

# Supplementary Material

Table S.1. C2RCC v1.0 Level-1 Sentinel-3 OLCI A and OLCI-B matchup products to in situ validation sample data ( $\pm 2h$ ) after data quality flags.

Product ID	Product Name
0	S3A_OL_1_EFR____20160509T085847_20160509T090147_20180207T123928_0179_004_050_1980_LR2_R_NT_002
1	S3A_OL_1_EFR____20170415T095839_20170415T100139_20180415T094024_0179_016_293_1980_LR2_R_NT_002
2	S3A_OL_1_EFR____20170421T090233_20170421T090533_20180417T054948_0179_016_378_1980_LR2_R_NT_002
3	S3A_OL_1_EFR____20170423T095110_20170423T095410_20180417T113605_0179_017_022_1980_LR2_R_NT_002
4	S3A_OL_1_EFR____20170501T094342_20170501T094642_20180418T155420_0179_017_136_1980_LR2_R_NT_002
5	S3A_OL_1_EFR____20170502T091731_20170502T092031_20180418T183256_0179_017_150_1980_LR2_R_NT_002
6	S3A_OL_1_EFR____20170518T090233_20170518T090533_20180420T221309_0179_017_378_1980_LR2_R_NT_002
7	S3A_OL_1_EFR____20170521T092500_20170521T092800_20180421T070626_0179_018_036_1980_LR2_R_NT_002
8	S3A_OL_1_EFR____20170602T091346_20170602T091646_20180423T184040_0179_018_207_1980_LR2_R_NT_002
9	S3A_OL_1_EFR____20170606T091002_20170606T091302_20180424T070336_0179_018_264_1980_LR2_R_NT_002
10	S3A_OL_1_EFR____20170614T090233_20170614T090533_20180502T232455_0179_018_378_1980_LR2_R_NT_002
11	S3A_OL_1_EFR____20170621T092115_20170621T092415_20180503T195911_0179_019_093_1980_LR2_R_NT_002
12	S3A_OL_1_EFR____20170702T093613_20170702T093913_20180505T104542_0179_019_250_1980_LR2_R_NT_002
13	S3A_OL_1_EFR____20170706T093228_20170706T093528_20180505T230053_0179_019_307_1980_LR2_R_NT_002
14	S3A_OL_1_EFR____20170707T090618_20170707T090918_20180506T014810_0179_019_321_1980_LR2_R_NT_002
15	S3A_OL_1_EFR____20170710T092844_20170710T093144_20180507T103306_0179_019_364_1980_LR2_R_NT_002
16	S3A_OL_1_EFR____20170715T085849_20170715T090149_20180508T011807_0179_020_050_1980_LR2_R_NT_002
17	S3A_OL_1_EFR____20170718T092115_20170718T092415_20180508T102049_0179_020_093_1980_LR2_R_NT_002
18	S3A_OL_1_EFR____20170719T085504_20170719T085804_20180508T131133_0179_020_107_1980_LR2_R_NT_002
19	S3A_OL_1_EFR____20170729T093613_20170729T093913_20180509T221405_0179_020_250_1980_LR2_R_NT_002
20	S3A_OL_1_EFR____20170731T084351_20170731T084651_20180510T041309_0179_020_278_1980_LR2_R_NT_002
21	S3A_OL_1_EFR____20170803T090618_20170803T090918_20180510T132136_0179_020_321_1980_LR2_R_NT_002
22	S3A_OL_1_EFR____20170807T090233_20170807T090533_20180705T152909_0179_020_378_1980_LR2_R_NT_002
23	S3A_OL_1_EFR____20170811T085849_20170811T090149_20180706T153232_0179_021_050_1980_LR2_R_NT_002
24	S3A_OL_1_EFR____20170814T092115_20170814T092415_20180707T003443_0179_021_093_1980_LR2_R_NT_002
25	S3A_OL_1_EFR____20170815T085504_20170815T085804_20180707T033735_0179_021_107_1980_LR2_R_NT_002
26	S3A_OL_1_EFR____20170821T093957_20170821T094257_20180707T215903_0179_021_193_1980_LR2_R_NT_002
27	S3A_OL_1_EFR____20170823T084735_20170823T085035_20180708T035441_0179_021_221_1980_LR2_R_NT_002
28	S3A_OL_1_EFR____20170824T100224_20170824T100524_20180709T133034_0179_021_236_1980_LR2_R_NT_002
29	S3A_OL_1_EFR____20170828T095839_20170828T100139_20180710T053212_0179_021_293_1980_LR2_R_NT_002
30	S3A_OL_1_EFR____20170921T093613_20170921T093913_20180714T032834_0180_022_250_1980_LR2_R_NT_002
31	S3A_OL_1_EFR____20170925T093228_20170925T093528_20180716T170404_0179_022_307_1980_LR2_R_NT_002
32	S3A_OL_1_EFR____20171006T094726_20171006T095026_20180718T023713_0179_023_079_1980_LR2_R_NT_002
33	S3A_OL_1_EFR____20171009T100953_20171009T101253_20180718T140407_0179_023_122_1980_LR2_R_NT_002
34	S3A_OL_1_EFR____20180413T094726_20180413T095026_20180414T144225_0179_030_079_1980_LN1_O_NT_002
35	S3A_OL_1_EFR____20180417T094342_20180417T094642_20180418T134431_0180_030_136_1980_LN1_O_NT_002
36	S3A_OL_1_EFR____20180419T085120_20180419T085420_20180420T140315_0179_030_164_1980_LN1_O_NT_002
37	S3A_OL_1_EFR____20180504T090233_20180504T090533_20180505T140544_0179_030_378_1980_LN1_O_NT_002
38	S3A_OL_1_EFR____20190713T092513_20190713T092813_20190714T140324_0179_047_036_1980_LN1_O_NT_002
39	S3A_OL_1_EFR____20190714T085902_20190714T090202_20190715T130943_0179_047_050_1980_LN1_O_NT_002
40	S3A_OL_1_EFR____20200714T091018_20200714T091318_20200715T135843_0179_060_264_1980_LN1_O_NT_002
41	S3A_OL_1_EFR____20200809T093628_20200809T093928_20200810T135310_0179_061_250_1980_LN1_O_NT_002

42 S3A\_OL\_1\_EFR\_\_\_\_20200810T091017\_20200810T091317\_20200811T130903\_0179\_061\_264\_1980\_LN1\_O\_NT\_002  
43 S3A\_OL\_1\_EFR\_\_\_\_20200811T084406\_20200811T084706\_20200812T122605\_0179\_061\_278\_1980\_LN1\_O\_NT\_002  
44 S3A\_OL\_1\_EFR\_\_\_\_20210720T085142\_20210720T085442\_20210721T141716\_0179\_074\_164\_1980\_LN1\_O\_NT\_002  
45 S3A\_OL\_1\_EFR\_\_\_\_20220717T090637\_20220717T090937\_20220718T093609\_0180\_087\_321\_1980\_PS1\_O\_NT\_002  
46 S3A\_OL\_1\_EFR\_\_\_\_20220813T090634\_20220813T090934\_20220814T093622\_0179\_088\_321\_1980\_PS1\_O\_NT\_002  
47 S3A\_OL\_1\_EFR\_\_\_\_20220814T084023\_20220814T084323\_20220815T090940\_0179\_088\_335\_1980\_PS1\_O\_NT\_002  
48 S3A\_OL\_1\_EFR\_\_\_\_20220817T090249\_20220817T090549\_20220818T093158\_0179\_088\_378\_1980\_PS1\_O\_NT\_002  
49 S3B\_OL\_1\_EFR\_\_\_\_20180713T084714\_20180713T085014\_20200114T124512\_0180\_010\_221\_1980\_MR1\_R\_NT\_002  
50 S3B\_OL\_1\_EFR\_\_\_\_20180715T093552\_20180715T093852\_20200114T130913\_0179\_010\_250\_1980\_MR1\_R\_NT\_002  
51 S3B\_OL\_1\_EFR\_\_\_\_20180716T090941\_20180716T091241\_20200114T132237\_0179\_010\_264\_1980\_MR1\_R\_NT\_002  
52 S3B\_OL\_1\_EFR\_\_\_\_20180719T093207\_20180719T093507\_20200114T135701\_0180\_010\_307\_1980\_MR1\_R\_NT\_002  
53 S3B\_OL\_1\_EFR\_\_\_\_20180813T084326\_20180813T084626\_20200114T184746\_0180\_011\_278\_1980\_MR1\_R\_NT\_002  
54 S3B\_OL\_1\_EFR\_\_\_\_20180814T095814\_20180814T095913\_20200114T185800\_0059\_011\_293\_1980\_MR1\_R\_NT\_002  
55 S3B\_OL\_1\_EFR\_\_\_\_20190713T084538\_20190713T084838\_20200113T014625\_0180\_027\_278\_1980\_MR1\_R\_NT\_002  
56 S3B\_OL\_1\_EFR\_\_\_\_20190812T090805\_20190812T091105\_20200113T070622\_0179\_028\_321\_1980\_MR1\_R\_NT\_002  
57 S3B\_OL\_1\_EFR\_\_\_\_20190828T085306\_20190828T085606\_20200113T101005\_0179\_029\_164\_1980\_MR1\_R\_NT\_002  
58 S3B\_OL\_1\_EFR\_\_\_\_20200712T092314\_20200712T092614\_20200713T130711\_0179\_041\_093\_1980\_LN1\_O\_NT\_002  
59 S3B\_OL\_1\_EFR\_\_\_\_20200716T091929\_20200716T092229\_20200717T134147\_0179\_041\_150\_1980\_LN1\_O\_NT\_002  
60 S3B\_OL\_1\_EFR\_\_\_\_20200729T084205\_20200729T084505\_20200730T131720\_0179\_041\_335\_1980\_LN1\_O\_NT\_002  
61 S3B\_OL\_1\_EFR\_\_\_\_20200808T092314\_20200808T092614\_20200809T131832\_0179\_042\_093\_1980\_LN1\_O\_NT\_002  
62 S3B\_OL\_1\_EFR\_\_\_\_20200811T094540\_20200811T094840\_20200812T144201\_0179\_042\_136\_1980\_LN1\_O\_NT\_002  
63 S3B\_OL\_1\_EFR\_\_\_\_20200812T091929\_20200812T092229\_20200813T141503\_0179\_042\_150\_1980\_LN1\_O\_NT\_002  
64 S3B\_OL\_1\_EFR\_\_\_\_20210718T090440\_20210718T090740\_20210719T124230\_0179\_054\_378\_1980\_LN1\_O\_NT\_002  
65 S3B\_OL\_1\_EFR\_\_\_\_20210719T083830\_20210719T084130\_20210720T135525\_0179\_055\_007\_1980\_LN1\_O\_NT\_002  
66 S3B\_OL\_1\_EFR\_\_\_\_20210805T093822\_20210805T094122\_20210806T140648\_0179\_055\_250\_1980\_LN1\_O\_NT\_002  
67 S3B\_OL\_1\_EFR\_\_\_\_20210814T090443\_20210814T090743\_20210815T132126\_0180\_055\_378\_1980\_LN1\_O\_NT\_002  
68 S3B\_OL\_1\_EFR\_\_\_\_20220719T091605\_20220719T091905\_20220719T205346\_0179\_068\_207\_1980\_PS2\_O\_NT\_002  
69 S3B\_OL\_1\_EFR\_\_\_\_20220814T094215\_20220814T094515\_20220814T204958\_0179\_069\_193\_1980\_PS2\_O\_NT\_002

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Table S.2: C2RCC v1.0 Level-1 Sentinel-3 OLCI A and OLCI-B matchup products to in situ validation sample data ( $\pm 3h$ ) after data quality flags.

Product ID	Product Name
0	S3A_OL_1_EFR____20160509T085847_20160509T090147_20180207T123928_0179_004_050_1980_LR2_R_NT_002
1	S3A_OL_1_EFR____20170415T095839_20170415T100139_20180415T094024_0179_016_293_1980_LR2_R_NT_002
2	S3A_OL_1_EFR____20170421T090233_20170421T090533_20180417T054948_0179_016_378_1980_LR2_R_NT_002
3	S3A_OL_1_EFR____20170423T095110_20170423T095410_20180417T113605_0179_017_022_1980_LR2_R_NT_002
4	S3A_OL_1_EFR____20170501T094342_20170501T094642_20180418T155420_0179_017_136_1980_LR2_R_NT_002
5	S3A_OL_1_EFR____20170502T091731_20170502T092031_20180418T183256_0179_017_150_1980_LR2_R_NT_002
6	S3A_OL_1_EFR____20170518T090233_20170518T090533_20180420T221309_0179_017_378_1980_LR2_R_NT_002
7	S3A_OL_1_EFR____20170521T092500_20170521T092800_20180421T070626_0179_018_036_1980_LR2_R_NT_002
8	S3A_OL_1_EFR____20170602T091346_20170602T091646_20180423T184040_0179_018_207_1980_LR2_R_NT_002
9	S3A_OL_1_EFR____20170606T091002_20170606T091302_20180424T070336_0179_018_264_1980_LR2_R_NT_002
10	S3A_OL_1_EFR____20170614T090233_20170614T090533_20180502T232455_0179_018_378_1980_LR2_R_NT_002
11	S3A_OL_1_EFR____20170621T092115_20170621T092415_20180503T195911_0179_019_093_1980_LR2_R_NT_002
12	S3A_OL_1_EFR____20170702T093613_20170702T093913_20180505T104542_0179_019_250_1980_LR2_R_NT_002
13	S3A_OL_1_EFR____20170706T093228_20170706T093528_20180505T230053_0179_019_307_1980_LR2_R_NT_002
14	S3A_OL_1_EFR____20170707T090618_20170707T090918_20180506T014810_0179_019_321_1980_LR2_R_NT_002
15	S3A_OL_1_EFR____20170710T092844_20170710T093144_20180507T103306_0179_019_364_1980_LR2_R_NT_002
16	S3A_OL_1_EFR____20170715T085849_20170715T090149_20180508T011807_0179_020_050_1980_LR2_R_NT_002
17	S3A_OL_1_EFR____20170718T092115_20170718T092415_20180508T102049_0179_020_093_1980_LR2_R_NT_002
18	S3A_OL_1_EFR____20170719T085504_20170719T085804_20180508T131133_0179_020_107_1980_LR2_R_NT_002
19	S3A_OL_1_EFR____20170729T093613_20170729T093913_20180509T221405_0179_020_250_1980_LR2_R_NT_002
20	S3A_OL_1_EFR____20170731T084351_20170731T084651_20180510T041309_0179_020_278_1980_LR2_R_NT_002
21	S3A_OL_1_EFR____20170803T090618_20170803T090918_20180510T132136_0179_020_321_1980_LR2_R_NT_002
22	S3A_OL_1_EFR____20170807T090233_20170807T090533_20180705T152909_0179_020_378_1980_LR2_R_NT_002
23	S3A_OL_1_EFR____20170811T085849_20170811T090149_20180706T153232_0179_021_050_1980_LR2_R_NT_002
24	S3A_OL_1_EFR____20170814T092115_20170814T092415_20180707T003443_0179_021_093_1980_LR2_R_NT_002
25	S3A_OL_1_EFR____20170815T085504_20170815T085804_20180707T033735_0179_021_107_1980_LR2_R_NT_002
26	S3A_OL_1_EFR____20170817T094342_20170817T094642_20180707T094919_0180_021_136_1980_LR2_R_NT_002
27	S3A_OL_1_EFR____20170821T093957_20170821T094257_20180707T215903_0179_021_193_1980_LR2_R_NT_002
28	S3A_OL_1_EFR____20170823T084735_20170823T085035_20180708T035441_0179_021_221_1980_LR2_R_NT_002
29	S3A_OL_1_EFR____20170824T100224_20170824T100524_20180709T133034_0179_021_236_1980_LR2_R_NT_002
30	S3A_OL_1_EFR____20170828T095839_20170828T100139_20180710T053212_0179_021_293_1980_LR2_R_NT_002
31	S3A_OL_1_EFR____20170921T093613_20170921T093913_20180714T032834_0180_022_250_1980_LR2_R_NT_002
32	S3A_OL_1_EFR____20170925T093228_20170925T093528_20180716T170404_0179_022_307_1980_LR2_R_NT_002
33	S3A_OL_1_EFR____20171006T094726_20171006T095026_20180718T023713_0179_023_079_1980_LR2_R_NT_002
34	S3A_OL_1_EFR____20171009T100953_20171009T101253_20180718T140407_0179_023_122_1980_LR2_R_NT_002
35	S3A_OL_1_EFR____20180413T094726_20180413T095026_20180414T144225_0179_030_079_1980_LN1_O_NT_002
36	S3A_OL_1_EFR____20180417T094342_20180417T094642_20180418T134431_0180_030_136_1980_LN1_O_NT_002
37	S3A_OL_1_EFR____20180419T085120_20180419T085420_20180420T140315_0179_030_164_1980_LN1_O_NT_002
38	S3A_OL_1_EFR____20180504T090233_20180504T090533_20180505T140544_0179_030_378_1980_LN1_O_NT_002
39	S3A_OL_1_EFR____20190713T092513_20190713T092813_20190714T140324_0179_047_036_1980_LN1_O_NT_002
40	S3A_OL_1_EFR____20190714T085902_20190714T090202_20190715T130943_0179_047_050_1980_LN1_O_NT_002
41	S3A_OL_1_EFR____20190729T091014_20190729T091314_20190730T130726_0180_047_264_1980_LN1_O_NT_002
42	S3A_OL_1_EFR____20190822T084744_20190822T085044_20190823T121459_0179_048_221_1980_LN1_O_NT_002
43	S3A_OL_1_EFR____20200710T091403_20200710T091703_20200711T135045_0180_060_207_1980_LN1_O_NT_002
44	S3A_OL_1_EFR____20200714T091018_20200714T091318_20200715T135843_0179_060_264_1980_LN1_O_NT_002

