AlphaGeo for Insurance

> Amid the devastation of this year's Pacific Palisades wildfires, a few homes remained almost unscathed, including a 4,200-square-foot home in Malibu now known as the "last house standing." What set it apart was its climate-adapted construction: stucco and stone with a fireproof roof, anchored by pilings driven 50 feet into bedrock.
>
> As climate volatility intensifies, insurers should view the "last house standing" as a beacon of hope -- and *a clear signal that insurance products require not only enhanced risk modelling, but the integration of adaptation and resilience into underwriting.*

Integrate resilience into underwriting with AlphaGeo

Insurance companies already excel at modelling climate-driven hazards. The competitive edge now lies in adaptation and resilience. Innovative, climate-ready insurance products should incentivize customer adaptation and incorporate climate resilience data into underwriting to price premiums more accurately and profitably.

AlphaGeo's data analytics empower insurers to sustain presence in high-risk areas where competitors may retreat.

OUR PRODUCT: RESILIENCE-ADJUSTED RISK

AlphaGeo's Climate Risk and Resilience Index combines climate model data with local adaptation measures to create resilience-adjusted risk scores.

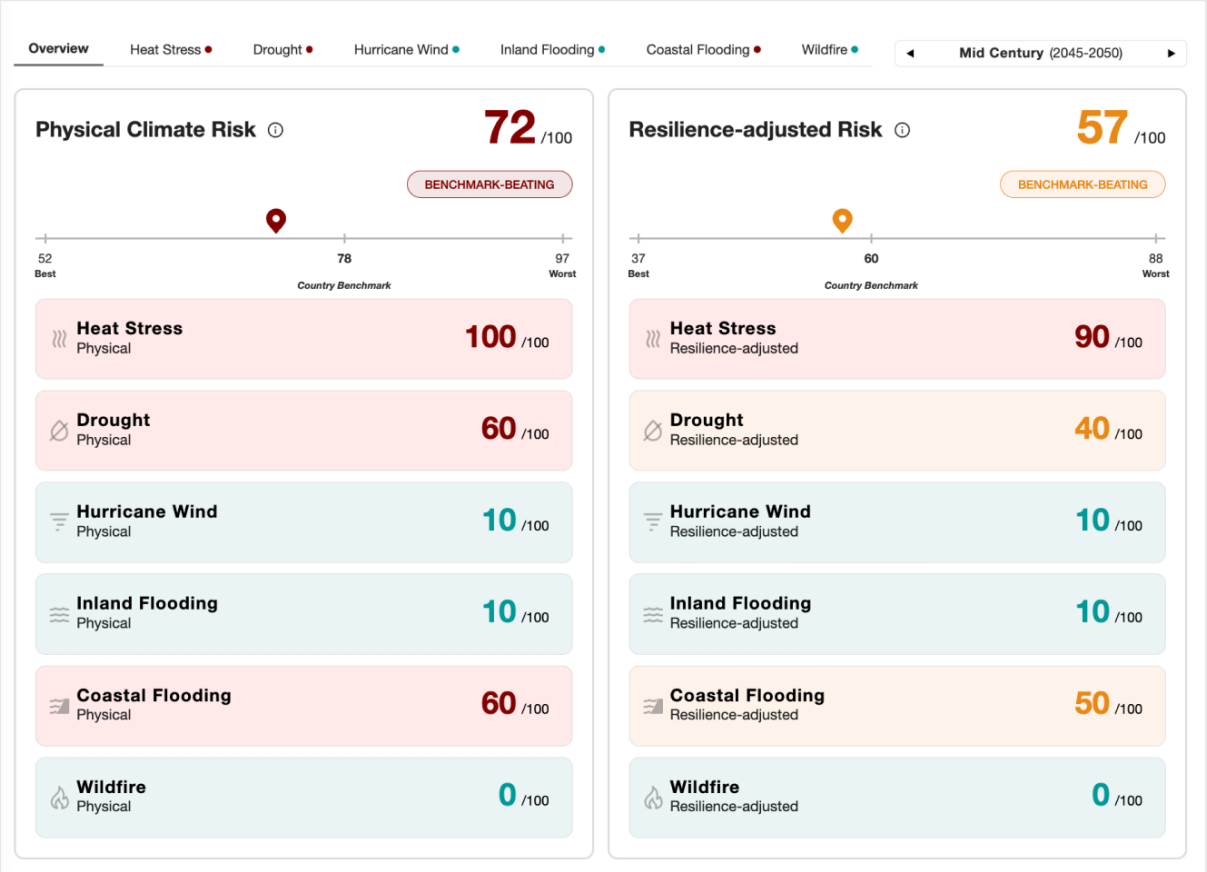

Figure 1: AlphaGeo's Climate Risk and Resilience Index includes both physical and resilience-adjusted risk data.

