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ANNEX D. Lampedusa waves

1 Lampedusa wave climatology

1.1 Objective

The purpose of this section is to define the wave conditions at the projected mooring site of the EURYBIA buoy. Given the purpose of the planned measurements, the buoy needs:

1. to keep as much as possible a vertical position,
2. to move (heave) with the passing waves so that the depth of the optical instruments (with respect to the moving surface) remains as constant as possible.

See Chapter 3 for a detailed description of the basic structure and the relative instrument positions.

Here below we provide a compact, but sufficiently detailed, description of the wave conditions at position *lon* 12.5 E, *lat* 35.5 N, located about 3 km SW of the island of Lampedusa. For the spar buoy motion the relevant information is given by the significant wave height H_s and mean wave period T_m parameters, in principle independently of the incoming direction. However, also the current affects the buoy vertical attitude and its general pattern is largely independent on the wave conditions. Waves lead to a current as well along the main flow direction. Therefore, after providing the essential information about waves, we also provide in an Appendix a more detailed description of how wave characteristics depend on their direction.

All the following information have been derived from the 40 year long ERA-5 reanalysis of the European Centre for Medium-Range Weather Forecasts (ECMWF, Reading, U.K.). The reanalysis has a lower (31 km) meteorological resolution than the present operational forecast (9 km), but it has the advantage of a uniform resolution over 40 years, thereby providing possibly slightly underestimated (also for wave) results. In particular, for the specific purpose, this source is more reliable than the three years available from the present resolution analysis. The reason is that climate, including waves, varies from year to year. A relatively short period, as indeed the three years available from the present operational model, would not be significant to properly estimate the possible wave conditions to be expected at a specific location.

1.2 Wave height statistical distribution

The basic information is provided in Table 1.1. For each significant wave height H_s threshold (at 0.5 m interval), the second column reports the percentage of time when waves are expected to overcome that value. As an example, H_s is expected to be higher than 1.0 m for 41% of the time. The following 12 columns provide similar statistics for the single months of the year.

1.3 Combined wave height and period statistics

A more complete information is given in Table 1.2, where the previous statistics is combined with the wave period distribution. As expected, we see that on average, the higher H_s , the higher is T_m (hence the wavelength). The most typical condition is represented by $H_s = 1.0$ m, with $T_m = 5$ s (7% of the time). There are also examples of low H_s with large T_m . These are the cases of so-called swell, i.e. waves coming from a distant storm. Comments about directions are reported in the next sub-section.

1.4 Combined wave height and direction statistics

Information about the combined significant wave height and mean wave direction statistics is provided in **Table 1.3**. The basic information to be extracted is the following. There are three areas (directions) where relevant waves come from:

- Group 1) the 80°-90° sector (East);
- Group 2) the 130°-140° sector (South-East);
- Group 3) the 340°-350° sector (North-North-West).

Group 1 is associated to storms in the Ionian Sea, Group 2 to events in the Sirte Gulf while Group 3 to the (typically mistral) storms acting in the Western Mediterranean. Group 3 is the most common one. For more specific directional sectors (ten by ten degrees) the interested reader is referred to the cited Appendix.

A technical point of concern is the unidirectionality of the drag against the buoy vertical motion present at the bottom of the buoy structure. The large floatation unit present at the buoy floatation level tends to force the buoy to follow the wavy sea surface. However, at the buoy bottom the vertical water motion is much reduced, with a consequent vertical equilibrium position of the buoy varying with the sea state. Practically the actual average depth of the instruments could depend on the sea state.

The essential conclusions to be derived from the above-mentioned information are the following:

- 1) 40% of the time the characteristic significant wave height is expected to be larger than 1.0 m. However, these (relatively) heavy conditions are expected to be concentrated mainly (but not only) in the winter season.
- 2) Many of these higher wave heights are associated to locally active storms (hence associated with wind conditions). Part of them will be swell, more manageable for approaching the buoy by boat, but not necessarily for the measurements.
- 3) Of the three identified directions larger waves come from, the ones of major concern for the buoy measurement activity are those coming from NNW (Group 3). The reason is that, beside the wave motion, the wave induced current will be superimposed to the locally dominant one of the basin, at Lampedusa, from the western to the eastern basin of the Mediterranean Sea.
- 4) There is the possibility that the level of immersion of the buoy, hence of the instruments, is sea state dependent.
- 5) On the basis of the above-mentioned information, the percentage of time suitable for useful optical measurements strictly depends on the specification of the required attitude of the buoy. With the actual MOBY buoy structure and set-up, the requirement of a slope of the structure within $\pm 1^\circ$ will substantially limit its use, the more so in the winter season. This is associated both to the local wave regime and to the local currents. Concerning the latter, it must also be considered that, while a modelled wave archive, as the one given by ERA5, is extremely reliable (accuracy of 5% or less), this is not the case for currents. Modelled currents succeed in reproducing the general large-scale structure of the fields, but they implicitly miss the tail of the spectrum, i.e. the limited scale vortices and gyres (order of 10 km downwards), where most of the energy of currents is located. Given the environmental conditions, while a more precise estimate of the consequent wave motion in all the possible wave-current combinations will require a much more dedicated effort, we envisage that some modification of the present buoy structure will be likely required. The precise modifications, most likely a longer structure with consideration also of the position of the mooring connection, can be defined through a thorough devoted model and study, based on the waves and current climate statistics given and commented herein.

1.5 Comparison between MOBY and Lampedusa locations

Following what already anticipated, we add a quantitative comparison between the wave conditions expected at MOBY location (MOB) on the south side of Molokai island (Hawaii) and Lampedusa (LMP). The comparison is done with reference to 2013 data, that by direct inspection (see Table 1.4) we find fully representative of the long-term statistics at LMP. The conditions at Hawaii are more stable, typical of the swell environment in Central Pacific.

The basic result concerning (i.e. the difference between) the two locations is evident in Table 1.4 (see column LMP vs MOB). LMP has a very distributed statistics, with slightly less than 60% of the cases with significant wave height H_s less than 1.0 m. However, at LMP there is a good percentage of very strong conditions ($10\% > 2.0$ m). MOB has a more solid energy background (never $H_s < 0.5$ m, 90% > 1.0 m), but no storm. However, the most relevant difference between the two locations appears considering the combined $H_s - T_m$ distributions, given in Figure 1.1. Basically, at LMP the wave energy distribution peaks at 4 s, while at MOB at 8 s. This has substantial implications for the buoy motion, in particular for its tilting. This depends on the difference between the water orbital horizontal velocity at the top and bottom of the buoy. Simplifying the problem, as an example we consider a 1.0 m high wave with 4 (LMP) and 8 (MOB) second period. At MOB the surface velocity would be about 0.40 m/s and 0.11 m/s at 20 m depth, with an overall difference between the 2 points equal to 0.3 m/s. At LMP, with 4 s period, the surface velocity would be 0.80 m/s, down to 0.05 m/s at the buoy ballast, and a difference equal to 0.75 m/s. It follows that in its present set-up the buoy would experience a much higher tilting at LMP.

Conclusions

- 1) MOB location is characterized by higher waves on the average, but concentrated in the 0.5-1.5 m high range, with long period.
- 2) On the contrary, lower on average, LMP location experiences also higher wave activity. However, the main point is the short period of the typical local wave, with strong differences between the horizontal forcing at the top and bottom of the buoy.
- 3) This implies that with the present set-up the buoy will experience at LMP a much higher tilting during most of the time.