45 S3A\_OL\_1\_EFR\_\_\_\_20200809T093628\_20200809T093928\_20200810T135310\_0179\_061\_250\_1980\_LN1\_O\_NT\_002  
46 S3A\_OL\_1\_EFR\_\_\_\_20200810T091017\_20200810T091317\_20200811T130903\_0179\_061\_264\_1980\_LN1\_O\_NT\_002  
47 S3A\_OL\_1\_EFR\_\_\_\_20200811T084406\_20200811T084706\_20200812T122605\_0179\_061\_278\_1980\_LN1\_O\_NT\_002  
48 S3A\_OL\_1\_EFR\_\_\_\_20200818T090247\_20200818T090547\_20200819T125003\_0179\_061\_378\_1980\_LN1\_O\_NT\_002  
49 S3A\_OL\_1\_EFR\_\_\_\_20210720T085142\_20210720T085442\_20210721T141716\_0179\_074\_164\_1980\_LN1\_O\_NT\_002  
50 S3A\_OL\_1\_EFR\_\_\_\_20220717T090637\_20220717T090937\_20220718T093609\_0180\_087\_321\_1980\_PS1\_O\_NT\_002  
51 S3A\_OL\_1\_EFR\_\_\_\_20220720T092902\_20220720T093202\_20220721T094907\_0179\_087\_364\_1980\_PS1\_O\_NT\_002  
52 S3A\_OL\_1\_EFR\_\_\_\_20220813T090634\_20220813T090934\_20220814T093622\_0179\_088\_321\_1980\_PS1\_O\_NT\_002  
53 S3A\_OL\_1\_EFR\_\_\_\_20220814T084023\_20220814T084323\_20220815T090940\_0179\_088\_335\_1980\_PS1\_O\_NT\_002  
54 S3A\_OL\_1\_EFR\_\_\_\_20220817T090249\_20220817T090549\_20220818T093158\_0179\_088\_378\_1980\_PS1\_O\_NT\_002  
55 S3B\_OL\_1\_EFR\_\_\_\_20180713T084714\_20180713T085014\_20200114T124512\_0180\_010\_221\_1980\_MR1\_R\_NT\_002  
56 S3B\_OL\_1\_EFR\_\_\_\_20180715T093552\_20180715T093852\_20200114T130913\_0179\_010\_250\_1980\_MR1\_R\_NT\_002  
57 S3B\_OL\_1\_EFR\_\_\_\_20180716T090941\_20180716T091241\_20200114T132237\_0179\_010\_264\_1980\_MR1\_R\_NT\_002  
58 S3B\_OL\_1\_EFR\_\_\_\_20180717T084330\_20180717T084630\_20200114T133558\_0180\_010\_278\_1980\_MR1\_R\_NT\_002  
59 S3B\_OL\_1\_EFR\_\_\_\_20180719T093207\_20180719T093507\_20200114T135701\_0180\_010\_307\_1980\_MR1\_R\_NT\_002  
60 S3B\_OL\_1\_EFR\_\_\_\_20180813T084326\_20180813T084626\_20200114T184746\_0180\_011\_278\_1980\_MR1\_R\_NT\_002  
61 S3B\_OL\_1\_EFR\_\_\_\_20180814T095814\_20180814T095913\_20200114T185800\_0059\_011\_293\_1980\_MR1\_R\_NT\_002  
62 S3B\_OL\_1\_EFR\_\_\_\_20190713T084538\_20190713T084838\_20200113T014625\_0180\_027\_278\_1980\_MR1\_R\_NT\_002  
63 S3B\_OL\_1\_EFR\_\_\_\_20190812T090805\_20190812T091105\_20200113T070622\_0179\_028\_321\_1980\_MR1\_R\_NT\_002  
64 S3B\_OL\_1\_EFR\_\_\_\_20190828T085306\_20190828T085606\_20200113T101005\_0179\_029\_164\_1980\_MR1\_R\_NT\_002  
65 S3B\_OL\_1\_EFR\_\_\_\_20200712T092314\_20200712T092614\_20200713T130711\_0179\_041\_093\_1980\_LN1\_O\_NT\_002  
66 S3B\_OL\_1\_EFR\_\_\_\_20200716T091929\_20200716T092229\_20200717T134147\_0179\_041\_150\_1980\_LN1\_O\_NT\_002  
67 S3B\_OL\_1\_EFR\_\_\_\_20200729T084205\_20200729T084505\_20200730T131720\_0179\_041\_335\_1980\_LN1\_O\_NT\_002  
68 S3B\_OL\_1\_EFR\_\_\_\_20200731T093042\_20200731T093342\_20200801T134116\_0179\_041\_364\_1980\_LN1\_O\_NT\_002  
69 S3B\_OL\_1\_EFR\_\_\_\_20200808T092314\_20200808T092614\_20200809T131832\_0179\_042\_093\_1980\_LN1\_O\_NT\_002  
70 S3B\_OL\_1\_EFR\_\_\_\_20200811T094540\_20200811T094840\_20200812T144201\_0179\_042\_136\_1980\_LN1\_O\_NT\_002  
71 S3B\_OL\_1\_EFR\_\_\_\_20200812T091929\_20200812T092229\_20200813T141503\_0179\_042\_150\_1980\_LN1\_O\_NT\_002  
72 S3B\_OL\_1\_EFR\_\_\_\_20210715T084214\_20210715T084514\_20210716T131650\_0179\_054\_335\_1980\_LN1\_O\_NT\_002  
73 S3B\_OL\_1\_EFR\_\_\_\_20210717T093051\_20210717T093351\_20210718T134138\_0179\_054\_364\_1980\_LN1\_O\_NT\_002  
74 S3B\_OL\_1\_EFR\_\_\_\_20210718T090440\_20210718T090740\_20210719T124230\_0179\_054\_378\_1980\_LN1\_O\_NT\_002  
75 S3B\_OL\_1\_EFR\_\_\_\_20210719T083830\_20210719T084130\_20210720T135525\_0179\_055\_007\_1980\_LN1\_O\_NT\_002  
76 S3B\_OL\_1\_EFR\_\_\_\_20210721T092707\_20210721T093007\_20210722T140533\_0179\_055\_036\_1980\_LN1\_O\_NT\_002  
77 S3B\_OL\_1\_EFR\_\_\_\_20210805T093822\_20210805T094122\_20210806T140648\_0179\_055\_250\_1980\_LN1\_O\_NT\_002  
78 S3B\_OL\_1\_EFR\_\_\_\_20210814T090443\_20210814T090743\_20210815T132126\_0180\_055\_378\_1980\_LN1\_O\_NT\_002  
79 S3B\_OL\_1\_EFR\_\_\_\_20210830T084945\_20210830T085245\_20210831T145935\_0179\_056\_221\_1980\_LN1\_O\_NT\_002  
80 S3B\_OL\_1\_EFR\_\_\_\_20220719T091605\_20220719T091905\_20220719T205346\_0179\_068\_207\_1980\_PS2\_O\_NT\_002  
81 S3B\_OL\_1\_EFR\_\_\_\_20220814T094215\_20220814T094515\_20220814T204958\_0179\_069\_193\_1980\_PS2\_O\_NT\_002

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Table S.3: C2RCC v2.1 non-SVC Level-1 Sentinel-3 OLCI A and OLCI-B matchup products to in situ validation sample data ( $\pm 2h$ ) after data quality flags.

Product ID	Product Name
0	S3A_OL_1_EFR____20160509T085847_20160509T090147_20180207T123928_0179_004_050_1980_LR2_R_NT_002
1	S3A_OL_1_EFR____20170415T095839_20170415T100139_20180415T094024_0179_016_293_1980_LR2_R_NT_002
2	S3A_OL_1_EFR____20170421T090233_20170421T090533_20180417T054948_0179_016_378_1980_LR2_R_NT_002
3	S3A_OL_1_EFR____20170423T095110_20170423T095410_20180417T113605_0179_017_022_1980_LR2_R_NT_002
4	S3A_OL_1_EFR____20170501T094342_20170501T094642_20180418T155420_0179_017_136_1980_LR2_R_NT_002
5	S3A_OL_1_EFR____20170502T091731_20170502T092031_20180418T183256_0179_017_150_1980_LR2_R_NT_002
6	S3A_OL_1_EFR____20170518T090233_20170518T090533_20180420T221309_0179_017_378_1980_LR2_R_NT_002
7	S3A_OL_1_EFR____20170521T092500_20170521T092800_20180421T070626_0179_018_036_1980_LR2_R_NT_002
8	S3A_OL_1_EFR____20170602T091346_20170602T091646_20180423T184040_0179_018_207_1980_LR2_R_NT_002
9	S3A_OL_1_EFR____20170606T091002_20170606T091302_20180424T070336_0179_018_264_1980_LR2_R_NT_002
10	S3A_OL_1_EFR____20170614T090233_20170614T090533_20180502T232455_0179_018_378_1980_LR2_R_NT_002
11	S3A_OL_1_EFR____20170621T092115_20170621T092415_20180503T195911_0179_019_093_1980_LR2_R_NT_002
12	S3A_OL_1_EFR____20170626T085120_20170626T085420_20180504T172950_0179_019_164_1980_LR2_R_NT_002
13	S3A_OL_1_EFR____20170702T093613_20170702T093913_20180505T104542_0179_019_250_1980_LR2_R_NT_002
14	S3A_OL_1_EFR____20170706T093228_20170706T093528_20180505T230053_0179_019_307_1980_LR2_R_NT_002
15	S3A_OL_1_EFR____20170707T090618_20170707T090918_20180506T014810_0179_019_321_1980_LR2_R_NT_002
16	S3A_OL_1_EFR____20170710T092844_20170710T093144_20180507T103306_0179_019_364_1980_LR2_R_NT_002
17	S3A_OL_1_EFR____20170718T092115_20170718T092415_20180508T102049_0179_020_093_1980_LR2_R_NT_002
18	S3A_OL_1_EFR____20170719T085504_20170719T085804_20180508T131133_0179_020_107_1980_LR2_R_NT_002
19	S3A_OL_1_EFR____20170722T091731_20170722T092031_20180508T215349_0180_020_150_1980_LR2_R_NT_002
20	S3A_OL_1_EFR____20170729T093613_20170729T093913_20180509T221405_0179_020_250_1980_LR2_R_NT_002
21	S3A_OL_1_EFR____20170731T084351_20170731T084651_20180510T041309_0179_020_278_1980_LR2_R_NT_002
22	S3A_OL_1_EFR____20170803T090618_20170803T090918_20180510T132136_0179_020_321_1980_LR2_R_NT_002
23	S3A_OL_1_EFR____20170807T090233_20170807T090533_20180705T152909_0179_020_378_1980_LR2_R_NT_002
24	S3A_OL_1_EFR____20170811T085849_20170811T090149_20180706T153232_0179_021_050_1980_LR2_R_NT_002
25	S3A_OL_1_EFR____20170814T092115_20170814T092415_20180707T003443_0179_021_093_1980_LR2_R_NT_002
26	S3A_OL_1_EFR____20170815T085504_20170815T085804_20180707T033735_0179_021_107_1980_LR2_R_NT_002
27	S3A_OL_1_EFR____20170821T093957_20170821T094257_20180707T215903_0179_021_193_1980_LR2_R_NT_002
28	S3A_OL_1_EFR____20170823T084735_20170823T085035_20180708T035441_0179_021_221_1980_LR2_R_NT_002
29	S3A_OL_1_EFR____20170824T100224_20170824T100524_20180709T133034_0179_021_236_1980_LR2_R_NT_002
30	S3A_OL_1_EFR____20170828T095839_20170828T100139_20180710T053212_0179_021_293_1980_LR2_R_NT_002
31	S3A_OL_1_EFR____20170921T093613_20170921T093913_20180714T032834_0180_022_250_1980_LR2_R_NT_002
32	S3A_OL_1_EFR____20170925T093228_20170925T093528_20180716T170404_0179_022_307_1980_LR2_R_NT_002
33	S3A_OL_1_EFR____20171006T094726_20171006T095026_20180718T023713_0179_023_079_1980_LR2_R_NT_002
34	S3A_OL_1_EFR____20171009T100953_20171009T101253_20180718T140407_0179_023_122_1980_LR2_R_NT_002
35	S3A_OL_1_EFR____20171018T093613_20171018T093913_20180719T182404_0179_023_250_1980_LR2_R_NT_002
36	S3A_OL_1_EFR____20180413T094726_20180413T095026_20180414T144225_0179_030_079_1980_LN1_O_NT_002
37	S3A_OL_1_EFR____20180417T094342_20180417T094642_20180418T134431_0180_030_136_1980_LN1_O_NT_002
38	S3A_OL_1_EFR____20180504T090233_20180504T090533_20180505T140544_0179_030_378_1980_LN1_O_NT_002
39	S3A_OL_1_EFR____20190713T092513_20190713T092813_20190714T140324_0179_047_036_1980_LN1_O_NT_002
40	S3A_OL_1_EFR____20190714T085902_20190714T090202_20190715T130943_0179_047_050_1980_LN1_O_NT_002
41	S3A_OL_1_EFR____20200714T091018_20200714T091318_20200715T135843_0179_060_264_1980_LN1_O_NT_002
42	S3A_OL_1_EFR____20200809T093628_20200809T093928_20200810T135310_0179_061_250_1980_LN1_O_NT_002
43	S3A_OL_1_EFR____20200810T091017_20200810T091317_20200811T130903_0179_061_264_1980_LN1_O_NT_002
44	S3A_OL_1_EFR____20200811T084406_20200811T084706_20200812T122605_0179_061_278_1980_LN1_O_NT_002

45 S3A\_OL\_1\_EFR\_\_\_\_20220717T090637\_20220717T090937\_20220718T093609\_0180\_087\_321\_1980\_PS1\_O\_NT\_002  
46 S3A\_OL\_1\_EFR\_\_\_\_20220720T092902\_20220720T093202\_20220721T094907\_0179\_087\_364\_1980\_PS1\_O\_NT\_002  
47 S3A\_OL\_1\_EFR\_\_\_\_20220813T090634\_20220813T090934\_20220814T093622\_0179\_088\_321\_1980\_PS1\_O\_NT\_002  
48 S3A\_OL\_1\_EFR\_\_\_\_20220814T084023\_20220814T084323\_20220815T090940\_0179\_088\_335\_1980\_PS1\_O\_NT\_002  
49 S3A\_OL\_1\_EFR\_\_\_\_20220817T090249\_20220817T090549\_20220818T093158\_0179\_088\_378\_1980\_PS1\_O\_NT\_002  
50 S3B\_OL\_1\_EFR\_\_\_\_20180713T084714\_20180713T085014\_20200114T124512\_0180\_010\_221\_1980\_MR1\_R\_NT\_002  
51 S3B\_OL\_1\_EFR\_\_\_\_20180715T093552\_20180715T093852\_20200114T130913\_0179\_010\_250\_1980\_MR1\_R\_NT\_002  
52 S3B\_OL\_1\_EFR\_\_\_\_20180716T090941\_20180716T091241\_20200114T132237\_0179\_010\_264\_1980\_MR1\_R\_NT\_002  
53 S3B\_OL\_1\_EFR\_\_\_\_20180719T093207\_20180719T093507\_20200114T135701\_0180\_010\_307\_1980\_MR1\_R\_NT\_002  
54 S3B\_OL\_1\_EFR\_\_\_\_20180813T084326\_20180813T084626\_20200114T184746\_0180\_011\_278\_1980\_MR1\_R\_NT\_002  
55 S3B\_OL\_1\_EFR\_\_\_\_20180814T095814\_20180814T095913\_20200114T185800\_0059\_011\_293\_1980\_MR1\_R\_NT\_002  
56 S3B\_OL\_1\_EFR\_\_\_\_20190713T084538\_20190713T084838\_20200113T014625\_0180\_027\_278\_1980\_MR1\_R\_NT\_002  
57 S3B\_OL\_1\_EFR\_\_\_\_20190812T090805\_20190812T091105\_20200113T070622\_0179\_028\_321\_1980\_MR1\_R\_NT\_002  
58 S3B\_OL\_1\_EFR\_\_\_\_20190828T085306\_20190828T085606\_20200113T101005\_0179\_029\_164\_1980\_MR1\_R\_NT\_002  
59 S3B\_OL\_1\_EFR\_\_\_\_20200712T092314\_20200712T092614\_20200713T130711\_0179\_041\_093\_1980\_LN1\_O\_NT\_002  
60 S3B\_OL\_1\_EFR\_\_\_\_20200729T084205\_20200729T084505\_20200730T131720\_0179\_041\_335\_1980\_LN1\_O\_NT\_002  
61 S3B\_OL\_1\_EFR\_\_\_\_20200808T092314\_20200808T092614\_20200809T131832\_0179\_042\_093\_1980\_LN1\_O\_NT\_002  
62 S3B\_OL\_1\_EFR\_\_\_\_20200812T091929\_20200812T092229\_20200813T141503\_0179\_042\_150\_1980\_LN1\_O\_NT\_002  
63 S3B\_OL\_1\_EFR\_\_\_\_20210717T093051\_20210717T093351\_20210718T134138\_0179\_054\_364\_1980\_LN1\_O\_NT\_002  
64 S3B\_OL\_1\_EFR\_\_\_\_20210718T090440\_20210718T090740\_20210719T124230\_0179\_054\_378\_1980\_LN1\_O\_NT\_002  
65 S3B\_OL\_1\_EFR\_\_\_\_20210719T083830\_20210719T084130\_20210720T135525\_0179\_055\_007\_1980\_LN1\_O\_NT\_002  
66 S3B\_OL\_1\_EFR\_\_\_\_20210805T093822\_20210805T094122\_20210806T140648\_0179\_055\_250\_1980\_LN1\_O\_NT\_002  
67 S3B\_OL\_1\_EFR\_\_\_\_20210814T090443\_20210814T090743\_20210815T132126\_0180\_055\_378\_1980\_LN1\_O\_NT\_002  
68 S3B\_OL\_1\_EFR\_\_\_\_20220719T091605\_20220719T091905\_20220719T205346\_0179\_068\_207\_1980\_PS2\_O\_NT\_002  
69 S3B\_OL\_1\_EFR\_\_\_\_20220814T094215\_20220814T094515\_20220814T204958\_0179\_069\_193\_1980\_PS2\_O\_NT\_002

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Table S.4: C2RCC v2.1 non-SVC Level-1 Sentinel-3 OLCI A and OLCI-B matchup products to in situ validation sample Data ( $\pm 3h$ ) after data quality flags.

Product ID	Product Name
0	S3A_OL_1_EFR____20160509T085847_20160509T090147_20180207T123928_0179_004_050_1980_LR2_R_NT_002
1	S3A_OL_1_EFR____20170415T095839_20170415T100139_20180415T094024_0179_016_293_1980_LR2_R_NT_002
2	S3A_OL_1_EFR____20170421T090233_20170421T090533_20180417T054948_0179_016_378_1980_LR2_R_NT_002
3	S3A_OL_1_EFR____20170423T095110_20170423T095410_20180417T113605_0179_017_022_1980_LR2_R_NT_002
4	S3A_OL_1_EFR____20170501T094342_20170501T094642_20180418T155420_0179_017_136_1980_LR2_R_NT_002
5	S3A_OL_1_EFR____20170502T091731_20170502T092031_20180418T183256_0179_017_150_1980_LR2_R_NT_002
6	S3A_OL_1_EFR____20170518T090233_20170518T090533_20180420T221309_0179_017_378_1980_LR2_R_NT_002
7	S3A_OL_1_EFR____20170521T092500_20170521T092800_20180421T070626_0179_018_036_1980_LR2_R_NT_002
8	S3A_OL_1_EFR____20170602T091346_20170602T091646_20180423T184040_0179_018_207_1980_LR2_R_NT_002
9	S3A_OL_1_EFR____20170606T091002_20170606T091302_20180424T070336_0179_018_264_1980_LR2_R_NT_002
10	S3A_OL_1_EFR____20170614T090233_20170614T090533_20180502T232455_0179_018_378_1980_LR2_R_NT_002
11	S3A_OL_1_EFR____20170621T092115_20170621T092415_20180503T195911_0179_019_093_1980_LR2_R_NT_002
12	S3A_OL_1_EFR____20170626T085120_20170626T085420_20180504T172950_0179_019_164_1980_LR2_R_NT_002
13	S3A_OL_1_EFR____20170702T093613_20170702T093913_20180505T104542_0179_019_250_1980_LR2_R_NT_002
14	S3A_OL_1_EFR____20170706T093228_20170706T093528_20180505T230053_0179_019_307_1980_LR2_R_NT_002
15	S3A_OL_1_EFR____20170707T090618_20170707T090918_20180506T014810_0179_019_321_1980_LR2_R_NT_002
16	S3A_OL_1_EFR____20170710T092844_20170710T093144_20180507T103306_0179_019_364_1980_LR2_R_NT_002
17	S3A_OL_1_EFR____20170715T085849_20170715T090149_20180508T011807_0179_020_050_1980_LR2_R_NT_002
18	S3A_OL_1_EFR____20170718T092115_20170718T092415_20180508T102049_0179_020_093_1980_LR2_R_NT_002
19	S3A_OL_1_EFR____20170719T085504_20170719T085804_20180508T131133_0179_020_107_1980_LR2_R_NT_002
20	S3A_OL_1_EFR____20170722T091731_20170722T092031_20180508T215349_0180_020_150_1980_LR2_R_NT_002
21	S3A_OL_1_EFR____20170729T093613_20170729T093913_20180509T221405_0179_020_250_1980_LR2_R_NT_002
22	S3A_OL_1_EFR____20170731T084351_20170731T084651_20180510T041309_0179_020_278_1980_LR2_R_NT_002
23	S3A_OL_1_EFR____20170803T090618_20170803T090918_20180510T132136_0179_020_321_1980_LR2_R_NT_002
24	S3A_OL_1_EFR____20170807T090233_20170807T090533_20180705T152909_0179_020_378_1980_LR2_R_NT_002
25	S3A_OL_1_EFR____20170811T085849_20170811T090149_20180706T153232_0179_021_050_1980_LR2_R_NT_002
26	S3A_OL_1_EFR____20170814T092115_20170814T092415_20180707T003443_0179_021_093_1980_LR2_R_NT_002
27	S3A_OL_1_EFR____20170815T085504_20170815T085804_20180707T033735_0179_021_107_1980_LR2_R_NT_002
28	S3A_OL_1_EFR____20170817T094342_20170817T094642_20180707T094919_0180_021_136_1980_LR2_R_NT_002
29	S3A_OL_1_EFR____20170821T093957_20170821T094257_20180707T215903_0179_021_193_1980_LR2_R_NT_002
30	S3A_OL_1_EFR____20170822T091346_20170822T091646_20180708T005920_0179_021_207_1980_LR2_R_NT_002
31	S3A_OL_1_EFR____20170823T084735_20170823T085035_20180708T035441_0179_021_221_1980_LR2_R_NT_002
32	S3A_OL_1_EFR____20170824T100224_20170824T100524_20180709T133034_0179_021_236_1980_LR2_R_NT_002
33	S3A_OL_1_EFR____20170828T095839_20170828T100139_20180710T053212_0179_021_293_1980_LR2_R_NT_002
34	S3A_OL_1_EFR____20170921T093613_20170921T093913_20180714T032834_0180_022_250_1980_LR2_R_NT_002
35	S3A_OL_1_EFR____20170925T093228_20170925T093528_20180716T170404_0179_022_307_1980_LR2_R_NT_002
36	S3A_OL_1_EFR____20171006T094726_20171006T095026_20180718T023713_0179_023_079_1980_LR2_R_NT_002
37	S3A_OL_1_EFR____20171009T100953_20171009T101253_20180718T140407_0179_023_122_1980_LR2_R_NT_002
38	S3A_OL_1_EFR____20171018T093613_20171018T093913_20180719T182404_0179_023_250_1980_LR2_R_NT_002
39	S3A_OL_1_EFR____20180413T094726_20180413T095026_20180414T144225_0179_030_079_1980_LN1_O_NT_002
40	S3A_OL_1_EFR____20180417T094342_20180417T094642_20180418T134431_0180_030_136_1980_LN1_O_NT_002
41	S3A_OL_1_EFR____20180504T090233_20180504T090533_20180505T140544_0179_030_378_1980_LN1_O_NT_002
42	S3A_OL_1_EFR____20190713T092513_20190713T092813_20190714T140324_0179_047_036_1980_LN1_O_NT_002
43	S3A_OL_1_EFR____20190714T085902_20190714T090202_20190715T130943_0179_047_050_1980_LN1_O_NT_002

