

# README for Historical Southern Ocean Icebergs

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This document provides a description of the dataset created for the *Journal of Glaciology* paper “*Historical Occurrence of Antarctic Icebergs within Mercantile Shipping Routes and the Exceptional Events of the 1890s*” (JOG-22-0139) by Robert Headland, Nick Hughes and Jeremy Wilkinson (doi: TBD). We have endeavoured to make the data as accessible as possible by providing it in a range of formats.

## Dataset Files

The dataset consists of the following files:

**Historical Southern Ocean  
Icebergs 1.0.xlsx**

**This is an Excel spreadsheet consists of the following columns of data:**

|             |  |
|-------------|--|
| type        | The type of observation, either an <b>iceberg</b> , <b>non-existent</b> [island], or [historical] <b>event</b> .   |
| date        | The date of the observation in ISO-format, i.e. <b>YYYY-MM-DD</b> .  |
| datestr     | The month and day of the month of the observation, as precise as it is known. The day is numeric and month is in roman numerals.   |
| uncertainty | An estimate of the temporal precision of the observation, in days.   |
| ship        | The name of the vessel making the observation.   |
| captain     | The name of the captain of the vessel, if known.   |
| latstr      | <p>Text string for the latitude(s) of the observation. The latitudes are in decimal degrees format, with hemisphere, i.e. DD-DD°S.</p> <p>If the value if given in parentheses it implies there is an uncertainty in the position.</p> <p>Two latitudes separated by a hyphen indicate observations across a range of latitudes along the vessel track.</p>    |
| lat1        | The numerical value of the latitude.   |
| lat2        | The numerical value of the second latitude, if this is an along track observation.   |
| lonstr      | <p>Text string for the longitude(s) of the observation. The longitudes are in decimal degrees format, with hemisphere, i.e. DD-DD°W.</p> <p>If the value if given in parentheses it implies there is an uncertainty in the position.</p> <p>Two longitudes separated by a hyphen indicate observations across a range of latitudes along the vessel track.</p> |
| lon1        | The numerical value of the latitude.   |
| lon2        | The numerical value of the second longitude, if this is an along track observation.  |
| precise     | Flag <b>TRUE</b> or <b>FALSE</b> to indicate if there is any uncertainty in the position.  |
| source      | Source(s) for the observations. These are listed in the bibliography below. Where several sources have been found, these are separated by semicolons.  |
| observation | Text description of the observation. NB: To help with conversion to CSV-format, commas have been converted to semi-colons.   |

Historical Southern Ocean  
Icebergs 1.0.csv

This is the plain text, machine-readable, version of the spreadsheet and has the same columns of data as above.

SO\_Iceberg\_Points\_1.0.shp  
SO\_Iceberg\_Points\_1.0.shx  
SO\_Iceberg\_Points\_1.0.dbf  
SO\_Iceberg\_Points\_1.0.prj

The data in ESRI Shapefile format for the observations that consist of single points.

The points are in longitude, latitude (EPSG:4326) map projection.

The attribute columns are the same as described above, and include:

|           |   |
|-----------|---|
| type      | The type of observation, either an <b>iceberg</b> , <b>non-existent</b> [island], or [historical] <b>event</b> .  |
| date      | The date of the observation in ISO-format, i.e. <b>YYYY-MM-DD</b> .   |
| datestr   | The month and day of the month of the observation, as precise as it is known. The day is numeric and month is in roman numerals.  |
| uncert    | An estimate of the temporal precision of the observation, in days.  |
| ship      | The name of the vessel making the observation.  |
| captain   | The name of the captain of the vessel, if known.  |
| latitude  | <p>Text string for the latitude(s) of the observation. The latitudes are in decimal degrees format, with hemisphere, i.e. DD-DD°S.</p> <p>If the value is given in parentheses it implies there is an uncertainty in the position.</p> <p>Two latitudes separated by a hyphen indicate observations across a range of latitudes along the vessel track.</p>     |
| longitude | <p>Text string for the longitude(s) of the observation. The longitudes are in decimal degrees format, with hemisphere, i.e. DD-DD°W.</p> <p>If the value is given in parentheses it implies there is an uncertainty in the position.</p> <p>Two longitudes separated by a hyphen indicate observations across a range of longitudes along the vessel track.</p> |
| precise   | Flag <b>TRUE</b> or <b>FALSE</b> to indicate if there is any uncertainty in the position.   |
| source    | Source(s) for the observations. These are listed in the bibliography below. Where several sources have been found, these are separated by semicolons.   |
| obstext   | Text description of the observation. NB: To help with conversion to CSV-format, commas have been converted to semi-colons.  |

SO\_Iceberg\_Lines\_1.0.shp  
SO\_Iceberg\_Lines\_1.0.shx  
SO\_Iceberg\_Lines\_1.0.dbf  
SO\_Iceberg\_Lines\_1.0.prj

The data in ESRI Shapefile format for the observations that are along track. A linear interpolation has been applied between the start and end locations to provide intermediate locations to help with reprojection to other map projections.

The lines are in longitude, latitude (EPSG:4326) map projection.

The attribute columns are the same as described for the points file above.

## Bibliography

The dataset includes reports from a number of additional sources, not all of which are cited in the paper. The full references for these are listed here:

Balch, E. S. 1902. *Antarctica*. Philadelphia: Allen, Lane & Scott.

