MARINE INSURANCE ISSUES SEMINAR

CAT: Changing the Insurance and Capital Markets and its Impact on Marine Insurers

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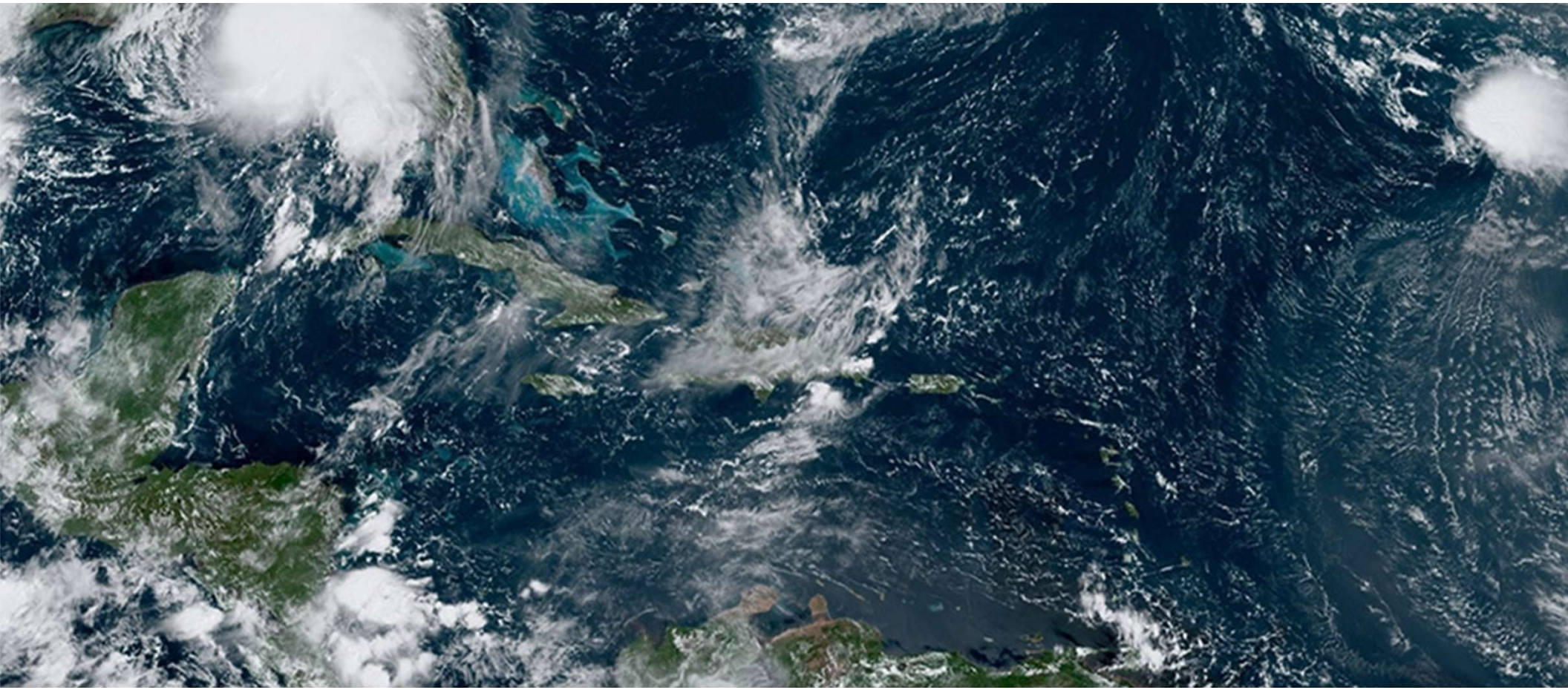

1 State of the Catastrophe (Re)Insurance Market

1/1/2023 Property Reinsurance Renewal Capacity, Capacity, Capacity!

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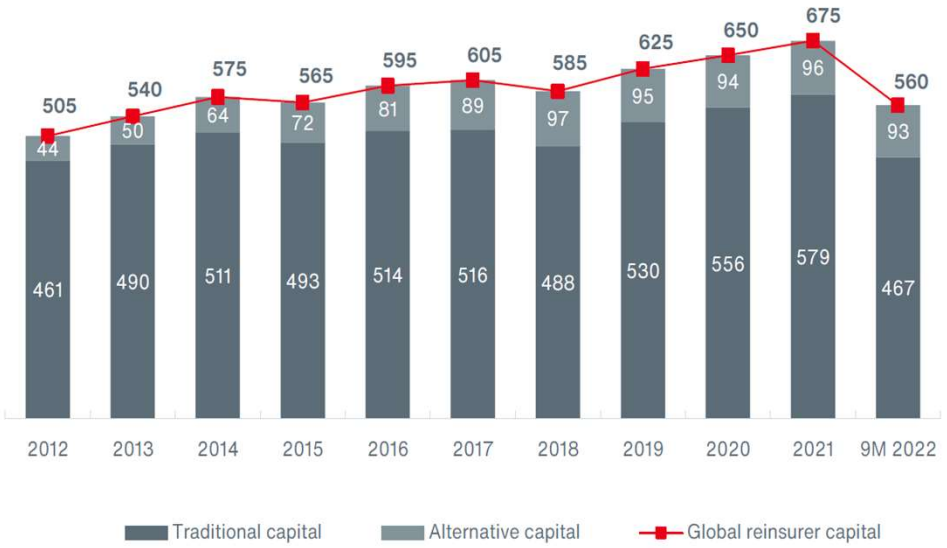
Exhibit 1: Global Reinsurer Capital ($ billions)



