

PORT
of
TYNE

RIVER TYNE OFFICIAL

TIDE TABLES

2017



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PORT
of
TYNE

RIVER TYNE

TIDE TABLES

FOR THE YEAR 2017

Issued by the

PORT OF TYNE

Maritime House, Tyne Dock,

South Shields NE34 9PT

Tel: (0191) 455 2671 Fax: (0191) 455 4687

www.portoftyne.co.uk

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PORT
of
TYNE

The Port of Tyne is responsible for the conservancy and navigation of the River Tyne. The river is navigable over a distance of 15 miles (24 km) and channel depths are advertised as far as Newcastle Swing Bridge, a distance of 10 miles (16 km).

The Port is accessible at all states of the tide. There are no length or beam restrictions for vessels in the entrance to the Port. With a controlled depth of 10.0 metres below Chart Datum in the lower reaches of the Port and 13.0 metres below Chart Datum at Tyne Bulk Terminal and 12.1 metres at Riverside Quay, ships of a considerable size can be accommodated within the Port.

No height restrictions exist in the lower harbour, but wires crossing the river at Jarrow restrict air draft above this point to 65 metres at Mean High Water Springs (MHWS).

PRINCIPAL CONTACTS

Harbour Master's Office,
Neville House, Bell Street,
North Shields NE30 1LJ

Tel: +44 (0)191 257 0407 Fax: +44 (0)191 258 3238

Harbour MasterS CLAPPERTON

Head Office,
Maritime House,
Tyne Dock,

South Shields NE34 9PT

Tel: +44 (0)191 455 2671 Fax: +44 (0)191 455 4687

Email: commercial@portoptyne.co.uk

Website: www.portoptyne.co.uk

Commercial Director - Port ServicesA KERR

Riverside Quay Office,
Tyne Dock,

South Shields NE33 5SP

Tel: +44 (0)191 455 2671 Fax: +44 (0)191 454 5502

Operations Manager – VesselsS RICHARDS

International Passenger Terminal,
Coble Dene,

North Shields NE29 6EA

Tel: +44 (0)191 257 1373 Fax: +44 (0)191 296 0839

Operations Manager – VesselsS RICHARDS

Tyne VTS (Vessel Traffic Services) - 24 hours
tynevts@portoptyne.co.uk Tel: +44 (0)191 257 2080

PARTICULARS OF RIVER AND DOCK BERTHS

The dredged depths in the channel and at the docks and quays are subject to silting and to amendment from time to time in line with variations in shipping requirements. Confirmation of all depths should be obtained from the Harbour Master, Bell Street, North Shields.

Tel: Tyneside (0191) 257 0407 Fax: (0191) 258 3238

PORT OF TYNE OPERATED BERTHS

RIVERSIDE QUAY / TYNE CONTAINER / BULK TERMINAL

Length – 875m

Beam – 40m

Depth – 12.1m @ Chart Datum (13.0m @ Bulk Terminal)

5 Harbour Mobiles (up to 144t swl) and 2 Container Gantry cranes (up to 40 tonnes @ 35m reach)

PARTICULARS OF BERTHS

(continued)

INTERNATIONAL PASSENGER TERMINAL

RO/RO NO.3

Depth – 7.1m @ Chart Datum.

Dual Linkspan Bridge for stern loading and discharging.

Elevated passenger walkway with automated baggage conveyor.

RO/RO NO.4

Depth – 7.5m @ Chart Datum.

Linkspan Bridge for stern loading and discharging.

Elevated passenger walkway with automated baggage conveyor.

NORTHUMBRIAN QUAY

Cruise & Lay-by Berth 335m long Depth – 9.0m @ Chart Datum

WHITEHILL POINT

105m between dolphins, vessels up to 215m long.

Depth of Water – 8.6m @ Chart Datum.

TYNE CAR TERMINAL

3 Berths with pontoons, including 1 Heavy Duty pontoon.

No. 1 Berth 230m x 50m 10.0m @ Chart Datum

No. 2 Berth 160m x 40m 7.0m @ Chart Datum

No. 3 Berth 110m x 34m 7.0m @ Chart Datum

Fixed Platform Quay 95m x 30m, plus pontoons allow vessels stern; quarter; and side; ramps to be worked.

PARTICULARS OF BERTHS

(continued)

PRIVATELY OPERATED BERTHS

BULK LIQUID INSTALLATIONS

Tyne Tanker Berth, North Shields (Inter Terminals)

Berth – 200m long

Ocean Tanker Berth, North Shields (Inter Terminals)

Berth – 200m long

NORTH SHIELDS FISH QUAY (North Shields Fish Quay Company)

995m long

OFFSHORE TECHNOLOGY PARK, WALKER (Shepherd Offshore)

Berth – 710m long

NEPTUNE QUAY - WALLSEND (Shepherd Offshore)

Berth – 450m long

AGGREGATE BERTH

Jarrow – (CEMEX UK)

Berth – 198m long.

SWAN HUNTERS, WALLSEND (North Tyneside Council)

A&P TYNE

The individual berth operators should be contacted for depths alongside private berths.

NAVIGATION

Tyne VTS (Information Service)

A VHF Radio Service (24 hour coverage) is provided for use by vessels approaching the Port, for movement of vessels in the Port and for giving information to Shipowners and Agents.

The call sign is "Tyne VTS" on VHF Channel 12.

Tel: (0191) 257 2080.

Fax: (0191) 258 3238.

Pilotage

In accordance with the Pilotage Act 1987 the Port of Tyne is the Pilotage Authority for the Tyne Pilotage District.

Pilotage is compulsory, with certain exceptions, details of which and requests for Pilotage services can be obtained from Tyne VTS.

Towage and Port Services

Towage services in the Port area are provided by Svitzer Marine Limited, who operates a fleet of three modern tugs. Full information regarding services and rates may be obtained from:-

Svitzer Marine Limited

Tel: (01642) 258 300

Fax: (01642) 246 370

Mooring Services

Mooring services for vessels using the Port are supplied by Foyboat or Mooring men licensed by the Port of Tyne

Tyne Foyboats

Tel: (0191) 456 2070

Fax: (0191) 455 6230

Bunkering

Bunkering services are available by pipeline through Inter Terminals/Certas Energy and road tanker.

Certas Contact: Ellen McClelland Tel: 07825 5384024

A piped service is available at the Fish Quay for fishing vessels and St Peters Basin and Royal Quays Marina for small craft and yachts.

Swinging Area

Jarrow Slake – 360m diameter.

Maximum Length of vessel for swinging – 300m.

Depth of Water – 10.0m @ Chart Datum.

Shiprepairing

A drydock 259m long and 44m wide and several slipways are available on the Tyne.

