The papers will involve Benoit, Ben, Nicolas, Matt, Chris, Angelique, Xavier, Christin, Aimee, Stefan, John, Cecile and Giorgio

Schedule until the first draft

1. Get a definitive version of the sea level components (excluding the regional patterns) by the 30/01/2016 with readme to explain the data
2. Get the regional patterns by 15/02/2016
3. Get a first dowscalling of Antarctica mass balance with MAR forced by Access1.3 by 01/02/2016
4. Add the new result and get a first draft by mid 15/03/2016

First paper: update of John ERL paper: global mean sea level estimates from climate models vs tide gauges
Second paper: regional sea level from climate models vs tide gauges

Content of the first paper. Aimée is leading

Estimates of the global mean sea level from climate models and compare to tide gauges and altimetry.
Look over 1900-2015 models extended with RCP8.5
And try to explain acceleration in the 1990
For all figures: plot time series and rates

CMIP5 estimates and comparison to observations when available (1 **figure** each)

1. Zostoga (picontrol non-volcanic corrected)
2. Glaciers (ben's model) compare to paul Leclerc observations
3. Ice sheet SMB (A+G) including discussion on downscaling methods and other approaches-maybe more figures from the downscaling

Non CMIP5 contributions (combined in 1 **figure**)

4. Ice sheet dynamics
   Land water
   GIA

Additional terms

5. long term ice sheet /deep ocean term (0.13 mm/yr)
6. Greenland glaciers early 20th century warming
7. Greenland SMB early 20th century warming

Sum
Figure panel a without additional terms
Panel b with additional terms

Discussion on the acceleration in the 1990s: **figure** zoom on the altimetry period with the sea level from climate model broken down into contributors and comparison with

altimetry. Can we explain the acceleration masked by the Pinatubo eruption and potentially trace it back to the contributors

Content of the second paper. Benoit is leading

Estimates of the regional sea level from climate models and compare it to tide gauges. Look over 1900-2015

for figures, present the difference of 20-yr averages or trends or both
for CMIP5 figures: ensemble mean and spread and add all models in the supplementary material

CMIP5 estimates and comparison to observations when available (1 **figure** each)

1. ZOS+ Zostoga (picontrol non-volcanic corrected, corrected for drift)
2. Glaciers (ben's model) with the CRU driven model
3. Ice sheet SMB (A+G) including discussion on downscaling methods and other approaches- compare to the reanalysis forced RCM
4. Atmospheric pressure compare to the 20C reanalysis

Non CMIP5 contributions (1 **figure each**)

5. Ice sheet dynamics
6. Land water broken down in Dams and Ground water
7. GIA

Additional terms (1 combined **figure**)

8. long term ice sheet /deep ocean term (0.13 mm/yr)
9. Greenland glaciers early 20th century warming
10. Greenland SMB early 20th century warming

Sum
Figure panel a without additional terms
Panel b with additional terms

Comparison with tide gauge records

Time series comparisons:
1st set of Figure plot the comparison of time series from climate models with TG time series along the components next to it. Break it down by regions
Trend comparisons
1 figure: scatterplot of the ensemble mean trends including uncertainty (from internal variability and spread between models) vs tg trends
1 figure for each individual model in supplementary material: scatterplot of the trends including uncertainty (from internal variability) vs tg trends