Sources: Company financial statements / Aon's Reinsurance Solutions / Aon Securities, LLC

- Following six years of underwhelming returns and above average catastrophe losses, the property retrocession and reinsurance market underwent a **fundamental shift in pricing and risk appetite** at January 1.
- The market is grappling with the **confluence of risk factors**: forty-year record inflation, unrealized investment losses driven by a sharp increase in interest rates, dramatic exchange rates, climate change and a war in Europe.
- New capital did not enter the market in advance of January 1 and there is **no expectation that meaningful new capital enters** before the critical mid-year 2023 cat renewals either.
- There is also increasing **competition for new capital** from external investment opportunities in treasury bills which are paying outsized returns.

Reinsurance Demand > Reinsurance Supply = Hard Market!

1/1/2023 Property Reinsurance Renewal
Hard Reset of Property Reinsurance Pricing & Coverage

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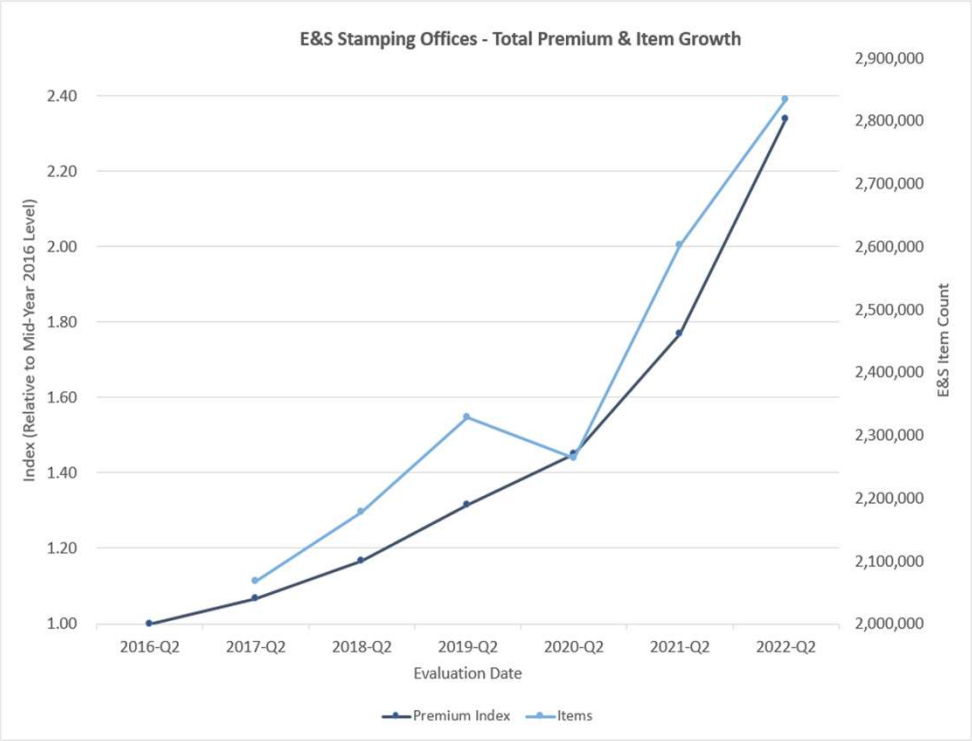
Premium Multiples of Theoretical "Constant EL" ILS issues
2001-2022 to immediately post-IAN

Source: Artemis

- Prior to **Hurricane Ian**, the industry was already experiencing a hardening property market. Ian just added further pressure.
- Much of the capital behind the retrocession market is Insurance Linked Securities (ILS), and that **capacity is largely trapped** until Hurricane Ian losses are more certain.
- Without sufficient retro capacity many reinsurers were forced to **de-risk their portfolios** and increase underwriting margins.
- Reinsurers moved away from frequency layers and proportional treaties and **sought to redraw the scope of property protection** with narrower coverage definitions and more excluded perils.
- Full **exclusions for Terrorism, Cyber, SRCC and communicable disease** were common in retro agreements which led to downstream exclusions in many reinsurance contracts as well.
- Reinsurers have eliminated aggregate coverage, cascading cat coverage, multi-year treaties and other soft-market features.
- **Insurers were also forced to take larger net retentions**, ultimately buying less reinsurance coverage than originally desired due to reinsurer risk appetites and price levels.