44 S3A\_OL\_1\_EFR\_\_\_\_20190822T084744\_20190822T085044\_20190823T121459\_0179\_048\_221\_1980\_LN1\_O\_NT\_002  
45 S3A\_OL\_1\_EFR\_\_\_\_20200710T091403\_20200710T091703\_20200711T135045\_0180\_060\_207\_1980\_LN1\_O\_NT\_002  
46 S3A\_OL\_1\_EFR\_\_\_\_20200714T091018\_20200714T091318\_20200715T135843\_0179\_060\_264\_1980\_LN1\_O\_NT\_002  
47 S3A\_OL\_1\_EFR\_\_\_\_20200809T093628\_20200809T093928\_20200810T135310\_0179\_061\_250\_1980\_LN1\_O\_NT\_002  
48 S3A\_OL\_1\_EFR\_\_\_\_20200810T091017\_20200810T091317\_20200811T130903\_0179\_061\_264\_1980\_LN1\_O\_NT\_002  
49 S3A\_OL\_1\_EFR\_\_\_\_20200811T084406\_20200811T084706\_20200812T122605\_0179\_061\_278\_1980\_LN1\_O\_NT\_002  
50 S3A\_OL\_1\_EFR\_\_\_\_20200818T090247\_20200818T090547\_20200819T125003\_0179\_061\_378\_1980\_LN1\_O\_NT\_002  
51 S3A\_OL\_1\_EFR\_\_\_\_20210719T091753\_20210719T092053\_20210720T145540\_0180\_074\_150\_1980\_LN1\_O\_NT\_002  
52 S3A\_OL\_1\_EFR\_\_\_\_20210720T085142\_20210720T085442\_20210721T141716\_0179\_074\_164\_1980\_LN1\_O\_NT\_002  
53 S3A\_OL\_1\_EFR\_\_\_\_20220717T090637\_20220717T090937\_20220718T093609\_0180\_087\_321\_1980\_PS1\_O\_NT\_002  
54 S3A\_OL\_1\_EFR\_\_\_\_20220720T092902\_20220720T093202\_20220721T094907\_0179\_087\_364\_1980\_PS1\_O\_NT\_002  
55 S3A\_OL\_1\_EFR\_\_\_\_20220804T094015\_20220804T094315\_20220805T100931\_0180\_088\_193\_1980\_PS1\_O\_NT\_002  
56 S3A\_OL\_1\_EFR\_\_\_\_20220813T090634\_20220813T090934\_20220814T093622\_0179\_088\_321\_1980\_PS1\_O\_NT\_002  
57 S3A\_OL\_1\_EFR\_\_\_\_20220814T084023\_20220814T084323\_20220815T090940\_0179\_088\_335\_1980\_PS1\_O\_NT\_002  
58 S3A\_OL\_1\_EFR\_\_\_\_20220817T090249\_20220817T090549\_20220818T093158\_0179\_088\_378\_1980\_PS1\_O\_NT\_002  
59 S3B\_OL\_1\_EFR\_\_\_\_20180713T084714\_20180713T085014\_20200114T124512\_0180\_010\_221\_1980\_MR1\_R\_NT\_002  
60 S3B\_OL\_1\_EFR\_\_\_\_20180715T093552\_20180715T093852\_20200114T130913\_0179\_010\_250\_1980\_MR1\_R\_NT\_002  
61 S3B\_OL\_1\_EFR\_\_\_\_20180716T090941\_20180716T091241\_20200114T132237\_0179\_010\_264\_1980\_MR1\_R\_NT\_002  
62 S3B\_OL\_1\_EFR\_\_\_\_20180717T084330\_20180717T084630\_20200114T133558\_0180\_010\_278\_1980\_MR1\_R\_NT\_002  
63 S3B\_OL\_1\_EFR\_\_\_\_20180719T093207\_20180719T093507\_20200114T135701\_0180\_010\_307\_1980\_MR1\_R\_NT\_002  
64 S3B\_OL\_1\_EFR\_\_\_\_20180813T084326\_20180813T084626\_20200114T184746\_0180\_011\_278\_1980\_MR1\_R\_NT\_002  
65 S3B\_OL\_1\_EFR\_\_\_\_20180814T095814\_20180814T095913\_20200114T185800\_0059\_011\_293\_1980\_MR1\_R\_NT\_002  
66 S3B\_OL\_1\_EFR\_\_\_\_20190713T084538\_20190713T084838\_20200113T014625\_0180\_027\_278\_1980\_MR1\_R\_NT\_002  
67 S3B\_OL\_1\_EFR\_\_\_\_20190812T090805\_20190812T091105\_20200113T070622\_0179\_028\_321\_1980\_MR1\_R\_NT\_002  
68 S3B\_OL\_1\_EFR\_\_\_\_20190828T085306\_20190828T085606\_20200113T101005\_0179\_029\_164\_1980\_MR1\_R\_NT\_002  
69 S3B\_OL\_1\_EFR\_\_\_\_20200712T092314\_20200712T092614\_20200713T130711\_0179\_041\_093\_1980\_LN1\_O\_NT\_002  
70 S3B\_OL\_1\_EFR\_\_\_\_20200716T091929\_20200716T092229\_20200717T134147\_0179\_041\_150\_1980\_LN1\_O\_NT\_002  
71 S3B\_OL\_1\_EFR\_\_\_\_20200729T084205\_20200729T084505\_20200730T131720\_0179\_041\_335\_1980\_LN1\_O\_NT\_002  
72 S3B\_OL\_1\_EFR\_\_\_\_20200731T093042\_20200731T093342\_20200801T134116\_0179\_041\_364\_1980\_LN1\_O\_NT\_002  
73 S3B\_OL\_1\_EFR\_\_\_\_20200808T092314\_20200808T092614\_20200809T131832\_0179\_042\_093\_1980\_LN1\_O\_NT\_002  
74 S3B\_OL\_1\_EFR\_\_\_\_20200811T094540\_20200811T094840\_20200812T144201\_0179\_042\_136\_1980\_LN1\_O\_NT\_002  
75 S3B\_OL\_1\_EFR\_\_\_\_20200812T091929\_20200812T092229\_20200813T141503\_0179\_042\_150\_1980\_LN1\_O\_NT\_002  
76 S3B\_OL\_1\_EFR\_\_\_\_20210715T084214\_20210715T084514\_20210716T131650\_0179\_054\_335\_1980\_LN1\_O\_NT\_002  
77 S3B\_OL\_1\_EFR\_\_\_\_20210717T093051\_20210717T093351\_20210718T134138\_0179\_054\_364\_1980\_LN1\_O\_NT\_002  
78 S3B\_OL\_1\_EFR\_\_\_\_20210718T090440\_20210718T090740\_20210719T124230\_0179\_054\_378\_1980\_LN1\_O\_NT\_002  
79 S3B\_OL\_1\_EFR\_\_\_\_20210719T083830\_20210719T084130\_20210720T135525\_0179\_055\_007\_1980\_LN1\_O\_NT\_002  
80 S3B\_OL\_1\_EFR\_\_\_\_20210721T092707\_20210721T093007\_20210722T140533\_0179\_055\_036\_1980\_LN1\_O\_NT\_002  
81 S3B\_OL\_1\_EFR\_\_\_\_20210805T093822\_20210805T094122\_20210806T140648\_0179\_055\_250\_1980\_LN1\_O\_NT\_002  
82 S3B\_OL\_1\_EFR\_\_\_\_20210814T090443\_20210814T090743\_20210815T132126\_0180\_055\_378\_1980\_LN1\_O\_NT\_002  
83 S3B\_OL\_1\_EFR\_\_\_\_20210830T084945\_20210830T085245\_20210831T145935\_0179\_056\_221\_1980\_LN1\_O\_NT\_002  
84 S3B\_OL\_1\_EFR\_\_\_\_20220719T091605\_20220719T091905\_20220719T205346\_0179\_068\_207\_1980\_PS2\_O\_NT\_002  
85 S3B\_OL\_1\_EFR\_\_\_\_20220814T094215\_20220814T094515\_20220814T204958\_0179\_069\_193\_1980\_PS2\_O\_NT\_002

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Table S.5: C2RCC v2.1 SVC Level-1 Sentinel-3 OLCI A and OLCI-B matchup products to in situ validation sample data ( $\pm 2h$ ) after data quality flags.

Product ID	Product Name
0	S3A_OL_1_EFR____20160509T085847_20160509T090147_20180207T123928_0179_004_050_1980_LR2_R_NT_002
1	S3A_OL_1_EFR____20170415T095839_20170415T100139_20180415T094024_0179_016_293_1980_LR2_R_NT_002
2	S3A_OL_1_EFR____20170421T090233_20170421T090533_20180417T054948_0179_016_378_1980_LR2_R_NT_002
3	S3A_OL_1_EFR____20170423T095110_20170423T095410_20180417T113605_0179_017_022_1980_LR2_R_NT_002
4	S3A_OL_1_EFR____20170501T094342_20170501T094642_20180418T155420_0179_017_136_1980_LR2_R_NT_002
5	S3A_OL_1_EFR____20170502T091731_20170502T092031_20180418T183256_0179_017_150_1980_LR2_R_NT_002
6	S3A_OL_1_EFR____20170518T090233_20170518T090533_20180420T221309_0179_017_378_1980_LR2_R_NT_002
7	S3A_OL_1_EFR____20170521T092500_20170521T092800_20180421T070626_0179_018_036_1980_LR2_R_NT_002
8	S3A_OL_1_EFR____20170602T091346_20170602T091646_20180423T184040_0179_018_207_1980_LR2_R_NT_002
9	S3A_OL_1_EFR____20170606T091002_20170606T091302_20180424T070336_0179_018_264_1980_LR2_R_NT_002
10	S3A_OL_1_EFR____20170611T084007_20170611T084307_20180502T143700_0179_018_335_1980_LR2_R_NT_002
11	S3A_OL_1_EFR____20170614T090233_20170614T090533_20180502T232455_0179_018_378_1980_LR2_R_NT_002
12	S3A_OL_1_EFR____20170621T092115_20170621T092415_20180503T195911_0179_019_093_1980_LR2_R_NT_002
13	S3A_OL_1_EFR____20170626T085120_20170626T085420_20180504T172950_0179_019_164_1980_LR2_R_NT_002
14	S3A_OL_1_EFR____20170702T093613_20170702T093913_20180505T104542_0179_019_250_1980_LR2_R_NT_002
15	S3A_OL_1_EFR____20170706T093228_20170706T093528_20180505T230053_0179_019_307_1980_LR2_R_NT_002
16	S3A_OL_1_EFR____20170707T090618_20170707T090918_20180506T014810_0179_019_321_1980_LR2_R_NT_002
17	S3A_OL_1_EFR____20170710T092844_20170710T093144_20180507T103306_0179_019_364_1980_LR2_R_NT_002
18	S3A_OL_1_EFR____20170715T085849_20170715T090149_20180508T011807_0179_020_050_1980_LR2_R_NT_002
19	S3A_OL_1_EFR____20170718T092115_20170718T092415_20180508T102049_0179_020_093_1980_LR2_R_NT_002
20	S3A_OL_1_EFR____20170719T085504_20170719T085804_20180508T131133_0179_020_107_1980_LR2_R_NT_002
21	S3A_OL_1_EFR____20170722T091731_20170722T092031_20180508T215349_0180_020_150_1980_LR2_R_NT_002
22	S3A_OL_1_EFR____20170729T093613_20170729T093913_20180509T221405_0179_020_250_1980_LR2_R_NT_002
23	S3A_OL_1_EFR____20170731T084351_20170731T084651_20180510T041309_0179_020_278_1980_LR2_R_NT_002
24	S3A_OL_1_EFR____20170803T090618_20170803T090918_20180510T132136_0179_020_321_1980_LR2_R_NT_002
25	S3A_OL_1_EFR____20170807T090233_20170807T090533_20180705T152909_0179_020_378_1980_LR2_R_NT_002
26	S3A_OL_1_EFR____20170811T085849_20170811T090149_20180706T153232_0179_021_050_1980_LR2_R_NT_002
27	S3A_OL_1_EFR____20170814T092115_20170814T092415_20180707T003443_0179_021_093_1980_LR2_R_NT_002
28	S3A_OL_1_EFR____20170815T085504_20170815T085804_20180707T033735_0179_021_107_1980_LR2_R_NT_002
29	S3A_OL_1_EFR____20170821T093957_20170821T094257_20180707T215903_0179_021_193_1980_LR2_R_NT_002
30	S3A_OL_1_EFR____20170823T084735_20170823T085035_20180708T035441_0179_021_221_1980_LR2_R_NT_002
31	S3A_OL_1_EFR____20170824T100224_20170824T100524_20180709T133034_0179_021_236_1980_LR2_R_NT_002
32	S3A_OL_1_EFR____20170828T095839_20170828T100139_20180710T053212_0179_021_293_1980_LR2_R_NT_002
33	S3A_OL_1_EFR____20170921T093613_20170921T093913_20180714T032834_0180_022_250_1980_LR2_R_NT_002
34	S3A_OL_1_EFR____20170925T093228_20170925T093528_20180716T170404_0179_022_307_1980_LR2_R_NT_002
35	S3A_OL_1_EFR____20171009T100953_20171009T101253_20180718T140407_0179_023_122_1980_LR2_R_NT_002
36	S3A_OL_1_EFR____20171018T093613_20171018T093913_20180719T182404_0179_023_250_1980_LR2_R_NT_002
37	S3A_OL_1_EFR____20180413T094726_20180413T095026_20180414T144225_0179_030_079_1980_LN1_O_NT_002
38	S3A_OL_1_EFR____20180419T085120_20180419T085420_20180420T140315_0179_030_164_1980_LN1_O_NT_002
39	S3A_OL_1_EFR____20180504T090233_20180504T090533_20180505T140544_0179_030_378_1980_LN1_O_NT_002
40	S3A_OL_1_EFR____20190713T092513_20190713T092813_20190714T140324_0179_047_036_1980_LN1_O_NT_002
41	S3A_OL_1_EFR____20190714T085902_20190714T090202_20190715T130943_0179_047_050_1980_LN1_O_NT_002
42	S3A_OL_1_EFR____20200714T091018_20200714T091318_20200715T135843_0179_060_264_1980_LN1_O_NT_002
43	S3A_OL_1_EFR____20200809T093628_20200809T093928_20200810T135310_0179_061_250_1980_LN1_O_NT_002
44	S3A_OL_1_EFR____20200810T091017_20200810T091317_20200811T130903_0179_061_264_1980_LN1_O_NT_002

45 S3A\_OL\_1\_EFR\_\_\_\_20200811T084406\_20200811T084706\_20200812T122605\_0179\_061\_278\_1980\_LN1\_O\_NT\_002  
46 S3A\_OL\_1\_EFR\_\_\_\_20210718T094404\_20210718T094704\_20210719T134927\_0179\_074\_136\_1980\_LN1\_O\_NT\_002  
47 S3A\_OL\_1\_EFR\_\_\_\_20210720T085142\_20210720T085442\_20210721T141716\_0179\_074\_164\_1980\_LN1\_O\_NT\_002  
48 S3A\_OL\_1\_EFR\_\_\_\_20220717T090637\_20220717T090937\_20220718T093609\_0180\_087\_321\_1980\_PS1\_O\_NT\_002  
49 S3A\_OL\_1\_EFR\_\_\_\_20220720T092902\_20220720T093202\_20220721T094907\_0179\_087\_364\_1980\_PS1\_O\_NT\_002  
50 S3A\_OL\_1\_EFR\_\_\_\_20220813T090634\_20220813T090934\_20220814T093622\_0179\_088\_321\_1980\_PS1\_O\_NT\_002  
51 S3A\_OL\_1\_EFR\_\_\_\_20220814T084023\_20220814T084323\_20220815T090940\_0179\_088\_335\_1980\_PS1\_O\_NT\_002  
52 S3B\_OL\_1\_EFR\_\_\_\_20180713T084714\_20180713T085014\_20200114T124512\_0180\_010\_221\_1980\_MR1\_R\_NT\_002  
53 S3B\_OL\_1\_EFR\_\_\_\_20180715T093552\_20180715T093852\_20200114T130913\_0179\_010\_250\_1980\_MR1\_R\_NT\_002  
54 S3B\_OL\_1\_EFR\_\_\_\_20180716T090941\_20180716T091241\_20200114T132237\_0179\_010\_264\_1980\_MR1\_R\_NT\_002  
55 S3B\_OL\_1\_EFR\_\_\_\_20180719T093207\_20180719T093507\_20200114T135701\_0180\_010\_307\_1980\_MR1\_R\_NT\_002  
56 S3B\_OL\_1\_EFR\_\_\_\_20180813T084326\_20180813T084626\_20200114T184746\_0180\_011\_278\_1980\_MR1\_R\_NT\_002  
57 S3B\_OL\_1\_EFR\_\_\_\_20180814T095814\_20180814T095913\_20200114T185800\_0059\_011\_293\_1980\_MR1\_R\_NT\_002  
58 S3B\_OL\_1\_EFR\_\_\_\_20190713T084538\_20190713T084838\_20200113T014625\_0180\_027\_278\_1980\_MR1\_R\_NT\_002  
59 S3B\_OL\_1\_EFR\_\_\_\_20190812T090805\_20190812T091105\_20200113T070622\_0179\_028\_321\_1980\_MR1\_R\_NT\_002  
60 S3B\_OL\_1\_EFR\_\_\_\_20190828T085306\_20190828T085606\_20200113T101005\_0179\_029\_164\_1980\_MR1\_R\_NT\_002  
61 S3B\_OL\_1\_EFR\_\_\_\_20200712T092314\_20200712T092614\_20200713T130711\_0179\_041\_093\_1980\_LN1\_O\_NT\_002  
62 S3B\_OL\_1\_EFR\_\_\_\_20200729T084205\_20200729T084505\_20200730T131720\_0179\_041\_335\_1980\_LN1\_O\_NT\_002  
63 S3B\_OL\_1\_EFR\_\_\_\_20200808T092314\_20200808T092614\_20200809T131832\_0179\_042\_093\_1980\_LN1\_O\_NT\_002  
64 S3B\_OL\_1\_EFR\_\_\_\_20200812T091929\_20200812T092229\_20200813T141503\_0179\_042\_150\_1980\_LN1\_O\_NT\_002  
65 S3B\_OL\_1\_EFR\_\_\_\_20210718T090440\_20210718T090740\_20210719T124230\_0179\_054\_378\_1980\_LN1\_O\_NT\_002  
66 S3B\_OL\_1\_EFR\_\_\_\_20210719T083830\_20210719T084130\_20210720T135525\_0179\_055\_007\_1980\_LN1\_O\_NT\_002  
67 S3B\_OL\_1\_EFR\_\_\_\_20210805T093822\_20210805T094122\_20210806T140648\_0179\_055\_250\_1980\_LN1\_O\_NT\_002  
68 S3B\_OL\_1\_EFR\_\_\_\_20210814T090443\_20210814T090743\_20210815T132126\_0180\_055\_378\_1980\_LN1\_O\_NT\_002  
69 S3B\_OL\_1\_EFR\_\_\_\_20220719T091605\_20220719T091905\_20220719T205346\_0179\_068\_207\_1980\_PS2\_O\_NT\_002  
70 S3B\_OL\_1\_EFR\_\_\_\_20220720T084954\_20220720T085254\_20220720T204844\_0179\_068\_221\_1980\_PS2\_O\_NT\_002  
71 S3B\_OL\_1\_EFR\_\_\_\_20220814T094215\_20220814T094515\_20220814T204958\_0179\_069\_193\_1980\_PS2\_O\_NT\_002

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Table S.6: C2RCC v2.1 SVC Level-1 Sentinel-3 OLCI A and OLCI-B matchup products to in situ validation sample data ( $\pm 3h$ ) after data quality flags.

