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Twelve Capital Event Update: California Wildfires

Update – Wednesday, 14 November 2018

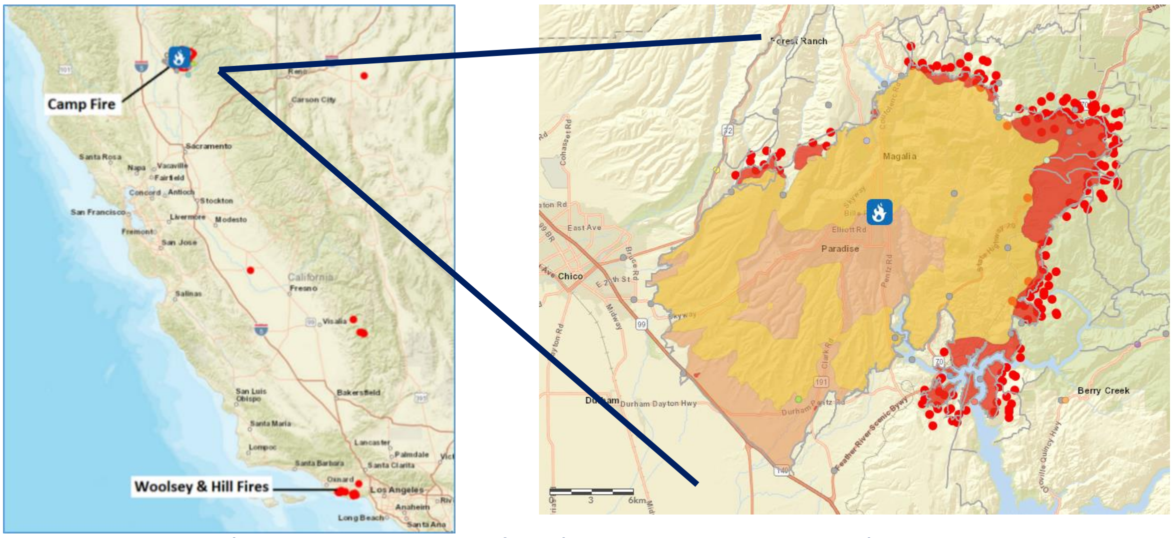
- Multiple wildfires have broken out in northern and southern California. Significant property damage has occurred and tens of fatalities are confirmed. The Camp wildfire has already become the most damaging wildfire in California's recorded history, in terms of destroyed buildings, and the event is still ongoing. Overall, multi-billion dollar insured losses can be expected from these wildfires.
- Wildfire risk is a peril which is covered in several Cat Bonds. Twelve Capital's Cat Bond funds with investments in wildfire single peril bonds have a below market weight, which should help to mitigate potential losses. Wildfire risk in California is also in certain multi-peril aggregate Cat Bonds. One of these (Residential Re 2018-I Class 11) has a high probability of a partial, or even a full, write-down from future events. Most portfolios managed by Twelve Capital do not hold this bond.
- For private ILS transactions, a preliminary evaluation of Twelve Capital's cedents – with regards to 2017 California fire losses and reinsurance/retro structures – shows that, on a single event basis, the Camp fire could cause relatively limited losses within the private ILS positions held, assuming the same level of losses as 2017. However, it is still too early to draw a conclusion.

Event details

Starting on 8 November, multiple wildfires broke out in northern and southern California. Significant property damage has occurred and tens of fatalities have already been confirmed.

