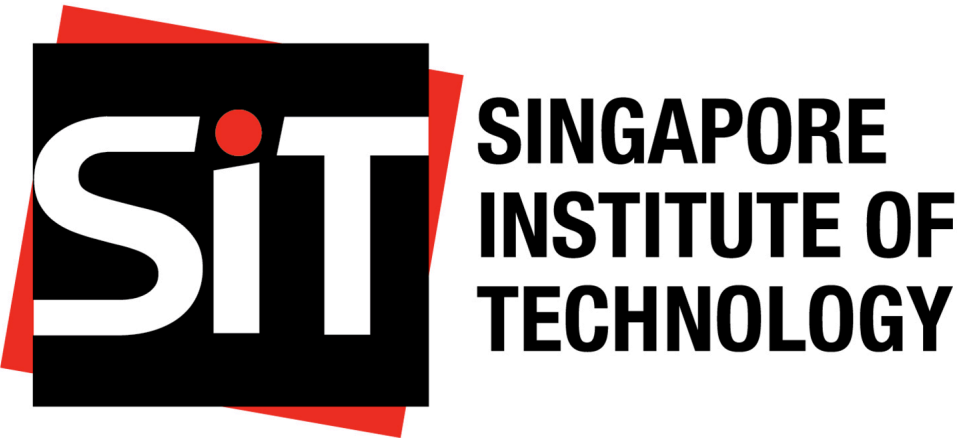# Visualizing Billion-Dollar Disasters in the USA (1980–2024)

Oh Jia Wei Darien, Peter Febrianto Afandy, Quek Joo Wee, Desmond Loy Yong Kiat, Rene Low Yi Xuan, Phileo Teo Weihan (SIT-UoG Computing Science)

