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*Supplement of*

## **Satellite-derived submarine melt rates and mass balance (2011–2015) for Greenland’s largest remaining ice tongues**

**Nat Wilson et al.**

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## Supplementary materials

### Temporal and spatial distribution of WorldView scenes

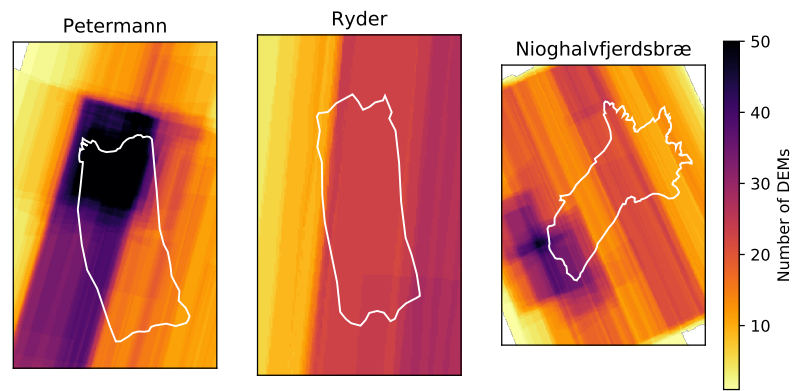


Figure 1: DEM coverage of the three ice tongues considered, with shading indicating the number of DEMs available, 2011–2015.