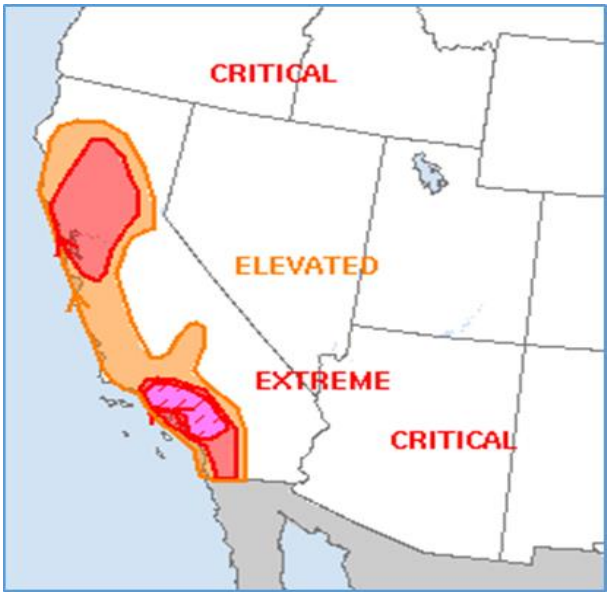
In terms of the meteorological background, hot, dry, gusty winds, known as 'Diablo' and 'Santa Ana' winds in north and south California respectively, combined with little rain and high temperatures, creating ideal conditions for wildfires to break out across California. The situation was declared 'Critical' and 'Extremely Critical' in northern and southern California respectively by US National Weather Service's Fire Outlook on 8 November. The exact cause of the individual wildfires is unknown and remains under investigation.

Figure 1: **Fires in California (left map) and infrared perimeter of the Camp Fire (right map).**



Source: NASA, Esri, Butte County, Bureau of Land Management, HERE, Garmin, NGA, USGS, NPS. As at 12 November 2018. Each red dot is a possible burning fire.

Figure 2: **Outlook at the start of the California fires**



Source: US National Weather Service. As at 8 November 2018.

Camp wildfire event

The 'Camp' wildfire in northern California has destroyed much of the town of Paradise with a population of 27,000, where reportedly 90% of buildings were destroyed. At the time of writing, at least 526 km^2 have been burned, 7,860 structures destroyed, and there are 48 confirmed fatalities. A further 15,500 additional structures are currently threatened, as the fire is only 35% contained.

Woolsey & Hill wildfire events

Two further fires are burning in Southern California, the 'Woolsey' and 'Hill' fires near Los Angeles. The 'Woolsey' fire has burned 393 km^2 and threatens 57,000 structures. It is 40% contained and there were two fatalities. Over 265,000 people are under mandatory evacuation orders. The 'Hill' fire has burned 20km^2 and is already 92% contained.

Insurance industry loss estimates and impact on securities market

The Camp wildfire has already become the most damaging wildfire in California's recorded history, in terms of destroyed buildings. Almost 8,000 structures have been destroyed and the fire is still burning, which makes an increase in that number likely.

Overall, multi-billion dollar insured losses can be expected from these wildfires. However, it is too soon to estimate loss numbers accurately given the lack of information currently available. In addition, the number of structures alone is not always a good indicator for insured losses, as property values deviate substantially in different location. Hence, the wildfire currently threatening some high-value luxury properties in Malibu, home to many celebrities, could cause relatively higher loss numbers compared to fires burning elsewhere.

Table 1: Top California wildfire events by structures destroyed, with PCS losses

Rank	Name	Date	Structures destroyed	PCS losses USD*
1	Camp	November 2018	7,860**	Estimate not yet released
2	Tubbs	October 2017	5,636	8,972,243,480
3	Tunnel (Oakland Hills)	October 1991	2,900	3,889,477,049
4	Cedar	October 2003	2,820	1,700,988,825
5	Valley	September 2015	1,955	1,036,987,542
6	Witch	October 2007	1,650	1,853,489,153
7	Carr	July 2018	1,604	1,216,121,000
8	Nuns	October 2017	1,355	(No PCS designation)
9	Thomas	December 2017	1,063	2,336,101,800
10	Old	October 2003	1,003	1,564,588,788

Source: Aon, PCS, Twelve Capital. *Adjusted to 2018 USD. **Ongoing event and likely to increase. As at 14 November 2018.

