



February 2015

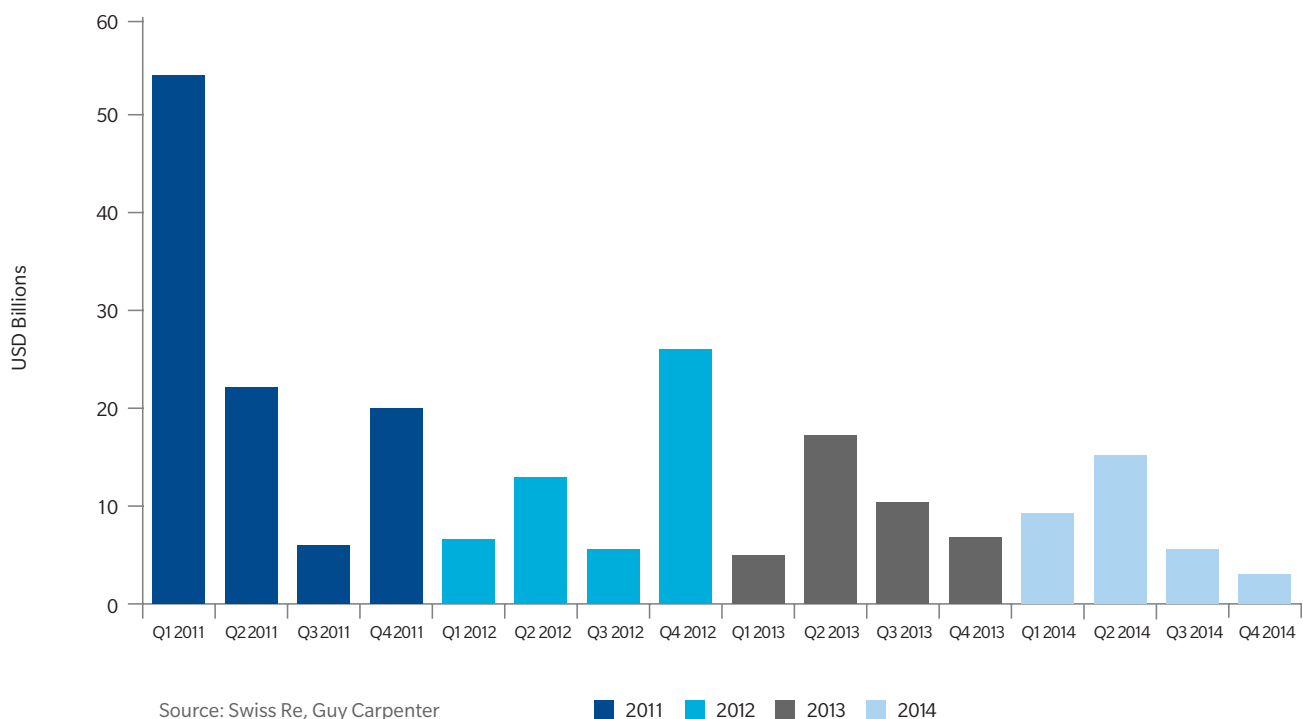
## GLOBAL CATASTROPHE REVIEW – 2014

2014 was a quiet year, with significant insured losses totaling around USD33 billion. Insured losses were below the ten-year and five-year moving averages of around USD59 billion and USD56 billion, respectively (see Figures 1 and 2). About 57 percent of insured losses were reported in the Americas, 19 percent in Europe and 23 percent in Asia and Australasia (see Figure 3). In 2014, insured losses were at their lowest level since 2009, and well below the notable year of 2011, with insured losses of around USD126 billion, caused by significant events occurring on a worldwide basis.

