.