TIDAL CONSTANTS 2017

The approximate constants relative to the times of the tides for the River Tyne are:

Port		Hrs.	Mins.
Aberdeen	-	02	07
Belfast	-	04	29
Bristol	+	03	43
Cardiff	+	03	28
Dover	-	04	36
Felixstowe	-	04	10
Grangemouth	-	00	30
Grimsby	+	02	08
Holy Island	-	00	41
Liverpool	-	04	25
London Bridge	-	01	55
Newlyn	+	01	43
*Southampton	-	04	44
Greenock	-	03	17
Tilbury	-	01	07
Teesport	+	00	21
Bergen	-	04	27
Esbjerg	-	00	56
Hamburg	+	00	54
La Havre	-	04	53
Rotterdam	+	01	04

*Double high water occurs at Southampton.
Constant calculated on first high water.

NOTES

1. Tidal predictions for the River Tyne have been computed by the Proudman Oceanographic Laboratory: Copyright reserved.
2. **The time throughout is Greenwich Mean Time. To arrive at British Summer Time add one hour. British Summer Time begins March 26th 2017 and ends October 29th 2017.**
3. Zero mark on the Port's Tide Gauges corresponds with the datum used in the Institute of Oceanographic Sciences Tide Tables and Admiralty Charts for the River Tyne, and is the level of 2.6m. below Ordnance Datum (Newlyn), i.e. Lowest Astronomical Tide. The heights shown should be added to the depths on the soundings plans and the charts unless they are preceded by a minus sign when they should be subtracted.
4. **Particulars of Dredged Depths**
The river channel is dredged to the following depths below Chart Datum: from the sea to Jarrow Quay Corner (East end) 10.0m. Thence to Jarrow Staith (West end) 6.0m. Thence to Bill Point 5.2m. Thence to Newcastle Bridges 4.5m. West of Newcastle Bridges depths are not maintained.

The dredged depths in the channel are subject to silting and to amendment from time to time in line with variations in shipping requirements. Confirmation of all depths should be obtained from the Harbour Master, Bell Street, North Shields.

Tel: Tyneside (0191) 257 0407. Fax (0191) 258 3238.

5.

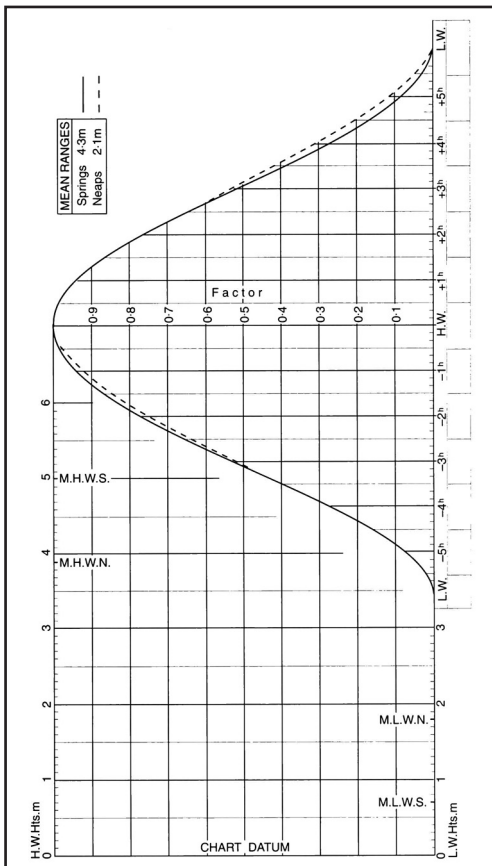
MHWS	5.0m.	Mean Spring Range	4.3m.
MHWN	3.9m.	Mean Neap Range	2.1m.
MLWN	1.8m.		
MLWS	0.7m.		

Every care has been exercised to ensure accuracy but the Port does not accept responsibility for any inaccuracy on the part of themselves or others.

RIVER TYNE (NORTH SHIELDS)

MEAN SPRING AND NEAP CURVES

Springs occur 2 days after New and Full Moon.



ENGLAND, EAST COAST - RIVER TYNE (NORTH SHIELDS)

Lat 55°00'N Long 1°26'W

JANUARY 2017

TIME ZONE GMT

TIMES AND HEIGHTS OF HIGH AND LOW WATER

	Time	m		Time	m		Time	m		Time	m
1	0509	4.84	9	0626	1.32	17	0038	0.82	25	0145	4.34
	1116	1.23		1236	4.63		0639	4.77		0756	1.61
Su	1714	5.03	M	1856	1.42	Tu	1242	1.39	W	1402	4.52
	2344	1.01					1848	4.94		2024	1.50
2	0548	4.79	10	0056	4.81	18	0118	1.08	26	0228	4.52
	1153	1.31		0730	1.17		0724	4.54		0836	1.43
M	1751	4.98	Tu	1333	4.86	W	1321	1.63	Th	1439	4.71
				1957	1.12		1933	4.69		2103	1.26
3	0024	1.06	11	0155	5.01	19	0201	1.37	27	0306	4.69
	0629	4.70		0825	1.01		0812	4.31		0914	1.26
Tu	1233	1.43	W	1424	5.08	Th	1406	1.87	F	1514	4.88
	1833	4.90		2052	0.83	☾	2025	4.43		2139	1.05
4	0106	1.15	12	0248	5.17	20	0250	1.65	28	0342	4.82
	0715	4.58		0915	0.90		0905	4.11		0950	1.12
W	1318	1.57	Th	1511	5.25	F	1502	2.09	Sa	1548	5.03
	1921	4.79	☉	2142	0.61		2124	4.20	●	2215	0.87
5	0155	1.26	13	0338	5.26	21	0350	1.87	29	0416	4.92
	0809	4.46		1001	0.86		1006	3.99		1025	1.02
Th	1411	1.71	F	1555	5.35	Sa	1616	2.21	Su	1621	5.13
☽	2016	4.67		2230	0.49		2234	4.05		2251	0.75
6	0253	1.37	14	0425	5.25	22	0500	1.97	30	0451	4.97
	0910	4.37		1045	0.89		1116	3.98		1101	0.98
F	1515	1.81	Sa	1638	5.37	Su	1738	2.18	M	1655	5.19
	2121	4.57		2315	0.49		2349	4.04		2329	0.70
7	0400	1.44	15	0511	5.16	23	0611	1.93	31	0529	4.96
	1019	4.35		1125	1.01		1223	4.11		1137	1.01
Sa	1630	1.81	Su	1721	5.29	M	1848	1.99	Tu	1733	5.19
	2234	4.55		2357	0.61						
8	0514	1.43	16	0555	4.99	24	0054	4.16			
	1130	4.45		1204	1.18		0709	1.79			
Su	1746	1.67	M	1804	5.15	Tu	1318	4.30			
	2348	4.64					1941	1.75			

ENGLAND, EAST COAST - RIVER TYNE (NORTH SHIELDS)

