



**Large-Area Flooding:
Overexposed and underinsured**
A solution for at-risk industries
across the US

In collaboration with: **FLOODBASE**

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A solution for at-risk industries across the US

Flooding accounts for over half of all disaster losses. Since 2020, flooding has cost the US economy over \$850 billion — a number sure to rise. Yet 83% of all flood losses were uninsured over the last decade. When available, traditional indemnity insurance often leaves a large portion of losses uncovered, and does not account for major follow-on effects like business interruption.

Though physical damage to property can be covered with traditional options, the claims and adjustment process is often slow, creating financial pain for policyholders looking to rebuild quickly. During a prolonged claims period, impacted entities must contend with a secondary disaster — income loss and added costs due to business interruption. A 2022 analysis estimates that businesses in the US collectively lost 3.1 million days of operations as they recovered from flood events. To date there have been limited flood insurance options that sufficiently cover businesses economic loss.

Business interruption isn't all that is left uncovered by traditional flood insurance. Flooded land is also uncovered because it's difficult to accurately assess flood risk over large areas using traditional models. For industries that rely on their land to generate revenue, this lack of insurance can threaten business survival.

For example, a golf club's buildings and equipment may be covered by traditional insurance, but the golf course itself can be unplayable for months. The need for expensive repairs and a lack of land and business interruption coverage could put them out of business.

This example extends to industries critical to the US economy that depend on land and access for their productivity. Sectors like agriculture, livestock, energy, manufacturing, tourism, and local governments can be exposed to severe economic loss from business interruption caused by flooding across large areas.



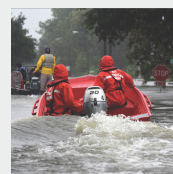
Golf Courses

No one golfs during a flood, forcing clubs to absorb the costs of cancelled tee times and costly repairs



Vineyards

Floods delay grape harvesting and pruning, impacting revenue



Public Sector

Governments on the frontlines of flooding must pay for response & recovery while losing tax revenue



Industrial

Floods cause significant business interruption even if equipment is high and dry

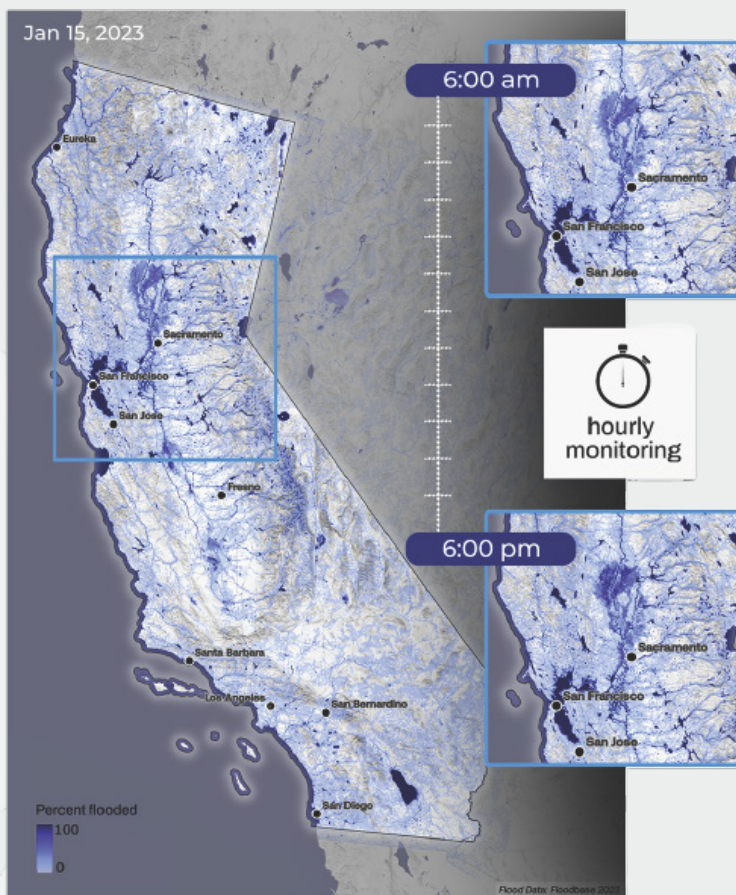
Compounding this issue are assumptions that businesses and governments have around what is possible to insure. Because traditional insurance options tend to only cover damage to physical property, organizations often assume that they cannot insure against business interruption or their land — even when those assets are the central driver of their business or economy. Fortunately, this is changing.