1/1/2023 Property Reinsurance Renewal Impacts on Primary Property Market



Source: Wholesale & Specialty Insurance Association (WSIA) – reflects AZ, CA, FL, ID, IL, MN, MS, NV, NY, NC, OR, PA, TX, UT and WA stamping office data

- Nominal cat reinsurance increases were in the **+40% to 100%+ range** and will continue throughout 2023**.**
- Admitted and E&S Primary carriers continue to **re-underwrite** both as a result of managing rate adequacy in the face of high inflation as well as due to increasing net retained volatility and reinsurance costs.
- **Growth in the E&S property market** has resulted from carriers seeking to extricate themselves from rate and form requirements in various states, adding flexibility to their ability to enter and exit classes of business.
- **Business is shifting to E&S and residual markets** – coastal, hurricane exposed locations & wildfire exposed locations are the most impacted. Post-Ian, E&S rate increases have accelerated.
- **Reductions in capacity** and dramatic **increases in rate** for all cat-driven and/or loss-driven accounts are expected.
- Additionally, **terms and conditions are tightening** across the board.

Property Reinsurance Renewal – June 1 Outlook
Despite Reforms, Florida Market Will Be Challenging!

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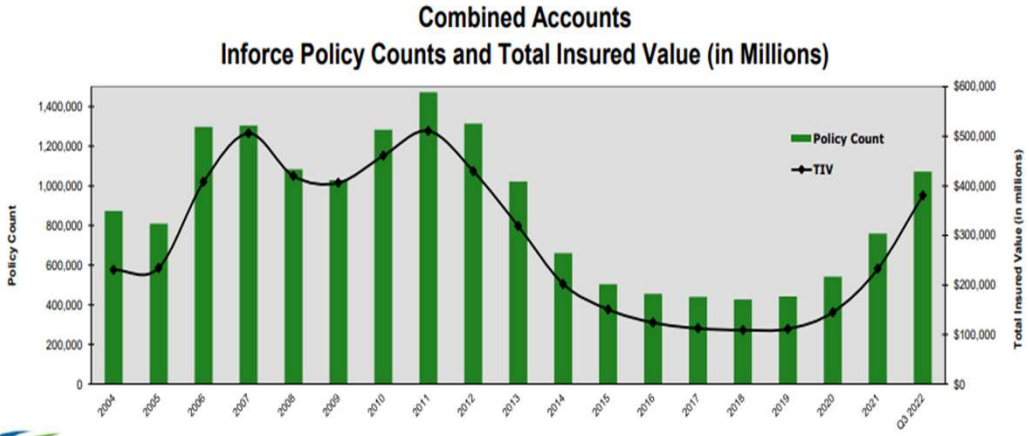
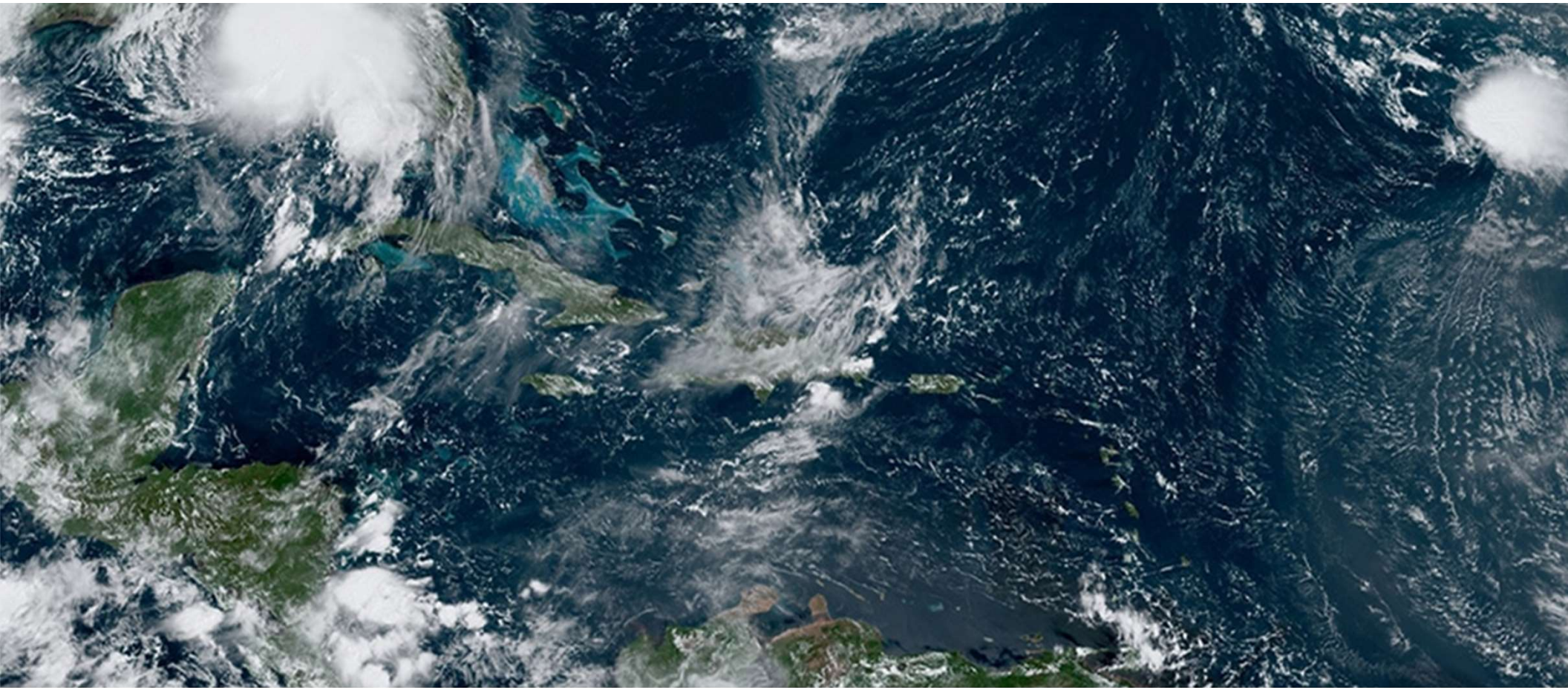
- Florida makes up roughly **1/3 of global annual premiums** in the cat reinsurance market. However, it is also responsible for a significant portion of global losses.
- In 2021, Florida represented **7% of property insurance claims** nationwide, yet was home to **76% of insurance litigation**, according to data from the Florida Office of Insurance Regulation.
- The 2022 Florida reinsurance renewals did not go smoothly, with an estimated **25% of Florida's 6/1 reinsurance renewals not being placed by May 30**. Numerous companies have gone out of business and more will join them in 2023.
- 2022 Legislative reforms have been positive, but beneficial impacts will take a couple of **years to materialize in results**.



