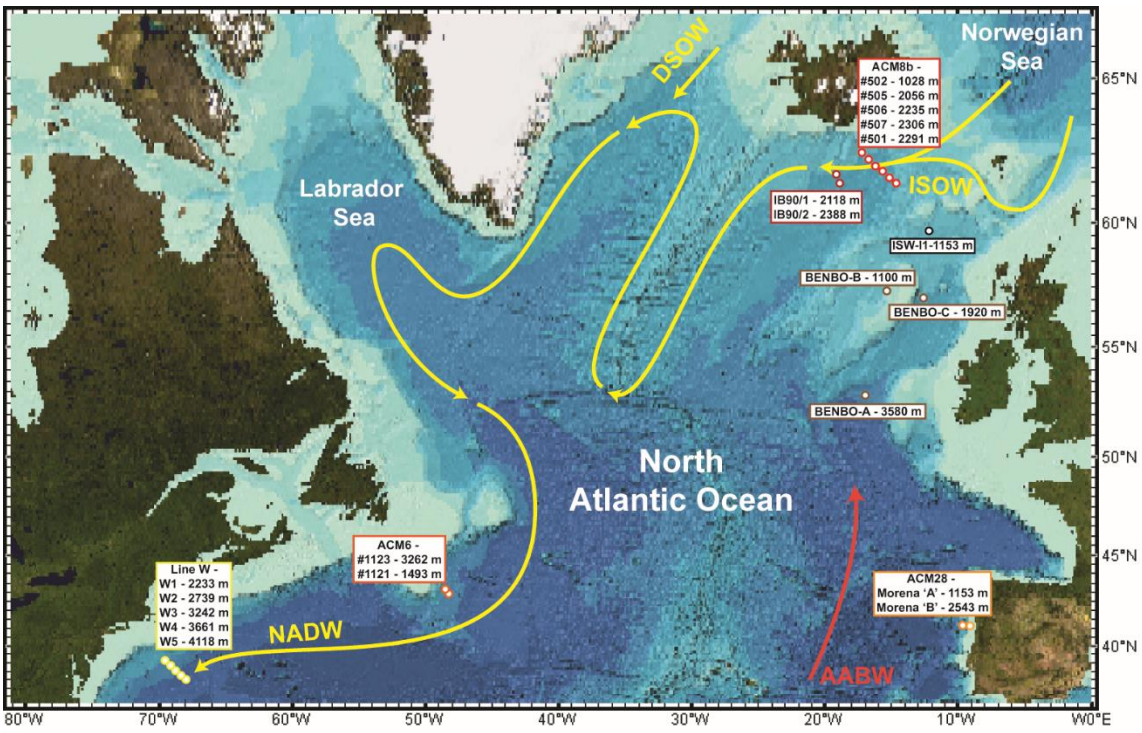
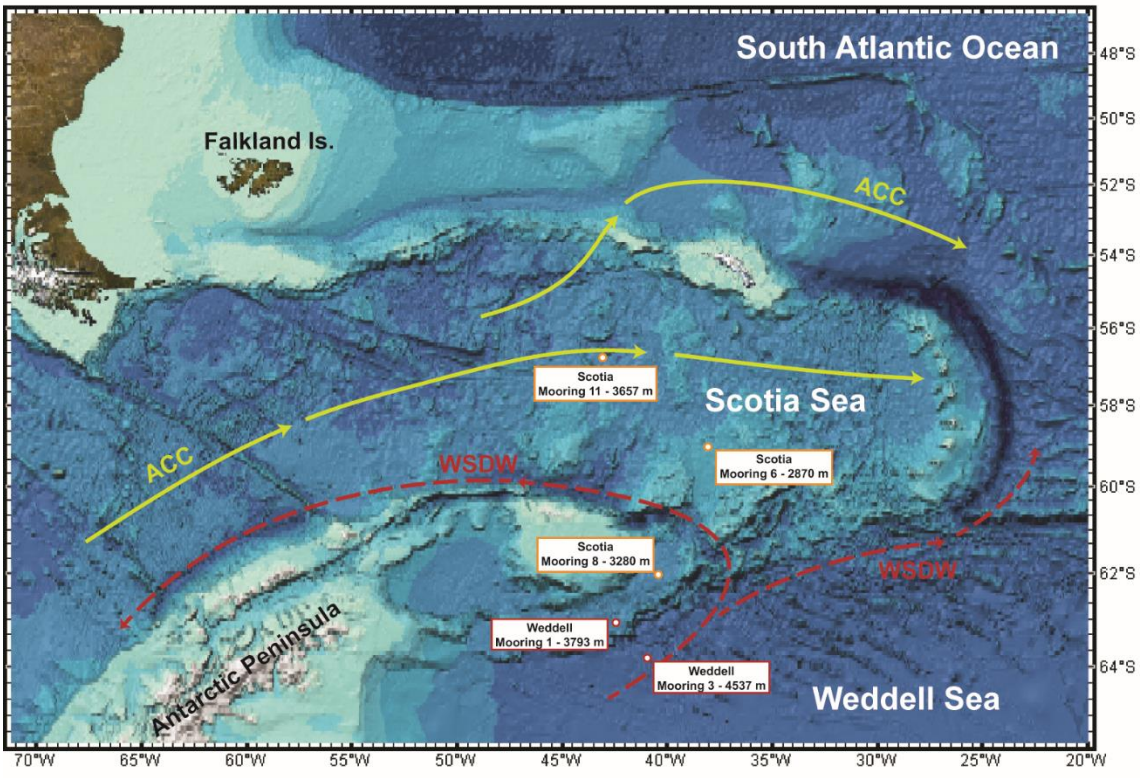
# Appendix A. Supplementary Material for McCave, Thornalley and Hall,