Making flood coverage for economic loss possible

Just as billion-dollar flood disasters are increasing, so are technological advancements that promise to close significant insurance gaps covering economic loss from flooding.

Floodbase's flood data platform enables brokers and (re)insurers to design and offer flood insurance products to a range of industries experiencing significant economic loss from flooding that span over large geographic areas.

As flooding may place an entire farm, golf course or community under water, Floodbase enables flood insurance products that cover economic losses from business interruption, land loss, clean-up expenses, and repairs that businesses face after a flood. The products are parametric in nature – meaning pay-outs happen quickly and can be used as the insured see best. This allows businesses to get back on their feet quickly.



The Floodbase technology behind these products monitors any location across the US on an hourly basis, 365-days a year. For clients purchasing a flood insurance product enabled by Floodbase, a “virtual Floodbase sensor” is simply switched on for their location — no equipment installation or maintenance are required.

Water hazards: on the golf course and beyond

Businesses that rely on their land to generate revenue such as country clubs, golf courses, and ski resorts often cannot be insured against business interruption losses caused by flooding. Yet no one plays golf during a flood and chair lifts will be empty if the roads leading to the mountain are washed out.

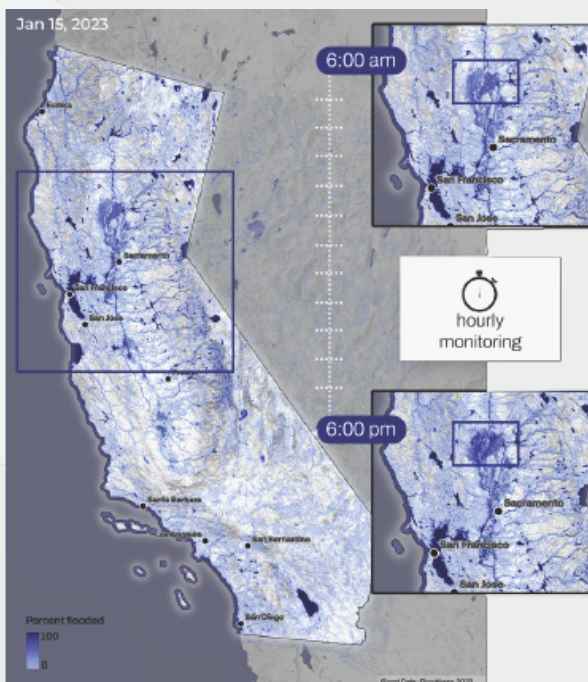
The multi-billion dollar golf course and country club industries are at particular risk. Golf courses are often situated in low-lying areas or near bodies of water, making them inherently prone to flooding. When a flood hits, club owners, and operators are left on the hook for lost revenue from daily greens fees, canceled tournaments, charity events, and course repairs.

As an example, severe flooding in 2023 damaged the greens at a popular golf course in California. It has been unplayable for over a year; as of April 2024, the course has still not reopened. Repair costs have totalled at over \$10 million and tens of thousands of rounds have been canceled.

