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Indiana State Climate Office

Monthly Weather Report



<http://www.iclimat.org>

Mar 13, 2018

February 2018 Climate Summary

Month Summary

February weather was overall warm and extremely wet. This winter cycle of a colder first half month followed by a warmer second half continued this month as well. While multi-vehicle accidents on icy roads made news early in February, the impacts of heavy Indiana flooding dominated headlines later in the month. Flood impacts included home evacuations by boat, river levees breached, submerged vehicles, roads washed away or closed, sewage plant overflows, and gas and power shutdowns. By the end of February the governor had declared 22 counties as disaster areas.

The February state average temperature was 34.7°F. This ranks the month as the 21st warmest February on record. Some recent warmer Februaries since 2000 include 2005 as the 20th warmest, February 2002 tied with 1957 in 18th place while 2012 tied 1915 as the 16th warmest February on record since 1895. February 2000 comes in as the 10th warmest February on the list. Remember last year? The record holder warmest February occurred in 2017 with its state average temperature of 41.4°F! The day split in February 2018 was 10 days of below normal temperature, 17 days above normal, and 1 day at normal. There were 7 days when the daily state average temperature was 10°F or more above normal, 1 day 20°F or more above normal, and 2 days at 10°F or more below normal. The highest temperature of the month was 79°F at several locations on February 20th and 21st. The coldest was -13°F on February 5th at Lowell.

February state average precipitation shattered the record book with 6.05", which is 3.77" above normal. It marks this month as the new record wettest February since state records began in 1895. The old record was 5.63" which was recorded in February 1909. Some recent wet Februaries include 2000, tied with 1975 as the 14th wettest February. February 2011 was the 6th wettest while 2008 ranks its February as the 8th wettest on record. The heaviest single day precipitation among cooperative network stations was 4.37" on February 21st at Pence 1sw. The highest in the CoCoRaHS network was 4.09" on February 20th at South Bend 3.3sw. The largest month total in the cooperative network was 11.33" at Elkhart Public Works. In the CoCoRaHS network the largest total was 11.34" at Galena 3.0se. Widespread precipitation fell on about 21 days this month.

Regionally February 2018 precipitation summed to near 340% of normal across northern Indiana, 210% in central, and about 270% of normal across the south. Normal February precipitation ranges from 1.7" in northwest Indiana to 2.9" in south central counties.

The largest single day snowfall among cooperative stations was 10.3" on February 9th at South Bend Airport. In the CoCoRaHS network it was 8.0" on February 6th at Rensselaer 1.9ssw. The

greatest month total in the cooperative network was 29.6" at South Bend Airport and in the CoCoRaHS network 28.0" at Valparaiso 2.0wsw. Widespread snow fell on about 5 days this month.

February 1st – 7th

Indiana temperatures flipped from warmer to cooler than normal about the same time the calendar flipped to February. The first week of the new month was mostly cold with temperatures above normal on just 2 of the 7 days. Precipitation was greater than normal in northern Indiana but drier than usual in central and southern parts of the state. Both rain and snow were reported on 5 days. Whiteouts led to two interstate pileups in northwest Indiana on February 4th. Two days later slippery roads in the same area caused another round of nearly 90 crashes on Indiana interstates with several injuries reported.

The Indiana state temperature opened the month at 6°F above normal. Two cold fronts passed quickly through Indiana within hours on February 1st before merging once east of the state. High pressure over Montana traveled to Missouri the next day, helping clear Indiana skies and dropping the state temperature to 11°F below normal. Much colder air poured into the state as the merged cold front had already raced to the Atlantic coastline.

On February 3rd the Missouri high center shifted east to the mid-Atlantic states. This placement set up a warming backflow into Indiana, lifting the state temperature to 2°F below normal. A high pressure ridge slid out of western Canada along the east slope of the Rocky Mountains the next day. On the mountain edge of the ridge a new cold front had set up from Montana to Oklahoma, which then turned northeast to Michigan leading the ridge. Meanwhile a separate storm system formed in Alabama, pumping warm Gulf air northward over the top of the advancing cold air mass in Indiana. In far northern Indiana this resulted in whiteout conditions while in central sections a wintry mix of freezing rain, sleet, and snow fell through only moderately cold air. The state temperature was 2°F above normal.

Another batch of Canadian air rushed into Indiana on February 5th, forcing the resident cold front to the southeast states, ending the wintry mess and clearing Indiana skies. The state temperature plunged to 11°F below normal. A quick moving cold front crossed through Indiana the next morning, the fourth cold front of the week. Another round of vehicle accidents occurred in far northern Indiana. The state temperature rose slightly to 8°F below normal.

On February 7th the latest cold front stalled in Kentucky. High pressure over Iowa retrograded west to South Dakota, allowing the Kentucky front to spread rain and snow over the southern half of Indiana. With warmer air close by just to the south of the stalled front, the Indiana state temperature continued to rise to 3°F below normal to close out the week.

Over the 7 days the state temperature averaged to 4°F below normal. Usually at the start of February the daily high temperature should vary between 32°F in far northern Indiana to 43°F in the southwest corner of the state. Daily minimums normally range between 18°F and 25°F north to south across the state. The warmest temperature of the week among locations in the cooperative station network was 62°F at Patoka Lake on February 1st. The coolest temperature among stations in this same network was -13°F at Lowell on February 5th.

On the weekly snowfall totals map up to 2" of snow fell across the southern half of Indiana, generally south of a Covington to Portland line. More than 6" was measured mostly north of a Kentland to Huntington to Lagrange line. The counties of Porter, Laporte, and St Joseph had the most snow in the 11" to 13" range. Snow was recorded in the lake effect region and in southern Indiana on February 2nd and 7th, mostly in northern Indiana on February 4th, statewide on February 5th, and in northern and central Indiana on February 6th. The heaviest single day amounts were noted on February 6th and reports from CoCoRaHS observers included 8.0" at Rensselaer, 6.3" in Mount Ayr, 6.0" outside Burnettsville, and 5.8" at Remington. The largest weekly totals were 12.4" near Wanatah, 11.4" in the Walkerton vicinity, 11.0" near South Bend, 10.8" at Hanna, and 10.5" close to Rensselaer.

