

## ROYAL CHARTER SCIENCE SHIP: Circumnavigation

The ROYAL CHARTER made a total of six around the world voyages between the time she was built in 1855 and time she was wrecked in 1859.

A typical circumnavigated route would take the vessel south from Britain, past the Canary Islands, towards Cape Verde, from here they would go west a while, towards Brazil to catch the 'Roaring-Forties' trade winds that would propel the vessel east past south Africa and Asia and on to Australia.

The return journey would travel south of New Zealand towards south America, dodging ice bergs from the Antarctic, south of Cape Horn on the southern tip of south America, then north east across the Atlantic towards Britain.

On the ROYAL CHARTER's maiden voyage, the Reverend W Scoresby kept records of many of the crew's noon day observations of latitude and longitude (calculated from reading of the angle of the sun to the horizon and the time recorded by the ship's chronometers). These observations were used in his experiments exploring how magnetism changed in the northern and southern hemispheres, and how this might be evidenced in the ROYAL CHARTER's iron hull and the readings obtained from the ship's compasses.

The latitude and longitude recorded by Scoresby reveals the route the ROYAL CHARTER took on her maiden voyage trip to Australia and back, which you can now recreate in Google maps.



(Image courtesy of Google maps)

The following table includes the latitude and longitude coordinates noted Scoresby, the date and number of days into the voyage. The page number within the journal has also been included in the last column along with some of the places and events noted in the Journal:

From Liverpool to Melbourne, Australia:

<b>Number of Days into Voyage</b>	<b>Day of Week</b>	<b>Date 1856</b>	<b>Places and events noted in Scoreby's Journal</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Journal Page</b>
	Thurs	17-Jan	Went onboard at Liverpool			
1	Fri	18-Jan	Leave Liverpool	53 24N (53.40)	2 58W (-2.96)	
2	Sat	19-Jan				
3	Sun	20-Jan	Noon - Cork harbour supposed to lie NW by W distance some 80 miles			25
4	Mon	21-Jan	Send pilot off, ship's position 20-25 miles from Cape Clear			25
5	Tues	22-Jan		47 17N (47.28)	10 27W (-10.45)	27
6	Wed	23-Jan		46 28N (47.46)	8 33W (-8.55)	
7	Thurs	24-Jan	Ship becomes unmanageable in a Gale off Cape Finisterre; all the third class, and most of the second class and some of the first class accommodation flooded	46 32N (46.53)	7 59W (-7.98)	32
8	Fri	25-Jan	Observed Pole Star at 6 or 7pm, Lizard Light distance 20 miles. 10pm Start Light bore 12 miles distance			
9	Sat	26-Jan	ROYAL CHARTER returns to Plymouth to alter ballast - 2am screw propeller brings within Breakwater Plymouth Sound, following in an Aberdeen clipper ship with loss of spars			
<b>Two days spent at Plymouth adjusting the ship's loading and sailing trim</b>						
12	Sun	17-Feb	Leaves Plymouth to resume voyage. 3pm pilot leaves vessel. 5pm Eddystone light bore N by E 1/2 E. at 8pm Lizard Light NW by about 11 miles distant.	50 25N (50.41)	4 15W (-4.25)	39
13	Mon	18-Feb				42
14	Tues	19-Feb	Noon reading - Lisbon E by S, distance 163 miles			43
15	Wed	20-Feb		42 28N (42.46)	10.28W (-10.46)	44

