

Catastrophic risk models

What can we learn from others?

Climate-driven and other major disasters are creating risks so large and unpredictable that private markets often can't handle them on their own. To address these challenges, governments and industries step in with organized systems that are predictable, stable and help communities recover faster, while stabilizing critical markets and industries that serve the public good.

Federal and state governments have created frameworks to prepare for and respond to catastrophic events. Some key design features of those frameworks have helped deliver responses that are faster, more predictable and/or more direct for victims are addressed in the pages that follow.

The insights and opportunities offered by these frameworks can deepen understanding of the problem and help inform the creation of a solution best suited to California's unique needs.

Florida Hurricane Catastrophe Fund

1993
Created after repeated hurricanes destabilized Florida's insurance market.

France's CATNAT Model

1982
Established to close coverage gaps created by major natural disasters through federal backing and near-universal catastrophe insurance on properties.

Price-Anderson Nuclear Industry Act

1957
Created when unlimited liability threatened development of the U.S. nuclear industry and serves as a recognized model to address high-severity, low frequency risks.

9/11 Victim Compensation Fund

2001
Created after the September 11 attacks to compensate victims quickly and avoid prolonged litigation.

Florida Hurricane Catastrophe Fund

Insurance for
insurers, backed by
the state

Stabilized the insurance market after extreme events through centralized fund backed by the state

How it works

- Insurers pay in every year; participation is mandatory and coverage can be customized
- After major hurricanes, the state fund reimburses insurers once losses pass a threshold
- If losses are extreme, the state-run fund can issue bonds or emergency assessments

What it did

- Helped stabilize Florida's insurance market after repeated hurricanes
- Reduced insurer failures and market exits
- Provided predictability, which private reinsurers and insurers value
- Kept coverage available and affordable

Key benefits

Availability and certainty. Insurers know help is coming, so they can operate effectively and keep prices lower

Considerations

- Program limited to insurance industry only
- Works best when paired with strong building codes and mitigation efforts

France's CATNAT Model

Property insurance
surcharge with a
government guarantee

Near-universal catastrophe coverage through property insurance with a government guarantee

How it works

- All property insurance policies include a standard catastrophe surcharge
- Private insurers pay claims to customers after a declared disaster
- Government-backed fund reimburses extreme losses, with an unlimited backstop

What it did

- Ensured near-universal property coverage for catastrophic natural disasters
- Kept insurance widely available and affordable across regions
- Created a predictable, fast path to compensation after major events

Key benefits

Automatic and predictable.
Mandatory property-insurance surcharge creates broad participation, with a government guarantee for extreme losses.

Considerations

Costs are shared broadly and not tailored to individual risk

Price– Anderson Nuclear Industry Act

Nuclear industry-
funded protections
with a federal backstop

Predefined, capped, fast-pay system with a federal backstop to manage catastrophic risk, avoiding years of litigation

How it works

- Nuclear operators are required to carry insurance and participate in an industry risk fund
- Claims are paid from that fund up to a fixed cap for each event.
- If losses exceed the event cap amount, the federal backstop triggers

What it did

- Enabled development of the U.S. nuclear industry
- Created certainty around catastrophic liability exposure
- Ensured funding would be available for victims after an extreme event

Key benefits

Capped risk and speed. Acts as a fast-pay, administrative claims process to provide no-fault compensation for victims, avoiding years of litigation.

Considerations

- Requires strong oversight and clear governing rules
- Couple with structures to promote industry-wide safety and accountability

9/11 Victim Compensation Fund

Government-funded compensation program payable directly to victims

A fast, predictable path to victim compensation, replacing litigation with an administrative claims process

How it works

- Eligible victims file claims through an administrative process
- Compensation amounts are determined using predefined criteria
- Claims are paid directly to victims by the federal government

What it did

- Delivered compensation to victims and families quickly
- Replaced years of litigation with a predictable claims process
- Supported stability in the airline industry after the 9/11 attacks

Key benefits

Fast and victim-centered. Victims received compensation within ~18 months rather than 5-10 years of prolonged court cases.

Considerations

Designed for a unique, one-time event

Summary: Catastrophic risk models

	Florida Hurricane Catastrophe Fund	France's CATNAT Model	Price-Anderson Nuclear Industry Act	9/11 Victim Compensation Fund
What it is	Insurance for insurers, backed by the state	Property insurance surcharge with a government guarantee	Industry-funded protections with a federal backstop	Government-funded, fast-pay victim compensation program
Key features	<ul style="list-style-type: none"> • Insurance-first model with public backstop • Spreads catastrophic risk over time • Stabilizes insurance availability to property owners 	<ul style="list-style-type: none"> • Automatic surcharge tied to property insurance • Near-universal participation through mandatory charge • Government guarantee ensures payment 	<ul style="list-style-type: none"> • Predefined funding with a cap per event • Industry pays first, government backstop for tail risk • Supported a critical industry serving an essential public function 	<ul style="list-style-type: none"> • Administrative claims process replaces litigation • Clear eligibility boundaries • Rapid, predictable payment to victims
Public benefit	Stabilizes insurance availability in high-risk regions	Ensures universal catastrophe coverage for insured properties	Capped liability and clear rules that enable critical industries	Fast, victim-centric recovery is possible outside the courts