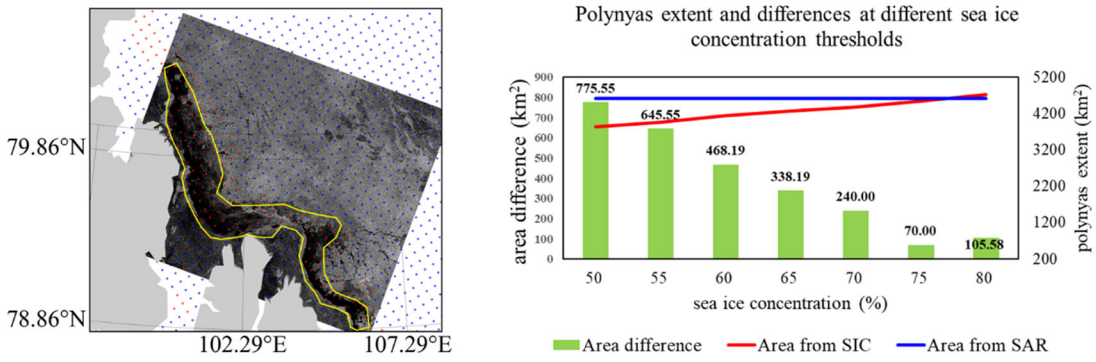
Supplementary

The other 17 SAR images used for polynya delineation:

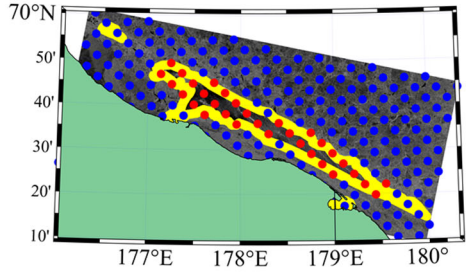
Note:

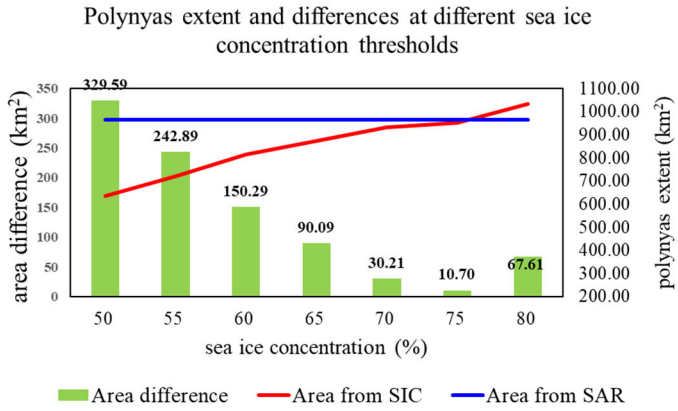
- The polynya is delineated by a yellow closed contour in the SAR images.
- Each example includes the corresponding Sentinel-1 SAR data ID.
- The background colormap of the SAR image is a grayscale map ranging from -25 dB to 0 dB.
- In the SAR image, points of different colors represent varying ranges of sea ice concentration: red dots indicate areas where the sea ice concentration is below 75%, while blue dots signify the opposite.
- The histogram on the right illustrates the distribution and discrepancies between the area of the polynya in the SAR image and the areas of the polynya extracted under different sea ice concentration thresholds.
- The height of the histogram represents the absolute value of the differences between the two. The blue line indicates the area of the polynya in the SAR image, while the red curve illustrates the variation in the extracted polynya area as the sea ice concentration changes.

No.1.
(S1B_EW_GRDM_1SDH_20200218T002009_20200218T002109_020316_02679C_3778)



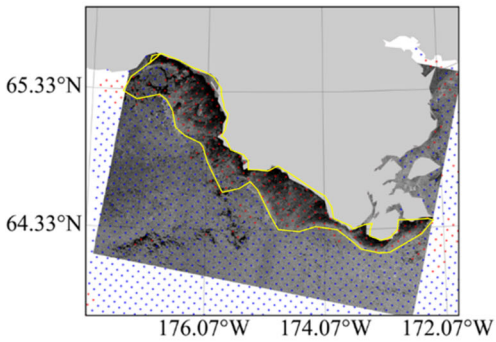
No.2.
(S1B_EW_GRDM_1SDH_20200330T183727_20200330T183827_020925_027B07_9BFA)