Lat 55°00'N Long 1°26'W

FEBRUARY 2017

TIME ZONE GMT

TIMES AND HEIGHTS OF HIGH AND LOW WATER

	Time	m		Time	m		Time	m		Time	m
1	0007	0.73	9	0152	4.78	17	0117	1.27	25	0242	4.64
	0608	4.89		0817	1.21		0724	4.39		0853	1.23
W	1215	1.10	Th	1415	4.91	F	1321	1.61	Sa	1450	4.83
	1813	5.12		2045	0.84		1939	4.47		2117	0.92
2	0047	0.83	10	0244	4.97	18	0156	1.56	26	0318	4.85
	0651	4.77		0906	1.03		0809	4.17		0930	1.01
Th	1257	1.24	F	1500	5.12	Sa	1405	1.86	Su	1524	5.04
	1858	5.00		2133	0.60	☾	2031	4.19	●	2154	0.67
3	0132	1.00	11	0330	5.09	19	0245	1.85	27	0354	5.01
	0740	4.60		0948	0.92		0903	3.98		1006	0.83
F	1345	1.42	Sa	1542	5.26	Su	1506	2.09	M	1558	5.22
	1951	4.82	○	2217	0.47		2135	3.95		2231	0.50
4	0224	1.23	12	0412	5.13	20	0354	2.07	28	0430	5.11
	0838	4.42		1028	0.87		1010	3.86		1042	0.73
Sa	1444	1.61	Su	1621	5.31	M	1633	2.20	Tu	1634	5.33
☾	2054	4.60		2257	0.46		2254	3.85		2309	0.42
5	0327	1.45	13	0451	5.08	21	0518	2.12			
	0946	4.29		1104	0.91		1129	3.89			
Su	1558	1.73	M	1700	5.27	Tu	1804	2.08			
	2209	4.44		2333	0.56						
6	0447	1.59	14	0529	4.97	22	0017	3.94			
	1103	4.27		1139	1.01		0634	1.97			
M	1724	1.69	Tu	1738	5.16	W	1240	4.07			
	2333	4.43					1910	1.82			
7	0609	1.56	15	0008	0.74	23	0118	4.15			
	1218	4.41		0606	4.80		0730	1.74			
Tu	1845	1.46	W	1211	1.18	Th	1332	4.32			
				1816	4.97		1959	1.51			
8	0050	4.57	16	0042	0.99	24	0204	4.40			
	0720	1.40		0644	4.61		0814	1.48			
W	1322	4.65	Th	1244	1.38	F	1413	4.58			
	1951	1.15		1856	4.74		2039	1.20			

ENGLAND, EAST COAST - RIVER TYNE (NORTH SHIELDS)

Lat 55°00'N Long 1°26'W

MARCH 2017

TIME ZONE GMT

TIMES AND HEIGHTS OF HIGH AND LOW WATER

	Time	m		Time	m		Time	m		Time	m
1	0506	5.13	9	0046	4.42	17	0007	0.96	25	0132	4.34
	1120	0.72		0712	1.55		0608	4.68		0744	1.51
W	1712	5.35	Th	1311	4.53	F	1213	1.20	Sa	1339	4.49
	2348	0.46		1943	1.10		1823	4.72		2008	1.12
2	0546	5.06	10	0147	4.65	18	0039	1.21	26	0212	4.63
	1157	0.79		0807	1.32		0643	4.50		0825	1.20
Th	1754	5.28	F	1403	4.79	Sa	1246	1.40	Su	1418	4.79
				2034	0.82		1903	4.47		2048	0.80
3	0027	0.62	11	0235	4.84	19	0114	1.49	27	0251	4.89
	0629	4.91		0852	1.11		0724	4.28		0904	0.92
F	1239	0.95	Sa	1447	5.00	Su	1327	1.65	M	1455	5.07
	1840	5.11		2118	0.62		1951	4.19		2128	0.52
4	0110	0.87	12	0315	4.96	20	0157	1.79	28	0327	5.10
	0716	4.70		0932	0.95		0812	4.06		0942	0.69
Sa	1326	1.17	Su	1525	5.14	M	1418	1.89	Tu	1533	5.29
	1933	4.85	○	2157	0.51	☾	2049	3.94	●	2207	0.33
5	0200	1.20	13	0352	5.02	21	0257	2.06	29	0404	5.23
	0812	4.46		1007	0.86		0914	3.88		1021	0.55
Su	1424	1.42	M	1602	5.20	Tu	1533	2.07	W	1612	5.42
☾	2037	4.55		2233	0.51		2203	3.78		2247	0.27
6	0304	1.54	14	0427	5.01	22	0421	2.19	30	0443	5.26
	0921	4.24		1040	0.85		1030	3.81		1100	0.51
M	1540	1.62	Tu	1636	5.18	W	1710	2.05	Th	1653	5.44
	2157	4.31		2305	0.59		2330	3.82		2327	0.35
7	0429	1.76	15	0500	4.95	23	0551	2.08	31	0524	5.18
	1043	4.16		1112	0.91		1151	3.93		1141	0.57
Tu	1714	1.63	W	1712	5.08	Th	1829	1.80	F	1738	5.34
	2327	4.27		2336	0.75						
8	0600	1.74	16	0534	4.83	24	0041	4.05			
	1205	4.28		1142	1.03		0656	1.82			
W	1839	1.40	Th	1747	4.92	F	1253	4.19			
							1924	1.47			

BST begins 26/3/17 - To arrive at British Summertime add 1 Hour

ENGLAND, EAST COAST - RIVER TYNE (NORTH SHIELDS)

