

Supplementary Materials

Table S1. List of Sentinel-3 cases in SAR-mode retracking approach exhibiting large-scale ISWs in optical imagery (OLCI) in synergy with the corresponding sea surface signatures in the SRAL altimeter. Note that cases are referring to the Banda Sea in the Indian Ocean before 27 September 2018, and the Tropical Western Atlantic after that, and that some dates include two or three ISWs, which were captured in the same image (i.e. relative orbit and cycle).

Products				FFSAR 10 Bins			FFSAR MSS 10 Bins			UFSAR 10 Bins			UFSAR MSS 10 Bins		
Date	Rel · Or bit	Cy- cle	ISW (°E; °N)	SWH front (m)	SWH rear (m)	Delta SWH (m)	SWH front (m)	SWH rear (m)	Delta SWH (m)	SWH front (m)	SWH rear (m)	Delta SWH (m)	SWH front (m)	SWH rear (m)	Delta SWH (m)
27.10.2018	188 A	37	125,51; - 6,12	0,65498	0,5572 2	0,0977 6	0,7293 1	0,6423 5	0,0869 6	0,7768 9	0,5888 2	0,1880 7	0,6629 6	0,4690 4	0,1939 2
			125,27; - 7,23	0,67255	0,5143 4	0,1582 1	0,7419 9	0,6508 3	0,0911 6	0,7393 4	0,4314 8	0,3078 6	0,5793 7	0,5748	0,0045 7
25.03.2019	245 B	23	125,93; - 6,34	0,73353	0,6831 3	0,0504	0,7771 1	0,7911 2	- 0,0140 1	0,8561 3	0,6626 2	0,1935 1	0,7462 2	0,6803 8	0,0658 4
10.06.2019	188 B	26	124,85; - 6,53	1,197	0,7788 3	0,4181 7	1,3436	1,0638	0,2798	1,2636	0,4766 5	0,7869 5	1,3486	1,1306	0,218
20.08.2019	188 A	48	125,68; - 5,32	1,3136	1,3202	-0,0066	1,3927	1,4066	-0,0139	1,2951	1,3822	-0,0871	1,3585	1,4619	-0,1034
			125,49; - 6,24	1,1694	0,9009 8	0,2684 2	1,252	0,9829	0,2691	1,3446	0,8805 1	0,4640 9	1,2551	0,9649 2	0,2901 8
03.09.2019	245 B	29	125,93; - 6,37	1,2066	1,0087	0,1979	1,3095	1,1086	0,2009	1,2176	1,0579	0,1597	1,2826	1,1541	0,1285
16.09.2019	188 A	49	125,45; - 6,38	1,6169	1,2962	0,3207	1,699	1,3643	0,3347	1,1522	1,0943	0,0579	1,2786	1,2761	0,0025
			125,23; - 7,34	1,1833	1,0696	0,1137	1,2769	1,259	0,0179	0,9997 5	1,1558	- 0,1560 5	1,2149	1,2671	-0,0522

30.09.2019	245 B	30	125,95; - 6,27	1,086	0,8825 6	0,2034 4	1,1663	0,9557 4	0,2105 6	1,1142	0,9003 1	0,2138 9	1,1732	0,9449 9	0,2282 1
			125,70; - 7,33	0,8039	0,8185 1	- 0,0146 1	0,8943 8	0,9429 5	- 0,0485 7	0,6086 4	1,1416	- 0,5329 6	0,9287 8	0,9639 5	- 0,0351 7
02.05.2021	188 A	71	125,47; - 6,21	1,5816	1,2243	0,3573	1,6308	1,2922	0,3386	1,5761	1,169	0,4071	1,6685	1,3525	0,316
			125,22; - 7,38	0,82016	0,7400 3	0,0801 3	0,9234	0,9356 2	- 0,0122 2	0,7916 1	0,6738 7	0,1177 4	0,9435 6	0,9648 5	- 0,0212 9
07.08.2019	245 B	28	125,90; - 6,43	1,1074	0,7714 8	0,3359 2	1,1883	0,8587 3	0,3295 7	1,1382	0,7849 7	0,3532 3	1,1433	0,8253 2	0,3179 8
			125,67; - 7,53	0,72172	0,7149 2	0,0068	0,8869 6	0,8885 2	- 0,0015 6	0,7391 7	1,0573	- 0,3181 3	0,9887 2	0,9491 4	0,0395 8
27.09.2018	152 A	36	43,19; 4,75	2,1101	2,0144	0,0957	2,1858	2,1373	0,0485	1,9553	1,873	0,0823	2,1585	2,12	0,0385
24.10.2018	152 A	37	42,99; 5,71	1,8471	1,5875	0,2596	1,9338	1,693	0,2408	1,8274	1,6139	0,2135	1,921	1,6899	0,2311
23.08.2019	095 B	29	44,56; 4,88	1,2512	1,1129	0,1383	1,349	1,2648	0,0842	1,336	1,0688	0,2672	1,3545	1,2142	0,1403
			44,70; 4,3	1,1814	1,1967	-0,0153	1,2851	1,3413	-0,0562	1,1568	1,1577	-0,0009	1,4171	1,3093	0,1078
20.11.2019	209 B	32	42,24; 6,94	2,3598	2,0905	0,2693	2,5183	2,3275	0,1908	2,3494	1,8862	0,4632	2,4828	2,3373	0,1455
			42,50; 5,78	2,0341	1,8585	0,1756	2,1308	1,96	0,1708	2,0085	1,6442	0,3643	2,1063	1,9438	0,1625
12.08.2020	152 B	42	43,47; 5,56	1,971	1,5572	0,4138	2,0765	1,638	0,4385	1,9311	1,6252	0,3059	2,0481	1,7884	0,2597

04.09.2020	095 B	43	44,49; 5,22	1,99	1,7091	0,2809	2,0655	1,8293	0,2362	1,8622	1,6977	0,1645	2,0748	1,7942	0,2806
			44,77; 3,95	1,6794	1,2314	0,448	1,7692	1,3184	0,4508	1,8252	1,4335	0,3917	1,7418	1,2136	0,5282
			45,05; 2,74	1,5574	1,4654	0,092	1,6558	1,5554	0,1004	1,6239	1,5216	0,1023	1,6475	1,5057	0,1418
18.10.2020	095 A	64	44,05; 5,11	1,2056	1,0256	0,18	1,3314	1,1513	0,1801	2,0525	0,9833 5	1,0691 5	1,3792	1,0812	0,298
			44,30; 3,98	1,5382	1,3015	0,2367	1,6293	1,4165	0,2128	1,5038	1,1084	0,3954	1,6774	1,4119	0,2655
			44,62; 2,6	1,3381	1,2433	0,0948	1,4427	1,3701	0,0726	1,4722	1,018	0,4542	1,467	1,4389	0,0281
03.12.2020	366 A	65	45,37; 7,55	1,5516	1,4617	0,0899	1,6615	1,5847	0,0768	1,6081	1,7598	-0,1517	1,7951	1,6212	0,1739