Table 1.1 Percentage above threshold (Hs)

Hs [m]	TOT	Hs THRESHOLD CROSSING DATA IN PARTS PER HUNDRED											
		J	F	M	A	M	J	J	A	S	O	N	D
0.0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
0.5	77.191	91.996	91.914	89.772	87.444	74.741	60.160	49.704	48.458	67.976	81.240	90.438	93.663
1.0	40.999	60.964	58.905	52.537	49.201	34.929	21.861	17.429	14.506	26.024	36.509	55.517	64.822
1.5	20.170	36.341	32.684	26.687	23.490	15.235	6.792	6.310	4.194	9.462	14.210	29.517	37.863
2.0	9.640	20.958	17.976	14.110	10.274	5.652	1.608	1.717	0.877	2.885	5.901	14.569	19.600
2.5	4.611	11.287	9.694	7.604	3.663	1.687	0.201	0.363	0.249	0.531	2.638	6.635	10.995
3.0	2.187	6.028	4.993	3.918	1.188	0.336	0.024	0	0	0.038	1.085	2.823	5.914
3.5	0.950	2.520	2.563	1.892	0.368	0.040	0.010	0	0	0	0.356	0.906	2.802
4.0	0.404	1.193	1.187	0.823	0.139	0.013	0	0	0	0	0.064	0.292	1.173
4.5	0.172	0.561	0.487	0.289	0.056	0	0	0	0	0	0.003	0.122	0.558
5.0	0.066	0.252	0.192	0.064	0.007	0	0	0	0	0	0	0.049	0.239
5.5	0.025	0.168	0.015	0.000	0	0	0	0	0	0	0	0.017	0.091
6.0	0.007	0.071	0	0	0	0	0	0	0	0	0	0	0.010
6.5	0.004	0.050	0	0	0	0	0	0	0	0	0	0	0
7.0	0.002	0.027	0	0	0	0	0	0	0	0	0	0	0
7.5	0.001	0.010	0	0	0	0	0	0	0	0	0	0	0

Table 1.2. Significant wave height (Hs) – Mean wave period (Tm) distribution. Numbers are given in parts per hundred thousand

Hs - Tm STATISTICAL DISTRIBUTION - DATA IN PARTS PER HUNDRED THOUSAND																		
Tm1 - Tm2	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	
[s]	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0		
0.0 - 1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0 - 2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.0 - 3.0	3346	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3366
3.0 - 4.0	13672	9662	119	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23453
4.0 - 5.0	5275	18352	9900	845	2	0	0	0	0	0	0	0	0	0	0	0	0	34374
5.0 - 6.0	490	6911	8070	7102	2004	122	1	0	0	0	0	0	0	0	0	0	0	24700
6.0 - 7.0	25	1136	2132	2057	2610	1842	568	46	2	0	0	0	0	0	0	0	0	10418
7.0 - 8.0	10	106	537	400	344	410	631	454	138	25	3	0	0	0	0	0	0	3049
8.0 - 9.0	0	5	66	117	54	40	33	43	90	79	39	13	1	0	0	0	0	580
9.0 - 10.0	0	0	5	7	14	10	5	2	2	1	0	5	1	2	1	1	0	56
10.0 - 11.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11.0 - 12.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.0 - 13.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.0 - 14.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0 - 15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.0 - 16.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	22809	36192	20829	10528	5028	2424	1238	545	232	105	42	18	2	2	1	1	100000	

Table 1.3. Significant wave height directional distribution. Numbers are given in parts per hundred thousand

		Hs- Dm STATISTICAL DISTRIBUTION IN PARTS PER HUNDRED THOUSAND																
		Hs [m]																
Dm1 - Dm2	[deg N]	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	10.0
0. - 10.	10.0	1032	1033	491	147	54	23	9	5	0	0	0	1	0	0	0	0	2795
10. - 20.	10.0	758	759	358	112	50	15	7	2	0	0	0	0	0	0	0	0	2061
20. - 30.	10.0	552	601	246	81	46	7	2	1	0	1	0	0	0	0	0	0	1537
30. - 40.	10.0	483	559	191	82	37	5	2	1	0	1	0	0	0	0	0	0	1361
40. - 50.	10.0	443	563	200	76	41	14	2	1	0	0	0	0	0	0	0	0	1340
50. - 60.	10.0	439	548	216	69	56	18	7	1	0	0	0	0	0	0	0	0	1354
60. - 70.	10.0	465	641	248	114	44	21	12	6	2	0	0	0	0	0	0	0	1553
70. - 80.	10.0	465	774	406	207	77	34	14	9	3	3	0	0	0	0	0	0	1992
80. - 90.	10.0	600	971	580	301	106	40	26	11	6	2	0	0	0	0	0	0	2643
90. - 100.	10.0	708	1142	695	299	116	64	39	5	3	2	0	0	0	0	0	0	3073
100. - 110.	10.0	790	1209	700	309	140	58	21	11	3	1	0	0	0	0	0	0	3242
110. - 120.	10.0	947	1528	791	337	165	82	31	4	1	1	0	0	0	0	0	0	3887
120. - 130.	10.0	1161	1811	955	427	205	85	36	14	2	0	0	0	0	0	0	0	4696
130. - 140.	10.0	1398	2198	1069	486	173	64	29	13	7	0	0	0	0	0	0	0	5437
140. - 150.	10.0	1565	2110	801	300	149	47	12	1	1	0	0	0	0	0	0	0	4986
150. - 160.	10.0	1074	1344	458	139	44	7	1	0	0	0	0	0	0	0	0	0	3067
160. - 170.	10.0	664	842	279	78	16	3	1	1	0	0	0	0	0	0	0	0	1884
170. - 180.	10.0	412	566	216	53	11	1	1	1	0	0	0	0	0	0	0	0	1261



180. - 190.	299	506	205	57	14	2	0	1	0	0	0	0	0	0	0	0	1084
190. - 200.	290	421	218	65	18	5	1	1	0	0	0	0	0	0	0	0	1019
200. - 210.	214	381	230	109	20	7	6	1	0	0	0	0	0	0	0	0	968
210. - 220.	210	508	365	161	45	28	8	5	1	0	0	0	0	0	0	0	1331
220. - 230.	179	544	444	267	146	43	14	2	2	0	0	0	0	0	0	0	1641
230. - 240.	170	380	318	207	90	31	14	5	1	0	0	0	0	0	0	0	1216
240. - 250.	163	256	197	119	39	18	7	1	0	0	0	0	0	0	0	0	800
250. - 260.	124	197	151	75	21	12	5	1	0	0	0	0	0	0	0	0	586
260. - 270.	105	219	153	79	27	23	7	3	0	0	0	0	0	0	0	0	616
270. - 280.	115	211	170	79	40	25	9	3	1	0	0	0	0	0	0	0	653
280. - 290.	155	252	212	116	78	43	20	5	2	4	2	0	0	0	0	0	889
290. - 300.	166	308	291	210	153	92	60	37	11	3	3	3	0	0	0	0	1337
300. - 310.	224	462	501	476	320	233	158	74	27	5	4	1	0	0	0	0	2485
310. - 320.	309	874	1084	858	595	395	206	101	47	19	5	2	1	0	0	0	4496
320. - 330.	742	2283	2150	1520	843	414	222	108	51	27	13	6	1	0	0	1	8381
330. - 340.	1703	3849	2761	1529	625	280	142	64	42	28	11	3	1	2	1	0	11041
340. - 350.	2056	3570	1715	695	315	138	79	39	15	8	2	2	0	0	0	0	8634
350. - 360.	1627	1771	763	292	111	46	30	9	4	1	1	0	0	0	0	0	4655
	22807	36191	20828	10531	5030	2423	1240	547	232	106	41	18	3	2	1	1	100000

