This article provides a comprehensive listing of information concerning Gough Island in the South Atlantic. It covers 500 years since the island’s discovery in 1505, embracing works in the public domain. References are grouped by seven categories: scientific, popular, legal, miscellaneous, maps, visual material, and newspaper articles. An index is provided to facilitate searches by topic and author. An overview of the island, its status and relevance in terms of knowledge gained from research is also provided, together with a synthesis of information production and events that correlate with this over the half-millennium covered. South Africa’s role in running a meteorological station on Gough for more than half a century is highlighted through contributions it has made on a global scale. These include commemorating the Weather Bureau’s participation in the International Geophysical Year (IGY) of 50 years ago and the support role that the operations of the Weather Service, in conjunction with the directorate Antarctica and Islands of the Department of Environmental Affairs and Tourism has provided, and continues to provide, to scientists and visitors from all over the globe. Supplementary material online at www.sajs.co.za additionally provides a pictorial essay that portrays Gough and events at the island. Included are rare historical and more recent images that give insight into the nature of the island and operations there—in particular, weather-related phenomena and the meteorological station, as well as spectacular views of Gough, whose fragile, harsh, yet beautiful setting have earned it World Heritage Site status.

Gough Island: a synopsis

Discovery

The discovery of Gough Island is still shrouded in uncertainty. The most likely and accepted date points to July 1505, when the vessel of a Portuguese fleet sailing from Tagus (Portugal) to Sofala (East Africa) was driven down to 45° South in the Atlantic Ocean. It is suspected that it was on this occasion that the island was discovered and named after Gonçalo Alvarez, the captain of the stray ship, as variations of that name subsequently appeared on charts depicting the island in approximately the correct position.

The island retained the name Gonçalo Alvarez until well into the twentieth century, despite having acquired a second name after it was re-sighted in 1732 by Charles Gough. Gough was the captain of the British East India Company’s vessel Richmond, that was on a voyage from England to China. From the vessel’s log it is evident that Gough was aware of the island’s existence but that it was called Gonçalo de Álvarez. However, as a consequence of having estimated the position of the island to be nearly 8°, or 500 nautical miles, east of its true position, Gough’s island was for a long time afterwards taken to be different from that of Gonçalo Alvarez. The two islands were later recognized to be one and the same, but it is the name Gough that for some unknown reason remains to this day.

Position and status

Gough Island is positioned at 40° 18’S and 9° 56’W in the central South Atlantic (Fig. 1). Lying some 350 km south-southeast of Tristan da Cunha, Gough has been considered to be a part of the Tristan territory and as such to fall under British protection ever since Tristan da Cunha was declared a Crown possession in 1816. It was not until 29 March 1938 that Gough was formally annexed and declared British territory. To this day, Gough Island forms part of the Tristan Archipelago, which in turn is now classed as an Overseas Territory of the United Kingdom, forming, with St Helena and Ascension, part of a single territorial grouping under the Crown. The jurisdiction of Gough falls under the Administrator of Tristan da Cunha, who represents the governor (resident at St Helena), and is advised by the Tristan Island council.

The spectacular nature of Gough and abundance of seabirds it supports, are among the features that contributed to the island being declared a nature reserve under the Tristan da Cunha Conservation Ordinance of 1976. In 1985, it gained further Scientific/Strict Nature Reserve Status under IUCN Category 1 and in 1995 it was declared a World Heritage Site.

Gough Island measures approximately 13 km in length and 5 km in breadth, with an area of roughly 65 km². Its highest point, Edinburgh Peak, reaches 910 m. Volcanic in origin, the island is rugged with precipitous cliffs along many parts of the shoreline, which restrict landing and access to the interior. Exposed to the tempestuous elements of the Southern Ocean, the island commonly experiences heavy rainfall (approximately 3100 mm annually), high wind-speeds and huge swells. In addition, mist often appears from nowhere, blotting out the island and its features, thereby adding to the dangers that persons can and have been faced with while navigating around it.

Gough’s inhospitable nature and isolation have been cited as likely reasons why no permanent human settlement was ever established there before legislation was enacted to restrict it. Nevertheless, like most islands in the Southern Ocean, Gough was visited and inhabited for varying lengths of time, notably by sealers who exploited the island’s animal resources during the 19th century. Since the establishment of a weather station in 1956, it has been staffed on an annual rotational basis.

