



Global Catastrophe Recap

February 2016

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Executive Summary

- Strongest TC on record in the Southern Hemisphere makes Fiji landfall; costliest in country's history
- Most February tornadoes since 2008 highlights billion-dollar month for U.S. disasters
- Magnitude-6.4 earthquake leaves 117 dead in Taiwan; reconstruction costs top USD750 million

Tropical Cyclone Winston made landfall on Fiji's largest and most populated island (Viti Levu) as a Category 5 storm, killing at least 44 people. The cyclone left widespread and extensive damage throughout Fiji. Some of the hardest-hit districts and towns included Rakiraki, Tavua, Ba, Lautoka, Savusavu, Lau, Taveuni, Tailevu, and Nausori. Northern Lau Archipelago – particularly the Koro, Vanua Balavu, Lakeba, and Nayau Islands – was devastated. More than 24,000 homes were damaged or destroyed. Total economic losses were estimated at FJD1.0 billion (USD470 million). This equals roughly 10 percent of Fiji's GDP. Insurers noted claims were expected to reach FJD100 million (USD47 million).

In the last six months, both the Northern and Southern Hemispheres have registered their strongest tropical cyclones on record. Tropical Cyclone Winston had maximum sustained winds of 295 kph (185 mph); Hurricane Patricia peaked in October 2015 at 345 kph (215 mph) in the Eastern Pacific Ocean.

A series of strong storm systems tracked across much of the United States during the month of February. The most significant damage was attributed to severe convective storms that led to the greatest number of February tornadoes in the country since 2008. Damage resulting from tornadoes, straight-line winds and large hail was noted in the Plains, Midwest, Southeast, Mid-Atlantic and Northeast. Virginia endured an EF3 tornado in Appomattox County that was the strongest February twister on record for the state. Winter weather damage resulting from heavy snow and ice also occurred in the Eastern U.S.; while high winds and flooding left impacts in California.

Combined economic losses in the U.S. were expected to top USD1.0 billion. The insurance industry was poised to see losses reach well into the hundreds of millions (USD).

A strong magnitude-6.4 earthquake struck southern Taiwan during the pre-dawn hours of February 6, killing at least 117 people and injuring 550 others. Damage was most significant in the city of Tainan, where several multi-story buildings collapsed. The Taiwan government allocated TWD25 billion (USD750 million) for recovery and reconstruction. The Financial Supervisory Commission cited preliminary insured losses at only TWD250 million (USD8.0 million).

A magnitude-5.8 earthquake struck just offshore New Zealand's Christchurch metro region that left several people injured. The New Zealand Earthquake Commission noted 5,048 filed insurance claims.

A magnitude-5.1 tremor in the U.S. state of Oklahoma on February 13 caused minor damage. The USGS cited the event was likely the third-strongest earthquake ever recorded in Oklahoma.

Windstorms Norkys and Ruzica – also known locally as Henry and Imogen – brought high winds and coastal flooding to portions of Ireland and the United Kingdom. Total combined economic losses from both storms were estimated at EUR160 million (USD175 million).

Major flood events were noted in parts of Haiti, Angola, Peru, Indonesia, and Malaysia.

Worsening droughts led to major economic cost in Vietnam, Zimbabwe, Thailand, and Haiti.

United States

Date	Event	Location	Deaths	Structures/ Claims	Economic Loss (USD)
01/31-02/01	Severe Weather	California	0	12,500+	175+ million
02/08-02/09	Winter Weather	Northeast, Mid-Atlantic	0	Hundreds	25+ million
02/13	Earthquake	Oklahoma	0	Hundreds	Unknown
02/13-02/16	Winter Weather	Northeast, Midwest, Southeast	6	20,000+	400+ million
02/19-02/20	Severe Weather	Midwest	0	Thousands	Millions
02/22-02/25	Severe Weather	Plains, Midwest, Southeast, Northeast	10	Thousands	100s of Millions
02/29-03/01	Severe Weather	Plains, Southeast	0	Hundreds	Millions

A Pacific storm system came ashore in southern California on January 31 and February 1, bringing hurricane-force wind gusts, flooding, and landslides in the greater San Diego and Los Angeles metro regions. Homes, businesses and automobiles were all impacted by the high winds and flood inundation. Total economic losses were estimated in excess of USD175 million; while public and private insurance losses approached USD100 million.

