

AON

**Natural Hazard
Prediction Markets
in the
(re)insurance
Industry**

CRUCIAL Workshop

14th April 2026

Proprietary & Confidential

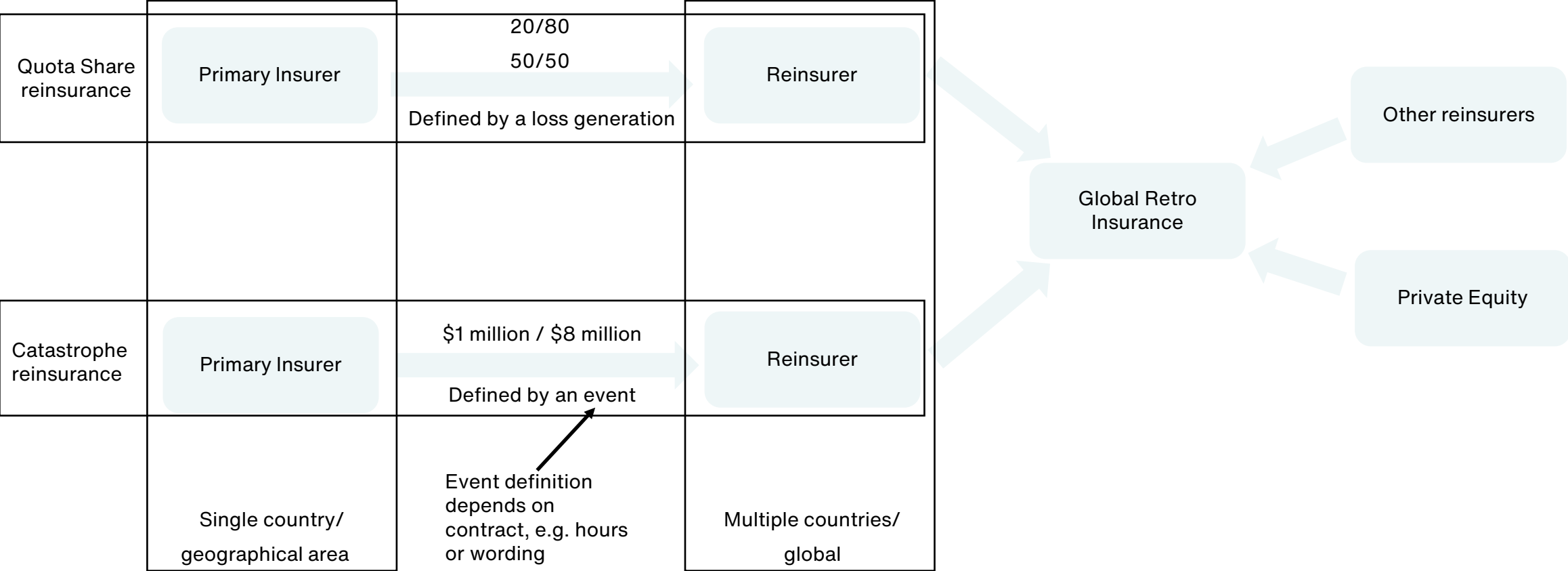


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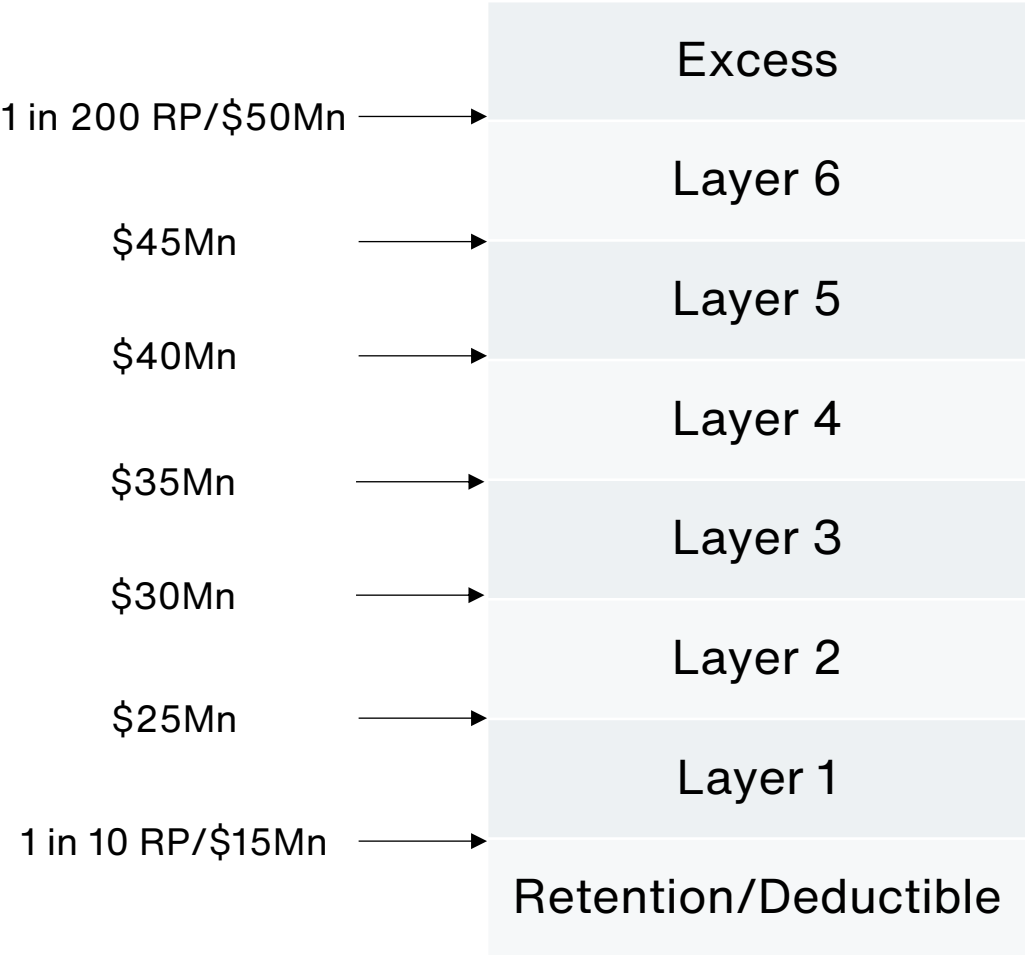
Reinsurance Overview



Reinsurance



Cat Reinsurance Structure



Definitions

Attachment point: the loss amount whereby the reinsurance kicks in (i.e. policy deductible).

Rate on line: the premium charged as a percentage of the amount of coverage provided.

- Layer 1: \$1Mn premium / \$10Mn limit = 10%, rate on line is 10.
- The rate on line decreases with the higher layers, i.e. higher layers are cheaper, as there's less expectation they're needed.

