

Reproducing a model from its ODD

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Homework

Homework Exercises:

- **Graduate Students:**
 - Graduate students should do Railsback & Grimm, Ex. 5.11

Notes on Homework:

- **Graduate Students:** You can download the journal article for this exercise, R. Jovani & V. Grimm. (2008) “Breeding synchrony in colonial birds: From local stress to global harmony”, *Proc. Royal Soc. London B* **275**, 1567–63 from the class web site, https://ees4760.jgilligan.org/files/models/chapter_05/Jovani_Grimm_2008_Breeding.pdf.

You don’t have to reproduce all of the figures in the paper. Focus on reproducing the information in Figure 2 (make a figure of colony synchrony versus NR and some other figures showing histograms of breeding dates for NR = 0.00, 0.08, 0.20, and 1.00 and comparing them to the histograms in Fig. 2).

You may also (optionally) try to reproduce Fig. 1 and Fig. 4.

Fig. 3 is very hard to reproduce because you would need to write a reporter to calculate the size of the colonies and that is quite difficult with what you know at this point about NetLogo programming, so I don’t recommend this.

 - The paper by Jovani and Grimm forgot to specify the parameter SD. It should have the value 10.0.