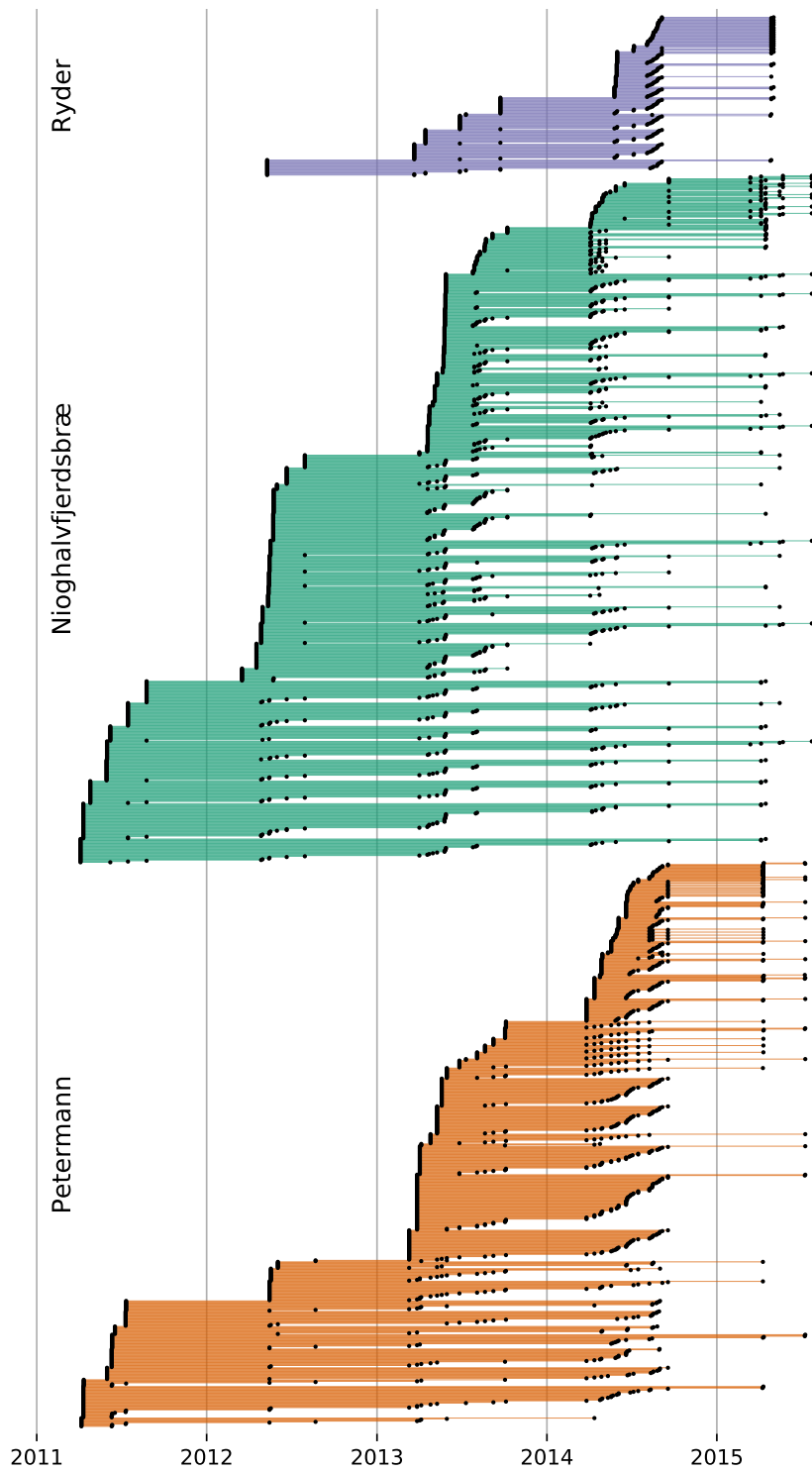


Figure 2: Timelines of DEM pairs for the three ice tongues considered, with each horizontal mark representing a difference computed between two DEMs.

## List of WorldView scene pairs used

Table 1: List of all WorldView scene pairs used to construct DEMs

Scene 1	Scene 2	Acquisition date	Ice tongue
103001000A38B000	103001000A50E700	2011-04-05	79N
103001000A219600	103001000A728C00	2011-04-05	79N
103001000A229F00	1030010009153100	2011-04-07	PG
103001000AD56900	103001000A1B0E00	2011-04-07	PG
103001000A878400	10300100099B7A00	2011-04-11	79N
103001000AC52800	103001000A8BD400	2011-04-11	79N
1020010012AEC700	102001001070E000	2011-04-11	79N
103001000A95A600	103001000A626900	2011-04-11	PG
103001000A010200	103001000A49BF00	2011-04-11	PG
1030010009B82900	103001000A704F00	2011-04-12	PG
103001000A6ACB00	103001000A961E00	2011-04-12	PG
103001000AC59500	103001000A904D00	2011-04-12	PG
10200100116D3400	102001001201DD00	2011-04-26	79N
1020010013B66C00	102001001223E500	2011-04-26	79N
102001001337A800	1020010013E1B900	2011-05-31	79N
1020010013738000	1020010013A86F00	2011-06-01	79N
103001000B826F00	103001000B2A4400	2011-06-01	PG
102001001458A400	1020010014460500	2011-06-08	79N
1020010012842600	102001001331F400	2011-06-08	79N
103001000B05D700	103001000B5C1D00	2011-06-09	79N
103001000BD86D00	103001000B9F0B00	2011-06-11	PG
103001000BBD3F00	103001000B71F500	2011-06-11	PG
103001000B065200	103001000B9FF600	2011-06-12	PG
103001000B966D00	103001000A493A00	2011-06-12	PG
103001000BC5F600	103001000B983F00	2011-06-12	PG
1020010013B98000	1020010012DFD600	2011-06-13	PG
1020010014644A00	1020010014B06A00	2011-06-18	PG
10200100145E7300	1020010015B4C600	2011-07-11	PG
103001000CCDB200	103001000BCC5000	2011-07-12	PG
103001000C1FFB00	103001000CC61200	2011-07-12	PG
1020010013759900	10200100140A9400	2011-07-15	PG
1020010015509A00	1020010014C80C00	2011-07-16	79N
1020010014C66E00	1020010013D73300	2011-07-17	79N
102001001548DA00	1020010015CB3500	2011-08-25	79N
10200100151B8600	10200100155F2700	2011-08-25	79N
1020010019D4EC00	102001001908B300	2012-03-17	79N
1030010012838700	1030010012AD8300	2012-03-26	PG
103001001234D500	1030010012A50A00	2012-04-17	PG
10300100129CAA00	1030010013D28E00	2012-04-17	79N
1030010012816700	1030010013109E00	2012-04-17	79N

