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For 2022 Mombetsu-Symposium Proceedings
November 30, 2021

Relation between sea-ice variation in the Sea of Okhotsk and Arctic Oscillation

Title: Times New Roman, Bold-face, 14-point, and Center

Charlie F. BROWN¹, Taro AOKI², Eriko MOMBETSU³

Author(s): 12-point font and center

¹ *Geophysical Institute, University of Alaska, Alaska, USA*

² *Institute of Low Temperature Science, Hokkaido University, Sapporo, Japan*

³ *Mombetsu Oceanography Institute, Mombetsu, Japan*

Affiliation(s): Affiliation, City, State or Province, Country using an italic 10-point font

(Left-justified with some space, no postal code and no E-mail Address)

Abstract (11-point font)

A short abstract (50 to 100 words) in a single paragraph should be included here. The paragraph needs the space of 4 characters at left and right sides. In this sample paper, we describe the formatting guidelines for submissions to the Proceedings of the International Symposium on Okhotsk Sea & Sea Ice. For a simple way, download a template from the web, and insert your information to the template.

(10.5-point font)

Key words: sea ice, global warming, Arctic Oscillation (3 to 5 key words: Head: 11 pt., words: 10.5 pt.)

1. Introduction

The body of the paper begins with the Introduction.

Following the Introduction, a typical text should be organized into sections that describe the **method**, the **observation data**, the **result and discussion**, and the **conclusions**. **Acknowledgments** (where applicable) and **references** follow the Conclusions.

2. Formatting

2.1 Text style

Text must be single-spaced using a Times New Roman font, or Time. Use a 14-point font for the Title, a 12-point font for Author Name(s), an italic 10-point font for Affiliation(s), a 11-point font for all Section and Subsection Heads, and a 10.5-point font for all body text. Text in the columns must be full justified.

2.2 Paper title

The paper title with Times New Roman, bold-faced in 14-point font should be centered in upper and lower case at the location shown and two lines may be used.

Title: 14-point, Bold

Author (s): 12-point with affiliation number¹

¹Affiliation(s): 10-point, Italic (See the example)

2.3 Author Name(s)

Author names in 12 point font should consist of first name, middle name and the last name with superscript number of affiliation, and centered.

2.4 Affiliation(s)

The numbered Affiliation(s) should be left-justified with proper spaces (5-15) using an italic 10-point font. Do not include street address, postal code, email or fax

numbers.

3. Chapter and section

Headings and subheadings appear throughout the text to divide the subject matter into logical parts and emphasize major elements. Numbering can be used for Chapter (1, 2, ..) and Section (1.1, 1.2, ...). Only initial of the title is in capital letter and others are in small letters except proper nouns (palace, human, some abbreviation like SAR etc.), as “**3. Observations in the Sea of Okhotsk**”.

3.1 Chapter Heads

Chapter heads should be in upright bold 11pt font, as “**1. Introduction**”.

3.2 Section heads

Section Heads should be in *italic* Bold 11pt font, as “**2.1 Observations in the Sea of Okhotsk**”.

3.3 Last page

The two columns on the last page should be as close to equal length as possible, which is usually done by MS-Word.

4. Tables and figures

4.1 Tables

Table format is as shown here. Tables should be numbered consecutively. When referring to a table, use table numbers as Table 1, Tables 2~3,....

18 mm

18 mm

25 mm

Table 1. Margins of pages. This instruction is in this form.

	Left Column	Right Column
Top margin	30 mm*	
Side margin	18 mm from left edge	18 mm from right edge
Column width	19.55 characters	19.55 characters
Space of columns	1.77 characters	
Bottom margin	25 mm	

*The unit should use SI unit in principle.

4.2 Equations

Equations are to be numbered. When referring in a sentence, refer them as “Eq. 1” or “Eqs. 5-7,...”. When referring at sentence head, refer as “Equation 1”.

$$Q_M = (1-a) I + Q_{RL} + Q_A + Q_E + Q_P + Q_G \quad (1)$$

$$Q_E = k_E V_1 (T_1 - T_0) \quad (2)$$

(The **variables** use **italic** type, and the **additional characters** and **figures** use **solid** type as Q_M .)