16	Thurs	21-Feb	Noon reading - Porto Santo S by W 1/2 W, distance 86miles, Madeira to SSW, distance 122 miles	39 14N (39.23)	12.32W (-12.53)	43
17	Fri	22-Feb	Reached latitude of Madeira	37 20N (37.33)	14 44W (-14.73)	44
18	Sat	23-Feb		34 22N (34.36)	15 41W (-15.68)	45
19	Sun	24-Feb		30 45N (30.75)	17 10W (-17.16)	47
20	Mon	25-Feb	Sighted Palma, Canary Islands, Passengers luggage got up from below in order to bring out summer or tropical clothing	28 2N (28.03)	19.21W (-19.35)	49
21	Tues	26-Feb	Beautiful, animating day with clear brilliant evening with stars becoming more and more lustrous; large ship is seen to eastward steering westerly			
22	Wed	27-Feb	Saloon deck now covered by an awning to defend the deck from heat and produce an agreeable and refreshing coolness; dinner includes roast beef, mutton and mutton currie, pork and apple sauce, plum puddings, fruit tarts sago and rice puddings	22.7N (22.11)	20 50W (-20.83)	53
23	Thurs	28-Feb	Within Cape Verde Islands, 127 miles true east of Bonavista	16 00N (16)	20 26W (-20.43)	55
24	Fri	29-Feb	First class passengers dancing on deck; an exercise which, by perhaps 12 to 20 individuals, was kept up, guided by a diverse succession of instruments, from dusk until about 9pm	12 56N (12.93)	20 26W (-20.43)	56
25	Sat	01-Mar				
26	Sun	02-Mar	Church rigged from services under an awning on the saloon deck- a goodly, well-ordered and most attentive congregation of about 300 attends.			
27	Mon	03-Mar	There was a feeling of closeness, oppressiveness, as of damp heat... the temperature at night being 83 to 82 degrees	6 5N (6.08)	21 9W (-21.43)	61
28	Tues	04-Mar	Men connected with the engine were in a most painful and serious degree – the coolest part			

			of the engine room was 93 degrees, near where the stokers worked the furnaces it was 103 degrees			
29	Wed	05-Mar	Leaving the Doldrums and entering the south-eastern trade winds; Crossing the equator and old King Neptune makes his appearance			
30	Thurs	06-Mar		1 16S (-1.26)	22 40W (-21.66)	67
31	Fri	07-Mar	Several shoals of flying fish seen. Evening entertainment of conversation, songs and stories - Miss Holmes, with her beautiful voice afforded us a frequent and most enjoyable treat	4 1S (-4.01)	24 21W (-24.35)	69
32	Sat	08-Mar	Evening spent playing chess, backgammon and cards			
33	Sun	09-Mar				
34	Mon	10-Mar	Ship appears 3-4 miles off and proves to be the GREENOCK from Glasgow, bound for Sydney, 42 days out, signals exchanged	12 44S (-12.73)	29 44W (-29.73)	72
35	Tues	11-Mar				
36	Wed	12-Mar	Dancing on deck in the evening			
37	Thurs	13-Mar	Dutch brig THETIS steering in opposite direction passed a mile to leeward	23 30S (-23.50)	30 20W (-30.33)	79
38	Fri	14-Mar	Dancing on the poop deck			
39	Sat	15-Mar		32 9S (-32.15)	27 38W (-27.63)	84
40	Sun	16-Mar		35 3S (-35.05)	24.57W (-24.95)	86
41	Mon	17-Mar	St Patrick's Day celebrations – a champagne supper and ball for which formal cards of invitation were issued			
42	Tues	18-Mar	Birds following the wake of the ship increasing – albatrosses and petrels			
43	Wed	19-Mar				
44	Thurs	20-Mar	Cruel sport of shooting albatrosses and catching them on fishing lines pursued by some onboard			
45	Fri	21-Mar	Goof Friday, with divine service in the morning			
46	Sat	22-Mar	Anniversary party in the lower			

			saloon			
47	Sun	23-Mar	Easter Sunday service in the third-class mess room. A sperm whale is seen very near to the ship by the Captain			
48	Mon	24-Mar	Cape of Good Hope distance 630 miles			98
49	Tues	25-Mar	High crossing of seas at 2am makes whole hull and masts stagger, some of passengers awoken by it; repairs to truss of the mainyard undertaken by crew	42 52S (-42.86)	15 37E (15.61)	100
50	Wed	26-Mar	Now within Indian Ocean, barometer falling, gale commences at 2pm	44 51S (-44.85)	20 22E (20.36)	
51	Thurs	27-Mar				
52	Fri	28-Mar		45 37S (-45.61)	32 52E (32.86)	109
53	Sat	29-Mar				
54	Sun	30-Mar	Divine service for the first class passengers in the morning; some 100-150 third class passengers in the mess room in the evening – the singing was good and cheering			
55	Mon	31-Mar	Ship scudding along at speeds of 13-15 knots accompanied by rain and thick weather; crew don their Greenland costumes – strong wind and waterproof dresses from head to foot and large drawn-up fishermen's boots	47 30S (-47.50)	52 43E (52.71)	115
56	Tues	01-Apr	Iceberg reported on port bow at 7.30pm by Captain Boyce			
57	Wed	02-Apr				
58	Thurs	03-Apr	Passing the eastern limit of Kerguelen Island, Christmas harbour some 80 miles distance	48 08S (-48.13)	59 28E (59.46)	128-9
59	Fri	04-Apr	The squalls are tremendous - once shifting from west-southwest to southwest, the ship came up into the wind by the incaution of the helmsman... no small anxiety and alarm as she lurched to leeward	48 8S (-48.13)	78 48E (78.80)	136
60	Sat	05-Apr	Staggering blow of wave on the quarter just as breakfast was being served threw onboard a considerable amount of water			