"***Relation of sortable silt grain size to deep-sea current speeds: Calibration of the 'Mud Current Meter'***"

## 1. Maps of sampled sites.



## 2. Table S1. Ranges of $\overline{SS}$ for published records

| | instru-ment | Inter-glacial | glacial | range µm | speed change | Ref # in Supp. Info. |
|---|---|---|---|---|---|---|
| **Glacial-Interglacial Records** | | | | | | |
| S Feni Drift | Sedi | 28 | 18.5 | 9.5 | 12.9 | 11 |
| N.Gardar Drift | Sedi | 22 | 14 | 8 | 10.9 | 9 |
| Iberian margin | Sedi | 21 | 14.5 | 6.5 | 8.8 | 6 |
| CGFZ | Sedi | 21 | 10.5 | 10.5 | 14.3 | 5 |
| Bermuda rise | Sedi | 20 | 10.5 | 9.5 | 12.9 | 5 |
| BOR (GNAIW) | CC | 22 | 32 | -10 | -14.7 | 17 |
| BOR(NADW) | CC | 21.5 | 18 | 3.5 | 5.1 | 17 |
| BOR (AABW) | CC | 18 | 29 | -11 | -16.2 | 17 |
| BOR (NADW) | Sedi | 23 | 16 | 7 | 9.5 | 18 |
| BOR (AABW) | Sedi | 14 | 23 | -9 | -12.2 | 18 |
| Ceara Rise | Sedi | 17.8 | 15 | 2.8 | 3.8 | 4 |
| Chatham | Sedi | 13.5 | 18 | -4.5 | -6.1 | 7 |
| ACC Central Scotia | CC | 17.5 | 16.25 | 1.25 | 1.8 | 12 |
| ACC Drake Passage | Sedi | 36 | 24 | 12 | 16.3 | 10 |
| **Holocene Records** | | Holo max | Holo min | range | speed change | |
| S. Iceland | Sedi | | | -1.3 | -1.8 | 16 |
| S. Iceland | CC | 17.9 | 20.6 | -2.7 | -4.0 | 13 |
| central Gardar Drift | Sedi | 15.5 | 11.5 | 4 | 5.4 | 1 |
| central Gardar Drift | CC | 14.5 | 19.5 | -5 | -7.4 | 8 |
| central Gardar Drift | CC | 19.3 | 16 | 3.3 | 4.9 | 3 |
| S. Iceland | CC | 30.5 | 34.5 | -4 | -5.9 | 15 |
| Eirik Drift | CC | 24.5 | 21 | 3.5 | 5.1 | 15 |
| S. Iceland | CC | 17.8 | 19.1 | -1.3 | -1.9 | 14 |
| central Gardar Drift | CC | 16.1 | 15.4 | 0.7 | 1.0 | 2 |

Negative is slowdown (from older to younger)

Conversion of Sedigraph to laser values, specific to the laser sizer in use, will be required if the calibration presented in this study is to be applied to laser data. Jessen and Rasmussen (2015) have comparative data for the LS230 laser and Sedigraph (but no equation) while Jonkers et al. (2015) compare Fritsch and Coulter counter. For Jonkers' data $\overline{SS}_{(CC)} = 1.001*\overline{SS}_{(laser)} - 0.74$ ($r^2 = 0.442$).