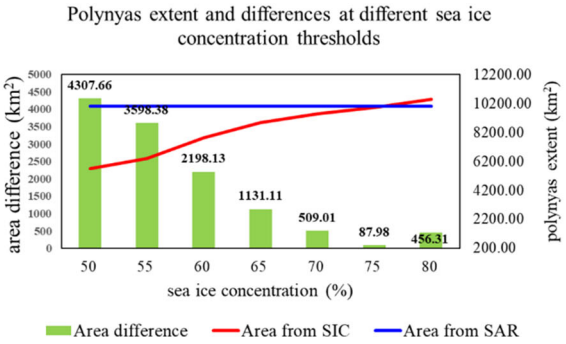




No.3.

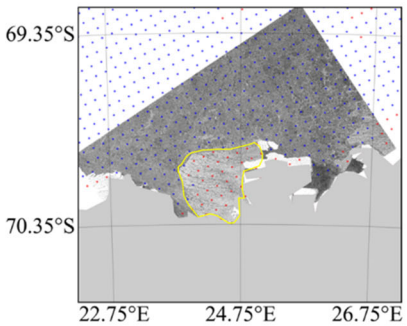
(S1A_EW_GRDM_1SDH_20200328T180637_20200328T180737_031879_03AE0A_DE49_Cal)

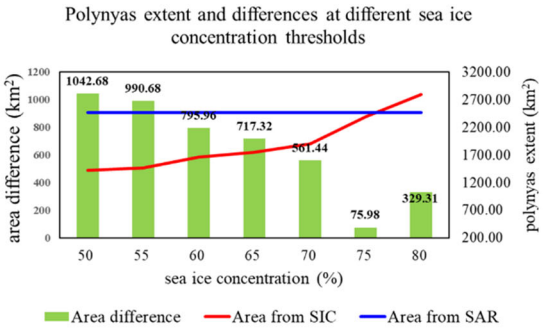




No.4.

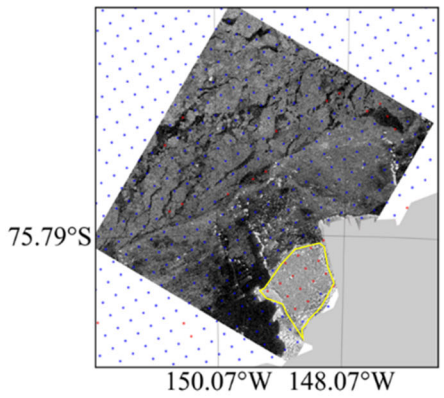
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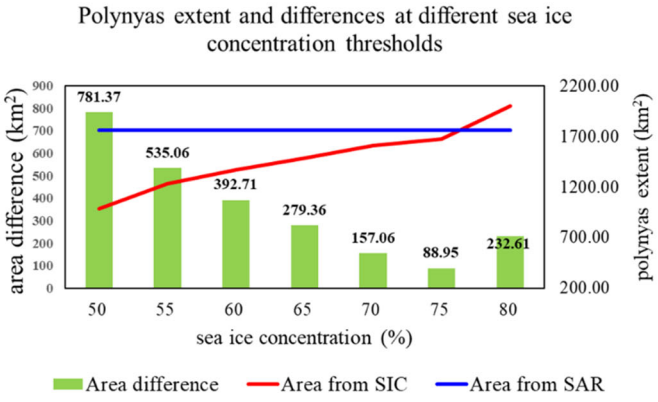




NO.5.

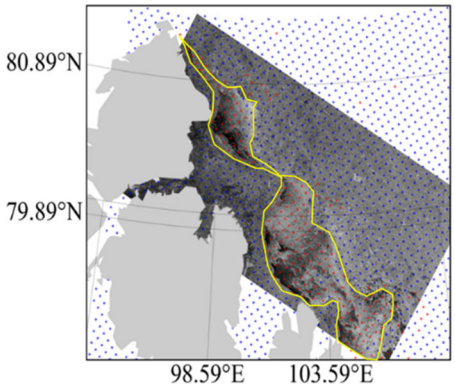
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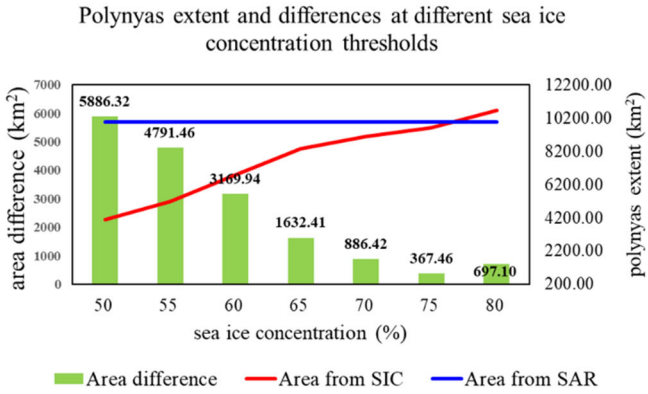