Impact on Insurance-Linked Securities (ILS)

a) Wildfire single peril Cat Bonds

The full impact on ILS investments is not yet fully clear. Wildfire is a peril covered by two stand-alone Cat Bond series issued during this year (Cal Phoenix 2018, SD Re 2018). For both the Cal Phoenix and the SD Re transactions, the cause of the wildfires will be key to determining potential losses. Only if the insured sponsors, which are utility companies, are found to have caused the fire, e.g. through a faulty power line, will this become a relevant event for these transactions. The investigations into this are undergoing. If it were established that the Camp fire was caused by Pacific Gas & Electric (PG&E), then this would likely trigger a complete write-down of the Cal Phoenix 2018 Cat Bond.

Twelve Capital was previously cautious about investing in these standalone wildfire Cat Bonds for various structural and legal reasons. Consequently, all of Twelve Capital's Cat Bond funds which have investments in these bonds have a below market weight in these holdings, which should help mitigate potential losses.

b) Multi-peril Cat Bonds including wildfire

Wildfire risk in California is included in certain multi-peril aggregate Cat Bonds, most prominently in the Residential Re and Caelus series. The Residential Re 2018-I Class 11 is sponsored by USAA, a major primary insurer with a significant market share in California. This particular Cat Bond has already suffered from a substantial erosion of the deductible from previous 2018 events, such as July wildfires, tornadoes and Hurricanes Florence and Michael. Depending on USAA's ultimate net loss from the current wildfire events, this is likely to further erode its residual attachment. The Residential Re 2018-I

info@twelvecapital.com
www.twelvecapital.com

Class 11 only resets on 1 June 2019. Twelve Capital therefore assigns a high probability to this bond suffering a partial, or even a full, write-down from future thunderstorm, winter storm and hail or tornado events. Most portfolios managed by Twelve Capital do not hold this bond.

Potential impact on Private ILS

Twelve Capital's Private ILS risk appetite typically sits high up in the protection tower, with attachment generally expected at a return period of once every ten years, on both an occurrence and aggregate basis. It is still too early to draw a conclusion. A preliminary evaluation of Twelve Capital's cedents – regarding 2017 California fire losses and reinsurance/retro structures – shows that, on a single event basis, the Camp fire could cause relatively limited losses within the private ILS positions held, assuming the same level of losses as 2017. However, given the Camp fire is still ongoing and already the most destructive in California's history, the final loss for 2018 is extremely uncertain.

Potential impact on portfolios

All portfolio impact estimates should be considered with extreme caution at this point. The California wildfires are still ongoing, resulting in ultimate net losses that may vary significantly to those stated below. Impacts are also dependent upon on each portfolio's individual risk level and positioning.

Table 2: California wildfire estimates – potential portfolio impact

Estimated impact on diversified Cat Bond portfolios	Estimated impact on opportunistic Cat Bond portfolios	Estimated impact on Best Idea portfolios
0.3% – 0.8%	0.4% – 0.8%	0.5% – 1.8%

Source: Twelve Capital based on internal estimates and modelling.
As at 13 November 2018.

Please note that secondary valuations used to calculate fund performance are likely to differ from the actual expectation of ultimate defaults, as situations like these might result in temporary spread widening. Hence, investors should expect to see some additional levels of volatility in the near future.

Outlook

Twelve Capital continues to monitor the situation extremely closely and will provide further updates as the situation becomes clearer and further information becomes available.

Twelve Capital AG
Dufourstrasse 101
8008 Zurich, Switzerland
Phone: +41 (0)44 5000 120

Twelve Capital (UK) Ltd
Moss House, 15-16 Brook's Mews
London W1K 4DS, United Kingdom
Phone: +44 (0)203 856 6760

info@twelvecapital.com
www.twelvecapital.com

About Twelve Capital

Twelve Capital is an independent investment manager specialising in insurance investments for institutional clients. As at 30 September 2018, the firm had approximately USD 4.4bn in assets under management. Twelve Capital's investment expertise covers the entire balance sheet of insurance companies, including Insurance Bonds, Insurance Private Debt, Catastrophe Bonds, Private Insurance-Linked Securities and Insurance Equity. The firm also structures portfolios of its Best Ideas. Twelve Capital was founded in October 2010 and has offices in Zurich and London.