This dual scoring system distinguishes high-risk locations from those where robust adaptation mitigates climate risk impacts, enabling insurers to price more accurately, and stay competitive in high-risk zones.

The maps of California (for wildfire risk) below illustrate how our Climate Risk and Resilience Index scores reveal "safer" locations within a high-risk state.

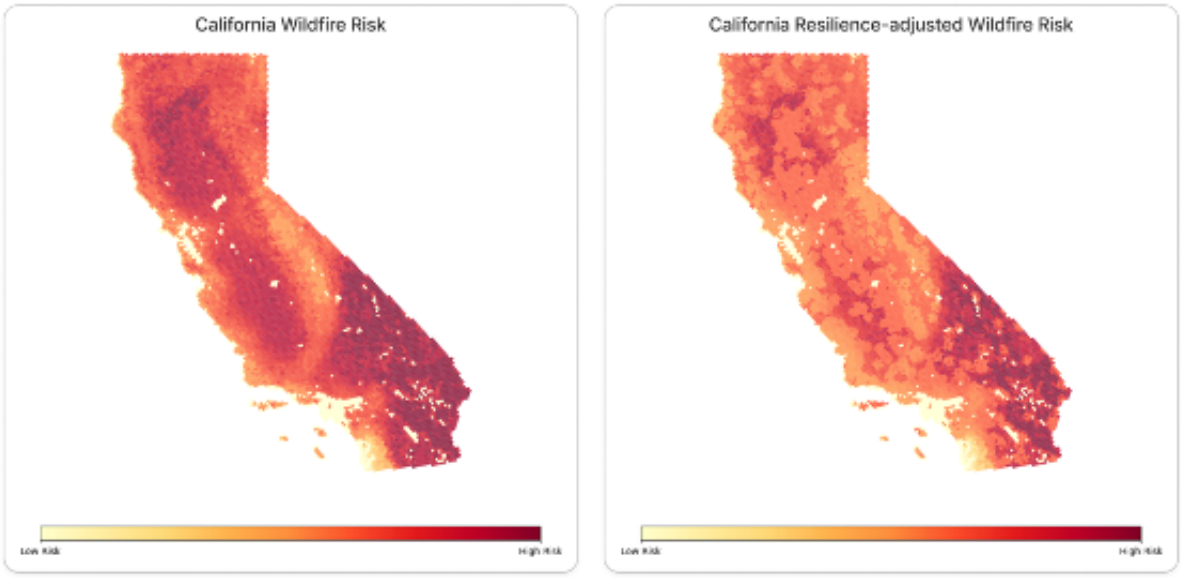

Figure 2: Resilience-adjusted Risk data enables discovery of "safer" locations even in high-risk states.

All scores are provided with their underlying risk (Figure 3) and resilience drivers (Figure 4, in section below on **Global Adaptation Layer).**

◄ Overview | Heat Stress ● | **Drought ●** | Hurricane Wind ● | Inland Floodin ► ◄ **Mid Century** (2045-2050) ►

Drought Physical **60** /100 | **Drought** Resilience-adjusted **40** /100

	Risk			Resilience
Features	**Current** (2020-2025)	**Early Century** (2030-2035)	**Mid Century** (2045-2050)	**End Century** (2095-2100)
Maximum consecutive days without precipitation	**52** days	**55** days	**45** days	**38** days
Number of days above 38°C (100°F)	**137** days	**147** days	**152** days	**189** days
Number of days above 40°C (105°F)	**111** days	**122** days	**130** days	**169** days
Water demand-supply ratio	**1.70**	**1.70**	**0**	**2.20**

Figure 3: Underlying risk drivers for Drought risk. Each hazard has its own feature set.

Use Case: Resilience-Enhanced Underwriting

- Refine underwriting with adaptation data for accurate pricing.
- Offer premium reductions for verified climate resilience measures.

GLOBAL ADAPTATION LAYER

Powering our resilience-adjusted risk scores is our **Global Adaptation Layer dataset,** which quantifies 20+ hazard-specific adaptation measures worldwide.

