

GC FireCellSM

PARAMETRIC WILDFIRE COVERAGE INNOVATION

GC FireCell provides customized coverage based on wildfire information published in real time by NASA's FIRMS¹ using a high-resolution parametric model.

Key Features & Benefits	
 Fast	Payments within weeks.
 Transparent	Coverage is clear and understood by buyer and seller.
 Flexible	Recoveries can be applied to holistic event economic losses.
 Customizable	A range of coverage triggers to fit within a wide array of budgetary situations.
 Broad Application	Coverage available to (re)insurers, corporations and public entities globally.

¹FIRMS: Fire Information for Resource Management System

GC FireCell Determines Payouts in Two Simple Steps



Step #1

Guy Carpenter, or the agreed calculation agent, extracts the physical event parameters from the reporting agency in accordance with the GC FireCell contract.



Step #2

Using the latitude and longitude of the event's reported fire observations, we determine whether one or more virtual stations covered in the transaction have been affected. We calculate the payout by adding the limits assigned to the affected virtual stations.

Key Properties of GC FireCell

COVER TYPE: Parametric wildfire

PERILS COVERED: Wildfire and any cascading perils

COVERED LOSSES: Any loss (*including property*) and time element

CLAIM PERIOD: Pays within weeks, with one year for justification of loss

LIMITS: Typically, USD 5 to USD 25 million via (re)insurance, higher limits available, potentially including insurance-linked securities (ILS) but dependent and variable upon geography, structure and pricing

MARKETS: Global reinsurance companies and capital markets funds

MECHANISM: High-res cat-on-a-grid

GEOGRAPHIC AVAILABILITY: Global

REPORTING AGENCY: NASA Fire Information for Resource Management System (FIRMS)

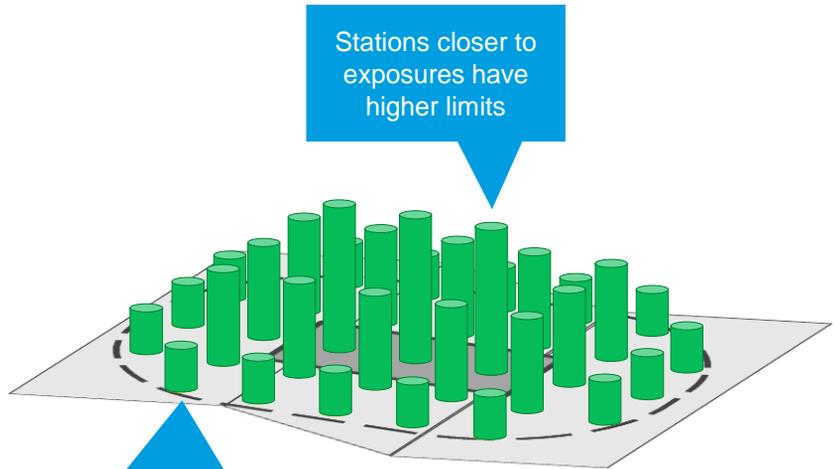
REPORTING PARAMETERS: Geo-coordinates of the center of a fire pixel (pixel flagged as containing fire by FIRMS)

CUSTOMIZATION: Any portfolio

How It Works: GC FireCell Structuring & Response

Structuring

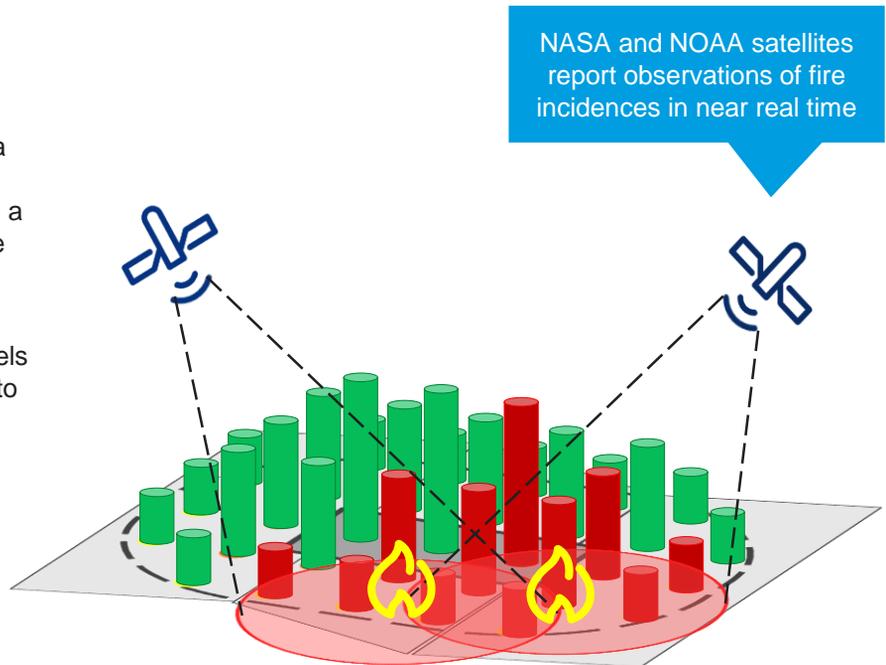
- GC FireCell defines the area of coverage, usually starting with a set of polygons that describe the exposures.
- GC FireCell uses a grid with a resolution of 0.001 decimal degrees (about 100meters) to represent exposures with a set of "virtual stations."