- Carriers are requiring **increased valuations** (which will generate more modeled AAL/PML than expiring).
- Many carriers have implemented **updated wind/quake modeling versions** that are anticipated to show more AAL/PML for their portfolios.
- Cat MGAs and/or carriers are likely to have **less PML/capacity to deploy** than in prior years.

CITIZENS
PROPERTY INSURANCE CORPORATION



2 Overview of the broadening nature of CAT

“Secondary” Perils Are No Longer Secondary

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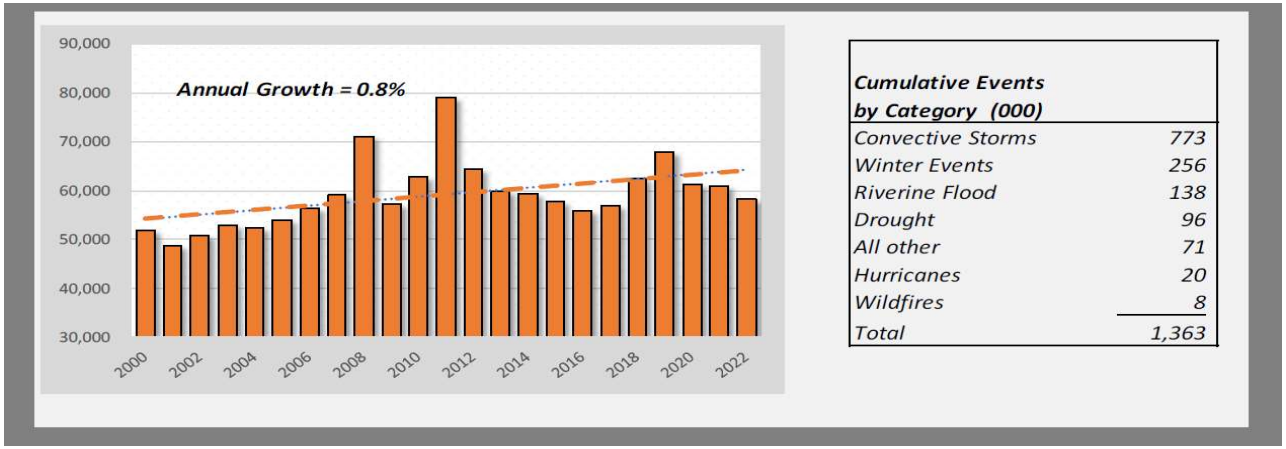
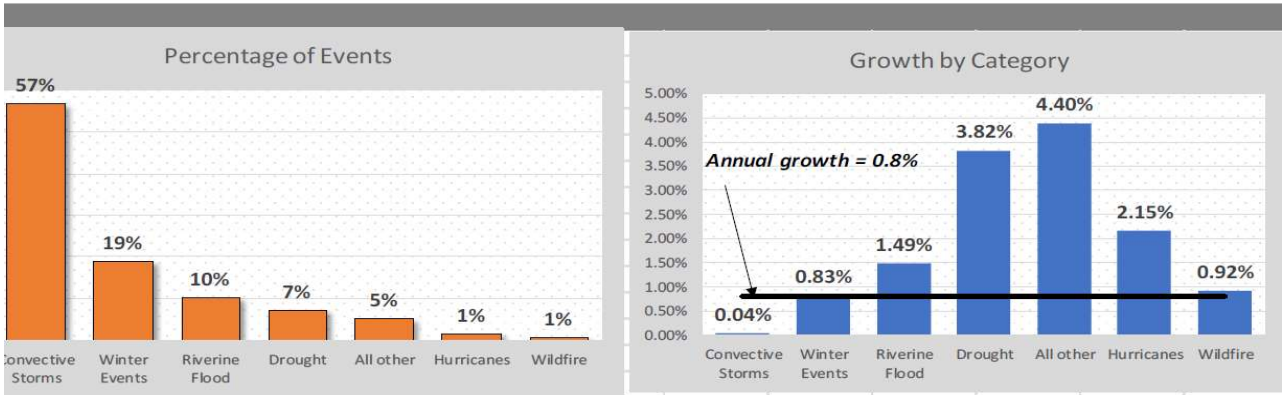