Lat 55°00'N Long 1°26'W

APRIL 2017

TIME ZONE GMT

TIMES AND HEIGHTS OF HIGH AND LOW WATER

	Time	m		Time	m		Time	m		Time	m
1	0008	0.56	9	0217	4.73	17	0042	1.46	25	0218	4.92
	0608	5.02		0832	1.19		0648	4.40		0835	0.90
Sa	1224	0.74	Su	1427	4.87	M	1300	1.47	Tu	1425	5.09
	1827	5.12		2056	0.72		1921	4.22		2059	0.48
2	0052	0.88	10	0254	4.84	18	0123	1.73	26	0259	5.14
	0656	4.78		0909	1.03		0733	4.20		0917	0.65
Su	1314	0.98	M	1504	4.98	Tu	1348	1.69	W	1507	5.32
	1923	4.81		2132	0.65		2015	4.00	●	2142	0.31
3	0144	1.26	11	0328	4.92	19	0216	1.98	27	0339	5.28
	0753	4.51		0943	0.92		0830	4.01		1000	0.47
M	1414	1.26	Tu	1539	5.04	W	1452	1.86	Th	1551	5.44
☾	2030	4.48	○	2204	0.65	☾	2121	3.85		2224	0.28
4	0249	1.64	12	0400	4.94	20	0330	2.13	28	0421	5.32
	0903	4.27		1015	0.87		0939	3.90		1042	0.40
Tu	1532	1.47	W	1613	5.03	Th	1615	1.89	F	1636	5.45
	2151	4.24		2236	0.71		2239	3.85		2307	0.39
5	0416	1.86	13	0432	4.92	21	0458	2.09	29	0503	5.25
	1025	4.16		1046	0.89		1056	3.95		1127	0.45
W	1705	1.48	Th	1647	4.95	F	1737	1.71	Sa	1725	5.32
	2319	4.21		2306	0.84		2353	4.04		2351	0.62
6	0547	1.83	14	0504	4.84	22	0611	1.85	30	0550	5.10
	1148	4.26		1117	0.98		1204	4.17		1215	0.59
Th	1825	1.30	F	1721	4.82	Sa	1840	1.41	Su	1818	5.09
				2336	1.01						
7	0034	4.36	15	0536	4.73	23	0051	4.33			
	0657	1.63		1148	1.10		0706	1.54			
F	1254	4.47	Sa	1757	4.65	Su	1257	4.47			
	1927	1.06					1930	1.06			
8	0132	4.56	16	0007	1.22	24	0137	4.64			
	0749	1.40		0610	4.59		0751	1.21			
Sa	1345	4.69	Su	1221	1.27	M	1343	4.79			
	2015	0.86		1836	4.45		2015	0.74			

To arrive at British Summertime add 1 Hour

ENGLAND, EAST COAST - RIVER TYNE (NORTH SHIELDS)

Lat 55°00'N Long 1°26'W

MAY 2017

TIME ZONE GMT

TIMES AND HEIGHTS OF HIGH AND LOW WATER

	Time	m		Time	m		Time	m		Time	m
1	0039	0.95	9	0228	4.71	17	0057	1.64	25	0233	5.12
	0640	4.87		0844	1.17		0705	4.37		0853	0.69
M	1307	0.82	Tu	1440	4.80	W	1327	1.48	Th	1445	5.28
	1916	4.79		2103	0.88		1947	4.13	●	2118	0.44
2	0132	1.33	10	0302	4.81	18	0147	1.84	26	0316	5.26
	0738	4.62		0918	1.05		0756	4.22		0941	0.48
Tu	1408	1.08	W	1516	4.85	Th	1423	1.61	F	1533	5.39
	2024	4.48	○	2135	0.87		2046	4.02		2205	0.42
3	0236	1.67	11	0335	4.86	19	0249	1.98	27	0401	5.32
	0846	4.39		0951	0.97		0857	4.11		1029	0.38
W	1522	1.28	Th	1551	4.86	F	1530	1.65	Sa	1624	5.40
☾	2139	4.27		2207	0.89	☾	2154	4.00		2251	0.52
4	0357	1.87	12	0406	4.88	20	0405	1.99	28	0447	5.29
	1003	4.27		1024	0.96		1006	4.12		1117	0.38
Th	1645	1.34	F	1626	4.82	Sa	1645	1.56	Su	1715	5.28
	2258	4.22		2238	0.97		2303	4.12		2339	0.73
5	0520	1.87	13	0438	4.85	21	0519	1.83	29	0535	5.18
	1121	4.29		1056	0.99		1114	4.26		1207	0.48
F	1800	1.26	Sa	1700	4.73	Su	1753	1.33	M	1809	5.08
				2309	1.09						
6	0009	4.31	14	0510	4.78	22	0006	4.36	30	0027	1.01
	0629	1.72		1128	1.07		0621	1.57		0626	5.00
Sa	1226	4.43	Su	1736	4.61	M	1215	4.51	Tu	1300	0.67
	1900	1.13		2342	1.25		1851	1.05		1906	4.82
7	0106	4.45	15	0545	4.67	23	0100	4.63	31	0118	1.32
	0722	1.52		1203	1.18		0715	1.26		0721	4.78
Su	1318	4.58	M	1815	4.46	Tu	1308	4.80	W	1357	0.91
	1948	1.02					1942	0.78		2009	4.55
8	0151	4.59	16	0017	1.43	24	0148	4.90			
	0806	1.34		0622	4.53		0805	0.96			
M	1402	4.71	Tu	1242	1.33	W	1357	5.07			
	2027	0.94		1857	4.30		2031	0.57			

To arrive at British Summertime add 1 Hour

ENGLAND, EAST COAST - RIVER TYNE (NORTH SHIELDS)

Lat 55°00'N Long 1°26'W

JUNE 2017

TIME ZONE GMT

TIMES AND HEIGHTS OF HIGH AND LOW WATER

	Time	m		Time	m		Time	m		Time	m
1	0216	1.61	9	0311	4.78	17	0215	1.76	25	0345	5.31
	0824	4.56		0930	1.11		0821	4.39		1018	0.38
Th	1501	1.13	F	1532	4.72	Sa	1454	1.41	Su	1614	5.33
)	2115	4.33	○	2142	1.08	☾	2114	4.19		2238	0.66
2	0325	1.82	10	0344	4.84	18	0319	1.82	26	0432	5.33
	0933	4.40		1004	1.04		0924	4.35		1107	0.33
F	1612	1.29	Sa	1607	4.72	Su	1600	1.40	M	1705	5.25
	2224	4.22		2215	1.10		2220	4.24		2325	0.80
3	0439	1.90	11	0416	4.85	19	0430	1.77	27	0520	5.28
	1043	4.32		1038	1.01		1030	4.40		1157	0.39
Sa	1721	1.35	Su	1643	4.70	M	1709	1.30	Tu	1757	5.09
	2331	4.22		2248	1.15		2325	4.38			
4	0548	1.84	12	0449	4.83	20	0539	1.60	28	0011	1.00
	1149	4.34		1112	1.02		1137	4.55		0609	5.14
Su	1822	1.33	M	1718	4.64	Tu	1814	1.13	W	1245	0.56
				2322	1.24					1849	4.87
5	0030	4.31	13	0523	4.78	21	0026	4.59	29	0057	1.25
	0648	1.70		1148	1.07		0642	1.34		0700	4.95
M	1246	4.42	Tu	1756	4.55	W	1239	4.76	Th	1336	0.80
	1913	1.28		2358	1.35		1914	0.94		1943	4.62
6	0118	4.43	14	0600	4.70	22	0121	4.82	30	0147	1.50
	0736	1.53		1226	1.15		0741	1.06		0754	4.73
Tu	1334	4.51	W	1836	4.44	Th	1336	4.99	F	1429	1.07
	1956	1.22					2009	0.77		2039	4.39
7	0200	4.57	15	0037	1.49	23	0211	5.04			
	0817	1.36		0640	4.59		0835	0.77			
W	1416	4.61	Th	1309	1.25	F	1430	5.18			
	2033	1.15		1922	4.33		2100	0.66			
8	0236	4.69	16	0122	1.64	24	0259	5.21			
	0854	1.22		0727	4.48		0927	0.53			
Th	1455	4.68	F	1357	1.35	Sa	1522	5.30			
	2108	1.10		2014	4.24	●	2151	0.62			