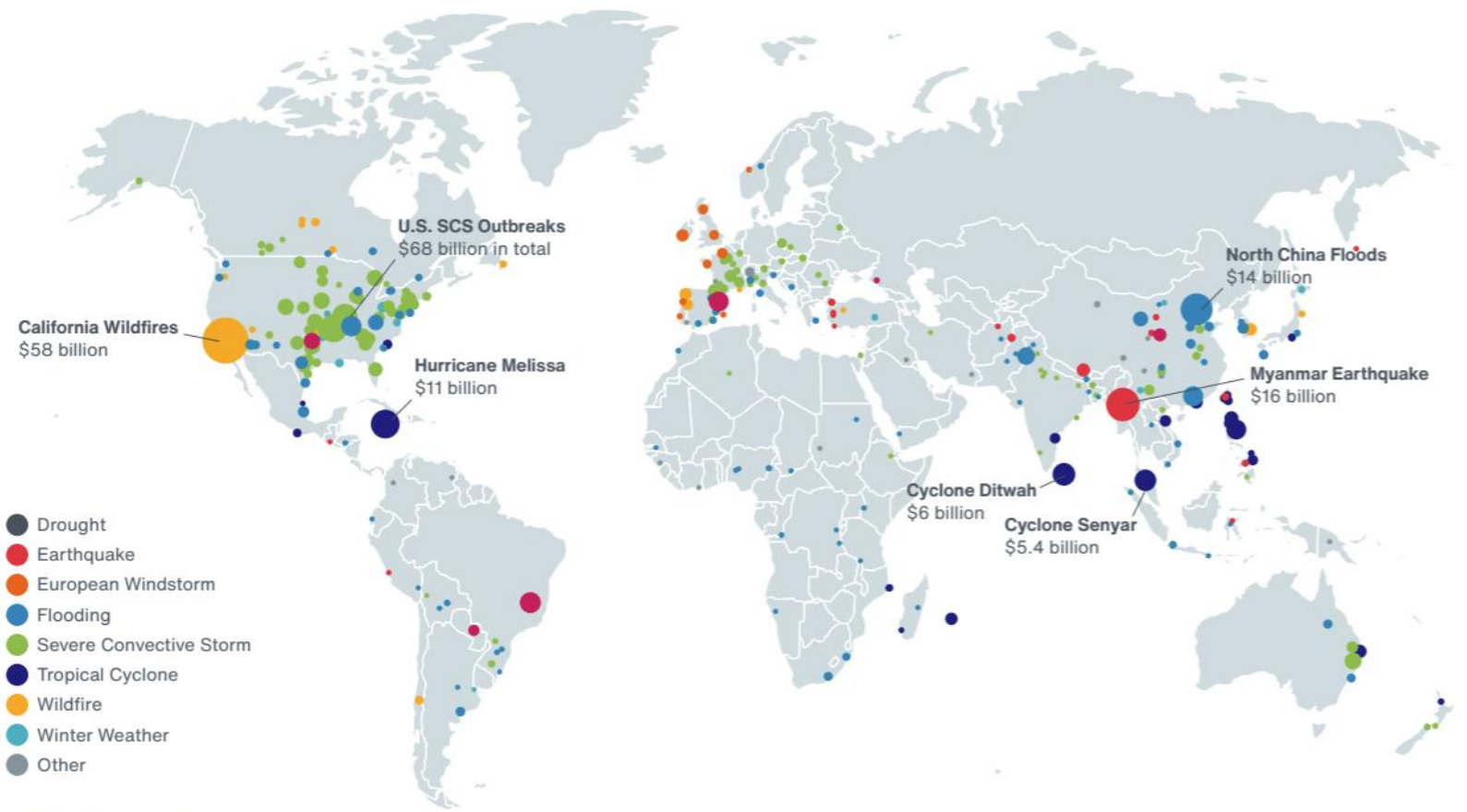
Reinstatement: whether a given layer can be used multiple times in a given year.