			through the saloon skylights; Partial solar eclipse observed.			
61	Sun	06-Apr	Storm of a new order, a great and rapid fall of the barometer; four of the best seaman assigned to the helm; ship, denuded of all sail, 'behaved splendidly'; seas shipping over the waist of ship enter the saloon and upper cabins			
62	Mon	07-Apr	Entry in ship's log for previous days reads 'hurricane continued, with tremendous sea, no horizon'- gale still blows			
63	Tues	08-Apr	Cross sea strikes on starboard quarter; ladies in saloon are completely drenched by water coming through skylights	48 00S (-48)	111 00E (111)	152
64	Wed	09-Apr	Ship laid over by sudden gale (25 degrees to port); main topmast staysail breaks free and is brought down on deck for repair	45 40S (-45.66)	112 5E (112.08)	
65	Thurs	10-Apr		44 24S (-44.40)	121 4E (121.08)	156
66	Fri	11-Apr				
67	sat	12-Apr		44 10S (-44.16)	127 14E (127.23)	159
68	sun	13-Apr				
69	Mon	14-Apr	Great interest had been excited by the possibility of accomplishing the voyage within 60 days, but wind changes to northerly and possible record slips away	42 50S (-42.83)	138 45E (138.75)	163
70	Tues	15-Apr		41 00S (-41)	142 4E (142.06)	163
71	Wed	16-Apr	Arrival Melbourne anchorage	37 52S (-37.86)	144 56E (144.93)	166

From Melbourne to Liverpool:

Number of Days into Voyage	Day of Week	Date 1856	Places and events noted in Scoreby's Journal	Latitude	Longitude	Journal Page
1	Sat	24-May	200,000 ounces of gold loaded into iron compartment below lower saloon; Scoresby and his wife come onboard at about 5pm	37 52S (-37.86)	144 56E (144.93)	
2	Sun	25-May	Anchor got up and 11am and	40 1S	143.21E	191

			proceeded by steam down Port Phillip water	(-40.01)	(143.35)	
3	Mon	26-May	Passengers are found to include talented vocalist Catherine Hayes and a Roman-catholic Archbishop	42 20S (-42.33)	143 15E (143.25)	192
4	Tues	27-May				
5	Wed	28-May				
6	Thurs	29-May	Light showers of rains. Rainbow appears with end 7-8ft from the sides of the ship	47 50S (-47.83)	144 34E (144.56)	194
7	Fri	30-May	Numerous medusa floating like glow-worms or will-o'-the-wisps on the surface of the water			
8	Sat	31-May	Thermometer having fallen to 36 degrees, no recourse left, but the appliance of warm clothing and rapidly walking up and down the poop-deck; passed from Indian Ocean into Pacific Ocean	47 50S (-47.83)	146 29E (146.48)	195
9	Sun	01-Jun	Congregation of 150 or more for evening service in the third class mess room – assembly included working men returning to their homes with a goodly treasure	51 34S (-51.56)	150 26E (150.43)	197
10	Mon	02-Jun	4800 miles distance from Cape Horn	52 15S (-51.25)	155 40E (155.43)	198
12	Tues	03-Jun	Betwixt Auckland and the Macquaire's Islands	53 17S (-53.28)	160 34E (160.56)	200
13	Wed	04-Jun		53 17 S (-53.28)	166 46E (160.56)	202
14	Thurs	05-Jun	Several cetaceous animals seen during the day apparently of medium and small species – several blowing (3 or 4 at a time)			
15	Fri	06-Jun	Passed the antipodal meridian of Greenwich at about 6pm	54 20S (-54.33)	175 58E (175.96)	205
16	Sat	07-Jun	Upper topsail yard fell suddenly from position, brought down on deck and repaired by crew			
17	Sun	08-Jun	Ship's company, officer and men, artisans and mechanics engaged from daylight to sunset in replacing topsail yard	54 2S (-54.03)	175 30W (-175.5)	208
18	Mon	09-Jun	Fine bracing air, patches of frost on decks and considerable quantity of snow on windward side of boats and masts			
19	Tues	10-Jun	Deck covered with snow to the depth of several inches and	54.25S (-54.41)	161 50W (-161.83)	211