A strong Nor'easter brought heavy snow and high winds to coastal New England on February 8-9 as blizzard conditions were noted at six locations on Cape Cod, MA. Travel across the Northeast was impacted. Prior to impacting New England, the developing storm brought isolated coastal flooding to the outer banks of North Carolina. Total economic losses were expected to exceed USD25 million.

A magnitude-5.1 earthquake struck northwest Oklahoma on February 13, causing minor damage across the state. The earthquake's epicenter was located 32 kilometers (20 miles) northwest of Fairview, Oklahoma, and residents in the communities of Fairview, Stillwater, Dover, Muskogee, and Tulsa reported shaking. The USGS cited the event was likely the third-strongest earthquake ever recorded in Oklahoma.

An extended period of sub-zero temperatures, heavy snow, flooding, and severe weather impacted much of the eastern U.S. from February 13-16. At least six people were killed. Several states in the Northeast and Mid-Atlantic reported a high volume of frozen or burst pipes in homes and businesses; while inclement driving conditions led to thousands of traffic accidents. In the Southeast, 22 tornadoes touched down as damage was recorded in Florida, Louisiana, Mississippi, Alabama, and North Carolina. Isolated flooding was also noted. Total economic losses were estimated around USD400 million; while public and private insurance losses were in excess of USD250 million.

A fast-moving area of low pressure tracked across the Midwest on February 19-20, bringing near hurricane-force winds to multiple states. No serious injuries or fatalities were reported. With winds gusting in excess of 60 mph (95 kph), there were widespread reports of structural damage and business interruption in the Chicago, IL metro region. Additional damage was noted in nearby states of Michigan, Wisconsin and Indiana. Total economic losses were estimated well into the millions of dollars (USD).

A powerful spring-like winter storm prompted a significant outbreak of severe thunderstorms and heavy snowfall across much of the Central and Eastern U.S. from February 22-25, killing at least 10 people and injuring dozens of others. The system left widespread convective storm damage in the Southeast, Mid-Atlantic and Northeast; while the winter weather component triggered major travel delays, power outages and business interruption in the Midwest. A state of emergency was declared in Alabama, Mississippi and Virginia. The National Weather Service confirmed 59 tornado touchdowns, including four rated EF3. Total economic and insured losses were estimated to reach at least the hundreds of millions (USD).

Isolated severe thunderstorms tracked across portions of the United States on February 29 and March 1, leaving at least four people injured. The storms, which had the greatest impacts in Oklahoma and Alabama, brought isolated tornado touchdowns and large hail. In Alabama, an EF2 tornado with 125 mph (205 kph) winds left four people injured in Jefferson County while damaging at least 30 homes. Homes and vehicles in Oklahoma's Comanche and Grady counties were damaged after egg-sized hail fell.

Remainder of North America (Non-U.S.)

Date	Event	Location	Deaths	Structures/ Claims	Economic Loss (USD)
01/01-02/29	Drought	Haiti	0	Unknown	84+ million
02/23-02/25	Winter Weather	Canada	0	Thousands	Millions
02/28	Flooding	Haiti	5	10,000+	Unknown

Severe drought conditions continued to worsen across Haiti during the month of February as a lack of rainfall since the second half of 2015 led to significant crop losses. The United Nations reported that roughly 3.6 million Haitians faced food insecurity as crop harvests were 70 percent lower than normal. The agency requested USD84 million in aid for relief and recovery efforts.

Impacts from the late February U.S. winter storm also were felt in eastern Canada from February 23-25. Accumulating snow, freezing rain, ice, and flooding led to damage in parts of Quebec, Ontario, and Atlantic Canada. Nearly 300,000 customers lost electricity as trees fell due to the heavy weight of the snow and ice. Total economic losses were estimated into the millions of dollars (USD).

