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Biodiversity Analysis in East Gippsland Before and After the 2019/2020 Wildfires

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1 Introduction

In a famous paper, Box & Cox ([1964](#)) introduced a family of transformations ...



Figure 1: *Simulated data from a $N(0,1)$ distribution.*

Figure [1](#) shows a kernel density estimate of simulated data from a $N(0,1)$ distribution. The sample variance is given by

$$s^2 = \frac{1}{n-1} \sum_{i=1}^n (x_i - \bar{x})^2 = 0.98. \quad (1)$$

Note that Equation [1](#) is an unbiased estimate of the variance, but it is not the maximum likelihood estimate (Rice [2007](#), p.269).

2 Abstract

3 Background and Motivation

This analysis aims to investigate the impact of the 2019/2020 bushfires on biodiversity in East Gippsland, Victoria. The 2019/2020 bushfires were one of the most devastating bushfires in Australia's history, burning over 1.5 million hectares of land in Victoria alone. The fires had a significant impact on the biodiversity of the region, with many species of flora and fauna being threatened or endangered. This analysis will use spatial data on fire history, vegetation cover, and species sightings to assess the impact of the fires on biodiversity in East Gippsland. The analysis will focus on the changes in

species diversity and distribution before and after the fires, and will also investigate the relationship between fire severity and biodiversity loss. The results of this analysis will provide valuable insights into the impact of the 2019/2020 bushfires on biodiversity in East Gippsland, and will help inform conservation efforts in the region.

4 Objectives

5 Methodology

6 Results

7 Discussion

8 Conclusion

References

- Box, GEP & DR Cox (1964). An analysis of transformations. *Journal of the Royal Statistical Society, Series B* **26**(2), 211–252.
- Rice, JA (2007). *Mathematical Statistics and Data Analysis*. 3rd edition. Duxbury.