Ireland, the Irish Meteorological Service and "The Emergency"

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Note: The figures that appeared in the original article are cited next to the figures in this revised version

Introduction

Obtaining meteorological information about the development and movement of weather systems over the North Atlantic was an essential element of forecasting for both Allied and Axis forces during the war. An obvious source for such data was Ireland, or Eire as it was then called. Yet, Ireland had declared itself as neutral and in an effort to ignore the events beyond its borders, the euphemism, "The Emergency", was generally adopted. However, the official line on neutrality seems to have been slightly different from what actually happened. For example, an examination of the synoptic coverage on the wartime weather maps presented by Lewis (1985) shows that meteorological observations were available at the Central Forecasting Office, Dunstable from southern as well as Northern Ireland (Fig. 1). The key factor in this, something which is frequently overlooked, is the detail contained in the Anglo-Irish Treaty of 1922 which led to the establishment of the Irish Free State. This stipulated that anchorages, airfields, radio transmitters and submarine cables remained under British control, and, in fact, this situation remained in force (apart from anchorages) until 1949-1950. Anchorages had been relinquished in 1938 through negotiations with the British government (MacDonald 1972) but the ensuing unfavourable relations with Churchill overshadowed the extent to which the Irish Prime Minister, Eamon de Valera, assiduously adhered to the terms of the Treaty even if these required a slightly biased form of neutrality.

How these Treaty obligations manifested themselves during the war is still not clear as much information remains closed to public scrutiny in the Public Record Office. However, some insight can be gained by examining the history of the individual elements which were specifically cited in the Treaty. A primary interest of one of the authors (D. de C.) lies with the Irish trans-Atlantic cable telegraph stations and his researches have invariably led to the examination of wider issues (de Cogan 1984, 1993; Coggeshall 1993). One of these, in particular, is the flying-boat base at Foynes, Co. Limerick on the Shannon Estuary (Fig. 2) which was a pivotal link in Allied communications during the war.

This paper starts with a brief review of the development of synoptic meteorological observing in Ireland. The establishment of trans-Atlantic flying-boat operations at Foynes in the late 1930s is outlined. The development of related meteorological services at the base is discussed using a combination of personal interviews as well as writings of those who were closely involved both
before and during the War. The paper concludes with a consideration of the broader subject of war-time weather reporting from Ireland.

A brief history of Irish meteorological stations

Outside Dublin, the oldest meteorological stations in Ireland with continuous records are Armagh Observatory (Armagh), Markree Castle (Sligo) and Birr Castle (Offaly). These stations were originally founded as astronomical observatories: Armagh in 1790, Markree in 1824 and Birr in the 1840s. With astronomical observing dependent upon local weather conditions, the practice of making systematic meteorological reports appears to have became part of the scientific work undertaken at these establishments.

During the latter part of the nineteenth century further meteorological stations were established in Ireland, including a series round the coast maintained by the British Meteorological Office (Dixon 1950). The first of these coastal stations was sited near Cahirciveen (Kerry) as part of the telegraphic network of observing sites introduced by Admiral FitzRoy (Fig. 3) in 1860 (Murphy 1987). The Kerry station was also part of the telegraphic line that had been laid for the ill-fated attempt to lay a trans-Atlantic cable in 1857-1858 (de Cogan 1985). In 1867 the Meteorological Committee of the Royal Society decided to establish an observatory on Valentia Island with James Graves as its first Superintendent. There is little doubt that this move coincided with wider developments in communications as a permanent telegraph link between Valentia and Newfoundland had been established in the previous year with Graves as Superintendent of the cable station. In 1860, as clerk-in-charge of the telegraph office at Jersey, Graves had been in correspondence with FitzRoy concerning the transmission of weather observations by telegraph to the Board of Trade (de Cogan 1984, 1998). In 1892 the location of the meteorological station at Valentia was moved back to the mainland near Cahirciveen, where it has remained ever since. During World War II the telegraph office at Valentia allowed meteorological data to be transmitted quickly and exclusively to Dublin, London and even Newfoundland1. R.H. Scott, Dublin-born Director of the British Meteorological Office, was mainly responsible for the setting up of other meteorological stations round the coast such as Malin Head (Donegal) and Roche's Point (Cork) (Dixon 1950).

