

Annual Summary Report 2017

CleanSeaNet Satellite-Based Oil Spill Detection in Icelandic Area of Interest

- and Other Pollution or Potential Pollution Related Information reported by the Icelandic Coast Guard

2017 Abstract

In 2017, no possible oil spill cases reported by CleanSeaNet were assessed as linked to mineral oil. Three cases could though not be categorized. Icelandic Coast Guard air assets investigated no alerts in 2017. Surveillance hours performed by Icelandic Coast Guard Maritime Surveillance Aircraft halved from previous year. An Icelandic helicopter reported a possible oil spill at Eldey, which appeared like mineral oil.

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Introduction

As agreed by the Environment Agency and the Icelandic Coast Guard the latter shall annually by June 1st collect and disseminate to the Environment Agency statistical pollution control information. The intention of this report is inter alia to serve this purpose. The Environment Agency will subsequently present the information at the annual Copenhagen Agreement meeting. This report summarizes notifications and observations as relates to pollution at sea, more specifically within the Icelandic Exclusive Economic Zone. Air and sea surface surveillance assets of the Icelandic Coast Guard report any pollution observed at sea to the Coast Guard operations centre. In addition, the Coast Guard operations centre receives pollution notifications through satellite services like the EMSA CleanSeaNet service, directly from the polluter, or from other third party. The Icelandic Coast Guard subsequently informs the Environment Agency.

CleanSeaNet

CleanSeaNet (CSN) is a European satellite-based oil spill and vessel detection service. It assists participating States with following activities:

- identifying and tracing oil pollution on the sea surface
- monitoring accidental pollution during emergencies
- contributing to the identification of polluters

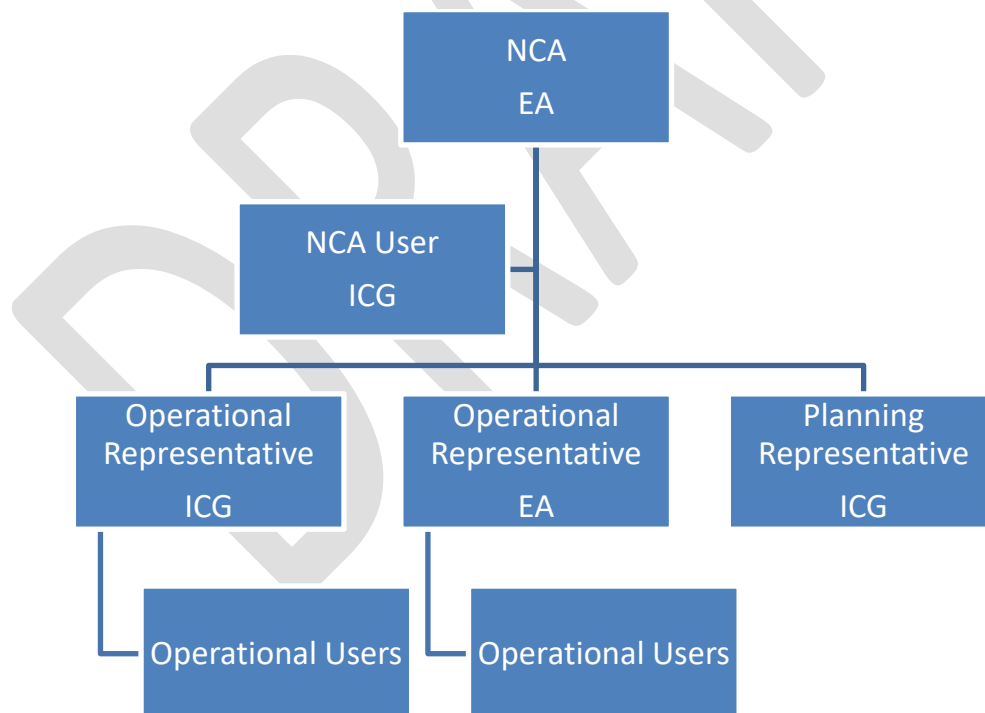
Iceland is a participating state through its membership of The European Free Trade Association (EFTA). The European Maritime Safety Agency (EMSA) is the operator of the CleanSeaNet Service and Iceland is contracting to the service through an agreement called „Conditions of use for receiving the EMSA Satellite Based Oil Spill and Vessel Detection Service CleanSeaNet“ (the conditions of use).