Balch, E. S. 1904. Antarctic addenda. *Pennsylvania: Journal of the Franklin Institute*, 157 [2 (938)]; 81-88.

Bertrand, K. J. 1971. *Americans in Antarctica 1775-1948*. New York: American Geographical Society.

Bogen, H. S. I. 1957. Main events in the history of Antarctic exploration. *Sandefjord: Norsk Hvalfangst Tidende*, 46 (4); 141-160, (5); 210-231, (6); 282-300, (7); 345-366, (8); 417-438, (9); 489-506 (also published as a single volume, 1958).

Boyson, V. F. 1924. *The Falkland Islands*. Oxford: Clarendon Press.

Bull, H.J. 1896. *The Cruise of the Antarctic to the South Polar Regions*. London: Edward Arnold.

Christensen, L. 1935. *Such is the Antarctic*. London: Hodder & Stoughton

Cumpston, J.S. 1968. *Macquarie Island*. Canberra: Antarctic Division.

Dana, R.H. 1840. *Two Years Before the Mast*. New York: Harper and Brothers

David, A., Fernandez-Armesto, F., Novi, C., and Williams, G. 2001, 2003, 2004. *The Malaspina Expedition 1789-1794*. London: Hakluyt Society. {E 5}

Dickson, W. 1850. *The Antarctic Voyage*. London: United Service Magazine.

Douglas, H.P. 1930. *The Antarctic Pilot* (1 st edition). London: HMSO.

Haig, A. 1835. *Isla Grande, South Atlantic Ocean*. London: Nautical Magazine; 4 (35); 7-8

Hardy, A. 1967. *Great Waters*. London: Collins.

Headland, R.K. 2009. *A Chronology of Antarctic Exploration. A Synopsis of Events and Activities from the Earliest Times until the International Polar Years, 2007-09*. 722 pp., Bernard Quaritch, Ltd.

Horsburg, J. 1830. *Remarks on Several Icebergs which have been met with in Unusually Low Latitudes in the Southern Hemisphere*. London: Philosophical Transactions of the Royal Society, 4 February 1830; 117-120, 392-393.

Hough, R. (1980). *Falklands 1914: The Pursuit of Admiral Von Spee*. Penzance: Periscope Publishing. ISBN 978-1-904381-12-9.

- Jones, A. G. E. 1985. Icebergs in the Southern Ocean. Cambridge: Iceberg Research, 11; 16-19.
- Kozian, W. 1994. Die Grossen Eistdriften im Südwestlichen Tiel des Süd-Atlantiks und Voor Kap Hoorne von 1854 bis zum Niedergang der Segelschiffahrt. Bremerhaven: Deutsches Schifffahrtsarchiv, 17; 51-92.
- Lubbock, B. 1929. The Last of the Windjammers. Glasgow: Brown, Sons, and Ferguson.
- Lubbock, B. 1948. The Colonial Clippers. Glasgow: Brown, Son & Ferguson.
- Lubbock, B. 1958. The Romance of Clipper Ships. London: Hennell Lock.
- Moneta, J. M. 1939. Cuatro años en las Orcadas del Sur. Buenos Aires: Peuser.
- Munn, C.A. (editor) 1911. Huge Icebergs in the Southern Ocean. New York: Scientific American, 24 (105); 544-545.
- Prieto, M.R., García-Herrera, R. & Hernández-Martín, E. 2004. Early Records of Icebergs in the South Atlantic Ocean from Spanish Documentary Sources. Amsterdam: Climatic Change, 66; 29-48.
- Purdy, J. 1855. Laurie's Sailing Directory for the Ethiopic or Southern Ocean ... London: R. H. Laurie.
- Reisenberg, F. 1941. Cape Horn. London: Robert Hale.
- Russell, H. C. 1895. Icebergs in the Southern Ocean. Journal and Proceedings of the Royal Society of New South Wales: 29; 286-315.
- Russell, H. C. 1897. Icebergs in the Southern Ocean No3. Journal and Proceedings of the Royal Society of New South Wales: 31; 221-251.
- Spears, J. R. 1908. The story of New England whaling. New York: Macmillan.
- Spencer-Cooper, H.E.H. (1919). The Battle of the Falkland Islands: Before and After.
- Staff, G. (2011). Battle on the Seven Seas: German Cruiser Battles, 1914–1918. Barnsley: Pen & Sword Maritime. ISBN 978-1-84884-182-6.
- Stommel, H. 1984. Lost Islands : The Story of Islands that have Vanished from Nautical Charts. Vancouver: University of British Columbia Press.
- Swan, R. A. 1998. Of Myths and Mariners. Woono (Australia): R. A. Swan.
- Taylor, R.H. (2006) Straight through from London: the Antipodes and Bounty Islands, New Zealand. Heritage Expeditions, New Zealand

Thrower, N.J.W. 1981. The Three Voyages of Edmond Halley in the Paramore 1698-1700. London: Hakluyt Society.

Towson, J. D. 1859. Icebergs in the Southern Ocean. Liverpool: T. Brakell.

US Antarctic Pilot 1905

Wharton, W. (1894) Notice to mariners - south atlantic ocean - ice islands and bergs. Falkland Islands Gazette, 4(26), 330.