



# An overview of Shiny applications using R and RStudio

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## Who am I?

- ORISE post-doc for 2.5 years, fed postdoc since last week
- NHEERL Gulf Ecology Division
- Research focus on water quality assessment and indicator development
- Specific interests in statistical modelling, data assimilation, graphics



## Who am I?

R user since 2007

Maintainer of two packages on CRAN:

### ***SWMP<sub>r</sub>***

Tools for retrieving, organizing, and analyzing environmental data from the System Wide Monitoring Program of the National Estuarine Research Reserve System.

### ***NeuralNetTools***

Visualization and analysis tools to aid in the interpretation of neural network models



## Reproducible research workflow

General workflow for *reproducible research* - reproduce results from an experiment or analysis conducted by another.

From Wikipedia... 'The ultimate product is the *paper along with the full computational environment* used to produce the results in the paper such as the code, data, etc. that can be *used to reproduce the results and create new work* based on the research.'





The use of these tools increases transparency and transfer of information = ***better science***

Data prep, analysis, report, and sharing can all be done in RStudio IDE

Where does Shiny fit with reproducible research?

Shiny is a web application framework for R

- From the command line to a user interface
- Make your code interactive
- Do not need to know anything about web programming
- Integrated very well with R studio



Tools like Shiny improve *accessibility* and *communication*