BDA Project: Hurricane forecasting in Stan

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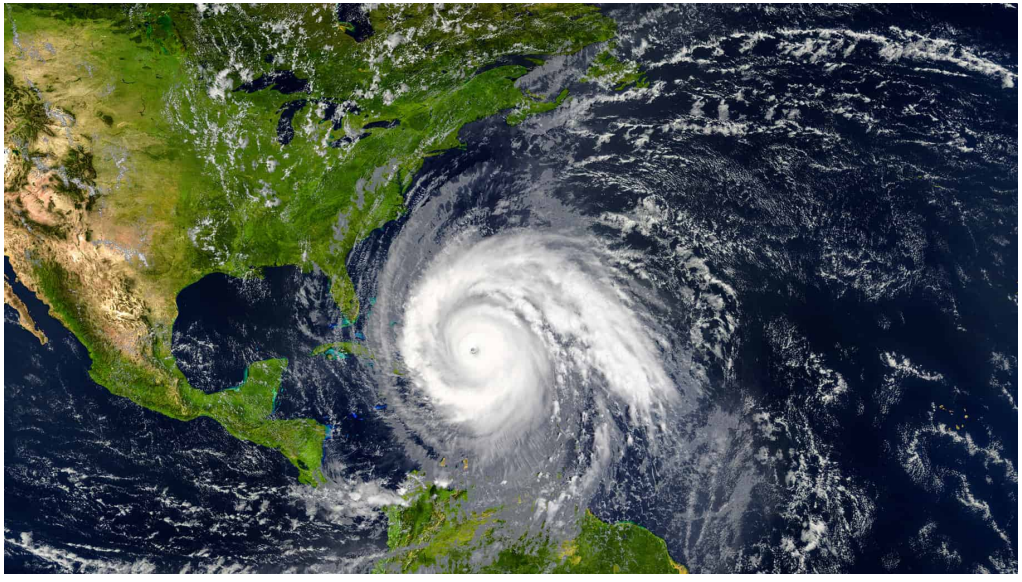
Hurricane introduction

-Destructive storms occuring in the late summer and fall in the northern hemisphere's tropical region.
-Classified by their wind intensity at the eye wall.
-They can cause extreme levels of flooding and destroy many buildings.
-Monetary damages and loss of lives increase with an almost exponential character as a function of storm intensity.



Hurricane forecasting basics

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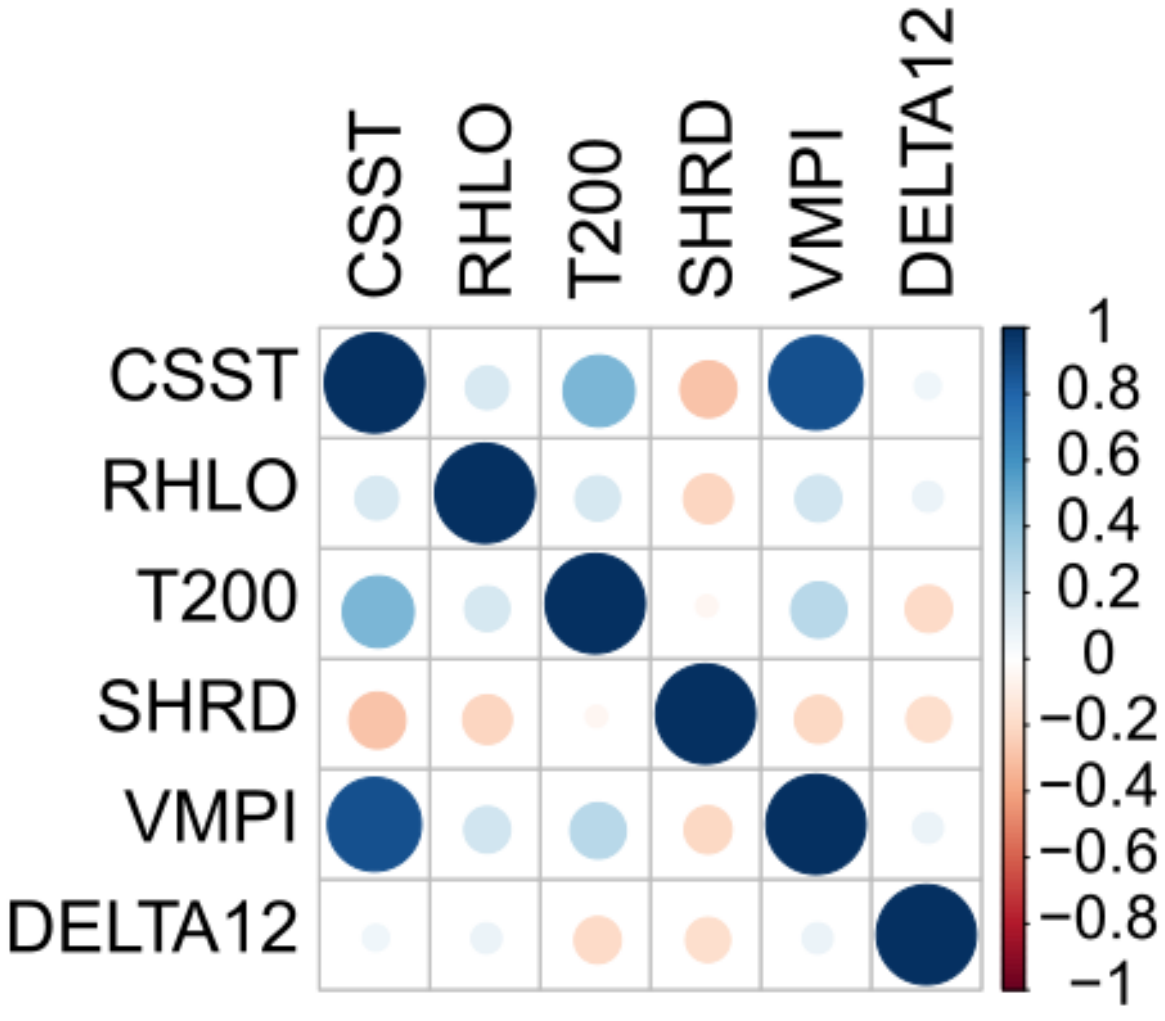
- This project: a *statistical* model for *intensity*

Hurricane forecasting basics: the SHIPS data

Hurricane forecasting basics: our selection



Intensity change predictive model

Model: limitations

Model: posterior predictive checking

Model: variables to use

Model: marginal posteriors of coefficients

Model: margin of SHRD and CSST

Forecasting

Forecasting: model comparison

Forecasting: what about the NHC?

Problems to solve & development ideas

Conclusions & contact info

Additional information

R Markdown

This is an R Markdown presentation. Markdown is a simple formatting syntax for authoring HTML, PDF, and MS Word documents. For more details on using R Markdown see http://rmarkdown.rstudio.com.

When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document.

Slide with Bullets

- Bullet 1

Slide with Bullets

- Bullet 1
- Bullet 2

Slide with Bullets

- Bullet 1
- Bullet 2
- Bullet 3

Slide with R Output

```
summary(cars)
```

```
##      speed           dist       
##  Min.   : 4.0   Min.   :  2.00  
##  1st Qu.:12.0   1st Qu.: 26.00  
##  Median :15.0   Median : 36.00  
##  Mean   :15.4   Mean   : 42.98  
##  3rd Qu.:19.0   3rd Qu.: 56.00  
##  Max.   :25.0   Max.   :120.00
```

Slide with Plot