Iceland was set up for the service at the launching of the second generation of CleanSeaNet and successfully received the first Earth Observation Service (EOS) product on March 6th 2011.

Structure in Iceland

The Environment Agency of Iceland is the National Competent Authority (NCA) of CleanSeaNet in Iceland. The NCA has the overall responsibility and by agreement,¹ the Icelandic Coast Guard carries out the daily operation of the system. A task of the Icelandic Coast Guard is to carry out surveillance of the sea around Iceland as well as to receive and disseminate notifications and information on any acute pollution of the sea.

All users shall comply with the conditions of use. The structure of users in the system is shown below; EA being the Environment Agency of Iceland; ICG being the Icelandic Coast Guard. The Icelandic Coast Guard NCA User administrates the web-based system and oversees the allocation of EOS carried out by EMSA.



Organizations with Access to the CSN-Service

Organizations with access to the CSN-service in Iceland comprise the Environment Agency of Iceland, the Icelandic Coast Guard and the Institute of Earth Sciences of the University of Iceland. The system has 31 users as per January 2018.

¹ Samningur Umhverfisstofnunar og Landhelgisgæslu Íslands um samvinnu við eftirlit með mengun sjávar innan íslenskrar mengunarlögsögu.

Clean Sea Net Statistical Information 2017

Key Figures 2017

Earth Observation Service (EOS) products within area of interest: **269** (300 in 2016).

Number of EOS products delivered: **233** (245 in 2016).

Number of EOS products not delivered (anomaly, cancelled): **36** (55 in 2016) **of which 33 were Sentinel-1 images (21% of all Sentinel scenes were undelivered (33/154)).**

Possible oil spills (OS) inside the Icelandic EEZ:

- 44 (7 class A, 37 class B) possible OS in 26 separate cases (feedback has been submitted for all possible OS)
 - 0 cases assessed as linked to mineral oil
 - No notifications/alerts were investigated by ICG air assets
 - 11 cases assessed as linked to natural phenomena
 - Assessed sources: new sea ice formation, weather patterns, current fronts, algae
 - 12 cases assessed as linked to fishing activity
 - Assessed sources: Mackerel, herring, capelin, mud/clay
 - 3 cases were not categorized
 - Cases # 12, 16, 19

Overview of Possible Oil Spills 2017

The blue area in figure 1 is an area defined by the so-called baseline (CSN definition). This area is very similar to the Icelandic Exclusive Economic Zone. The Icelandic area of interest of which Iceland receives satellite imagery, analyses, and notifications for detection of possible oil-spills is considerably larger of size but is not included in this report, which is intended for public use.

Red notification symbolizes possible oil spills of high likelihood (class A) and green symbolizes low likelihood (class B) as per Icelandic configuration.

Total detections of possible oil-spills (OS) inside of the Icelandic EEZ numbered to 44 in 26 separate cases of which zero was assessed to originate from mineral oil. 3 cases could though not be categorized. Icelandic Coast Guard air assets investigated no alerts in 2017.

There were no cases in 2017 where the receiving organisations disagreed to the CSN service analysis of possible oil spills, i.e. cases where oil spills or possible oil spills should have been detected by the service provider (false negatives).

The numbers in figure 1 refer to the list of feedback.