## References for Table S1.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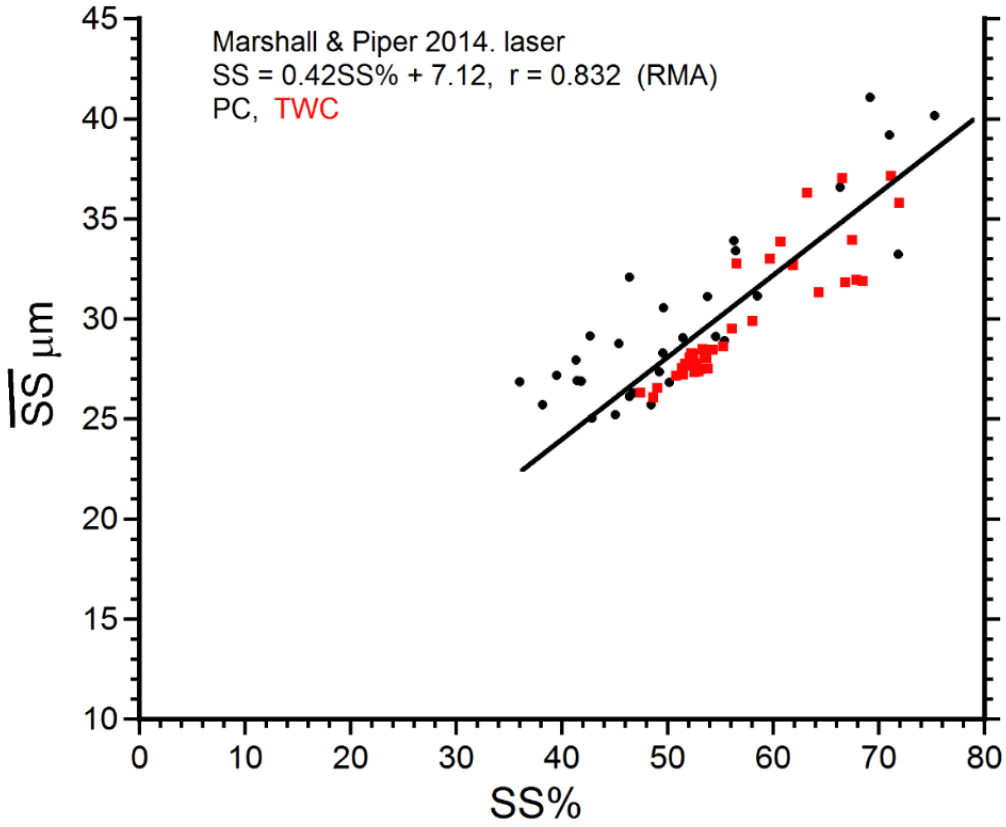
## 3. $\overline{SS}$ vs SS% data by laser sizer

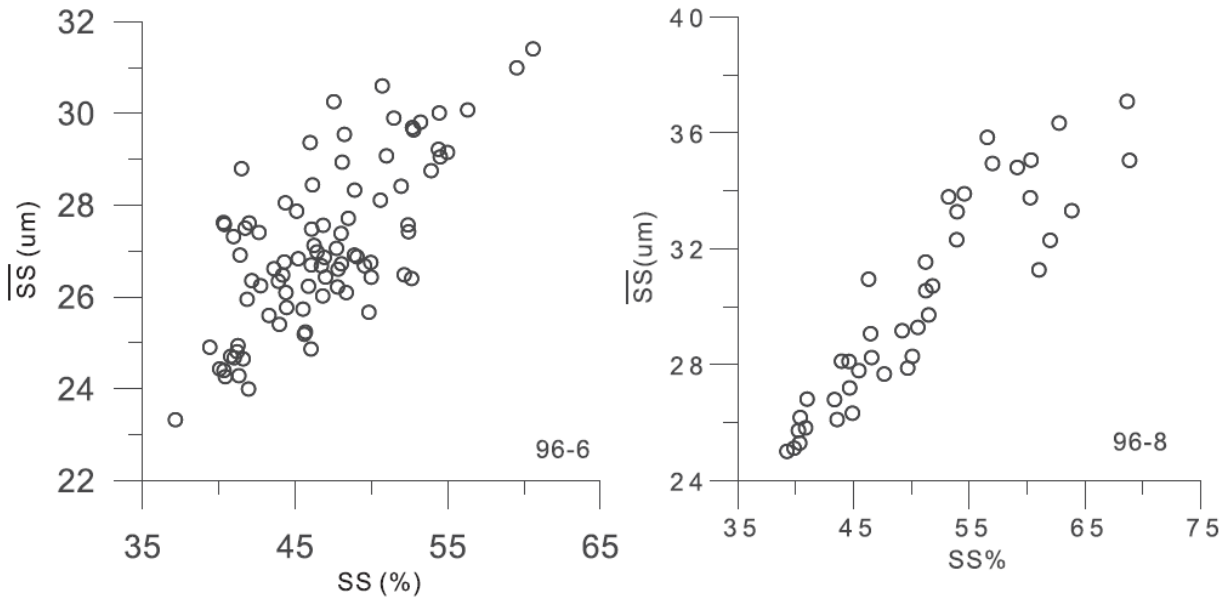
Examples of 'well-behaved', i.e. current-sorted sediment from areas of IRD input.

