



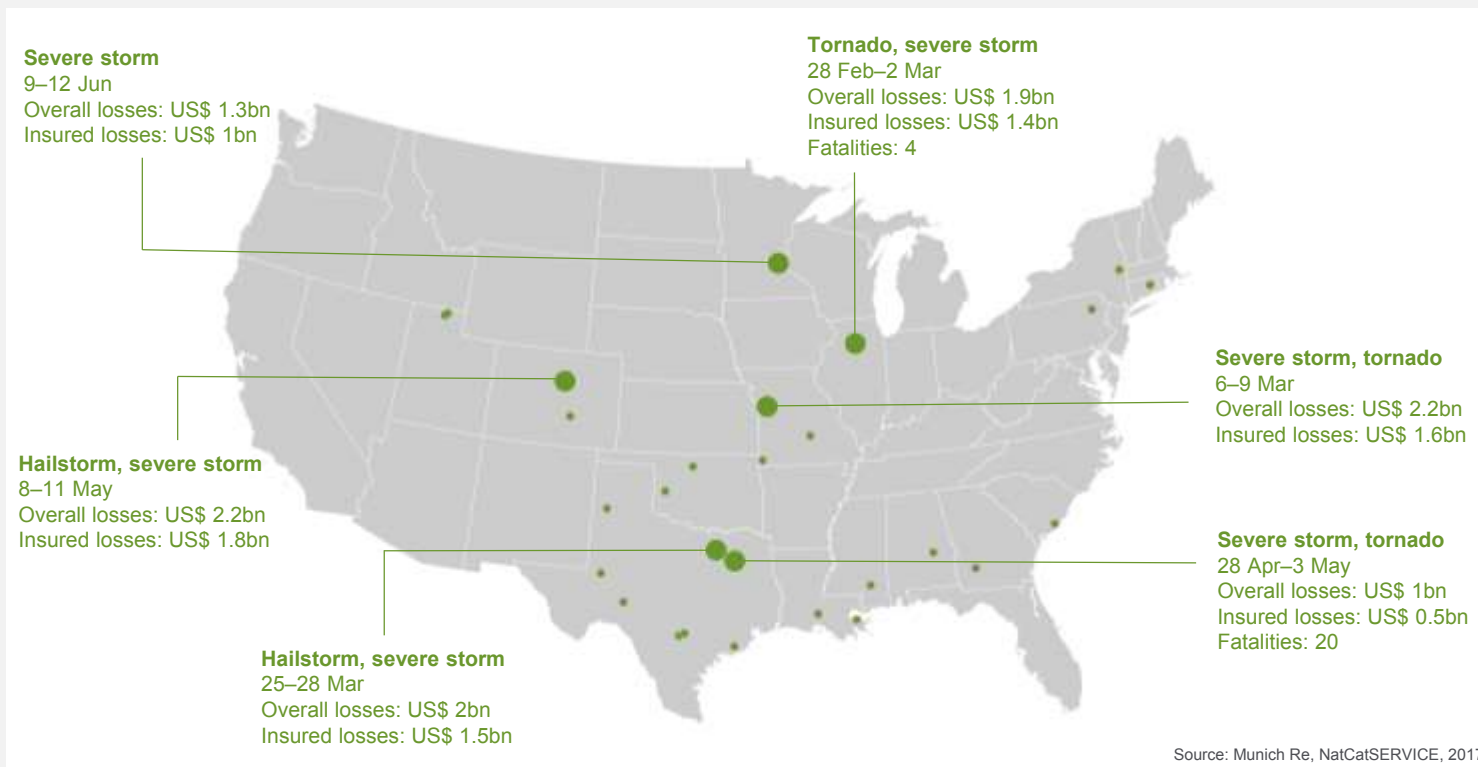
NatCatSERVICE

Convective storm events in the U.S. 1980 – 2017 (Jan – Jun only)

July 2017

Convective storm events in the USA 2017 (Jan – Jun only)