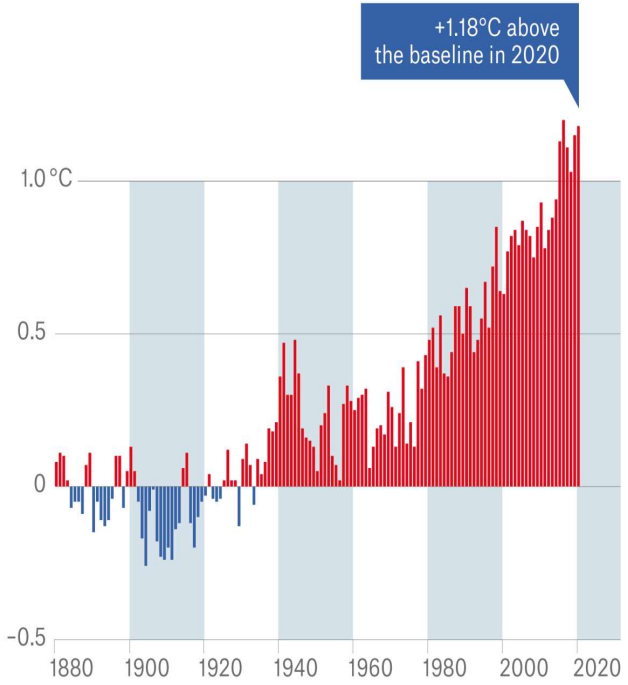
Cumulative Events by Category (000)	
Convective Storms	773
Winter Events	256
Riverine Flood	138
Drought	96
All other	71
Hurricanes	20
Wildfires	8
Total	1,363



