

Work to be done for the 1<sup>st</sup> article:

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## SCHEDULE

Here are some elements of schedule we agreed on

- \* Arrive at the next meeting with modeled regional sea level and some comparisons
  - \* mid 2015 get the first comparisons between TG records, satellite altimetry, OHC, and modeled sea level
  - \* arrive at the next meeting with inputs for the paper
  - \* design the paper during the meeting: what are the main sections, what are the main diagrams
  - \* if you can come to the next meeting with some suggestions diagrams for the second article
  - \* check the website progress
  - \* next meeting between 14<sup>th</sup> of September and the 17<sup>th</sup> of October. Book the week
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## ACTIONS

Here is a list of associated actions we should take on before the next meeting.

We work with annual fields with a resolution of 1°x1° (TBC by John)

## GLACIERS MASS LOSS

- 1) Check with BenM which GlaciersML estimates from GCMs he has. Will he compute glaciers for more GCMs models, more GCM simulations than what he has now? **Kristin**
- 2) List the GCMs used by BenM to compute GlaciersML and provide the team with the list including the realization id (RnPnIn) **Kristin**
- 3) Compute GlaciersML estimates from GCMs with Aimée model. **Aimée**
- 4) Contact Radic and Hock and ask them if they are willing to join and compute GlaciersML estimates from GCMs with their model. **Kristin/BenM**
- 5) Collect Ben Marzeion glaciers mass loss estimates based on Hadcrut and Leclerc updated estimates based on glaciers length **Kristin**
- 6) compute 20<sup>th</sup> century glaciers mass loss with aimée's glacier forced by Hadcrut observations **Aimée**

OHC:

7) collect Levitus and Ishii observations of T and S and compute the annual thermosteric sea level fields (and pentadal halosteric sea level?)

Benoit/Angélique

8) Ask Catia annual thermosteric sea level fields after T.Boyer article

Aimée/John

9) calculate the T and S field with the EN4 for different xbt corrections Chris

10) compute annual thermosteric and halosteric sea level fields from GCMs outputs. Use Levitus between 700m depth and 2000m depth and Purkey and Johnson below 2000m depth (see Purkey et al. 2014 JGR ocean)

Benoit/Angélique

## GREENLAND MASS LOSS SMB

11) provide Benoit with Greenland SMB over the 21<sup>st</sup> century given by RACMO forced by 1 GCM Stefan

12) Check if it is not stupid to use the Greenland SMB over the 20<sup>th</sup> century with RCM forced by reanalysis ERA20 Cecile/Xavier, Stefan

13) Provide with the Greenland SMB over 1958-2013 with RCM forced by reanalysis ERA40 Cecile/Xavier, Stefan

14) recompute the regional downscaling of Greenland SMB based on the 2 RCM runs Benoit/Angélique

15) check that the downscaling is working on RCMs forced with reanalysis Benoit/Angélique

16) apply the downscaling technique to GCMs Benoit/Angélique

## ANTARCTICA MASS LOSS SMB

17) provide Benoit with the Antarctica SMB over the 21<sup>st</sup> century given by RCMs forced by GCM Cecile, Stefan

18) Provide with the Antarctica SMB over 1979-2013 with RCM forced by reanalysis ERAinterim Cecile, Stefan

19) compute a regional downscaling of Antarctica SMB based on the 2 RCM 21<sup>st</sup> century runs Benoit/Angélique

20) check that the downscaling is working on RCMs forced with reanalysis Benoit/Angélique

21) apply the downscaling technique to GCMs Benoit/Angélique

## ICE SHEET DYNAMICS

22) check whether we can get ice discharge observations out of Shepherd data **Stefan**,

23) Ask Eric Rignot whether he can provide ice discharge observations **Stefan**

## LAND WATER

24) check which kind of data (GWD or GWD+dams) is available from Wada and Chao. **Aimée**

25) check with Konikov if he can provide an updated dataset for GWD **John**

## PERIPHERAL GLACIERS

26) Compare the Greenland peripheral glaciers estimates from Greenland SMB estimates with the estimates from glaciers models **Benoit/ Angélique**

## PRESSURE LOADING

27) compute the pressure loading from GCMs **Benoit/Angelique**

28) collect the pressure loading observations from reanalysis **Benoit /Angelique**

## GIA

29) contact M.Tamiseia to see if he will put online on the PSMSL website the GIA corrections from different groups **John**

30) collect the GIA correction for relative sea level from Peltier and Lambeck **Aimée**

31) collect the GIA correction for Altimetry from Peltier **Benoit**

32) check if the GIA correction for Altimetry from Lambeck is available **Aimée**

33) Check if you can find Paulson GIA corrections. **Aimée**

## SEA LEVEL PATTERNS FROM EARTH RESPONSE

34) Compute the sea level pattern related to Glaciers ML, Ice sheet SMB and dynamics, Land water. **Aimée, Benoit(Giorgio)**

## SEA LEVEL OBSERVATIONS

35) provide sea level observations from CCI with error estimates on GMSL trend, GMSL at monthly , regional sea level trends (by the end of the year 2015) **Benoit**

36) provide sea level reconstructions. **BenH, John, Benoit (and ask j. Schrotoer)**

37) provide a quality controlled TG record dataset with small gaps (not IB corrected, not corrected for GIA) over 1880-2013 for comparisons, **John**

## OTHER CONTRIBUTORS THAT ARE NEGLECTED

38) Estimate the mass increase over shelves due to thermal expansion over the 20<sup>th</sup> century and compare with 21<sup>st</sup> estimate to get an idea of the shelf loading order of magnitude over the 20<sup>th</sup> century. **Benoit/Angélique**

## COMPARISON OF MODELLED SEA LEVEL AND OBSERVATIONS

39) Compute the modeled sea level from GCMs and offline models by summing the contributors. **Aimée/John, Benoit/Angelique**

40) compare the modeled sea level from GCMs with TG, satellite altimetry and OHC... **Aimée/John, Benoit/Angelique**

41) compare the Greenland and Antarctica SMB with “observations” **TBD Benoit/Cecile/Stefan**

42) compare the pressure loading with observations **Benoit**