Geographical overview



● **Convective storm**
 (Loss events caused by straight-line winds, tornadoes, hail, heavy precipitation, flash floods, lightning)

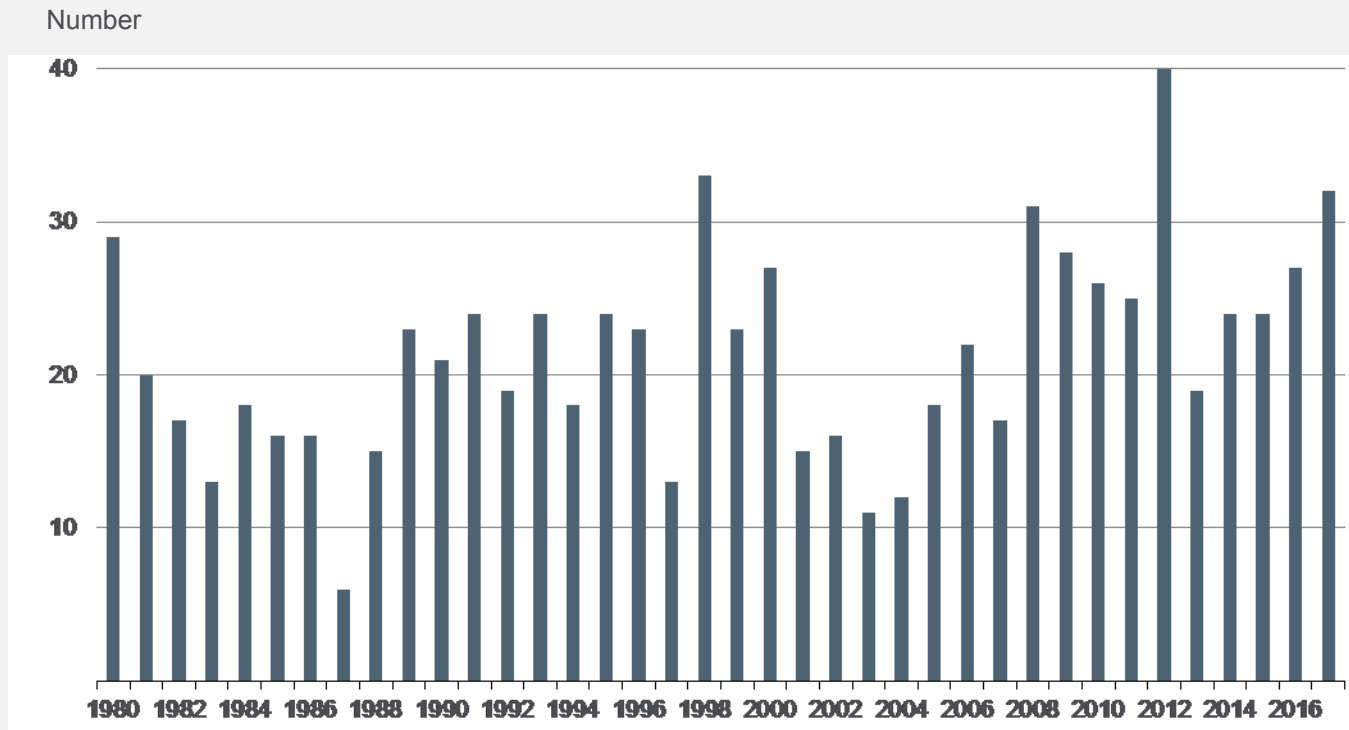
○ **Loss events**

○ **Selection of catastrophes**
 Overall losses ≥ US\$ 1bn
 (in original values)

Source: Munich Re, NatCatSERVICE, 2017

Convective storm events* in the U.S. 1980 – 2017

Number of relevant events (Jan – Jun only)