On the weekly precipitation map less than 0.2" fell generally across central Indiana mostly south of a Lafayette to Winchester line and north of a Princeton to Richmond line. The heaviest totals for the week were near Lake Michigan and along the Ohio River. More than 1.0" was recorded in southern Perry, Harrison, Floyd, and Clark counties. More than 0.4" was noted mostly north of a Morocco to Monticello to Lagrange line and south of a Rockport to Petersburg to Brookville line. Regionally about 0.4" fell across northern and southern Indiana but just 0.2" in central counties. These amounts equate to about 120% of normal in northern Indiana, 40% in central, and 60% of normal across the south.

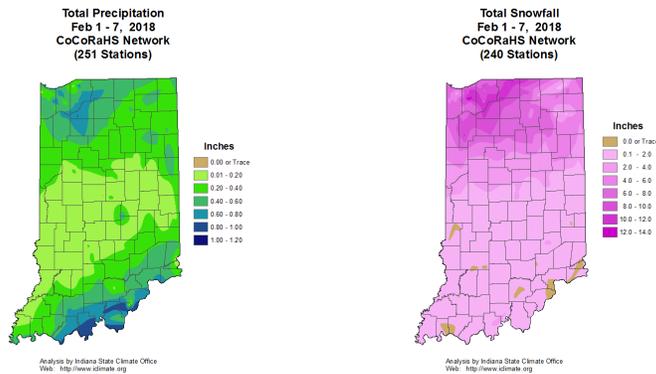
The heaviest single day amounts were measured on February 7th and included two readings of 0.64" and 0.63" at Jeffersonville, 0.57" at Floyds Knobs and Charlestown, and 0.56" at Galena. The largest weekly totals were 0.97" and 0.86" by two Jeffersonville volunteers, 0.96" near Galena, with 0.87" at New Salisbury and Leopold. Precipitation fell as rain in southwest Indiana on February 2nd, in central and southern Indiana on February 4th, and in far southern Indiana on February 7th.

Whiteouts on February 4th caused a 17 vehicle and 13 vehicle pileup on I-80/94 in Lake county. Police said there were 4 separate crashes involved in the 17 vehicle pileup and 7 separate crashes in the 13 vehicle pileup. Only minor injuries occurred in both pileups but the interstate had to be shut down for several hours of the afternoon while the massive wreckage was cleaned up.

Meanwhile in Porter and Laporte counties, snowplow crews had trouble keeping up with clearing the same slick interstate highway. Dozens of crashes and spinouts were reported in these counties as whiteouts were also a problem there.

Another round of snow early on February 6th generated 88 crashes on I-65 and I-80/94 in Lake county. Police reported minor injuries in 13 of those accidents while the others caused only property damage.

Dryness of soils spread slightly in west central Indiana according to the February 6th edition of the US Drought Monitor. Added to the existing dry region was the west half of Warren county with expansion to nearly all of Vermillion and Parke counties. The west half of Vigo county and extreme southwest Benton county were also added to the abnormally dry D0 category soils. The net change increased the Indiana D0 category coverage to 8% of total Indiana land area. The remaining 94% of area is considered unaffected by soil dryness as of the map date.



February 8th – 14th

Indiana state average temperatures were not extreme but more of a mix between below and above normal days after a cool trend settled in to start the month. Precipitation persisted above normal across northern Indiana, much below in central, and somewhat drier than normal in the south. February weather continued to be active, attributing to highway accidents on 4 days. Yet 4 weather deaths were related to heart attacks after snow removal, not to vehicle crashes around the state. Another week of low precipitation prompted the merger and expansion of Indiana USDM D0 regions in west central and southwest Indiana into one covering all or parts of 23 counties.

Jumping off the initial cold spell the Indiana state temperature stood at 4°F below normal on February 8th. A ridge extended overhead from Arkansas to Indiana with a stationary front in Nebraska and Kansas. The next day cold air plunged from British Columbia to Montana, guiding the stationary front eastward toward northern Indiana. The original high center overhead had slipped east to Delaware and drew warmer air behind it into Indiana. The state temperature rose to 6°F above normal.

The cold Montana ridge advanced to Nebraska on February 10th, coaxing the Indiana stationary front south to the Ohio River. Cooler air overtook most of Indiana and the state temperature dipped to 3°F above normal. The Nebraska high drove south rather than east the next day, barely nudging the Indiana front to cross the Ohio River. The state temperature cooled a few more degrees to 1°F below normal as rain and snow fell statewide.

Another burst of cold Canadian air pushed into the Midwest on February 12th. The stalled Kentucky front was forced out of the way to Virginia. Ahead of the new batch of colder air another front barreled quickly south through Indiana. The state temperature bottomed to 4°F below normal, the coldest day of the week. This newest round of high pressure was quite strong and dominated the east half of the country on February 13th. Indiana skies turned sunny and winds were light. The core of the high center had moved to Lake Ontario, allowing a new warming to begin. The Indiana state temperature ended its 3 day slide and rebounded to 1°F below normal.

The strong high center weakened and settled along the Carolina coast on Valentine's Day. The old stalled Kentucky front had already become resident along the Gulf shoreline, tapping into the

abundant moisture supply, and running it over the top of the cold air in place over Indiana. Rain developed in southern Indiana counties. The state temperature climbed several degrees to 8°F above normal to close out the week.

Over this second February week the state temperature averaged to 1°F above normal. Daily maximums typically should range between 34°F and 45°F north to south across the state. Daily minimums normally vary from 20°F in far northern Indiana to 26°F in the southwest corner of the state. The warmest temperature of the week among cooperative network stations was 64°F at Newburgh Lock & Dam on February 9th. The coolest temperature among stations in this same network was -6°F at Rensselaer on February 8th.

Snowfall was observed on the first 5 days of the week. The weekly snowfall map showed no snow fell generally south of a Sullivan to Peru to Winchester line. Snowfall was heavy in a 10" to 16" band north of the Kankakee River to Elkhart and included Starke and Marshall counties. The heavy snowfall was measured in CoCoRaHS reports filed on February 9th, 10th, and 11th. Snow was scattered in the lake effect region in reports received on the mornings of February 8th and 12th.