Value to science

Meteorology and South Africa’s fundamental role

The value of Gough’s position for collecting meteorological data has been recognized since the mid-1900s, in particular by South Africa and seafarers navigating the Cape sea route, who are dependent on observations from areas to the west of the country for accurate weather forecasts. Attempts to collect data from Tristan da Cunha had been made in the early 1940s, but the island’s topography proved unfavourable. In 1947, the South African government investigated other options and commissioned an expert, Professor A.F. Spilhaus, to look into the matter. In his report, Spilhaus recommended the establishment of a
weather station on Gough. By 1950, however, plans to establish one had been postponed due to difficulties in recruiting staff for South Africa’s Marion Island. As an interim measure, weather reports from ships increasingly crossing the Atlantic from South America were used. Then in December 1953, the opportunity arose to test the value of synoptic reports from Gough when a Cape Town-based company began fishing operations in the area. For four months regular weather data were transmitted from the vessel Voorbok, which provided the evidence that Gough was a suitable location for a meteorological station. Two years later, the prospect of setting up a pilot meteorological station on the island availed itself through the Gough Island Scientific Survey (GISS), a U.K.-organized research expedition that was to be based at Gough between November 1955 and May 1956. Supporting the prospect of manning a permanent weather station, the South African Weather Bureau (SAWB; now the South African Weather Service) supplied all the instruments and an experienced meteorologist, J.J. van der Merwe. Through him, morning and noon synoptic reports, including upper-air observations, were radioed to Cape Town on a daily basis. The results proved so valuable that the SAWB decided to maintain the operation. With the GISS having already established a base, the agency offered to purchase the facilities from them and these were officially handed over on 13 May 1956. Van der Merwe took charge of the weather station for another year and was sworn in as the first magistrate of Gough Island. This set the foundations on which the SAWB came to maintain the meteorological station at Gough ever since. It has collected data continuously for over half a century, making it one of the most important meteorological stations in the world for matters requiring weather-related information, in particular research into global climate change.

Initially, part of the 1956 agreement to continue running the Gough weather station was for the purpose of making a contribution to one of the most ambitious scientific research schemes ever undertaken: the International Geophysical Year (IGY), that was being planned for the 18-month period between July 1957 and December 1958. With South Africa among some 46 participating countries, the SAWB was honoured by the IGY committee with the task of preparing daily weather charts for the southern hemisphere, south of 20°F. For this, information from remote outposts was vital. Thus, the SAWB included Gough as well as Tristan da Cunha and its already established weather station on Marion Island in its IGY programme. The prominent role that Gough was to play in this led the SAWB to place the island high on its IGY programme agenda by expanding the upper-air balloon component, vital for accurate forecasting. Indeed, it is this facet of weather observations that to this day necessitates the staffing of Gough’s meteorological station, as it entails the release twice daily of a hydrogen-filled balloon in order to capture the atmospheric data, an activity which can easily result in failed attempts, given the powerful gusts of wind that occur there.

The individual and collective contributions made to the IGY by the South African scientific programmes received international recognition on a scale beyond the modest expectations of the meteorological sub-committee of the South African National Committee for the IGY. Since then, valuable scientific work has continued, made possible by South Africa’s continuing commitment to servicing the weather station on Gough.

**Biological and physical research**

The establishment of the weather station and regular supply trips to Gough opened up additional project work. Coinciding with this were the scientific results that emanated from the GISS, drawing particular attention to the biological character and value of the island. No doubt the advent of the GISS, the establishment of the meteorological station and participation in the IGY paved the way for the substantial increase in interest and information produced in the 50 years since 1955. Indeed, this period accounts for 80% of the 739 numbered items listed in the bibliography for the 500-year period—excluding information in the miscellaneous, maps, visual, and news categories.

The value of the Gough Island ecosystem as a depository of special and rare species had not escaped the scientific fraternity before 1950. Indeed, the most significant catalyst in providing and stimulating knowledge about these aspects came from the results of the 1904 Scottish National Antarctic Expedition (also known by its ship’s name as the Scotia Expedition). This enterprise, which set out to study the wildlife and conduct meteorological observations in the Southern Ocean and established the first Antarctic weather station, was also the first to target Gough for