4.3 Figures

Number figures consecutively and use the figure number. When referring them in a text sentence, refer them as “Fig. 1” or “Figs. 2~3”. When referring at sentence head, refer as “Figure 1”. Figures must have a caption as below.

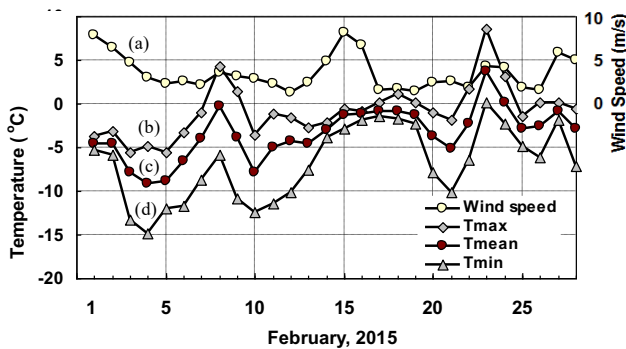


Fig. 1 Meteorological conditions of Mombetsu on February, 2015. (a) is daily mean wind speed. (b), (c) and (d) are daily maximum, mean, minimum temperatures respectively.
(10-point font)

In a printed Proceedings, graphics will be in **black and white**, but they will be in **color** on web site. Please be aware of the quality of your figures, illustrations, and photos.

5. Conclusions

A summary of your research results should be included in this section toward the end of the paper.

Acknowledgements

Acknowledgements may be made to those individuals or institutions that made an important contribution.

References

References to original (not secondary) sources for cited material is to be listed together at the end of the paper. References should be published materials accessible to the public. Internal technical reports may be cited only if they are easily accessible to the public. Private communications should be acknowledged within text, not referenced.

List of References shall be arranged in alphabetical order of family name of the first- author for articles with more than one author.

For more than 4 authors, the authors should be presented as “Vuille, M. and 6 others (2008)”, which should be referred as (Vuille and others., 2008).

Journals, conference proceedings and titles of books, should be in italics.

Examples are:

References

- Aota, M. (1999): Long-term tendencies of sea ice concentration and air temperature in the Okhotsk Sea coast of Hokkaido. *PICES Sci. Rep.*, **12**, 1–2.
- Kim, CH (2008): *Nonlinear Waves and Offshore Structures*, World Scientific, 516 pp.
- Fukamachi, Y., G. Mizuta and 4 others (2004): Transport and modification processes of dense shelf water revealed by long-term moorings off Sakhalin in the Sea of Okhotsk. *J. Geophys. Res.* **109**: C09S10, doi:10.1029/2003/JC001906.
- Kawamura, K., F. Parennin and 16 others (2007): Northern hemisphere forcing of climatic cycles in Antarctica over the past 360,000 years. *Nature*, **448**, 912-916.
- Ohshima, K.I., T. Watanabe and S. Nishishi (2003): Surface heat budget of the Sea of Okhotsk during 1987–2001 and the role of sea ice on it. *J. Meteorol. Soc. Jpn.*, **81**, 653-677.
- Okubo, A (2007): “A Comparative Study of Application of Ecosystem Approach to Marine Living Resource Management and its Implications for Japan”, *J. Ocean Policy Studies*, Ocean Policy Research Foundation, Tokyo, 1-19.
- Takahashi, S., T. Kosugi and A. Hori (2010): Sea-ice extent variations along the Okhotsk coast of Hokkaido and Shiretoko Peninsula’s ‘Dam Effect’ against sea ice flow. *Proc. 25th Internatl. Symp. on Okhotsk Sea & Sea Ice, Mombetsu, Japan*, **25**, 25–28.
- Taniguchi, A (2013): “Why marine mammals are abundant in the northern cold waters; Marine ecological basis of the sustainability of the northern Hunter-Gatherer”. *Proc. 28th Internatl. Symp. on Okhotsk Sea & Sea Ice, Mombetsu, Japan*, **28**, 83-85.
- The Japanese Society of Snow and Ice (2005): “*Encyclopedia of snow and ice* (in Japanese)”, Asakura Publishing, Tokyo, 760pp.