The heaviest single day amount was 10.0" at Trail Creek on February 9th. The next day 7.5" was recorded near Gary, 7.0" outside South Bend, 6.5" at Valparaiso, and 6.1" near Michigan City. For the week the total near Gary was 15.6" with 14.9" in Porter. The Michigan City sum was 13.9". The volunteer near Chesterton had 13.2" of the white stuff and the Dyer observer tallied 12.9".

The weekly precipitation map indicated less than 0.25" accumulated in central Indiana, mostly south of a Fowler to Auburn line and north of a Vincennes to Brookville line. There was a 1" to 2" narrow band of heavier precipitation along the Lake Michigan shoreline, the Michigan border, and near Plymouth. A region of 1" precipitation was found along the Ohio River from Warrick to Clark counties, then north from Crawford to Lawrence county. Regionally about 0.5" covered northern and southern Indiana this week but only 0.1" average precipitation was noted across the central part of the state. These amounts equate to about 140% of normal in northern Indiana, just 20% in central counties, and 80% of normal across the southern third of the state.

The heaviest single day precipitation amounts occurred on several dates and included 1.00" at Trail Creek reported on February 9th, 1.01" in Munster on February 10th, and 1.63" outside Bremen on February 13th. On Valentine's Day the CoCoRaHS volunteer in Stendal measured 0.76" while 0.67" was collected in the Bedford vicinity. The heaviest weekly totals were found across northern Indiana. The Angola CoCoRaHS volunteer had 7.96". In Granger 1.45" was received with 1.42" near Gary, 1.33" at Porter, and 1.19" near South Bend.

Precipitation in the form of rain was reported in central and southern Indiana on February 10th and 11th, in the south half of the state the next day, and across much of the south on February 14th.

Inclement weather throughout the week resulted in highway travel problems.

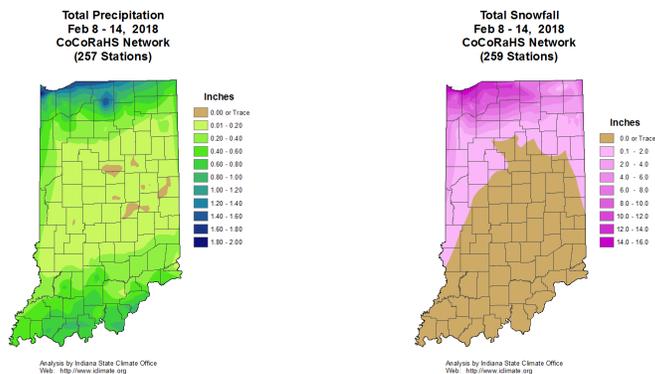
On February 9th only essential travel was recommended in 4 far northern Indiana counties. Most vehicle crashes were minor without injuries. On the I-80/94 interstate in Lake county there were multiple slide offs and spinouts. Two semitrailers collided, slowing traffic for a few hours. Schools, government offices, and some businesses closed in advance of the dire travel warnings.

A carport in Lake county was no match for the heavy snowfall by the next morning. The carport suddenly collapsed onto a dozen cars below, smashing windows and badly denting car bodies as supporting beams fell. The human toll of the storm included 4 fatal heart attacks among older Lake county citizens who worked to remove the heavy snowfall by shovel and snow blower.

Snow and freezing rain continued in far northern Indiana on February 11th. Up to 26 Indiana counties posted travel restrictions due to icy roads. Many accidents were blamed on the ice, especially in northeast Indiana.

Two more difficult days of travel came on February 12th and 13th. Black ice on roadways was the prime suspect in these crashes.

The tendency toward lower precipitation in central Indiana in recent weeks led the US Drought Monitor to expand the D0 abnormally dry category in western Indiana. Two existing D0 areas were merged into a larger one, marked as generally west of a Covington to Greenfield to Poseyville line and including the west half of Warren county. The revised D0 region contained all or parts of 23 counties in west central and southwest Indiana. The net areal coverage reached 19% of total Indiana land, leaving 81% of the state not impacted by soil dryness. This enlarged the prior week D0 category by 11% coverage according to the February 13th edition of the USDM.



February 15th – 21st

Daily Indiana state temperatures tumbled twice during the week yet remained above normal on all 7 days. Precipitation was abundant statewide, causing extreme flooding usually seen in March rather than February. Heavy rainfall on frozen ground along with melting snowfall contributed to flooded homes and basements, leading to water rescues, road closures, and submerged vehicles. Several roads were washed out and residents forced to stay in shelters. A small bit of good news was the elimination of all abnormally dry soils in the state.

Temperatures were very warm to start the week. The state temperature posted at 19°F above normal on February 15th. Southerly winds transported warm air to Indiana ahead of a Great Plains low pressure system. A cold front in Minnesota and Wisconsin heralded a cold air mass moving in from Canada. The cold front caught and merged with the Plains warm front, passing through

Indiana and into Kentucky the next day. Cool high pressure from Alberta advanced into Nebraska and pulled much colder air into Indiana, lowering the state temperature to 6°F above normal.

The cold front slowed near the Gulf of Mexico and became stationary on February 17th. Cool air movement into Indiana ended as the state temperature bottomed out right at normal. High pressure retrograded from Pennsylvania to Ohio the next day, reversing the Indiana temperature slide with the state temperature rising to 3°F above normal.

High pressure raced east from Ohio into the Atlantic on February 19th. A developing storm system in Wyoming traveled into Kansas and stretched its warm front from there into Indiana. The formation of this new warm sector prompted the Indiana state temperature to jump to 13°F above normal. Meanwhile a stationary front was planted just to the north from Iowa through Wisconsin.

The Indiana warm front dissolved the next day, leaving the stationary front extended from Missouri to Michigan. This unstable air mass lifted massive amounts of moisture into Indiana and raised the state temperature to 26°F above normal. In some Indiana cities the daily maximum temperature set new all time February highs, including a 77°F reading at Indianapolis. More record daily or February maximums were set at other Indiana cities the next day.