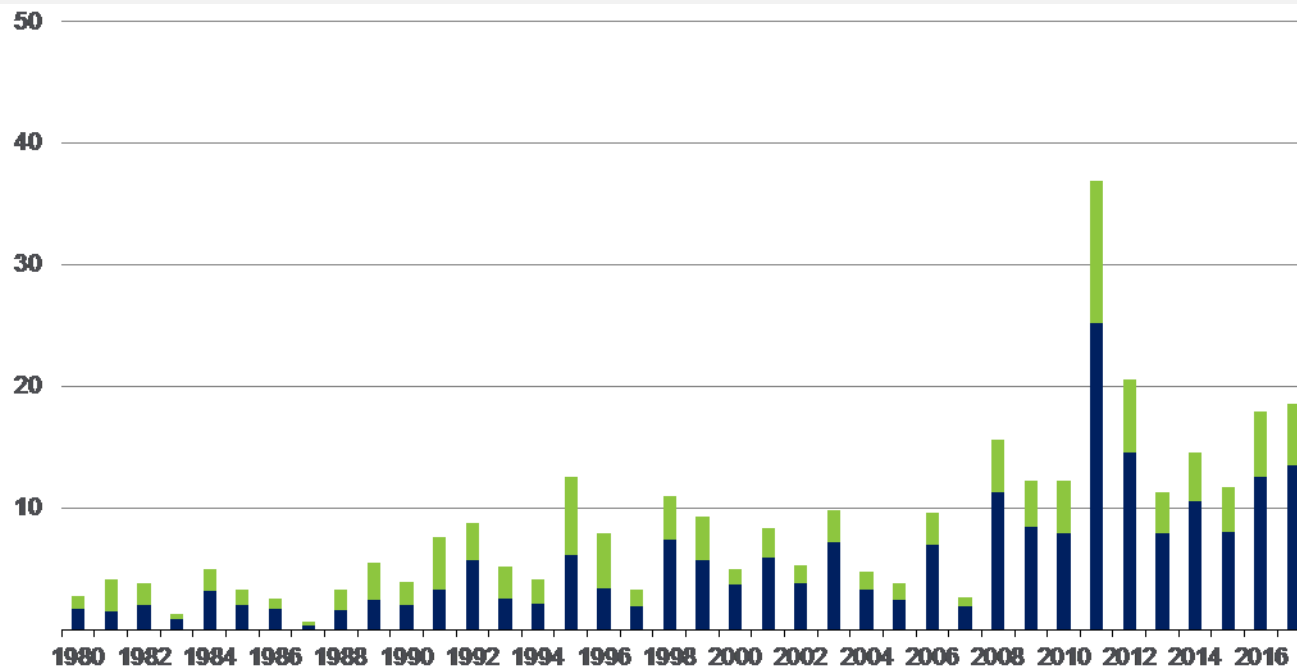
■ **Convective storm events**
 *incl. severe storm, hail,
 tornado, lightning, flash
 flood

Accounted events have caused at least one fatality and/or produced normalized losses \geq US\$ 3m.

Convective storm events* in the U.S. 1980 – 2016

Overall and insured losses (Jan – Jun only)

