

## Parametric Vine Insurance Cover

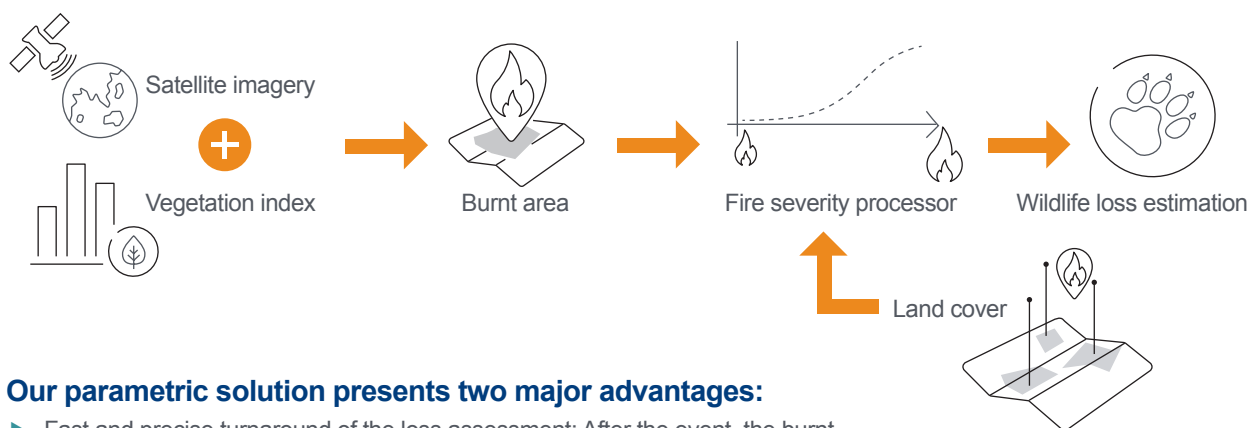
**We use modern satellite technologies and in-situ vineyard data to review historical bushfire losses and provide our clients with tailored and accurate parametric cover. Some of the data we analyse includes vineyard age, along with the location of each block.**

### How does it work?

Bushfire presents a major peril for vineyards. Liberty Specialty Markets is developing innovative solutions using new technologies, combined with machine learning algorithms and various data sources, to cover bushfire risks. We monitor fire risk by satellite imagery delivered by NASA Landsat, which provides us with a 30-metre resolution. Our processing technique enables us to develop an index that reflects the burnt surface post event.

Once the smoke has dispersed we process images before and after the event to calculate the damaged areas. We calculate the financial losses based on the burnt area values defined at a pre-agreed and precise scale.

Our parametric vineyard cover can also be complemented by a traditional policy to offer protection against other perils not measurable by remote-sensing.



### Our parametric solution presents two major advantages:

- ▶ Fast and precise turnaround of the loss assessment: After the event, the burnt area and the corresponding losses are estimated without any human intervention.
- ▶ In addition to determining the fire zone, our algorithm is able to estimate the fire severity to measure the vineyard salvage with a very fine granularity over the area.

## Our solution

Moderate Resolution Imaging Spectroradiometer (MODIS) data delivers earth observation data with a large grid pattern of up to 500 metres.

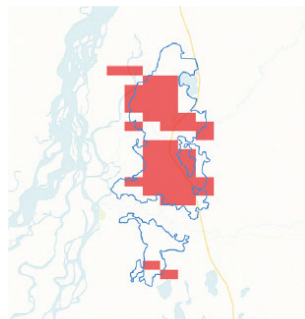
Our solution is based on Landsat technologies which, at a 30-metre resolution, enables us to generate an accurate and robust estimation of fire damage.



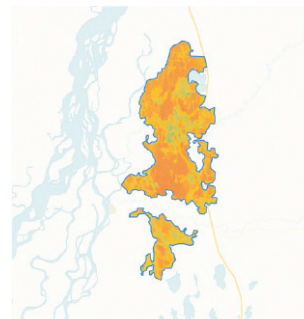
Pre-fire infrared picture



Post-fire infrared picture



MODIS burnt area



Landsat-Liberty burnt area

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We write Agriculture & Parametric covers on a worldwide basis, all backed by 'A' rated security.

### Information we require:

- ▶ Vineyard information:  Location |  Area (including shape file) |  Age |  Species
- ▶ Historical losses

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