High pressure moved from Montana into Iowa on February 21st, slamming much colder air against the moist air mass over Indiana and releasing large amounts of precipitation statewide. The stationary front had converted into a strong cold front that passed through Indiana and into Kentucky. The Indiana state temperature plummeted to 4°F above normal to close out the week.

Over the 7 days the Indiana state temperature averaged to 10°F above normal. Normal daily maximum temperatures should range from 36°F in far northern Indiana to 47°F in the southwest corner of the state. Daily minimums typically vary between 21°F and 28°F north to south across the state. The warmest temperature of the 7 days among cooperative network stations was 79°F at several locations on February 20th and 21st. The coolest temperature among stations in this same network was 4°F at Knox WWTP on February 15th.

Measurable snow was observed on just one day, February 18th, covering the north half of the state. Snowfall was scattered in the southern third of Indiana. Totals of 2" to 3" were noted mostly north of a Lafayette to Decatur line with isolated lake effect sums near 5". Some of the heavier amounts included 4.8" at Laporte, 3.0" near Demotte, 2.9" outside Fort Wayne, 2.8" at Denver, and 2.7" in Huntington.

Precipitation was measured on all 7 days. On the weekly precipitation map there was a heavy swath northeast across the state. A 4" to 7" band fell generally north of an Attica to Auburn line with about 7" in the north central counties of Laporte, Starke, Jasper, and St Joseph. In contrast under an inch was observed mostly running across the state east of Terre Haute. Regionally about 4.4" was caught across northern Indiana, 2.4" in central, and 2.2" in the south. These amounts equate to about 910% of normal across northern Indiana, 450% in central, and 310% of normal in the southern third of the state.

Rain fell statewide on February 15th, 16th, and 21st, in the southern half of Indiana on February 17th and 18th, and in much of northern and central Indiana but scattered across the south on February 19th and 20th. The heaviest single day amounts were measured on February 20th and included 4.09" near

South Bend, 3.89” at Winfield, 3.76” in Demotte, 3.75” near to Goshen, and 3.71” in the vicinity of LaCrosse. The heaviest week totals included two reports of 7.18” and 6.92” outside Walkerton, 6.88” in the South Bend area, 6.83” at Wheatfield, and 6.81” at Hanna.

Heavy rainfall caused devastating flooding across Indiana this week. Up to 4” of rain falling on frozen ground along with the melting of up to 38” of snow contributed to flooded homes and basements, submerged vehicles, road closures, and water rescues. Several roads were washed out and residents evacuated to shelters.

The full impact of these combined factors hit beginning on February 20th. Flooding due to heavy rains closed many local and county roads in the northern third of Indiana, especially in Lake, Porter, and St Joseph counties. Some residents in Elkhart county were rescued by boat.

Dozens of large and small roads were blocked off in Lake, Porter, and Laporte counties. In Lake county roads were closed and the Little Calumet River was closely monitored. Several roads were closed in Hobart and Merrillville. Abandoned cars were seen in flooded roadways. Water in basements was a widespread problem. Sandbags were made available in some cities.

In Porter county roads were washed out or closed by high water. The county eventually ran out of high water signs. One woman was trapped in her car by flood waters and had to be rescued by boat. In Portage water rescues were prioritized based on seriousness of local flooding.

Untreated sewage overwhelmed the city plant and had to be diverted unprocessed into a Laporte open ditch. Heavy trucks were banned from local roads until ground thaw was complete enough to limit damage by heavy truck loads. A wind gust to 74 mph was reported in Laporte county.

The flood damage intensified and spread on February 21st.

Gas service was shut off to homes in eastern Lake county where 35 home owners were urged to evacuate. Large numbers of animals were evacuated by boat.

Rain combined with melting snow flooded streets and homes in St Joseph county. River levels soared to record or near record levels. Three major South Bend streets were closed. A warming center was set up in St Joseph county for people escaping their flooded homes, many on the south and east sides of South Bend. Sandbags were made available to county residents who worked to save their homes from flooding.

Traffic in Elkhart county was restricted to emergencies only. Boats were sent to evacuate 20 residents from their homes. Dozens of pets were rescued from a pet rescue facility. One person had to be rescued via a fire engine ladder from his car roof after the vehicle had been swept off the road. Local schools were closed and emergency shelters opened. Authorities judged this was the worst flooding in the county in the past 45 years.

Both St Joseph and Elkhart counties declared a state of emergency in a combined effort with their local cities. These declarations would start the process of applying for assistance towards federal infrastructure repair funding. Joining teams in this effort would help reach the state threshold of \$10.2 million required to apply for federal relief funding.

In Allen county 4 county roads were closed.

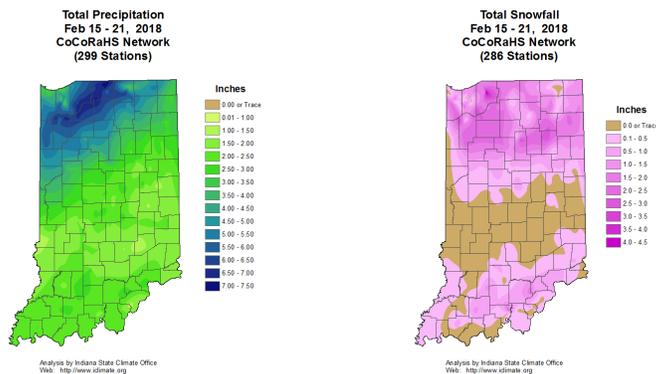
Meanwhile to the west in Benton county 10 water rescues were performed. A travel warning only permitted emergency vehicles on roadways within the county. Like Porter county there was a shortage of high water signs. In some cases drivers attempting to drive through water covered roadways stalled their vehicles. Shelters for evacuees were set up.

White county residents in two neighborhoods were asked to evacuate after 12 water rescues were already required in this area. The last time flood evacuations were required here was during the floods of 2008.

A flood warning was issued for Carroll county with voluntary evacuations requested. Sandbags were made available to Carroll and Cass county residents.