NO.6.

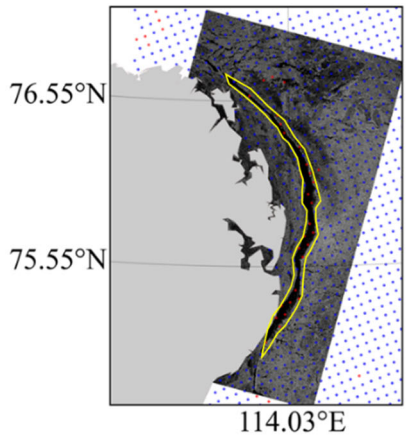
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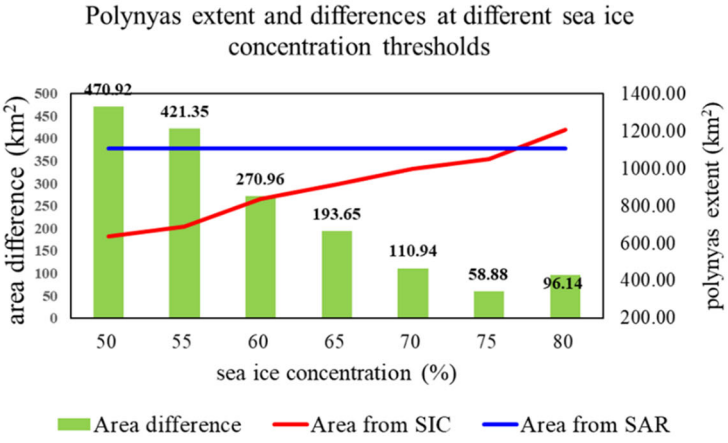




NO.7.

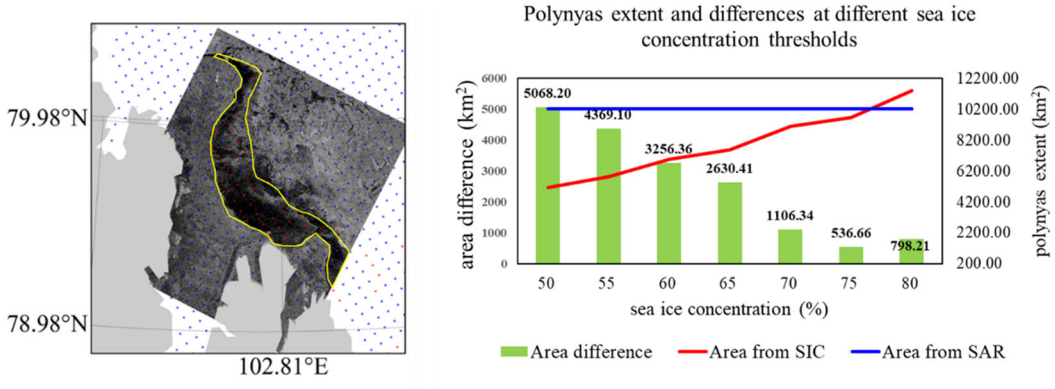
(S1A_EW_GRDM_1SDH_20210426T231627_20210426T231727_037628_04705B_19F0)