2

Natural Catastrophe Losses

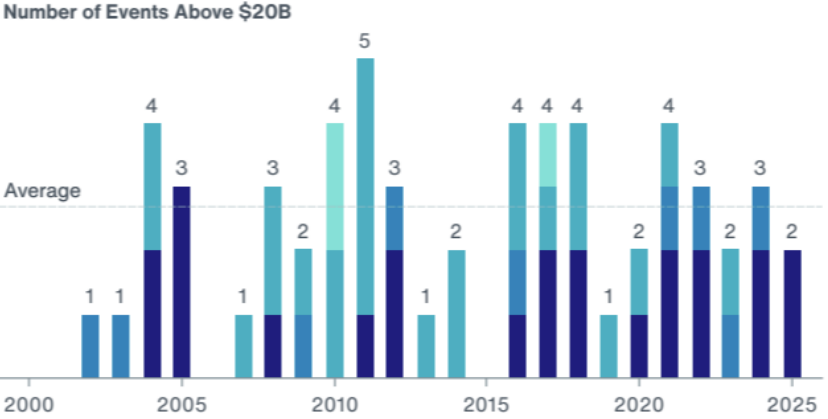
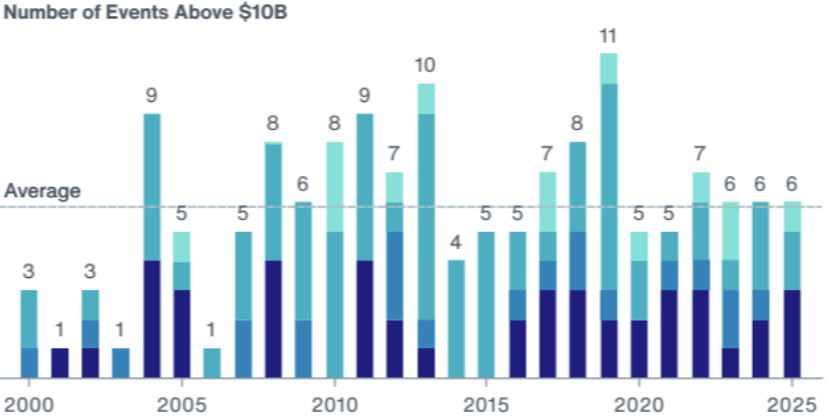
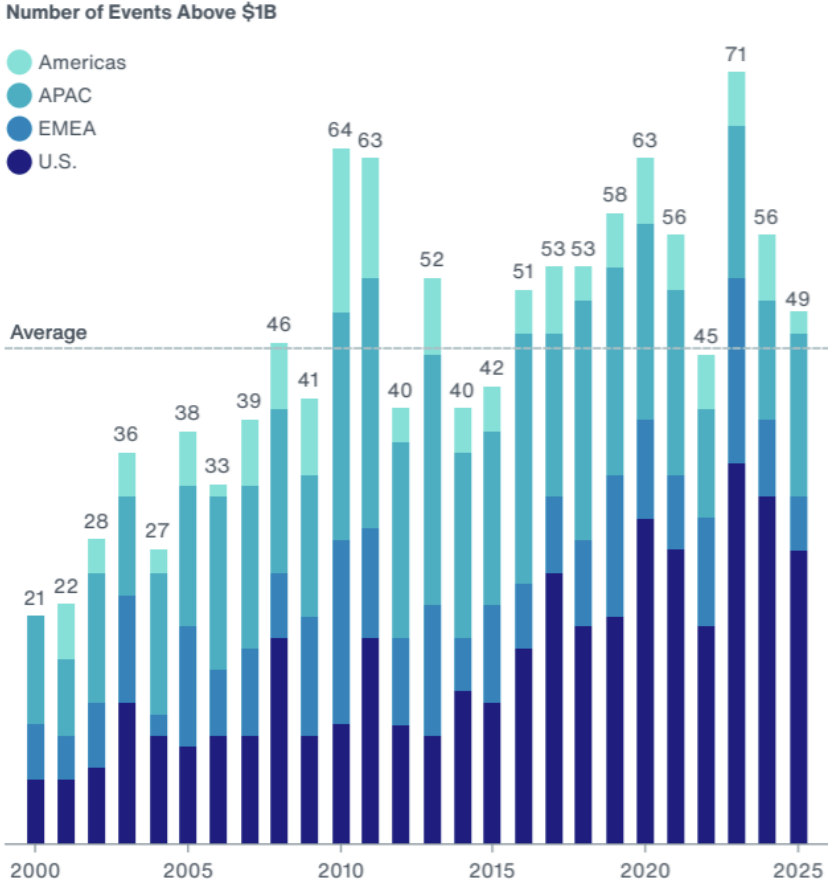