Table 1.4. Percentage of time waves at Lampedusa (LMP) and MOBY (MOB) locations are higher than a certain height. First column statistics for 40 years, second and third for 2013

	2013		
	40Y	LMP	MOB
0	100,000	100,000	100,000
0,5	77,191	78,379	100,000
1	40,999	42,180	90,400
1,5	20,170	20,479	28,733
2	9,640	9,521	4,943
2,5	4,611	4,110	0,354
3	2,187	1,667	0
3,5	0,950	0,674	0
4	0,404	0,400	0
4,5	0,172	0,137	0
5	0,066	0	0
5,5	0,025	0	0
6	0,007	0	0
6,5	0,004	0	0
7	0,002	0	0
7,5	0,001	0	0

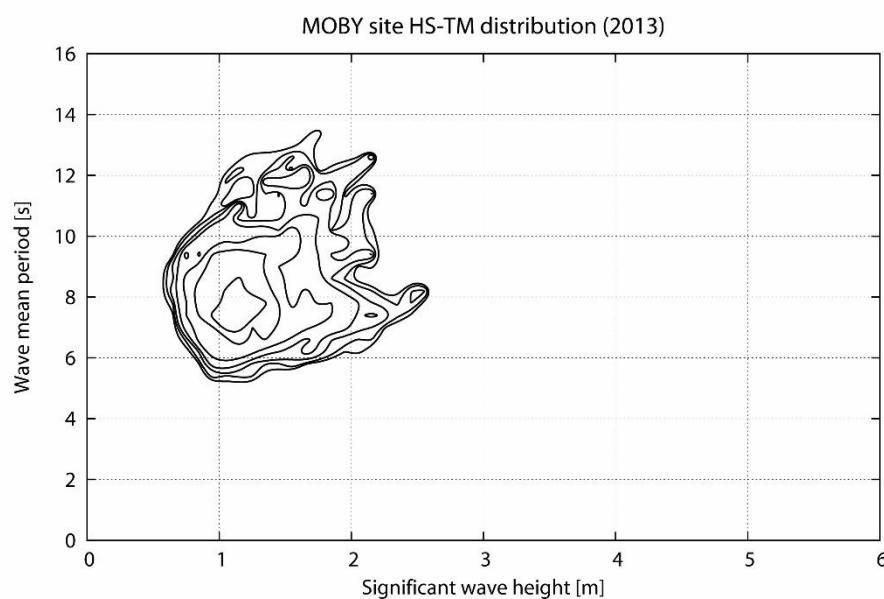
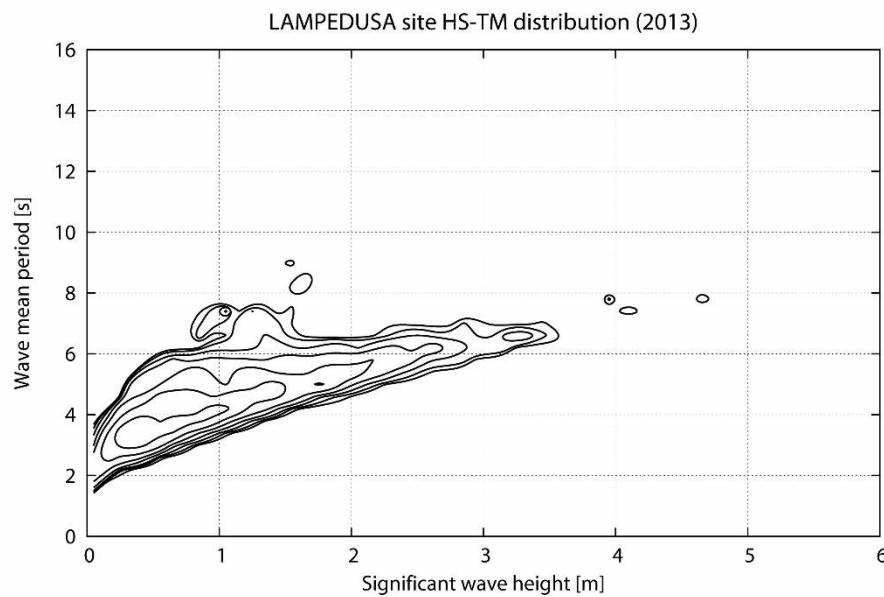


Figure 1.1 Combined statistics of significant wave height Hs – and mean wave period Tm at Lampedusa (LMP) and MOBY (MOB) locations for 2013



2 Appendix

2.1 Hs-Tm distribution per directional sector (10°)

SECTOR from 0. deg to 10. deg																	
Hs - Tm STATISTICAL DISTRIBUTION - DATA IN PARTS PER HUNDRED THOUSAND																	
		Hs [m]															
Tm1-Tm2	[s]	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5
0.0	-	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0	-	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.0	-	3.0	88	1	0	0	0	0	0	0	0	0	0	0	0	0	89
3.0	-	4.0	651	199	3	0	0	0	0	0	0	0	0	0	0	0	853
4.0	-	5.0	286	603	232	12	0	0	0	0	0	0	0	0	0	0	1133
5.0	-	6.0	7	206	222	89	19	0	0	0	0	0	0	0	0	0	544
6.0	-	7.0	0	23	31	43	26	1	0	0	0	0	0	0	0	0	141
7.0	-	8.0	0	0	2	3	8	15	3	0	0	0	0	0	0	0	31
8.0	-	9.0	0	0	0	0	0	7	6	5	0	0	0	0	0	0	1
9.0	-	10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10.0	-	11.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11.0	-	12.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.0	-	13.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.0	-	14.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0	-	15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.0	-	16.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		1032	1032	490	147	53	23	9	5	0	0	0	0	1	0	0	0
		2794															

SECTOR from 10. deg to 20. deg																	
Hs - Tm STATISTICAL DISTRIBUTION - DATA IN PARTS PER HUNDRED THOUSAND																	
		Hs [m]															
Tm1-Tm2	[s]	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5
0.0	-	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0	-	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.0	-	3.0	52	0	0	0	0	0	0	0	0	0	0	0	0	0	52
3.0	-	4.0	471	156	3	0	0	0	0	0	0	0	0	0	0	0	630
4.0	-	5.0	227	375	141	6	0	0	0	0	0	0	0	0	0	0	749
5.0	-	6.0	8	200	179	71	9	0	0	0	0	0	0	0	0	0	467
6.0	-	7.0	0	29	32	31	28	4	1	0	0	0	0	0	0	0	125

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Contract n.: EUM/CO/18/4600002161/EJK

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v2.0, 20 November 2019

7.0	-	8.0	0	0	3	3	13	11	4	1	0	0	0	0	0	0	0	0	35
8.0	-	9.0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	3
9.0	-	10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10.0	-	11.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11.0	-	12.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.0	-	13.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.0	-	14.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0	-	15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.0	-	16.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		758	760	358	112	50	15	7	1	0	2063								