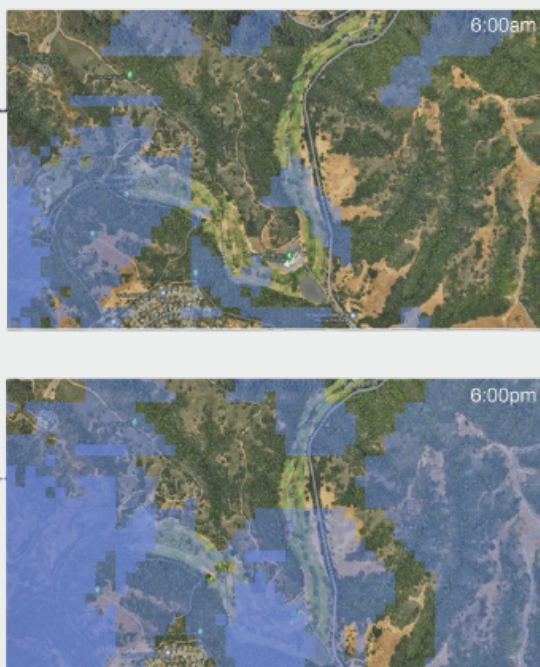
Closing the golf course flood insurance gap

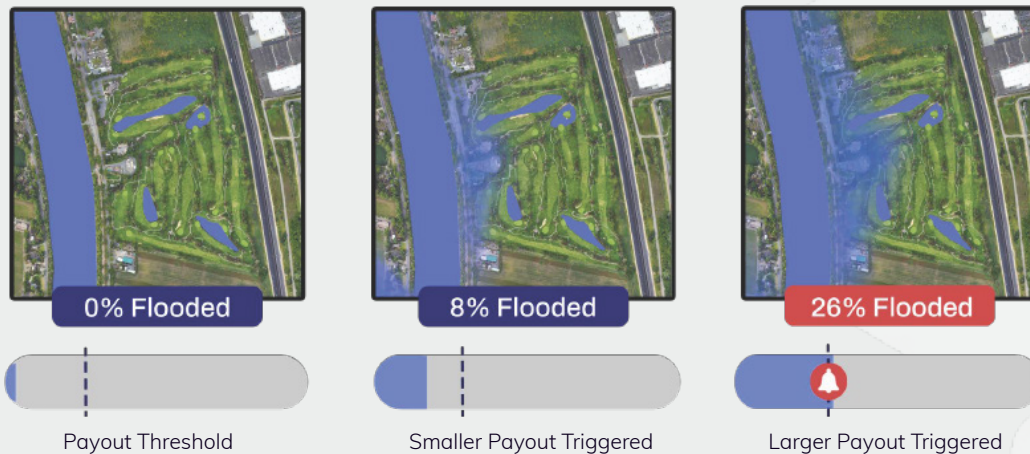
To address golf courses' flood coverage needs, wholesale broker Amwins has partnered with Floodbase to offer a Golf Tees-to-Green Flood Insurance Program. As a severe flood occurs, golf course businesses, golf resorts, or operators can cover lost revenue when a golf course is unplayable or needs repairs. The policyholders are free to choose how to best use policy payouts for their business in the aftermath of a severe event.

2023 Flooding in California



Golf course client impacted by event





When flooding at the golf course exceeds a predefined threshold, a payout is automatically triggered. The amount increases in proportion to the flooded area.



"Almost every commercial sector we serve carries significant flood risk that cannot be properly addressed in the traditional market. Floodbase unlocks an enormous opportunity in the flood insurance market by enabling insurance products that pay out based on the amount of flooding over large areas. The available market for non-damage business interruption alone is going to be considerable."

Alex Kaplan, Executive Vice President for Alternative Risk, Amwins Group

Fields of risk: agriculture's flood insurance gap

Agriculture in the US encompasses a wide range of crops and farming practices, each with its own unique risks and vulnerabilities. In California, the 2023 atmospheric river generated floods that damaged over 15,000 acres of farmland in Monterey County alone, costing the state over a quarter billion dollars.

For agricultural businesses, the acreage of land flooded directly impacts economic loss. Floodbase allows vineyards, specialty farms, livestock operators, and more to cover a broad range of flood loss by triggering payouts based on the extent of flooding across their land.

