

CASE-08 · INSURANCE & CATASTROPHE RISK

Increasing property policies by 50% in a fast-growing coastal area

Growing where premiums are high and demand is racing, with catastrophe models judged «under control».

THE JUDGMENT

+50% → risk covered

CALIBRATED CONFIDENCE

39%

SECTOR

Insurance



EXECUTIVE VERDICT

These aren't separate policies: it's **one risk**, that a single hurricane hits all at once.

THE CALL

+50% → risk covered

CONFIDENCE

39%

IN ONE LINE

Avoided a **concentration** that a single hurricane could have turned into a capital loss.

§ THE PROTAGONIST & THE CONTEXT

The head of property catastrophe underwriting, with a 20% premium growth target and a coastal market in strong real-estate development.

A mid-size insurance company with a diversified national property portfolio. The coastal area in question has seen residential property prices grew 45% over the past five years, driven by new tourist and residential developments. The in-house catastrophe models are updated annually but calibrated on thirty-year historical series.

§ BACKGROUND

The intensification of extreme weather events over the past decade has made catastrophe models calibrated on pre-2010 history systematically optimistic: global insured losses from climate-related events rose 180% in real terms between 2000 and 2023. Low-lying coastal areas are particularly exposed to an amplification effect: a single hurricane season can hit the entire territory within a few kilometres with one event, eliminating the geographic diversification benefit that portfolio models assume. On the reinsurance side, several global reinsurers have already reduced available capacity for high-climate-risk coastal areas, with premium increases of 30–60% in the last three renewal rounds.

§ COUNTER-INTUITIVE SCENARIO

Catastrophe models look at the **past**, but the climate is no longer the same: extreme events are more frequent. Concentrating the +50% in a single coastal area means putting all your eggs in one basket: a single hurricane hits the **entire portfolio** at once. And reinsurance — your safety net — can withdraw or get more expensive just when you need it.

IMPLICIT ASSUMPTIONS

- ◆ Catastrophe models capture the real risk, climate included.
- ◆ Reinsurance will remain available and at the same price.
- ◆ The policies are weakly correlated with each other.

FALSIFICATION TESTS

- ◆ With events 30% more intense than the historical record, how much do you lose in extreme scenarios (1 in 100 and 1 in 250 years)?
- ◆ How much exposure is concentrated within a few kilometers of the coast?
- ◆ What happens if reinsurance disappears or doubles in price?

QUESTIONS THAT RAISE THE BAR

- ◆ How much do you lose, net, if a single event hits the whole area at once?
- ◆ How much of the plan depends on reinsurance that might not be there?

CALIBRATED CONFIDENCE & PROVENANCE

that the +50% in the area withstands updated climate scenarios

Provenance: climate-adjusted catastrophe models · geographically mapped exposure · reinsurance terms · red-team base.

PML: historical model vs climate-adjusted

ILLUSTRATIVE DATA

PML historical model (1:100)

€85M

PML climate-adjusted (1:100)

€148M

Probable maximum loss estimate in the 1-in-100-year scenario using the historically calibrated model and with the climate adjustment applied (illustrative data).

Exposure within 5 km of the coast

ILLUSTRATIVE DATA

78%

OF ZONAL EXPOSURE WITHIN 5
KM OF THE COASTLINE

Share of the zonal portfolio concentrated within five kilometres of the coastline — nearly fully correlated in a hurricane scenario (illustrative data).

OUTCOME

Cap on the area's exposure, distribution across more areas and purchase of **aggregate coverage** before hurricane season.

VALUE

Avoided a **concentration** that a single hurricane could have turned into a capital loss.

METHODOLOGICAL NOTE — READ FIRST

Composite cases, in the method of the Harvard Business Review: reconstructions based on real, recurring situations in each sector, merged and anonymized to protect confidentiality. The decision dynamics are authentic; names, figures and details are altered and not traceable to any single client or case. The «provenance» notes describe the type of evidence the engine cites with traceability in production. The Δ -CSI values illustrate the intensity of the pressure the contradiction put on the assumptions.