			thermometer at 31 degrees			
20	Wed	11-Jun				
21	Thurs	12-Jun	Ship meets the heavy swells and strong favourable winds to gain passage around the Horn			
22	Fri	13-Jun	Note: coordinate '54 71S' may be an error in the transcribing of Scoreby's Journal. If you try '54 21N' or '-54.35', does this ROYAL deviate greatly from the route that you would expect?	54 71S (-54.35)	148 26W (-148.43)	215
23	Sat	14-Jun		55 36S (-55.60)	141 22W (-141.36)	216
24	Sun	15-Jun				
25	Mon	16-Jun				
26	Tues	17-Jun		56 18S (-56.30)	133W (-133)	218
27	Wed	18-Jun				
28	Thurs	19-Jun		57 26S (-57.43)	120 04W (-120.06)	221
29	Fri	20-Jun	Sky Rose suggests westerly wind in upper or mid region of clouds, but no favourable gale for the ship to harness to speed Cape Horn near 900 miles distant			
30	Sat	21-Jun				
31	Sun	22-Jun	Barometer falling rapidly preceding strong and hard gale			
32	Mon	23-Jun	Distance from Cape Horn about 630 miles	57 32S (-57.53)	86 22W (-86.36)	229
33	Tues	24-Jun	Leak found in the foremost compartment of the bows, supposed to come from an open rivet hole, has increased to cause continually pumping out by a donkey engine; working of plates near the junction of the stem and keel causes anxiety as ship plunges through increasing seas. Distance from Cape Horn 480 miles	57 29S (-57.48)	79.58W (-79.96)	231
34	Wed	25-Jun	Distance Cape Horn about 250 miles	56 39S (-56.65)	75 2W (-75.03)	232
35	Thurs	26-Jun	Distance Cape Horn about 190 miles, nearest land 130 miles. Some 45 tons of copper ore transferred to storeroom aft to help the problem of the plates working at the bow; third class	56 28S (-56.46)	72.32W (-72.03)	232



			passengers assist in transferring the load; ship's trim improved; passed from Pacific Ocean into the Atlantic			
36	Fri	27-Jun	Diego Ramirez Island distance about 25 miles; passed the meridian of Cape Horn at 7pm at a distance of 45-50 miles			
37	Sat	28-Jun				
38	Sun	29-Jun	Distance from Beuchesne Islands, southernmost Falkland Islands, about 240 miles			
39	Mon	30-Jun	Weather fine, sea smooth	54 5S (-54.08)	57 46W (-57.53)	239
40	Tues	01-Jul		51 42S (-51.70)	52 7W (-52.11)	240
41	Wed	02-Jul		48 49S (-48.49)	49 11W (-49.18)	240
42	Thurs	03-Jul	Hard gale, heavy blow on the port quarter in the evening, produced a violent shock and the shipping of water; occasional healing to 44 degrees	48 25S (-48.41)	44 51W (-44.85)	243
43	Fri	04-Jul	Eight guns fired at breakfast in compliment to Americans onboard to celebrate of Independence day; delicious punch served to saloon passengers at luncheon with toasts and speeches and snatches of songs and choruses			
44	Sat	05-Jul				
45	Sun	06-Jul		47 26S (-47.43)	35 9W (-35.15)	247
46	Mon	07-Jul		44 58S (-44.96)	32 56W (-32.15)	248
47	Tues	08-Jul	Little wind, steam power got up at 9am, but in 2.5 hours fresh breeze sprang up and ship outran the screw; at 11.30am engine ceased to work			
48	Wed	09-Jul	Cape pigeons caught by hook and line; one preserved for Mrs Scoresby by first officer; Miss Catherine Hayes sings popular English and Scotch songs for the saloon passengers, concluding with 'God Save the Queen'	38 49S (-38.81)	30 48W (-30.80)	254
49	Thurs	10-Jul		35 44S (-35.73)	28 8W (-28.13)	255