To arrive at British Summertime add 1 Hour

ENGLAND, EAST COAST - RIVER TYNE (NORTH SHIELDS)

Lat 55°00'N Long 1°26'W

JULY 2017

TIME ZONE GMT

TIMES AND HEIGHTS OF HIGH AND LOW WATER

	Time	m		Time	m		Time	m		Time	m
1	0242	1.74	9	0323	4.82	17	0242	1.65	25	0417	5.39
	0854	4.50		0946	1.08		0848	4.56		1054	0.29
Sa	1527	1.33	Su	1550	4.70	M	1522	1.32	Tu	1651	5.24
☾	2139	4.21	○	2155	1.17		2142	4.33		2308	0.82
2	0346	1.91	10	0356	4.89	18	0350	1.70	26	0502	5.37
	0958	4.32		1021	0.98		0955	4.50		1139	0.35
Su	1630	1.52	M	1625	4.74	Tu	1632	1.37	W	1737	5.11
	2242	4.12		2230	1.14		2250	4.36		2350	0.96
3	0456	1.97	11	0429	4.93	19	0505	1.64	27	0546	5.26
	1105	4.23		1056	0.92		1109	4.52		1223	0.52
M	1734	1.60	Tu	1700	4.74	W	1745	1.32	Th	1823	4.92
	2345	4.15		2305	1.15		2359	4.49			
4	0605	1.90	12	0503	4.94	20	0618	1.44	28	0030	1.16
	1209	4.23		1132	0.91		1221	4.66		0632	5.08
Tu	1833	1.60	W	1736	4.71	Th	1854	1.20	F	1305	0.78
				2340	1.20					1909	4.69
5	0042	4.26	13	0539	4.91	21	0101	4.71	29	0111	1.39
	0703	1.75		1209	0.94		0725	1.16		0718	4.83
W	1306	4.31	Th	1815	4.65	F	1325	4.86	Sa	1348	1.09
	1923	1.52					1954	1.03		1957	4.45
6	0130	4.41	14	0018	1.29	22	0156	4.95	30	0155	1.65
	0751	1.56		0617	4.85		0824	0.84		0809	4.56
Th	1354	4.43	F	1249	1.01	Sa	1422	5.06	Su	1435	1.41
	2006	1.42		1856	4.56		2049	0.89	☾	2048	4.23
7	0212	4.57	15	0059	1.41	23	0245	5.16	31	0248	1.88
	0833	1.38		0700	4.76		0918	0.57		0907	4.30
F	1436	4.54	Sa	1333	1.11	Su	1515	5.21	M	1530	1.69
	2044	1.32		1944	4.47	●	2139	0.79		2146	4.08
8	0248	4.71	16	0145	1.54	24	0332	5.31			
	0910	1.21		0750	4.66		1008	0.37			
Sa	1514	4.64	Su	1423	1.22	M	1603	5.27			
	2121	1.23	☾	2039	4.38		2224	0.76			

To arrive at British Summertime add 1 Hour

ENGLAND, EAST COAST - RIVER TYNE (NORTH SHIELDS)

Lat 55°00'N Long 1°26'W

AUGUST 2017

TIME ZONE GMT

TIMES AND HEIGHTS OF HIGH AND LOW WATER

	Time	m		Time	m		Time	m		Time	m
1	0354	2.05	9	0407	5.07	17	0442	1.69	25	0520	5.31
	1013	4.11		1036	0.77		1052	4.43		1154	0.59
Tu	1636	1.87	W	1638	4.92	Th	1727	1.59	F	1751	4.96
	2252	4.02		2245	1.01		2339	4.40			
2	0514	2.08	10	0440	5.13	18	0606	1.51	26	0000	1.09
	1127	4.05		1112	0.70		1213	4.54		0600	5.12
W	1747	1.90	Th	1713	4.93	F	1844	1.47	Sa	1230	0.85
				2321	1.02					1830	4.76
3	0000	4.10	11	0515	5.14	19	0048	4.63	27	0034	1.31
	0628	1.95		1148	0.72		0718	1.20		0642	4.87
Th	1236	4.12	F	1750	4.89	Sa	1321	4.76	Su	1305	1.16
	1850	1.81		2357	1.08		1946	1.27		1911	4.54
4	0059	4.27	12	0553	5.10	20	0145	4.90	28	0112	1.56
	0726	1.73		1227	0.80		0817	0.86		0727	4.59
F	1331	4.28	Sa	1830	4.80	Su	1418	4.99	M	1344	1.49
	1940	1.65					2039	1.07		1956	4.32
5	0146	4.47	13	0036	1.20	21	0234	5.15	29	0155	1.82
	0811	1.49		0635	5.01		0908	0.57		0818	4.29
Sa	1415	4.46	Su	1307	0.94	M	1506	5.16	Tu	1431	1.81
	2022	1.48		1915	4.67	●	2125	0.91	☾	2049	4.11
6	0226	4.67	14	0120	1.35	22	0318	5.33	30	0254	2.06
	0850	1.26		0724	4.86		0954	0.39		0921	4.04
Su	1454	4.62	M	1354	1.14	Tu	1550	5.24	W	1535	2.06
	2100	1.32		2007	4.52		2208	0.83		2154	3.98
7	0301	4.83	15	0213	1.53	23	0400	5.42	31	0418	2.18
	0927	1.06		0821	4.67		1036	0.33		1039	3.92
M	1530	4.76	Tu	1451	1.37	W	1632	5.23	Th	1657	2.16
○	2136	1.18	☾	2109	4.37		2247	0.84		2310	3.99
8	0334	4.97	16	0320	1.67	24	0440	5.41			
	1001	0.89		0931	4.49		1116	0.40			
Tu	1604	4.86	W	1603	1.55	Th	1712	5.13			
	2211	1.07		2222	4.31		2324	0.93			

To arrive at British Summertime add 1 Hour

ENGLAND, EAST COAST - RIVER TYNE (NORTH SHIELDS)

