**Session 6:**

Main tasks for this session are:

1. Complete the lab exercise for your chosen study region and taxa.
2. Reading:
   * The 4 papers assigned for this session and next session (session 7) are good examples of applications of species distribution models to evolutionary and conservation questions. Read these carefully as potential models for your project write-ups as you begin to delve deeper into your analyses.
3. Continue to work on your individual projects. Please do get in touch with one of us if you have questions about your project.

Please email a single presentation slide with your results from this session’s lab to Pete before the next class, and be prepared to very briefly describe your results to the group next time.

**Key points regarding individual projects**

1. We are purposefully leaving plenty of flexibility regarding content. The only requirement is that the project should demonstrate proficiency in some of the GIS and/or remote sensing techniques that we have covered during the course.
2. The report should be prepared in the style of a journal paper (you may even choose to name a target journal). This is not to suggest that the expectation is that the work is suitable for publication! However, it is good practice to write in journal style.
3. There is no length requirement for the report. It is preferable to be concise.
4. The presentations (during session 10) will be limited to 12-15 minutes per person, including 5 minutes for questions and discussion.

In general, the report and presentation should package together things that we have worked on during the course. It is not necessary to include everything we have looked at, only those things that are important for your study. It is perfectly fine to acknowledge limitations and to emphasize how you would do things differently given more time (for instance, perhaps you need to find more occurrence records or environmental data at a different resolution). Don’t forget to draw maps that have suitable symbology and a legend, be clear about data sources and methods, and include evaluation statistics if you present niche-based distribution models.

Please submit your report by email to Eleanor, Mary, and Pete by 6pm Wednesday May 6th. This is a strict deadline. Presentations will be during the session on May 4th.

Additional Resources for Sessions 6 and 7:

PALEON Project <http://www3.nd.edu/~paleolab/paleonproject/>

OCEAN ADAPT: tool to track shifts in marine species with changes in ocean and climate conditions.  [www.st.nmfs.noaa.gov/ecosystems/climate/activities/oceanadapt](http://www.st.nmfs.noaa.gov/ecosystems/climate/activities/oceanadapt)

Chiarenza et al. 2019. Ecological niche modelling does not support climatically-driven dinosaur diversity decline before the Cretaceous/Paleogene mass extinction. Nature Communications 10, 1091. [@NatureComms](https://twitter.com/NatureComms/) [nature.com/articles/s4146…](https://t.co/6RdpICwxCr)

Hallfors, et al. 2016. Addressing potential local adaptation in species distribution models: implications for conservation under climate change. Ecological Applications 26(4) 1154-1169. <https://esajournals.onlinelibrary.wiley.com/doi/full/10.1890/15-0926>