Vuille, M. and 6 others (2008): Climate change and tropical Andean glaciers: past, present and future. *Earth-Sci. Rev.*, **89** (3-4), 79-96.
 Weeks, W. F., and S. F. Ackley (1982): The growth, structure, and properties of sea ice. *CRREL Monograph*, **82-1**, U. S. Army Cold Research and Engineering Laboratory, Hanover, N. H., 129 pp.

Text Citation of References

Within ext of an article, references are to be cited by last name of author(s) and year of publication. Each reference to include last names of first or main authors, adding “and others”, or full authors.

For example:

.....were found (Kawamura and others, 2007).

Fukamachi and others (2004) has estimated

Ueda and Rashed (1990) proposed that ...

Oshima (1980a) observed

It was also noted (Yamaguchi, 2007; Kim, 2008; Riska, 1980b; Kheisin, 1992) that

Template:

There are four templates for the Proceedings.

Template 1a: for a proceeding manuscript
with chapter / section numbers

Template 1b: for without chapter /section number

Template 2: for a short manuscript

Template 3: for a public lecture (not in 2022)

Template 4: for peer-reviewed OSPOR

Summary in Japanese (If possible)

Japanese author(s) should to add a summary in Japanese at the end of the paper as following example.

(If possible)

Summary in Japanese

和文要約

1760 年前後のオランダ捕鯨船による 北極域の気象学的・地理学的観測

Gaston R. DEMARÉE¹, 田上善夫², Pascal MAILIER¹,
Astrid E.J. OGILVIE^{3,4}, 三上岳彦⁵

¹ベルギー王立気象研究所, ²富山大学, ³ステファンソン北極研究所, ⁴コロラド大学ボルダー校, ⁵首都大学東京

捕鯨とニシン漁業は、オランダ黄金時代(1600-1800)の主要な経済活動の担い手であった。.....

Correspondence person

Please write the name and mail address

Correspondence to: G. R. Demarée, xxxxx@yyyyy.zz

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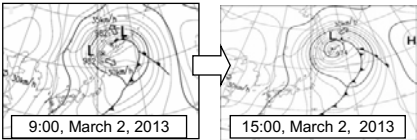
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北方圏国際シンポジウムプロシーディング原稿様式 日本語版補足説明

- 1) 原稿は最大4頁, 原則英文とする(可能なら和文要約を付ける). フォントは Times New Roman (Times も可)
 - 2) マージン: 上 30 mm, 下 25mm, 左 18mm, 右 18mm, 1 頁行数 34 行, 41 字/行, 2 段組段幅 19.66 字, 間隔 1.77 字
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 - 4) 著者名: 立体, 12pt. 姓は全て大文字, 名は頭文字のみ大文字. 所属番号(上付き数字)を付ける.
 - 5) 所属: 初めに所属番号(上付き). 斜体 10pt, 5~15 字インデント(字下げ)して左寄せ.
 - 6) **Abstract**: 概ね 5~10 行. 左・右側を 3~4 文字程度空ける. タイトルは強調立体 11pt, 文章は標準 10.5pt.
 - 7) **Key word**: Keyword を 3~5 語付ける. スタイルは同上, 原則小文字. 慣用で大文字を使うものを除く.
 - 8) 章・節タイトル: 強調 11pt, 章タイトル全て大文字. 節タイトルは先頭のみ大文字, 固有名詞頭文字のみ大文字.
 - 9) 章・節に「1.」, 「2.」, 「2.1」, 「2.2」の番号を付けてもよい(Template 1 は番号なし, Template 2 は番号あり).
 - 10) 本文: 10.5pt, 段落行頭で空白 2~3 文字下げる.
 - 11) 図: Fig. 1 とする. 図説明: 行頭 1~2 文字程度下げる. 説明文は 3 文字ぶら下げインデント(Hanging Indent)
 - 12) 式: 後ろに(1)等を付ける. 上下 1 行空ける. 引用は文中で Eq. 1, 行頭では Equation 1. 図(Fig. 1)も同様.
 - 13) **REFERENCE**: 文献情報は立体(雑誌名は斜体), 9pt, 3 文字ぶら下げインデント(2 行目以降を 3 文字下げ).
著者多数の場合, 共著者が後 16 名いるなら and 16 others と短くする.
 - 14) **Template** の種類. **Template 1a**: 学術発表用 章・節番号あり, **Template 1b**: 学術発表用・番号なし, **Template 2**: 短縮版 (1-2 pages), **Template 3**: 公開講座用(2022 年は無し), **Template 4**: 査読誌 OSPOR 投稿用.
- ※ 文献略名は極地研出版物に、その他書式は、概ね Journal of Glaciology (国際雪氷学会誌, 英国)に準ずる.