Limits are smoothed to make the transaction more responsive, adding a buffer zone of coverage

Response

- GC FireCell associates a fire pixel (circle) to each satellite observation with a radius proportional to the instrument resolution.
- The stations within the footprint of those fire pixels produce a payout equal to their assigned limit.



The limits for virtual stations within the footprint of the observations are aggregated to produce a payout

California (Gondola) Case Study

On July 3, 2002, the Gondola Wildfire started in South Lake Tahoe, CA



FireCell Cover

A GC FireCell parametric cover was placed to respond to loss-causing events in a rectangular area of coverage in South Lake Tahoe, CA. This coverage included 8,900 virtual stations regularly distributed across the area.



Tracking the Event

A wildfire started on July 3, 2002, burning 600+ acres and threatening more than 550 structures. FIRMS provided 15 satellite observations (fire pixels) for this event.



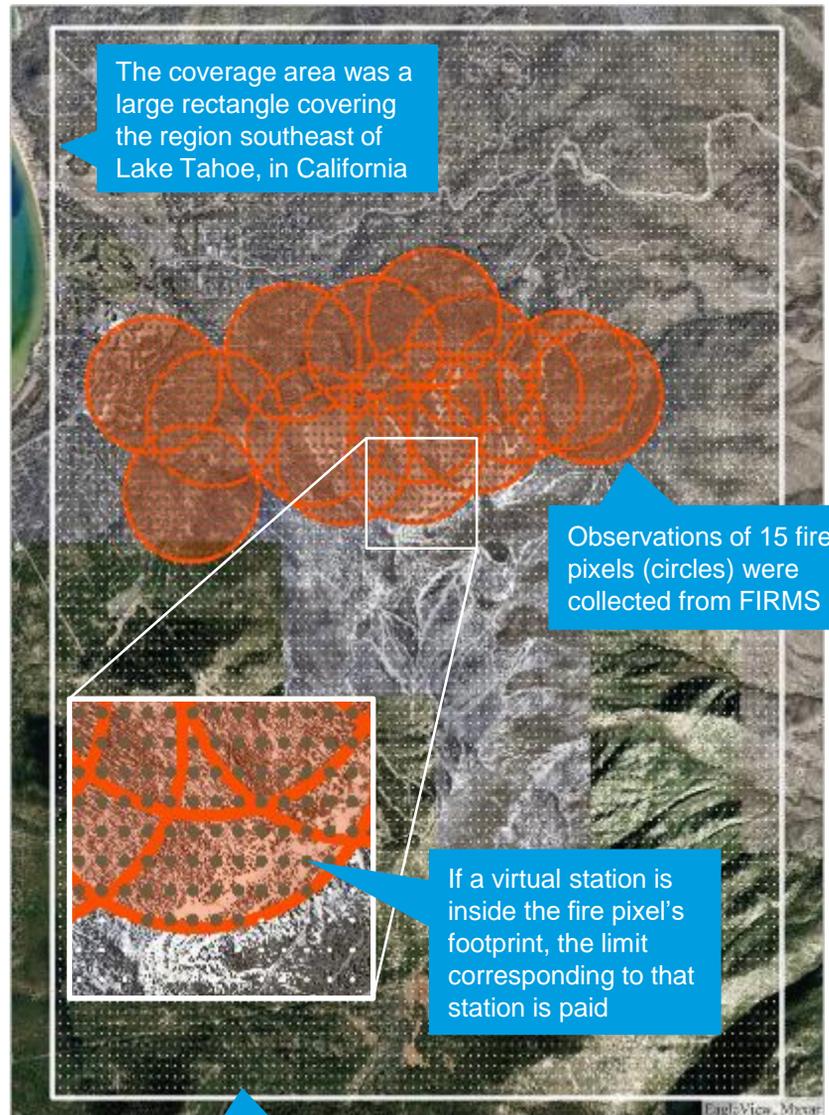
Loss Estimate

Ultimately, 1,272 of the 8,900 virtual stations fell within the footprint of the fire pixels. The payout of the GC FireCell cover was the sum of the limits associated with the affected stations.



Payment

Within weeks from the date of the event, the agreed payment is received by the client.