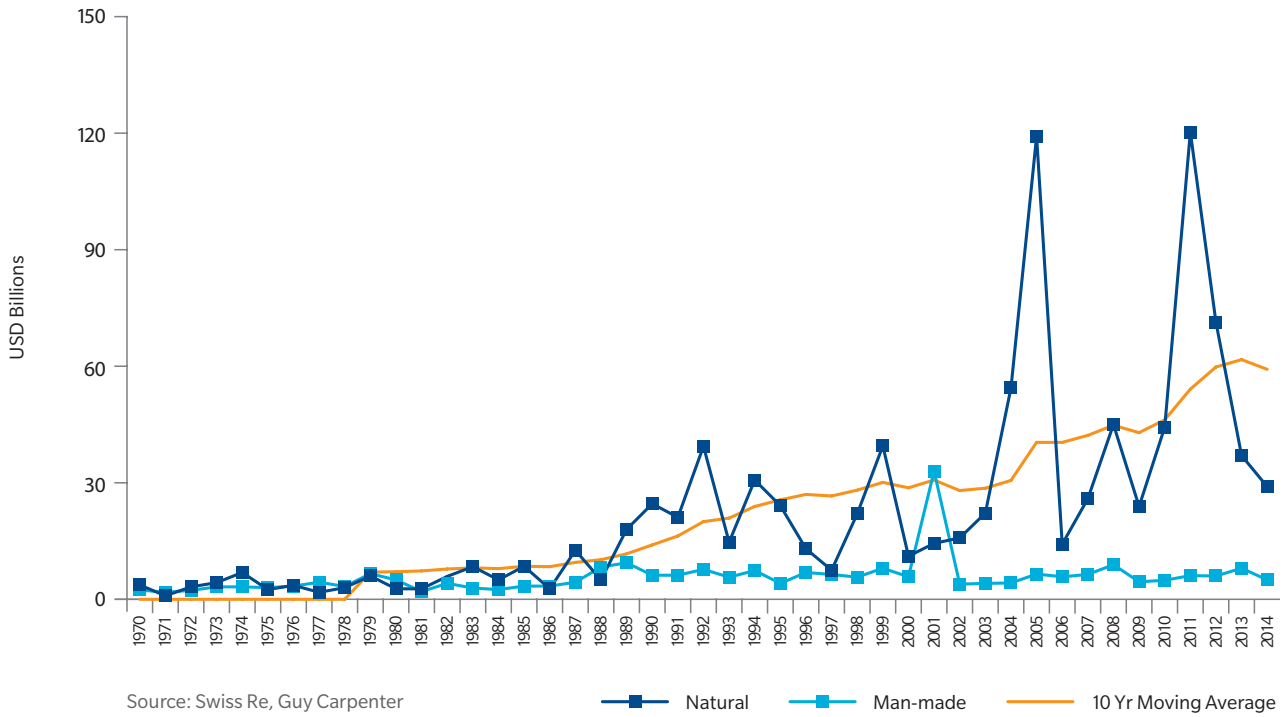
Notable insured losses in 2014 included the February snowstorms in Japan, frequent winter storms affecting Europe, flooding in the United Kingdom and a cold, stormy winter in the eastern half of North America. The arrival of spring in the second quarter produced several severe convective outbreaks in the United States and hail and windstorm Ela in Europe. A busy East-Pacific hurricane season brought Hurricane Odile to the Baja Peninsula. In the West Pacific, Typhoon Rammasun affected China, Vietnam and the Philippines. Further to the west, Cyclone Hudhud affected India in October. The month of September saw the Kashmir and Jammu floods, which brought significant and tragic impacts to the area. The year finished with a notable severe weather outbreak affecting Brisbane, Australia and the onset of severe flooding in Malaysia and Thailand in December.

Regarding man-made events, 2014 was a tragic year with the disappearance of Malaysian Airlines Flight 370 in March, the loss of Malaysian Airlines Flight 17, which was shot down over Ukraine in July, and an AirAsia flight that crashed into the sea near Indonesia in late December.