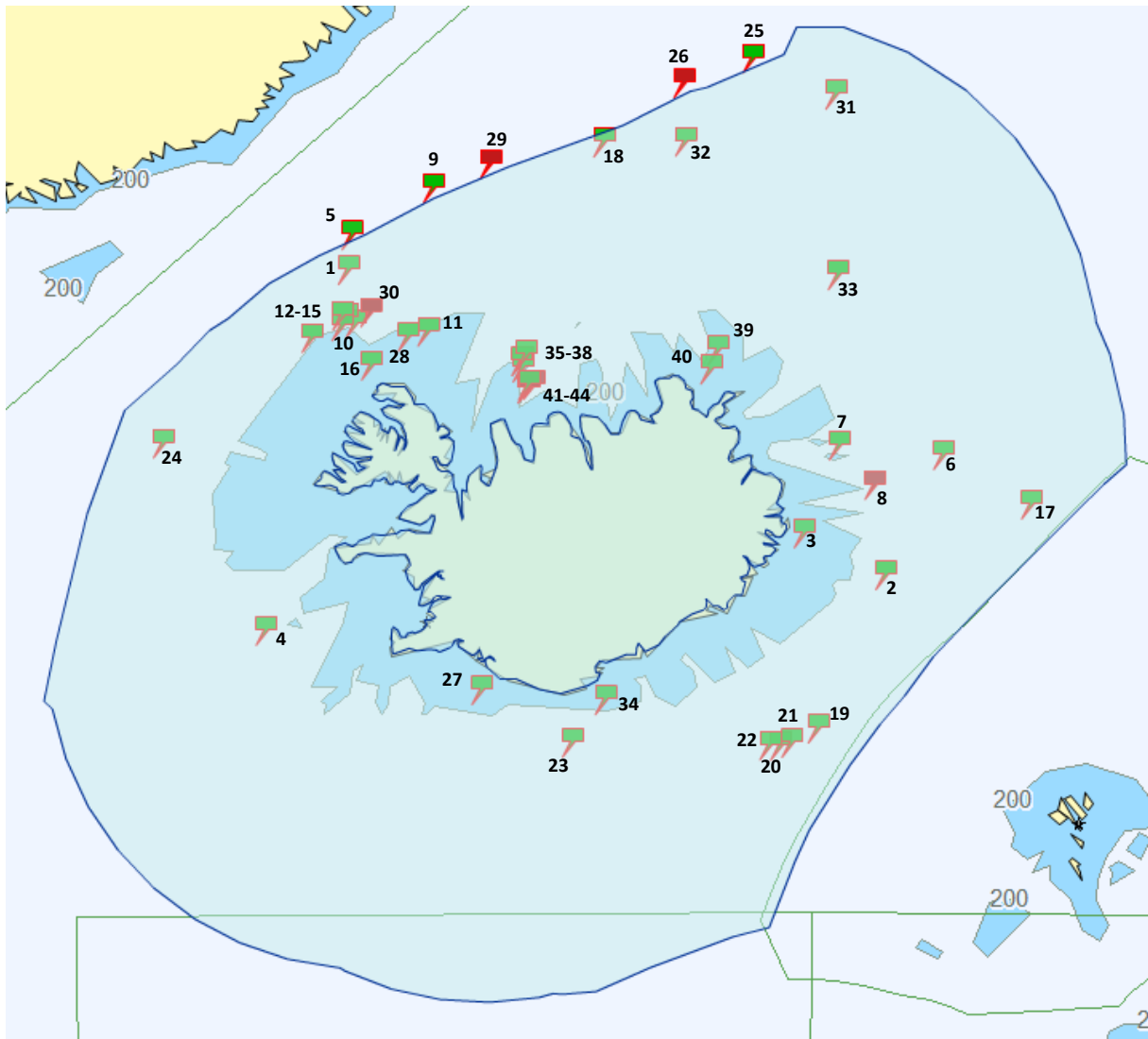


Figure 1
Reference: EMSA Earth Observation Services – GIS Viewer


Feedback 2017 for possible oil spills inside Icelandic Exclusive Economic Zone

Ref	Oil Spill Identifier	Class	Pos (lon/lat)	Acquisition Start Time	
Ref 1 Case 1	OS_1712060001_2	B	023° 58' 33.88" W / 067° 22' 20.34" N	2017-12-06 19:07:04	Natural New ice
	The detection is assessed not to derive from mineral oil. Approximate position: 65 nm NNW of Straumnes. Area: 1,44 nm2. No vessels observed in vicinity of position. Position is close to the sea ice and the most likely cause for the possible oil spill detection is assessed to be natural, more specifically forming of new ice.				
Ref 2 Case 2	OS_1712030000_2	B	011° 21' 59.35" W / 064° 27' 08.32" N	2017-12-03 07:23:53	Natural
	This class B detection is assessed not to originate from mineral oil. The Institute of Earth Sciences assesses that the detection relates to the weather pattern in the area.				
Ref 3 Case 2	OS_1712030000_1	B	013° 19' 23.56" W / 064° 52' 42.31" N	2017-12-03 07:23:53	
	Same as above				
Ref 4	OS_1711280049_1	B	025° 54' 00.17" W / 063° 53' 28.48" N	2017-11-28 07:59:16	