Notable 2025 Economic Loss Events



Data: Aon Catastrophe Insight

Global Billion-Dollar Economic Loss Events

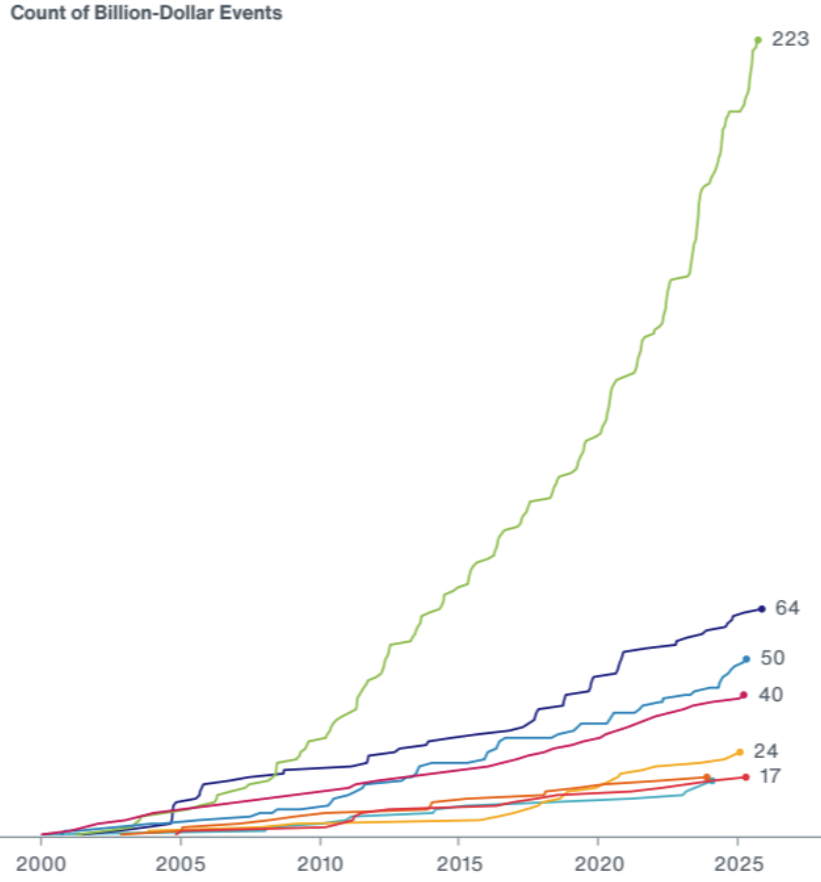
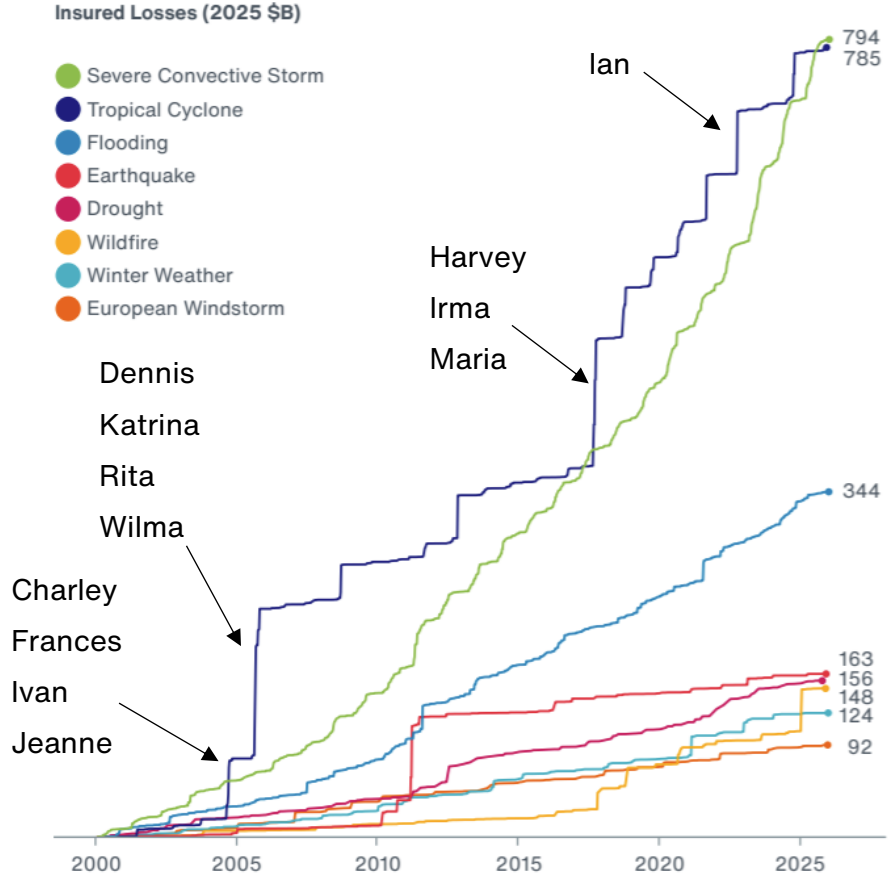


