

1. Questions for prompting groups in thinking about what an “Ideal world” would where climate and biodiversity scientists work together efficiently to produce robust messages

Climate scientists	Biodiversity scientists
1. What type of data would we like make available to non-climate communities? Which variables would we prefer to provide? Format? 2. How would we like to make your data available to the biodiversity community? 3. What would we like the biodiversity sector to understand about your climate data? 4. How would we like to present our uncertainties? 5. How we would like to present our bias correction methods to the biodiversity communities? 6. How much interaction of the biodiversity community in determining model setup? What input would we like from the biodiversity community	1. The type of data I would like to receive from the climate community looks like this:..... 2. If climate scientists understood ABCD about my data needs, my research would be greatly aided. What is ABCD? 3. What are the time and space scale requirements for my models 4. How would I like uncertainties to be communicated/quantified 5. “Biodiversity affects climate” - how important is it for climate scientists to take this into account? What types of systems need to be thought about? 6. The level of interaction with the climate scientists I would like would be.....

2. Summary of thoughts of what each community would like the other to understand.

In the first column are what the biodiversity community would see the climate community understanding and in the second column what the climate community would like the biodiversity community to understand.

In an ideal world....	In an ideal world....
1. Climate scientists would understand the different spatial scales we work in and be able to provide data relevant to these scales. 2. Climate scientists would be able to provide high resolution data at paleoclimate time scales 3. Climate scientists would be able to provide gridded data to us 4. Biodiversity scientist would know a little bit about climate models 5. Climate scientists would understand how ecosystems are relevant to climate systems 6. Climate scientists would incorporate land used change in their models 7. There is good communication between	1. Biodiversity scientists would be able to work with temperature and rainfall data in netCDF format 2. There would be a climate services community that acts as a conduit/translator/interpreter of climate information and provides this to the biodiversity community 3. Biodiversity scientists would understand the differences between observation and model data; what “resolution” means and implications of resolution change; model skillfulness and the limitations of models and observations, scenarios and ensembles. 4. Biodiversity scientists are able to

the two communities to strengthen the outcomes of both communities 8. There would be a co-exploration of questions, data, methods, etc...	work with uncertainty represented as statistical distributions (a range of likely futures) a. And why it is not possible to say “This is the best model” 5. Biodiversity scientists understand bias correction methodologies, why we bias correct and what the implications are. 6. There is good communication between both communities so the climate models can be improved
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3. Barriers identified that inhibit us from reaching the “ideal world” interaction between the two communities

3.1 From the biodiversity community:

1. Data format:
 - a. Important to have more user friendly data format – move from netcdf to GIS. Particular tool to complete this transformation.
2. No shared vision:
 - a. We need capacity building to ensure a shared vision and common dialogue.
3. Meaning and quantification of uncertainty is different in the different communities:
 - a. We fully agree there is no ‘best’ model. Would instead like to know the uncertainty of the temperature variable and therefore which is the most appropriate model.
4. Meaning and quantification of bias correction is different in the different communities:
 - a. Establish a good dialogue regarding a useful tool for determining appropriate bias correction method. What do cc scientists mean by bias?

Five key words emerged:

1. Format
2. Data availability
3. Language
4. Incentives
5. Interdisciplinarity

3.2 From climate scientist community

1. Need a dialogue – what are species, ecosystems etc scales?
2. What data has been used and how do you know that climate matters?
3. Some basic understanding of climatology, physics and chaos theory is required for effective collaborative work.

4. High resolution gridded data – how representative? We do not think they are high quality, validation is required. Why is this data being used? Need a dialogue!

4. Some outcomes of the discussions

The biggest idea to emerge from the discussion was a desire from both communities for “Dialogue” to understand each other. Which begs the question “What would the dialogue process look like?”. Below are some ideas that were put forward:

- Understanding of the day to day work and analysis of the respective groups.
- Incentivise the collaborative process – develop programme call for projects which will have preliminary question determining step.
- To closely involve scientists from the other community in active training workshops to ensure close involvement in each step of the process.
- Address the language issue/acronyms – same terms have different meanings in each community and this must be overcome.
- Have a task requiring the interdisciplinary taskforce to address the challenge – problems such as coral bleaching, pest outbreak, change in agricultural crops, invasive species.....
- Publications reviewed by both climate and biodiversity requiring the content to be mutually understandable.
- Climate scientists need to understand the basics of biodiversity/ecology models and biodiversity scientists would like a “Climate Downscaling 101” type of engagement to understand climate models and downscaling.

Some proposed mechanics to facilitate this process:

- Workshops
- Team building (institutional or via exchange/mobility programmes)
- Websites/blogs
- Existing infrastructure such as Github
- Networks
- Explore IPCC-IPBES