Heavy rains and thunderstorms led to widespread damage in Haiti on February 28, leaving at least five people dead or missing. Haiti's Civil Protection Office noted that the hardest-hit areas were the departments of Grand'Anse and Nord. At least 10,000 homes were damaged alone in Nord, including the cities of Cap-Haitien (8,000) and Limonade (2,000), after the Mapou River burst its banks.

South America

Date	Event	Location	Deaths	Structures/ Claims	Economic Loss (USD)
02/20-02/25	Flooding	Peru	1	2,000+	Millions

Torrential rains fell across several sections of Peru, causing widespread flooding from February 20-25. At least one person was killed and another was listed as missing. According to Peru's National Institute of Civil Defense (INDECI), the central and southern regions of Puno, Areuipa, Cusco, and Junín were hardest-hit as overflowing rivers and landslides left more than 2,000 homes damaged or destroyed. Communities along the Ramís, Sullca, Urubamba, and Coschireni rivers sustained the worst inundation.

Europe

Date	Event	Location	Deaths	Structures/ Claims	Economic Loss (USD)
02/01-02/02	WS Norkys	United Kingdom	0	Thousands	100+ million
02/08	WS Ruzica	UK, France, Scandinavia	0	Thousands	100+ million
02/27-02/28	Severe Weather	Italy	6	Thousands	Millions

Windstorm Norkys – also known locally as Henry – tracked just to the north of the United Kingdom on February 1-2, bringing hurricane-force wind gusts and flooding rains. Scotland endured the most significant impacts as winds beyond 160 kph (100 mph) left at least 9,000 customers without electricity. Damage was primarily attributed to damaged roofs, fallen trees, or overturned vehicles. Total economic losses were estimated around EUR70 million (USD75 million).

Windstorm Ruzica – also known locally as Imogen – came ashore in portions of Western and Northern Europe on February 8. Several people were seriously injured. Impacts were felt across parts of England, Wales, France, and Scandinavia as hurricane-force wind gusts and torrential rain accompanied the system. At the peak of the event, a combined 302 flood warnings and alerts were issued. Total economic losses were estimated around EUR90 million (USD100 million).

A strong storm system brought periods of strong thunderstorms, high winds, flooding rain and mountain snow to much of Italy from February 27-29. At least six people were killed. The regions of Lombardy, Veneto, Friuli–Venezia Giulia, Emilia Romagna, Tuscany, Sardinia, Umbria, Lazio, Abruzzo, and Molise were hardest hit as rivers swelled and inundated homes and businesses. Fallen trees and heavy snow led to additional structural damage as winds gusted beyond 80 kph (50 mph). Total economic and insured losses were estimated to reach into the millions of dollars (USD).

Africa

Date	Event	Location	Deaths	Structures/ Claims	Economic Loss (USD)
01/01-03/01	Drought	Zimbabwe	0	Unknown	1.6+ billion
02/29	Flooding	Angola	54	Thousands	Unknown

The prolonged drought in Zimbabwe led to a national disaster declaration in February. The drought, which was exacerbated by El Niño, led to severe damage to crops and caused a severe shortage of drinking water. Millions of residents were left facing food and water shortages. The government sought ZWD583 billion (USD1.6 billion) for drought relief and recovery.

Torrential rains fell in Angola on February 29, leading to widespread flooding in multiple areas. At least 24 people were killed and 30 others were listed as missing. The hardest-hit area came in the southern city of Lubango, where flash floods swept through a popular market. The floods resulted from the Capitaio River overflowing its banks. Additional flooding was reported elsewhere along the Caculuvar River.

Asia

Date	Event	Location	Deaths	Structures/ Claims	Economic Loss (USD)
01/01-03/01	Drought	Vietnam	0	Unknown	6.7+ billion
01/01-03/01	Drought	Thailand	0	Unknown	285+ million
02/03	Winter Weather	India	10	Unknown	Unknown
02/05-02/09	Flooding	Indonesia	6	4,000+	Millions
02/06	Earthquake	Taiwan	117	Thousands	750+ million
02/18-02/19	Severe Weather	China	0	1,600+	62+ million
02/19-02/24	Flooding	Indonesia, Malaysia	1	7,200+	Millions
02/21-02/26	Winter Weather	China	0	1,000+	15+ million

The worst drought in at least 90 years worsened in Vietnam during February. The most substantial impacts were noted in the Mekong Delta, where the government cited substantial agricultural losses resulting from the drought and saltwater intrusion. More than 340,000 hectares (840,000 acres) of winter-spring crops were damaged – equaling nearly 36 percent of the delta’s cultivation area. The Mekong River was recorded at its lowest level since 1926. Total economic losses were listed by the government at VND150 trillion (USD6.75 billion).

