**Session 4: Individual projects**

Recall that the general progression we are following for individual projects is as follows:

1. Obtain and import species’ occurrence records (session 1)
2. Obtain and manipulate environmental layers (sessions 2, 3)
3. Run and evaluate species distribution models (sessions 4, 5)
4. Apply the models and discuss applications (sessions 6, 7)
5. Prepare final report and present to the class (session 8-10)

Main tasks for this session are:

1. Reading: Focus on pages 1-28 (sections 1-4) of the Pearson\_SDMGuide.PDF guide to species distribution modeling
2. Maxent is described in detail in: Phillips et al. *Ecological Modeling* 190, 231-259. Don’t worry if some of this is too mathematically heavy – it is ok to skip some details so long as the general approach is understood.
3. Complete the lab exercise for your chosen study region and taxa.
4. Update your project proposal in light of what we have covered this week. Perhaps your ideas have developed further, and you should be able to add some more text to your Methods section. The idea is that your original proposal is gradually developing into your final write-up.

We would like to see updated proposals from everyone this week. Please email these to Pete by 6pm before next session.

Please also email to Pete a single presentation slide with your final map from this session’s lab before the next class, and be prepared to very briefly update the group on your project.

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Additional reading and resources related to session 4:

Merow et al. 2014. What do we gain from simplicity versus complexity in species distribution models? Ecography 37(12) <http://onlinelibrary.wiley.com/doi/10.1111/ecog.00845/abstract>

Bradie, J. and B. Leung. 2017. Journal of Biogeography 44(6).  [A quantitative synthesis of the importance of variables used in MaxEnt species distribution models(pages 1344–1361)](http://onlinelibrary.wiley.com/doi/10.1111/jbi.12894/abstract?campaign=woletoc)