Lat 55°00'N Long 1°26'W

SEPTEMBER 2017

TIME ZONE GMT

TIMES AND HEIGHTS OF HIGH AND LOW WATER

	Time	m		Time	m		Time	m		Time	m
1	0548	2.09	9	0451	5.35	17	0038	4.61	25	0001	1.26
	1202	3.98		1125	0.56		0712	1.17		0608	4.86
F	1815	2.06	Sa	1724	5.11	Su	1318	4.73	M	1225	1.26
				2336	0.90		1937	1.43		1830	4.66
2	0023	4.15	10	0530	5.31	18	0134	4.89	26	0036	1.49
	0657	1.84		1203	0.68		0806	0.86		0650	4.59
Sa	1305	4.19	Su	1804	5.01	M	1409	4.96	Tu	1300	1.57
	1914	1.85					2026	1.20		1910	4.44
3	0117	4.38	11	0015	1.02	19	0221	5.14	27	0115	1.73
	0745	1.55		0614	5.17		0854	0.62		0738	4.31
Su	1351	4.43	M	1243	0.90	Tu	1452	5.12	W	1342	1.88
	1959	1.60		1848	4.84		2109	1.02		1959	4.22
4	0159	4.63	12	0059	1.21	20	0301	5.30	28	0207	1.98
	0825	1.27		0703	4.95		0935	0.49		0837	4.04
M	1430	4.66	Tu	1330	1.20	W	1531	5.20	Th	1440	2.17
	2037	1.37		1941	4.62	●	2147	0.91	☾	2100	4.04
5	0235	4.86	13	0153	1.44	21	0339	5.38	29	0321	2.16
	0902	1.01		0803	4.68		1013	0.47		0951	3.88
Tu	1505	4.85	W	1428	1.52	Th	1608	5.20	F	1603	2.32
	2113	1.15	☾	2045	4.41		2223	0.89		2215	3.96
6	0308	5.06	14	0303	1.64	22	0416	5.37	30	0458	2.14
	0937	0.78		0918	4.43		1048	0.55		1118	3.91
W	1539	5.01	Th	1546	1.78	F	1643	5.13	Sa	1734	2.25
○	2148	0.98		2203	4.29		2257	0.95		2335	4.07
7	0341	5.22	15	0433	1.69	23	0453	5.27			
	1012	0.62		1047	4.34		1121	0.73			
Th	1612	5.12	F	1718	1.83	Sa	1718	5.01			
	2223	0.88		2327	4.37		2329	1.08			
8	0415	5.32	16	0601	1.49	24	0530	5.09			
	1048	0.54		1212	4.48		1153	0.98			
F	1647	5.15	Sa	1837	1.67	Su	1753	4.85			
	2259	0.85									

To arrive at British Summertime add 1 Hour

ENGLAND, EAST COAST - RIVER TYNE (NORTH SHIELDS)

Lat 55°00'N Long 1°26'W

OCTOBER 2017

TIME ZONE GMT

TIMES AND HEIGHTS OF HIGH AND LOW WATER

	Time	m		Time	m		Time	m		Time	m
1	0617	1.91	9	0511	5.43	17	0118	4.87	25	0008	1.42
	1230	4.13		1141	0.68		0750	0.93		0621	4.59
Su	1840	2.00	M	1741	5.17	Tu	1353	4.90	W	1225	1.61
				2358	0.89		2008	1.34		1833	4.59
2	0038	4.31	10	0557	5.25	18	0203	5.06	26	0046	1.63
	0711	1.60		1224	0.97		0833	0.78		0706	4.35
M	1319	4.41	Tu	1827	4.97	W	1433	5.04	Th	1305	1.89
	1928	1.71					2048	1.16		1918	4.38
3	0124	4.59	11	0046	1.10	19	0242	5.19	27	0134	1.85
	0753	1.28		0651	4.97		0912	0.70		0800	4.12
Tu	1359	4.69	W	1312	1.32	Th	1509	5.12	F	1357	2.15
	2009	1.42		1921	4.72	●	2124	1.04	☾	2013	4.18
4	0203	4.87	12	0143	1.34	20	0318	5.25	28	0236	2.03
	0831	0.98		0755	4.66		0946	0.70		0906	3.95
W	1435	4.94	Th	1413	1.70	F	1542	5.15	Sa	1508	2.34
	2045	1.15	☾	2027	4.48		2158	0.99		2121	4.05
5	0238	5.12	13	0256	1.55	21	0354	5.24	29	0359	2.08
	0908	0.72		0914	4.40		1018	0.78		1024	3.94
Th	1509	5.14	F	1535	1.96	Sa	1615	5.12	Su	1638	2.33
○	2122	0.93		2147	4.34		2230	1.02		2238	4.08
6	0313	5.32	14	0427	1.60	22	0429	5.15	30	0523	1.92
	0945	0.54		1042	4.34		1050	0.93		1139	4.10
F	1545	5.28	Sa	1709	1.99	Su	1648	5.04	M	1754	2.12
	2159	0.79		2312	4.41		2303	1.11		2347	4.26
7	0349	5.46	15	0551	1.42	23	0504	5.00	31	0625	1.64
	1023	0.46		1203	4.48		1120	1.12		1236	4.38
Sa	1621	5.33	Su	1824	1.81	M	1720	4.92	Tu	1848	1.82
	2237	0.73					2334	1.25			
8	0428	5.50	16	0022	4.62	24	0542	4.81			
	1101	0.51		0657	1.16		1151	1.35			
Su	1659	5.30	M	1305	4.71	Tu	1754	4.77			
	2316	0.76		1921	1.56						

BST ends 29/10/17 To arrive at British Summertime add 1 Hour

ENGLAND, EAST COAST - RIVER TYNE (NORTH SHIELDS)

Lat 55°00'N Long 1°26'W

NOVEMBER 2017

TIME ZONE GMT

TIMES AND HEIGHTS OF HIGH AND LOW WATER

	Time	m		Time	m		Time	m		Time	m
1	0041	4.54	9	0039	0.95	17	0221	4.99	25	0109	1.65
	0714	1.32		0644	4.99		0845	1.00		0729	4.25
W	1322	4.68	Th	1300	1.41	F	1445	4.98	Sa	1324	2.01
	1933	1.50		1905	4.85		2102	1.21		1934	4.38
2	0125	4.84	10	0137	1.18	18	0258	5.04	26	0202	1.80
	0757	1.01		0749	4.69		0919	0.99		0825	4.10
Th	1402	4.96	F	1402	1.76	Sa	1518	5.05	Su	1422	2.18
	2015	1.20	☾	2010	4.61	●	2136	1.13	☽	2033	4.24
3	0206	5.12	11	0248	1.38	19	0334	5.04	27	0306	1.88
	0837	0.75		0904	4.45		0951	1.03		0931	4.04
F	1439	5.19	Sa	1519	2.00	Su	1551	5.06	M	1536	2.25
	2055	0.95		2127	4.46		2209	1.11		2141	4.19
4	0245	5.35	12	0410	1.46	20	0409	5.00	28	0421	1.84
	0918	0.57		1025	4.37		1023	1.11		1041	4.12
Sa	1518	5.36	Su	1645	2.05	M	1622	5.04	Tu	1654	2.15
○	2136	0.76		2247	4.47		2242	1.15		2250	4.29
5	0327	5.50	13	0528	1.39	21	0445	4.90	29	0530	1.65
	0959	0.51		1140	4.44		1054	1.24		1145	4.33
Su	1557	5.43	M	1759	1.92	Tu	1654	4.97	W	1800	1.91
	2218	0.66		2357	4.59		2314	1.22		2352	4.50
6	0410	5.54	14	0633	1.26	22	0521	4.77	30	0630	1.39
	1041	0.57		1241	4.60		1125	1.40		1240	4.60
M	1638	5.40	Tu	1857	1.72	W	1728	4.86	Th	1854	1.61
	2301	0.66					2348	1.34			
7	0457	5.46	15	0054	4.75	23	0559	4.61			
	1124	0.76		0725	1.13		1200	1.59			
Tu	1722	5.29	W	1330	4.76	Th	1805	4.72			
	2348	0.76		1945	1.52						
8	0548	5.27	16	0141	4.89	24	0026	1.48			
	1209	1.06		0809	1.04		0641	4.43			
W	1810	5.09	Th	1410	4.89	F	1238	1.80			
				2026	1.34		1846	4.55			