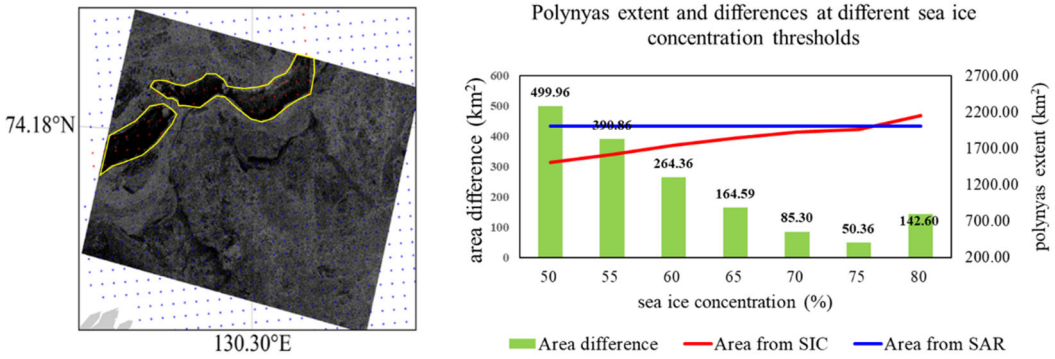
NO.8.

(S1A_EW_GRDM_1SDH_20210427T005405_20210427T005509_037629_047065_E81D)



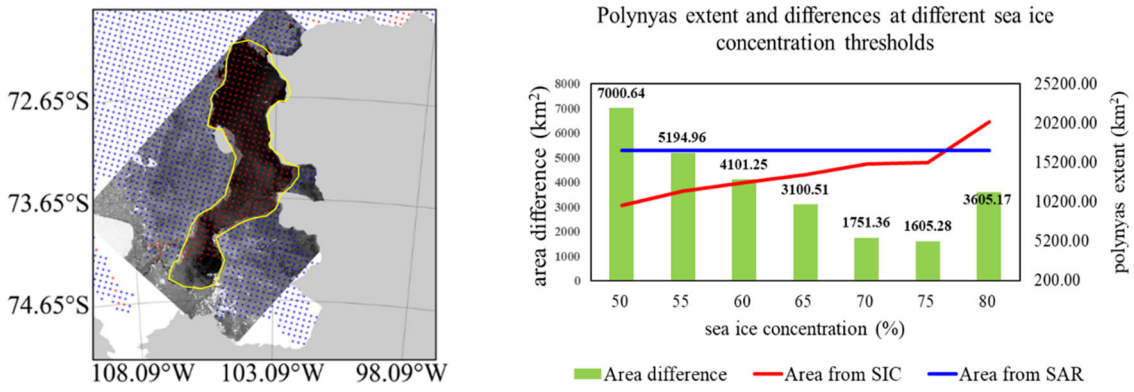
NO.9.

(S1A_EW_GRDM_1SDH_20210429T220323_20210429T220424_037671_0471D1_4E40)



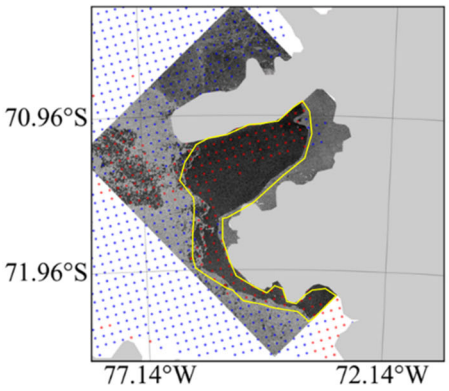
NO.10.

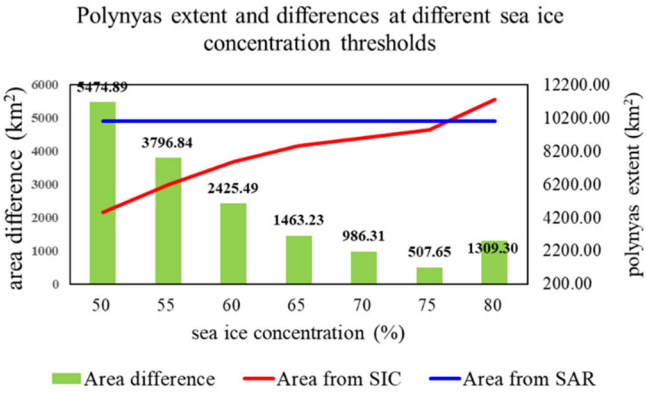
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NO.11.