In Tippecanoe county the usual roadways which tended to flood near rivers were closed.

The extreme rainfall and flooding eliminated areas of abnormally dry soils that had persisted for weeks in west central and southwest Indiana. The heavy rains erased all D0 category coverage as of February 20th according to the US Drought Monitor for Indiana, a net improvement of 19% from a week earlier. This is the first time since June 6th of last year that all counties in the state have been declared free of soil dryness according to the USDM.



February 22nd – 28th

The February warm spell which began on Valentine's Day persisted through the end of the month. Along with the warmth heavy precipitation also continued but did finally ease up the last few days of February. Heavy flooding already in progress was aggravated by another rainy week forcing rescue efforts to continue. By the end of February the Indiana governor had declared 22 counties flood disaster areas, granting them eligibility to seek state and possible federal assistance.

The cold front that had passed through Indiana the previous day stalled over Kentucky and Tennessee on February 22nd. Rain continued over much of Indiana as the state temperature stood at 4°F above normal. High pressure over the Great Lakes skipped east to Maine the next day, replaced

by a Wisconsin low pressure center. Its occluded front along the west Indiana border split into a warm front over southern Indiana and a cold front that followed the Mississippi River south. Indiana warmed to 9°F above normal.

The occluded front dissolved on February 24th and the Wisconsin low headed to West Virginia. The warm front had slipped south of Indiana but warm moist air continued to stream aloft northward into the state, lifting the state temperature to 13°F above normal. A complex occluded low formed over Lake Superior the next day with its bowed cold front running far ahead into Ohio. The Indiana state temperature dipped to 10°F above normal as a cool air mass entered the state behind the front.

The occluded low galloped east beyond the Atlantic coastline on February 26th, finally ending the Indiana rain deluge as high pressure and sunny skies took over. The state temperature ended its slide at 8°F above normal. The ridge drifted east of Indiana the next day. Sunny weather continued with light southerly winds, helping raise the state temperature to 11°F above normal.

The ridge moved offshore into the Atlantic on February 28th. A stationary front approached Indiana from the northwest and a warm front from the southwest, setting off local showers. The warmer air behind the Atlantic ridge continued to stream into Indiana. The state temperature rose to 13°F above normal to wrap up the week and month.

For the week the state temperature averaged to 10°F above normal. Normally daily maximum temperatures near the end of February range between 38°F and 49°F north to south across the state. Daily minimums typically vary from 23°F in far northern Indiana to 30°F in the southwest corner of the state. The warmest temperature over the 7 days among cooperative network stations was 74°F at Carmel 3e on February 23rd. The coolest temperature among stations in this same network was 19°F at Terre Haute ISU on February 22nd.

Rainfall was reported on 6 of the 7 days. On the weekly precipitation map more than 2" fell generally across the southern half of Indiana. Within this region more than 7" fell in Floyd and Clark counties. A band of 5" to 7" was noted mostly north of a Mt Vernon to Rising Sun line. Less than an inch was common mostly north of an Attica to Huntington line in northern Indiana. Regionally precipitation averaged near 0.5" across the northern third of Indiana, 2.0" in central, and 4.3" in southern Indiana. These amounts equate to right about normal across northern Indiana, 290% of normal in central counties, and 530% of normal in the southern third of the state.

Rain was measured statewide on February 23rd and 25th and in all but the lake effect region on February 22nd and 24th. Rain was seen across northern Indiana but was scattered across the south on February 28th. Only scattered showers were observed around the state on February 26th. The heaviest single day amounts were collected on February 25th and included 3.31" in Evansville, 3.30" at Chandler, and 3.12" in the New Pekin vicinity. The rain gages in Spencer and outside New Albany each had 3.08". The week total at Galena came to 7.74". Two volunteers at Jeffersonville summed 7.37" and 7.02" at their respective locations while the Elizabeth observer tallied 7.22". At Charlestown 7.10" was collected.

Heavy rainfall had already persisted over several days. The widespread Indiana flood disaster in progress reached near historic levels rarely seen in February.

On February 22nd flooding was described as historic in St Joseph and Elkhart counties. The impact of heavy rain, melting snow cover, and rising rivers closed roads and schools and forced home evacuations. Eventually more than 100 water rescues and evacuations were necessary. At least one emergency shelter was filled to capacity.

In South Bend dozens of streets were closed. Power was shut down to numerous homes that were inundated by flood water. Several homes were evacuated while some business owners opted to temporarily close as part of downtown was under water. The South Bend water treatment plant was shut down overnight, forcing raw sewage to be emptied into the river. The mayor declared a state of emergency towards qualifying the area for state and federal disaster assistance for the repair of public infrastructure and homes.

In Marshall county a few Plymouth businesses closed while 10 homes were evacuated and schools closed.

A Kankakee River levee was breached in Starke county. In Lake county the river surrounded homes and overran US41. This was despite sandbagging efforts overnight at homes along the river. In Porter county debris collecting in the river rammed into bridge piers.

The water began to recede just a bit in eastern Lake county after it had flooded downtown areas. Gas service was beginning to be turned back on and a few roads were reopened.

In Carroll and White counties power was shut down to some severely flooded areas to prevent further damage to electrical transformers. A few roads near rivers in Tippecanoe county were closed due to high water.

The State Emergency Operations Center was activated to coordinate the delivery of more than 700,000 sandbags and to respond to local requests for assistance. The center coordinated the delivery of water pumps, heavy equipment, crews for labor, and traffic control. Other state departments, nonprofits, and law enforcement were also assisting flood relief efforts.

The disaster continued on February 23rd. In St Joseph county at least 25 homes were destroyed and others badly damaged. The southern part of the county appeared hardest hit where roads and bridges would need extensive repairs.

In Elkhart county there were dozens of boat rescues from flooded homes along a creek. Travel was limited to emergency vehicles only.

Officials in St Joseph, Elkhart, and Marshall counties planned to apply for federal emergency assistance to repair the damaged infrastructure. Applications for loans and grants to repair homes will be started for disaster relief to the state of Indiana. Marshall county emergency management will assess 30 damaged homes in cities and dozens damaged throughout the county in hopes of acquiring disaster funding.