US\$ bn



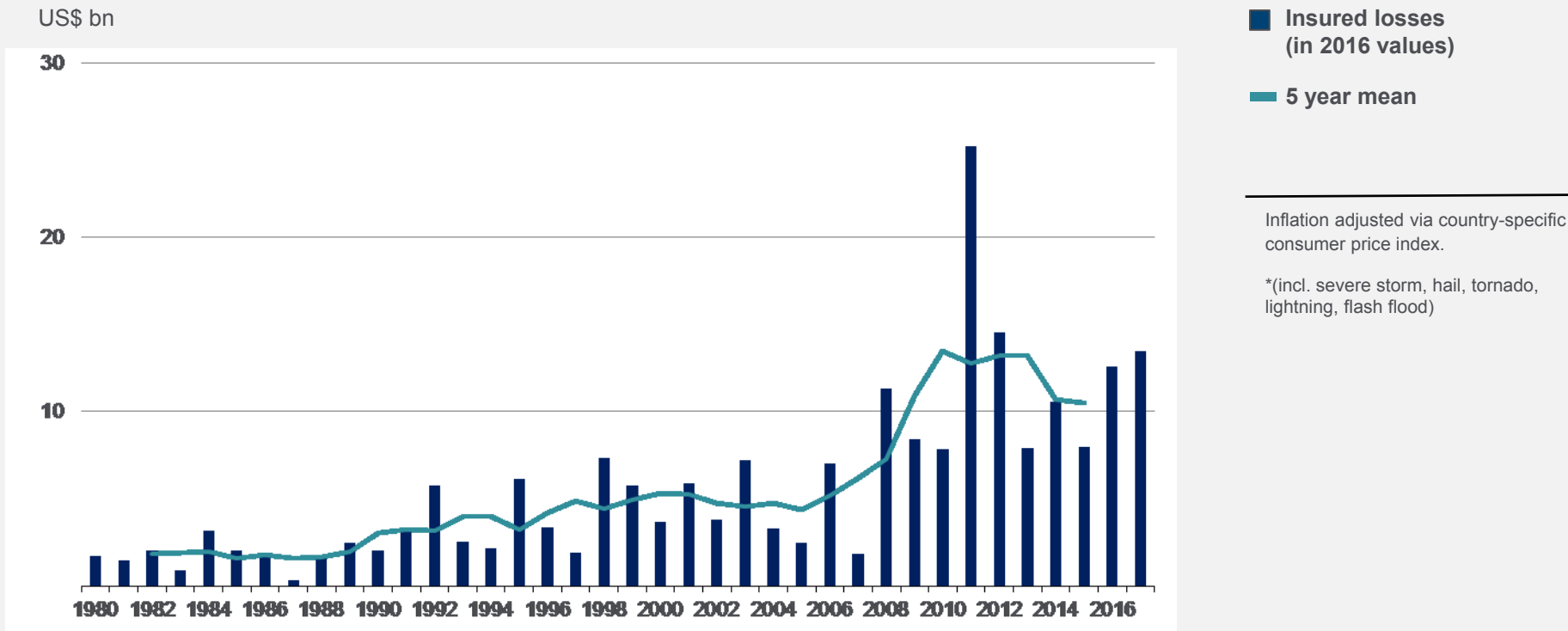
- Overall losses (in 2016 values)
- Insured losses (in 2016 values)

Inflation adjusted via country-specific consumer price index.

*(incl. severe storm, hail, tornado, lightning, flash flood)