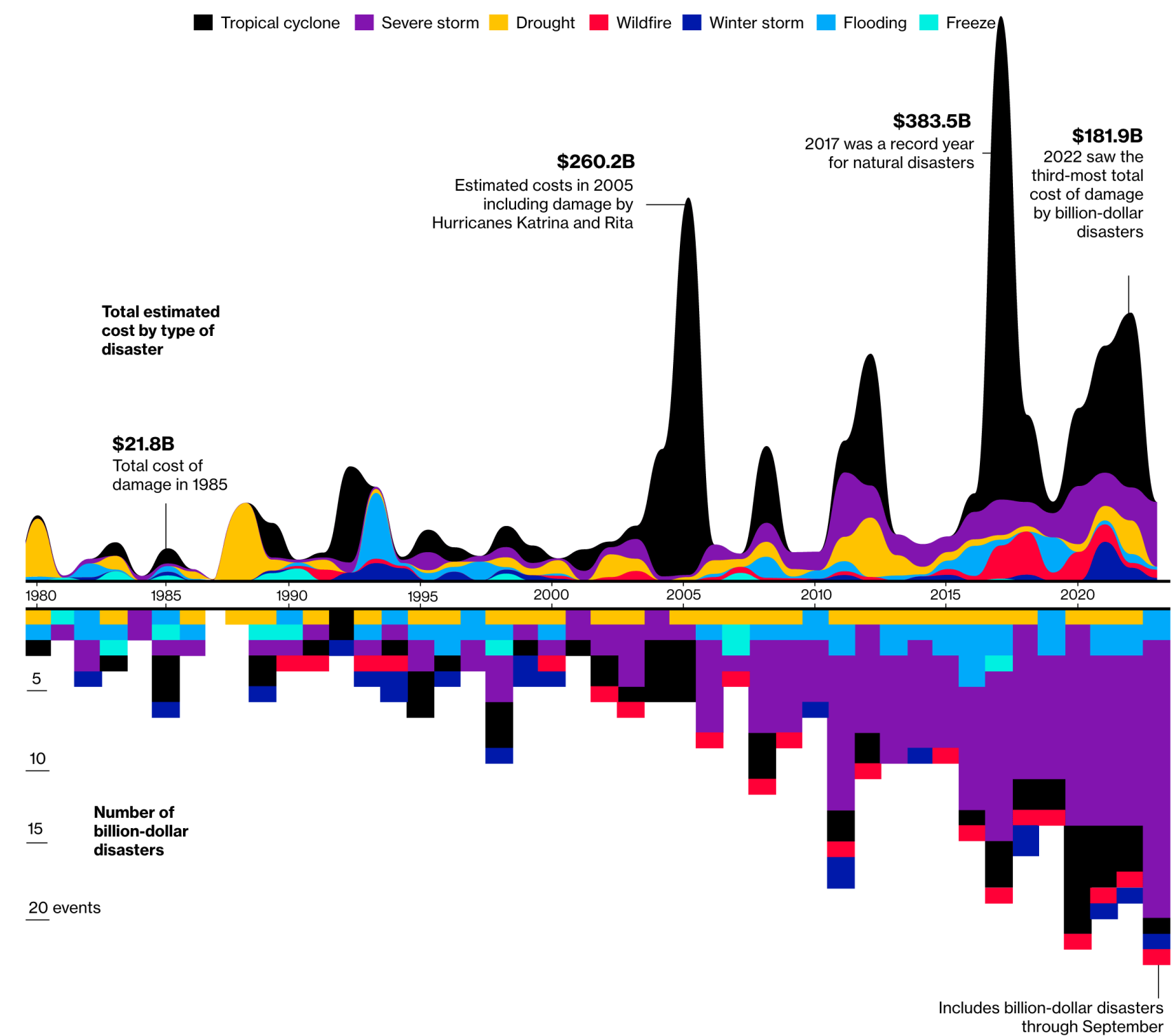## Introduction

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Previous Visualization

Figure 1: Frequency and Estimated Costs of Billion-Dollar Disasters in the USA by year, published by Bloomberg.

Strengths

- ...
- ...

Suggested Improvements

1. ...
2. ...

Implementation

Data

- ...
- ...

Software

We used the Quarto publication framework and the R programming language, along with the following third-party packages:

- *tidyverse* for data transformation, including *ggplot2* for visualization based on the grammar of graphics
- *knitr* for dynamic document generation

Improved Visualization

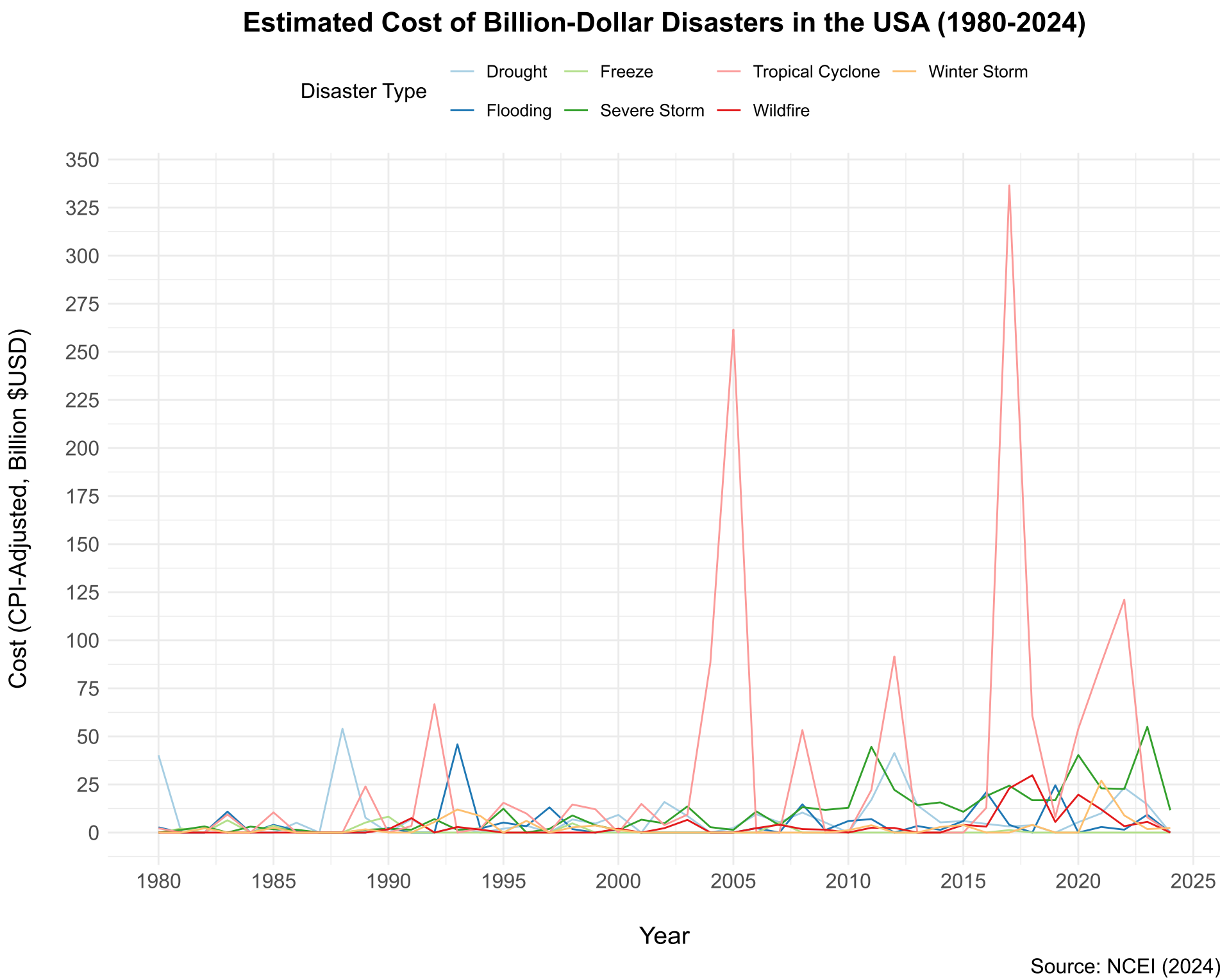### Estimated Costs of Billion-Dollar Disasters in the USA by Year

