Hiscox University Challenge

* Florida is the most prone part of the United States for hurricanes. Between the months of June and November, a hurricane could hit at any time.
* In the state of Florida alone there is around $50 billion dollars of Property and Casualty Insurance Premiums alone and there are around 2100 companies registered to provide insurance in the state!

The challenge

* Create some key performance indicators (KPI’s) for Floridian insurance companies based on historical claims and geospatial and accounts data.
* Strategy: What do they underwrite? Where do they underwrite? How much do they charge?
* Claims: Claims history? Do they often reopen claims? Size of claims? Frequency?
* History: How they have performed in past events? How have they reacted post event?
* Extra expenses: Do they suffer badly from litigation? What are their loss adjuster expenses?
* Business factors: Share price fluctuation, fraud score, reputation, social media presence.

Florida Economy:

2. Agriculture

Florida’s famed agriculture industry employs 2 million people and contributes more than $104 billion to the state’s economy each year. Florida’s warm climate offers farmers a growing season from 100 to 200 days longer than other regions of the country. The nation’s highest annual average precipitation of any state also increases yield production to create ideal growing conditions.

The top five agricultural commodities in 2014 were greenhouse and nursery products, oranges, tomatoes, dairy products, and sugarcane. Florida produces 70% of the annual U.S. production of citrus, and 95% of commercial orange production in the state is mostly used for producing 40% of the world’s orange juice supply. Florida ranks second nationally for greenhouse and nursery products, the state’s leading crops financially, and ranks second in U.S. production of fresh vegetables. Eighty percent of the fresh vegetables consumed in the United States from January through March each year come from Florida.

3. International Trade

Florida is one of the largest export states in the United States and is a major gateway for merchandise trade between North America, Latin America, the Caribbean, and other world regions. Forty percent of all U.S. [exports](https://www.investopedia.com/terms/e/export.asp) to Latin and South America pass through Florida. Given the convenient geographic layout of the state, most companies are a short drive to one of four major cargo gateway ports located in Florida. This access gives even small companies opportunities to export products overseas.

[Merchandise exports](https://www.census.gov/foreign-trade/statistics/state/data/fl.html) shipped from Florida totaled $55 billion in 2017. Florida is America’s eighth biggest exporter after Texas, California and Washington state. Florida’s exports represented just over 3.5% of the United States exported products for 2017. Florida’s exported products represented almost 7% of the state’s total economic output or real GDP in 2016.  Florida’s leading exports include motor vehicles, aircraft, engines and parts, telecommunications equipment, computers and components, and gold. The state is also expanding exports of waste and scrap, agricultural products, seafood, livestock, minerals, forestry products, and [oil and gas](https://www.investopedia.com/articles/07/oil_gas.asp).

Hurricanes are the most damaging of [natural disasters](https://www.thebalance.com/cost-of-natural-disasters-3306214). A Category 4 or 5 hurricane can lower U.S. production and increase [unemployment](https://www.thebalance.com/what-is-unemployment-3306222). It can also [raise gas prices](https://www.thebalance.com/why-are-gas-prices-so-high-3305653) to $5 a gallon. Large hurricanes depress the stock market and other financial markets.

[M.I.T. models predict](https://www.washingtonpost.com/energy-environment/2018/09/11/category-climate-change-may-cause-more-hurricanes-rapidly-intensify/?utm_term=.786b5117e9f5) that by 2035, there will be more hurricanes in general and 11 percent of these hurricanes will be of the Category 3, 4, and 5 classes. It predicted 32 super-extreme storms with winds above 190 miles per hour.

29/01/2019 event day:

* Damage caused by other disasters
* Numbers of claims and size of claims vs location (time)
* Area each company works in. Maybe smaller insurers work only in one area.
* Try to understand the strategy that each insurance company uses
* Compare large companies to smaller ones and areas that they work in

Questions of the datasets:

* AMO & ENSO
* FLOIR (Complaints and Product Share)
* Number Claims with AOB(Mapping\_Data)

AOB: Assignment of Benefits (AOB) is an agreement that, once signed, transfers the insurance claims rights

How Hurricanes cause damages

* High Winds
* Storm Surge
* Extreme Rainfall
* Location
* Time
* Preparedness
* Global Warming

How to measure the performance of an insurance company

* Premium
* Loss Ratio (Claims to Premiums)
* Claims solvency (%) (Insurance companies’ ability to pay the claims of policyholders)
* % overdue claims (Percentage of overdue claims)
* Average Cost Per Claim
* Average time to settle a claim
* Incurred Claims Ratio (dividing the total claims in a specific period of time by the total earned premiums during that same period of time)
* Frequency
* Severity (The cost of a claim, with high severity claims being more expensive than average estimates and low severity claims being less expensive than the average)
* Compnents of claim cost