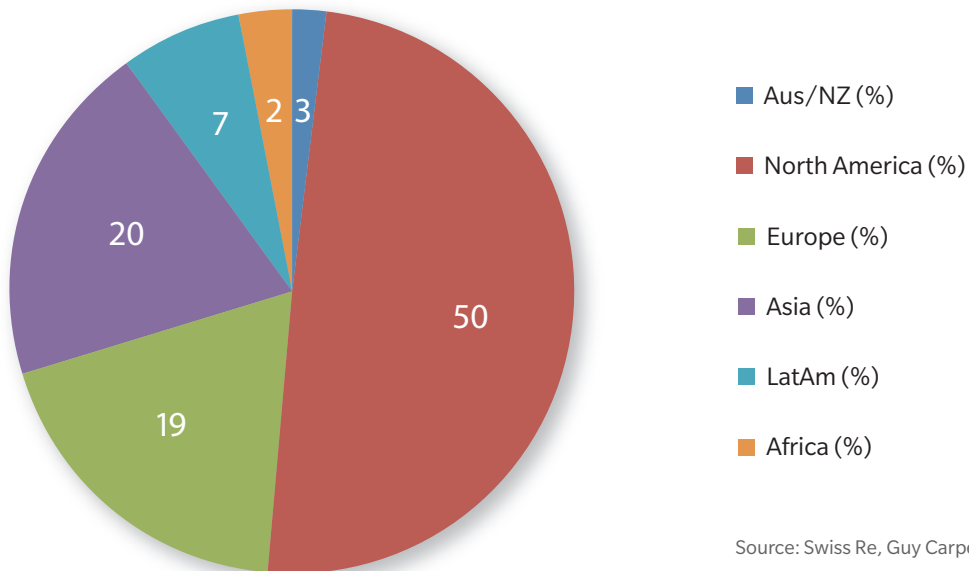
## F-1 | SIGNIFICANT INSURED LOSSES – 2011 TO Q4 2014



## F-2 | GLOBAL SIGNIFICANT INSURED LOSSES – 1970 TO 2014



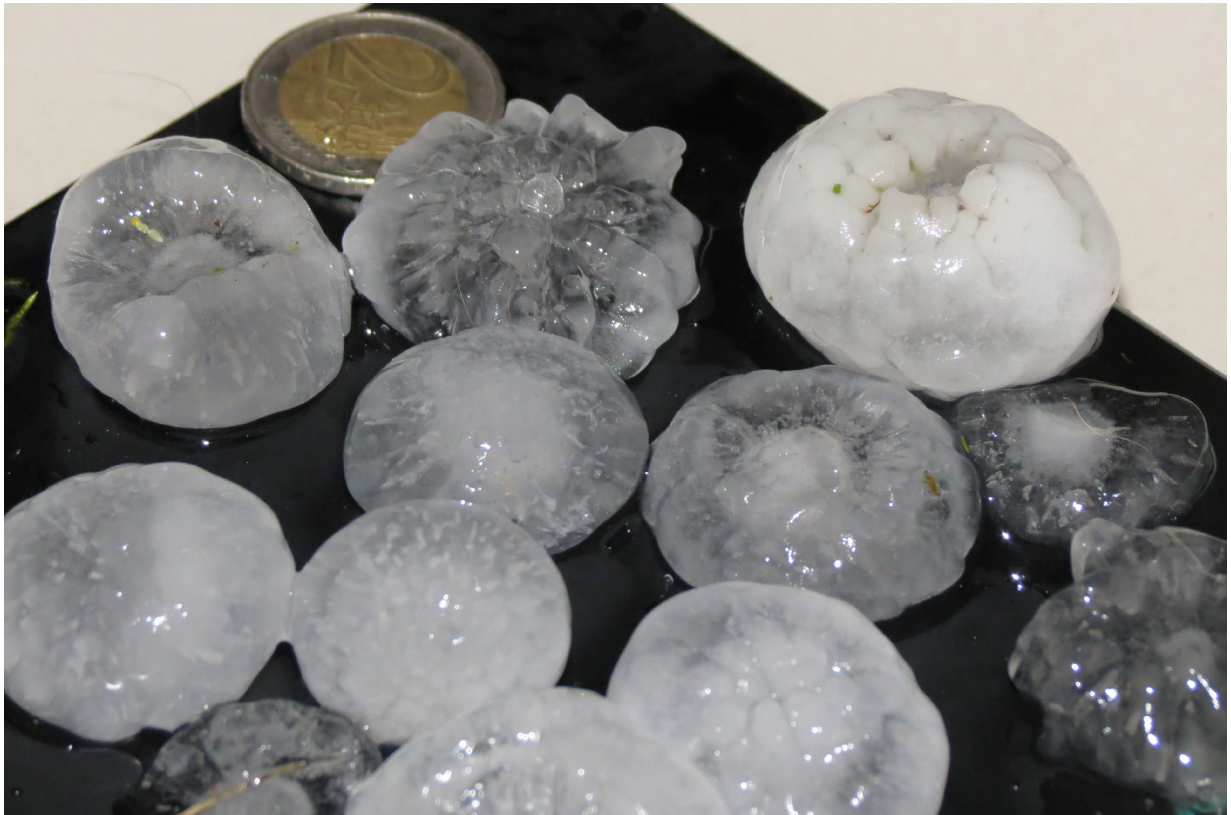
## F-3 | DISTRIBUTION OF SIGNIFICANT INSURED LOSSES IN 2014



