ICARP
INTEGRATED CLIMATE ADAPTATION & RESILIENCY PROGRAM

Technical Advisory Council
May 29, 2026

Item 8: Insurance Tools for Adaptation Discussion Paper

Introduction

Insurance and disaster risk finance are important pieces of California's adaptation finance landscape, helping households, businesses, and public entities manage residual risk, recover following disasters, and in some cases strengthen incentives for risk reduction.

Climate change is shifting the risk profile of hazards – making them more frequent and intense – with consequence for insurance. From a community-wide perspective, fires have traditionally been high-probability, low-consequence events. The high probability created a viable insurance market, while the low consequence kept coverage affordable. For decades, this insurance model worked effectively. However, the increasing size of conflagration fires is transforming fire risk into a high-probability, high-consequence event. Meanwhile, flood risk is undergoing its own transformation. Sea level rise is converting coastal flooding from low-probability, high-consequence events into high-probability, high-consequence events. Both risks now share a critical characteristic: they have become high-consequence events that challenge traditional insurance models.

For many Californians, changes in insurance availability, pricing, and coverage terms are among the earliest financial signals of growing climate risks. Impacts to insurance affordability and availability may be experienced by individuals and businesses long before they experience a clear climate-related loss. Depending on how it is structured and priced, insurance can be a strong incentive for adaptation. The insurance market has also historically been the largest source of post-disaster financing, making it a critical part of the conversation on managing increasingly frequent and severe disasters.

New regulatory reforms and policy initiatives aim to stabilize the residential fire insurance market, improve access to coverage, and protect consumers while also supporting adaptation. *California's Sustainable Insurance Strategy* requires insurers to write a minimum share of policies in wildfire-distressed areas at the same time it permits insurance companies to use catastrophe models in rate-setting – improving access to coverage and at the same time, creating incentives for risk reduction activities.

The flood insurance market is also experiencing fundamental changes through FEMA's Risk Rating 2.0 methodology and the increased use of catastrophe modeling, mirroring transformations occurring in the fire insurance sector. Risk Rating 2.0 represents a shift from broad, zone-based pricing to property-specific risk assessment, incorporating factors such as flood frequency, multiple flood types, and distance to water sources. This granular approach, combined with sophisticated catastrophe modeling that can better predict sea level rise impacts and changing precipitation patterns, is creating more accurate but often higher premium costs for many policyholders. Like *California's Sustainable Insurance Strategy* that permits catastrophe models in fire insurance rate-setting, these flood insurance changes aim to align pricing with actual risk while potentially creating stronger incentives for property-level adaptation measures. However, this transition also raises affordability concerns, particularly in communities where previously subsidized rates masked true flood risk exposure, forcing a reconsideration of how society manages and finances the growing consequences of climate-driven flooding.

Novel insurance models and arrangements are emerging to address these evolving challenges. For example, parametric insurance, which triggers automatic payouts when predetermined conditions are met (such as wind speeds or rainfall thresholds), offers more rapid and predictable financing following disasters. This contrasts with traditional indemnity insurance, which requires lengthy claims adjustment processes to determine payments based on actual damages assessed after the event. Innovative models are also being developed to provide coverage for previously uninsurable hazards like extreme heat events and to protect new categories of assets such as natural infrastructure and ecosystem services.

The following speakers will be presenting to the TAC:

- Deborah Halberstadt, California Department of Insurance (CDI), will moderate the panel. She will highlight opportunities for insurance to support adaptation, and the work CDI is doing in this area.
- Deborah Glaser, The Nature Conservancy (TNC), will present TNC's collaboration with UC Berkeley Center for Law, Energy & the Environment (CLEE), global risk management firm Willis Towers Watson, and Tahoe Donner Homeowners Association (HOA). This partnership helped Tahoe Donner acquire the first insurance policy in the U.S. that has factored risk reduction benefit of large-scale fuel reduction work into wildfire risk assessments and policy pricing. The policy covers over 1,300 acres of high-risk open space within Tahoe Donner.
- Andrew Engler, RockRose Risk, will present work with Incline Village HOA to reduce insurance premiums through neighborhood risk-reduction measures. RockRose Risk is an insurance broker that specializes in policies for commercial property owners engaging in risk mitigation.
- Kathleen Schaefer, UC Davis, will speak about her work on community insurance in Isleton. This community-based, parametric insurance product would provide important financial resilience to all Isleton residents in the event of a significant flood. It would be separate from and augment existing private flood insurance

coverage that Isleton residents may have. This initiative would provide a relatively small but meaningful insurance payout that residents could use flexibly to survive the aftermath of a major flood.

Background Materials

How an Incline Village HOA received a 33% insurance reduction amid wildfire driven increases and non-renewals | Tahoe Living With Fire

Parametric Wildfire Insurance | Tahoe Donner

Isleton pilot project tests a community-based flood insurance program