Product ID	Product Name
0	S3A_OL_1_EFR____20160509T085847_20160509T090147_20180207T123928_0179_004_050_1980_LR2_R_NT_002
1	S3A_OL_1_EFR____20170415T095839_20170415T100139_20180415T094024_0179_016_293_1980_LR2_R_NT_002
2	S3A_OL_1_EFR____20170421T090233_20170421T090533_20180417T054948_0179_016_378_1980_LR2_R_NT_002
3	S3A_OL_1_EFR____20170423T095110_20170423T095410_20180417T113605_0179_017_022_1980_LR2_R_NT_002
4	S3A_OL_1_EFR____20170501T094342_20170501T094642_20180418T155420_0179_017_136_1980_LR2_R_NT_002
5	S3A_OL_1_EFR____20170502T091731_20170502T092031_20180418T183256_0179_017_150_1980_LR2_R_NT_002
6	S3A_OL_1_EFR____20170518T090233_20170518T090533_20180420T221309_0179_017_378_1980_LR2_R_NT_002
7	S3A_OL_1_EFR____20170521T092500_20170521T092800_20180421T070626_0179_018_036_1980_LR2_R_NT_002
8	S3A_OL_1_EFR____20170602T091346_20170602T091646_20180423T184040_0179_018_207_1980_LR2_R_NT_002
9	S3A_OL_1_EFR____20170606T091002_20170606T091302_20180424T070336_0179_018_264_1980_LR2_R_NT_002
10	S3A_OL_1_EFR____20170611T084007_20170611T084307_20180502T143700_0179_018_335_1980_LR2_R_NT_002
11	S3A_OL_1_EFR____20170614T090233_20170614T090533_20180502T232455_0179_018_378_1980_LR2_R_NT_002
12	S3A_OL_1_EFR____20170621T092115_20170621T092415_20180503T195911_0179_019_093_1980_LR2_R_NT_002
13	S3A_OL_1_EFR____20170626T085120_20170626T085420_20180504T172950_0179_019_164_1980_LR2_R_NT_002
14	S3A_OL_1_EFR____20170702T093613_20170702T093913_20180505T104542_0179_019_250_1980_LR2_R_NT_002
15	S3A_OL_1_EFR____20170706T093228_20170706T093528_20180505T230053_0179_019_307_1980_LR2_R_NT_002
16	S3A_OL_1_EFR____20170707T090618_20170707T090918_20180506T014810_0179_019_321_1980_LR2_R_NT_002
17	S3A_OL_1_EFR____20170710T092844_20170710T093144_20180507T103306_0179_019_364_1980_LR2_R_NT_002
18	S3A_OL_1_EFR____20170715T085849_20170715T090149_20180508T011807_0179_020_050_1980_LR2_R_NT_002
19	S3A_OL_1_EFR____20170718T092115_20170718T092415_20180508T102049_0179_020_093_1980_LR2_R_NT_002
20	S3A_OL_1_EFR____20170719T085504_20170719T085804_20180508T131133_0179_020_107_1980_LR2_R_NT_002
21	S3A_OL_1_EFR____20170722T091731_20170722T092031_20180508T215349_0180_020_150_1980_LR2_R_NT_002
22	S3A_OL_1_EFR____20170729T093613_20170729T093913_20180509T221405_0179_020_250_1980_LR2_R_NT_002
23	S3A_OL_1_EFR____20170731T084351_20170731T084651_20180510T041309_0179_020_278_1980_LR2_R_NT_002
24	S3A_OL_1_EFR____20170803T090618_20170803T090918_20180510T132136_0179_020_321_1980_LR2_R_NT_002
25	S3A_OL_1_EFR____20170807T090233_20170807T090533_20180705T152909_0179_020_378_1980_LR2_R_NT_002
26	S3A_OL_1_EFR____20170811T085849_20170811T090149_20180706T153232_0179_021_050_1980_LR2_R_NT_002
27	S3A_OL_1_EFR____20170814T092115_20170814T092415_20180707T003443_0179_021_093_1980_LR2_R_NT_002
28	S3A_OL_1_EFR____20170815T085504_20170815T085804_20180707T033735_0179_021_107_1980_LR2_R_NT_002
29	S3A_OL_1_EFR____20170817T094342_20170817T094642_20180707T094919_0180_021_136_1980_LR2_R_NT_002
30	S3A_OL_1_EFR____20170821T093957_20170821T094257_20180707T215903_0179_021_193_1980_LR2_R_NT_002
31	S3A_OL_1_EFR____20170822T091346_20170822T091646_20180708T005920_0179_021_207_1980_LR2_R_NT_002
32	S3A_OL_1_EFR____20170823T084735_20170823T085035_20180708T035441_0179_021_221_1980_LR2_R_NT_002
33	S3A_OL_1_EFR____20170824T100224_20170824T100524_20180709T133034_0179_021_236_1980_LR2_R_NT_002
34	S3A_OL_1_EFR____20170828T095839_20170828T100139_20180710T053212_0179_021_293_1980_LR2_R_NT_002
35	S3A_OL_1_EFR____20170921T093613_20170921T093913_20180714T032834_0180_022_250_1980_LR2_R_NT_002
36	S3A_OL_1_EFR____20170925T093228_20170925T093528_20180716T170404_0179_022_307_1980_LR2_R_NT_002
37	S3A_OL_1_EFR____20171009T100953_20171009T101253_20180718T140407_0179_023_122_1980_LR2_R_NT_002
38	S3A_OL_1_EFR____20171018T093613_20171018T093913_20180719T182404_0179_023_250_1980_LR2_R_NT_002
39	S3A_OL_1_EFR____20180413T094726_20180413T095026_20180414T144225_0179_030_079_1980_LN1_O_NT_002
40	S3A_OL_1_EFR____20180419T085120_20180419T085420_20180420T140315_0179_030_164_1980_LN1_O_NT_002
41	S3A_OL_1_EFR____20180504T090233_20180504T090533_20180505T140544_0179_030_378_1980_LN1_O_NT_002
42	S3A_OL_1_EFR____20190713T092513_20190713T092813_20190714T140324_0179_047_036_1980_LN1_O_NT_002
43	S3A_OL_1_EFR____20190714T085902_20190714T090202_20190715T130943_0179_047_050_1980_LN1_O_NT_002
44	S3A_OL_1_EFR____20190729T091014_20190729T091314_20190730T130726_0180_047_264_1980_LN1_O_NT_002

45 S3A\_OL\_1\_EFR\_\_\_\_20190822T084744\_20190822T085044\_20190823T121459\_0179\_048\_221\_1980\_LN1\_O\_NT\_002  
46 S3A\_OL\_1\_EFR\_\_\_\_20200710T091403\_20200710T091703\_20200711T135045\_0180\_060\_207\_1980\_LN1\_O\_NT\_002  
47 S3A\_OL\_1\_EFR\_\_\_\_20200714T091018\_20200714T091318\_20200715T135843\_0179\_060\_264\_1980\_LN1\_O\_NT\_002  
48 S3A\_OL\_1\_EFR\_\_\_\_20200809T093628\_20200809T093928\_20200810T135310\_0179\_061\_250\_1980\_LN1\_O\_NT\_002  
49 S3A\_OL\_1\_EFR\_\_\_\_20200810T091017\_20200810T091317\_20200811T130903\_0179\_061\_264\_1980\_LN1\_O\_NT\_002  
50 S3A\_OL\_1\_EFR\_\_\_\_20200811T084406\_20200811T084706\_20200812T122605\_0179\_061\_278\_1980\_LN1\_O\_NT\_002  
51 S3A\_OL\_1\_EFR\_\_\_\_20200818T090247\_20200818T090547\_20200819T125003\_0179\_061\_378\_1980\_LN1\_O\_NT\_002  
52 S3A\_OL\_1\_EFR\_\_\_\_20210718T094404\_20210718T094704\_20210719T134927\_0179\_074\_136\_1980\_LN1\_O\_NT\_002  
53 S3A\_OL\_1\_EFR\_\_\_\_20210719T091753\_20210719T092053\_20210720T145540\_0180\_074\_150\_1980\_LN1\_O\_NT\_002  
54 S3A\_OL\_1\_EFR\_\_\_\_20210720T085142\_20210720T085442\_20210721T141716\_0179\_074\_164\_1980\_LN1\_O\_NT\_002  
55 S3A\_OL\_1\_EFR\_\_\_\_20220717T090637\_20220717T090937\_20220718T093609\_0180\_087\_321\_1980\_PS1\_O\_NT\_002  
56 S3A\_OL\_1\_EFR\_\_\_\_20220720T092902\_20220720T093202\_20220721T094907\_0179\_087\_364\_1980\_PS1\_O\_NT\_002  
57 S3A\_OL\_1\_EFR\_\_\_\_20220813T090634\_20220813T090934\_20220814T093622\_0179\_088\_321\_1980\_PS1\_O\_NT\_002  
58 S3A\_OL\_1\_EFR\_\_\_\_20220814T084023\_20220814T084323\_20220815T090940\_0179\_088\_335\_1980\_PS1\_O\_NT\_002  
59 S3A\_OL\_1\_EFR\_\_\_\_20220817T090249\_20220817T090549\_20220818T093158\_0179\_088\_378\_1980\_PS1\_O\_NT\_002  
60 S3B\_OL\_1\_EFR\_\_\_\_20180713T084714\_20180713T085014\_20200114T124512\_0180\_010\_221\_1980\_MR1\_R\_NT\_002  
61 S3B\_OL\_1\_EFR\_\_\_\_20180715T093552\_20180715T093852\_20200114T130913\_0179\_010\_250\_1980\_MR1\_R\_NT\_002  
62 S3B\_OL\_1\_EFR\_\_\_\_20180716T090941\_20180716T091241\_20200114T132237\_0179\_010\_264\_1980\_MR1\_R\_NT\_002  
63 S3B\_OL\_1\_EFR\_\_\_\_20180719T093207\_20180719T093507\_20200114T135701\_0180\_010\_307\_1980\_MR1\_R\_NT\_002  
64 S3B\_OL\_1\_EFR\_\_\_\_20180813T084326\_20180813T084626\_20200114T184746\_0180\_011\_278\_1980\_MR1\_R\_NT\_002  
65 S3B\_OL\_1\_EFR\_\_\_\_20180814T095814\_20180814T095913\_20200114T185800\_0059\_011\_293\_1980\_MR1\_R\_NT\_002  
66 S3B\_OL\_1\_EFR\_\_\_\_20190713T084538\_20190713T084838\_20200113T014625\_0180\_027\_278\_1980\_MR1\_R\_NT\_002  
67 S3B\_OL\_1\_EFR\_\_\_\_20190812T090805\_20190812T091105\_20200113T070622\_0179\_028\_321\_1980\_MR1\_R\_NT\_002  
68 S3B\_OL\_1\_EFR\_\_\_\_20190828T085306\_20190828T085606\_20200113T101005\_0179\_029\_164\_1980\_MR1\_R\_NT\_002  
69 S3B\_OL\_1\_EFR\_\_\_\_20200712T092314\_20200712T092614\_20200713T130711\_0179\_041\_093\_1980\_LN1\_O\_NT\_002  
70 S3B\_OL\_1\_EFR\_\_\_\_20200716T091929\_20200716T092229\_20200717T134147\_0179\_041\_150\_1980\_LN1\_O\_NT\_002  
71 S3B\_OL\_1\_EFR\_\_\_\_20200729T084205\_20200729T084505\_20200730T131720\_0179\_041\_335\_1980\_LN1\_O\_NT\_002  
72 S3B\_OL\_1\_EFR\_\_\_\_20200731T093042\_20200731T093342\_20200801T134116\_0179\_041\_364\_1980\_LN1\_O\_NT\_002  
73 S3B\_OL\_1\_EFR\_\_\_\_20200808T092314\_20200808T092614\_20200809T131832\_0179\_042\_093\_1980\_LN1\_O\_NT\_002  
74 S3B\_OL\_1\_EFR\_\_\_\_20200811T094540\_20200811T094840\_20200812T144201\_0179\_042\_136\_1980\_LN1\_O\_NT\_002  
75 S3B\_OL\_1\_EFR\_\_\_\_20200812T091929\_20200812T092229\_20200813T141503\_0179\_042\_150\_1980\_LN1\_O\_NT\_002  
76 S3B\_OL\_1\_EFR\_\_\_\_20210715T084214\_20210715T084514\_20210716T131650\_0179\_054\_335\_1980\_LN1\_O\_NT\_002  
77 S3B\_OL\_1\_EFR\_\_\_\_20210717T093051\_20210717T093351\_20210718T134138\_0179\_054\_364\_1980\_LN1\_O\_NT\_002  
78 S3B\_OL\_1\_EFR\_\_\_\_20210718T090440\_20210718T090740\_20210719T124230\_0179\_054\_378\_1980\_LN1\_O\_NT\_002  
79 S3B\_OL\_1\_EFR\_\_\_\_20210719T083830\_20210719T084130\_20210720T135525\_0179\_055\_007\_1980\_LN1\_O\_NT\_002  
80 S3B\_OL\_1\_EFR\_\_\_\_20210805T093822\_20210805T094122\_20210806T140648\_0179\_055\_250\_1980\_LN1\_O\_NT\_002  
81 S3B\_OL\_1\_EFR\_\_\_\_20210814T090443\_20210814T090743\_20210815T132126\_0180\_055\_378\_1980\_LN1\_O\_NT\_002  
82 S3B\_OL\_1\_EFR\_\_\_\_20210830T084945\_20210830T085245\_20210831T145935\_0179\_056\_221\_1980\_LN1\_O\_NT\_002  
83 S3B\_OL\_1\_EFR\_\_\_\_20220719T091605\_20220719T091905\_20220719T205346\_0179\_068\_207\_1980\_PS2\_O\_NT\_002  
84 S3B\_OL\_1\_EFR\_\_\_\_20220720T084954\_20220720T085254\_20220720T204844\_0179\_068\_221\_1980\_PS2\_O\_NT\_002  
85 S3B\_OL\_1\_EFR\_\_\_\_20220814T094215\_20220814T094515\_20220814T204958\_0179\_069\_193\_1980\_PS2\_O\_NT\_002

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Table S.7: EUMETSAT Level-2 Sentinel-3 OLCI A and OLCI-B matchup products to in situ validation sample data ( $\pm 2h$ ) after data quality flags.

Product ID	Product Name
0	S3A_OL_2_WFR____20160509T085842_20160509T090042_20210705T020354_0119_004_050____MAR_R_NT_003
1	S3A_OL_2_WFR____20170415T095837_20170415T100037_20210713T233043_0119_016_293____MAR_R_NT_003
2	S3A_OL_2_WFR____20170421T090231_20170421T090431_20210713T111002_0119_016_378____MAR_R_NT_003
3	S3A_OL_2_WFR____20170423T095109_20170423T095309_20210713T190846_0119_017_022____MAR_R_NT_003
4	S3A_OL_2_WFR____20170501T094341_20170501T094541_20210714T212943_0119_017_136____MAR_R_NT_003
5	S3A_OL_2_WFR____20170502T091729_20170502T091929_20210714T004643_0119_017_150____MAR_R_NT_003
6	S3A_OL_2_WFR____20170518T090236_20170518T090436_20210714T042913_0119_017_378____MAR_R_NT_003
7	S3A_OL_2_WFR____20170521T092502_20170521T092702_20210714T084358_0119_018_036____MAR_R_NT_003
8	S3A_OL_2_WFR____20170602T091349_20170602T091549_20210714T181207_0119_018_207____MAR_R_NT_003
9	S3A_OL_2_WFR____20170606T091004_20170606T091204_20210715T195403_0119_018_264____MAR_R_NT_003
10	S3A_OL_2_WFR____20170614T090237_20170614T090437_20210715T081428_0119_018_378____MAR_R_NT_003
11	S3A_OL_2_WFR____20170626T085125_20170626T085325_20210715T205353_0119_019_164____MAR_R_NT_003
12	S3A_OL_2_WFR____20170702T093615_20170702T093815_20210716T001130_0119_019_250____MAR_R_NT_003
13	S3A_OL_2_WFR____20170706T093230_20170706T093430_20210716T175308_0119_019_307____MAR_R_NT_003
14	S3A_OL_2_WFR____20170707T090618_20170707T090818_20210716T222353_0119_019_321____MAR_R_NT_003
15	S3A_OL_2_WFR____20170710T092845_20170710T093045_20210716T212329_0119_019_364____MAR_R_NT_003
16	S3A_OL_2_WFR____20170715T085850_20170715T090050_20210716T093153_0119_020_050____MAR_R_NT_003
17	S3A_OL_2_WFR____20170718T092115_20170718T092315_20210716T014718_0119_020_093____MAR_R_NT_003
18	S3A_OL_2_WFR____20170719T085506_20170719T085706_20210715T090427_0119_020_107____MAR_R_NT_003
19	S3A_OL_2_WFR____20170722T091730_20170722T091930_20210716T203158_0119_020_150____MAR_R_NT_003
20	S3A_OL_2_WFR____20170729T093613_20170729T093813_20210716T220307_0119_020_250____MAR_R_NT_003
21	S3A_OL_2_WFR____20170731T084354_20170731T084554_20210716T235834_0119_020_278____MAR_R_NT_003
22	S3A_OL_2_WFR____20170803T090616_20170803T090816_20210717T100215_0119_020_321____MAR_R_NT_003
23	S3A_OL_2_WFR____20170807T090232_20170807T090432_20210717T130708_0119_020_378____MAR_R_NT_003
24	S3A_OL_2_WFR____20170811T085848_20170811T090048_20210717T003142_0119_021_050____MAR_R_NT_003
25	S3A_OL_2_WFR____20170814T092113_20170814T092313_20210716T190525_0119_021_093____MAR_R_NT_003
26	S3A_OL_2_WFR____20170815T085504_20170815T085704_20210717T004204_0119_021_107____MAR_R_NT_003
27	S3A_OL_2_WFR____20170817T094340_20170817T094540_20210716T025550_0119_021_136____MAR_R_NT_003
28	S3A_OL_2_WFR____20170821T093955_20170821T094155_20210716T123309_0119_021_193____MAR_R_NT_003
29	S3A_OL_2_WFR____20170823T084735_20170823T084935_20210716T174004_0119_021_221____MAR_R_NT_003
30	S3A_OL_2_WFR____20170824T100220_20170824T100420_20210716T095528_0119_021_236____MAR_R_NT_003
31	S3A_OL_2_WFR____20170828T095835_20170828T100035_20210717T021532_0119_021_293____MAR_R_NT_003
32	S3A_OL_2_WFR____20170921T093602_20170921T093802_20210726T074815_0119_022_250____MAR_R_NT_003
33	S3A_OL_2_WFR____20170925T093248_20170925T093448_20210717T054849_0119_022_307____MAR_R_NT_003
34	S3A_OL_2_WFR____20171006T094709_20171006T094909_20210727T105045_0119_023_079____MAR_R_NT_003
35	S3A_OL_2_WFR____20171009T100958_20171009T101158_20210727T085938_0119_023_122____MAR_R_NT_003
36	S3A_OL_2_WFR____20171018T093523_20171018T093723_20210717T154113_0119_023_250____MAR_R_NT_003
37	S3A_OL_2_WFR____20180413T094726_20180413T095026_20210812T073003_0180_030_079____MAR_R_NT_003
38	S3A_OL_2_WFR____20180417T094342_20180417T094642_20210811T232512_0180_030_136____MAR_R_NT_003
39	S3A_OL_2_WFR____20180504T090233_20180504T090533_20211119T050906_0180_030_378____MAR_R_NT_003
40	S3A_OL_2_WFR____20180713T084736_20180713T085036_20211121T210931_0179_033_221____MAR_R_NT_003
41	S3A_OL_2_WFR____20180715T093613_20180715T093913_20211121T192920_0180_033_250____MAR_R_NT_003
42	S3A_OL_2_WFR____20180716T091002_20180716T091302_20211122T014537_0179_033_264____MAR_R_NT_003
43	S3A_OL_2_WFR____20180719T093229_20180719T093529_20211121T095859_0179_033_307____MAR_R_NT_003
44	S3A_OL_2_WFR____20180813T084351_20180813T084651_20211126T092349_0180_034_278____MAR_R_NT_003

45	S3A_OL_2_WFR	20180814T095840_20180814T100140_20211126T000113_0180_034_293	MAR_R_NT_003
46	S3A_OL_2_WFR	20190713T092513_20190713T092813_20211130T012517_0179_047_036	MAR_R_NT_003
47	S3A_OL_2_WFR	20190714T085902_20190714T090202_20211129T231858_0180_047_050	MAR_R_NT_003
48	S3A_OL_2_WFR	20190812T094736_20190812T095036_20220107T082856_0180_048_079	MAR_R_NT_003
49	S3A_OL_2_WFR	20200714T091018_20200714T091318_20210613T192135_0180_060_264	MAR_R_NT_003
50	S3A_OL_2_WFR	20200729T092131_20200729T092431_20210614T154811_0179_061_093	MAR_R_NT_003
51	S3A_OL_2_WFR	20200808T100239_20200808T100539_20210612T191901_0180_061_236	MAR_R_NT_003
52	S3A_OL_2_WFR	20200809T093628_20200809T093928_20210613T060255_0179_061_250	MAR_R_NT_003
53	S3A_OL_2_WFR	20200810T091017_20200810T091317_20210613T124239_0180_061_264	MAR_R_NT_003
54	S3A_OL_2_WFR	20200811T084406_20200811T084706_20210612T221614_0180_061_278	MAR_R_NT_003
55	S3A_OL_2_WFR	20200812T095854_20200812T100154_20210613T063942_0180_061_293	MAR_R_NT_003
56	S3A_OL_2_WFR	20210718T094404_20210718T094704_20210719T215244_0179_074_136_1980	MAR_O_NT_003
57	S3A_OL_2_WFR	20210830T092901_20210830T093201_20210831T210746_0179_075_364_1980	MAR_O_NT_003
58	S3A_OL_2_WFR	20220717T090637_20220717T090937_20220718T202348_0180_087_321_1980	MAR_O_NT_003
59	S3A_OL_2_WFR	20220719T095513_20220719T095813_20220721T003249_0179_087_350_1980	MAR_O_NT_003
60	S3A_OL_2_WFR	20220720T092902_20220720T093202_20220721T220552_0179_087_364_1980	MAR_O_NT_003
61	S3A_OL_2_WFR	20220814T084023_20220814T084323_20220815T190114_0179_088_335_1980	MAR_O_NT_003
62	S3A_OL_2_WFR	20220817T090249_20220817T090549_20220818T205911_0179_088_378_1980	MAR_O_NT_003
63	S3B_OL_2_WFR	20180713T084714_20180713T085014_20210819T074110_0180_010_221	MAR_R_NT_003
64	S3B_OL_2_WFR	20180715T093552_20180715T093852_20210819T060145_0179_010_250	MAR_R_NT_003
65	S3B_OL_2_WFR	20180716T090941_20180716T091241_20210819T114155_0180_010_264	MAR_R_NT_003
66	S3B_OL_2_WFR	20180719T093207_20180719T093507_20210717T211741_0179_010_307	MAR_R_NT_003
67	S3B_OL_2_WFR	20180813T084326_20180813T084626_20210820T024025_0180_011_278	MAR_R_NT_003
68	S3B_OL_2_WFR	20180814T095814_20180814T095913_20210819T222323_0059_011_293	MAR_R_NT_003
69	S3B_OL_2_WFR	20190812T090805_20190812T091105_20210815T045801_0179_028_321	MAR_R_NT_003
70	S3B_OL_2_WFR	20190828T085306_20190828T085606_20210815T002854_0180_029_164	MAR_R_NT_003
71	S3B_OL_2_WFR	20200712T092314_20200712T092614_20210615T013756_0179_041_093	MAR_R_NT_003
72	S3B_OL_2_WFR	20200729T084205_20200729T084505_20210615T094939_0180_041_335	MAR_R_NT_003
73	S3B_OL_2_WFR	20200808T092314_20200808T092614_20210613T021446_0179_042_093	MAR_R_NT_003
74	S3B_OL_2_WFR	20200809T085703_20200809T090003_20210613T121017_0180_042_107	MAR_R_NT_003
75	S3B_OL_2_WFR	20200812T091929_20200812T092229_20210613T130644_0179_042_150	MAR_R_NT_003
76	S3B_OL_2_WFR	20210718T090440_20210718T090740_20210719T214933_0179_054_378_1980	MAR_O_NT_003
77	S3B_OL_2_WFR	20210719T083830_20210719T084130_20210720T182258_0179_055_007_1980	MAR_O_NT_003
78	S3B_OL_2_WFR	20220719T091605_20220719T091905_20220720T212245_0179_068_207_1980	MAR_O_NT_003
79	S3B_OL_2_WFR	20220720T084954_20220720T085254_20220721T214327_0179_068_221_1980	MAR_O_NT_003

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Table S.8: EUMETSAT Level-2 Sentinel-3 OLCI A and OLCI-B matchup products to in situ validation sample data ( $\pm 3h$ ) after data quality flags.