A. Data from Marshall et al (2014)

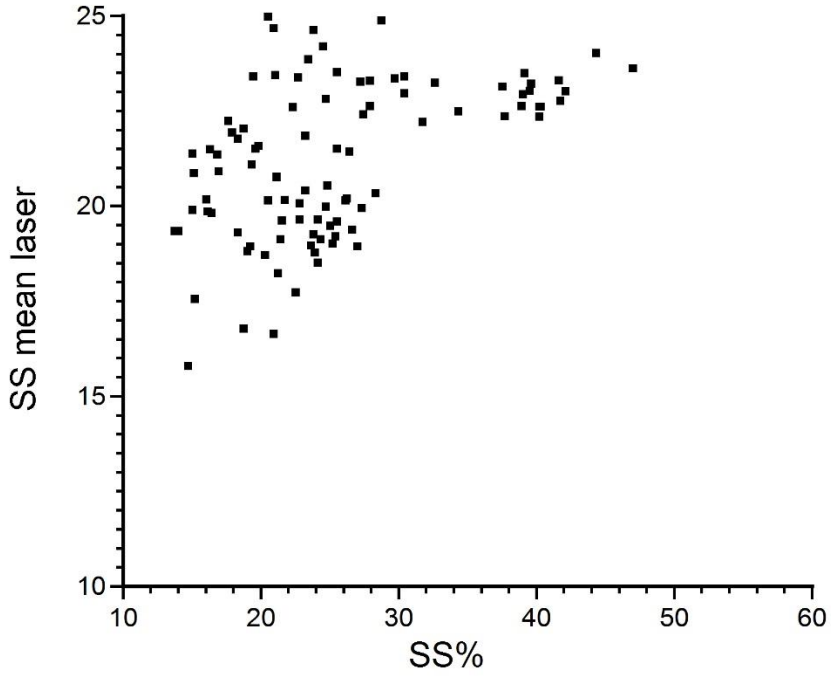



PC = Piston core; TWC = Trigger weight core.