Pre-war trans-Atlantic flights

1999 marked the eightieth anniversary of the first aircraft flight across the North Atlantic from Newfoundland to Ireland in 1919 by Alcock and Brown in a World War I two-engine converted Vickers-Vimy bomber. The first westbound flight from Ireland to Newfoundland was made nine years later by J.C. Fitzmaurice of the Irish Air Corps who flew with Koehl and von Huenfeld, in the German monoplane, Bremen (Fig 4) (Roche 1987). After these pioneering flights, the first trans-Atlantic passenger air service was established in 1936 by the German airship, Hindenburg. Ten round trips between Friedrichshafen and New Jersey were made by the airship before it was wrecked in a disastrous explosion in 1937. Although Germany claimed that Lufthansa was the first

\[1\] Although leased to the Western Union Telegraph Co., the terms of their landing licences and the Anglo-Irish Treaty meant that they would not fail to provide this service.
airline prepared to establish a regular trans-Atlantic service, at least for mail, landing rights in North America were refused. Activities by other interested countries at this time were more successful with Ireland, Britain, Canada and the USA working together to set up a regular flying-boat trans-Atlantic service. At a conference held in Ottawa in 1935, the administrative framework and support requirements, such as landing facilities, radio communications, air traffic control and meteorological services, were agreed (Rohan and Gillman 1987).

Newfoundland, which had long served as a site for cable-relay stations, now gained further importance due to its position on trans-Atlantic air routes and Botwood, deeply set in the Bay of Exploits on the northern coast, was selected as a base for the trans-Atlantic flying-boat service being planned to operate between New York and Southampton.

On the eastern side of the Atlantic, Foynes, situated on a sheltered ria in south-western Ireland, was also chosen as a flying-boat base for this service. As a result, one of the first priorities of the newly-established Irish Meteorological Service under its founding Director, Austen H. Nagle (O'Connor 1987a), was to set up a forecasting and observing station at Foynes to provide the meteorological facilities required for these new developments in aviation history. Initially, in 1937, the meteorological office, manned by forecasters on secondment from the British Meteorological Office, was housed in the former Monteagle Arms Hotel. An observing site was set up in a nearby field and special weather reports, required for landing and take-off, were made aboard an air traffic control launch (Rohan and Gillman 1987).

At Botwood, responsibility for setting up the forecasting office and observing station was undertaken by the Canadian Meteorological Service (CMS) and the scientist appointed to be in charge was probably P. MacTaggart-Cowan who later became Controller of the CMS. He had been a member of the "Atlantic Training and Investigation Course" that had assembled under Sidney P. Peters at Croydon Airport in 1936 (Meade 1986).

Then, as now, a good system of communications was essential for a forecasting office. At Foynes this was provided by Shannon Aeradio, then located within the Department of Posts and Telegraphs, and weather reports received from mainland Europe, the North Atlantic and North America allowed synoptic charts to be plotted and analysed for the production of forecasts. By the time the trial crossings were made between Ireland and North America in July 1937, a fully operational meteorological organisation was up and running (Rohan and Gillman 1987). In these trials, the westbound flight was made by Imperial Airways with two modified Empire class flying boats, *Caledonia* and *Cambria* (Fig. 2) whilst the eastbound flight was made by Pan American Airways (Pan Am), with a *Sikorsky Clipper III* (Fig. 3). "Just a pleasant joy ride", remarked the Pan Am pilot, Captain Grey, to reporters after landing his flying boat at Foynes (Wheeler 1946).