Product ID	Product Name
0	S3A_OL_2_WFR____20160509T085842_20160509T090042_20210705T020354_0119_004_050____MAR_R_NT_003
1	S3A_OL_2_WFR____20170415T095837_20170415T100037_20210713T233043_0119_016_293____MAR_R_NT_003
2	S3A_OL_2_WFR____20170421T090231_20170421T090431_20210713T111002_0119_016_378____MAR_R_NT_003
3	S3A_OL_2_WFR____20170423T095109_20170423T095309_20210713T190846_0119_017_022____MAR_R_NT_003
4	S3A_OL_2_WFR____20170501T094341_20170501T094541_20210714T212943_0119_017_136____MAR_R_NT_003
5	S3A_OL_2_WFR____20170502T091729_20170502T091929_20210714T004643_0119_017_150____MAR_R_NT_003
6	S3A_OL_2_WFR____20170518T090236_20170518T090436_20210714T042913_0119_017_378____MAR_R_NT_003
7	S3A_OL_2_WFR____20170521T092502_20170521T092702_20210714T084358_0119_018_036____MAR_R_NT_003
8	S3A_OL_2_WFR____20170602T091349_20170602T091549_20210714T181207_0119_018_207____MAR_R_NT_003
9	S3A_OL_2_WFR____20170606T091004_20170606T091204_20210715T195403_0119_018_264____MAR_R_NT_003
10	S3A_OL_2_WFR____20170614T090237_20170614T090437_20210715T081428_0119_018_378____MAR_R_NT_003
11	S3A_OL_2_WFR____20170626T085125_20170626T085325_20210715T205353_0119_019_164____MAR_R_NT_003
12	S3A_OL_2_WFR____20170702T093615_20170702T093815_20210716T001130_0119_019_250____MAR_R_NT_003
13	S3A_OL_2_WFR____20170706T093230_20170706T093430_20210716T175308_0119_019_307____MAR_R_NT_003
14	S3A_OL_2_WFR____20170707T090618_20170707T090818_20210716T222353_0119_019_321____MAR_R_NT_003
15	S3A_OL_2_WFR____20170710T092845_20170710T093045_20210716T212329_0119_019_364____MAR_R_NT_003
16	S3A_OL_2_WFR____20170715T085850_20170715T090050_20210716T093153_0119_020_050____MAR_R_NT_003
17	S3A_OL_2_WFR____20170718T092115_20170718T092315_20210716T014718_0119_020_093____MAR_R_NT_003
18	S3A_OL_2_WFR____20170719T085506_20170719T085706_20210715T090427_0119_020_107____MAR_R_NT_003
19	S3A_OL_2_WFR____20170722T091730_20170722T091930_20210716T203158_0119_020_150____MAR_R_NT_003
20	S3A_OL_2_WFR____20170729T093613_20170729T093813_20210716T220307_0119_020_250____MAR_R_NT_003
21	S3A_OL_2_WFR____20170731T084354_20170731T084554_20210716T235834_0119_020_278____MAR_R_NT_003
22	S3A_OL_2_WFR____20170803T090616_20170803T090816_20210717T100215_0119_020_321____MAR_R_NT_003
23	S3A_OL_2_WFR____20170807T090232_20170807T090432_20210717T130708_0119_020_378____MAR_R_NT_003
24	S3A_OL_2_WFR____20170811T085848_20170811T090048_20210717T003142_0119_021_050____MAR_R_NT_003
25	S3A_OL_2_WFR____20170814T092113_20170814T092313_20210716T190525_0119_021_093____MAR_R_NT_003
26	S3A_OL_2_WFR____20170815T085504_20170815T085704_20210717T004204_0119_021_107____MAR_R_NT_003
27	S3A_OL_2_WFR____20170817T094340_20170817T094540_20210716T025550_0119_021_136____MAR_R_NT_003
28	S3A_OL_2_WFR____20170821T093955_20170821T094155_20210716T123309_0119_021_193____MAR_R_NT_003
29	S3A_OL_2_WFR____20170822T091342_20170822T091542_20210717T111533_0119_021_207____MAR_R_NT_003
30	S3A_OL_2_WFR____20170823T084735_20170823T084935_20210716T174004_0119_021_221____MAR_R_NT_003
31	S3A_OL_2_WFR____20170824T100220_20170824T100420_20210716T095528_0119_021_236____MAR_R_NT_003
32	S3A_OL_2_WFR____20170828T095835_20170828T100035_20210717T021532_0119_021_293____MAR_R_NT_003
33	S3A_OL_2_WFR____20170921T093602_20170921T093802_20210726T074815_0119_022_250____MAR_R_NT_003
34	S3A_OL_2_WFR____20170925T093248_20170925T093448_20210717T054849_0119_022_307____MAR_R_NT_003
35	S3A_OL_2_WFR____20171006T094709_20171006T094909_20210727T105045_0119_023_079____MAR_R_NT_003
36	S3A_OL_2_WFR____20171009T100958_20171009T101158_20210727T085938_0119_023_122____MAR_R_NT_003
37	S3A_OL_2_WFR____20171018T093523_20171018T093723_20210717T154113_0119_023_250____MAR_R_NT_003
38	S3A_OL_2_WFR____20180413T094726_20180413T095026_20210812T073003_0180_030_079____MAR_R_NT_003
39	S3A_OL_2_WFR____20180417T094342_20180417T094642_20210811T232512_0180_030_136____MAR_R_NT_003
40	S3A_OL_2_WFR____20180504T090233_20180504T090533_20211119T050906_0180_030_378____MAR_R_NT_003
41	S3A_OL_2_WFR____20180713T084736_20180713T085036_20211121T210931_0179_033_221____MAR_R_NT_003
42	S3A_OL_2_WFR____20180715T093613_20180715T093913_20211121T192920_0180_033_250____MAR_R_NT_003
43	S3A_OL_2_WFR____20180716T091002_20180716T091302_20211122T014537_0179_033_264____MAR_R_NT_003
44	S3A_OL_2_WFR____20180717T084351_20180717T084651_20211121T100356_0180_033_278____MAR_R_NT_003

45 S3A\_OL\_2\_WFR\_\_\_\_20180719T093229\_20180719T093529\_20211121T095859\_0179\_033\_307\_\_\_\_MAR\_R\_NT\_003  
46 S3A\_OL\_2\_WFR\_\_\_\_20180813T084351\_20180813T084651\_20211126T092349\_0180\_034\_278\_\_\_\_MAR\_R\_NT\_003  
47 S3A\_OL\_2\_WFR\_\_\_\_20180814T095840\_20180814T100140\_20211126T000113\_0180\_034\_293\_\_\_\_MAR\_R\_NT\_003  
48 S3A\_OL\_2\_WFR\_\_\_\_20190713T092513\_20190713T092813\_20211130T012517\_0179\_047\_036\_\_\_\_MAR\_R\_NT\_003  
49 S3A\_OL\_2\_WFR\_\_\_\_20190714T085902\_20190714T090202\_20211129T231858\_0180\_047\_050\_\_\_\_MAR\_R\_NT\_003  
50 S3A\_OL\_2\_WFR\_\_\_\_20190812T094736\_20190812T095036\_20220107T082856\_0180\_048\_079\_\_\_\_MAR\_R\_NT\_003  
51 S3A\_OL\_2\_WFR\_\_\_\_20190822T084744\_20190822T085044\_20220107T112100\_0179\_048\_221\_\_\_\_MAR\_R\_NT\_003  
52 S3A\_OL\_2\_WFR\_\_\_\_20190828T093236\_20190828T093536\_20220107T034257\_0179\_048\_307\_\_\_\_MAR\_R\_NT\_003  
53 S3A\_OL\_2\_WFR\_\_\_\_20200710T091403\_20200710T091703\_20210614T144637\_0179\_060\_207\_\_\_\_MAR\_R\_NT\_003  
54 S3A\_OL\_2\_WFR\_\_\_\_20200714T091018\_20200714T091318\_20210613T192135\_0180\_060\_264\_\_\_\_MAR\_R\_NT\_003  
55 S3A\_OL\_2\_WFR\_\_\_\_20200729T092131\_20200729T092431\_20210614T154811\_0179\_061\_093\_\_\_\_MAR\_R\_NT\_003  
56 S3A\_OL\_2\_WFR\_\_\_\_20200808T100239\_20200808T100539\_20210612T191901\_0180\_061\_236\_\_\_\_MAR\_R\_NT\_003  
57 S3A\_OL\_2\_WFR\_\_\_\_20200809T093628\_20200809T093928\_20210613T060255\_0179\_061\_250\_\_\_\_MAR\_R\_NT\_003  
58 S3A\_OL\_2\_WFR\_\_\_\_20200810T091017\_20200810T091317\_20210613T124239\_0180\_061\_264\_\_\_\_MAR\_R\_NT\_003  
59 S3A\_OL\_2\_WFR\_\_\_\_20200811T084406\_20200811T084706\_20210612T221614\_0180\_061\_278\_\_\_\_MAR\_R\_NT\_003  
60 S3A\_OL\_2\_WFR\_\_\_\_20200812T095854\_20200812T100154\_20210613T063942\_0180\_061\_293\_\_\_\_MAR\_R\_NT\_003  
61 S3A\_OL\_2\_WFR\_\_\_\_20200818T090247\_20200818T090547\_20210612T113633\_0179\_061\_378\_\_\_\_MAR\_R\_NT\_003  
62 S3A\_OL\_2\_WFR\_\_\_\_20210718T094404\_20210718T094704\_20210719T215244\_0179\_074\_136\_1980\_MAR\_O\_NT\_003  
63 S3A\_OL\_2\_WFR\_\_\_\_20210719T091753\_20210719T092053\_20210720T210318\_0180\_074\_150\_1980\_MAR\_O\_NT\_003  
64 S3A\_OL\_2\_WFR\_\_\_\_20210721T100630\_20210721T100930\_20210722T232545\_0179\_074\_179\_1980\_MAR\_O\_NT\_003  
65 S3A\_OL\_2\_WFR\_\_\_\_20210830T092901\_20210830T093201\_20210831T210746\_0179\_075\_364\_1980\_MAR\_O\_NT\_003  
66 S3A\_OL\_2\_WFR\_\_\_\_20220717T090637\_20220717T090937\_20220718T202348\_0180\_087\_321\_1980\_MAR\_O\_NT\_003  
67 S3A\_OL\_2\_WFR\_\_\_\_20220719T095513\_20220719T095813\_20220721T003249\_0179\_087\_350\_1980\_MAR\_O\_NT\_003  
68 S3A\_OL\_2\_WFR\_\_\_\_20220720T092902\_20220720T093202\_20220721T220552\_0179\_087\_364\_1980\_MAR\_O\_NT\_003  
69 S3A\_OL\_2\_WFR\_\_\_\_20220813T090634\_20220813T090934\_20220814T205824\_0179\_088\_321\_1980\_MAR\_O\_NT\_003  
70 S3A\_OL\_2\_WFR\_\_\_\_20220814T084023\_20220814T084323\_20220815T190114\_0179\_088\_335\_1980\_MAR\_O\_NT\_003  
71 S3A\_OL\_2\_WFR\_\_\_\_20220817T090249\_20220817T090549\_20220818T205911\_0179\_088\_378\_1980\_MAR\_O\_NT\_003  
72 S3B\_OL\_2\_WFR\_\_\_\_20180713T084714\_20180713T085014\_20210819T074110\_0180\_010\_221\_\_\_\_MAR\_R\_NT\_003  
73 S3B\_OL\_2\_WFR\_\_\_\_20180715T093552\_20180715T093852\_20210819T060145\_0179\_010\_250\_\_\_\_MAR\_R\_NT\_003  
74 S3B\_OL\_2\_WFR\_\_\_\_20180716T090941\_20180716T091241\_20210819T114155\_0180\_010\_264\_\_\_\_MAR\_R\_NT\_003  
75 S3B\_OL\_2\_WFR\_\_\_\_20180719T093207\_20180719T093507\_20210717T211741\_0179\_010\_307\_\_\_\_MAR\_R\_NT\_003  
76 S3B\_OL\_2\_WFR\_\_\_\_20180813T084326\_20180813T084626\_20210820T024025\_0180\_011\_278\_\_\_\_MAR\_R\_NT\_003  
77 S3B\_OL\_2\_WFR\_\_\_\_20180814T095814\_20180814T095913\_20210819T222323\_0059\_011\_293\_\_\_\_MAR\_R\_NT\_003  
78 S3B\_OL\_2\_WFR\_\_\_\_20190812T090805\_20190812T091105\_20210815T045801\_0179\_028\_321\_\_\_\_MAR\_R\_NT\_003  
79 S3B\_OL\_2\_WFR\_\_\_\_20190828T085306\_20190828T085606\_20210815T002854\_0180\_029\_164\_\_\_\_MAR\_R\_NT\_003  
80 S3B\_OL\_2\_WFR\_\_\_\_20200712T092314\_20200712T092614\_20210615T013756\_0179\_041\_093\_\_\_\_MAR\_R\_NT\_003  
81 S3B\_OL\_2\_WFR\_\_\_\_20200716T091929\_20200716T092229\_20210615T023641\_0179\_041\_150\_\_\_\_MAR\_R\_NT\_003  
82 S3B\_OL\_2\_WFR\_\_\_\_20200729T084205\_20200729T084505\_20210615T094939\_0180\_041\_335\_\_\_\_MAR\_R\_NT\_003  
83 S3B\_OL\_2\_WFR\_\_\_\_20200808T092314\_20200808T092614\_20210613T021446\_0179\_042\_093\_\_\_\_MAR\_R\_NT\_003  
84 S3B\_OL\_2\_WFR\_\_\_\_20200809T085703\_20200809T090003\_20210613T121017\_0180\_042\_107\_\_\_\_MAR\_R\_NT\_003  
85 S3B\_OL\_2\_WFR\_\_\_\_20200811T094540\_20200811T094840\_20210613T040835\_0180\_042\_136\_\_\_\_MAR\_R\_NT\_003  
86 S3B\_OL\_2\_WFR\_\_\_\_20200812T091929\_20200812T092229\_20210613T130644\_0179\_042\_150\_\_\_\_MAR\_R\_NT\_003  
87 S3B\_OL\_2\_WFR\_\_\_\_20210715T084214\_20210715T084514\_20210716T201048\_0179\_054\_335\_1980\_MAR\_O\_NT\_003  
88 S3B\_OL\_2\_WFR\_\_\_\_20210717T093051\_20210717T093351\_20210718T215248\_0179\_054\_364\_1980\_MAR\_O\_NT\_003  
89 S3B\_OL\_2\_WFR\_\_\_\_20210718T090440\_20210718T090740\_20210719T214933\_0179\_054\_378\_1980\_MAR\_O\_NT\_003  
90 S3B\_OL\_2\_WFR\_\_\_\_20210719T083830\_20210719T084130\_20210720T182258\_0179\_055\_007\_1980\_MAR\_O\_NT\_003  
91 S3B\_OL\_2\_WFR\_\_\_\_20210830T084945\_20210830T085245\_20210831T201729\_0179\_056\_221\_1980\_MAR\_O\_NT\_003  
92 S3B\_OL\_2\_WFR\_\_\_\_20220719T091605\_20220719T091905\_20220720T212245\_0179\_068\_207\_1980\_MAR\_O\_NT\_003



93	S3B_OL_2_WFR____20220720T084954_20220720T085254_20220721T214327_0179_068_221_1980_MAR_O_NT_003
94	S3B_OL_2_WFR____20220814T094215_20220814T094515_20220815T214828_0179_069_193_1980_MAR_O_NT_003
95	S3B_OL_2_WFR____20220817T100442_20220817T100742_20220818T211527_0179_069_236_1980_MAR_O_NT_003

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Table S.9: S3A SVC gains applied to Level-1 radiance bands (adapted from Sentinel-3 OLCI L2 report for baseline collection OL\_L2M\_003).

<b>VIS bands</b>	400nm Oa01_rad	412.5nm Oa02_rad	442.5nm Oa03_rad	490nm Oa04_rad	510nm Oa05_rad	560nm Oa06_rad	620nm Oa07_rad	665nm Oa08_rad	673.75nm Oa09_rad	681.25nm Oa10_rad
<b>SVC Gain</b>	0.97546	0.97406	0.97492	0.96890	0.97184	0.97571	0.98001	0.97834	0.97860	0.97908

<b>NIR Bands</b>	708.75nm Oa11_rad	753.75nm Oa12_rad	761.25nm Oa13_rad	764.375nm Oa14_rad	767.5nm Oa15_rad	778.75nm Oa16_rad	865nm Oa17_rad	885nm Oa18_rad	900nm Oa19_rad	940nm Oa20_rad	1020nm Oa21_rad
<b>SVC Gain</b>	0.98013	0.98552	1	1	1	0.98772	0.98600	0.98657	1	1	0.91316

Table S.10: S3B SVC gains applied to Level-1 radiance bands (adapted from Sentinel-3 OLCI L2 report for baseline collection OL\_L2M\_003).