Data: Aon Catastrophe Insight



Article: Aon's 2026 Climate and Catastrophe Insight

Cumulative Global Insured Losses



Data: Aon Catastrophe Insight



3

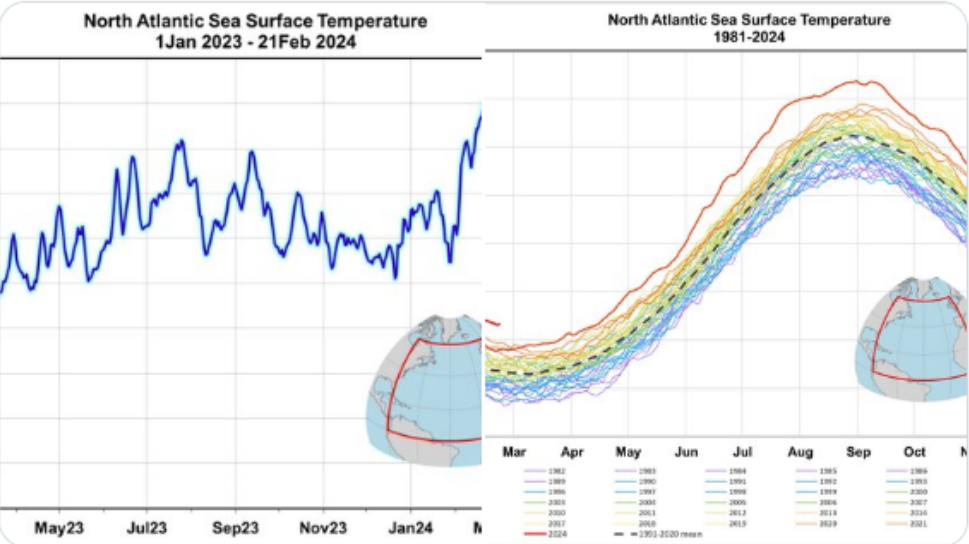
What do prediction markets provide?




Ensemble of Expert Predictions

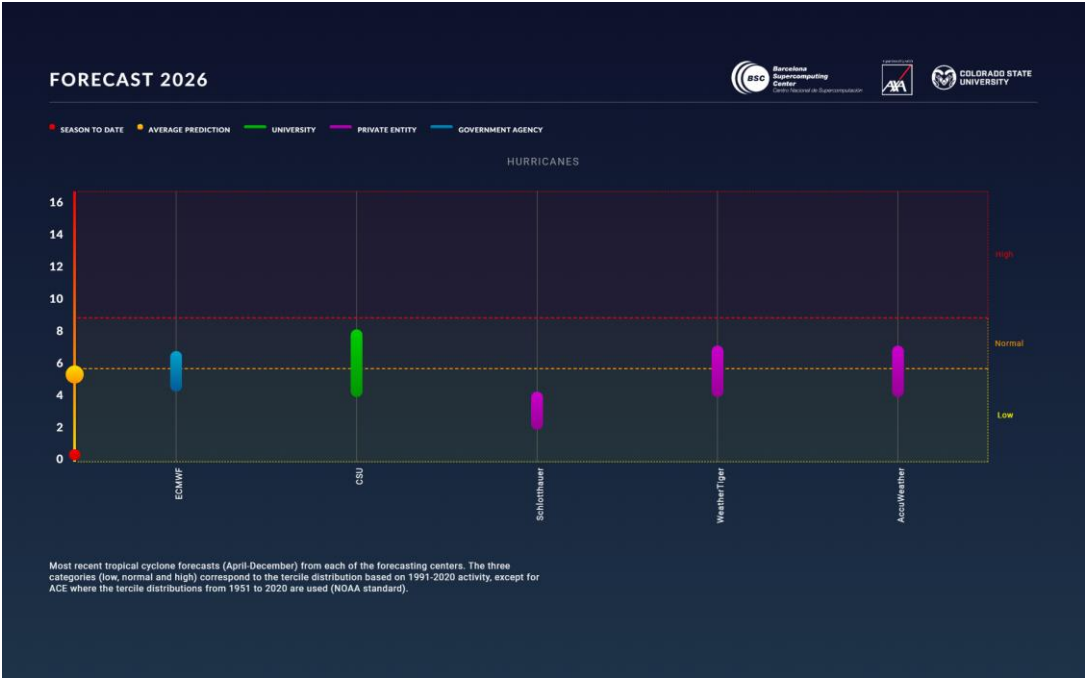
 **Brian McNoldy**
@BMcNoldy

Unbelievable: the North Atlantic sea surface temperature is now 4.5 standard deviations above the recent 1991-2020 climatological mean... that translates to a 1-in-284,000-year event. Yet here we are watching it unfold, one day at a time. This is deeply troubling.