## EUROPE /MIDDLE EAST /AFRICA

Insured losses for the region accounted for around 21 percent of global insured losses in 2014. The most significant events included the severe convective outbreak (hail and windstorm Ela) that affected areas including Germany, France, Belgium and Austria. A frontal boundary crossing the area initiated severe thunderstorms and supercells. The thunderstorms inflicted damaging wind gusts and hail over a widespread area with reports of hail exceeding seven centimeters (2.8 inches) in diameter and isolated reports of hailstones as large as 12 centimeters (4.7 inches).<sup>1</sup> Estimated insured losses from this event were around USD2.8 billion.<sup>2</sup>

### F-4 | HAILSTONES FROM THE JUNE 2014 SEVERE CONVECTIVE EVENT

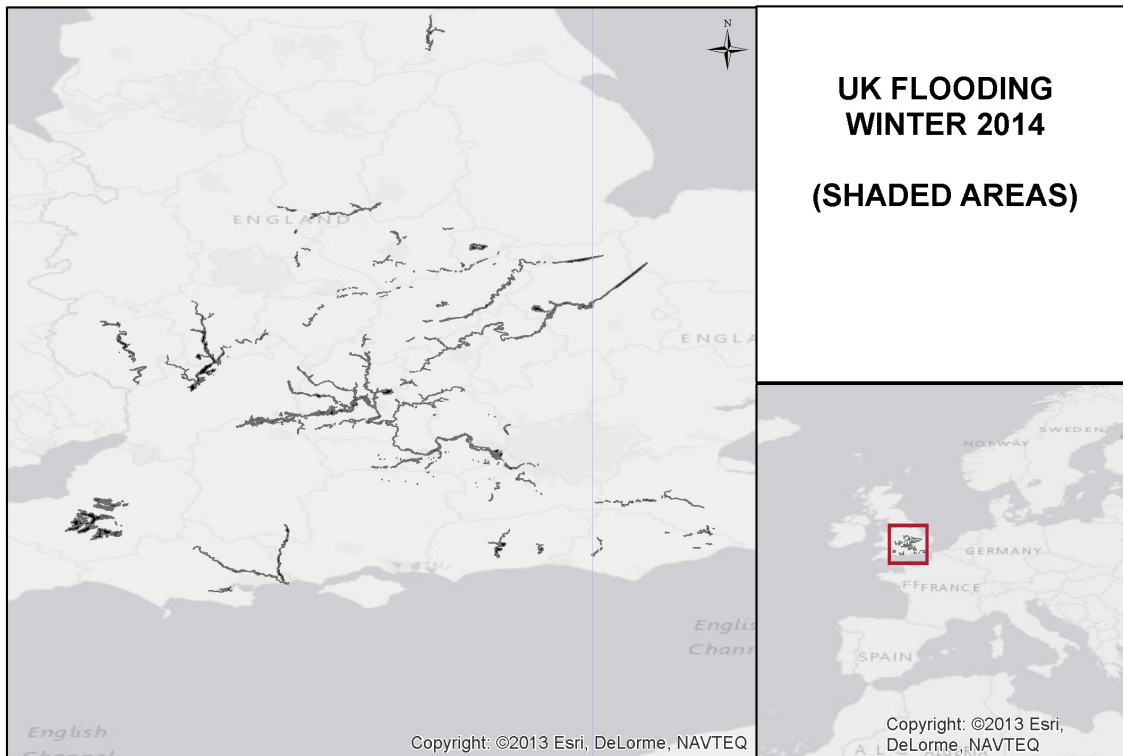


Source: Marly le Roi in the department of les Yvelines, France. Photograph: Courtesy Rebecca Cheetham, Guy Carpenter, Paris