Further proving flights were carried out in 1937 and 1938 with flight times westward up to 17h 18m, and eastward as low as 10h 33m; the latter was a record set by the *Cambria* on the final return survey flight from Botwood to Foynes. As a result of the experience gained during these trial crossings, procedures for trans-Atlantic flights, laid down at an Air Conference, held at Dublin, in March 1938, were little changed in the immediate post-war period (Rohan and Gillman 1987).
By the time the first scheduled westbound flight took place from Foynes in August 1939, commanded by J. C. "Jack" Kelly-Rogers (Fig. 7), the meteorological office had developed into an effective unit with a well-experienced team of forecasters able to give their best efforts in predicting the development and movement of weather systems over the North Atlantic. As described by the Irish radio commentator at the event, the inaugural official westbound departure of a flying boat from Foynes was witnessed by de Valera and several other Irish government officials. This historic flight included a demonstration, with an accompanying tanker aircraft, of the inflight refuelling procedure that had been developed for such trans-Atlantic operations (O'Rourke 1999). The Foynes-Botwood flying-boat connection now became one of the major trunk lines that were in operation on world air routes prior to the outbreak of World War II (Fig. 8).

At that time meteorological observations were being received on a continuous basis at Foynes (Fig. 9), allowing synoptic charts to be plotted and analysed for the preparation of regular flight forecasts. Although forecast maps were subjectively produced, they provided the basis for predicting numerical values of wind velocity and temperature at the flight levels along the anticipated tracks (Rohan and Gillman 1987).

The flight documentation supplied to the aircrew comprised 12 to 18 typewritten pages of detailed information for the route which comprised a general synopsis of the weather situation, forecasts of surface and upper-level conditions at intervals of 5º longitude, forecasts of conditions at the aerodrome of destination and alternates, together with actual and forecast charts of conditions at surface level. Advisory information supplied by the destination aerodrome for the second half of the route was also available for consideration. An adaptation of this format was used for flights from Foynes to Lisbon and locations further south when these began during the war (Rohan and Gillman 1987).

At the preflight briefing, charts (Fig. 10) and weather reports were presented by the forecaster to the flying-boat commander, co-pilot, navigator and radio operator, and frequently a double crew, as was necessary with flights possibly lasting twenty hours. The company flight operations officer was also present and frequently the company station manager and air traffic controller. The questions were searching; possible deviations from the forecast were discussed and assessed by the commander, co-pilot and navigator. After take-off the tension continued at the meteorological office, as the weather along the track of the aircraft was kept under close surveillance. Anticipating procedures adopted by meteorological reconnaissance lights during the war, major position reports were received from the aircraft every hour (including an observation of wind, temperature and louds) with ancillary reports each half-hour. These observations were carefully studied by the meteorologists, and updated information and, if necessary, amendments were radioed to the aircraft (Rohan and Gillman 1987).

**Wartime activities at Foynes**

Following the outbreak of World War II, Peters left Foynes to resume duties in the British Meteorological Office. The Spanish meteorologist, Dr Mariano Doporto, a refugee from the
Franco regime (O'Connor 1987b), became officer-in-charge for a while but when he left in 1941 to join Nagle in Dublin, was succeeded by Lamb (O'Connor 1987a).

Due to wartime security, the amount of meteorological information available for analysis and forecasting was curtailed. To alleviate his situation, at least in part, weather reports were made more frequently at Foyynes and the routine of making hourly observations was generally introduced by the Irish Meteorological Service (Murphy 1987).

**Wartime experiences at Foyynes**
The following accounts are based on memories of personnel who had associations with Foyynes.

**Hubert H. Lamb**
The autobiography of Lamb (1997) is an invaluable source for tracing the meteorological history of Foyynes. Professor Hubert H. Lamb, founding director of the Climatic Research Unit at the University of East Anglia, Norwich, was stationed at the flying-boat base during much of World War II.

In June 1939, following a demand for his resignation from the British Meteorological Office (due to his views, as a conscientious objector, against becoming involved with a poison gas-spraying exercise), Lamb was offered a posting, under secondment, to the Irish Meteorological Service as a forecaster at Foyynes. Lamb, aged 25, duly arrived the following month at Waterford, via the Fishguard ferry, just before the inaugural trans-Atlantic flight had taken place from Foyynes.