<b>VIS bands</b>	400nm Oa01_rad	412.5nm Oa02_rad	442.5nm Oa03_rad	490nm Oa04_rad	510nm Oa05_rad	560nm Oa06_rad	620nm Oa07_rad	665nm Oa08_rad	673.75nm Oa09_rad	681.25nm Oa10_rad
<b>SVC Gain</b>	0.99458	0.99010	0.99221	0.98620	0.98898	0.99114	0.99769	0.99684	0.99716	0.99802

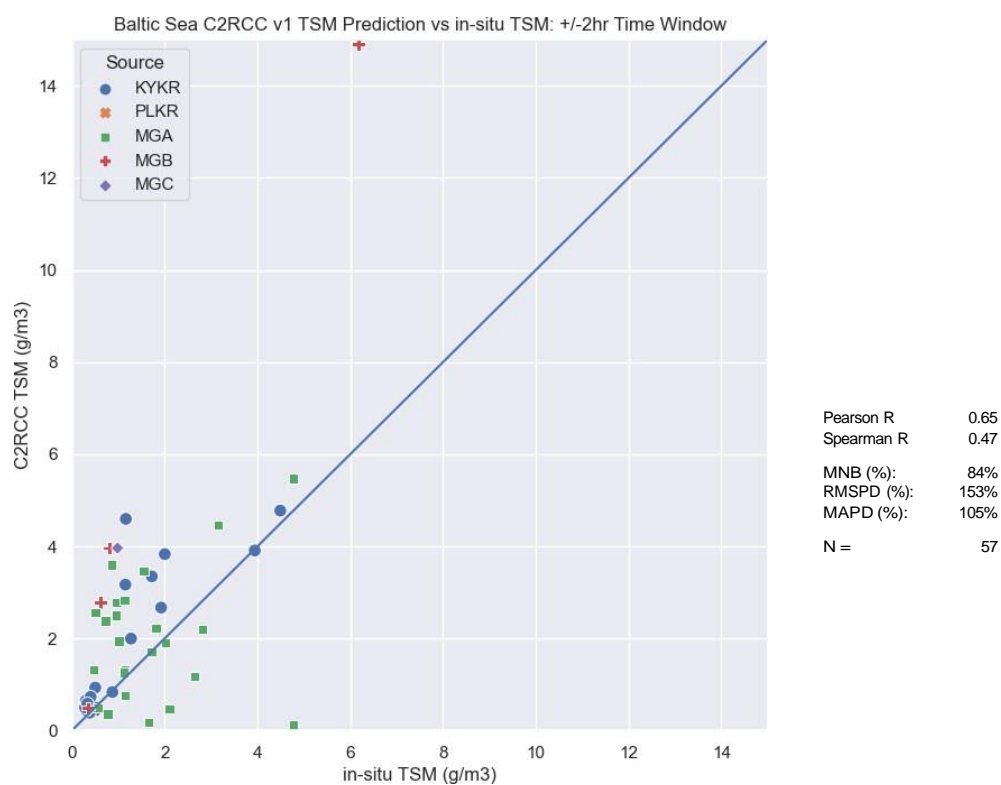
<b>NIR Bands</b>	708.75nm Oa11_rad	753.75nm Oa12_rad	761.25nm Oa13_rad	764.375nm Oa14_rad	767.5nm Oa15_rad	778.75nm Oa16_rad	865nm Oa17_rad	885nm Oa18_rad	900nm Oa19_rad	940nm Oa20_rad	1020nm Oa21_rad
<b>SVC Gain</b>	0.99782	1.00163	1	1	1	1.00259	1	1.00089	1	1	0.94064

Table S.11: C2RCC v1.0 Quality Flag test results. The error is in Pearson r, where the result is compared with in situ validation sample data.

<b>C2RCC v1.0</b>					
<b>±2hr</b>	<b>Quality flag tested</b>	<b>chlError</b>	<b>tsmError</b>	<b>cdomError</b>	<b>secchiError</b>
		0.48	0.62	0.53	0.14
	&& !quality_flags.land	0.45	0.52	0.18	0.14
	&& !quality_flags.bright	0.48	0.62	0.53	0.14
	&& !quality_flags.straylight_risk	0.48	0.62	0.53	0.14
	&& !quality_flags.invalid	0.48	0.62	0.53	0.14
	&& !quality_flags.cosmetic	0.48	0.62	0.53	0.14
	&& !quality_flags.sun_glint_risk	<b>0.51</b>	<b>0.63</b>	<b>0.7</b>	0.12
	&& !quality_flags.dubious	0.48	0.62	0.53	0.14
<b>±3hr</b>					
		0.47	0.65	0.55	0.15
	&& !quality_flags.land	0.43	0.61	0.32	0.15
	&& !quality_flags.bright	0.47	0.65	0.55	0.15
	&& !quality_flags.straylight_risk	0.47	0.65	0.55	0.15
	&& !quality_flags.invalid	0.47	0.65	0.55	0.15
	&& !quality_flags.cosmetic	0.47	0.65	0.55	0.15
	&& !quality_flags.sun_glint_risk	<b>0.5</b>	0.65	<b>0.71</b>	0.15
	&& !quality_flags.dubious	0.47	0.65	0.55	0.15

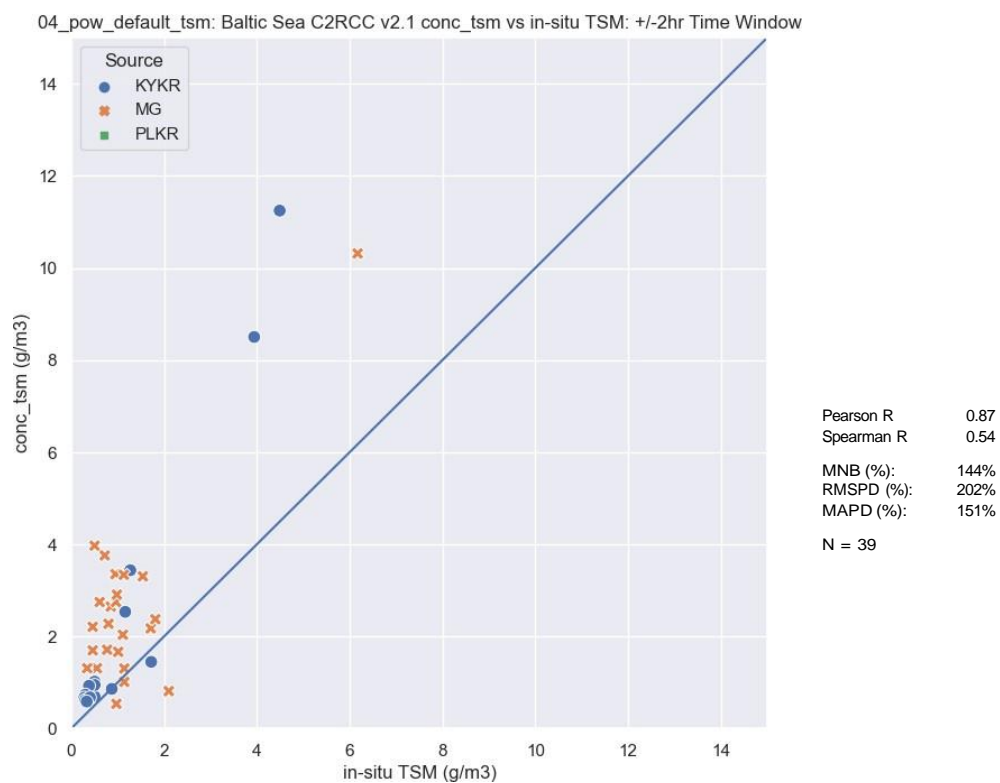
Table S.12: C2RCC v2.1 Quality Flag test results. The error is in Pearson r, where the result is compared with in situ validation sample dataS.

<b>C2RCC v2.1</b>					
<b>±2hr</b>	<b>Quality flag tested</b>	<b>chlError</b>	<b>tsmError</b>	<b>cdomError</b>	<b>secchiError</b>
		0.66	0.7	0.59	0.56
	&& !quality_flags.land	0.63	0.63	0.26	0.56
	&& !quality_flags.bright	0.66	0.7	0.59	0.56
	&& !quality_flags.straylight_risk	0.66	0.7	0.59	0.56
	&& !quality_flags.invalid	0.66	0.7	0.59	0.56
	&& !quality_flags.cosmetic	0.66	0.7	0.59	0.56
	&& !quality_flags.sun_glint_risk	<b>0.71</b>	<b>0.81</b>	<b>0.74</b>	<b>0.61</b>
	&& !quality_flags.dubious	0.66	0.7	0.59	0.56
<b>±3hr</b>					
		0.64	0.73	0.47	0.49
	&& !quality_flags.land	0.58	0.64	0.26	0.49
	&& !quality_flags.bright	0.64	0.73	0.47	0.49
	&& !quality_flags.straylight_risk	0.64	0.73	0.47	0.49
	&& !quality_flags.invalid	0.64	0.73	0.47	0.49
	&& !quality_flags.cosmetic	0.64	0.73	0.47	0.49
	&& !quality_flags.sun_glint_risk	<b>0.67</b>	<b>0.83</b>	<b>0.56</b>	<b>0.53</b>
	&& !quality_flags.dubious	0.64	0.73	0.47	0.49

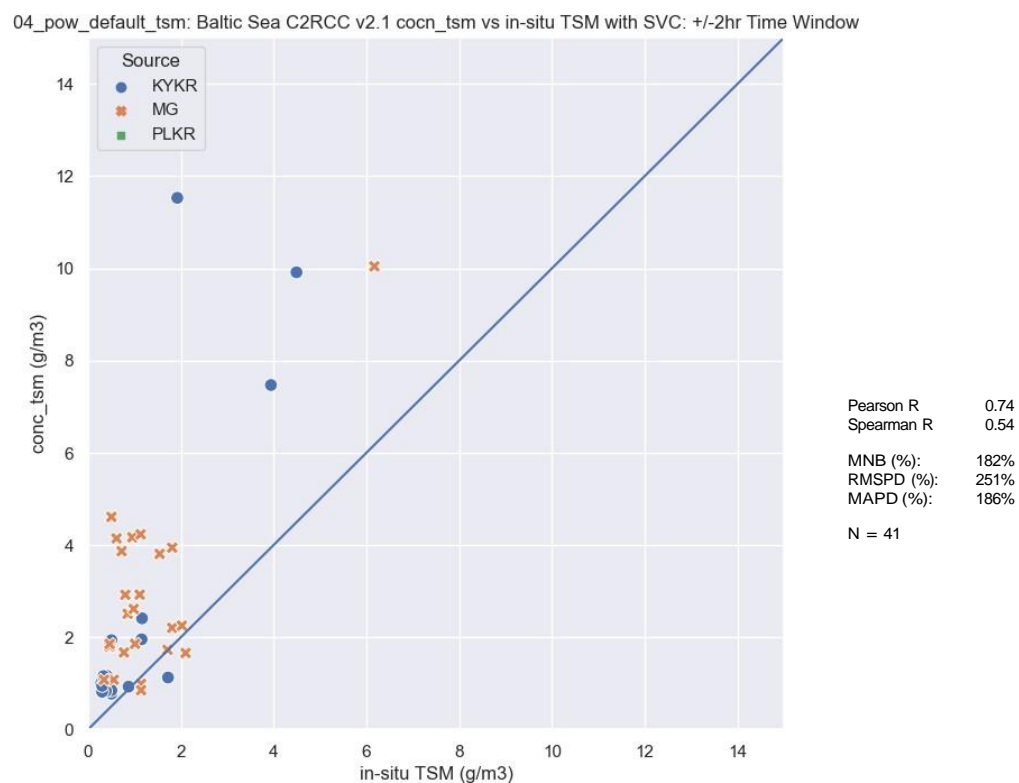


(a) v1.0 Reg Adap (non-SVC) C2RCC “conc\_tsm” vs in situ TSM validation scatterplot.

Figure S.1. C2RCC v1.0 Reg Adap (non-SVC) “conc\_tsm” validation results ( $\pm$  2hr time window) scatterplot.

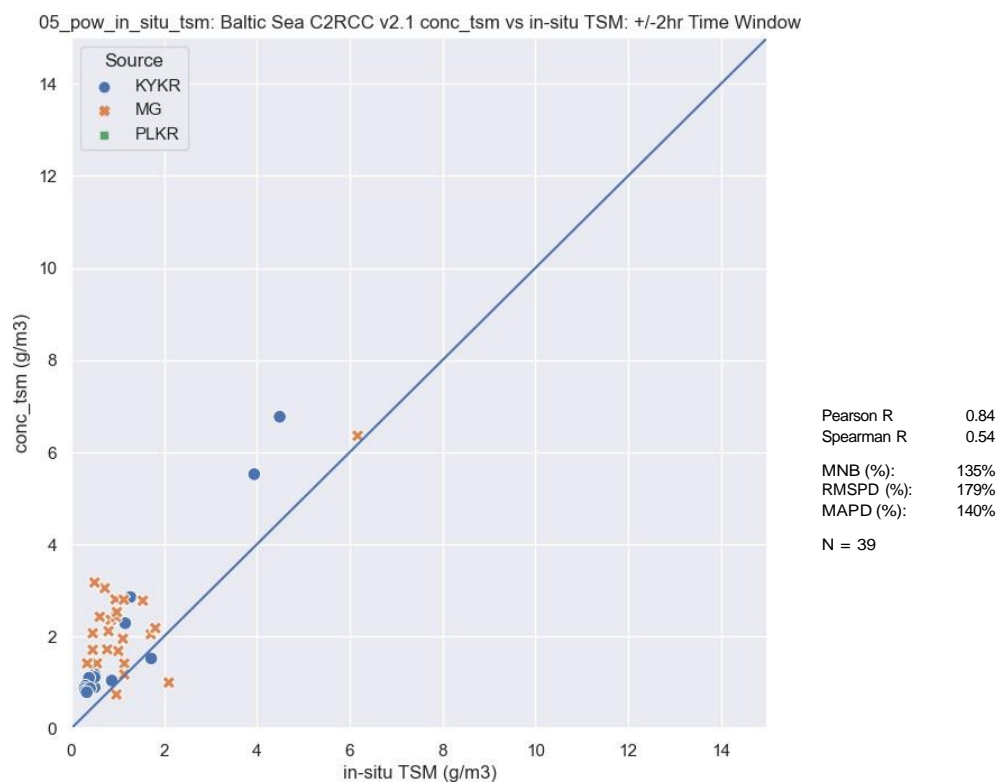


(a) v2.1 Default C2RCC “conc\_tsm” vs in situ TSM validation scatterplot.

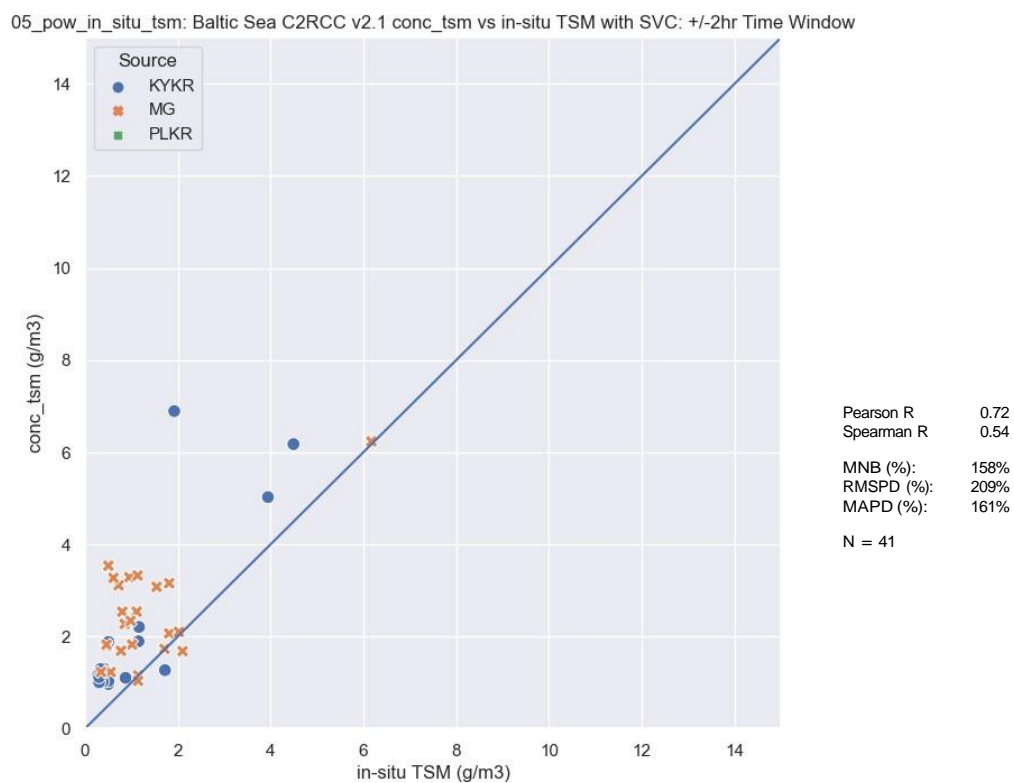


(b) v2.1 Default SVC C2RCC “conc\_tsm” vs in situ TSM validation scatterplot.

Figure S.2. C2RCC v2.1 Default vs v2.1 Default SVC “conc\_tsm” validation results comparison ( $\pm$  2hr time window).

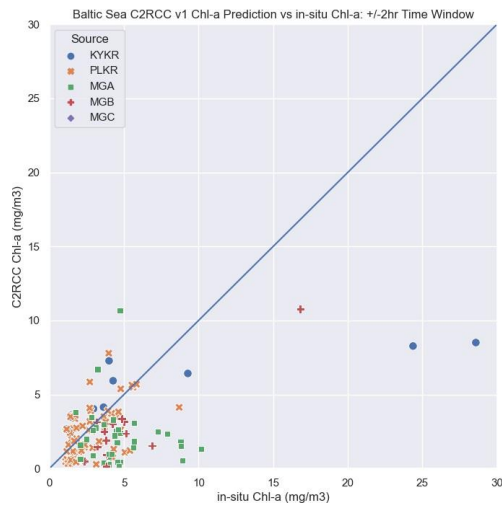


(a) v2.1 Reg Adap C2RCC “conc\_tsm” vs in situ TSM validation scatterplot.



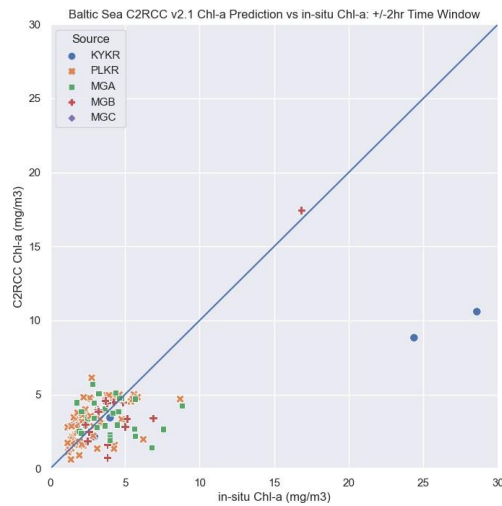
(b) v2.1 Reg Adap C2RCC “conc\_tsm” vs in situ TSM validation scatterplot.

Figure S.3. C2RCC v2.1 Reg Adap vs v2.1 Reg Adap SVC “conc\_tsm” validation results comparison ( $\pm$  2hr time window).



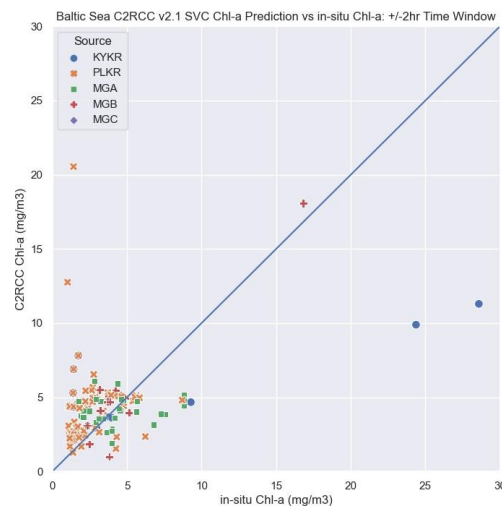
Pearson R	0.49
Spearman R	0.24
MNB (%)	-15%
RMSPE (%)	67%
MAPE (%)	56%
N =	128

(a) C2RCC v1.0 “conc\_chl”



Pearson R	0.68
Spearman R	0.49
MNB (%)	17%
RMSPE (%)	57%
MAPE (%)	45%
N =	120

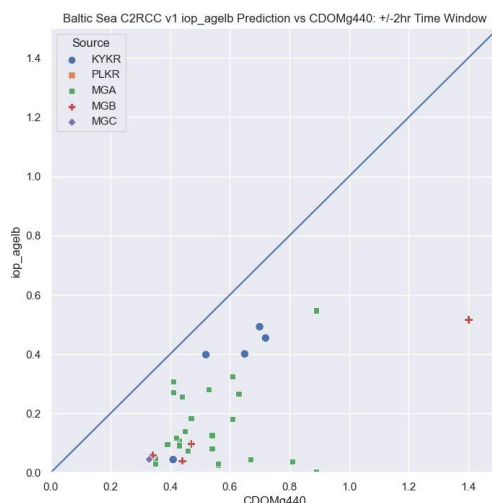
(b) C2RCC v2.1 “conc\_chl”



Pearson R	0.4
Spearman R	0.25
MNB (%)	77%
RMSPE (%)	194%
MAPE (%)	95%
N =	125

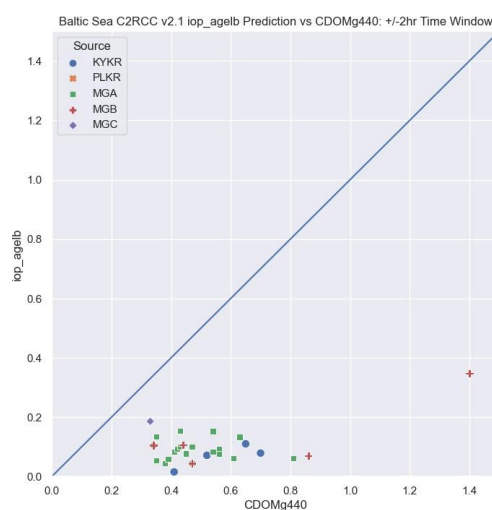
(c) C2RCC v2.1 with SVC “conc\_chl”

Figure S.4. C2RCC v1.0, v2.1, v2.1 SVC “conc\_chl” validation results comparison ( $\pm$  2hr time window).