During the winter months, Western Europe suffered an unusual number of storms of moderate severity. The storms inflicted heavy surf, coastal flooding and strong winds from Ireland to Spain. In addition, France, Spain and the United Kingdom suffered significant coastal erosion and damage. Together with this coastal damage, the United Kingdom suffered widespread and persistent inland flooding. According to the UK Met Office, the unusual clustering and frequency of these storms left the highest December to January rainfall total since record keeping began in 1910.<sup>3</sup> Estimated insured losses for the United Kingdom alone were around USD1.8 billion.<sup>4</sup>

1. AIR Worldwide, Alert Report, June 12, 2014. 2. Munich Re press release, January 7, 2015. 3. UK Met Office, "A global perspective on the recent storms and floods in the United Kingdom," February 2014. 4. Association of British Insurers, March 13, 2014.

## F-5 | FLOOD-AFFECTED AREAS OF THE UNITED KINGDOM DURING THE 2013-2014 WINTER



Source: GC CAT-VIEW<sup>SM</sup>, with data from Geospatial Insight

Other notable events included a flood affecting the French Riviera in January, spring floods in the Balkans and a November severe weather outbreak affecting France.

Man-made events of note included a refinery explosion and fire in the Krasnoyarsk territory of Russia and a militant attack on the Tripoli International Airport in Libya. Tragically, the summer also marked the loss of Malaysian Airlines Flight 17 when it was shot down over the Ukraine in July.

## ASIA/AUSTRALASIA

Asia and Australasia endured their share of both natural and man-made catastrophes in 2014 with 23 percent of estimated global insured losses in 2014. Notable events in the region included the disappearance of Malaysian Airlines Flight 370 in the first quarter and the crash of AirAsia Flight 8501 near Indonesia in December.

In the Northwest Pacific Basin, no new tropical cyclones developed in the month of August, which has not occurred in the last 60 years (although Typhoon Halong originated in late July). Tropical cyclone counts were also below average for the season at large. Nevertheless, five tropical cyclones affected China. Of the five, Typhoon Rammasun made landfall in Southeast China as the strongest typhoon to hit the region since 1973 – a Category 4 storm on the Saffir-Simpson scale. Rammasun brought heavy rainfall, flooding and wind impacts to China, Vietnam and the Philippines. Estimated insured losses from Rammasun were USD250 million,<sup>5</sup> with estimated economic losses of USD4.6 billion.<sup>6</sup> In the Philippines, Typhoon Hagupit made landfall in December, rendering severe impacts to the same areas affected by Haiyan in 2013, but with far fewer fatalities. Further west, Cyclone

Hudhud impacted the India regions of Andhra Pradesh as well as Orissa, Jharkhand and Chhattisgarh, with impacts from heavy rainfall, flooding and wind. Economic losses were estimated at around USD11 billion,<sup>7</sup> with insured losses of USD530 million.<sup>8</sup>