SECTOR from 20. deg to 30. deg

Hs - Tm STATISTICAL DISTRIBUTION - DATA IN PARTS PER HUNDRED THOUSAND

Tm1-Tm2 [s]	Hs [m]																	
	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	
0.0	-	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0	-	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.0	-	3.0	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42
3.0	-	4.0	315	101	1	0	0	0	0	0	0	0	0	0	0	0	0	417
4.0	-	5.0	183	297	87	5	0	0	0	0	0	0	0	0	0	0	0	572
5.0	-	6.0	12	173	130	38	8	0	0	0	0	0	0	0	0	0	0	361
6.0	-	7.0	0	31	24	29	27	3	0	0	0	0	0	0	0	0	0	114
7.0	-	8.0	0	0	3	8	12	2	2	1	0	0	0	0	0	0	0	28
8.0	-	9.0	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	3
9.0	-	10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10.0	-	11.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11.0	-	12.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.0	-	13.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.0	-	14.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0	-	15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.0	-	16.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		552	602	245	81	47	6	2	1	0	1	0	0	0	0	0	0	1538

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SECTOR from 30. deg to 40. deg**Hs - Tm STATISTICAL DISTRIBUTION - DATA IN PARTS PER HUNDRED THOUSAND**

Hs [m]

		0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5
Tm1-Tm2	[s]	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0
0.0	-	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0	-	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.0	-	3.0	29	0	0	0	0	0	0	0	0	0	0	0	0	0	29
3.0	-	4.0	281	87	1	0	0	0	0	0	0	0	0	0	0	0	369
4.0	-	5.0	165	242	63	4	0	0	0	0	0	0	0	0	0	0	474
5.0	-	6.0	9	201	87	33	6	0	0	0	0	0	0	0	0	0	336
6.0	-	7.0	0	27	34	36	21	2	0	0	0	0	0	0	0	0	120
7.0	-	8.0	0	1	6	7	10	3	2	1	0	1	0	0	0	0	31
8.0	-	9.0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	3
9.0	-	10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10.0	-	11.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11.0	-	12.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.0	-	13.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.0	-	14.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0	-	15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.0	-	16.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		484	558	191	81	38	6	2	1	0	1	0	0	0	0	0	1361

SECTOR from 40. deg to 50. deg**Hs - Tm STATISTICAL DISTRIBUTION - DATA IN PARTS PER HUNDRED THOUSAND**

Hs [m]

		0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5
Tm1-Tm2	[s]	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0
0.0	-	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0	-	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.0	-	3.0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	28
3.0	-	4.0	229	77	1	0	0	0	0	0	0	0	0	0	0	0	307
4.0	-	5.0	170	237	52	2	0	0	0	0	0	0	0	0	0	0	461
5.0	-	6.0	17	208	94	24	7	0	0	0	0	0	0	0	0	0	350
6.0	-	7.0	0	39	43	31	23	8	0	0	0	0	0	0	0	0	144
7.0	-	8.0	0	2	10	18	11	3	2	1	0	0	0	0	0	0	47
8.0	-	9.0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	4
9.0	-	10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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10.0	-	11.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11.0	-	12.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.0	-	13.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.0	-	14.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0	-	15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.0	-	16.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			444	563	201	76	41	13	2	1	0	0	0	0	0	0	0	0	0	0	1339

SECTOR from 50. deg to 60. deg

Hs - Tm STATISTICAL DISTRIBUTION - DATA IN PARTS PER HUNDRED THOUSAND

		Hs [m]																			
Tm1-Tm2	[s]	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5				
		0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0				
0.0	-	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0	-	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.0	-	3.0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26
3.0	-	4.0	220	73	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	294
4.0	-	5.0	173	226	58	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	460
5.0	-	6.0	20	182	92	26	4	0	0	0	0	0	0	0	0	0	0	0	0	0	324
6.0	-	7.0	0	63	48	26	23	8	2	0	0	0	0	0	0	0	0	0	0	0	170
7.0	-	8.0	0	4	15	9	24	8	5	1	0	0	0	0	0	0	0	0	0	0	66
8.0	-	9.0	0	0	2	5	4	1	0	0	0	0	0	0	0	0	0	0	0	0	12
9.0	-	10.0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
10.0	-	11.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11.0	-	12.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.0	-	13.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.0	-	14.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0	-	15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.0	-	16.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			439	548	216	69	55	18	7	1	0	0	0	0	0	0	0	0	0	0	1354

SECTOR from 60. deg to 70. deg

Hs - Tm STATISTICAL DISTRIBUTION - DATA IN PARTS PER HUNDRED THOUSAND

		Hs [m]																			
Tm1-Tm2	[s]	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5				
		0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0				
0.0	-	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0	-	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



2.0	-	3.0	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23
3.0	-	4.0	227	69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	296
4.0	-	5.0	181	260	40	2	0	0	0	0	0	0	0	0	0	0	0	0	0	483
5.0	-	6.0	33	230	110	36	4	0	0	0	0	0	0	0	0	0	0	0	0	413
6.0	-	7.0	1	74	62	46	14	7	3	0	0	0	0	0	0	0	0	0	0	207
7.0	-	8.0	0	9	33	18	11	7	2	1	1	0	0	0	0	0	0	0	0	82
8.0	-	9.0	0	0	2	11	14	7	7	4	1	0	0	0	0	0	0	0	0	46
9.0	-	10.0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
10.0	-	11.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11.0	-	12.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.0	-	13.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.0	-	14.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0	-	15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.0	-	16.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			465	642	248	113	44	21	12	5	2	0	1553							

SECTOR from 70. deg to 80. deg

Hs - Tm STATISTICAL DISTRIBUTION - DATA IN PARTS PER HUNDRED THOUSAND

		Hs [m]																	
Tm1-Tm2	[s]	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	
0.0	-	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0	-	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.0	-	3.0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30
3.0	-	4.0	232	87	1	0	0	0	0	0	0	0	0	0	0	0	0	0	320
4.0	-	5.0	148	344	78	5	0	0	0	0	0	0	0	0	0	0	0	0	575
5.0	-	6.0	52	230	144	79	14	1	0	0	0	0	0	0	0	0	0	0	520
6.0	-	7.0	3	94	89	68	35	21	2	0	0	0	0	0	0	0	0	0	312
7.0	-	8.0	1	20	80	32	19	8	8	7	2	0	0	0	0	0	0	0	177
8.0	-	9.0	0	0	11	21	5	5	4	1	1	3	0	0	0	0	0	0	51
9.0	-	10.0	0	0	3	3	3	0	0	0	0	0	0	0	0	0	0	0	9
10.0	-	11.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11.0	-	12.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.0	-	13.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.0	-	14.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0	-	15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.0	-	16.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			466	775	406	208	76	35	14	8	3	3	0	0	0	0	0	0	1990



SECTOR from 80. deg to 90. deg

Hs - Tm STATISTICAL DISTRIBUTION - DATA IN PARTS PER HUNDRED THOUSAND

		Hs [m]															
Tm1-Tm2	[s]	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5
		0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0
0.0	- 1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0	- 2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.0	- 3.0	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	45
3.0	- 4.0	270	108	1	0	0	0	0	0	0	0	0	0	0	0	0	379
4.0	- 5.0	191	363	89	10	0	0	0	0	0	0	0	0	0	0	0	653
5.0	- 6.0	87	295	190	128	24	1	0	0	0	0	0	0	0	0	0	725
6.0	- 7.0	6	165	145	90	52	19	7	0	0	0	0	0	0	0	0	484
7.0	- 8.0	0	37	122	44	20	14	12	7	2	0	0	0	0	0	0	258
8.0	- 9.0	0	4	32	26	9	5	5	3	3	1	0	0	0	0	0	88
9.0	- 10.0	0	0	1	4	1	2	2	1	2	1	0	0	0	0	0	14
10.0	- 11.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11.0	- 12.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.0	- 13.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.0	- 14.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0	- 15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.0	- 16.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		599	972	580	302	106	41	26	11	7	2	0	0	0	0	0	2643