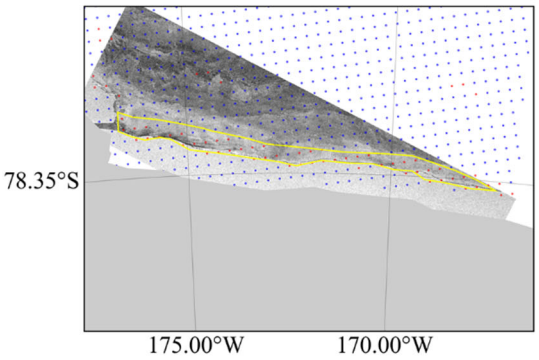
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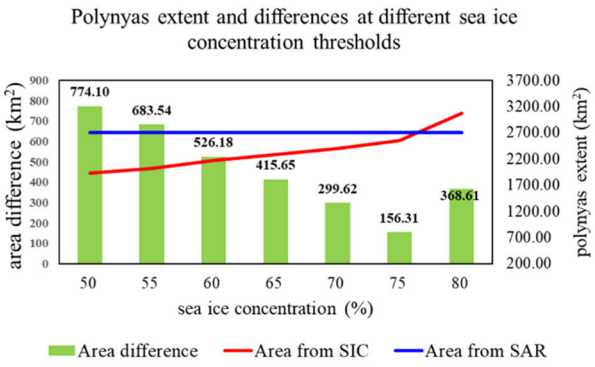




NO.12.

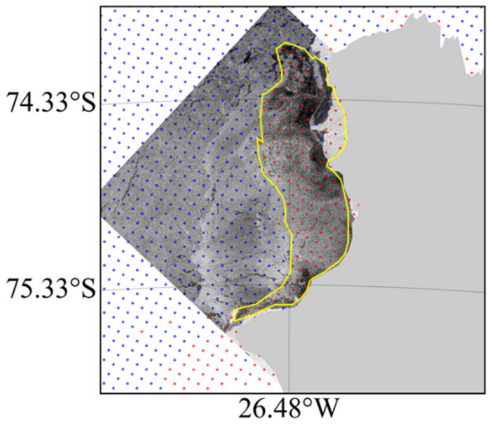
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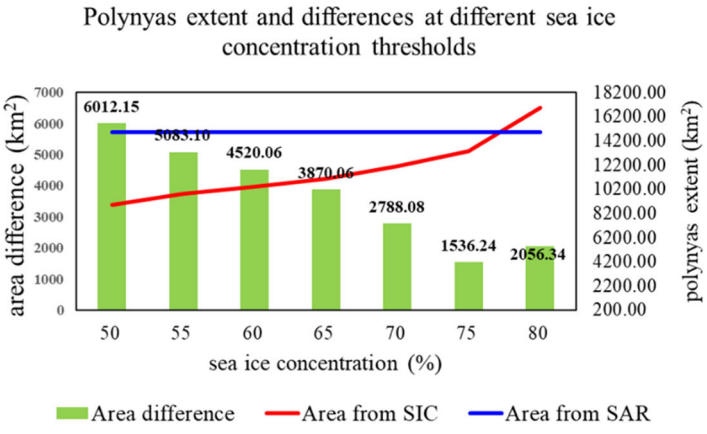




NO.13.

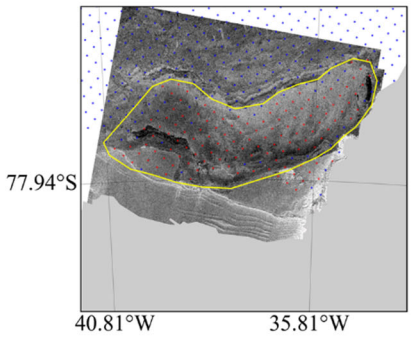
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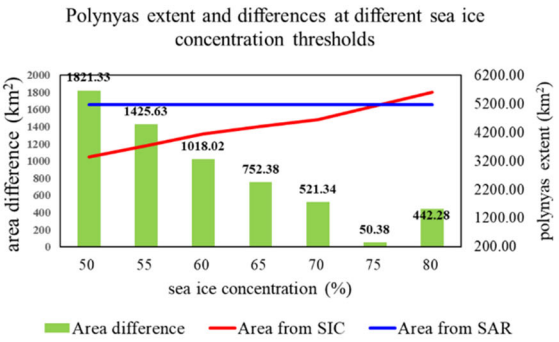




NO.14.