50	Fri	11-Jul	Crossing of the tracks of the ROYAL CHARTER on the outward journey			256
51	Sat	12-Jul		28 36S (-28.60)	24 57W (-24.95)	257
52	Sun	13-Jul		26 9S (-26.15)	23 59W (-23.98)	259-60
53	Mon	14-Jul	Crossing the Tropic of Capricorn; Antarctic clothing diminishing and tropical clothing now taking its place; change in temperature rapidly progressive and exceedingly enjoyable. Temperature now 68 degrees			
54	Tues	15-Jul	Two species of whales appear near ship – the large kind being 40 to 50ft in length.	19 59S (-19.98)	23 54W (-23.9)	264
55	Wed	16-Jul		16 40S (-16.66)	23 52W (-23.90)	267
56	Thurs	17-Jul		13 28S (-13.46)	24 8W (-24.13)	268
57	Fri	18-Jul		9 30S (-9.5)	23 57W (-23.95)	269
58	Sat	19-Jul		6 3S (-6.05)	23 33W (-23.55)	273
59	Sun	20-Jul		3 1S (-3.01)	23.30W (-23.50)	275
60	Mon	21-Jul	In mild evening, Miss Catherine Hayes sings to assembled passengers and crew 'God save the Queen' and 'Rule Britannia', hundred of sympathising voices joining in the chorus; she sings 'Home Sweet Home' as a solo in conclusion of the concert	00 18N (0.30)	23 49W (-23.81)	280
61	Tues	22-Jul	Inquired of Chilean barque, passing 4 miles distance, whether at peace or war; no answer	3 20N (3.33)	23 40W (-23.66)	280
62	Wed	23-Jul		6 17N (6.28)	21 31W (-21.66)	281
63	Thurs	24-Jul	On deck, passengers carrying out various exercises or creations, numerous cages with Australian and other birds exhibited daily. One species, the shell parrot, sometimes seen 50-100 times and being sold at 2 guineas a pair; enactment of the trail of a breach	8 56N (8.93)	20 00W (-20.00)	283

			of promise of marriage in grave burlesque humour - amusing and entirely unobjectionable			
64	Fri	25-Jul	Cape Roco, coast Gambia, bearing ENE distance 140 miles. Cape Verde distance 207 miles.	11 36N (11.60)	19 8W (-19.15)	284
65	Sat	26-Jul		14 53N (14.88)	18.32W (-18.53)	285
66	Sun	27-Jul	Within 40 miles of the coast of Senegal	16 38N (16.63)	17 9W (-17.15)	286
67	Mon	28-Jul	Sharks, dolphins, flying fish, bonitos – towards evening, the dolphins were playful and unusually bold in their approach to the ship	17 3N (17.05)	19 10W (-19.16)	187
68	Tues	29-Jul	Striking deviation in the weather noted - the southeast trade winds not being encountered rather a prosperous breeze from the southwest or west	18 38N (18.63)	20 58W (-20.96)	291
69	Wed	30-Jul	Steam engine engaged to counter light airs, breezes, and occasional calms	20 28N (20.46)	22 17W (-22.28)	295
70	Thurs	31-Jul	Meeting with steamer and a French sailing ship ST VINCNET DE PAUL, 18 days out from Bordeaux, bound for Valpariso, answer to question whether peace or war, being 'Peace – Peace'; other news passed includes the birth of a Prince to Empress of France	22 31N (22.51)	22 34W (-22.56)	298
71	Fri	01-Aug	Meteor seen at 7.20pm with a tail of bluish, brilliant white; costumed entertainment performed by saloon passengers includes dramatic recitations of the story of William Tell and portions of Shakespeare's Julius Caesar	24 48N (24.80)	23 1W (-23.01)	300
72	Sat	02-Aug		27 1N (27.01)	23 58W (-23.96)	301
73	Sun	03-Aug	Hailed the ASHLAND, 21 days out from Liverpool, news exchanged, on parting to cheers, a display of blue lights and rockets (each ship following the other's example); 360 miles distance from Palma, Canary Islands	29 14N (29.23)	24.52W (-24.86)	302
74	Mon	04-Aug	Brig flying Spanish colours passed	31 35N	24 53W	303

