

Bayesian Methods for Ecological and Environmental Modelling

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11th Sept 2019 PM

Plan for the afternoon

This afternoon we'll look at two subjects

Comprehensive Uncertainty Quantification

Or what can go wrong if we don't include an important source of uncertainty in the Bayesian Calibration.

Emulation

What do I do if my model is too slow for MCMC?

Comprehensive Uncertainty Quantification

- ▶ tutorial style
- ▶ working together through a R markdown file
- ▶ calibrating a simple process-based vegetation model.
- ▶ material in folder ComUQ
- ▶ Either:
 - ▶ load the Rmd file compUQ1.Rmd into Rstudio
 - ▶ open the pdf or html file compUQ1 and copy and paste R code into an R console
- ▶ should take us up to at least tea/coffee at 15:30

Emulation

- ▶ material in folder emulation
- ▶ start with some theory emulation.pdf
- ▶ work through a 2D example emuExample.Rmd or emuExample (.pdf or .html)
- ▶ return to emulation.pdf

Comprehensive Uncertainty Quantification reloaded

- ▶ material in folder ComUQ
- ▶ compUQ2.pdf
- ▶ tying the two sessions together
- ▶ Case Study using the Gaussian Process that we looked at in Emulation to model discrepancy.

Finish with a recap