Scene 1	Scene 2	Acquisition date	Ice tongue
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1030010017442400	1030010017B34300	2012-04-27	79N
10200100198A9500	1020010018D64700	2012-04-30	79N
10300100197E1400	1030010018054500	2012-05-10	RG
10300100187D6D00	10300100186FC200	2012-05-10	RG
1030010019089A00	10300100188E8E00	2012-05-10	RG
102001001B90E400	102001001BC6F900	2012-05-10	RG
1030010019A8FA00	103001001964FE00	2012-05-12	79N
102001001B16F200	102001001A977A00	2012-05-13	79N
102001001A7F8100	102001001BE40F00	2012-05-14	79N
1030010019CEF300	103001001923F100	2012-05-15	79N
10300100187CEE00	103001001912FE00	2012-05-15	79N
1030010018BB3D00	1030010019C89F00	2012-05-15	PG
1030010018478400	1030010019A28B00	2012-05-17	79N
103001001826E500	1030010018413400	2012-05-18	PG
102001001AD74800	102001001A1C9300	2012-05-23	79N
102001001B8BD000	102001001B48E800	2012-05-23	79N
102001001AC86C00	102001001B7FF500	2012-05-24	RG
103001001958C200	1030010018C96700	2012-05-24	79N
103001001817A400	103001001894C500	2012-05-24	79N
102001001B772400	102001001B530900	2012-05-31	79N
102001001B487300	102001001A194A00	2012-06-02	PG
102001001B348A00	102001001AA65A00	2012-06-21	79N
103001001BC5CD00	103001001A9FAA00	2012-07-30	79N
102001001D5C0C00	102001001C110B00	2012-08-22	PG
1030010020779A00	103001002065CB00	2013-03-11	PG
1020010022927600	1020010022C1C100	2013-03-22	RG
102001002017E400	1020010020073300	2013-03-28	PG
102001001F08DE00	1020010020612900	2013-03-28	PG
1020010021CA1000	1020010021131A00	2013-03-28	PG
10300100206DBE00	10300100206DCE00	2013-03-28	PG
103001002103E200	1030010021279200	2013-04-01	PG
1020010022C87200	1020010022D4A500	2013-04-02	79N
10300100218AAC00	103001002166FC00	2013-04-03	PG
10300100215DCC00	103001002095E700	2013-04-03	PG
10300100212D8600	10300100229C6A00	2013-04-03	PG
1030010020347C00	10300100201D8900	2013-04-04	RG
102001002055DF00	102001002156EC00	2013-04-06	PG
1030010021894600	10300100214A4E00	2013-04-15	RG
1030010021982B00	10300100208AEB00	2013-04-19	79N
1030010022366B00	1030010022326900	2013-04-20	79N
1020010022A92B00	1020010020333200	2013-04-20	79N
1030010021B10A00	1030010021584300	2013-04-23	79N
102001002148C500	1020010022D17600	2013-04-24	79N
10300100224F0E00	1030010022105300	2013-04-26	PG

Scene 1	Scene 2	Acquisition date	Ice tongue
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1030010022905800	103001002279D300	2013-05-05	79N
1030010022D00B00	1030010023198700	2013-05-05	79N
10300100228B0100	1030010022088C00	2013-05-10	PG
1020010021603E00	1020010021BF3800	2013-05-10	79N
1030010022541D00	10300100223CF900	2013-05-20	PG
1020010024638D00	1020010022299900	2013-05-22	79N
10300100226FE400	1030010023B24100	2013-05-24	79N
1020010022489600	1020010020871C00	2013-05-24	79N
10200100237A7300	10200100212B6C00	2013-05-25	79N
1020010024CEC700	1020010021D7BE00	2013-05-26	79N
103001002426D600	1030010022ADD800	2013-05-26	79N
1020010022069600	1020010021CD2300	2013-05-26	79N
1030010022A95300	1030010023BC9900	2013-05-27	79N
1030010022D61300	10300100235CD200	2013-05-27	79N
10300100222A5300	10300100219D7900	2013-05-28	79N
103001002365A500	1030010023887700	2013-05-28	79N
102001002174F400	1020010022B2E100	2013-05-29	79N
1030010022368800	1030010023238900	2013-05-29	79N
10200100240DD300	10200100230AE100	2013-05-31	PG
103001002390DF00	10300100234AF200	2013-06-27	PG
10300100244BA500	1030010024AC7900	2013-06-28	RG
1020010022307400	102001002321AC00	2013-07-11	PG
1030010025150700	1030010025D66E00	2013-07-11	RG
10200100231CC500	1020010023E23400	2013-07-19	79N
1030010024723400	103001002483B000	2013-07-26	79N
1020010024AA0300	102001002386E900	2013-07-29	79N
10300100248ECF00	1030010025734B00	2013-07-29	79N
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1020010023B84000	1020010023769E00	2013-08-10	79N
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103001002665B800	10300100268A0400	2013-08-21	PG
10300100269FCD00	1030010026949C00	2013-08-21	PG
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1020010023DB5E00	1020010021062E00	2013-08-23	79N
1030010025892400	10300100275D2100	2013-09-06	79N
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1020010024E0BF00	10200100250FA600	2013-10-03	PG
10300100279E6200	1030010028AE6C00	2013-10-05	PG