The worst drought in decades worsened in Thailand during February, as significant damage to the agricultural sector was incurred. Farmers reported a lessened rice crop harvest and lower market prices had left considerable financial hardship for the national industry. As many as 42 provinces dealt with drought conditions. The government allocated THB10 billion (USD285 million) to assist farmers in lost revenue caused by the drought.

A large avalanche on the Siachen Glacier in the Himalayan region of Kashmir left at least 10 soldiers dead on February 3. Officials reported that the avalanche struck a military post without warning.

Heavy monsoon rains fell across parts of Indonesia from February 5-9, leading to the deaths of at least six people. The rains prompted widespread flooding and landslides in the country’s West Sumatra and Riau provinces. Indonesia’s National Disaster Management Authority (BNPB) indicated that more than 4,000 homes were damaged or destroyed after the Rokan, Muara Bandar, Palis, Batang Lubuh, Batang Bangko, Batang Suliti, and Batang Lolo rivers each burst their banks.

A strong magnitude-6.4 earthquake struck southern Taiwan during the pre-dawn hours of February 6, killing at least 117 people and injuring 550 others. The tremor struck at 3:57 AM local time February 6 (19:57 UTC February 5) with an epicenter located 28 kilometers (17 miles) northeast of Pingtung, Taiwan. Damage was most significant in the city of Tainan, where several multi-story buildings collapsed. Most of the fatalities occurred at a fallen 17-story residential complex. The Taiwan government allocated TWD25 billion (USD750 million) for recovery and reconstruction. The Financial Supervisory Commission cited preliminary insured losses at only TWD250 million (USD8.0 million).

Strong thunderstorms tracked across China’s Qinghai Province on February 18-19, leading to hail and damaging wind damage. The Ministry of Civil Affairs (MCA) noted that 1,600 homes were damaged or destroyed. Total economic losses were listed at CNY400 million (USD62 million).

Heavy seasonal monsoon rains fell across parts of Malaysia and Indonesia from February 19-24, leaving at least one person dead and thousands of residents displaced. Indonesia was the hardest-hit, where the provinces of Jambi, West Kalimantan, East Java and West Java noted more than 6,000 homes damaged or destroyed. In Malaysia, more than 1,200 homes were inundated in the state of Sarawak.

A winter storm crossed parts of China's Sichuan and Tibet from February 21-26, leading to widespread damage. No serious injuries or fatalities were reported. Heavy snow, ice and high winds led to blizzard conditions as snow accumulations topped 50 centimeters (19.7 inches) in some spots. The MCA reported that hundreds of homes and 400 greenhouses collapsed. Thousands of hectares (acres) of cropland were also damaged. Total economic losses were listed at CNY100 million (USD15 million).

Oceania (Australia, New Zealand, South Pacific Islands)

Date	Event	Location	Deaths	Structures/ Claims	Economic Loss (USD)
02/14	Earthquake	New Zealand	0	5,048+	Millions+
02/16-02/22	TC Winston	Fiji, Tonga	44	24,000+	470+ million

A magnitude-5.8 earthquake struck just offshore New Zealand's Christchurch metro region on February 14, leaving several people injured. The tremor had an epicenter located 17 kilometers (11 miles) east-northeast of Christchurch. Some communities cited a number of buildings with shattered windows and fallen roof tiles; while others indicated fallen indoor content damage. The New Zealand Earthquake Commission reported that 5,048 insurance claims had been filed.