Fig. 1. Locality map of Gough Island in the South Atlantic. Map drawn by C. Hänel.
purely research purposes. Despite lasting only a few days, the survey work gave rise to at least 46 publications and reports over the following 13 years it took to analyse the findings. To this day, many of those documents still form the only source of information about the less well-studied aspects of Gough and its surrounding waters. Prior to 1904, a mere 14 items of information had been documented, of which only three were scientific in nature (one about 'a new Gallinule', one concerning some bird eggs collected, and one that referred to rocks from Gough). Yet, despite the paucity of available information, the island and interest in it was far from neglected. This is evident from the many visits known to have taken place between 1505 and 1903. Most of the visits (33 of the 39 recorded for the period) occurred during the 19th century, and of the 33 that took place between 1800 and 1899, the main component (87%) were sealing voyages. Since sealers conducted their activities in notorious secrecy, and archaeological work at Gough is still largely lacking, relatively little is known about this period in the island’s history. The obscure and buried remains of this fascinating era will be lost entirely if nothing is done to find and preserve them in the near future.

I dedicate this bibliography to the early pioneers who had the vision and tenacity to lay the cornerstones of information, and to build on those a solid foundation of knowledge about Gough, based on the thorough work undertaken by them and their assistant contributors: William Speirs Bruce (of the Scotia Expedition, that conducted the first purely scientific investigations at Gough, in one of the last wooden ships without radio communications); Ernest Shackleton and Frank Wild (of the Shackleton–Rowett Expedition, during which Shackleton died and Wild, a loyal backbone of many of Shackleton’s expeditions, took over command, persisting in going on to conduct investigations at Gough); John Heaney (of the Gough Island Scientific Survey, the first comprehensive shore-based research expedition, which, through Heany’s vision, resulted in immense contributions and led to the island being proclaimed a World Heritage Site); Marthinus Paul van Rooy (of the South African Weather Bureau, and meteorological sub-committee of the South African National Committee for the IGY), whose role in establishing and servicing the weather station at Gough and contributing with data to the success of the IGY, led to what has become a world-renowned meteorological station, on the shoulders of whose support structure a legacy of information gathering has been made possible. Van Rooy, as the director of the SAWB and chairman of the IGY sub-committee, received praise for these achievements, but always claimed that it was due to the contributions made by each participant from the different divisions and parties, whether individually or as part of a team. Recognizing the importance of every person’s part was the basis on which he led the organizations, praising each member involved for his or her support role openly and in writing, such as for instance the document here listed under the heading: ‘Lest we forget’.

About the bibliography

Technical notes

The references listed in this bibliography are all accessible in the public domain and are principally of a paper-based type (that is, originally in hard-copy form). They embrace published and unpublished works covering a broad spectrum of documented media, including maps, postage items and other visual records, as well as some fascinating and obscure items.

The references are grouped in seven main categories: 1) Scientific (papers and books; theses; grey literature [including unpublished reports and manuscripts]); 2) Popular (articles and books); 3) Legal and official (government gazettes and notices; letters; journals and logs); 4) Miscellaneous (wills and testaments; correspondence); 5) Maps and charts; 6) Visual material (photographs; films and videos; postage stamps); and 7) Newspaper articles. The citations are arranged in alphabetical order by author (for categories 1–3), and in date order (for categories 4–7). To assist in locating some of the more obscure and rarer items, the abbreviated names of holding institutions and in some cases their specific reference locations have been added to the citations. In some cases, where material lacked specific citation information (such as a title, volume or page number), it was supplemented with relevant information in brackets. To facilitate searches further, an index is provided for categories 1–3.
The decision as to what material to include or exclude was in some instances a difficult one to make, particularly in view of the relative paucity of information in certain areas. References to audio and physical material (such as radio broadcasts, and specimen collections and artefacts, respectively) are not singled out here, but information about holdings of that nature can be extracted from among the publications listed. Electronic information, specifically that of internet-based web sites, is considered to be transient and thus not included here. No novels or other fictional material have been included.

By virtue of the constraints inevitable in a work of this nature, the bibliography is not considered to be complete. However, with the extensive coverage and inclusion of the copious items that would normally fall outside of the more formally used sectors, it is hoped that this listing will serve as a useful tool for locating information related to Gough Island, and stimulate informed synthesis.

**Facts and figures concerning the information listed**

For a general overview of the amount of information contained under the various categories in this bibliography, a breakdown is provided in Table 1.