SECTOR from 90. deg to 100. deg

Hs - Tm STATISTICAL DISTRIBUTION - DATA IN PARTS PER HUNDRED THOUSAND

		Hs [m]															
Tm1-Tm2	[s]	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5
		0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0
0.0	- 1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0	- 2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.0	- 3.0	43	1	0	0	0	0	0	0	0	0	0	0	0	0	0	44
3.0	- 4.0	360	125	2	0	0	0	0	0	0	0	0	0	0	0	0	487
4.0	- 5.0	214	422	165	8	0	0	0	0	0	0	0	0	0	0	0	809
5.0	- 6.0	81	403	230	114	28	3	0	0	0	0	0	0	0	0	0	859
6.0	- 7.0	9	168	164	77	44	39	13	0	0	0	0	0	0	0	0	514
7.0	- 8.0	0	25	118	67	30	13	22	3	2	0	0	0	0	0	0	280
8.0	- 9.0	0	0	16	33	10	8	2	1	1	2	0	0	0	0	0	73
9.0	- 10.0	0	0	0	1	5	1	2	1	1	1	0	0	0	0	0	12
10.0	- 11.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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11.0 - 12.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.0 - 13.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.0 - 14.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0 - 15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.0 - 16.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	707	1144	695	300	117	64	39	5	4	3	0	3075							

SECTOR from 100. deg to 110. deg**Hs - Tm STATISTICAL DISTRIBUTION - DATA IN PARTS PER HUNDRED THOUSAND**

		Hs [m]																	
Tm1-Tm2	[s]	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	
0.0 - 1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0 - 2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.0 - 3.0	56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	56
3.0 - 4.0	427	208	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	640
4.0 - 5.0	256	538	211	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1025
5.0 - 6.0	49	386	279	158	37	4	0	0	0	0	0	0	0	0	0	0	0	0	913
6.0 - 7.0	1	76	162	94	74	35	10	0	0	0	0	0	0	0	0	0	0	0	452
7.0 - 8.0	0	0	43	26	19	12	10	11	2	0	0	0	0	0	0	0	0	0	123
8.0 - 9.0	0	0	1	11	6	5	0	0	1	1	0	0	0	0	0	0	0	0	25
9.0 - 10.0	0	0	0	0	3	2	1	0	0	0	0	0	0	0	0	0	0	0	6
10.0 - 11.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11.0 - 12.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.0 - 13.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.0 - 14.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0 - 15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.0 - 16.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	789	1208	701	309	139	58	21	11	3	1	0	3243							

SECTOR from 110. deg to 120. deg**Hs - Tm STATISTICAL DISTRIBUTION - DATA IN PARTS PER HUNDRED THOUSAND**

		Hs [m]																	
Tm1-Tm2	[s]	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	
0.0 - 1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0 - 2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.0 - 3.0	69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	69



3.0	-	4.0	551	325	3	0	0	0	0	0	0	0	0	0	0	0	0	0	879
4.0	-	5.0	312	773	316	35	0	0	0	0	0	0	0	0	0	0	0	0	1436
5.0	-	6.0	15	379	303	181	69	5	0	0	0	0	0	0	0	0	0	0	952
6.0	-	7.0	0	51	149	78	76	55	9	1	0	0	0	0	0	0	0	0	419
7.0	-	8.0	0	0	20	39	15	19	21	3	1	0	0	0	0	0	0	0	118
8.0	-	9.0	0	0	0	5	4	1	1	0	0	1	0	0	0	0	0	0	12
9.0	-	10.0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	4
10.0	-	11.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11.0	-	12.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.0	-	13.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.0	-	14.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0	-	15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.0	-	16.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
947		1528	791	338	165	83	31	4	1	1	0	3886							

SECTOR from 120. deg to 130. deg**Hs - Tm STATISTICAL DISTRIBUTION - DATA IN PARTS PER HUNDRED THOUSAND**

		Hs [m]																	
Tm1-Tm2	[s]	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	
0.0	-	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0	-	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.0	-	3.0	105	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	106
3.0	-	4.0	730	473	5	0	0	0	0	0	0	0	0	0	0	0	0	0	1208
4.0	-	5.0	317	1032	453	41	0	0	0	0	0	0	0	0	0	0	0	0	1843
5.0	-	6.0	9	288	353	273	88	5	0	0	0	0	0	0	0	0	0	0	1016
6.0	-	7.0	0	17	133	88	96	68	24	1	0	0	0	0	0	0	0	0	427
7.0	-	8.0	0	0	11	23	21	9	10	12	2	0	0	0	0	0	0	0	88
8.0	-	9.0	0	0	0	1	0	1	2	1	0	0	0	0	0	0	0	0	5
9.0	-	10.0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
10.0	-	11.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11.0	-	12.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.0	-	13.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.0	-	14.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0	-	15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.0	-	16.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1161		1811	955	426	205	84	37	14	2	0	4697								

**SECTOR from 130. deg to 140. deg****Hs - Tm STATISTICAL DISTRIBUTION - DATA IN PARTS PER HUNDRED THOUSAND**

		Hs [m]															
Tm1-Tm2	[s]	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5
		0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0
0.0	- 1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0	- 2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.0	- 3.0	208	1	0	0	0	0	0	0	0	0	0	0	0	0	0	209
3.0	- 4.0	930	689	7	0	0	0	0	0	0	0	0	0	0	0	0	1626
4.0	- 5.0	258	1275	571	50	0	0	0	0	0	0	0	0	0	0	0	2154
5.0	- 6.0	1	228	393	317	91	3	0	0	0	0	0	0	0	0	0	1033
6.0	- 7.0	0	5	97	112	70	48	18	2	0	0	0	0	0	0	0	352
7.0	- 8.0	0	0	2	7	11	12	9	10	7	0	0	0	0	0	0	58
8.0	- 9.0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	3
9.0	- 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10.0	- 11.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11.0	- 12.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.0	- 13.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.0	- 14.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0	- 15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.0	- 16.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		1397	2198	1070	486	172	63	29	13	7	0	0	0	0	0	0	5435

SECTOR from 140. deg to 150. deg**Hs - Tm STATISTICAL DISTRIBUTION - DATA IN PARTS PER HUNDRED THOUSAND**

		Hs [m]															
Tm1-Tm2	[s]	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5
		0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0
0.0	- 1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0	- 2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.0	- 3.0	256	2	0	0	0	0	0	0	0	0	0	0	0	0	0	258
3.0	- 4.0	1169	862	5	0	0	0	0	0	0	0	0	0	0	0	0	2036
4.0	- 5.0	140	1105	492	29	0	0	0	0	0	0	0	0	0	0	0	1766
5.0	- 6.0	0	141	270	212	73	5	0	0	0	0	0	0	0	0	0	701
6.0	- 7.0	0	1	34	58	68	35	5	0	0	0	0	0	0	0	0	201
7.0	- 8.0	0	0	0	1	8	7	6	1	1	0	0	0	0	0	0	24
8.0	- 9.0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
9.0	- 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10.0	- 11.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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11.0 - 12.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.0 - 13.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.0 - 14.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0 - 15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.0 - 16.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1565	2111	801	300	149	47	12	1	1	0	4988								

