

# Embarrassment

- Still missing solid quantitative reconstruction of LGM Atlantic
- Pacific, Indian, Southern Ocean?
- Consistent multi-proxy picture of even Atlantic water masses on millennial timescales

*Can we do better? What will it take? More data? New proxies? Better dating? More coordination - nationally and internationally?*

# Pace Strawman A

- Reconstruct the strength of the large-scale meridional overturning circulation in the Atlantic at millennial timescales over the last 30 kyr with an estimate of the associated error
- Reconstruct associated fluxes of heat and carbon
  - We are close
  - We are very interested in the answer as it applies to the understanding of abrupt climate change and stability of Holocene
  - Will this happen without PACE anyway?

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# PACE Strawman B

- Reconstruct large scale water mass distribution and circulation for the global ocean during LGM (19-23kyr)
  - Global picture
  - May have to settle for qualitative view in Pacific/Southern
  - Are we ready for even qualitative view of Pacific/Southern?

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# Workshop Goals

*Timescale: Past ~30 +/- 30 kyrs at millennial resolution*

- Assess the potential of existing paleoceanographic proxies -- to what extent can they constrain scenarios of past mean ocean circulation if widely applied
- Assess the sufficiency of existing data coverage
- Determine whether a large scale coordinated program (PACE) is warranted, and what it might look like, based on the above

# Breakout session 2

- Assess the potential of existing paleoceanographic proxies -- to what extent can they constrain scenarios of past ocean circulation if widely applied
- Assess the sufficiency of existing data coverage
  - How does current data coverage address Strawman A and B?
  - What method developments are necessary for wider/more effective coverage?

# Plenary Discussion

- Are we ready to move forward with A, B, neither or both?
  - Planning takes time, isn't always fun
  - Planning can (but doesn't necessarily) lead to better/quicker results
  - Planning can bring resources
  - What resources does planning require?

# Breakout groups

- Water mass tracers (carbon isotopes, Nd isotopes, trace metals) - Zahn **Room 1205**
- Radiocarbon and Pa/Th - McManus, Yu **Room 1175**
- T,S, d18O, density - Adkins, Lynch-Stieglitz **Room 1116**
- Grain size - bottom velocity - Hall **Top Atrium**
- Inverse methods - Marchal **Bottom Atrium**

# Schedule

- 8:30-9:00 Goals
- 9:00-10:00 Breakout
- 10:00-10:15 coffee break
- 10:15-11:00 Report from breakout (5 minutes summaries)
- 11:00-12:00 Plenary discussion - PACE