B. $\overline{SS}$ vs SS% from Li and Piper (2015) by laser sizer.

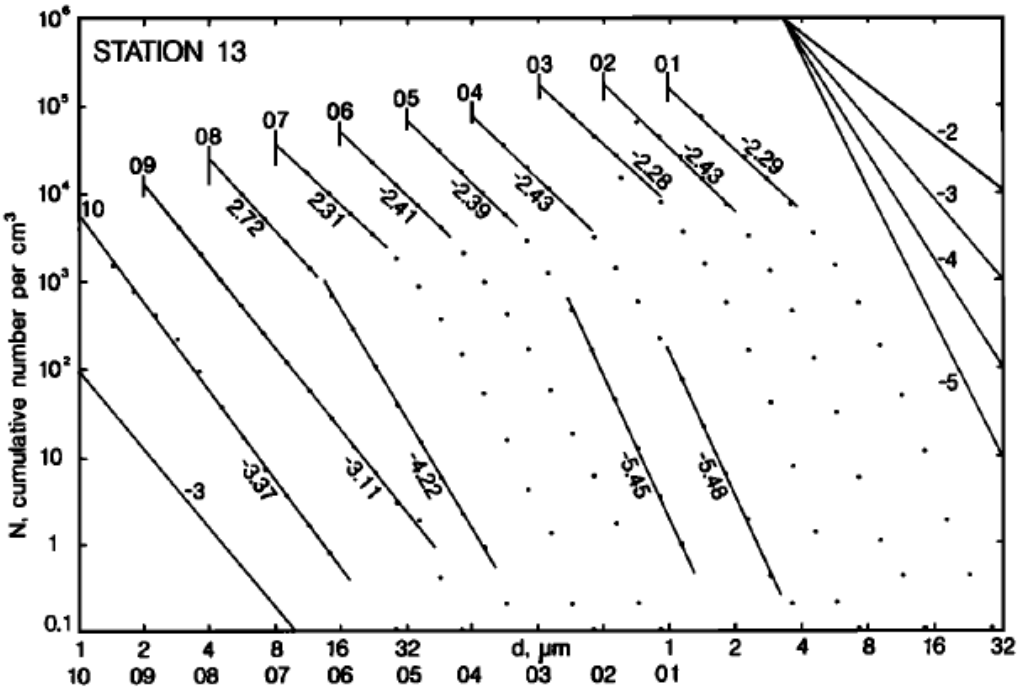



C. Example of poorly sorted sediment where an IRD signature probably dominates the $\overline{SS}$ calculated from Jonkers' et al. (2015) laser sizer data. Compared with the plots above in a) and b) there is a great deal of scatter signifying the presence of unsorted material and supporting the inference of Jonkers et al. that this data set contains data from sediments that have not responded to current-sorting. We argue that this was caused by very slow flow speeds at the LGM.

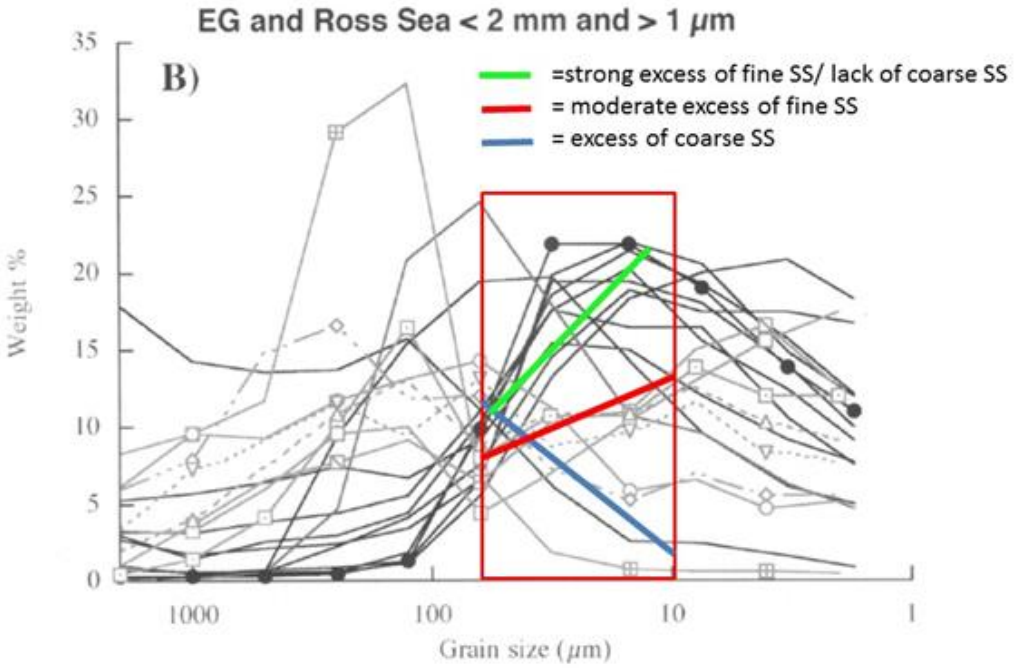


## 4. Size distributions in nepheloid layer from McCave (1983)

Cumulative particle number distributions, log-log plot. Abscissa has size-doubling increments with each curve (#s 10 to 01) starting one position to the right successively. Maximum slopes are -5.5 to -6, equivalent to volume distributiond with slopes -2.5 to -3. A cumulative number slope of -3 (a Junge distribution) is equivalent to a flat volume distribution, slope = 0 (McCave 1983, 1984).




## 5. Data on grain-size distributions of proximal glacial marine sediments from the Ross Sea and E. Greenland shelf from Andrews and Principato (2003)




The red box delineates the SS size range. Light grey is Ross Sea, black is E. Greenland data

## References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