Analysis of Environmental Data – Reading Questions 8
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Q1 (1 pt.): Describe the key difference between the non parametric model (Ch. 7.1) and the parametric model (Ch. 8.1)

For a parametric model, we specify both the deterministic and the stochastic (error) component. We use a parametric model if the residuals (the deviations of the data from the deterministic part, average) closely follow a normal distribution.

For a non-parametric model, we only specify the deterministic component and not the stochastic component, because it is not possible to specify a probability distribution.

Q2 (1 pt.): What is the difference between interpolation and extrapolation?

Interpolation and extrapolation are used to make predictions on values for future observations. Interpolation is the prediction within the measured range of the data. Extrapolation is the prediction beyond the measured range of the data and is therefore way more complex.

Q3 (1 pt.): Explain why extrapolation has more pitfalls than interpolation.

Extrapolation is more complex than interpolation because it is trying to predict values beyond the measured range of data. The choice of model is no easy task and the application of a wrong model can lead to wrong predictions.