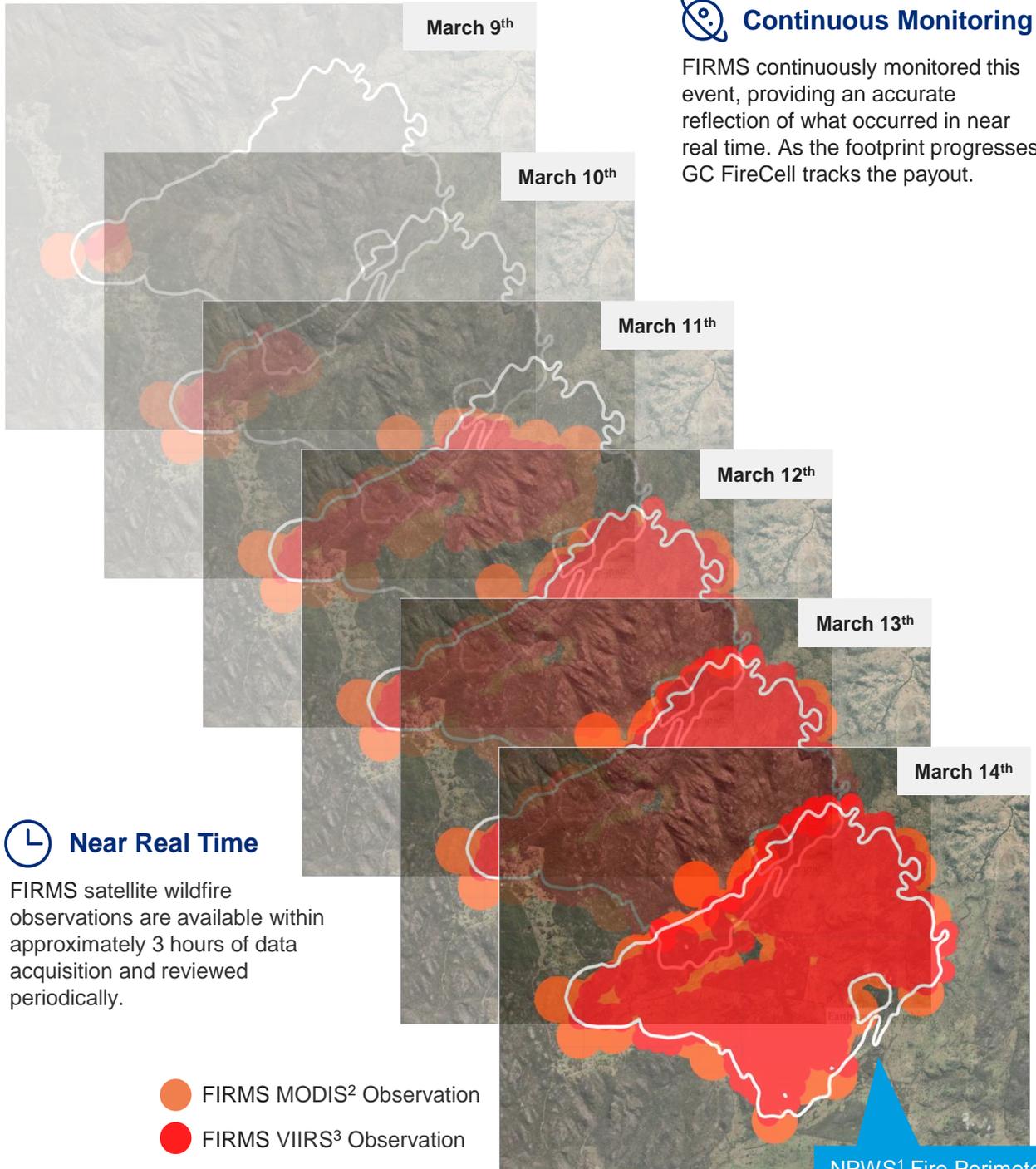


Australia (Catarrh Creek Fire) Case Study

On March 9, 2019, the Catarrh Creek Fire started in New South Wales, Australia

Continuous Monitoring

FIRMS continuously monitored this event, providing an accurate reflection of what occurred in near real time. As the footprint progresses, GC FireCell tracks the payout.



Near Real Time

FIRMS satellite wildfire observations are available within approximately 3 hours of data acquisition and reviewed periodically.

-  FIRMS MODIS² Observation
-  FIRMS VIIRS³ Observation

¹NPWS Fire Perimeter: New South Wales National Parks and Wildlife Service
²MODIS: Moderate Resolution Imaging Spectroradiometer
³VIIRS: Visible Infrared Imaging Radiometer Suite

NPWS¹ Fire Perimeter overlaid for reference



Contact us

If you are interested in learning more about GC FireCell or would like to organize a live demonstration of the platform, please contact any of the following specialists:

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About Guy Carpenter

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