An indication of the trend in information sources over the past 500 years is provided in Fig. 2. This clearly shows that scientific expeditions have contributed significantly to knowledge about the island. The Scottish National Antarctic Expedition in 1904 was the main start, having as a direct result of these investigations been responsible for 96% of the 48 items produced between 1904 and 1916. Subsequently, some of the principal contributors included: the Shackleton–Rowett Expedition (at Gough in 1922); the *Discovery* Expedition (1927); the Norwegian Antarctic Expedition (1933); the Gough Island Scientific Survey (1955–56) and various programmes that subsequently participated in the South African National Antarctic Expeditions. In one case, namely the information peak of 1969, the spur was due to a non-scientific event. This was the loss of two members from the weather station, which required a massive search operation that involved a warship of the South African Navy, assisted by a British vessel, members of the Tristan da Cunha community as well as the remaining Gough-based team members. The difficult circumstances under which the search and retrieval of the dead bodies had to be conducted gave rise to one of the most publicized rescue operation ever carried out by the Navy. Not all visits produced information, however. Typically, those of an official nature or that sought to exploit the island’s resources took place under relative anonymity. Of the latter, many were sealing expeditions, most of which occurred during the 1800s, although there were also some that were conducted in the 1900s. Among the commercial enterprises of the 20th century were three voyages that took place during 1919–20 in connection with prospecting for diamonds at Gough. The intriguing story behind those events, although a well-kept secret at the time, did come to light, however, in several publications that were produced between 13 and 42 years later.

The bibliography is available and a collection of photographs of Gough Island can be viewed online at [www.sajs.co.za](http://www.sajs.co.za)

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**Table 1.** A breakdown by category of the items listed in the bibliography (1732–2005).

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Herald 1969, July 11. Team from Tristan gets ashore on Gough. (Sapa).


Herald 1969, July 12. R.S.A. to fetch bodies from Gough Island. (Sapa).


Cape Times 1969, July 17. Four days passed before S.A.N. sent to Gough. Anon.


Cape Argus 2000, Nov. 27. SA ship set to rescue men on Gough Island.


Daily News 2000, Nov. 28. Ship speeds off to save marooned three today.


The Times 2000, Nov. 29. Three saved from island, p. 21.

Cape Times 2000, Nov. 30. Sea rescue an example to all. Anon, p. 10.

Cape Argus 2000, Nov. 30. Tears of joy and relief for rescued fishermen. Jeanne van der Merwe and Elliot Sylvester.


Cape Argus 2000, Dec. 04. Two of the three Cape Town fishermen rescued from Gough Island last week have been reunited with their families. Anon, p. 15.


Cape Times 2005, Aug. 02. Expert to see if killer mice can be eradicated. Melanie Gosling, p. 4.

Supplementary material to:


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*Fig. A* Aerial view of the entire island. The weather station at Transvaal Bay is located near the lower right-hand corner of the picture. Previously the meteorological station was located at The Glen, the vegetated area in the middle of the large bay on the right side of the picture. Photo: W. Burger.
**Fig. B.** Aerial view of east coast cliffs. The Glen is adjacent to the promontory in the upper centre of the picture. Its deep gorge runs to the top right of the photograph. Photo: M.K. Watkeys.

**Fig. C.** The supply ship R.S.A at The Glen. Photo: J.T. McNish.
Fig. D. The weather station at The Glen, affectionately known as ‘Blikkies Dorp’. Photo: J. T. McNish.

Fig. E. The weather station and adjacent coastline and mountains. The Archway Stack, previously joined by an arch that used to provide the landing route onto the island, is at the centre of this view of the coastline. Photo: C. Hänel.

Fig. F. The weather station complex from the air. Photo: C. Hänel.
**Fig. G.** The Archway Stack before the collapse of the connecting arch that provided the access route to the weather station. Photo: J. R. van der Merwe.

**Fig. H.** The supply ship *S.A. Agulhas* landing goods via the Archway. Photo: M. K. Watkeys.

**Fig. I.** Personnel carrier landing. This is still the only way of landing people outside of the annual take-over period (when helicopters are used between ship and shore to bridge the 30-metre-high cliffs). Photo: C. Hänel.
Fig. J. Calm sea at Archway Stack, Transvaal Bay. Photo: C. Hänel.

Fig. K. Stormy sea at Archway Stack. Photo: C. Hänel.
Fig. L. Meteorological instruments at the weather station. Photo: C. Hänel.

Fig. M. Dykes along the southwestern side, seen from an aerial view towards snow-covered South Peak. Photo: C. Hänel.

Fig. N. Dyke walls. Photo: C. Hänel.
**Fig. O.** High mires, typified by the green boggy areas that surround water bodies at the upper altitudes. Photo: C. Hänel.

**Fig. P.** View from the Sophera Glen landing. Photo: C. Hänel.