SECTOR from 150. deg to 160. deg**Hs - Tm STATISTICAL DISTRIBUTION - DATA IN PARTS PER HUNDRED THOUSAND**

		Hs [m]																	
Tm1-Tm2	[s]	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5		
0.0 - 1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1.0 - 2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2.0 - 3.0	282	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	283	
3.0 - 4.0	758	665	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1427	
4.0 - 5.0	34	633	303	22	0	0	0	0	0	0	0	0	0	0	0	0	0	992	
5.0 - 6.0	0	46	142	94	25	1	0	0	0	0	0	0	0	0	0	0	0	308	
6.0 - 7.0	0	0	9	21	17	6	1	0	0	0	0	0	0	0	0	0	0	54	
7.0 - 8.0	0	0	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0	4	
8.0 - 9.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9.0 - 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10.0 - 11.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11.0 - 12.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12.0 - 13.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
13.0 - 14.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
14.0 - 15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15.0 - 16.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1074	1345	458	138	44	8	1	0	3066										

SECTOR from 160. deg to 170. deg**Hs - Tm STATISTICAL DISTRIBUTION - DATA IN PARTS PER HUNDRED THOUSAND**

		Hs [m]																	
Tm1-Tm2	[s]	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5		
0.0 - 1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1.0 - 2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2.0 - 3.0	211	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	212	



Copernicus

EUMETSAT

Contract n.: EUM/CO/18/4600002161/EJK



Consiglio Nazionale
delle Ricerche

EUMETSAT_OC-SCV_PDD

v2.0, 20 November 2019

3.0	-	4.0	443	498	5	0	0	0	0	0	0	0	0	0	0	0	0	0	946
4.0	-	5.0	11	316	206	13	0	0	0	0	0	0	0	0	0	0	0	0	546
5.0	-	6.0	0	27	64	49	8	1	0	0	0	0	0	0	0	0	0	0	149
6.0	-	7.0	0	0	5	15	6	2	1	1	0	0	0	0	0	0	0	0	30
7.0	-	8.0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	3
8.0	-	9.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.0	-	10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10.0	-	11.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11.0	-	12.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.0	-	13.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.0	-	14.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0	-	15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.0	-	16.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			665	842	280	78	15	3	1	2	0	1884							

SECTOR from 170. deg to 180. deg

Hs - Tm STATISTICAL DISTRIBUTION - DATA IN PARTS PER HUNDRED THOUSAND

		Hs [m]																
Tm1-Tm2	[s]	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	
0.0	-	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0	-	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.0	-	3.0	154	2	0	0	0	0	0	0	0	0	0	0	0	0	0	156
3.0	-	4.0	245	333	3	0	0	0	0	0	0	0	0	0	0	0	0	581
4.0	-	5.0	13	212	167	15	0	0	0	0	0	0	0	0	0	0	0	407
5.0	-	6.0	0	19	42	29	6	1	0	0	0	0	0	0	0	0	0	97
6.0	-	7.0	0	0	5	9	3	1	0	0	0	0	0	0	0	0	0	18
7.0	-	8.0	0	0	0	1	3	0	0	1	0	0	0	0	0	0	0	5
8.0	-	9.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.0	-	10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10.0	-	11.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11.0	-	12.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.0	-	13.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.0	-	14.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0	-	15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.0	-	16.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			412	566	217	54	12	2	0	1	0	1260						


SECTOR from 180. deg to 190. deg
Hs - Tm STATISTICAL DISTRIBUTION - DATA IN PARTS PER HUNDRED THOUSAND

		Hs [m]																
Tm1-Tm2	[s]	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	
0.0	- 1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0	- 2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.0	- 3.0	116	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	117
3.0	- 4.0	176	309	3	0	0	0	0	0	0	0	0	0	0	0	0	0	488
4.0	- 5.0	7	177	161	9	0	0	0	0	0	0	0	0	0	0	0	0	354
5.0	- 6.0	0	19	36	33	7	0	0	0	0	0	0	0	0	0	0	0	95
6.0	- 7.0	0	0	5	15	7	2	0	0	0	0	0	0	0	0	0	0	29
7.0	- 8.0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
8.0	- 9.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.0	- 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10.0	- 11.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11.0	- 12.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.0	- 13.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.0	- 14.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0	- 15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.0	- 16.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		299	506	205	57	14	2	0	1	0	0	0	0	0	0	0	0	1083

SECTOR from 190. deg to 200. deg
Hs - Tm STATISTICAL DISTRIBUTION - DATA IN PARTS PER HUNDRED THOUSAND

		Hs [m]																
Tm1-Tm2	[s]	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	
0.0	- 1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0	- 2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.0	- 3.0	116	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	117
3.0	- 4.0	163	248	3	0	0	0	0	0	0	0	0	0	0	0	0	0	414
4.0	- 5.0	12	160	166	17	0	0	0	0	0	0	0	0	0	0	0	0	355
5.0	- 6.0	0	13	44	41	9	1	0	0	0	0	0	0	0	0	0	0	108
6.0	- 7.0	0	0	4	7	9	4	0	1	0	0	0	0	0	0	0	0	25
7.0	- 8.0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	3
8.0	- 9.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.0	- 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10.0	- 11.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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11.0	-	12.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.0	-	13.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.0	-	14.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0	-	15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.0	-	16.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			291	422	217	65	18	6	1	2	0	1020								

SECTOR from 200. deg to 210. deg**Hs - Tm STATISTICAL DISTRIBUTION - DATA IN PARTS PER HUNDRED THOUSAND**

		Hs [m]																
Tm1-Tm2	[s]	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	
0.0	-	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0	-	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.0	-	3.0	92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	92
3.0	-	4.0	112	206	3	0	0	0	0	0	0	0	0	0	0	0	0	321
4.0	-	5.0	10	162	187	27	0	0	0	0	0	0	0	0	0	0	0	386
5.0	-	6.0	0	13	38	76	16	1	0	0	0	0	0	0	0	0	0	144
6.0	-	7.0	0	0	3	6	4	5	5	0	0	0	0	0	0	0	0	23
7.0	-	8.0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	3
8.0	-	9.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.0	-	10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10.0	-	11.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11.0	-	12.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.0	-	13.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.0	-	14.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0	-	15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.0	-	16.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			214	381	231	109	20	7	6	1	0	968						

SECTOR from 210. deg to 220. deg**Hs - Tm STATISTICAL DISTRIBUTION - DATA IN PARTS PER HUNDRED THOUSAND**

		Hs [m]															
Tm1-Tm2	[s]	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5
0.0	-	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0	-	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.0	-	3.0	73	0	0	0	0	0	0	0	0	0	0	0	0	0	73



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3.0	-	4.0	128	257	2	0	0	0	0	0	0	0	0	0	0	0	0	387
4.0	-	5.0	8	239	303	40	0	0	0	0	0	0	0	0	0	0	0	590
5.0	-	6.0	0	12	58	114	39	8	0	0	0	0	0	0	0	0	0	231
6.0	-	7.0	0	0	2	7	5	17	6	1	0	0	0	0	0	0	0	38
7.0	-	8.0	0	0	0	0	1	3	2	4	1	0	0	0	0	0	0	11
8.0	-	9.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.0	-	10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10.0	-	11.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11.0	-	12.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.0	-	13.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.0	-	14.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0	-	15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.0	-	16.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			209	508	365	161	45	28	8	5	1	0	0	0	0	0	0	1331