This data identifies adaptation gaps at a granular level, enabling insurers to play a proactive role in strengthening resilience in their coverage zones. An example is shown below for inland flooding adaptations.

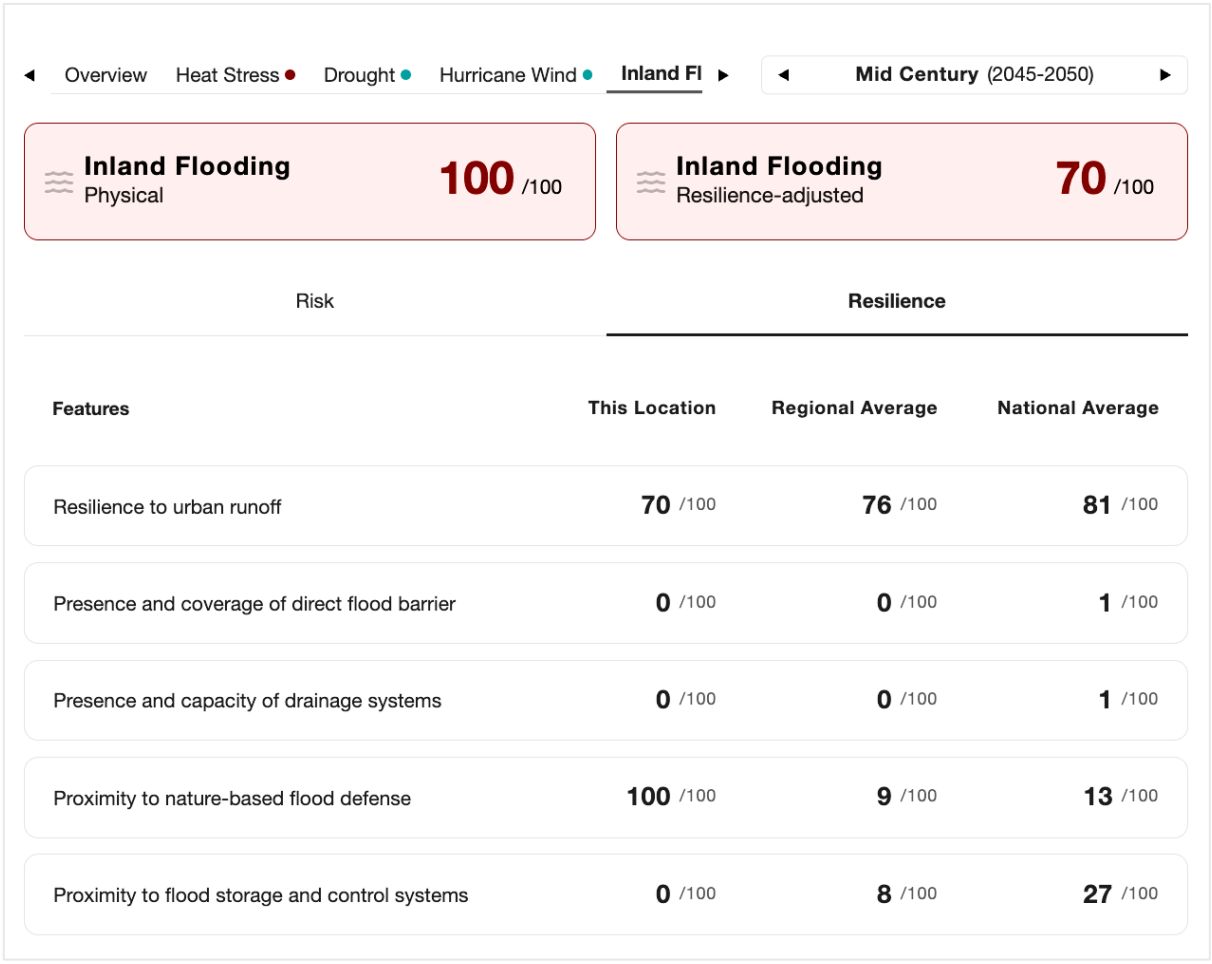

Figure 3: AlphaGeo's Global Adaptation Layer covers over 20 hazard-specific adaptation measures worldwide. The example here is for inland flooding adaptations.

Use Case: Adaptation-driven Pricing and Customer Engagement

- Advise policy holders on adaptation to enhance asset resilience
- Calibrate premiums based on the degree of adaptation to specific risk