

New Climate Scenario Interrogatories in RBC for P&C Insurers (Effective YE24)

New climate-scenario interrogatories

- Since 2022, the Solvency Workstream of the NAIC Climate & Resiliency (EX) Task Force has led the evaluation of potential solvency impact of climate change risk on P&C insurers.
- Regulators first heard several presentations on how scientists, insurers, catastrophe modelers are quantifying the impact of climate change risk, and then asked the NAIC to develop climate scenario analysis to understand the potential impact on catastrophe exposure for P&C insurers.
- On August 2, 2024, the NAIC Financial Condition (E) Committee adopted new interrogatories for the disclosure of climate-conditioned catastrophe exposure for hurricane and wildfire only in the catastrophe risk component of the P&C RBC blanks (hereinafter “climate scenario interrogatories”).

When they are effective and who is affected

- The new climate scenario interrogatories come into effect for YE24 RBC filing (due March 1, 2025).
- These interrogatories will remain effective also for YE25 and YE26 RBC filings. Regulators will then decide whether to extend the requirements.
- While the primary purpose of the P&C RBC catastrophe blanks is to estimate catastrophe risk charge in the RBC formula ("R-Cat"), the purpose of the new interrogatories is for information only.
- All P&C insurers that file a R-Cat calculation are required to populate the new interrogatories. If a P&C insurer is exempt from R-Cat, it is exempt from the new climate scenario interrogatories.

Other new interrogatories in R-Cat

The following two new interrogatories have been added to the R-Cat component of the RBC filing and they are effective from YE24 for all P&C insurers:

1. Interrogatory on Cat risk reinsurance program

Given Cat risk reinsurance is one of the main controls used by P&C insurers to limit their Cat exposure, a new interrogatory has been added to collect more detail on the structure of this program.

2. Interrogatory on severe convective storm exposure

Given the significant contribution of this peril to industry's insured losses in recent years, a new interrogatory has been added to quantify the Cat exposure for this peril. This is for illustrative purpose only, not for inclusion in the R-Cat charge calculation in the RBC formula. Some insurers may be exempt if they meet the criteria.

How the new Cat interrogatories fit into the R-Cat component of P&C RBC filing

Elements of R-Cat component of the RBC filing	Interrogatories
R-Cat exemption test	PR027INT
R-Cat charge calculation	PR027
Cat exposures by peril (earthquake, hurricane, wildfire) including severe convective storms NEW	PR027A, PR027B, PR027C and PR027D
Climate-conditioned Cat exposures for hurricane NEW	PR027BI, PR027BII, PR027BIII and PRO27BIV
Climate-conditioned Cat exposures for wildfire NEW	PR027CI, PR027CII, PR027CIII and PRO27CIV
Attestation of Cat model used for R-Cat	PR002
Cat risk reinsurance program NEW	PR027INTA

Source: 2024 NAIC Property and Casualty RBC Forecasting and Instructions

R-Cat exemption test (PR027INT)

General exemption:

1. insurer uses an intercompany pooling arrangement or quota share arrangement with US affiliates covering 100% of its earthquake, hurricane and wildfire risks; or
2. the ratio of Insured Value Property to policyholder surplus is less than 50%; or
3. the Insured Value Property for earthquake, hurricane and wildfire coverage in US CAT-prone areas is less than 10% of its policyholder surplus.

Peril-specific exemptions. For hurricane:

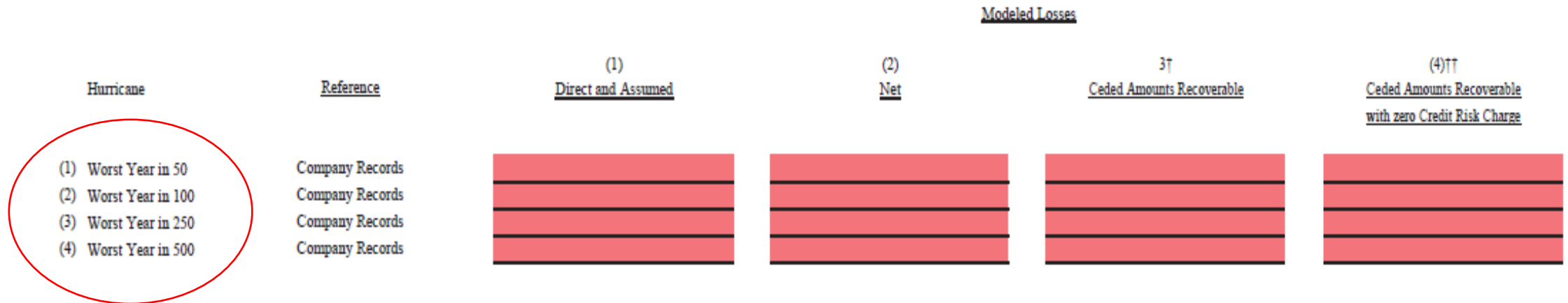
- Insurer has not entered into a reinsurance agreement with a non-affiliate and either:
 - it participates in an inter-company pooling arrangement with 0% participation; or
 - It cedes 100% of its hurricane exposure to its US affiliate(s) leaving no net hurricane exposure
- 2) and 3) above for hurricane coverage