SECTOR from 220. deg to 230. deg

Hs - Tm STATISTICAL DISTRIBUTION - DATA IN PARTS PER HUNDRED THOUSAND

Hs [m]																		
Tm1-Tm2	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5		
[s]	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0		
0.0	-	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0	-	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.0	-	3.0	73	0	0	0	0	0	0	0	0	0	0	0	0	0	0	73
3.0	-	4.0	86	175	3	0	0	0	0	0	0	0	0	0	0	0	0	264
4.0	-	5.0	20	342	312	47	0	0	0	0	0	0	0	0	0	0	0	721
5.0	-	6.0	0	27	126	214	111	6	0	0	0	0	0	0	0	0	0	484
6.0	-	7.0	0	0	3	6	34	37	13	1	0	0	0	0	0	0	0	94
7.0	-	8.0	0	0	0	0	1	0	1	1	1	0	0	0	0	0	0	4
8.0	-	9.0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
9.0	-	10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10.0	-	11.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11.0	-	12.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.0	-	13.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.0	-	14.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0	-	15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.0	-	16.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			179	544	444	267	146	44	14	2	2	0	0	0	0	0	0	1641

**SECTOR from 230. deg to 240. deg****Hs - Tm STATISTICAL DISTRIBUTION - DATA IN PARTS PER HUNDRED THOUSAND**

		Hs [m]															
Tm1-Tm2		0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5
[s]		0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0
0.0	-	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0	-	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.0	-	3.0	64	0	0	0	0	0	0	0	0	0	0	0	0	0	64
3.0	-	4.0	86	104	3	0	0	0	0	0	0	0	0	0	0	0	193
4.0	-	5.0	20	236	181	27	0	0	0	0	0	0	0	0	0	0	464
5.0	-	6.0	0	40	133	166	63	4	0	0	0	0	0	0	0	0	406
6.0	-	7.0	0	1	1	14	26	27	12	2	0	0	0	0	0	0	83
7.0	-	8.0	0	0	0	0	0	0	2	2	1	0	0	0	0	0	5
8.0	-	9.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.0	-	10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10.0	-	11.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11.0	-	12.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.0	-	13.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.0	-	14.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0	-	15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.0	-	16.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		170	381	318	207	89	31	14	4	1	0	0	0	0	0	0	1215

SECTOR from 240. deg to 250. deg**Hs - Tm STATISTICAL DISTRIBUTION - DATA IN PARTS PER HUNDRED THOUSAND**

		Hs [m]															
Tm1-Tm2		0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5
[s]		0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0
0.0	-	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0	-	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.0	-	3.0	52	0	0	0	0	0	0	0	0	0	0	0	0	0	52
3.0	-	4.0	85	68	2	0	0	0	0	0	0	0	0	0	0	0	155
4.0	-	5.0	26	149	99	11	0	0	0	0	0	0	0	0	0	0	285
5.0	-	6.0	0	37	90	97	18	1	0	0	0	0	0	0	0	0	243
6.0	-	7.0	0	2	6	12	20	17	6	1	0	0	0	0	0	0	64
7.0	-	8.0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2
8.0	-	9.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.0	-	10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10.0	-	11.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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11.0	-	12.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.0	-	13.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.0	-	14.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0	-	15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.0	-	16.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			163	256	197	120	38	18	7	2	0	799								

SECTOR from 250. deg to 260. deg

Hs - Tm STATISTICAL DISTRIBUTION - DATA IN PARTS PER HUNDRED THOUSAND

		Hs [m]																		
Tm1-Tm2	[s]	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0		
0.0	-	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0	-	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.0	-	3.0	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	45
3.0	-	4.0	63	52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	115
4.0	-	5.0	14	110	74	7	0	0	0	0	0	0	0	0	0	0	0	0	0	205
5.0	-	6.0	2	33	70	53	13	2	0	0	0	0	0	0	0	0	0	0	0	173
6.0	-	7.0	0	2	7	15	8	10	4	0	0	0	0	0	0	0	0	0	0	46
7.0	-	8.0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
8.0	-	9.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.0	-	10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10.0	-	11.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11.0	-	12.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.0	-	13.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.0	-	14.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0	-	15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.0	-	16.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			124	197	151	75	21	12	5	1	0	586								

SECTOR from 260. deg to 270. deg

Hs - Tm STATISTICAL DISTRIBUTION - DATA IN PARTS PER HUNDRED THOUSAND

		Hs [m]																		
Tm1-Tm2	[s]	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0		
0.0	-	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0	-	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.0	-	3.0	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33



SECTOR from 270. deg to 280. deg

Hs - Tm STATISTICAL DISTRIBUTION - DATA IN PARTS PER HUNDRED THOUSAND

		Hs [m]															
Tm1-Tm2		0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5
	[s]	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0
0.0	-	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0	-	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.0	-	3.0	38	0	0	0	0	0	0	0	0	0	0	0	0	0	38
3.0	-	4.0	54	53	1	0	0	0	0	0	0	0	0	0	0	0	108
4.0	-	5.0	21	123	68	7	0	0	0	0	0	0	0	0	0	0	219
5.0	-	6.0	3	33	87	60	25	4	0	0	0	0	0	0	0	0	212
6.0	-	7.0	0	2	13	10	13	22	8	1	0	0	0	0	0	0	69
7.0	-	8.0	0	0	3	1	2	0	1	1	1	0	0	0	0	0	9
8.0	-	9.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.0	-	10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10.0	-	11.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11.0	-	12.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.0	-	13.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.0	-	14.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0	-	15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.0	-	16.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		116	211	172	78	40	26	9	2	1	0	0	0	0	0	0	654


SECTOR from 280. deg to 290. deg
Hs - Tm STATISTICAL DISTRIBUTION - DATA IN PARTS PER HUNDRED THOUSAND

		Hs [m]															
Tm1-Tm2		0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5
	[s]	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0
0.0	- 1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0	- 2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.0	- 3.0	46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	46
3.0	- 4.0	80	50	1	0	0	0	0	0	0	0	0	0	0	0	0	131
4.0	- 5.0	29	140	86	13	0	0	0	0	0	0	0	0	0	0	0	268
5.0	- 6.0	1	60	110	80	54	10	0	0	0	0	0	0	0	0	0	315
6.0	- 7.0	0	1	15	23	23	32	17	2	0	0	0	0	0	0	0	113
7.0	- 8.0	0	0	0	1	1	1	3	3	2	3	1	0	0	0	0	15
8.0	- 9.0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
9.0	- 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10.0	- 11.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11.0	- 12.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.0	- 13.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.0	- 14.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0	- 15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.0	- 16.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		156	251	212	117	78	43	20	5	2	4	2	0	0	0	0	890

SECTOR from 290. deg to 300. deg
Hs - Tm STATISTICAL DISTRIBUTION - DATA IN PARTS PER HUNDRED THOUSAND

		Hs [m]															
Tm1-Tm2		0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5
	[s]	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0
0.0	- 1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0	- 2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.0	- 3.0	46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	46
3.0	- 4.0	87	53	3	0	0	0	0	0	0	0	0	0	0	0	0	143
4.0	- 5.0	31	173	104	29	0	0	0	0	0	0	0	0	0	0	0	337
5.0	- 6.0	1	77	149	145	80	9	0	0	0	0	0	0	0	0	0	461
6.0	- 7.0	0	5	33	35	69	77	41	5	0	0	0	0	0	0	0	265
7.0	- 8.0	0	0	1	1	5	5	19	32	10	2	0	0	0	0	0	75
8.0	- 9.0	0	0	0	0	0	0	0	0	1	0	3	3	0	0	0	7
9.0	- 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10.0	- 11.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



