

# Lab 5: Sea-Level Rise

<Your Name (NetID)>

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## 1 Setup

### 1.1 The usual

As always:

1. Clone the lab repository to your computer
2. Open the lab repository in VS Code
3. Open the Julia REPL and activate, then instantiate, the lab environment
4. Make sure you can render: `quarto render template.qmd` in the terminal.
  - If you run into issues, try running `] build IJulia` in the Julia REPL (`]` enters the package manager).
  - If you still have issues, try opening up `blankfile.py`. That should trigger VS Code to give you the option to install the Python extension, which you should do. Then you should be able to open a menu in the bottom right of your screen to select which Python installation you want VS Code to use.

### 1.2 Load packages

```
1 using CSV
2 using DataFrames
3 using DataFramesMeta
4 using Distributions
5 using Plots
6 using StatsPlots
7 using Unitful
8
9 Plots.default(; margin=5Plots.mm)
```

### 1.3 Local package

```
1 using Revise
2 using HouseElevation
```

Choosing Galveston Pier 21, Texas The guage is at 29° 18.6 N, 94° 47.6 W <https://maps.app.goo.gl/GyanSMA2fp9r>

Our building is 302 17th St, Galveston, TX 77550, Home area as estimated by google maps:  
30ftx50ft home = 1500ft<sup>2</sup> Home value from zillow: 247,700 (Round up to 250,000)

The home is 4.41 feet or 1.34 meters above sea level in elevation. Looking at it on street view, the house appears to be on concrete blocks about 6 inches tall, giving it an effective height of 4.91 feet.

Row 98 from the data is two-story, no basement in Galveston, so we'll be using that. The home is on concrete blocks, so we can be confident that it doesn't have a basement.