ENGLAND, EAST COAST - RIVER TYNE (NORTH SHIELDS)

Lat 55°00'N Long 1°26'W

DECEMBER 2017

TIME ZONE GMT

TIMES AND HEIGHTS OF HIGH AND LOW WATER

	Time	m		Time	m		Time	m		Time	m
1	0047	4.77	9	0128	0.95	17	0242	4.79	25	0133	1.50
	0721	1.11		0737	4.76		0856	1.26		0748	4.29
F	1328	4.88	Sa	1345	1.66	Su	1458	4.89	M	1345	1.90
	1943	1.30		1951	4.80		2118	1.27		1952	4.48
2	0136	5.04	10	0230	1.18	18	0319	4.84	26	0225	1.60
	0808	0.87		0842	4.52		0930	1.24		0844	4.20
Sa	1412	5.13	Su	1450	1.90	M	1531	4.96	Tu	1443	2.02
	2030	1.01	☾	2059	4.61	●	2153	1.19	☽	2051	4.39
3	0222	5.28	11	0339	1.36	19	0355	4.85	27	0327	1.65
	0854	0.71		0953	4.36		1002	1.24		0947	4.18
Su	1454	5.31	M	1604	2.03	Tu	1603	4.99	W	1553	2.04
○	2116	0.78		2211	4.49		2226	1.15		2157	4.37
4	0309	5.44	12	0451	1.46	20	0430	4.82	28	0436	1.61
	0939	0.64		1103	4.32		1034	1.28		1054	4.27
M	1537	5.42	Tu	1718	2.02	W	1636	4.98	Th	1706	1.93
	2203	0.62		2321	4.48		2259	1.15		2305	4.46
5	0357	5.50	13	0558	1.47	21	0505	4.76	29	0545	1.47
	1025	0.68		1206	4.39		1107	1.36		1159	4.46
Tu	1621	5.44	W	1824	1.90	Th	1709	4.93	F	1815	1.70
	2251	0.56					2333	1.20			
6	0448	5.44	14	0024	4.54	22	0541	4.67	30	0011	4.65
	1112	0.83		0654	1.43		1141	1.46		0648	1.27
W	1707	5.37	Th	1300	4.52	F	1743	4.85	Sa	1257	4.70
	2341	0.60		1918	1.73					1915	1.40
7	0540	5.27	15	0116	4.63	23	0009	1.28	31	0112	4.89
	1159	1.07		0741	1.37		0619	4.55		0744	1.07
Th	1757	5.22	F	1344	4.66	Sa	1217	1.60	Su	1348	4.96
				2003	1.55		1821	4.74		2011	1.09
8	0033	0.74	16	0201	4.72	24	0049	1.38			
	0636	5.03		0821	1.31		0700	4.42			
F	1249	1.36	Sa	1423	4.79	Su	1257	1.75			
	1851	5.02		2042	1.39		1903	4.61			

SUNRISE AND SUNSET TIMES

TIMES IN GMT

NORTH SHIELDS

YEAR 2017

January			February			March		
1	8:30	15:47	1	7:57	16:40	1	6:57	17:39
2	8:30	15:48	2	7:56	16:42	2	6:55	17:41
3	8:30	15:49	3	7:54	16:44	3	6:52	17:43
4	8:30	15:50	4	7:52	16:46	4	6:50	17:45
5	8:29	15:51	5	7:50	16:48	5	6:47	17:47
6	8:29	15:53	6	7:48	16:51	6	6:45	17:49
7	8:28	15:54	7	7:46	16:53	7	6:42	17:51
8	8:28	15:56	8	7:44	16:55	8	6:40	17:53
9	8:27	15:57	9	7:42	16:57	9	6:37	17:55
10	8:26	15:59	10	7:40	16:59	10	6:35	17:57
11	8:25	16:00	11	7:38	17:01	11	6:32	17:59
12	8:25	16:02	12	7:36	17:03	12	6:30	18:01
13	8:24	16:04	13	7:34	17:05	13	6:27	18:03
14	8:23	16:05	14	7:32	17:07	14	6:25	18:05
15	8:22	16:07	15	7:29	17:09	15	6:22	18:07
16	8:21	16:09	16	7:27	17:12	16	6:20	18:09
17	8:20	16:11	17	7:25	17:14	17	6:17	18:11
18	8:18	16:12	18	7:23	17:16	18	6:14	18:13
19	8:17	16:14	19	7:20	17:18	19	6:12	18:15
20	8:16	16:16	20	7:18	17:20	20	6:09	18:17
21	8:15	16:18	21	7:16	17:22	21	6:07	18:19
22	8:13	16:20	22	7:14	17:24	22	6:04	18:21
23	8:12	16:22	23	7:11	17:26	23	6:02	18:22
24	8:10	16:24	24	7:09	17:28	24	5:59	18:24
25	8:09	16:26	25	7:07	17:30	25	5:57	18:26
26	8:07	16:28	26	7:04	17:32	26	5:54	18:28
27	8:06	16:30	27	7:02	17:34	27	5:51	18:30
28	8:04	16:32	28	6:59	17:37	28	5:49	18:32
29	8:03	16:34				29	5:46	18:34
30	8:01	16:36				30	5:44	18:36
31	7:59	16:38				31	5:41	18:38