Figure 2: Revised visualization of Estimated Costs of Billion-Dollar Disasters in the USA by year.
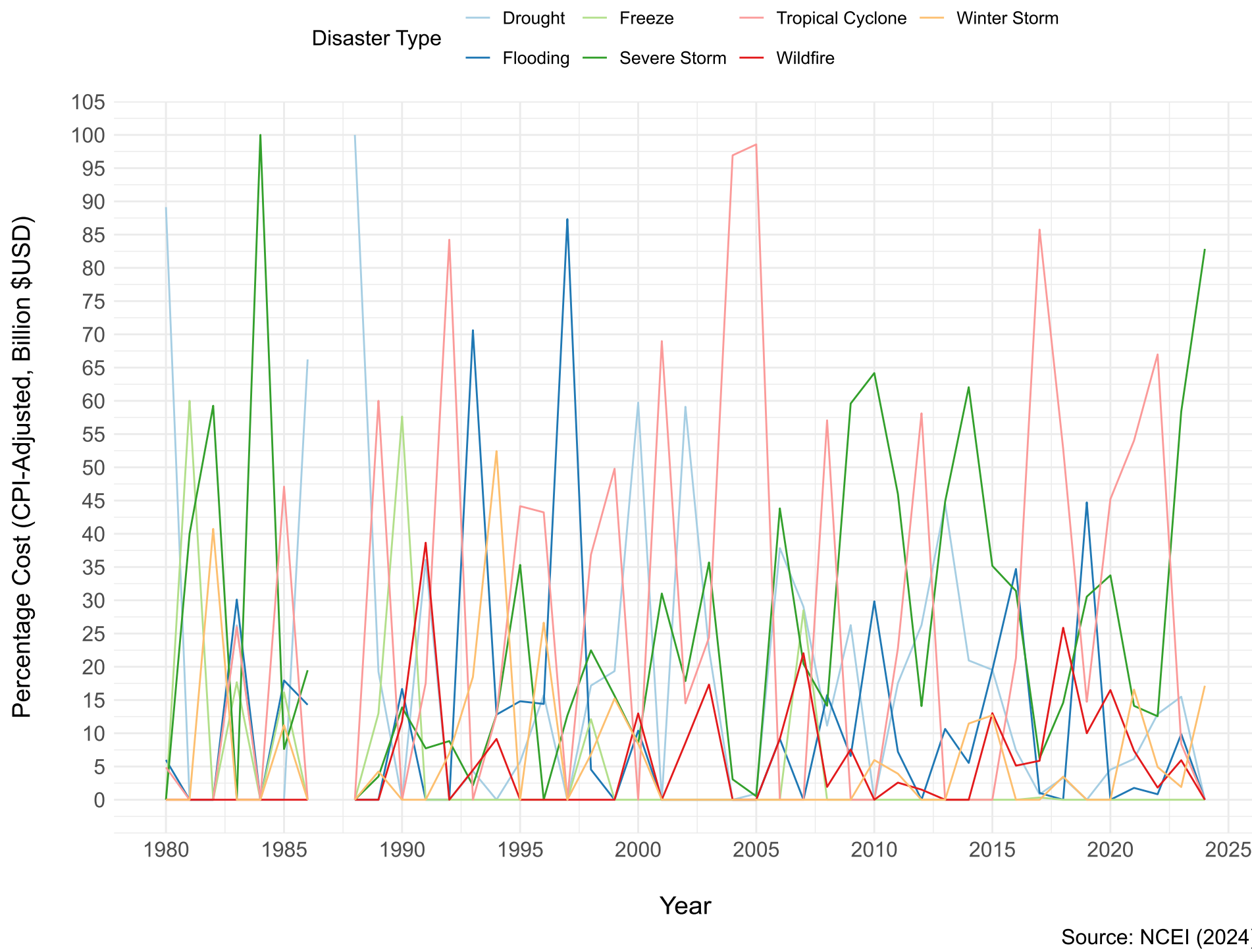