(Template 1a 例)

14pt, Bold	Snowstorm countermeasures for highways in Hokkaido - Snowbreak forest in Okhotsk Area -	
12pt	Toshikazu SAWANATSU ¹ , Hiroki YUASA ¹ , Hideki HONDA ² , Yoshinori KAWASHIMA ³ , Masaru MATSUZAWA ⁴ and Shuhei TAKAHASHI ⁵	
10pt, Italic	¹ Abashiri Development and Construction Department, Hokkaido Regional Development Bureau, MLIT, Abashiri, Japan ² Koken Engineering Co., Ltd., Sapporo, Japan ³ Docon Co., Ltd., Sapporo, Japan ⁴ Civil Engineering Research Institute for Cold Region, Sapporo, Japan ⁵ Okhotsk Sea Ice Museum of Hokkaido, Mombetsu, Japan	
11 pt, Bold	Abstract	
10.5 pt	Recently, snowstorms have become extremely severe in the Okhotsk Area of Hokkaido, Japan. They have and by the Civil Engineering Research Institute for Cold Region.	
11 pt, Bold	Key words:	road, snowstorm countermeasure, snowbreak forest, snowstorm, traffic hindrance
11 pt, Bold	1. Introduction	
10.5 pt	Hokkaido is designated as a snowy cold region, and the Okhotsk Area has particularly severe weather in winter.	
11 pt, Bold	2. Snowstorm damage in the Okhotsk area	
11 pt, Bold, Italic	2.1 Storm paths over Hokkaido	
10.5 pt	Low-pressure systems that bring heavy snowfall and snowstorms to Hokkaido have various characteristics, depending on their paths. There are three major types of low-pressure systems: 1) a low-pressure system over the Pacific Ocean as shown in Fig. 1.	
		
	Fig. 1 Low-pressure system with two centers near the Okhotsk District	
	2.2 Snowstorms and road traffic hindrances in Okhotsk Area	
	Roads in Eastern Hokkaido are frequently closed due to blowing snow. on national highways in Hokkaido (Fig. 2).	
	5. Conclusion	
	This paper has explained road traffic disruption in the Okhotsk Area, which has particularly.....	
	References	
	Fukamachi, Y., G. Mizuta and 4 others (2004): Transport and modification processes of dense shelf water revealed by long-term moorings off Sakhalin in the Sea of Okhotsk. <i>J. Geophys. Res.</i> 109 : C09S10, doi:10.1029/2003/JC001906. Ohshima, K.I., T. Watanabe and S. Nishihashi (2003): Surface heat budget of the Sea of Okhotsk during 1987–2001 and the role of sea ice on it. <i>J. Meteorol. Soc. Jpn.</i> , 81 , 653–677. Kawamura, K., F. Parennin and 16 others (2007): Northern hemisphere forcing of climatic cycles in Antarctica over the past 360,000 years. <i>Nature</i> , 448 , 912–916. Takahashi, S., T. Kosugi and A. Hori (2010): Sea-ice extent variations along the Okhotsk coast of Hokkaido and Shiretoko Peninsula's 'Dam Effect' against sea ice flow. <i>Proc. 25th Intnatl. Symp. on Okhotsk Sea & Sea Ice</i> , Mombetsu, Japan, 25 , 25–28.	
	Summary in Japanese	
	和文要約	
	北海道の道路吹雪対策 —オホーツク地域の防雪林—	
	澤松俊寿 ¹ , 湯浅浩喜 ¹ , 本田秀樹 ² , 川島由哉 ³ , 松澤 勝 ⁴ , 高橋修平 ⁵	
	¹ 網走開発建設部, ² 構研エンジニアリング, ³ (株)ドーコン, ⁴ 寒地土木研究所, ⁵ オホーツク流氷科学センター	
	1950~2015 年のオホーツク海の海水勢力と北極振動 の関係を調べたところ..... ...の間に非常によい正の相関があることがわかった.	
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【その他参考事項】