			in the forenoon; turtle seen on surface of sea; deals and baulk of timber apparently long in the water also passed; island of Madeira being 390 miles distance	(31.58)	(-24.88)	
75	Tues	05-Aug	Waterspout seen some 5.5 miles away to the southwest			
76	Wed	06-Aug	Spoke with French brig, INDIANA, bound for Marseille from Senegal	35 55N (35.91)	23 36W (-23.60)	309
77	Thurs	07-Aug	Only 4 days worth of coal thought to be left in the hold, and canvas spread to try to reduce the amount of steam being used; large numbers of dolphins appear; Miss Catherine Hayes gives another concert for the benefit of a poor widow and six orphaned children onboard - £38 12s 6d was raised	38 8N (38.13)	22 00W (-22.00)	310
78	Fri	08-Aug		40 42N (40.70)	20 16W (-20.26)	311
79	Sat	09-Aug	Donkey engine pumping out water from the leak in the bows breaks down; increasing numbers of ships are being met inward and outward bound	43 58N (43.96)	18 18W (-18.30)	312
<b>Dr Scoreby's Journal breaks off, but continuing from the Captain's Log of the Royal Charter</b>						
80	Sun	10-Aug		46 43N (46.71)	16 3W (-16.05)	314
81	Mon	11-Aug		49 29N (49.48)	13 28W (-13.46)	314
82	Tues	12-Aug	Old Head of Kinsale sighted at 10am, 10 miles	51 00N (51)	13 28W (-13.46))	314
83	Wed	13-Aug (Tues 12 Aug in UK)	Tug comes alongside and puts mails and several passengers			314
84	Thurs	14-Aug (Wed 14 Aug in UK)	Arrived at the Mersey, passed the Rock Fort in the afternoon, firing guns	53 24N (53.40)	2 58W (-2.96)	314

The following are instructions on how to create a map showing the voyage of the ROYAL CHARTER in 1856 using Google maps.

A Google account is required, but these are easy and free to set up.

1. Access the internet and search 'Google Maps'.

2. Log into the Google Maps page with your Google account. (The login is in the top right-hand corner).
3. Click on 'My Places' just below the Google search bar.
4. 'Create Map' (below the 'My Places' button)
5. Give your map a title and description. If you wish to keep your map private (so that no other Google users can view it without going through you) click the 'Unlisted' button, under the description box.
6. To plot points on the map use the numbers in brackets in decimal degrees included after the coordinate as written in Scoresby's Journal in degrees and minutes. Type the coordinates into the Google Maps search bar. Remember that north or south coordinates come first, followed by the east or west, separated by a comma ( , ) in between.
7. Plot the coordinates on the map by clicking 'add a placemark' (the middle icon at the top of the map). Once you've placed a placemark, a box will appear next to it, this placemark box will allow you to give the placemark a name (possibly the date that coordinate was taken) and a description.
8. For the return journey, you might want to change the colour of the placemark (the outgoing and return journeys cross in the Atlantic Ocean and so changing the colour makes it easier to see the two routes). To change the colour of a placemark click on the icon in the top right corner of your placemark box, this will give a drop down menu of different icons to use as placemarks.
9. If you need to delete or change any placemarks, click on the corresponding placemark in the list on the left side of the screen. Clicking a placemark on this list will bring up the placemark box and from there you can edit the title or delete the placemark.
10. Continue plotting the coordinates until they're all done.
11. Make sure to click 'save' at the top of your map title.

Congratulations – you've just travelled around the world with crew and passengers of the ROYAL CHARTER!

Scoresby's 'Journal of a Voyage to Australia and Round the World for Magnetical Research' is downloadable from Google books via the link below:

[http://books.google.co.uk/books?id=uFMpAAAAYAAJ&printsec=frontcover&source=gbs\\_ge\\_summary\\_r&cad=0#v=onepage&q&f=false](http://books.google.co.uk/books?id=uFMpAAAAYAAJ&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false)

The narrative of the voyage begins on page 173 of the .pdf.