Uncertainties

Ice Sheet Contribution highly uncertain:

- Zwally et al., 2002: dynamic response due to meltwater intrusion;
- van de Wals et al., 2008: feedback through sea water; Greenland is slowing down;
- Pfeffer et al., 2008: Contribution might be as large as 2 m by 2100;
- Bambers et al., 2009: Total contribution of West Antarctic ice sheet smaller than previously predicted;
- McPhee et al., 2009: Greenland meltwater might increase sea level at the Northern Coasts of North America.

Lipscomb et al. (2009): “Recent observations show that ice sheets can respond to climate change on annual to decadal timescales and that the Greenland and West Antarctic ice sheet are **losing mass at an increasing rate.** The current generation of ice sheet **models cannot provide credible predictions of ice sheet retreat** , ... The IPCC provided neither a best estimate nor an upper bound for 21st-century sea level rise because of uncertainties in the dynamic response of ice sheets.”