While physical flood damage to crops or wine barrels is covered by traditional insurance, vineyards' and wineries' indirect losses are often not. If flooding occurs during bud break, the vine stock that produces grapes can be permanently damaged. Regardless of the time of year, flood-induced erosion can permanently damage the land.

Floods also impact agricultural timelines even if they don't damage crops. If it is too wet to prune vines, the harvest can be delayed, harming vineyards and wineries' ability to generate revenue. Wineries may further lose tourism-related revenue from canceled tastings and tours. All of these scenarios are ripe for large area flood insurance coverage powered by Floodbase.



The public sector — porous protection

The public sector, with US municipal governments in particular, are on the frontlines of flooding. With federal relief funding often arriving several months or years after the flood, local governments must absorb the cost of relief and recovery efforts.

Public agencies incur costs for debris removal, emergency sheltering, community repair programs, and more. Revenue generation may be impacted as public transportation, toll roads, metered parking, and other operations are temporarily closed.

Longer term implications include a loss of tax base as families relocate and local businesses close, often permanently. According to FEMA, 40% of businesses do not reopen after a disaster and another 25% fail within a year, substantially reducing collectible tax revenue and local employment opportunities.

While the US federal government absorbs between 75 to 90% of public sector loss due to flooding, the 10-25% of uninsured loss can devastate local governments. The severity and diversity of flood-induced loss leave the public sector with risk that can rarely, if ever, be fully covered by traditional flood insurance products.

Coverage to transfer public sector flood risk

Large-area flood insurance products enabled by Floodbase - and its partners - provides local governments with quick injections of capital following a disaster, creating the financial flexibility required to respond to floods, begin recovery and remain solvent.



“Flooding is the most common and costly weather-related disaster in the United States, costing taxpayers billions of dollars a year in economic losses — yet traditional flood coverage leaves significant gaps in flood protection.

By enabling flood insurance that pays out quickly as a major flood impacts a local community, Floodbase helps close these gaps. This minimizes the financial pain felt by local governments as well as residents and businesses in the aftermath of a flood.”

Underinsured economic loss from industrial flooding

Manufacturing facilities often have insurance coverage for physical damage caused by floods, but may not have adequate coverage for business interruption losses. This is because properties tend to contain complex equipment and span large areas, where even minimal stops in production can become a costly affair.

Large-area flood insurance products are well-suited to complement traditional insurance. By purchasing a cover that pays out in proportion to the flooded area, buyers can retain less risk and fund a higher deductible using pay-outs from their parametric policy.



“The Floodbase platform enables new flood insurance products that close previously uncovered gaps across a range of U.S. industries,

We are able to power flood insurance products with accurate historical pricing data and 365-day a year monitoring without the need for on-site equipment, which is one of the reasons why FEMA works with Floodbase to enhance the agency’s flood data capabilities.

Flood insurance products powered by Floodbase enable rapid payouts to policyholders when flood thresholds are exceeded. Ultimately this means that businesses can quickly spend their payout as they see fit — for repairs to structures or land, or to cover lost revenue from business interruptions.”

Annbjørg Medhaug, Floodbase’s Chief Product & Strategy Officer

A new wave of opportunities

Floodbase’s solution is applicable across numerous industries — including tourism, retail, outdoor events, energy, construction, and more. Floodbase is now looking to connect with distributors who are eager to close severe flood insurance gaps for their book of commercial or public sector clients.

The company partners with tier-1 capacity providers who are both familiar with Floodbase’s flood data platform and are highly motivated to underwrite new parametric flood insurance products. The company’s established flood data platform is trusted by FEMA, the UN, NASA, Lloyd’s, and more.

To schedule a call with the Floodbase sales team, visit floodbase.com/contact. Visit floodbase.com/programs to learn more about launching an industry-specific program with Floodbase.

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