In Porter county a levee was breached on the Kankakee River, causing residents to evacuate.

In southern Indiana a flooded casino was closed in Harrison county. Winds estimated to 60 mph took down many small limbs and small trees in Gibson county.

The misery continued into the weekend. Two cars in Vanderburgh county were submerged by flood waters. One driver was found sitting on the top of his car awaiting rescue. Around the county up to 80 roads were closed due to flooding. The disaster was being compared to 1997 as the last time flooding was this extensive.

On February 24th the governor declared an emergency for 11 Indiana counties due to the widespread flooding and infrastructure damage caused by the sustained heavy rainfall. Some of the flood damage was described as unprecedented in scope. The declaration would allow for expanded emergency services from the state and possibly lead to a federal disaster declaration.

By February 25th flood damage was becoming more prevalent in southern Indiana. In Warrick county a 10 foot length of county roadway had been shredded into pieces by flood water. An emergency repair reopened the road by evening.

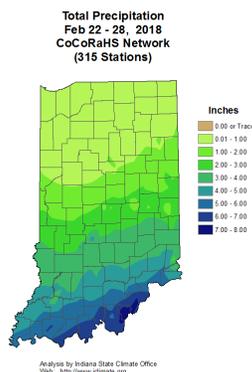
A state road in Gibson county also crumbled due to flood damage and was entirely closed. Overall at least 20 road closures were announced in southwest Indiana.

The Indiana Department of Transportation was reviewing all flooded roads in the state to assess their damage status and would provide damage and closure updates.

Meanwhile hundreds of customers in St Joseph county remained without power.

The governor added 7 more counties to his emergency disaster declaration list on February 26th.

On February 27th the governor added 4 more counties to his emergency disaster declaration. New additions were Harrison, Jasper, Ohio, and Pulaski counties, bringing the total to 22 counties. The other counties on this list were Benton, Carroll, Clark, Crawford, Dearborn, Elkhart, Floyd, Fulton, Jefferson, Lake, Marshall, Perry, Spencer, Warrick, St Joseph, Starke, Switzerland, and White.



February 2018

Region	Temperature	Temperature	
		Normal	Deviation
Northwest	29.6	27.7	1.9
North Central	30.4	27.3	3.1
Northeast	30.5	26.8	3.7
West Central	33.6	30.0	3.6
Central	35.0	29.7	5.3
East Central	35.2	28.7	6.5
Southwest	39.2	34.7	4.5
South Central	39.7	34.5	5.2
Southeast	39.3	33.4	5.9
State	34.7	30.4	4.3

Region	Precipitation	Precipitation		
		Normal	Deviation	Percent of Normal
Northwest	6.31	1.68	4.63	376
North Central	6.04	1.79	4.25	337
Northeast	4.98	1.78	3.20	280
West Central	4.59	2.16	2.43	213
Central	4.72	2.27	2.45	208
East Central	4.60	2.15	2.45	214
Southwest	7.59	2.88	4.72	264
South Central	7.99	2.92	5.07	274
Southeast	7.94	2.80	5.13	283
State	6.05	2.28	3.77	266

Winter (Dec 2017 - Feb 2018)

Region	Temperature	Temperature	
		Normal	Deviation
Northwest	25.7	26.4	-0.6
North Central	26.3	26.4	-0.1
Northeast	26.3	26.2	0.2
West Central	28.0	28.5	-0.4
Central	28.8	28.5	0.3
East Central	28.7	27.8	0.9
Southwest	33.1	33.0	0.0
South Central	33.1	32.9	0.2
Southeast	32.4	32.1	0.3
State	29.2	29.1	0.1

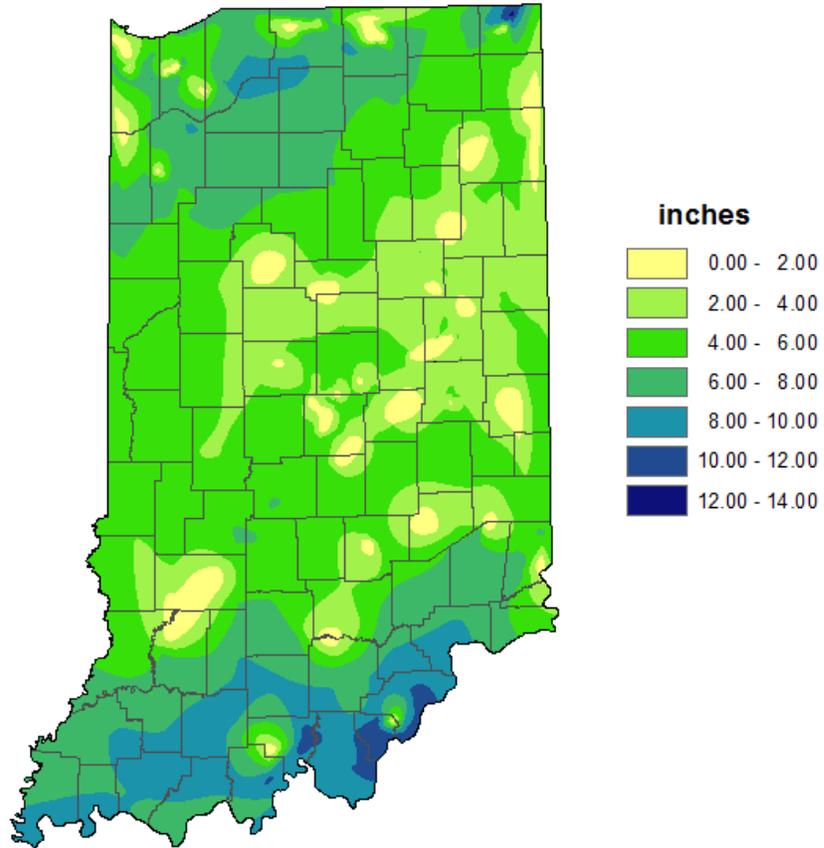
Region	Precipitation	Precipitation		
		Normal	Deviation	Percent of Normal
Northwest	8.73	6.21	2.52	141
North Central	8.64	6.63	2.01	130
Northeast	7.28	6.45	0.84	113
West Central	7.08	7.41	-0.33	96
Central	8.03	7.60	0.43	106
East Central	8.12	7.31	0.81	111
Southwest	12.54	9.41	3.13	133
South Central	12.85	9.58	3.27	134
Southeast	12.41	9.22	3.20	135
State	9.49	7.77	1.72	122