Perils included

Peril	Included in R-Cat charge?	Calculation blank	Included in climate scenario?	Climate scenario blank
Earthquake	Yes	PR027A	No	No
Hurricane	Yes	PR027B	Yes (for information only for YE24-26)	PR027BI, PR027BII, PR027BIII and PRO27BIV
Wildfire	No (for information only)	PR027C	Yes (for information only for YE24-26)	PR027CI, PR027CII, PR027CIII and PRO27CIV
Severe Convective Storms	No (for information only) NEW (from YE24)	PR027D	No	No

R-Cat calculation blanks by peril (example: PR027B for hurricane)

CALCULATION OF CATASTROPHE RISK CHARGE FOR HURRICANE PR027B



Insurers must disclose several PMLs for each peril. Only the 1-in-100 PML is used in the R-Cat charge calculation in the RBC formula. All other PMLs still provide the regulator with important quantification of the Cat exposure for that peril. We will refer to these PMLs as the “Baseline PMLs”.

Regulators want to understand how these PMLs would change today in a climate scenario. We will refer these as the “Climate Conditioned PMLs”.

Climate Conditioned PMLs - scenario assumptions

Book of Business

Year-end in-force at year-end as used for Baseline PML

Reinsurance Structure

As used for Baseline PML

Business Assumptions

No adjustment for exposure inflation and/or management actions

Perils in Scope

Hurricane and wildfire

Climate Conditioned View Methodology

Companies can use either a [time-based approach](#) or a [frequency-based approach](#)

PML threshold levels/Return Periods

50yr, 100yr, 250yr, 500yr, 1000yr

Time-based approach

- **Forward-looking Climate View:** RCP4.5 (or equivalent SSP)
- **Future Time Horizons:** 2040 and 2050
- **Companies can use *one of the options* listed below:**

Option A : Vendor provided equivalent Climate Conditioned Catalog (CCC) for the catalog used for Baseline PMLs

Option B: Own view of climate risk - developed through adjustments made to the baseline catalog (by internal or external experts)

Note: Representative Concentration Pathway (RCP) represents a set of projections that are meant to serve as an input for climate modeling, pattern scaling and atmospheric chemistry modeling.

Frequency-based approach

Apply a frequency adjustment to the catalog used for Baseline PMLs as below:

- **For 2040-time horizon:** 10% increase in frequency for major hurricanes and all wildfire events
- **For 2050-time horizon:** 50% increase in frequency for major hurricanes and all wildfire events

Note: The frequency adjustments should be constrained to wind frequency only—no adjustments should be made for other sub perils.

New climate scenario interrogatories

Hurricane	<u>Reference</u>	(1) <u>Direct and Assumed</u>	(2) <u>Net</u>	3† <u>Ceded Amounts Recoverable</u>
(1) Worst Year in 50	Company Records			
(2) Worst Year in 100	Company Records			
(3) Worst Year in 250	Company Records			
(4) Worst Year in 500	Company Records			
(5) Worst Year in 1000	Company Records			

Insurers must recalculate the PMLs (net and gross of reinsurance) for hurricane and for wildfire under one of the two climate scenario approaches: time-based or frequency-based (the approach can vary by peril).

Each approach requires the calculation of two sets of PMLs (see next slide).

Please refer to the full interrogatory blanks for additional disclosure requirements.

New climate scenario interrogatories

Select approach to estimate Climate Conditioned PMLs:	Estimate PMLs using:	Disclose results for Hurricane in:	Disclose results for Wildfire in:
Time Based Approach	RCP 4.5 (2040) (option A or B)	PR027BI	PR027CI
Time Based Approach	RCP 4.5 (2050) (option A or B)	PR027BII	PR027CII
OR			
Frequency Based Approach	10%	PR027BIII	PR027CIII
Frequency Based Approach	50%	PR027BIV	PR027CIV

Which Cat models can be used?