NOAA, Assured Research

19 of the 20 warmest years in the period 2002–2020

Deviation from the 1880–1900 average

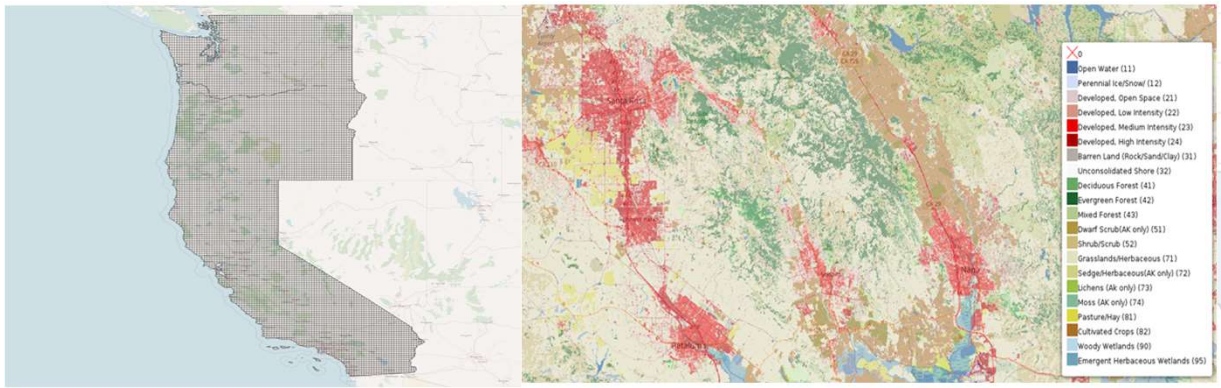


Source: NOAA

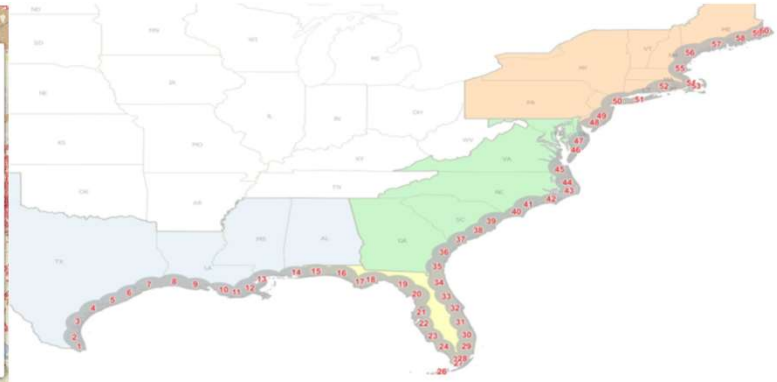
UNDERSTANDING YOUR EXPOSURE AGGREGATIONS

- Understanding risk accumulations is vital when managing natural catastrophe risk
- Determining what marine risks to model is very important
  - Marine Static Risks – cargo warehouses, buildings supporting marinas, hull
  - Non-Static Exposures – barges, cargo in transit, port & vessel accumulations ------ **CRITICAL to Understand**
- The ability to derive more granular data on geographic concentration especially for secondary perils such as wildfire and convective storms can have significant impacts to the bottom line
- That said, one can not be solely model dependent as models can only rely on what has happened in the past to predict the future and with climate change and human interaction (growing in high-risk areas, elimination of natural buffers, etc.) and surprises will always occur see wildfires of 2017

WILDFIRE ZONES



WINDSTORM ZONES



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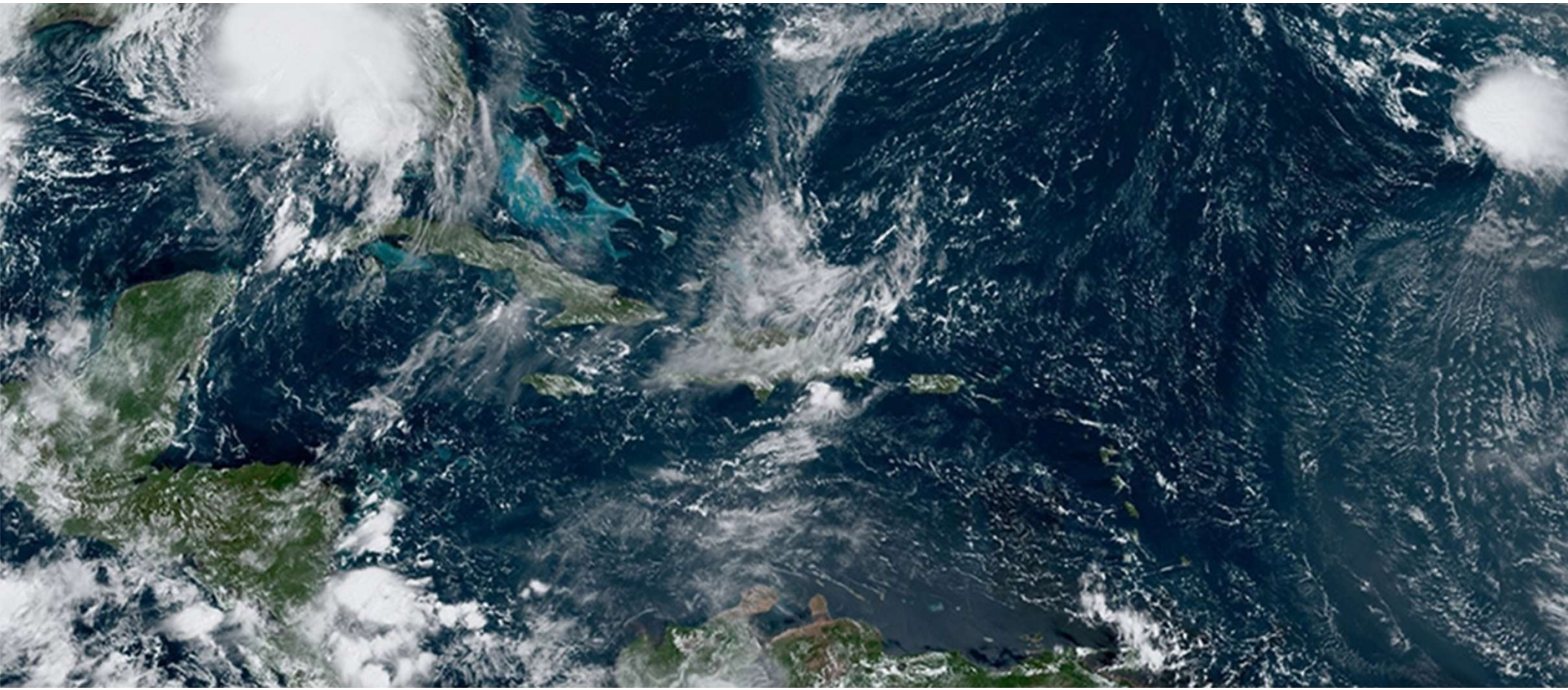