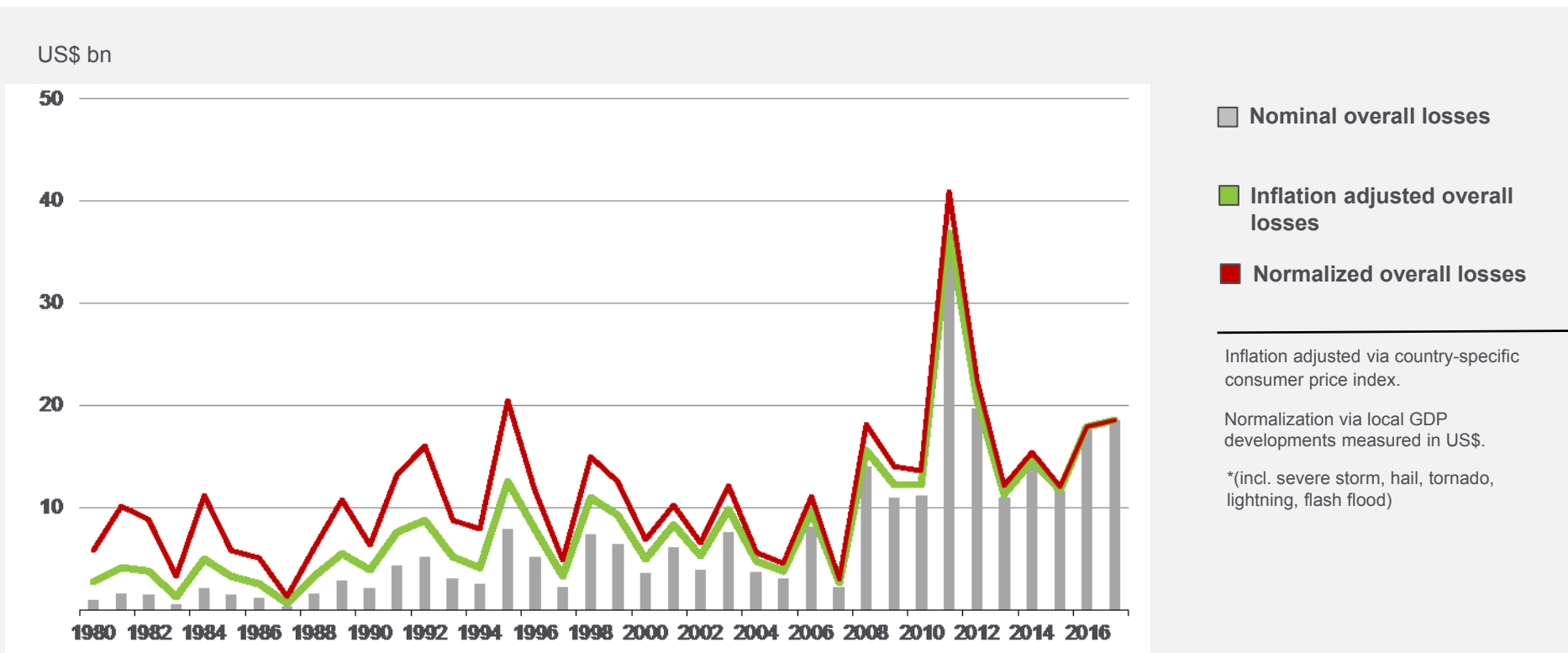
Convective storm events* in the U.S. 1980 – 2017

Overall and insured losses (Jan – Jun only)



Convective storm events* in the U.S. 1980 – 2017

Overall losses: nominal, inflation adjusted, and normalized (Jan – Jun only)



Explanation for the interpretation of loss data statistics

Number statistics and loss thresholds

Number statistics are influenced by a constantly improved reporting of small-scale loss events over the time (*reporting bias*). There is a need to distinguish between **registered** and **relevant** loss events.

- **Registered loss events** are all events recorded by NatCatSERVICE. The range extends from *insignificant* to *catastrophic* loss events expressed in overall losses and/or fatalities. The reporting bias is particularly high for high frequency and low impact events.
- **Relevant loss events** exceed defined thresholds of *normalized* overall losses and/or fatalities. These events are considered in number statistics and trend analyses. Threshold values are:
 - Fatalities ≥ 1
 - Normalized overall loss \geq US\$ 100k, 300k, 1m, or 3m (depending on assigned World Bank income group of each affected country)
- **Type of data filtering is helpful for** reduction/elimination of reporting bias and for conclusions on changes in frequency of occurred loss events.

Explanation for the interpretation of loss data statistics

Inflation adjustment and normalization of NatCat loss data

Three ways of presenting loss data:

- Nominal losses: values as they originally occurred
- Inflation adjusted losses: accounting for changes in monetary equivalent
- Normalized losses: accounting for growth of values and assets

Inflation adjustment: Loss value in local currency is *adjusted to inflation* via the country's consumer price index (CPI) under consideration of exchange rate fluctuations between the local currency and the US\$.

Normalization: Loss value in US\$ is *normalized* via the development of locally resolved ($1^\circ \times 1^\circ$) nominal gross domestic product data in US\$ between year of occurrence and today.

Inflation adjusted loss data is helpful for...

- How high would a historic loss value be in today's money?

Normalized loss data is helpful for...

- What losses would a historic event cause when exposing today's values and assets?
- Conclusions on loss drivers like changes on the hazard side or effectivity of prevention measures