Scene 1	Scene 2	Acquisition date	Ice tongue
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103001002D7E7600	103001002EC1C200	2014-03-27	PG
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1030010030AA1D00	103001002F63F100	2014-04-08	79N
103001002F565400	103001002F171B00	2014-04-12	79N
103001002E917100	103001002E113600	2014-04-13	PG
103001002E5A0300	103001002F0F7F00	2014-04-16	79N
103001002F0BED00	103001003088B400	2014-04-18	PG
1030010030616000	103001002E527800	2014-04-22	79N
102001002CD2F700	102001002D4BA300	2014-04-24	79N
103001002FC3DF00	103001002F9A3300	2014-04-25	PG
1030010030723600	103001003053D200	2014-04-28	PG
102001002D347E00	102001002BA28700	2014-04-28	PG
1030010030535B00	1030010031495D00	2014-04-30	PG
1030010030976700	1030010031C61200	2014-04-30	79N
103001002F731300	10300100305FF300	2014-05-01	PG
102001002E5F6100	102001002EA42000	2014-05-01	79N
1030010030115F00	1030010031563600	2014-05-03	79N
10300100308AF800	103001003057C400	2014-05-04	79N
102001002C300300	102001002C1B5D00	2014-05-07	79N
1030010031B51300	1030010030B49E00	2014-05-08	79N
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1030010032D67600	1030010031D2A100	2014-05-29	79N
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102001002FD5BD00	102001002E041C00	2014-05-31	PG
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102001002F523600	102001002E26F600	2014-06-04	PG
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1030010033A2D400	10300100335D2400	2014-06-20	PG
1020010030907500	1020010031C91500	2014-06-20	PG
1030010032543300	1030010032026400	2014-06-22	PG
102001002F301800	102001002FC47C00	2014-06-23	PG
103001003308BC00	103001003256F800	2014-06-24	PG

Scene 1	Scene 2	Acquisition date	Ice tongue
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1030010033969600	10300100336CFF00	2014-07-06	RG
1030010033916300	10300100330C6600	2014-07-07	79N
1030010034058E00	10300100337C6C00	2014-07-07	RG
1030010034082800	103001003265C300	2014-07-16	PG
1030010035D14700	1030010034735900	2014-08-04	RG
1020010032536900	1020010031302200	2014-08-06	RG
102001003231EA00	102001003272FB00	2014-08-09	PG
102001003521BA00	1020010032934D00	2014-08-11	RG
10300100357B5000	10300100369C2A00	2014-08-12	PG
1020010031030D00	1020010032B0C600	2014-08-15	RG
1020010030ABC300	10200100329BDB00	2014-08-15	PG
10300100357F6600	10300100347ABF00	2014-08-16	PG
1020010030B9A400	102001003399BB00	2014-08-17	RG
10300100352C8300	10300100363CD400	2014-08-18	PG
1020010033A3B000	1020010032EA1100	2014-08-18	RG
1020010031C81400	1020010031B27F00	2014-08-22	RG
1020010033464C00	1020010033D30300	2014-08-24	PG
10300100357D8800	1030010034032C00	2014-08-25	RG
103001003605DD00	10300100364E9600	2014-08-26	RG
1020010030226B00	1020010031E37300	2014-08-26	PG
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10200100325FCB00	1020010031C32C00	2014-08-30	PG
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1030010036772600	10300100374F1700	2014-08-31	RG
103001003522EB00	103001003682A000	2014-09-01	PG
1030010036B2F500	1030010037803800	2014-09-04	RG
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10400100092E6500	104001000A6E9400	2015-04-06	79N
102001003D519A00	102001003D72DE00	2015-04-09	PG
102001003D249200	102001003E8DB800	2015-04-10	PG
1020010039C56400	102001003C918200	2015-04-10	PG
103001003F8D5500	10300100405BF200	2015-04-11	PG
10200100400FAB00	102001003E92AB00	2015-04-12	PG



Scene 1	Scene 2	Acquisition date	Ice tongue
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10300100406CA100	10300100407CC100	2015-04-16	79N
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1030010042D7C300	103001003F9A2700	2015-04-17	79N
102001003C929A00	102001003B825400	2015-04-17	79N
103001004045D200	10300100405D4C00	2015-04-19	PG
104001000A054400	104001000A02D600	2015-04-26	RG
102001003C17F000	102001003D0AD300	2015-04-28	RG
10300100418F7F00	1030010041BFA900	2015-04-28	RG
104001000B4DB800	104001000AA07700	2015-05-03	RG
102001003B7A5800	102001003C961D00	2015-05-05	RG
102001003F046B00	102001003E171500	2015-05-16	79N
1030010043C01400	103001004089E100	2015-05-23	79N
104001000DB3A100	104001000D5D0C00	2015-06-17	79N
1030010044154700	10300100447C4900	2015-07-09	PG
103001004423F800	10300100460A0300	2015-07-10	PG
104001000E823E00	104001000E783A00	2015-07-17	79N
103001004647F000	1030010047831D00	2015-07-24	79N