Ref	Oil Spill Identifier	Class	Pos (lon/lat)	Acquisition Start Time	
Case 3	2017-11-28 07:59:31 UTC - Oil Spill Warning. One vessel source detected (factory trawler). The detection was suspected to origin from fish processing. The fishing vessel was contacted, which confirmed that processing of herring was on-going. At 0839, the duty officer calls back after having assured that nothing has been discharged from the engine room and explains that water with fish oil sludge is being pumped over board from the cargo hold. The CSN detection was quite weak (class B) and the explanation from the ship was considered plausible. No further actions anticipated.				Fishing activity
Ref 5	OS_1711120026_2	B	023° 53' 49.02" W / 067° 40' 36.21" N	2017-11-12 18:57:07	
Case 4	No vessels were aligned with detection and no vessels were in the area. The detection is assessed to relate to a natural phenomenon.				Natural
Ref 6	OS_1709290000_2	B	010° 03' 33.74" W / 065° 38' 45.18" N	2017-09-29 07:16:23	
Case 5	This class B detection is assessed not to originate from mineral oil. The Institute of Earth Sciences assesses that the detection relates to the weather pattern in the area. No vessels could be tracked to the detection.				Natural Weath.
Ref 7	OS_1709290000_1	B	012° 28' 41.10" W / 065° 44' 09.52" N	2017-09-29 07:16:23	
Case 5	This class B detection is assessed not to originate from mineral oil. The Institute of Earth Sciences assesses that the detection relates to the weather pattern in the area. No vessels could be tracked to the detection.				Natural Weath.
Ref 8	OS_1709170000_1	A	011° 40' 11.92" W / 065° 21' 15.74" N	2017-09-17 07:16:23	
Case 6	This class A detection is assessed not to originate from mineral oil. One vessel was detected by EMSA as a possible source. The detected vessel, an Icelandic pelagic trawler fishing for herring, was contacted and the vessel asserted that nothing illegal had been discharged.				Fishing activity herring
Ref 9	OS_1708300024_1	B	021° 58' 23.64" W / 068° 07' 34.99" N	2017-08-30 08:21:59	
Case 7	At 08:22:09 UTC, the Icelandic Coast Guard received an Oil Spill Warning through CSN of a possible on-going oil spill from 2 specified possible sources (2 Greenlandic trawlers). The detection is inside Greenlandic EEZ on the border of the Icelandic EEZ. The EMSA class B detection is assessed not to derive from mineral oil.				Fishing activity
Ref 10	OS_1708250025_5	B	023° 48' 22.95" W / 066° 52' 53.41" N	2017-08-25 19:01:08	
Case 8	Two fishing vessels [REDACTED] that had passed through the area were asked to investigate when they were two miles south of position. [REDACTED] returned to the position to investigate and reported that nothing was to be seen except from smooth sea and current fronts. The chief engineer stated that nothing had been discharged from the vessel. Same for [REDACTED]. The satellite detections were weak (class B) and we assessed that the detections were not related to mineral oil. Arctic Command was informed of the detections and the actions.				Natural Current front
Ref 11	OS_1708250025_7	B	022° 27' 06.100" W / 066° 47' 31.29" N	2017-08-25 19:01:08	
Case 8	Same as above				
Ref 12	OS_1708250025_6	B	024° 00' 54.86" W / 066° 56' 36.57" N	2017-08-25 19:01:08	
Case 8	Same as above				
Ref 13	OS_1708250025_1	B	024° 07' 39.04" W / 066° 51' 52.92" N	2017-08-25 19:01:08	
Case 8	Same as above				