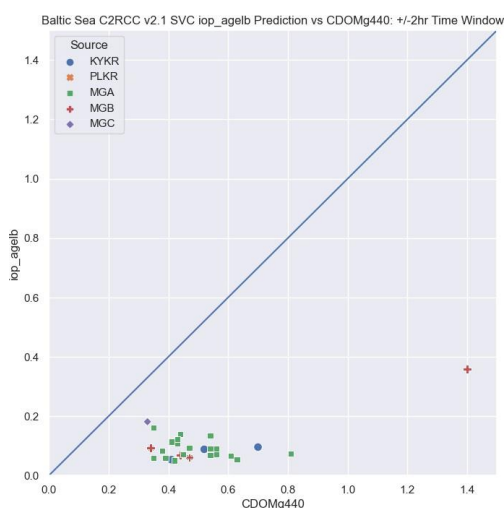
Pearson R	0.53
Spearman R	0.33
MNB (%)	-69%
RMSPE (%)	72%
MAPE (%)	69%
N =	36

(a) C2RCC v1.0 “iop\_agelb”



Pearson R	0.56
Spearman R	0
MNB (%)	-80%
RMSPE (%)	81%
MAPE (%)	80%
N =	29

(b) C2RCC v2.1 “iop\_agelb”

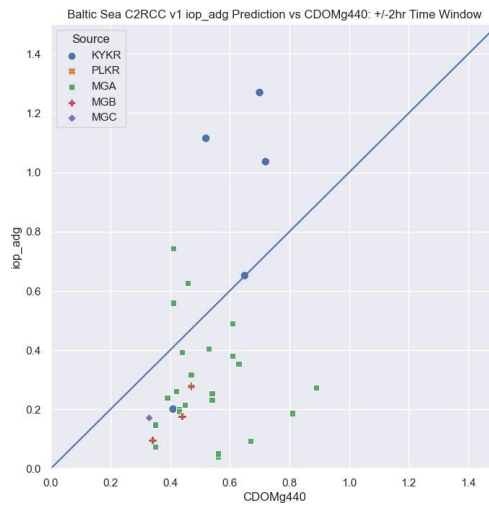


Pearson R	0.23
Spearman R	0.02
MNB (%)	-57%
RMSPE (%)	136%
MAPE (%)	97%
N =	30

(c) C2RCC v2.1 with SVC “iop\_agelb”

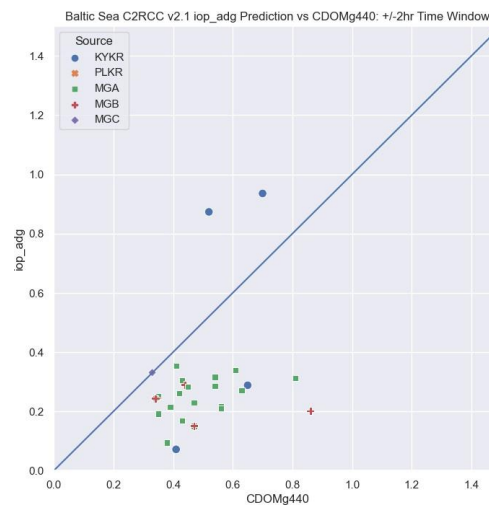
Figure S.5. C2RCC v1.0, v2.1, v2.1 SVC “iop\_agelb” validation results comparison ( $\pm$  2hr time window).





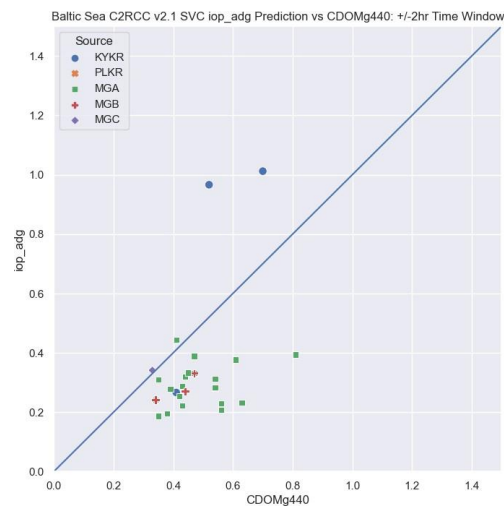
Pearson R	0.7
Spearman R	0.44
MNB (%)	-26%
RMSPE (%)	60%
MAPE (%)	55%
N =	36

(a) C2RCC v1.0 “iop\_adg”



Pearson R	0.74
Spearman R	0.32
MNB (%)	-39%
RMSPE (%)	51%
MAPE (%)	47%
N =	29

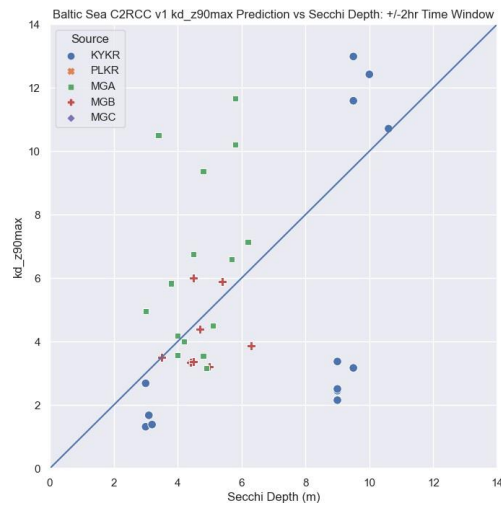
(b) C2RCC v2.1 “iop\_adg”



Pearson R	0.42
Spearman R	0.43
MNB (%)	-1%
RMSPE (%)	138%
MAPE (%)	61%
N =	30

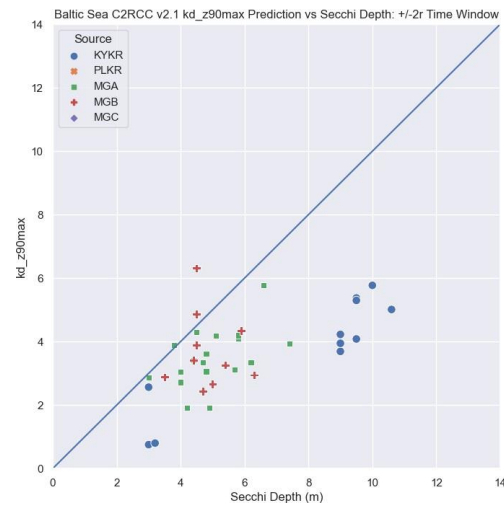
(c) C2RCC v2.1 with SVC “iop\_adg”

Figure S.6. C2RCC v1.0, v2.1, v2.1 SVC “iop\_adg” validation results comparison ( $\pm$  2hr time window).



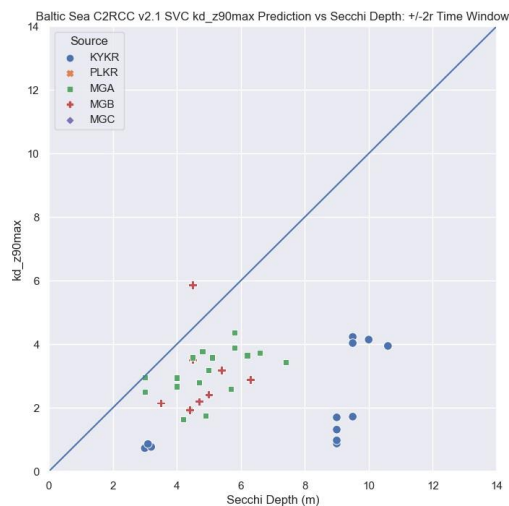
Pearson R 0.12  
 Spearman R 0.25  
 MNB (%): 26%  
 RMSPE (%): 124%  
 MAPE (%): 65%  
 N = 39

(a) C2RCC v1.0 “kd\_z90max”



Pearson R 0.59  
 Spearman R 0.62  
 MNB (%): -34%  
 RMSPE (%): 41%  
 MAPE (%): 37%  
 N = 40

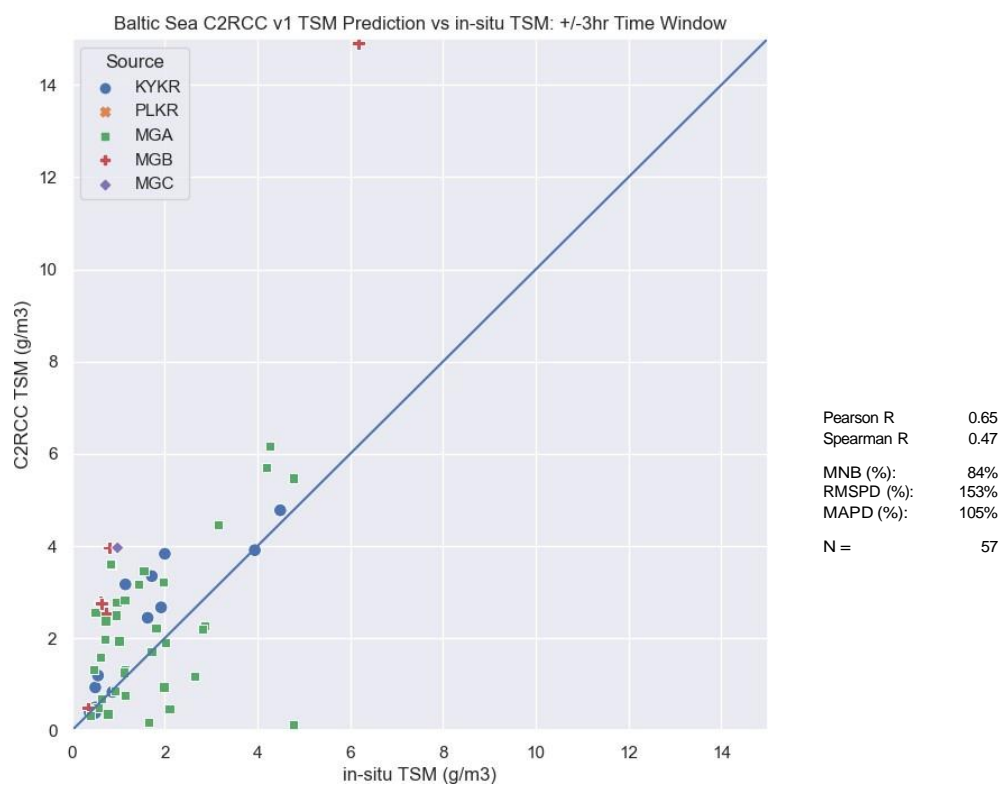
(b) C2RCC v2.1 “kd\_z90max”



Pearson R 0.15  
 Spearman R 0.34  
 MNB (%): -48%  
 RMSPE (%): 54%  
 MAPE (%): 50%  
 N = 38

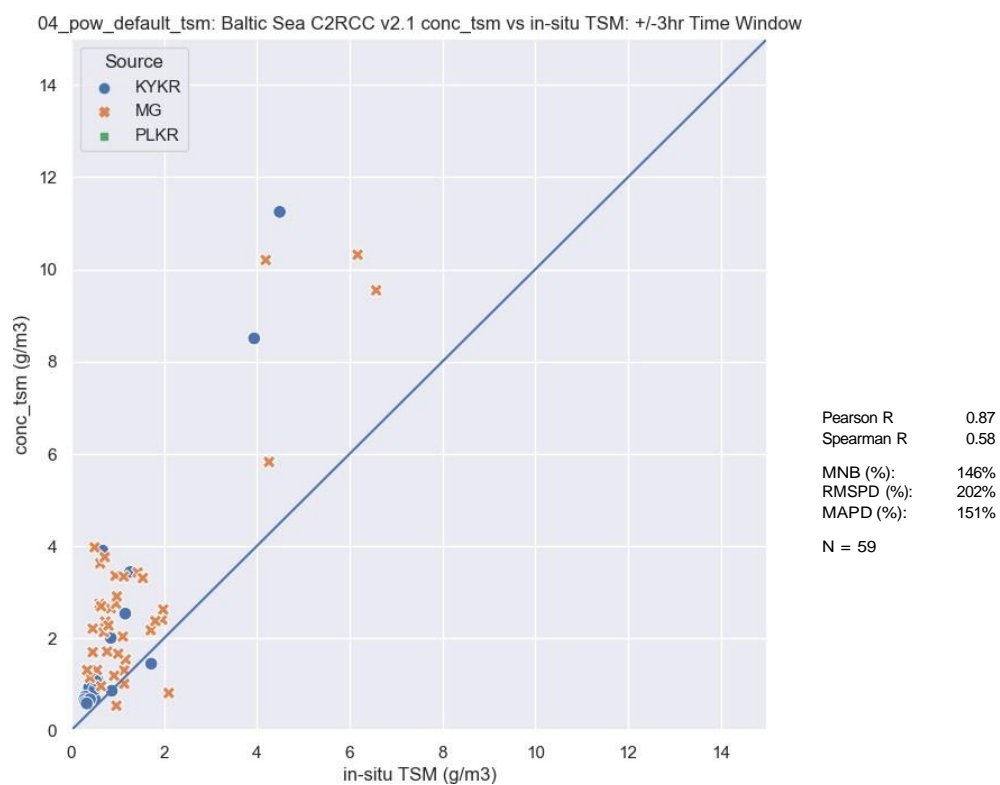
(c) C2RCC v2.1 with SVC “kd\_z90max”

Figure S.7. C2RCC v1.0, v2.1, v2.1 SVC “kd\_z90max” validation results comparison ( $\pm$  2hr time window).

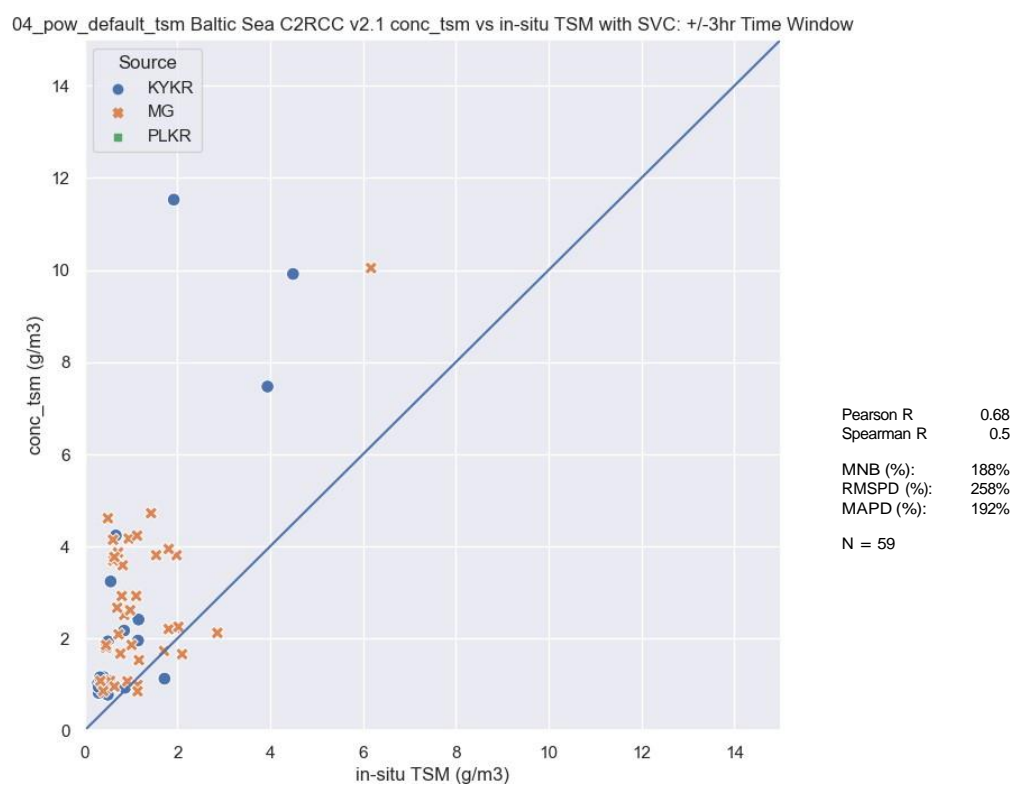


(a) v1.0 Reg Adap (non-SVC) C2RCC “conc\_tsm” vs in situ TSM validation scatterplot.

Figure S.8. C2RCC v1.0 Reg Adap (non-SVC) “conc\_tsm” validation results ( $\pm$  3hr time window) scatterplot.

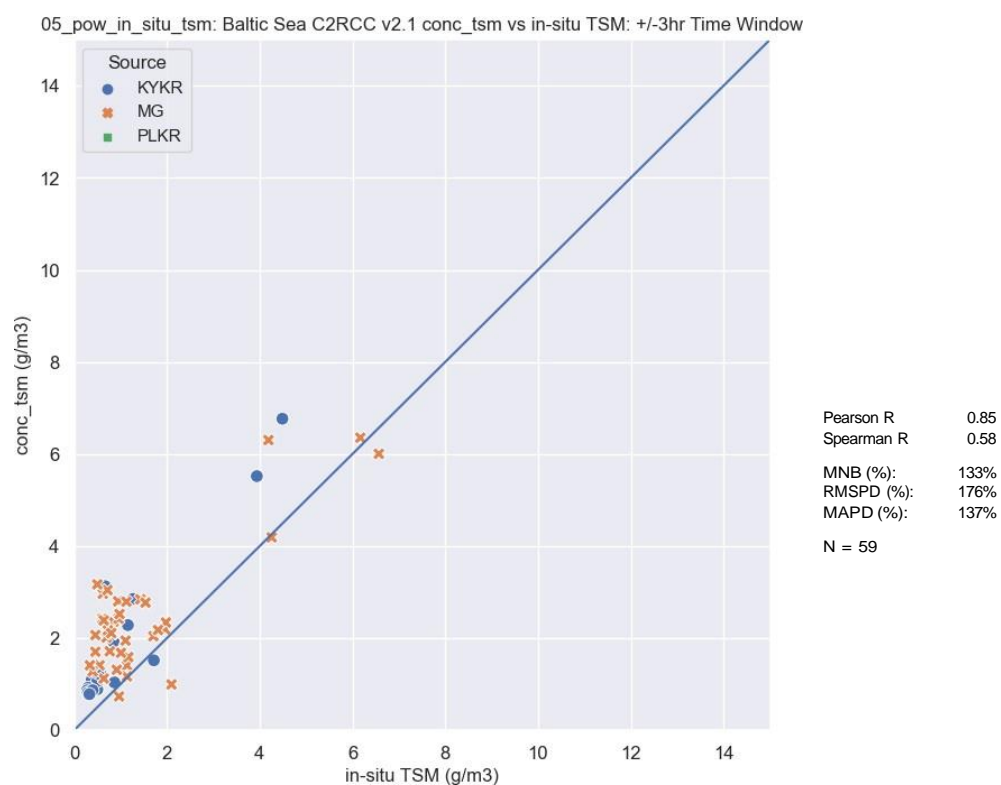


(a) v2.1 Default C2RCC “conc\_tsm” vs in situ TSM validation scatterplot.

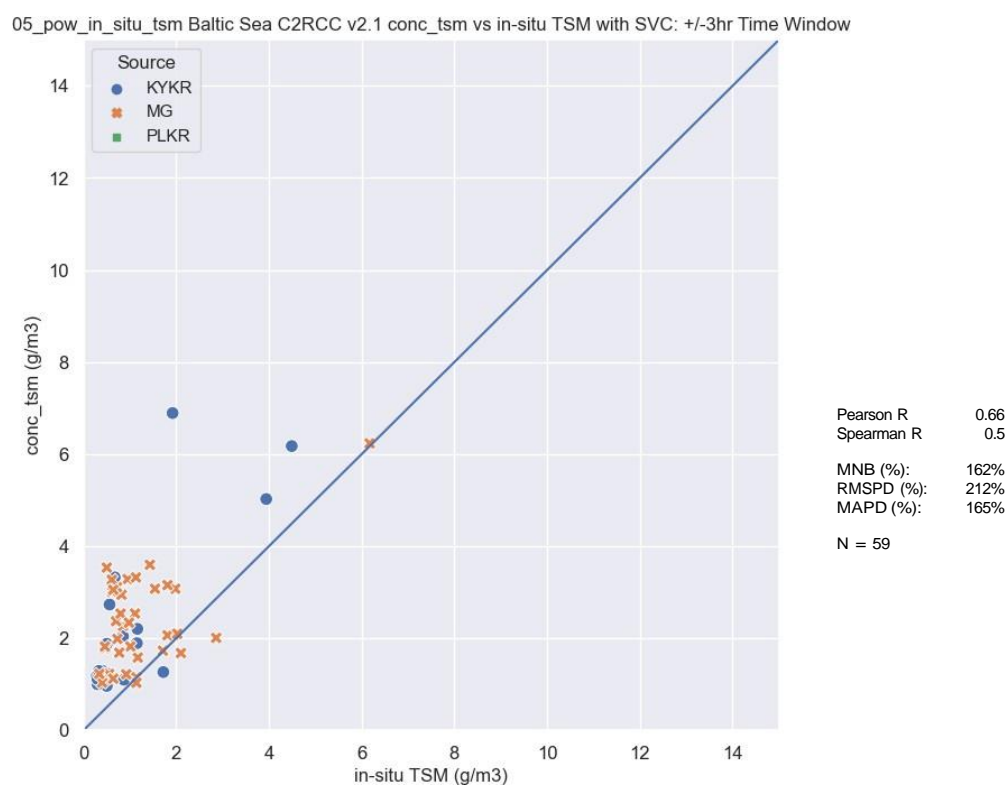


(b) v2.1 Default SVC C2RCC “conc\_tsm” vs in situ TSM validation scatterplot.