Figure 3: Revised visualization of Estimated Costs of Billion-Dollar Disasters in the USA by year.

Frequency of Billion-Dollar Disasters in the USA by Year

```
Warning: The `size` argument of `element_line()` is deprecated as of ggplot2 3.4.0.
ℹ Please use the `linewidth` argument instead.
```
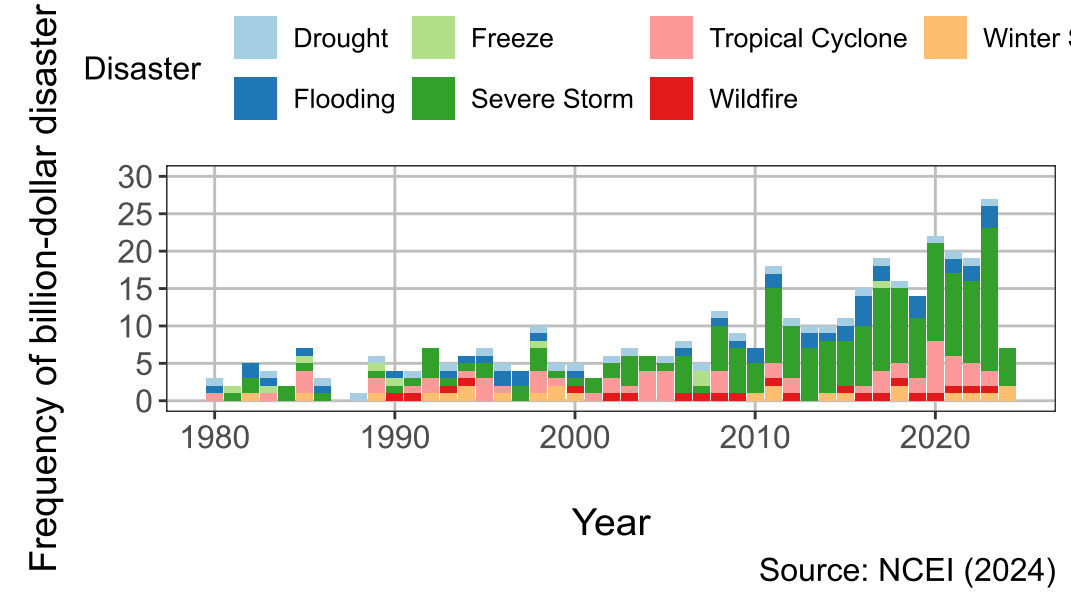

Figure 4: Revised Visualisation of Frequency of Billion-Dollar Disasters in the USA by year.

Combined Plot of Costs and Frequency

Further Suggestions for Interactivity

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