Ref	Oil Spill Identifier	Class	Pos (lon/lat)	Acquisition Start Time	
Ref 14 Case 8	OS_1708250025_4	B	024° 22' 36.44" W / 066° 54' 49.21" N	2017-08-25 19:01:08	
	Same as above				
Ref 15 Case 8	OS_1708250025_3	B	024° 49' 15.55" W / 066° 44' 39.30" N	2017-08-25 19:01:08	
	Same as above				
Ref 16 Case 8	OS_1708250025_2	B	023° 30' 53.40" W / 066° 29' 43.09" N	2017-08-25 19:01:08	
	Same as above				
Ref 17 Case 9	OS_1708240007_1	B	008° 00' 02.22" W / 065° 09' 50.73" N	2017-08-24 07:16:21	
	No vessels in vicinity of detection. Pelagic trawlers fishing for mackerel 60-80 nm east and west of detection. A likely explanation for the detection is assessed to be shoals of mackerel.				Fishing Mack.
Ref 18 Case 10	OS_1708190018_1	B	018° 00' 22.71" W / 068° 29' 39.01" N	2017-08-19 18:36:32	
	The detection is very weak. No information available about any vessels in vicinity of the detection. No sea ice in vicinity. The detection was not investigated in situ.				Natural
Ref 19 Case 11	OS_1708120004_4	B	012° 59' 24.96" W / 062° 51' 49.78" N	2017-08-12 07:16:21	
	No vessels could be aligned with the group of the four detections of class B. The detections were not investigated in situ.				Natural
Ref 20 Case 11	OS_1708120004_1	B	013° 52' 03.81" W / 062° 40' 51.11" N	2017-08-12 07:16:21	
	Same as above.				
Ref 21 Case 11	OS_1708120004_2	B	013° 36' 27.17" W / 062° 42' 50.80" N	2017-08-12 07:16:21	
	Same as above.				
Ref 22 Case 11	OS_1708120004_3	B	014° 07' 26.28" W / 062° 41' 12.63" N	2017-08-12 07:16:21	
	Same as above.				
Ref 23 Case 12	OS_1707290019_1	B	018° 44' 08.26" W / 062° 42' 55.77" N	2017-07-29 18:46:41	
	The detection was weak and relatively small. No vessels in our system had passed the area prior to the detection. One vessel (██████) passed the detection 25 minutes later and could have been contacted for in-situ observations. The oil spill notification was received 19:01 and the vessel passed the position at 19:11.				Not categorized

Ref	Oil Spill Identifier	Class	Pos (lon/lat)	Acquisition Start Time	
Ref 24 Case 13	OS_1707160001_1 1	B	028° 18' 14.17" W / 065° 45' 17.23" N	2017-07-16 08:29:48	
	No vessels had reported or been observed in vicinity of this class B possible oil spill. The ICG assessed the possible oil spill not likely caused by mineral oil.				Natural
Ref 25 Case 14	OS_1707140000_1	B	014° 43' 45.15" W / 069° 09' 43.31" N	2017-07-14 07:52:15	
	The detection was assessed likely to origin from fishing activity of a Greenlandic trawler fishing in Greenlandic EEZ. The detection was not investigated in situ.				Fishing
Ref 26 Case 15	OS_1707080001_2	A	020° 39' 59.66" W / 068° 18' 18.26" N	2017-07-08 19:01:11	
	Two possible slicks were detected on the border between the Icelandic and Greenlandic EEZs. Greenlandic trawlers were fishing in the vicinity and fishing activity was assessed the most likely source. JRCC Nuuk was informed.				Fishing
Ref 27 Case 16	OS_1707080002_2	B	020° 51' 44.02" W / 063° 16' 16.59" N	2017-07-08 07:57:33	
	The possible oil spill was of class B and rather small. A track of a fishing vessel was aligned app. 2 nm from the possible oil spill at 02:19 (■■■■). The satellite image was taken about 5.5 hours later and the duty officer assessed that the vessel was an unlikely source. No further action was taken.				Not Categor ized

