



# THE NORDIC MARINE INSURANCE STATISTICS (NOMIS) 2019



# THE GEOGRAPHY OF CLAIMS



# The geography of claims

With the increasing availability of AIS data, Cefor is adding a new dimension to its analysis of claims trends: the geographical location of each claim. For 91% of all claims it was possible to identify the latitude and longitude of the vessel on the day the casualty occurred.

The goal is to analyse this casualty-related geodata by aspects such as:

- The impact of seasonality (summer/winter), i.e. typical seasonal weather/ice conditions.
- Variations by voyage area and characteristics (long-distance versus local transport).
- Differences in risks related to geography by claim type, vessel type, long- versus short-distance routes etc.
- Identifying hot spots with high or changed risk of casualties.

For a pilot project, geographical data for claims incurred in the years 2017-2019 was screened. In this article, we highlight the impact of seasonality and a recent increase in claims occurrences on certain rivers.

## **The basics: most casualties happen where you expect them to happen!**

Plotting all positions in a map verifies that these reflect actual claims locations and confirms the intuitive assumption that the majority of casualties occur in areas with high vessel density such as the English Channel and other popular shipping lanes, or close to a coast or ports where vessels have to manoeuvre through shallow waters or narrow navigation channels (see map on page 26). It also indicates that, although the NoMIS database reflects a high proportion of the ocean-going world fleet<sup>1</sup>, when it comes to short-sea shipping, vessels sailing in Northern Europe are most probably over-represented compared to more remote regions. In this context we must bear in mind that such maps on their own do not allow us to draw conclusions about the claims frequency, and hence the risk of an accident in relation to the number of vessels in the area, without additional information about traffic density, the number of port calls or insured vessels in a specific area.

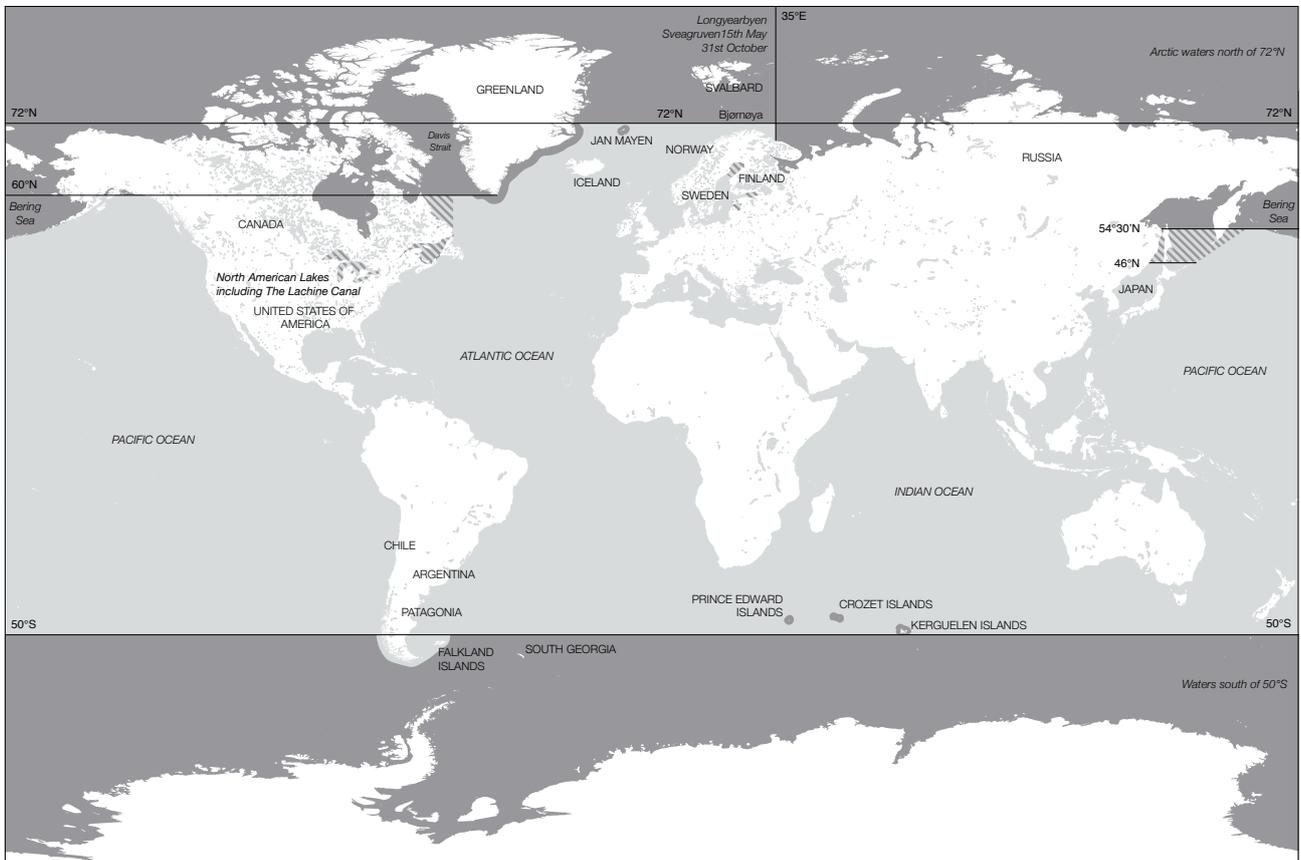
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<sup>1</sup> See table on page 54 (Cefor participation of world fleet)