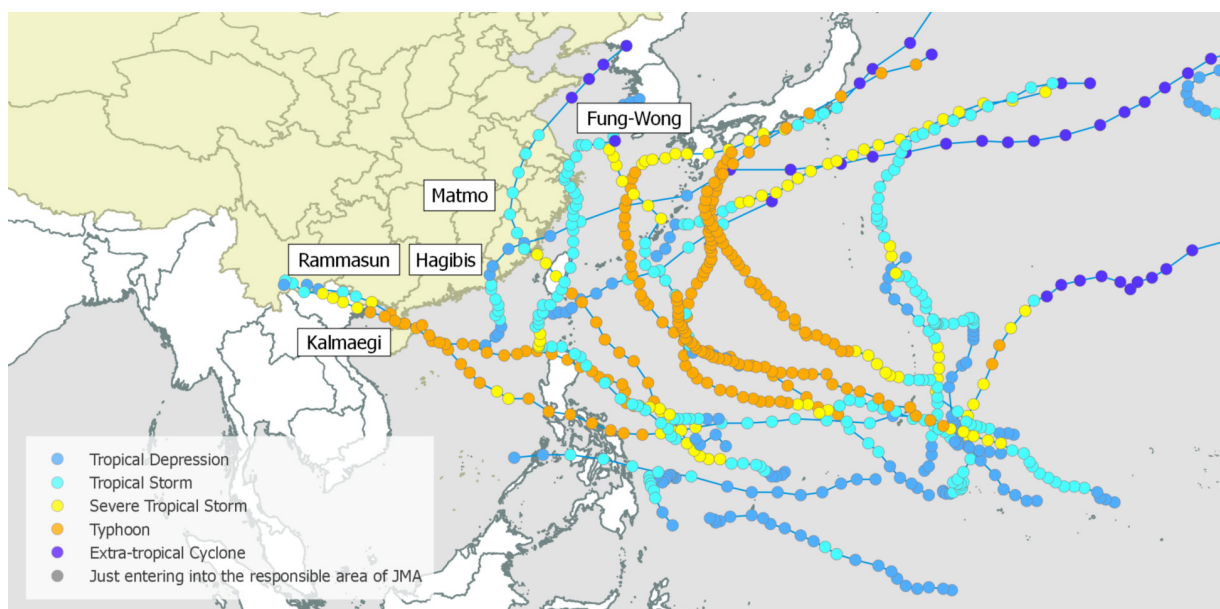
In the month of September, catastrophic and tragic flooding affected the Jammu and Kashmir regions on the India-Pakistan border. The floods were the result of excessive rainfall exceeding 300 millimeters (11.8 inches) over a widespread area, driven by interaction between a monsoon trough and another mid-latitude weather system. Local rainfall amounts exceeded 400 millimeters (15.7 inches), believed to be the heaviest in 50 years, according to media reports. The flooding caused severe disruption to transportation, local infrastructure, trade, agriculture and the local population. Unofficial reports indicated economic losses on the order of USD16 billion and insured losses of around USD645 million.<sup>9</sup>

Further south in Australia, the Brisbane area was affected by a strong supercell thunderstorm in November. The storm produced baseball-sized hail, strong winds and heavy rainfall inflicting widespread damage across the area, including the Brisbane business district. Insured losses were reported on the order of USD820 million.<sup>10</sup>

The year closed with the onset of significant flooding in Thailand and West Malaysia. The flooding was the result of heavy monsoon rains that began in mid-December. Thousands of homes were damaged and tens of thousands of people were displaced as a result. It is still too early to determine the full scope and impact of this event.

The most costly event affecting the Asia region was a result of two significant snowstorms in Japan early in the year. The snowstorms caused hundreds of thousands of power outages and a number of fatalities and injuries. Operations at notable businesses including Suzuki, Honda and Toyota were disrupted. One storm brought 27 centimeters (10.6 inches) of snow to Tokyo, the most significant snowfall in 45 years, according to media reports. The snowstorms resulted in around USD3.1 billion in insured losses.<sup>11</sup>

## F-6 | TROPICAL CYCLONE TRACKS AFFECTING CHINA IN 2014



Source: Guy Carpenter with data from MCA, CIRC, JMA

## THE AMERICAS

The Americas accounted for 57 percent of global losses in 2014, compared to 48 percent in 2013, 87 percent in 2012 and 26 percent in 2011. Man-made incidents included the explosion of an unmanned supply rocket in October in Virginia, the October crash of the Virgin Galactic spaceship in California and the Chevron Phillips refinery fire in Texas in July.