Ref	Oil Spill Identifier	Class	Pos (lon/lat)	Acquisition Start Time	
					
<p>Ref 28 Case 17</p>	OS_1707080002_1	B	022° 51' 13.41" W / 066° 40' 28.32" N	2017-07-08 07:57:33	<p>Fishing activity Herring</p>
<p>The image was acquired at 07:56Z. At 08:40Z, a warning of an on-going or very recent possible spill was reported and at 08:42, the notification report was received stating a class B possible oil spill.</p> <p>The pelagic fishing vessel [REDACTED] was connected to, and the track aligned with the detection.</p> <p>The vessel was contacted and crew reported that processing of its herring catch was on-going. Further that oil residues are never pumped to sea. Slop tanks were emptied at last port at Nordfjordur.</p>					
<p>Ref 29 Case 18</p>	OS_1707020001_1	A	016° 09' 01.04" W / 068° 59' 44.94" N	2017-07-02 18:36:35	<p>Fishing Investig after 15 h. by Danish vessel</p>
<p>Possible Oil Spill North of Iceland</p> <p>At 19:00Z, an oil spill warning was received from EMSA that an on-going or very recent possible oil spill (high likelihood) was reported in position 68.995816N - 16.150290W or just outside the IEEZ North of Iceland. Four Greenlandic trawlers ([REDACTED]) could be identified in the area whereas one ([REDACTED]) could be aligned with the reported possible oil spill. The Icelandic Coast Guard did not have any air or surface assets available for investigation. The Arctic Command in Greenland and the Icelandic Environment Agency were informed. An email with questions regarding any possible oil spill was sent to the possible source vessel. An email was received from the possible source vessel stating that no oil had been observed coming from the vessel. The vessel was pair trawling with another vessel ([REDACTED]), which informed that they were fileting herring which contains a lot of fish oil. At 22:13Z, the Arctic Command informed the ICG by phone that they would send a vessel to investigate with ETA after 15 hours. Next day at 19:10Z, Arctic Command informed that they had closed the investigation without finding any evidence of oil.</p>					


Ref	Oil Spill Identifier	Class	Pos (lon/lat)	Acquisition Start Time	
Ref 30 Case 19	OS_1706260000_1	A	023° 26' 30.50" W / 066° 59' 57.44" N	2017-06-26 07:57:32	<p>At 17:47, an alert was received by email for the image acquired at 07:56 in the morning. One minute later a red alert was received. The notification report for this possible oil spill was then for some reason received about 10 hours after the image was acquired. Normally notification reports are received within 30 minutes. The fishing vessel was though contacted but the captain stated that he did not know of any episodes that could have caused the detected possible oil spill. The incident was not investigated further due to the long time that had passed.</p> <p>Not categorized Late report</p>
Ref 31 Case 20	OS_1706180000_1	B	012° 34' 57.75" W / 068° 53' 57.52" N	2017-06-18 07:23:45	<p>This class B detection was assessed not to stem from mineral oil. The Institute of Earth Sciences found most likely that the detection was connected to a pattern caused by the weather conditions in the area to the East of the detection. The only ship in vicinity was a passenger ship that had not yet arrived to the area.</p> <p>Natural Weath.</p>

Ref	Oil Spill Identifier	Class	Pos (lon/lat)	Acquisition Start Time	
Ref 32	OS_1706080009_1	B	016° 03' 57.23" W / 068° 30' 05.44" N	2017-06-08 18:36:36	
Case 21	No vessels were in vicinity of the detection and no vessels could be aligned with the detection. The detection is assessed to derive from a natural phenomenon.				Natural
Ref 33	OS_1705200000_1	B	012° 37' 43.68" W / 067° 22' 16.83" N	2017-05-20 07:16:18	
Case 22	No vessels can be tracked to the area for the past 24 hours. The Faculty of Earth Science and the Icelandic Coast Guard assess the observed areas to stem from algae or other natural phenomenon. (Image compiled by Ingibjorg Jonsdottir, HÍ).				Natural Algae bloom
Ref 34	OS_1704100000_1	B	017° 58' 45.34" W / 063° 10' 03.49" N	2017-04-10 07:48:44	
Case 23	At 08:07, oil spill warning with possible on-going oil spill received, class B detection about 20 nm SSE of Alvidruhamrar. Possible source: [REDACTED], bottom trawling. The vessel was contacted and the crew would investigate and call back. The ship reported that fish processing had been closed by the time of the detection but a lot of clay and mud had been washed overboard while cleaning the deck. This was found a plausible course. The Environment Agency and other stakeholders were informed.				Fishing activity Mud/ clay
Ref 35	OS_1702210000_2	B	019° 54' 41.91" W / 066° 32' 09.06" N	2017-02-21 07:48:45	
Case 24	Five pelagic trawlers fishing for capelin could be aligned with the possible oil spill. All vessels were confronted with the detection but all stated that no engine bilge water had been discharged - only water from holds.				Fishing activity
Ref 36	OS_1702210000_4	B	019° 54' 04.60" W / 066° 28' 37.36" N	2017-02-21 07:48:45	
Case 24	Same as above.				
Ref 37	OS_1702210000_3	B	019° 55' 14.02" W / 066° 32' 15.53" N	2017-02-21 07:48:45	
Case 24	Same as above.				
Ref 38	OS_1702210000_1	B	019° 49' 05.97" W / 066° 35' 37.15" N	2017-02-21 07:48:45	
Case 24	Same as above.				

