Poisson GLM worksheet

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Jellyfish populations are an important contemporary topic in ocean sciences. To study the effect of temperature on jellyfish abundance, a researcher looked at the number of *Aurelia spp.* per square kilometre in the Northeast and Northwest Atlantic over the course of a season. The temperature of each observation was also recorded. The researcher is interested in the effects of are and temperature on jellyfish abundance.

The file `jellyfish.txt` is here.

1. Read the data into R.

2. Plot the data in a way you think suitable.

3. Use the `glm` function in R to fit Poisson regressions (log-linear models) with:

    a. Just a grand mean

    b. A grand mean plus a grand effect of temperature

    c. By-area mean

    d. By-area mean plus a grand effect of temperature

    e. By-area mean plus by-area effect of temperature

5. Can you interpret what the parameters mean?

6. Overlay your plot with predictions from one of the models

7. Bonus: add 95% confidence intervals to your lines