11.0	-	12.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.0	-	13.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.0	-	14.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0	-	15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.0	-	16.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			165	308	290	210	154	91	60	37	11	2	3	3	0	0	0	0	0	0	0	0	0	0	1337	

SECTOR from 300. deg to 310. deg

Hs - Tm STATISTICAL DISTRIBUTION - DATA IN PARTS PER HUNDRED THOUSAND

		Hs [m]																								
Tm1-Tm2	[s]	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5									
0.0	-	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0	-	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.0	-	3.0	76	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	77
3.0	-	4.0	90	72	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	165
4.0	-	5.0	57	239	177	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	510
5.0	-	6.0	1	138	254	315	133	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	852
6.0	-	7.0	0	13	61	118	176	198	99	14	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	680
7.0	-	8.0	0	0	5	6	11	23	59	57	25	4	1	0	0	0	0	0	0	0	0	0	0	0	0	191
8.0	-	9.0	0	0	0	0	0	1	1	3	2	1	4	1	0	0	0	0	0	0	0	0	0	0	0	13
9.0	-	10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10.0	-	11.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11.0	-	12.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.0	-	13.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.0	-	14.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0	-	15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.0	-	16.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			224	463	500	476	320	233	159	74	28	5	5	1	0	0	0	0	0	0	0	0	0	0	0	2485

SECTOR from 310. deg to 320. deg

Hs - Tm STATISTICAL DISTRIBUTION - DATA IN PARTS PER HUNDRED THOUSAND

		Hs [m]																								
Tm1-Tm2	[s]	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5									
0.0	-	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0	-	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.0	-	3.0	94	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	95

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3.0	-	4.0	131	151	5	0	0	0	0	0	0	0	0	0	0	0	0	287
4.0	-	5.0	81	421	414	43	0	0	0	0	0	0	0	0	0	0	0	959
5.0	-	6.0	4	271	516	599	198	11	0	0	0	0	0	0	0	0	0	1599
6.0	-	7.0	0	30	140	195	378	321	84	4	0	0	0	0	0	0	0	1152
7.0	-	8.0	0	0	9	21	20	61	121	95	29	4	0	0	0	0	0	360
8.0	-	9.0	0	0	0	0	0	2	1	2	18	15	5	2	1	0	0	46
9.0	-	10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10.0	-	11.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11.0	-	12.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.0	-	13.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.0	-	14.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0	-	15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.0	-	16.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			310	874	1084	858	596	395	206	101	47	19	5	2	1	0	0	4497

SECTOR from 320. deg to 330. deg

Hs - Tm STATISTICAL DISTRIBUTION - DATA IN PARTS PER HUNDRED THOUSAND

		Hs [m]																
Tm1-Tm2	[s]	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0
0.0	-	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0	-	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.0	-	3.0	126	1	0	0	0	0	0	0	0	0	0	0	0	0	0	127
3.0	-	4.0	336	358	9	0	0	0	0	0	0	0	0	0	0	0	0	703
4.0	-	5.0	244	1107	827	68	1	0	0	0	0	0	0	0	0	0	0	2247
5.0	-	6.0	33	737	1019	1109	280	7	0	0	0	0	0	0	0	0	0	3185
6.0	-	7.0	3	76	268	307	532	327	88	3	1	0	0	0	0	0	0	1605
7.0	-	8.0	0	4	27	35	30	80	132	94	24	4	1	0	0	0	0	431
8.0	-	9.0	0	0	1	2	0	0	2	11	27	23	12	3	1	0	0	82
9.0	-	10.0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3
10.0	-	11.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11.0	-	12.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.0	-	13.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.0	-	14.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0	-	15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.0	-	16.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		742	2283	2151	1521	843	414	222	108	52	27	13	5	1	0	0	1	8380



SECTOR from 330. deg to 340. Deg

Hs - Tm STATISTICAL DISTRIBUTION - DATA IN PARTS PER HUNDRED THOUSAND

		Hs [m]																
Tm1-Tm2	[s]	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0
0.0 - 1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0 - 2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.0 - 3.0	207	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	209
3.0 - 4.0	956	850	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1818
4.0 - 5.0	522	2104	1478	93	0	0	0	0	0	0	0	0	0	0	0	0	0	4197
5.0 - 6.0	17	808	1085	1238	273	6	0	0	0	0	0	0	0	0	0	0	0	3427
6.0 - 7.0	0	81	175	180	339	210	46	2	0	0	0	0	0	0	0	0	0	1033
7.0 - 8.0	0	4	12	17	13	64	94	53	21	5	0	0	0	0	0	0	0	283
8.0 - 9.0	0	0	0	0	0	0	0	2	9	21	23	11	2	0	0	0	0	68
9.0 - 10.0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	1	0	5
10.0 - 11.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11.0 - 12.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.0 - 13.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.0 - 14.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0 - 15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.0 - 16.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		1702	3849	2762	1528	625	280	142	64	42	28	11	3	1	2	1	0	11040

SECTOR from 340. deg to 350. deg

Hs - Tm STATISTICAL DISTRIBUTION - DATA IN PARTS PER HUNDRED THOUSAND

		Hs [m]																
Tm1-Tm2	[s]	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0
0.0 - 1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0 - 2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.0 - 3.0	189	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	192
3.0 - 4.0	1346	1029	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2384
4.0 - 5.0	508	2044	1049	53	0	0	0	0	0	0	0	0	0	0	0	0	0	3654
5.0 - 6.0	13	458	578	555	116	8	0	0	0	0	0	0	0	0	0	0	0	1728
6.0 - 7.0	0	36	68	80	185	106	29	2	0	0	0	0	0	0	0	0	0	506
7.0 - 8.0	0	1	11	6	14	24	49	33	5	1	0	0	0	0	0	0	0	144
8.0 - 9.0	0	0	0	0	0	0	1	4	11	7	2	1	0	0	0	0	0	26
9.0 - 10.0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
10.0 - 11.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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11.0 - 12.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.0 - 13.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.0 - 14.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0 - 15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.0 - 16.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2056	3571	1715	694	315	138	79	39	16	8	2	2	0	0	0	0	0	8634	

SECTOR from 350. deg to 360. deg**Hs - Tm STATISTICAL DISTRIBUTION - DATA IN PARTS PER HUNDRED THOUSAND**

		Hs [m]																	
Tm1-Tm2	[s]	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	
0.0 - 1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1.0 - 2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2.0 - 3.0	114	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	114	
3.0 - 4.0	1127	442	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1574	
4.0 - 5.0	377	1052	430	26	0	0	0	0	0	0	0	0	0	0	0	0	0	1885	
5.0 - 6.0	10	253	275	198	34	2	0	0	0	0	0	0	0	0	0	0	0	772	
6.0 - 7.0	0	24	50	63	70	34	6	1	0	0	0	0	0	0	0	0	0	248	
7.0 - 8.0	0	0	1	5	7	9	25	7	1	0	0	0	0	0	0	0	0	55	
8.0 - 9.0	0	0	0	0	0	0	0	2	4	1	1	0	0	0	0	0	0	8	
9.0 - 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10.0 - 11.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11.0 - 12.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12.0 - 13.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
13.0 - 14.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
14.0 - 15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15.0 - 16.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1628	1771	761	292	111	45	31	10	5	1	1	0	0	0	0	0	0	4656	