Ref	Oil Spill Identifier	Class	Pos (lon/lat)	Acquisition Start Time
Ref 39 Case 25	OS_1702140010_2	B	015° 20' 29.59" W / 066° 38' 18.21" N	2017-02-14 07:28:08
	Two possible oil spills were received in position of a group of Norwegian fishing vessels fishing for capelin with seine. The most likely source vessel was contacted as well as the coast guard patrol vessel. The assessment was that the detection related to the capelin fishing activity.			
Ref 40 Case 25	OS_1702140010_1	B	015° 30' 13.25" W / 066° 27' 25.09" N	2017-02-14 07:28:08
	Same as above.			
Ref 41 Case 26	OS_1702090000_2	A	019° 38' 50.88" W / 066° 18' 57.00" N	2017-02-09 07:48:18
	The detection is assessed to be caused by the capelin fishing activity in the area.			
Ref 42 Case 26	OS_1702090000_1	A	019° 47' 18.55" W / 066° 16' 35.26" N	2017-02-09 07:48:18
	Same as above.			
Ref 43 Case 26	OS_1702090000_4	A	019° 45' 07.81" W / 066° 17' 18.82" N	2017-02-09 07:48:18
	Same as above.			
Ref 44 Case 26	OS_1702090000_3	B	019° 45' 47.88" W / 066° 18' 45.55" N	2017-02-09 07:48:18
	Same as above.			

Possible oil spills of interest outside Icelandic Exclusive Economic Zone

Ref	Oil Spill Identifier	Class	Pos (lon/lat)	Acquisition Start Time
	OS_1708240005_1	B	68° 20' 22" N - 020° 35' 16" W	2017-08-24 07:57:40

	
	<p>Joint Arctic Command sent a fixed wing aircraft to investigate this possible oil spill just outside the Icelandic Exclusive Economic Zone. No oil spill or sheen could be observed. What they observed could more likely be related to a current front or other natural phenomena. In the CleanSeaNet GIS viewer some Greenlandic fishing vessels could be observed close to the detection.</p>

Aerial Surveillance

Icelandic Coast Guard maritime surveillance aircraft (MSA) and helicopters perform aerial surveillance inside of the Icelandic Exclusive Economic Zone. The MSA is of type “Dash 8, Q-300” and surveillance means include SLAR, search radar, EO/IR, FLAR and AIS receiver.

In 2017, the MSA performed 94 hours of surveillance inside of the Icelandic EEZ (2016: 188).

In 2016, the helicopters performed 96 hours of surveillance inside of the Icelandic EEZ (2016: 77).

Surveillance is not only dedicated to pollution patrols but as well other law enforcement tasks and sea ice patrols.

Other Notifications than CSN Related to Pollution or Potential Pollution

Date	Event
	Pollution
3-10-2017	Oil spill reported in the port of Helguvik.
5-7-2017	Helicopter reports a possible oil spill at Eldey. The observer reports the possible oil spill to appear like mineral oil. Size app. 0,09 km ² .
17-3-2017	Report received about oil soaked sea birds west of Landeyjahöfn.
	Stranded/Sunken
27-12-2017	Boat stranded (Skoreyjar), no pollution reported.
10-10-2017	Boat stranded (Westman Islands), no pollution reported.
31-8-2017	Boat stranded (Hveravik), no pollution reported.
1-8-2017	Boat sank (vogastapa)

June 1, 2018

23-7-2017	Boat stranded (Horgargrunnur) POS: 65°45,056'N - 018°11,200'W, no pollution reported.
21-7-2017	Boat stranded (north of Hvammstangi) in POS 65°24'349N - 020°57'134W, no pollution reported.
12-7-2017	Boat stranded (Kaldbaksnef), no pollution reported.
18-6-2017	Boat stranded (Breidarfjordur), no pollution reported.
6-6-2017	Boat stranded (Kuagerdi), no pollution reported.
9-5-2017	Boat stranded (Tindabykkjugrunn), no pollution reported.

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