For most of his first year at the flying-boat base, Lamb stayed at a small hotel on an island overlooking the River Shannon. Between flights, the captains and other officers of the British aircraft also stayed at the hotel and Lamb found it a good place to meet the aircrew and learn more about the operation of the trans-Atlantic service.

After an aircraft had taken off, Lamb recalled, wireless operators kept in contact with base and the air traffic controller at Foyynes exercised control until the point had been reached where responsibility was handed over to the American side (or to Lisbon or Bermuda in the case of flights on the other routes). Lamb obtained in-flight experience when he flew to America in 1942 to attend meetings in Toronto and New York on the trans-Atlantic air service. The westbound flight from Foyynes to Botwood took about fifteen hours, as was normal at that time. He was impressed by the well-appointed accommodation on board which had become a feature of many civil airlines in pre-war days. That flight, he recalled, "was luxury indeed in comparison with later times. The flying boat was furnished with a few small round tables, each with soft armchairs round it. Each passenger also had a bunk aft to sleep in." Lamb, however, did not sleep as he took the opportunity to observe, from the air, cloud formations and their development over the sea.
Three of the other British meteorological staff at Foynes, that is, Sidney P. Peters\(^2\) (who had trained Lamb three years earlier at Croydon Airport), David A. Davies\(^3\) and Stanley Proud\(^4\), had started off by staying at a public house on the main street but later moved to accommodation in a neighbouring village (probably Loghill) situated several miles to the west of the base. When Lamb arrived at Foynes, besides the British forecasters, there were also five or six young Irish graduates, the first intake of recruits from the home country, forecasting under individual supervision and still hoping to complete their training at the Massachusetts Institute of Technology (MIT) in the USA\(^5\). Meanwhile, they were receiving training from Dr Leo Wenzel Follak, a Jewish refugee scientist from the University of Prague, who had been found a teaching post in the Irish Meteorological Service at the behest of Prime Minister de Valera.

Not long after the war had broken out, the British forecasters at Foynes, apart from Lamb and Paul Brown (not mentioned by Meade (1986) in his account of the 1936 training course at Croydon), were recalled to the United Kingdom. In 1940, Lamb was formally transferred to the Irish Meteorological Service and appointed instructor of the forecasting course that had originally been planned for the Irish graduates at MIT. He also undertook the training of the first intake of Irish meteorological assistants in making synoptic weather observations.

As already stated, when Doporto left for Dublin to join Nagle, Lamb became officer-in-charge at Foynes. However, in late 1943 or early 1944, Nagle instructed the meteorological office at Foynes to take on an increasing load of public service work, without allowing any new staff to be employed and trained. Lamb objected to this proposal as it would have jeopardised the time and resources required for ensuring air safety on the trans-Atlantic operations. Matters came to a head in November 1944 with the result that Lamb resigned and was promptly offered a post of comparable seniority in the British Meteorological Office at Gloucester.

Con J. Gillman

Con J. Gillman, one of the first intake of Irish recruits, had received his initial meteorological training at Valentia Observatory (see illustration given by Murphy (1987)). After the war Gillman continued to serve with distinction in the Irish Meteorological Service and during the latter part of his career was appointed Officer-in-Charge of the Meteorological Training College at Rosslare. Although Gillman officially retired from the Service in 1978, he was then co-opted by the Irish Air Corps, in a temporary two-year post, to provide preflight forecasts at Baldonnel (the military airfield near Dublin). He died in 1990.

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\(^2\) Peters subsequently became an Assistant Director of the Meteorological Office (ADMO), as did J. Harding, another of the original forecasting team at Foynes.

\(^3\) Davies eventually became the Secretary-General of the World Meteorological Organization.