- To estimate the Baseline PMLs, insurers can use:

- Approved 3rd party commercial vendor model

These are: Verisk (former AIR), CoreLogic (hurricane & earthquake only), RMS, KCC, ARA HurLoss Model (hurricane only), or the Florida Public Model for hurricane.

- Own Cat models (developed by insurer)

These are subject to written permission from domestic or lead state department of insurance after providing list of evidence items. They are subject to additional review during examination.

- **To estimate the Climate Conditioned PMLs, please refer to slides 10 and 11.**

The Cat model used is subject to attestation (PR002)

The attestation:

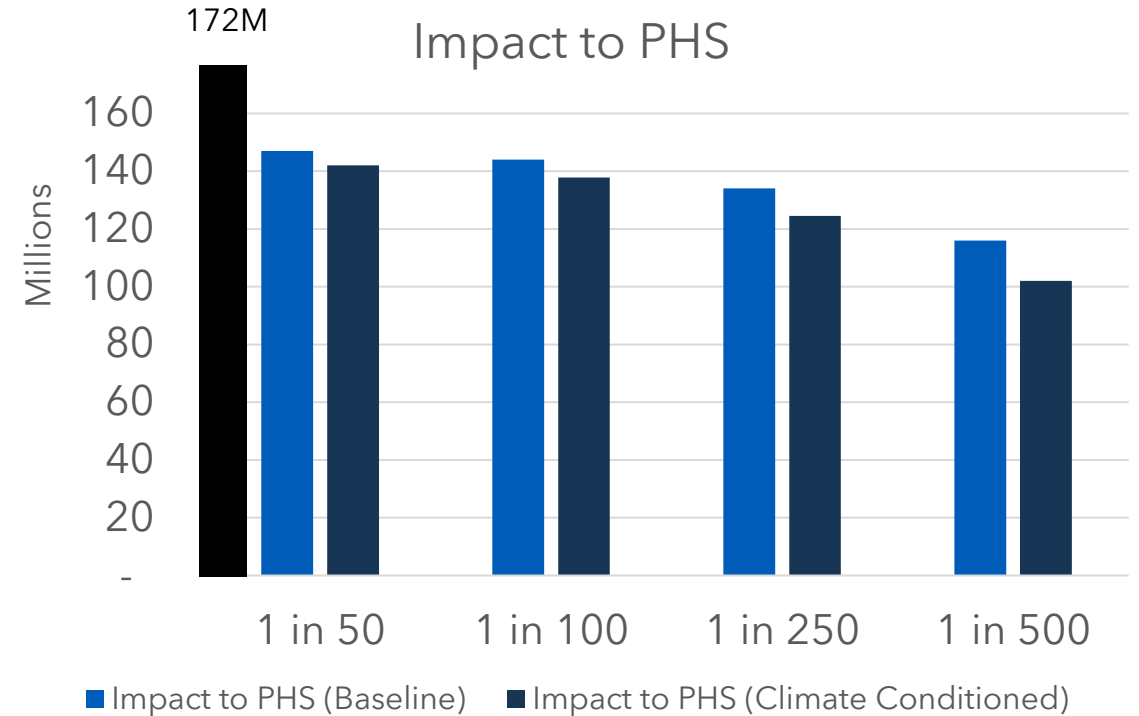
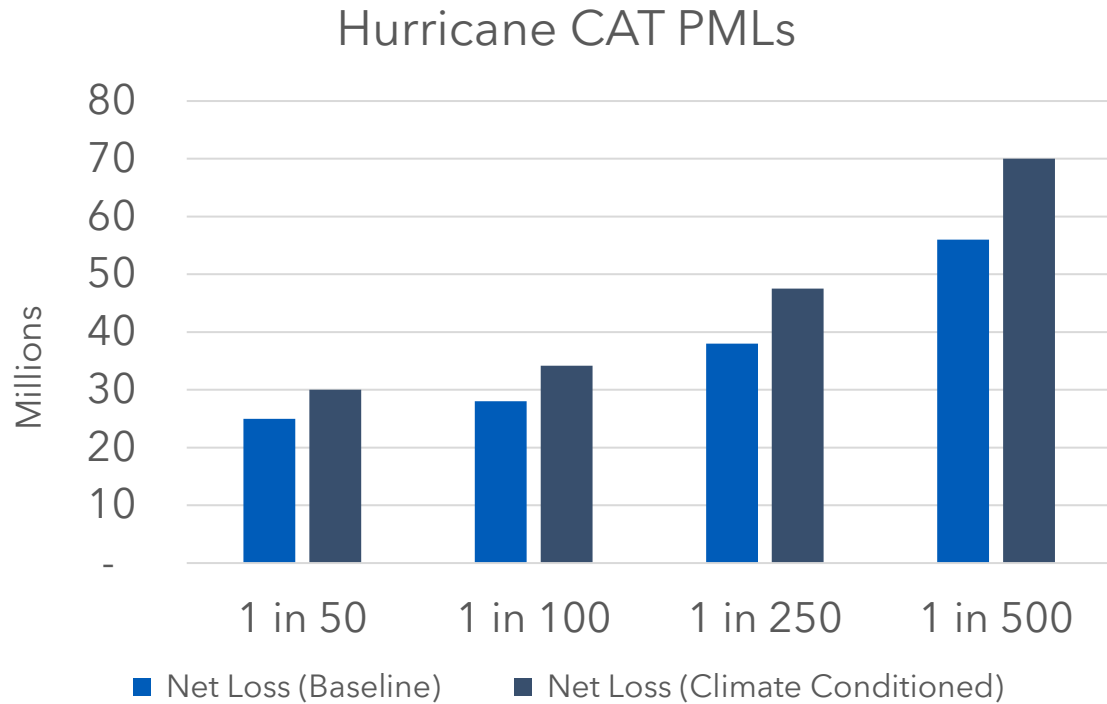
1. certifies that the Cat model (or combination), the exposure data and the modeling assumptions used to determine R-Cat are the same as those used in the internal risk management process;
2. describes any exception and the reasons for the exception;
3. describes the Cat model used and key modeling assumptions and rationale for choice;
4. certifies that the exposed data used is accurate and complete;
5. describes whether the exposure location data is accurate to GPS coordinates, zip code or lower level;
6. describes the validation of accuracy and completeness of data used;
7. describes the methodology used to determine the reinsurance recoverable.