Tropical Cyclone Winston made landfall on Fiji's largest and most populated island (Viti Levu) on February 21 as a Category 5 storm, killing at least 44 people. The cyclone, which briefly attained the strongest winds ever recorded by a tropical system in the Southern Hemisphere at 295 kph (185 mph), left extensive damage to 24,000 homes in Fiji. Some of the hardest-hit districts and towns included Rakiraki, Tavua, Ba, Lautoka, Savusavu, Lau, Taveuni, Tailevu, and Nausori. Northern Lau Archipelago – particularly the Koro, Vanua Balavu, Lakeba, and Nayau Islands – was devastated. Prior to impacting Fiji, Winston also caused damage in Tonga and Niue. Total economic losses were estimated at FJD1.0 billion (USD470 million); while insurers noted claims expected to reach FJD100 million (USD47 million).

Appendix

Updated 2016 Data: January

United States

Date	Event	Location	Deaths	Structures/ Claims	Economic Loss (USD)
01/04-01/08	Flooding	California	0	10,000+	125+ million
01/09	Severe Weather	Florida	0	200+	10+ million
01/17	Severe Weather	Florida	2	200+	20+ million
01/21-01/24	Winter Weather	Mid-Atlantic, Northeast, Southeast	58	25,000+	2.0+ billion
01/24	Earthquake	Alaska	0	Hundreds	Unknown

Remainder of North America (Non-U.S.)

Date	Event	Location	Deaths	Structures/ Claims	Economic Loss (USD)
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South America

Date	Event	Location	Deaths	Structures/ Claims	Economic Loss (USD)
01/01-01/25	Flooding	Ecuador	9	2,000+	10+ million
01/09-01/15	Flooding	Brazil	3	25,000+	100+ million

Europe

Date	Event	Location	Deaths	Structures/ Claims	Economic Loss (USD)
01/01-01/08	Winter Weather	Central & Northern Europe	21	Unknown	Unknown
01/12-01/14	Winter Weather	Central & Northern Europe	3	Hundreds	Millions
01/25	Earthquake	Spain, Morocco	1	Hundreds	13+ million
01/29-01/30	WS Marita	UK, Scandinavia	0	Thousands	100s of Millions

Africa

Date	Event	Location	Deaths	Structures/ Claims	Economic Loss (USD)
01/01-01/10	Heatwave	South Africa	11	Unknown	Unknown
01/01-03/01	Drought	South Africa	0	Unknown	250+ million
01/01-02/01	Flooding	Burundi	52	5,100+	13+ million

Asia

Date	Event	Location	Deaths	Structures/ Claims	Economic Loss (USD)
01/03	Earthquake	India	22	1,000+	75+ million
01/21	Earthquake	China	0	2,200+	15+ million
01/20-01/26	Winter Weather	China, Taiwan, Korea, Japan, Thailand	116	25,000+	2.0+ billion
01/26-01/29	Flooding	China	11	1,000+	20+ million

Oceania (Australia, New Zealand, South Pacific Islands)

Date	Event	Location	Deaths	Structures/ Claims	Economic Loss (USD)
01/03-01/05	Flooding	Australia (NSW)	0	Hundreds	Millions
01/06-01/13	Bushfire	Australia (WA)	2	616+	100+ million
01/14	Severe Weather	Australia (NSW)	1	Hundreds	Millions

Additional Report Details

TD = Tropical Depression, TS = Tropical Storm, HU = Hurricane, TY = Typhoon, STY = Super Typhoon, CY = Cyclone

Fatality estimates as reported by public news media sources and official government agencies.

Structures defined as any building – including barns, outbuildings, mobile homes, single or multiple family dwellings, and commercial facilities – that is damaged or destroyed by winds, earthquakes, hail, flood, tornadoes, hurricanes or any other natural-occurring phenomenon. Claims defined as the number of claims (which could be a combination of homeowners, commercial, auto and others) reported by various insurance companies through press releases or various public media outlets.

Damage estimates are obtained from various public media sources, including news websites, publications from insurance companies, financial institution press releases and official government agencies. Damage estimates are obtained from various public media sources, including news websites, publications from insurance companies, financial institution press releases and official government agencies. Economic loss totals include any available insured loss estimates, which can be found in the corresponding event text.

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