\(^4\) Proud became a Meteorological Officer on one of the Panther weather ships who, sadly, lost his life in 1941 when his vessel was sunk by a U-boat (Gordon 1996) see Enigma Insight file

\(^5\) According to a photograph taken by F.E. Dixon at Foynes, this group appears to have included Arthur Morgan, Shane Tierney, Sean McWilliams and Leslie Leech (O'Conner 1987).
In 1985, one of the authors (D. de C.) had discussions with Gillman. At that time, the main interest
of these talks was the role of Major Quintrell. Following service in the 1930s as a telegraph
operator at the Imperial Communications cable station in the Azores, Quintrell remained in Ireland
during the war, along with a Colonel Knaggs, to monitor the security of key communication
installations on behalf of the British government.

Gillman remembered seeing Anthony Eden passing through Foynes accompanied by a British
bodyguard and an Irish army sergeant. There were also many British top brass who wore loose-
fitting overcoats to cover their uniforms in a neutral country.

He explained that Foynes transmitted meteorological information just before any scheduled take-
off from Lisbon\(^6\). This was output as numbers and enciphered before transmission. Initially it was
a fairly crude matter, but this practice was significantly strengthened after the USA entered the war
in 1941. From that point on a new encipherment key was used every day. Although, according to
Gillman, the cipher-room was under military guard by the Irish army, with a lieutenant in charge, it
was subject to British inspection. The encoding staff were hand-picked and had to pass through
both civilian and military checks on entry. The civilian coding clerks were locked in and although
they had an alarm bell close at hand, there was much concern about what might happen in the event
of fire. There was also a military guard inside who had an alarm with which he could call for
assistance in the event of any trouble. Gillman recounted a visit by Major Quintrell to the cipher
room at Foynes. The soldier in the ante-room was quizzed on the procedures which were to be
used in the event of an unauthorised incursion. There was a bell-push.

"Have you ever used it?" asked Quintrell.
"Yes sir, once sir" replied the guard.
"By Jove, when?" asked Quintrell, suspecting a cover-up.
"It was a test sir" was the response

**Lieutenant General Michael J. Costello**

One of the authors (D. de C.) also had the opportunity in 1985 to interview Lieutenant General
Michael J. Costello shortly before he died. Costello, a charismatic figure, had been O.C. (Officer
Commanding) Southern Command of the Irish Defence Forces during the war. Both Foynes and
the trans-Atlantic cable stations were within his area of responsibility and, in spite of manpower
shortages, it was his duty to provide a guard for these installations.

\(^6\) Botwood was only available in the summer months when the Bay of Exploits was not frozen over.
At other times the east-bound route from New York was via Bermuda, and Lisbon, while the
westbound journey (taking advantage of the north-east trade wind belt) went via Lisbon, Bathhurst
and the West Indies. Lisbon was also a stopping off place for flights from the Middle and Far East.
The direct route from Lisbon to Poole were not normal on account of the danger of interception by
German fighter aircraft from occupied France. For that reason most Sunderlands flew on a broad
arc, arriving at Foynes for refuelling at dawn.
Most of the discussion covered the cable stations, but the question of the guard on the cipher room at Foynes was also put to him. He strongly disputed the contention of Gillman and others that there had been any Irish military involvement inside the base at Foynes. His final words on the subject were: "The [Irish army] guard at Foynes was at Mount Trenchard House [i.e. outside the base]. BOAC had their own in-house guards, but I do not believe that they were armed" (Costello, personal communication). The evidence of Fig 11 clearly refutes this. Incidentally Fig. 12 shows the comings and goings at Foynes at this time.