The new interrogatory on Cat risk reinsurance program (PR027INTA)

- It should be completed by all P&C RBC filers that are exposed to natural Cat perils (whether exempted or not from the R-Cat calculation).
- Insurance entities that participate in group reinsurance programs may respond at group level.
- Provide the following information in the interrogatory:
 - a) an overall narrative description of the Cat reinsurance program, by peril where appropriate, including types of reinsurance coverage in place, attach points/retention levels, exhaustion limits, reinstatement provisions, etc.
 - b) a graphic reinsurance tower in attachment
 - c) significant changes from the prior year (to cost, coverage)
 - d) primary renewal date

Use of the new interrogatories by regulators

Baseline and Climate-conditioned PMLs can be compared (example)



Baseline PMLs currently reported in annual RBC filings, can be compared with climate conditioned PMLs in the new RBC climate scenario interrogatories

Climate conditioned PMLs can be compared to Policy Holder Surplus (PHS) for solvency purposes

Regulatory value and use

- Regulators have access to several filings (such as NAIC Climate Disclosure Survey, ORSA) that may discuss what climate risk means for the insurer, how it is embedded in the ERM framework of the insurer. However, these filings mostly provide a qualitative view of climate risk and provide little to no quantification of the impact of climate risk on the Cat exposure of a P&C insurer.

- Climate Conditioned PMLs (net and gross of reinsurance) disclosed in the RBC interrogatories allow regulators to answer the following question:

“if today is 2040 or 2050 or if today the frequency of the peril is 10% or 50% higher as a result of climate change, how would the Cat exposure of the insurer change and how does it compare with the insurer’s policyholder surplus, assuming the Cat reinsurance coverage is the same?”

- Having both the qualitative and the quantitative assessment of climate risk by the insurer allows the regulator to engage in a more meaningful assessment of whether the current Cat exposure represents a prospective solvency risk for the insurer. For example, regulators may discuss with insurer management actions to reduce Cat exposure.

HELP FROM NAIC

Do you have questions for the NAIC?

- The NAIC has established a Climate Scenario Resource Center to assist insurers and their advisors with the new RBC climate-scenarios interrogatories.

Resources available:

1. Cat blanks extracts from 2024 NAIC Property and Casualty RBC Forecasting and Instructions
 2. This presentation
 3. FAQ
- The Center is located on the webpage of the NAIC Catastrophe Modeling Center of Excellence and can be found at this link:

<https://content.naic.org/research/catastrophe-modeling-center-of-excellence>

- You can submit questions to the NAIC at the following email:

climatescenarioshelp@naic.org