プロシーディングスに関する情報

この情報に合わせて Template は毎年更新していますので、毎年参加されている方はご注意ください。

2017 年

- The Okhotsk Sea & Cold Ocean Research Association は The Okhotsk Sea & Polar Oceans Research Association と変わりました。

2019 年

- 章(Chapter)・節(Section)のタイトルは、表題と同じく、タイトルの先頭文字のみ大文字、固有名詞は頭文字のみ大文字となりました。
- 節のタイトルはイタリック体(斜体)となりました。
(例) 3.3 Sensitivity
- 著者が多い時、共著者が後 16 名いるなら and 16 others と短くする。

2022 年

- Correspondence to: Name, e-mail address を Copyright の前に付ける。
- 近い将来 Proceedings 内容が HP 等で公開されることを前提にした原稿作成のアナウンス。

【参考】WORD 豆知識(2)

- 写真や図のコピー:
本文内に写真や図のコピーをしたとき、1 行分しか見えない場合があります。その時は
「レイアウト→文字列折り返し→前面」で前面に出ます。余計な部分を削るためには
「書式→トリミング」で大きさを変えられます。
- グラフ等で図とテキストボックスの混在をコピーするとき、そのまま Control+V の貼り付けは、大きさの変更が可能ではないので、右クリックして「図(U)」貼り付けつけるときサイズ変更可能な図形になります。このとき、「ホーム→貼り付け→形式を指定して貼り付け→拡張メタファイル」で貼り付けると精度よい画像になることがあります。
- ショートカットキー
Ctrl+C:: コピー
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【参考】WORD 改行知識

- Shift + Enter は段落内改行:
右の和文要約のように所属が 2 行に渡るとき、段落に後間隔に 0.5 行が設定されていると、普通の改行は 0.5 行空きますが、Shift + Enter とすると段落内改行で、空白行ができません。これはタイトル・著者名でも同様です。改行マークを表示させると普通は曲がり矢印ですが、段落内改行は下向き矢印で区別できます。
- Ctrl + Enter は強制改頁: 強制的に頁を変えます。
- Ctrl + Shift + Enter は段組内強制改行:
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1 頁に何とか文章を収めたいという時、本原稿では行間隔を固定値 14~16pt とかにして行間をつめてもかまいません。ちなみに、この文章は固定値 13pt です。
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Ctrl+L:: 左寄せ(Left)
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これらは文章もそうですが「行内」の図版にも使えます。また「行内」の図版を文字スペースより大きくしたいときはルーラーの右・左▽で変更できます。

Snowstorm countermeasures for highways in Hokkaido - Snowbreak forest in Okhotsk Area -

Toshikazu SAWAMATSU¹, Hiroki YUASA¹, Hideki HONDA², Yoshinori KAWASHIMA³,
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¹Abashiri Development and Construction Department, Hokkaido Regional Development Bureau, MLIT,
Abashiri, Japan

²Koken Engineering Co., Ltd., Sapporo, Japan

³Docon Co., Ltd., Sapporo, Japan

⁴Civil Engineering Research Institute for Cold Region, Sapporo, Japan

⁵Okhotsk Sea Ice Museum of Hokkaido, Mombetsu, Japan

Abstract

Recently, snowstorms have become extremely severe in the Okhotsk Area of Hokkaido, Japan.
They have
..... and by the Civil Engineering Research Institute for Cold Region.

Key words: road, snowstorm countermeasure, snowbreak forest, snowstorm, traffic hindrance

1. Introduction

Hokkaido is designated as a snowy cold region, and the Okhotsk Area has particularly severe weather in winter. In recent years, snowstorm frequency has been increasing, as have snowstorm disruptions.