2018 Annual so far

Region	Temperature	Temperature	
		Normal	Deviation
Northwest	25.6	25.3	0.4
North Central	26.6	25.1	1.4
Northeast	26.7	24.9	1.8
West Central	27.9	27.4	0.4
Central	29.0	27.4	1.6
East Central	29.1	26.6	2.5
Southwest	33.0	32.2	0.8
South Central	33.3	32.1	1.2
Southeast	32.9	31.2	1.7
State	29.3	28.1	1.2

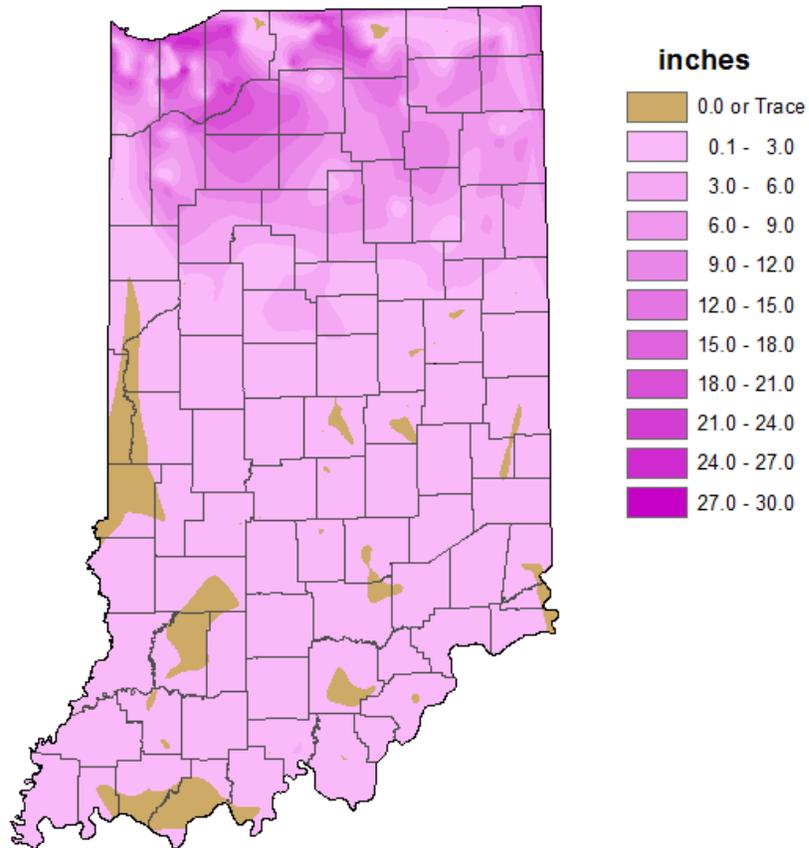
Region	Precipitation	Precipitation		
		Normal	Deviation	Percent of Normal
Northwest	7.84	3.56	4.28	220
North Central	7.61	3.84	3.77	198
Northeast	6.30	3.77	2.54	167
West Central	6.10	4.44	1.65	137
Central	6.81	4.61	2.20	148
East Central	6.83	4.44	2.39	154
Southwest	10.63	5.88	4.76	181
South Central	10.89	6.02	4.87	181
Southeast	10.43	5.81	4.62	180
State	8.14	4.71	3.42	173

**Total Snowfall
February 2018
CoCoRaHS network
(304 stations)**



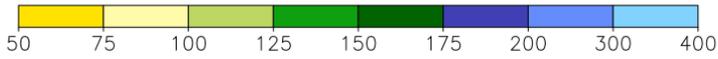
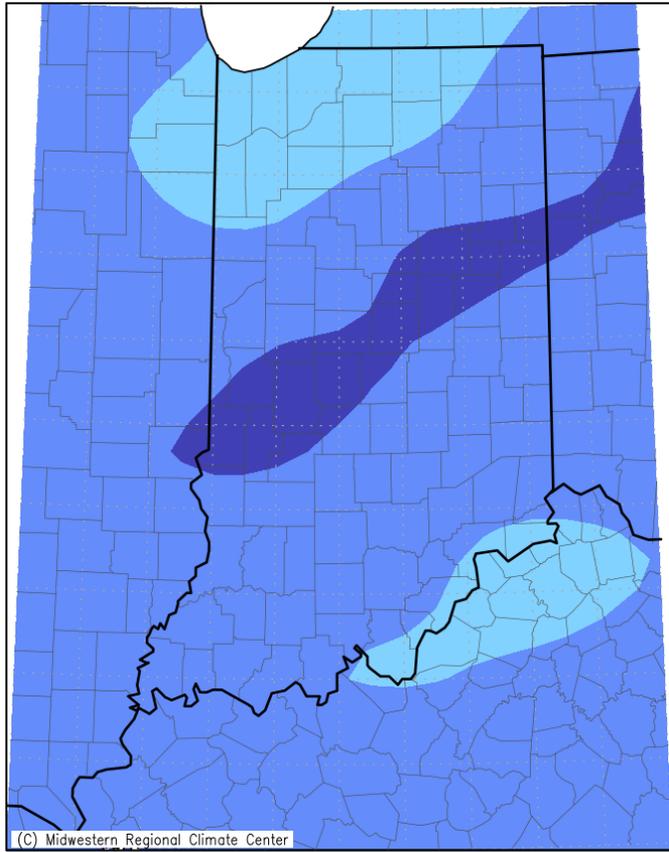
Analysis by Indiana State Climate Office
Web: <http://www.iclimate.org>