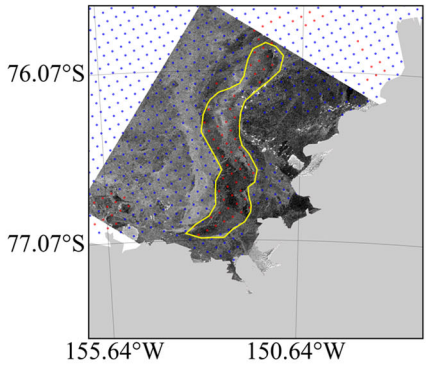
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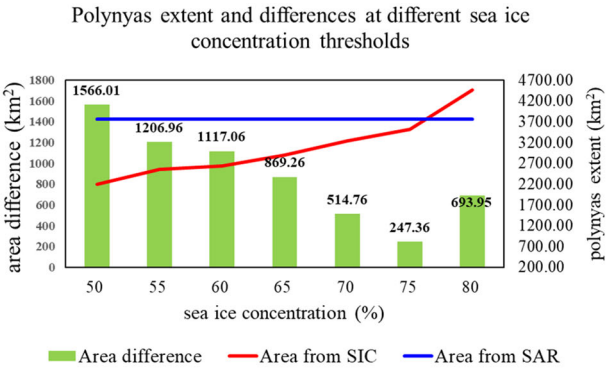




NO.15.

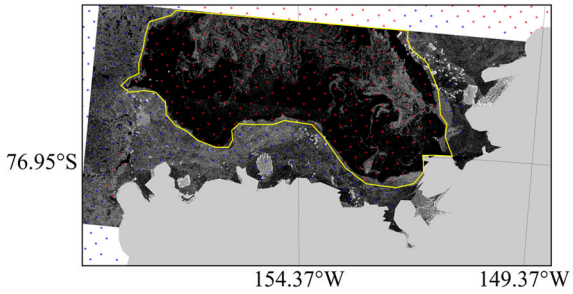
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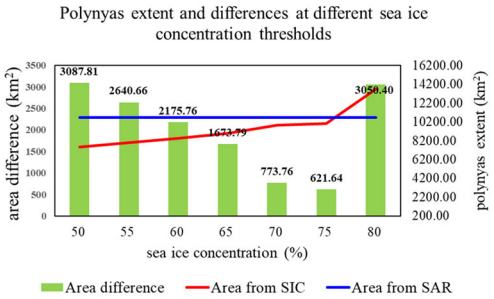




NO.16.

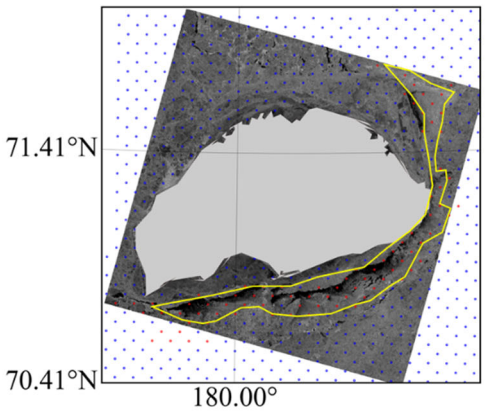
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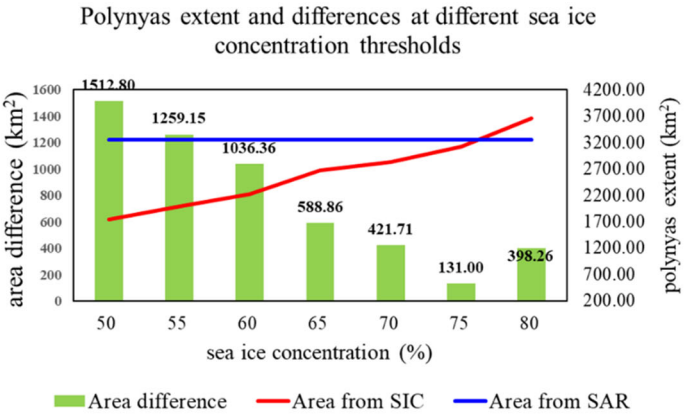




NO.17.

(S1B_EW_GRDM_1SDH_20200404T184508_20200404T184615_020998_027D50_8F64)


71.41°N
70.41°N
180.00°


Polynyas extent and differences at different sea ice concentration thresholds
area difference (km²)
polynyas extent (km²)
1512.80
1259.15
1036.36
588.86
421.71
131.00
398.26
50
55
60
65
70
75
80
sea ice concentration (%)
Area difference
Area from SIC
Area from SAR