Times computed for an observer at mean sea level

SUNRISE AND SUNSET TIMES

TIMES IN GMT

NORTH SHIELDS

YEAR 2017

April			May			June		
1	5:39	18:40	1	4:26	19:38	1	3:34	20:32
2	5:36	18:42	2	4:24	19:40	2	3:33	20:33
3	5:34	18:44	3	4:22	19:42	3	3:32	20:34
4	5:31	18:46	4	4:20	19:44	4	3:32	20:35
5	5:29	18:48	5	4:18	19:46	5	3:31	20:37
6	5:26	18:50	6	4:16	19:48	6	3:30	20:38
7	5:24	18:52	7	4:14	19:50	7	3:29	20:39
8	5:21	18:54	8	4:12	19:52	8	3:29	20:40
9	5:18	18:56	9	4:10	19:54	9	3:28	20:41
10	5:16	18:58	10	4:08	19:55	10	3:27	20:42
11	5:14	19:00	11	4:06	19:57	11	3:27	20:43
12	5:11	19:01	12	4:04	19:59	12	3:27	20:43
13	5:09	19:03	13	4:02	20:01	13	3:26	20:44
14	5:06	19:05	14	4:00	20:03	14	3:26	20:45
15	5:04	19:07	15	3:59	20:05	15	3:26	20:45
16	5:01	19:09	16	3:57	20:06	16	3:25	20:46
17	4:59	19:11	17	3:55	20:08	17	3:25	20:47
18	4:56	19:13	18	3:53	20:10	18	3:25	20:47
19	4:54	19:15	19	3:52	20:12	19	3:25	20:48
20	4:52	19:17	20	3:50	20:13	20	3:25	20:48
21	4:49	19:19	21	3:49	20:15	21	3:26	20:48
22	4:47	19:21	22	3:47	20:17	22	3:26	20:48
23	4:45	19:23	23	3:46	20:18	23	3:26	20:49
24	4:42	19:25	24	3:44	20:20	24	3:26	20:49
25	4:40	19:27	25	3:43	20:21	25	3:27	20:49
26	4:38	19:29	26	3:41	20:23	26	3:27	20:49
27	4:35	19:31	27	3:40	20:25	27	3:28	20:49
28	4:33	19:33	28	3:39	20:26	28	3:28	20:48
29	4:31	19:35	29	3:38	20:27	29	3:29	20:48
30	4:29	19:36	30	3:36	20:29	30	3:30	20:48
			31	3:35	20:30			

Times computed for an observer at mean sea level

SUNRISE AND SUNSET TIMES

TIMES IN GMT

NORTH SHIELDS

YEAR 2017

July			August			September		
1	3:30	20:48	1	4:13	20:10	1	5:10	19:01
2	3:31	20:47	2	4:15	20:08	2	5:12	18:58
3	3:32	20:47	3	4:16	20:07	3	5:14	18:56
4	3:33	20:46	4	4:18	20:05	4	5:16	18:53
5	3:34	20:46	5	4:20	20:03	5	5:18	18:51
6	3:35	20:45	6	4:22	20:01	6	5:20	18:48
7	3:36	20:44	7	4:24	19:59	7	5:21	18:46
8	3:37	20:44	8	4:26	19:56	8	5:23	18:43
9	3:38	20:43	9	4:27	19:54	9	5:25	18:41
10	3:39	20:42	10	4:29	19:52	10	5:27	18:38
11	3:40	20:41	11	4:31	19:50	11	5:29	18:35
12	3:42	20:40	12	4:33	19:48	12	5:31	18:33
13	3:43	20:39	13	4:35	19:46	13	5:33	18:30
14	3:44	20:38	14	4:37	19:44	14	5:34	18:28
15	3:46	20:37	15	4:38	19:41	15	5:36	18:25
16	3:47	20:36	16	4:40	19:39	16	5:38	18:23
17	3:48	20:34	17	4:42	19:37	17	5:40	18:20
18	3:50	20:33	18	4:44	19:34	18	5:42	18:17
19	3:51	20:32	19	4:46	19:32	19	5:44	18:15
20	3:53	20:30	20	4:48	19:30	20	5:46	18:12
21	3:54	20:29	21	4:50	19:27	21	5:48	18:10
22	3:56	20:27	22	4:52	19:25	22	5:49	18:07
23	3:58	20:26	23	4:53	19:23	23	5:51	18:05
24	3:59	20:24	24	4:55	19:20	24	5:53	18:02
25	4:01	20:23	25	4:57	19:18	25	5:55	17:59
26	4:03	20:21	26	4:59	19:16	26	5:57	17:57
27	4:04	20:19	27	5:01	19:13	27	5:59	17:54
28	4:06	20:18	28	5:03	19:11	28	6:01	17:52
29	4:08	20:16	29	5:05	19:08	29	6:03	17:49
30	4:09	20:14	30	5:07	19:06	30	6:04	17:47
31	4:11	20:12	31	5:08	19:03			

Times computed for an observer at mean sea level

SUNRISE AND SUNSET TIMES

TIMES IN GMT

NORTH SHIELDS

YEAR 2017

October			November			December		
1	6:06	17:44	1	7:08	16:30	1	8:05	15:43
2	6:08	17:41	2	7:10	16:28	2	8:07	15:42
3	6:10	17:39	3	7:12	16:26	3	8:08	15:41
4	6:12	17:36	4	7:14	16:24	4	8:10	15:40
5	6:14	17:34	5	7:16	16:22	5	8:11	15:40
6	6:16	17:31	6	7:18	16:20	6	8:13	15:39
7	6:18	17:29	7	7:20	16:18	7	8:14	15:39
8	6:20	17:26	8	7:22	16:16	8	8:15	15:38
9	6:22	17:24	9	7:24	16:14	9	8:17	15:38
10	6:24	17:21	10	7:26	16:12	10	8:18	15:37
11	6:26	17:19	11	7:28	16:11	11	8:19	15:37
12	6:28	17:16	12	7:30	16:09	12	8:20	15:37
13	6:29	17:14	13	7:32	16:07	13	8:21	15:37
14	6:31	17:11	14	7:34	16:05	14	8:22	15:37
15	6:33	17:09	15	7:36	16:04	15	8:23	15:37
16	6:35	17:07	16	7:38	16:02	16	8:24	15:37
17	6:37	17:04	17	7:40	16:00	17	8:25	15:37
18	6:39	17:02	18	7:42	15:59	18	8:26	15:37
19	6:41	16:59	19	7:44	15:57	19	8:27	15:37
20	6:43	16:57	20	7:46	15:56	20	8:27	15:37
21	6:45	16:55	21	7:48	15:54	21	8:28	15:38
22	6:47	16:52	22	7:49	15:53	22	8:29	15:38
23	6:49	16:50	23	7:51	15:52	23	8:29	15:39
24	6:51	16:48	24	7:53	15:50	24	8:29	15:39
25	6:53	16:46	25	7:55	15:49	25	8:30	15:40
26	6:55	16:43	26	7:57	15:48	26	8:30	15:41
27	6:57	16:41	27	7:58	15:47	27	8:30	15:41
28	6:59	16:39	28	8:00	15:46	28	8:30	15:42
29	7:01	16:37	29	8:02	15:45	29	8:31	15:43
30	7:03	16:34	30	8:04	15:44	30	8:31	15:44
31	7:06	16:32				31	8:31	15:45

Times computed for an observer at mean sea level

NOTES

THE RIVER TYNE