3 Capital Management & Allocation

EXPOSURE AGGREGATION & CAPITAL REQUIREMENTS

- Capital is the currency of an insurance company
- Rating agencies and regulatory supervisors require companies to have sufficient capital to support risks being written especially in stressed scenarios
- Aggregations cause increased loss volatility and large loss susceptibility
  - This can erode profitability, increase reinsurance costs, etc.
- As Aggregation ⇧ Capital required also ⇧
- Insurance companies need to allocate capital to business units that produce the highest profit for the least amount of capital
- Proper risk exposure management can reduce capital requirements and increase profitability

Capital Management & Allocation

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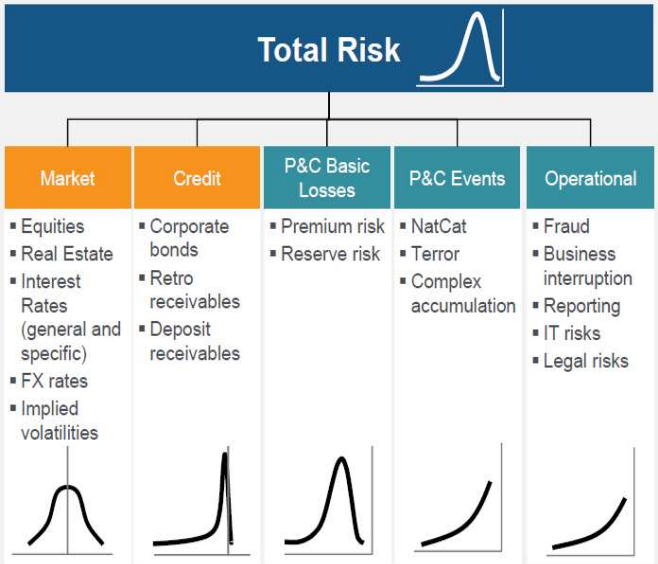
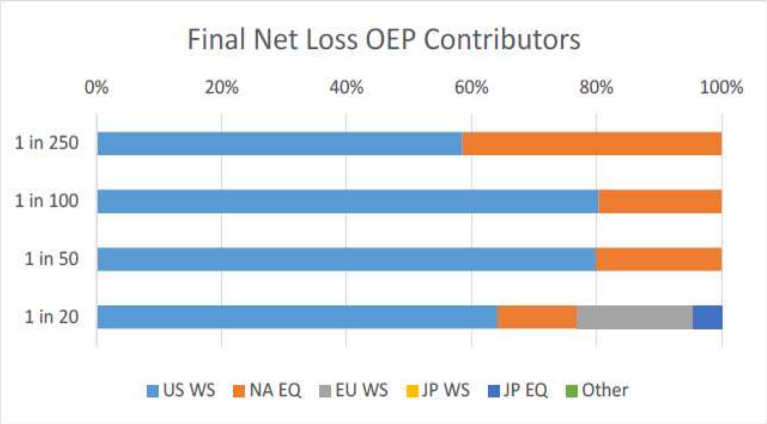
Why do we need a risk capital model?
Understanding of risk

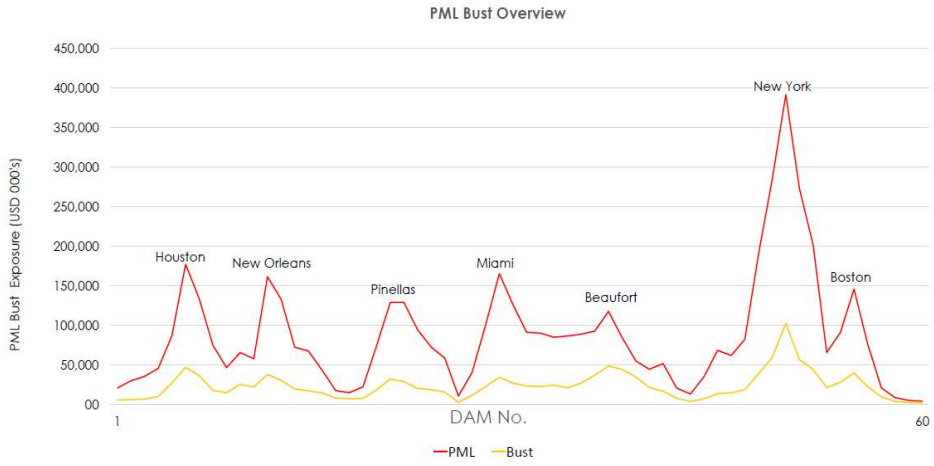
- Provides a **clear and consistent depiction of risk profile**. A high-level, holistic view.
  - Determine the amount of capital required to stay solvent with high degree of confidence based on our internal view
  - Breakdown overall risk profile into individual risk components
  - Measure effects of significant risks
- Leading **indicator of change** in risk profile in response to business change
- E.g. **NatCat budget** for monitoring accumulations
  - "Budget" is a monetary cap assigned to each of the ~ 50 selected natural catastrophe scenarios that roughly equals the modeled 1-in-1000 year loss