The first natural catastrophes of 2014 included the severe arctic weather outbreak of early January, which brought a significant intrusion of deep cold to eastern North America. The snow and excessive cold affected transportation and infrastructure across a widespread area, together with water damage from fractured water pipes for many homeowners in the Southern United States. Subsequent winter storms in February brought significant icing events across Georgia and South Carolina, including a major ice storm that virtually immobilized the Atlanta region. While the winter of 2014 was not unprecedented, it was among the coldest 30 winters for many states. The cold winter of 2014 caused insured losses of around USD2.3 billion.<sup>12</sup>

With the onset of the severe convective season, there were a number of outbreaks affecting the United States and Canada. Severe weather outbreaks in Canada brought an EF-2 tornado to Angus, Ontario in June, a significant hailstorm to Airdrie, Alberta in August, and significant flooding to Saskatchewan in June. The Airdrie hail event rendered significant insured losses of around CAD450 million.<sup>13</sup>

Further south in the United States, a notable severe convective outbreak occurred April 27 to May 1, affecting most of the Eastern United States. According to the US National Weather Service, the event spawned confirmed EF-3 tornadoes in the areas of Tupelo and Jackson, Mississippi and EF-4 tornadoes in Mayflower, Arkansas and Louisville, Mississippi. This event rendered USD1.1 billion in insured losses.<sup>14</sup> A later event affected the area south of the Great Lakes from May 18 to May 23, with insured losses of around USD2.9 billion.<sup>15</sup> This event saw multiple reports of hail exceeding two inches in diameter (five centimeters) in Ohio, Indiana and Illinois, and another report in Illinois of four inch (ten centimeter) hailstones. Despite these notable severe weather outbreaks, overall hail reports for 2014 were below the 2005 to 2013 average. 2014 preliminary tornado reports were also well below average.<sup>16</sup>

Regarding tropical cyclone activity, the North Atlantic Basin experienced six hurricanes and two major hurricanes in close agreement with the 1954 to 2013 mean, following a slow start to the season.

Only one hurricane in the North Atlantic Basin made landfall on the North American mainland. The first hurricane of the season, Hurricane Arthur, made landfall along the North Carolina Outer Banks, but did not render widespread or excessive damage. It is possible that damage would have been more substantial if Arthur had moved further inland. Estimated insured losses from Hurricane Arthur were less than USD250 million.<sup>17</sup>