Figure S.9. C2RCC v2.1 Default vs v2.1 Default SVC “conc\_tsm” validation results comparison ( $\pm$  3hr time window).

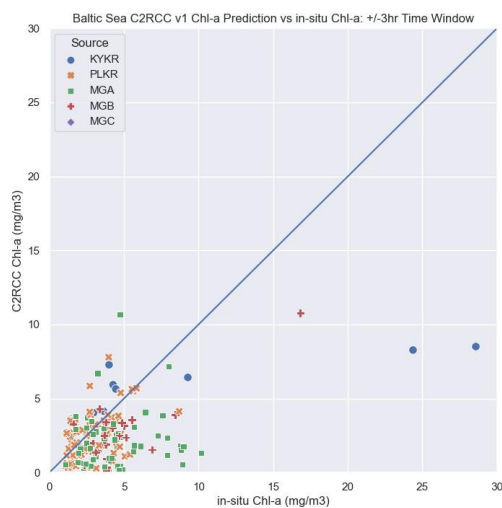


(a) v2.1 Reg Adap C2RCC “conc\_tsm” vs in situ TSM validation scatterplot.



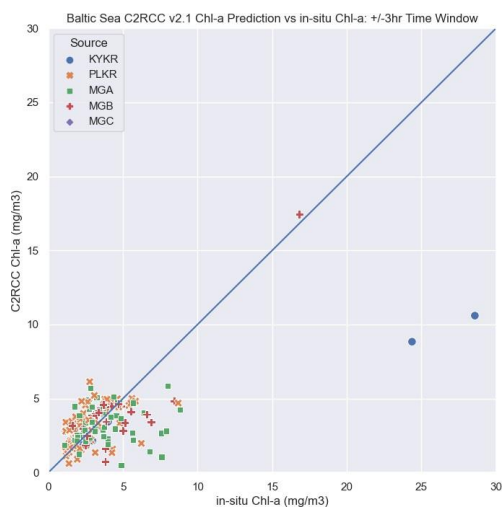
(b) v2.1 Reg Adap SVC C2RCC “conc\_tsm” vs in situ TSM validation scatterplot.

Figure S.10. C2RCC v2.1 Reg Adap vs v2.1 Reg Adap SVC “conc\_tsm” validation results comparison ( $\pm 3$ hr time window).



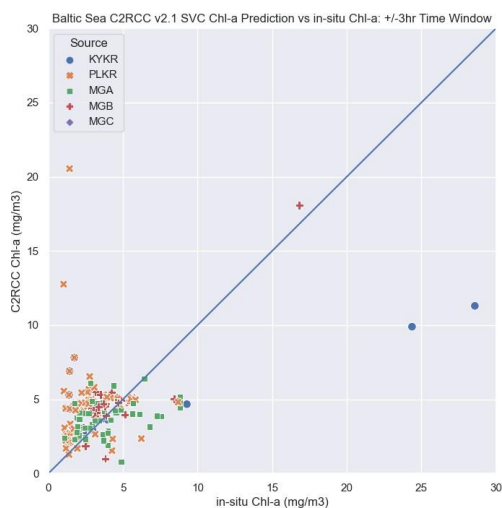
Pearson R	0.47
Spearman R	0.25
MNB (%)	-20%
RMSPE (%)	66%
MAPE (%)	56%
N =	171

(a) C2RCC v1.0 “conc\_chl”



Pearson R	0.64
Spearman R	0.47
MNB (%)	15%
RMSPE (%)	56%
MAPE (%)	43%
N =	161

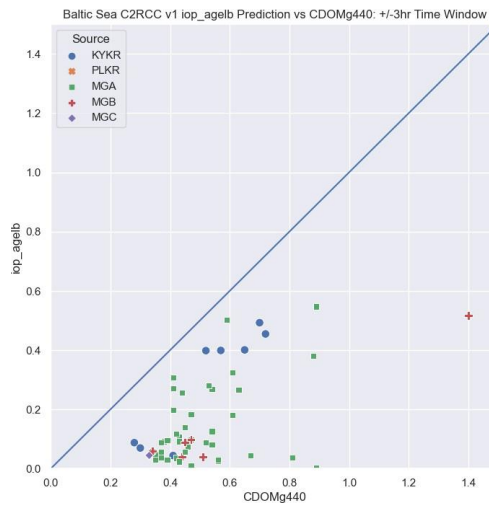
(b) C2RCC v2.1 “conc\_chl”



Pearson R	0.4
Spearman R	0.26
MNB (%)	67%
RMSPE (%)	174%
MAPE (%)	84%
N =	164

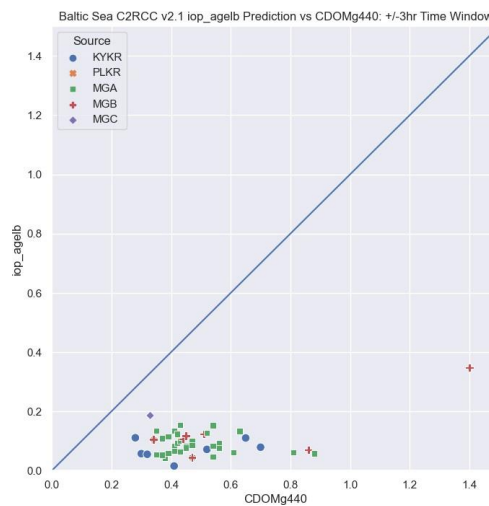
(c) C2RCC v2.1 with SVC “conc\_chl”

Figure S.11. C2RCC v1.0, v2.1, v2.1 SVC “conc\_chl” validation results comparison ( $\pm$  3hr time window).



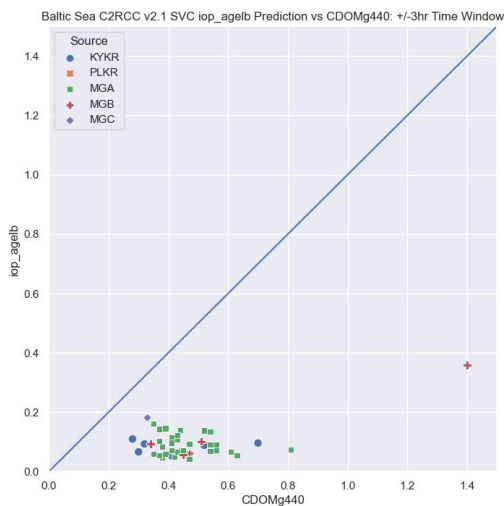
Pearson R	0.57
Spearman R	0.41
MNB (%)	-70%
RMSPE (%)	74%
MAPE (%)	70%
N =	55

(a) C2RCC v1.0 “iop\_agelb”



Pearson R	0.16
Spearman R	0.09
MNB (%)	-74%
RMSPE (%)	85%
MAPE (%)	82%
N =	48

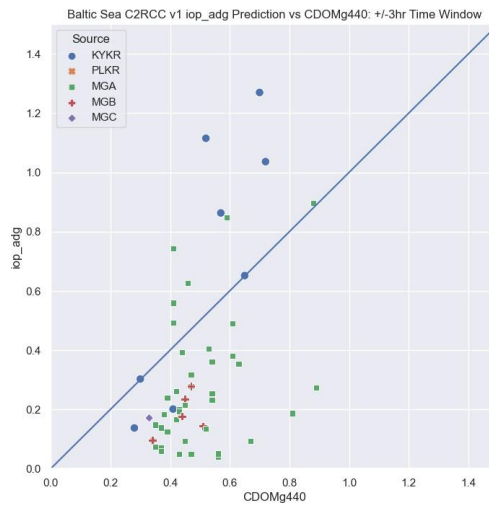
(b) C2RCC v2.1 “iop\_agelb”



Pearson R	0.24
Spearman R	-0.01
MNB (%)	-65%
RMSPE (%)	118%
MAPE (%)	90%
N =	48

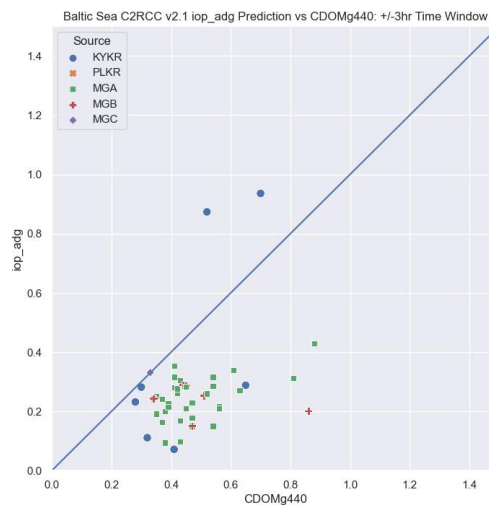
(c) C2RCC v2.1 with SVC “iop\_agelb”

Figure S.12. C2RCC v1.0, v2.1, v2.1 SVC “iop\_agelb” validation results comparison ( $\pm$  3hr time window).



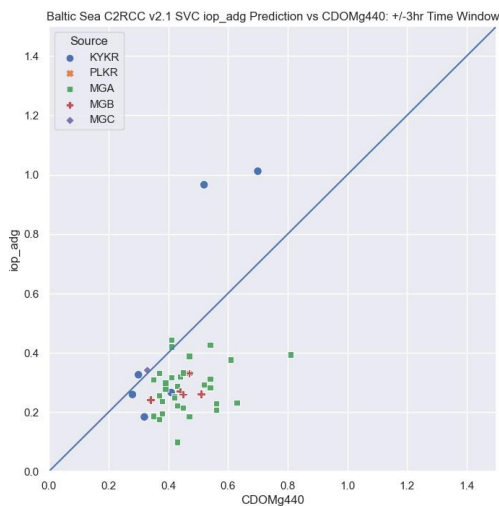
Pearson R	0.72
Spearman R	0.49
MNB (%)	-32%
RMSPE (%)	61%
MAPE (%)	55%
N =	55

(a) C2RCC v1.0 “iop\_adg”



Pearson R	0.55
Spearman R	0.35
MNB (%)	-35%
RMSPE (%)	62%
MAPE (%)	51%
N =	48

(b) C2RCC v2.1 “iop\_adg”

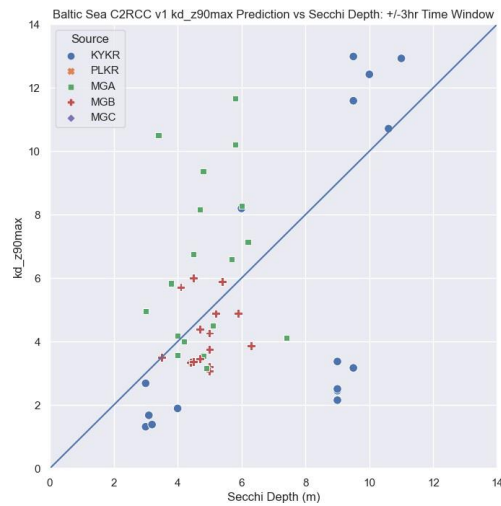


Pearson R	0.44
Spearman R	0.35
MNB (%)	-13%
RMSPE (%)	112%
MAPE (%)	51%
N =	48

(c) C2RCC v2.1 with SVC “iop\_adg”

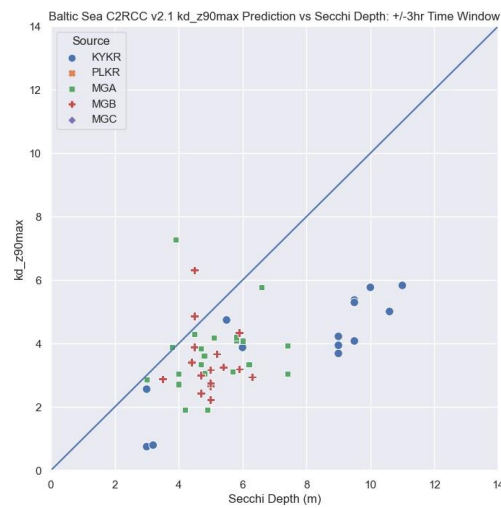
Figure S.13. C2RCC v1.0, v2.1, v2.1 SVC “iop\_adg” validation results comparison ( $\pm$  3hr time window).





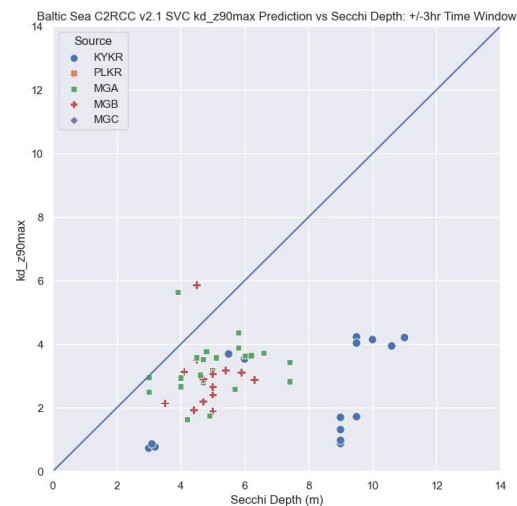
Pearson R	0.14
Spearman R	0.24
MNB (%)	26%
RMSPE (%)	120%
MAPE (%)	63%
N =	53

(a) C2RCC v1.0 “kd\_z90max”



Pearson R	0.5
Spearman R	0.51
MNB (%)	-33%
RMSPE (%)	42%
MAPE (%)	38%
N =	53

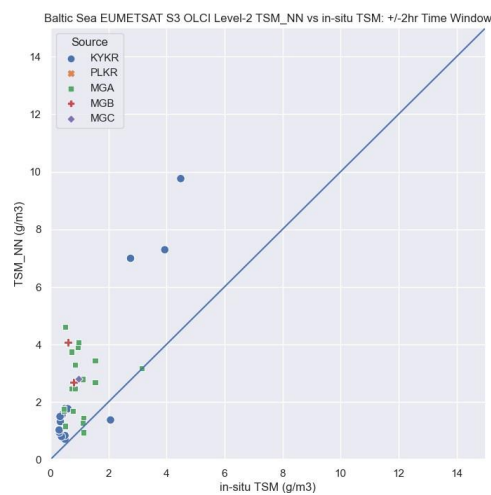
(b) C2RCC v2.1 “kd\_z90max”



Pearson R	0.13
Spearman R	0.3
MNB (%)	-45%
RMSPE (%)	52%
MAPE (%)	48%
N =	52

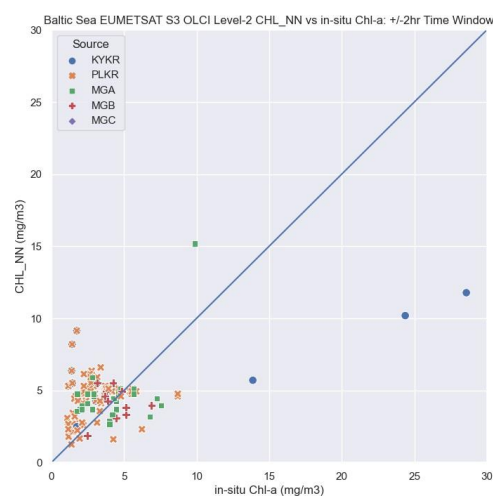
(c) C2RCC v2.1 with SVC “kd\_z90max”

Figure S.14. C2RCC v1.0, v2.1, v2.1 SVC “kd\_z90max” validation results comparison ( $\pm$  3hr time window).



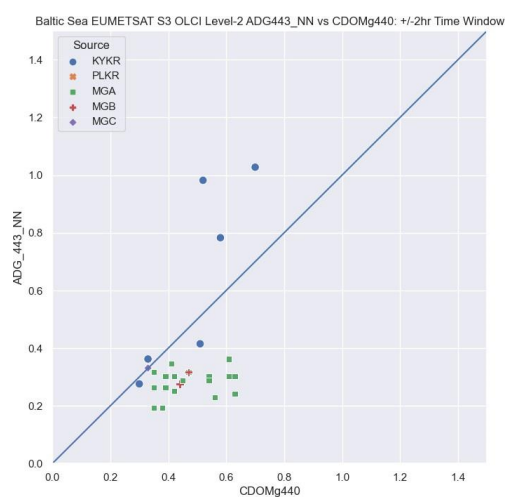
Pearson R	0.77
Spearman R	0.56
MNB (%)	209%
RMSPD (%)	265%
MAPD (%)	211%
N =	37

(a) “TSM\_NN”



Pearson R	0.48
Spearman R	0.22
MNB (%)	75%
RMSPD (%)	135%
MAPD (%)	89%
N =	127

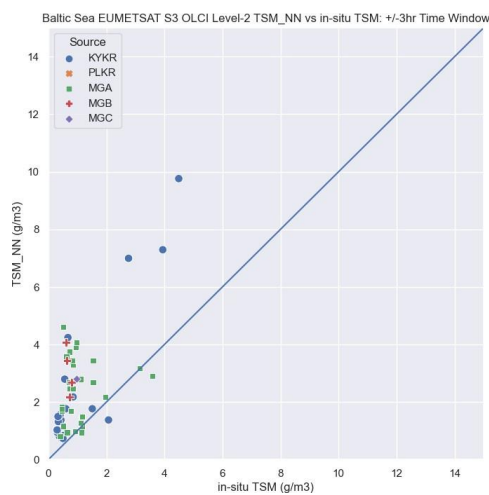
(b) “CHL\_NN”



Pearson R	0.36
Spearman R	0.29
MNB (%)	-12%
RMSPD (%)	66%
MAPD (%)	44%
N =	29

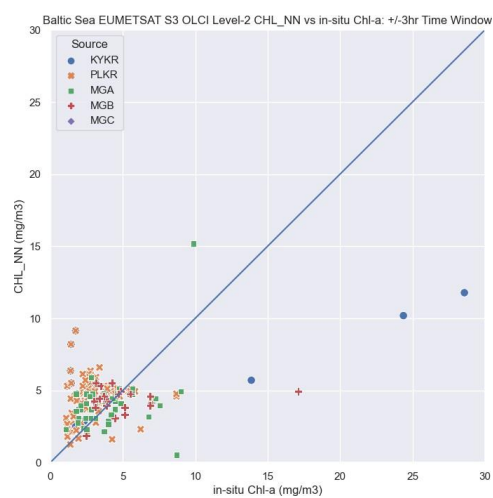
(c) “ADG443\_NN”

Figure S.15. EUMETSAT Sentinel-3 OLCI-A/OLCI-B Level-2 Standard Products Validation Results ( $\pm 2$ hr).



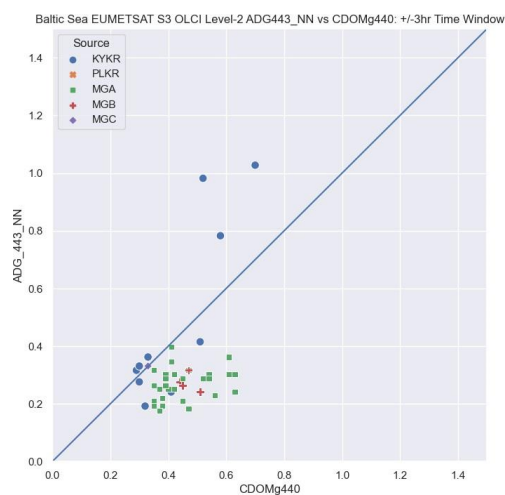
Pearson R	0.66
Spearman R	0.46
MNB (%)	201%
RMSPD (%)	263%
MAPD (%)	204%
N =	56

(a) “TSM\_NN”



Pearson R	0.43
Spearman R	0.23
MNB (%)	63%
RMSPD (%)	121%
MAPD (%)	78%
N =	173

(b) “CHL\_NN”



Pearson R	0.39
Spearman R	0.29
MNB (%)	-14%
RMSPD (%)	69%
MAPD (%)	46%
N =	47

(c) “ADG443\_NN”

Figure S.16. EUMETSAT Sentinel-3 OLCI-A/OLCI-B Level-2 Standard Products Validation Results ( $\pm 3$ hr).