## Geographical location of reported claims incurred 2017-19



## Conditional and excluded trading areas under the Nordic Plan



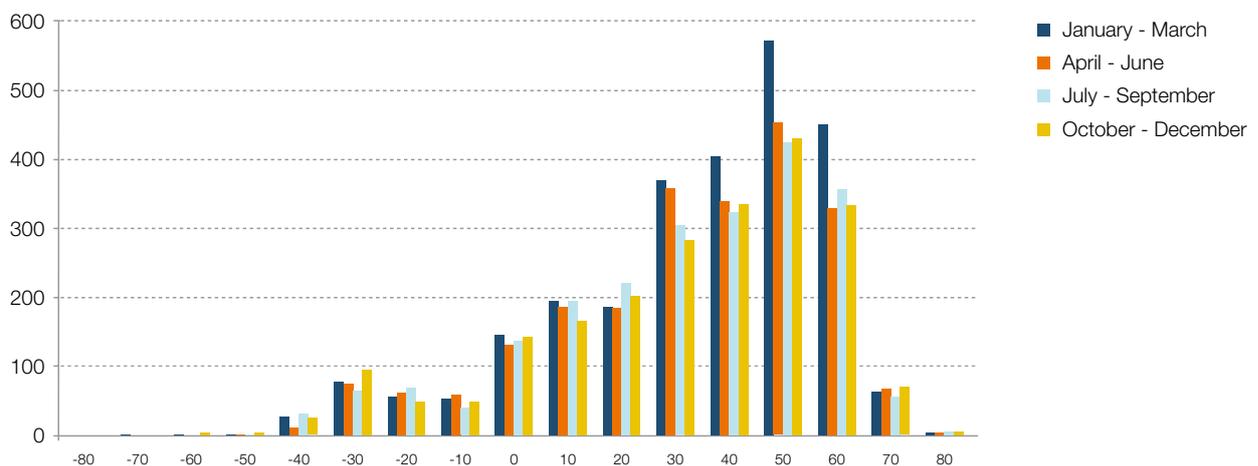
- Excluded Trading Area
- Conditional Trading Area
- Ordinary Trading Area

## Impact of seasonality

Another intuitive assumption is that more claims will occur in winter than in summer months in northern (southern) latitudes with distinct seasons. In these regions, winter means harsh weather conditions with severe storms, reduced visibility or navigating in ice. Graph 9, showing the number of casualties by latitude, confirms that the assumption of more claims occurring in winter months is especially true for the first quarter of the year in northern latitudes between 40 and 60 degrees. For the equivalent southern latitudes, substantially fewer claims are reported. This is directly connected to less (insured) vessels in the area. With regard to the most extreme southern latitudes, one should bear in mind that ships only travel to Antarctic regions during the Antarctic summer.

Another reason for a low occurrence of casualties in the most extreme latitudes, both north and south, is related to the insurance conditions. Under the Nordic Marine Insurance Plan, certain geographical restrictions apply. For example, a vessel is not allowed to enter latitudes north of 72 degrees without special permission and additional cover<sup>2</sup>. A complete list of excluded trading areas can be found on the Nordic Plan website<sup>3</sup> and is illustrated by the map on page 26.

### 9: Number of claims by quarter of the year by latitude



<sup>2</sup> With one exception for the area close to Svalbard, as the map shows

<sup>3</sup> <http://www.nordicplan.org/The-Plan/Appendix/Introduction/1-Excluded-trading-areas/>

## Change in risk – increase in casualties on the Mississippi and other rivers

An analysis of the data by year reveals a clear increase in the number of reported claims on the Mississippi from 2017 to 2019. The map on this page shows the increase in percent (red columns) in the number of reported casualties in certain areas, grouped by a latitude and longitude of 10 degrees. On the Mississippi, the increase in casualties can be largely attributed to flooding in the Mississippi river basin in the winter, spring and summer of 2019. This flooding was not the result of a single weather event. Rather, a series of flood events in tributary basins produced flooding of record duration along the Mississippi.<sup>4</sup>

In South America, there was the reverse situation in 2019 with extraordinarily low water levels in the river Paraná, but with similar challenges for the shipping industry resulting in an increase in the number of claims.

An increase in casualties on several rivers as illustrated in the map below has also been reported by other sources, identifying loss of anchor as one principal reason<sup>5</sup> for such casualties.

In recent years, claims resulting from exceptional corrosion following port calls in certain rivers have also been noted, especially in Asia.

## Change in claims occurrences around the Gulf of Mexico and South America

Red columns indicate an increase in casualty occurrences over the period 2017-19 (green indicates a decrease)



The analysis of geodata is still at a rather early stage. The Cefor Statistics Forum will analyse this data from different angles and in more depth in the coming year and publish any relevant findings.

<sup>4</sup> [https://en.wikipedia.org/wiki/Mississippi\\_River\\_floods\\_of\\_2019](https://en.wikipedia.org/wiki/Mississippi_River_floods_of_2019)

<sup>5</sup> <https://safety4sea.com/rise-of-lost-anchor-incidents-in-mississippi/> and <http://www.gard.no/web/updates/content/27142164/mississippi-river-high-water-high-costs>