Wartime weather reports from Ireland - the wider scene

When war became imminent, the continued reception of meteorological observations from Ireland became a matter of great concern to the British Meteorological Office. In August 1939, the Irish government agreed in principle with a British proposal that existing arrangements for the exchange of information should be continued. Details were worked out on 1 September 1939 and, on the outbreak of war, the approved arrangements came into force (FitzPatrick 1992). This is confirmed by documents in Irish Military Archives. In a secret memorandum from the Department of Industry and Commerce, dated 8 May 1953, the exchange of meteorological data between Britain and Ireland in the event of Cold War hostilities is discussed in positive terms. Attached to the document is a two page memorandum from the British Embassy (dated January 1953) which includes the following sections:

"2. In August 1939 the United Kingdom authorities received through the Eire High Commissioner a Memorandum prepared in the Department of Industry and Commerce. This stated in part that –

The Irish Government are prepared in the event of a war to continue the existing arrangements under which observations made at their weather reporting stations are furnished to the British Meteorological Office on the understanding that meteorological reports and forecasts will continue to be furnished by the British Meteorological Office to the Irish Meteorological Service

3. The arrangements brought into force during the early stages of the late War may be summarised for convenience as follows:-

(a) Data received from the then Eire Government

(i) Surface reports from 5 synoptic stations and 1 auxiliary station.
(ii) Upper wind reports from 2 stations.
(iii) Some additional data for used in connection with the United Kingdom flying-boat flights to and from Eire.

(b) Data supplied by United Kingdom Government

(i) Surface reports from 18 stations in the United Kingdom, 6 stations in France and 1 Belgian station.
(ii) Upper wind reports from 5 United Kingdom stations.

File EDP/13/2 in Irish Military Archives records that there were 105 men of the 7th Motor Squadron stationed at Mount Trenchard House in December 1942.
Upper air temperature reports twice daily from Aldergrove (Northern Ireland)

4. In addition the Eire Meteorological Service undertook to assure that no information was transmitted in clear from Foynes to aircraft in flight. Further, messages containing Irish reports and meteorological advice were sent by secret cypher from Shannon Airport to Botwood (Newfoundland) for the information of the Meteorological Service at that base and of the Meteorological Service of Canada. In return Botwood base transmitted to Shannon Airport meteorological reports from Newfoundland and Eastern Canada for later transmission to the Central Forecasting Office in the United Kingdom.

5. During and after 1941 arrangements for the exchange of data were made direct between the technical services of the two countries and there was a large expansion of the supply of information from both sides."

Section 6 of the main 1953 document gives some insight into the thinking that permitted the exclusive exchange of information (neutrality notwithstanding)

"It may be mentioned that whereas Irish reports because of our geographical position would be of great offensive value to an enemy of Britain, they would benefit the British mainly in a defensive sense, and then only to limited extent (assuming that reports from the Six-Counties and from the North Atlantic would still be available to them). Thus although Britain could take grave exception to our broadcasting our reports to the world in wartime or otherwise making them available to her enemies, an enemy of Britain would not have a very strong case in objecting to a bilateral exchange between ourselves and Britain."

The fine detail of the technical arrangements came about as a result of a meeting of the Irish Meteorological Service and Air Corps at 11a.m. on 13 October 1939, where it was decided that daily flight forecasts would be relayed by priority telephone and telegram from the meteorological office at Foynes to Baldonnel and Rineanna (current site of Shannon Airport). For its part, the Air Corps agreed to make daily weather flights at 1200 GMT at Baldonnel (also at Rineanna from January 1942) to record upper-air values of pressure temperature, humidity and wind, similar to the THUM ascents being made by the RAF. It was also decided that a Meteorological Officer would visit Baldonnel to give lectures and arrange examinations in meteorology for pilots of the Air Corps (Roche 1987).

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8 File S91 in Irish Military Archives records that this meeting was attended by Col. P.A. Mulcahy (O.C. Air Corps), Capt W. Keane (O.C. R & NB Squadron), Capt. M. Sheerin (O.C. Fighter Squadron), Mr R.W. O'Sullivan (aeronautical engineer) as well as Mr A.H. Nagle and Mr S.P. Peters, representing Industry and Commerce (the Government Department which covered Meteorological Service.
As stated above, the synoptic coverage over the British Isles plotted on the weather maps presented by Lewis (1985) confirms that meteorological observations were received from key stations in Ireland during the war, but it is not clear how these relate to the "5 and 1 auxiliary station" cited above. From a map analysis it appears that stations were located at Belmullet, Birr, Dublin, Foynes, Malin Head, Markree, Roche's Point and Valentia. Together with Aldergrove in Northern Ireland, reports from these sites would have provided a well-balanced synoptic coverage over the country (Fig. 9). Dixon (1986), citing J.M. Stagg's account of the D-Day forecasts, states, "a report from Blacksod (Belmullet) was crucial in deciding which team of forecasters had the right analysis". Muiris de Cogan, father of one of the authors served in the Irish Army during and after the war. When the locations in Ireland that feature on wartime weather maps were shown to him he recalled:

"I joined the army on 8 August 1940 and immediately before that I had been on holiday with my cousin who had just got a new car. We travelled through the West of Ireland and stopped off at Belmullet. There was a shop/post office there and I have a clear memory of the lady (post mistress) excusing herself, going out to take readings of weather instruments in her back garden and keying them by telegraph before she finished serving us. It was important, she said, that the measurements were taken and transmitted at precise times" (Muiris de Cogan, personal communication).

This would suggest that Belmullet was the "1 auxiliary station" referred to in section 3 (a) (i) of the Embassy memorandum of January 1953. Some of the other stations which can be seen on the weather maps presented by Lewis (1985) were probably part of the "large expansion of the supply of information from both sides" during and after 1941 which is cited in section 5 of the same document.

From Weather Eye column by Brendan McWilliams Irish Times 3 April 2001

"Weather Eye was saddened to hear that Ted Sweeney of Belmullet passed away some days ago. For many years before 1956, when the Meteorological Service opened an official weather station at Belmullet, Ted Sweeney and his mother, in addition to running the local post office, also provided regular weather observations of excellent quality for use in weather forecasting. One of these weather reports, in June 1944, was destined to influence the course of history. That month final plans were being laid for the Normandy landings, the beginning of the end of the second World War. . . ."

Conclusions

In denying a high level of Irish army involvement at Foynes, Costello was merely holding the official line on neutrality, but his protests were unnecessary. Britain had set up and supported the Irish Meteorological Service. Documents in Irish Military Archives are entirely consistent with the experiences which were related by Gillman. Like Foynes itself, the weather data provided by Ireland during "The Emergency" was an essential part of the Allied war effort and the evidence indicates that this was supplied without question.

For many years the unfavourable atmosphere engendered by arguments between Winston Churchill and Eamonn de Valera over access to anchorages has successfully obscured the true extent of Anglo-Irish wartime cooperation. It is hoped that the present analysis of the meteorological
provision from Foynes and other locations in Ireland during World War II goes some way towards redressing the balance.

Acknowledgement
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References


_________ (1993) Ireland, telecommunications and international politics 1866-1922. *History Ireland* 1, pp. 34-38


Figure 1 Synoptic chart for Western Europe 4 July 1942
Figure 2 Location of Foynes
Figure 3 Admiral Robert FitzRoy, founder of the UK Met. Service, previously master of *HMS Beagle*, in which Charles Darwin sailed
Junkers *Bremen* in Dublin waiting for an improvement in the weather (1929) with (l. to r.) Baron von Huenefeld, Herman Kohl and Col. James FitzMaurice

Figure 4  Flight path of Bremen. Deflected by strong winds was deflected over Labrador, but managed to return and crash land on Greenly island in the Straits of Bell Isle
Figure 5 Caledonia (Figure 2 in the original article)

Figure 6 Pan American Clipper (Figure 3 in the original article)

Figure 7 Capt. J. C. Kelly Rogers (Figure 4 in the original article)
Figure 8  Air routes prior to the outbreak of World War II (Figure 5 in the original article)

Figure 9  Weather reporting stations in Ireland (Figure 6 in original document)
Figure 10  Synoptic chart for 18 July 1943. Note that UK Met Office is receiving significantly more weather data from occupied Europe as well as in-flight weather data from a flying boat en-route from Lisbon to Foynes.
Figure 11  Irish Police (armed) at Foynes

Figure 12  War-time Foynes (Catalina coming in to land)