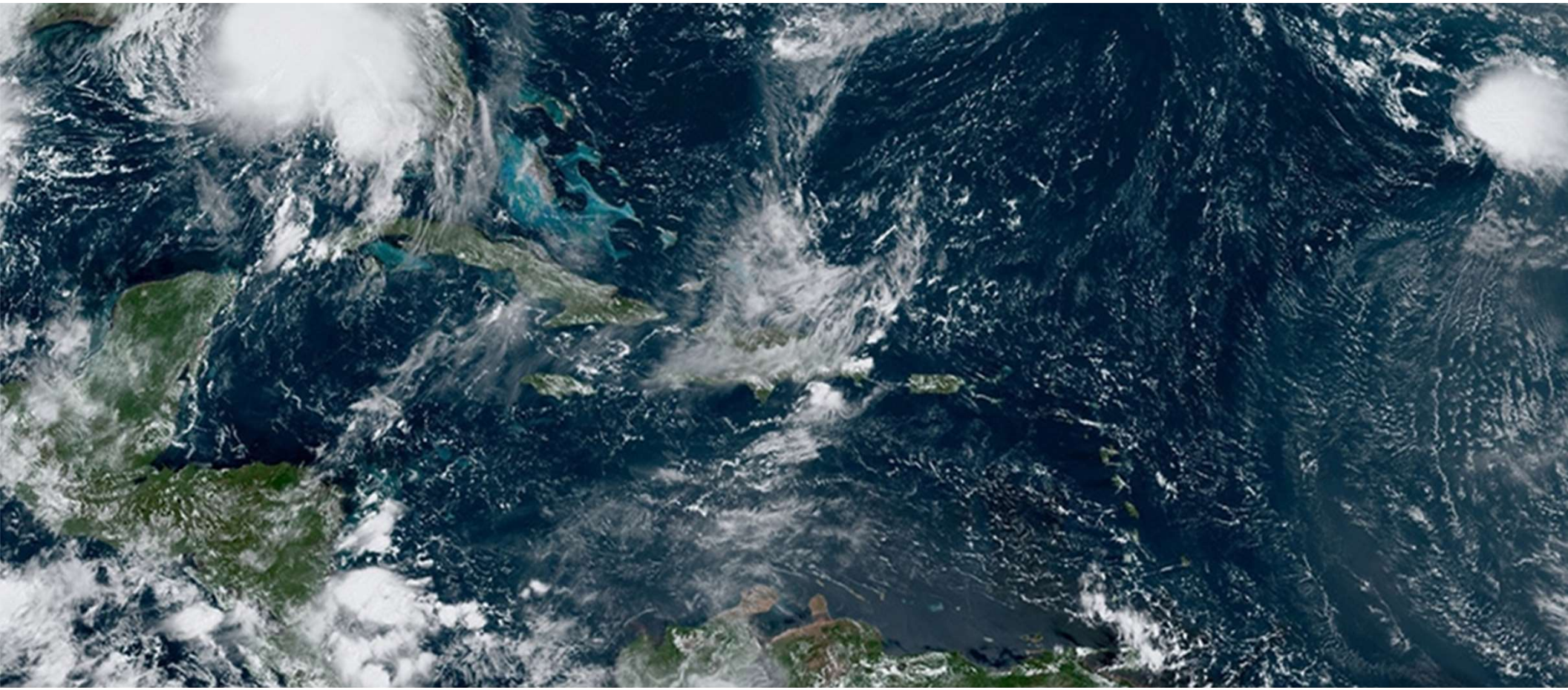


HOW CAN UNDERSTANDING AGGREGATIONS IMPROVE YOUR BOOK

- If one product needs $10M of capital to support $1M of premium, while another product can generate $3M in premium with the same level of support where would you invest?
- Understanding the peak drivers of your aggregation enables you to maximize premium growth while optimizing capital impacts
- Growing in areas outside peak zones enable you to write more premium while not requiring as much capital to support the liability
- Using example below, writing a risk in New York exposed to Windstorm will require a significant more amount of capital than a risk outside that region







4 Cat Modeling: Marine Exposures