2. Snowstorm damage in the Okhotsk area

2.1 Storm paths over Hokkaido

Low-pressure systems that bring heavy snowfall and snowstorms to Hokkaido have various characteristics, depending on their paths (Fukamachi and others., 2004).

There are three major types of low-pressure systems:
1) a low-pressure system
over the Pacific Ocean as shown in Fig. 1.

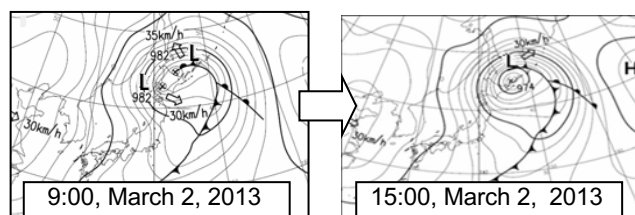


Fig. 1 Low-pressure system with two centers near the Okhotsk District

2.2 Snowstorms and road traffic hindrances in Okhotsk Area

Roads in Eastern Hokkaido are frequently closed due to blowing snow (Kawamura and others., 2007; Takahashi and Kosugi, 2010).

5. Conclusion

This paper has explained road traffic disruption in the Okhotsk Area, which has particularly.....

References

- Fukamachi, Y., G. Mizuta and 4 others (2004): Transport and modification processes of dense shelf water revealed by long-term moorings off Sakhalin in the Sea of Okhotsk. *J. Geophys. Res.* **109**: C09S10, doi:10.1029/2003/JC001906.
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(If possible)

Summary in Japanese

和文要約

1760 年前後のオランダ捕鯨船による 北極域の気象学的・地理学的観測

Gaston R. DEMARÉE¹, 田上善夫², Pascal MAILIER¹,
Astrid E.J. OGILVIE^{3,4}, 三上岳彦⁵

¹ベルギー王立気象研究所, ²富山大学, ³ステファンソン北極研究所, ⁴コロラド大学ボルダー校, ⁵首都大学東京

捕鯨とニシン漁業は、オランダ黄金時代(1600–1800)の主要な経済活動の担い手であった。.....

Correspondence person's name and mail address

Correspondence to: G. R. Demarée, xxxxx@yyyyy.zz

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Snowstorm countermeasures for highways in Hokkaido - Snowbreak forest in Okhotsk Area -

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..... and by the Civil Engineering Research Institute for Cold Region.

Key words: road, snowstorm countermeasure, snowbreak forest, snowstorm, traffic hindrance

Introduction

Hokkaido is designated as a snowy cold region, and the Okhotsk Area has particularly severe weather in winter. In recent years, snowstorm frequency has been increasing, as have snowstorm disruptions.....

Snowstorm damage in the Okhotsk area

a) Storm paths over Hokkaido

Low-pressure systems that bring heavy snowfall and snowstorms to Hokkaido have various characteristics, depending on their paths (Fukamachi and others., 2004).

There are three major types of low-pressure systems:
1) a low-pressure system
over the Pacific Ocean as shown in Fig. 1.

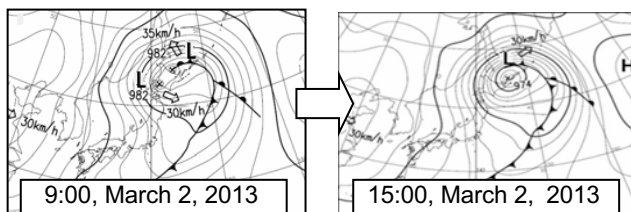


Fig. 1 Low-pressure system with two centers near the Okhotsk District

b) Snowstorms and road traffic hindrances in Okhotsk Area

Roads in Eastern Hokkaido are frequently closed due to blowing snow (Kawamura and others., 2007; Takahashi and Kosugi, 2010).

Conclusion

This paper has explained road traffic disruption in the Okhotsk Area, which has particularly.....

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(If possible)

Summary in Japanese

和文要約

1760 年前後のオランダ捕鯨船による 北極域の気象学的・地理学的観測

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捕鯨とニシン漁業は、オランダ黄金時代(1600–1800)の主要な経済活動の担い手であった。.....

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