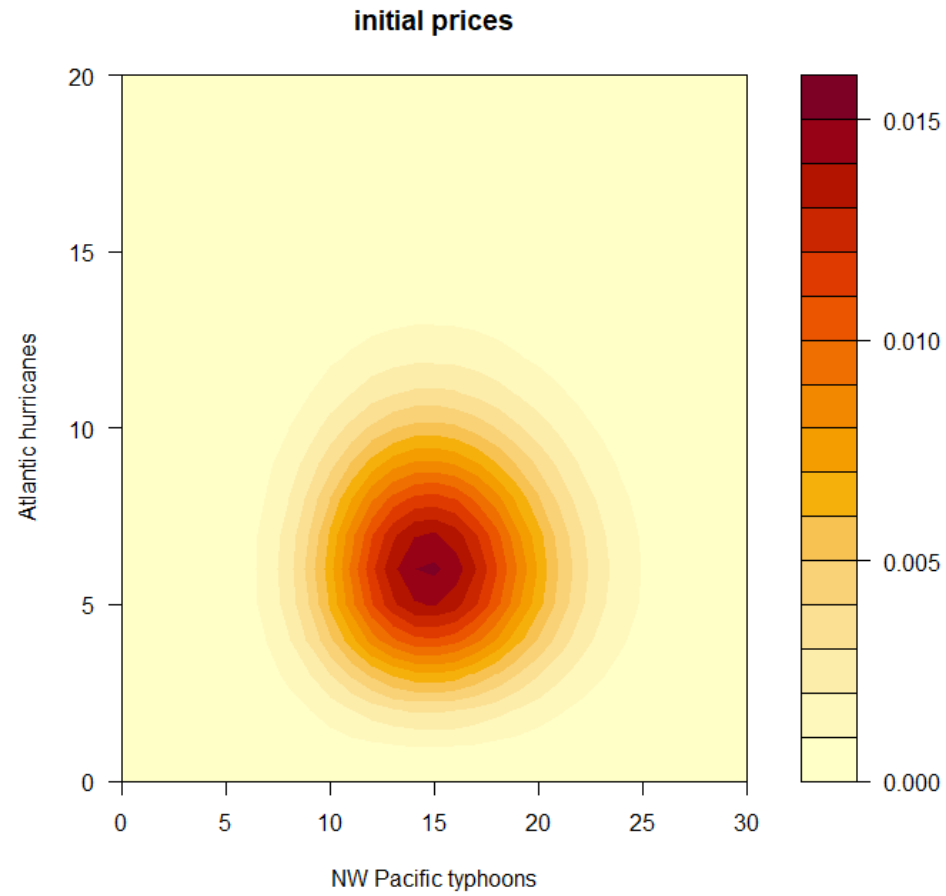
 University of Miami Rosenstiel School

3:39 PM · Feb 22, 2024 · 514.6K Views



Most recent tropical cyclone forecasts (April-December) from each of the forecasting centers. The three categories (low, normal and high) correspond to the tercile distribution based on 1991-2020 activity, except for ACE where the tercile distributions from 1951 to 2020 are used (NOAA standard).

Two-dimensional markets



Most predictions currently focus on a single peril/basin:

- North Atlantic Hurricanes
- Japan Typhoon

Seasonal forecasts focus on average weather and are typically not event based.

- The insurance industry is focussed on extreme cat events, which are not often captured by seasonal forecasts.

The insurance industry operates/prices based on uncertainty.

- Knowledge of the size of the uncertainty is critical.
- How the forecasts compare to cat model distribution is also necessary.



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