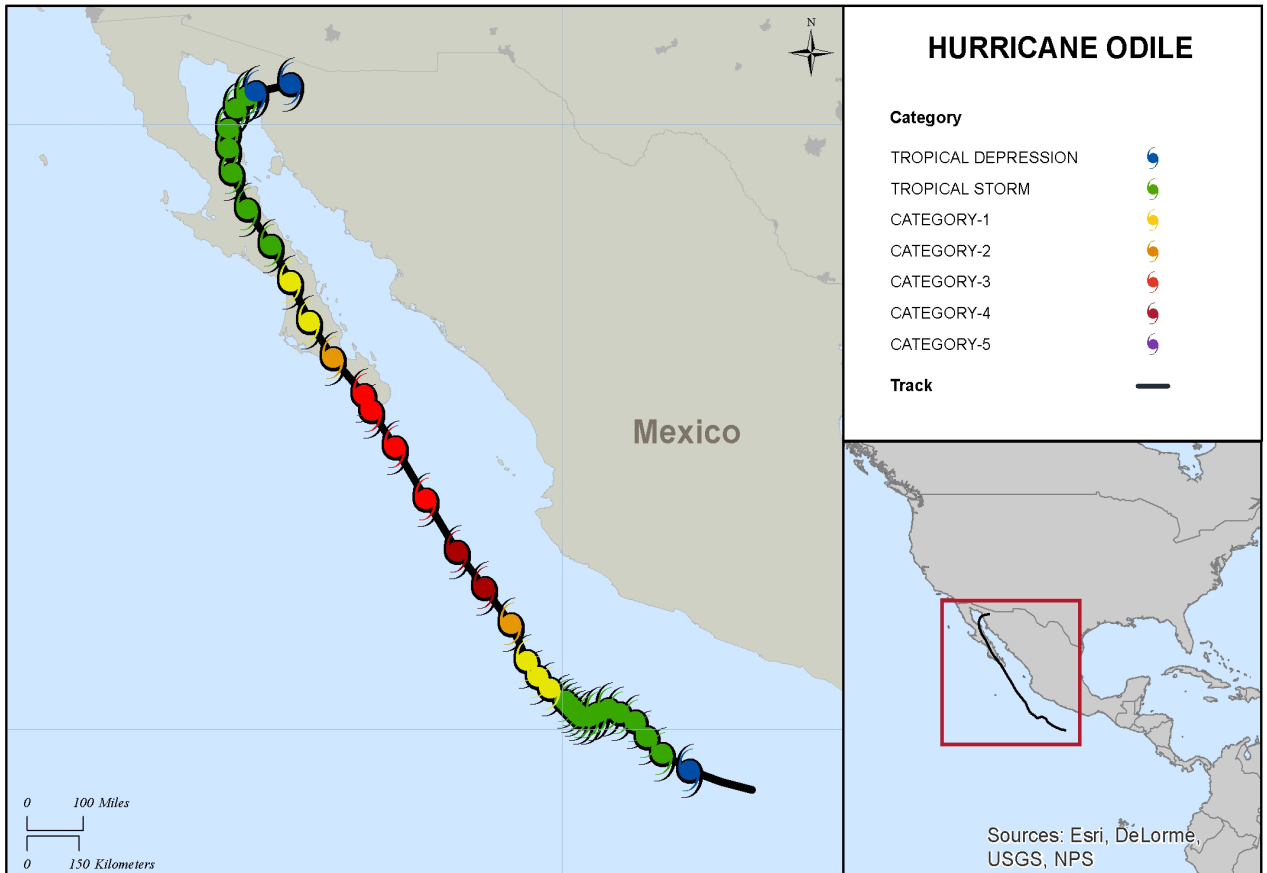
Two other hurricanes, Fay and Gonzalo, affected Bermuda in close succession, with the eye of Gonzalo passing directly over Bermuda (a rare event). Damage rendered from Gonzalo included downed trees and powerlines with disrupted infrastructure. Some structural damage was also reported but the resilient building codes of Bermuda averted more exceptional damage.

Turning to the East Pacific, 2014 was the most active year since 1992, with 16 hurricanes and nine major hurricanes. One of these hurricanes, Iselle, ultimately made landfall as a tropical storm on the Kau coast of the Big Island of Hawaii, but did not render significant losses. Iselle is the first tropical storm to make landfall on the big island in over 50 years.

<sup>12</sup>. Munich Re press release, January 7, 2015. <sup>13</sup>. Insurance Bureau of Canada as reported by Claims Canada, October 2014. <sup>14</sup>. Munich Re press release, July 9, 2014. <sup>15</sup>. Munich Re NatCat Service, "10 Costliest Disasters 2014," January 2015. <sup>16</sup>. US Storm Prediction Center Local Storm Reports. [www.spc.noaa.gov](http://www.spc.noaa.gov) <sup>17</sup>. RMS Event Response. Hurricane Arthur, July 17, 2014.

Hurricane Odile was the most impactful hurricane to affect the Americas in 2014. Odile made landfall directly into the Baja Peninsula of Mexico near Cabo San Lucas in September. This resort area sustained damage of a very severe nature to both structures and infrastructure with insured loss estimates around USD1.6 billion.<sup>18</sup> Odile was a Category 3 hurricane on the Saffir-Simpson scale at landfall.

## F-7 | TRACK OF HURRICANE ODILE



Source: Guy Carpenter, US National Hurricane Center (NOAA)

In 2014, earthquakes affected Chile and Mexico with a magnitude 7.3 tremor near the Nicaragua-El Salvador border. Another earthquake affected the Napa Valley in California in September. The earthquake, a magnitude 6.0, rendered damage to areas including Napa City, Vallejo and Mare Island. The 2014 geologic year also was an active one for the Kilauea volcano in Hawaii, with a notable and potentially impactful lava flow in 2015.



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