**Total Snowfall
February 2018
CoCoRaHS network
(304 stations)**



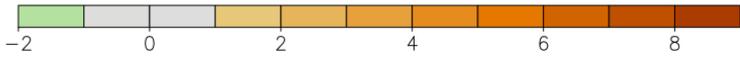
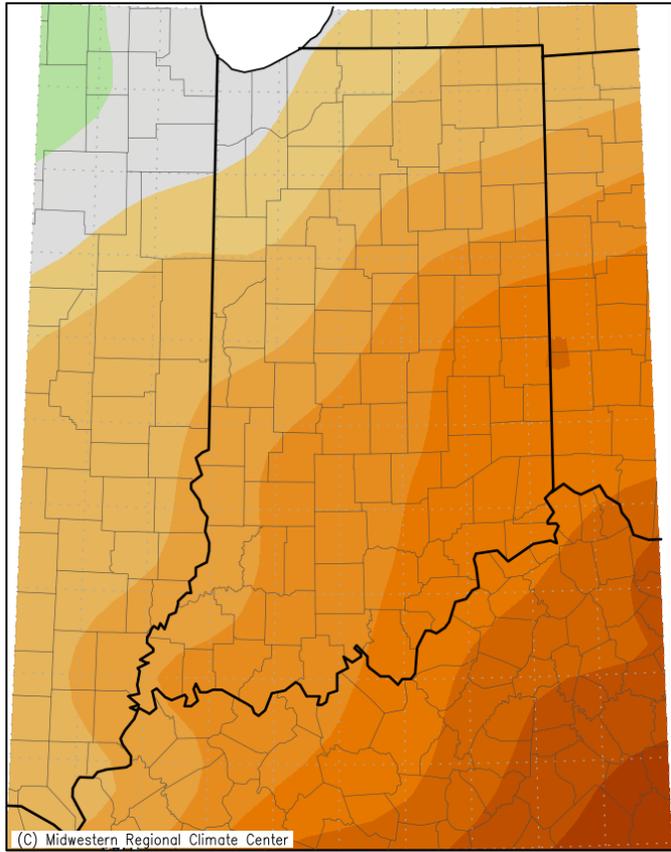
Analysis by Indiana State Climate Office
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Accumulated Precipitation: Percent of Mean
February 1, 2018 to February 28, 2018



Midwestern Regional Climate Center
cli-MATE: MRCC Application Tools Environment
Generated at: 3/13/2018 2:45:24 PM CDT

Average Temperature (°F): Departure from Mean
February 1, 2018 to February 28, 2018



Midwestern Regional Climate Center
cli-MATE: MRCC Application Tools Environment
Generated at: 3/13/2018 2:48:04 PM CDT

Drought Summary from the U.S. Drought Monitor

Below is a drought summary for the state of Indiana from the U.S. Drought Monitor. Areas in white are not experiencing any drought. Yellow areas are abnormally dry, but not considered a drought. Drought begins when the moisture levels become more severe, with beige, orange, red, and brown indicating increasing levels of drought (moderate, severe, extreme, and exceptional, respectively). The table below indicates what percentage of the state is drought free, and how much of the state is in drought by degree of severity (D1 - D4 category).

Area:
Statistics type:

 USDM
 7-d

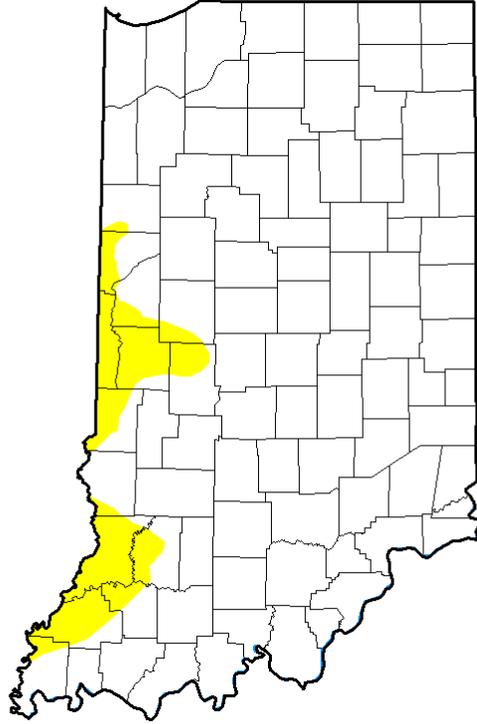
Percent Area in U.S. Drought Monitor Categories

Show entries

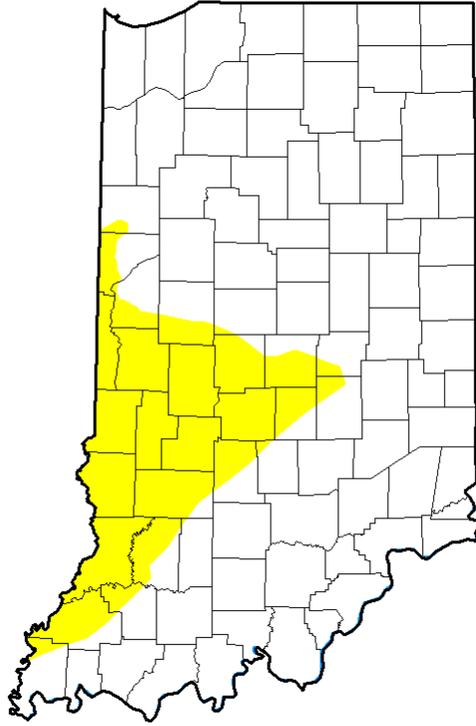
Search:

Week	None	D0	D1	D2	D3	D4	DSCI
2018-03-06	100.00	0.00	0.00	0.00	0.00	0.00	0
2018-02-27	100.00	0.00	0.00	0.00	0.00	0.00	0
2018-02-20	100.00	0.00	0.00	0.00	0.00	0.00	0
2018-02-13	81.16	18.84	0.00	0.00	0.00	0.00	19
2018-02-06	92.42	7.58	0.00	0.00	0.00	0.00	8

Feb 6th Drought Summary



Feb 13th Drought Summary



Feb 20th Drought Summary



Feb 27th Drought Summary

