


Supplementary Materials: An Attempt to Observe Vertical Land Motion along the Norwegian Coast by CryoSat-2 and Tide Gauges

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3 Introduction

4 This supporting information include a table listing the tide-gauge locations used in this study, and
 5 linear vertical land motion (VLM) rates as well as associated uncertainties at 20 tide gauges, estimated
 6 using CryoSat-2 observations (1 Hz and 20 Hz) and tide-gauge data provided by PSMSL and NMA
 7 covering same time spans as CryoSat-2, i.e., from 2010 to 2018.

Table S1. Location of 20 tide gauges along the Norwegian coast as well as estimated linear VLM rates and corresponding uncertainties at tide gauges in mm/yr.

Tide Gauge	φ (°)	λ (°)	VLM _{1HzPSMSL}	VLM _{1HzNMA}	VLM _{20HzPSMSL}	VLM _{20HzNMA}
Vardø	70.375	31.104	6.9 ± 6.9	7.0 ± 3.5	3.9 ± 3.3	4.1 ± 1.4
Honningsvåg	70.980	25.973	-7.0 ± 7.9	-2.2 ± 5.2	-4.6 ± 3.9	2.7 ± 2.1
Hammerfest	70.665	23.683	-4.4 ± 13.7	-1.8 ± 10.1	-2.1 ± 8.0	-3.9 ± 4.9
Andenes	69.326	16.135	6.7 ± 8.6	-0.7 ± 3.8	14.8 ± 2.9	0.4 ± 1.5
Harstad	68.801	16.548	2.1 ± 12.1	-3.3 ± 8.3	1.7 ± 6.2	7.1 ± 4.5
Kabelvåg	68.213	14.482	-6.7 ± 12.7	2.2 ± 6.9	-11.9 ± 6.4	1.3 ± 2.5
Bodø	67.288	14.391	-10.7 ± 12.6	3.3 ± 4.0	-4.1 ± 7.9	6.1 ± 4.1
Rørvik	64.860	11.230	6.5 ± 8.8	3.4 ± 3.3	7.9 ± 4.2	4.2 ± 1.7
Mausund	63.869	8.666	8.9 ± 10.1	2.1 ± 5.4	10.8 ± 5.5	2.2 ± 1.8
Trondheim	63.436	10.392	27.8 ± 27.1	18.6 ± 15.0	27.9 ± 18.1	5.4 ± 7.2
Heimsjø	63.425	9.102	12.8 ± 13.4	4.8 ± 10.8	24.0 ± 12.1	7.9 ± 6.6
Kristiansund	63.114	7.734	-7.2 ± 7.6	-5.8 ± 4.6	1.4 ± 3.5	-1.5 ± 2.2
Ålesund	62.469	6.152	-3.8 ± 11.9	0.2 ± 7.6	0.6 ± 3.7	3.7 ± 1.6
Måløy	61.934	5.113	1.1 ± 6.6	-5.3 ± 3.1	-0.9 ± 2.7	-4.9 ± 1.1
Bergen	60.398	5.321	3.6 ± 8.5	3.9 ± 5.4	3.4 ± 4.4	0.6 ± 3.4
Stavanger	58.974	5.730	-14.7 ± 5.4	0.8 ± 4.5	-9.5 ± 1.9	7.1 ± 1.5
Tregde	58.006	7.555	7.5 ± 7.3	5.1 ± 3.7	8.1 ± 2.3	4.1 ± 1.3
Helgeroa	58.995	9.856	15.9 ± 9.8	6.0 ± 4.9	16.5 ± 3.8	5.7 ± 2.0
Oscarsborg	59.995	10.605	26.1 ± 13.2	6.2 ± 7.8	16.8 ± 18.5	15.1 ± 11.3
Viker	59.036	10.950	16.2 ± 11.7	3.6 ± 5.7	5.9 ± 4.1	-0.2 ± 1.7