June Weather and Crop Summary

Weather

Frequent, often heavy showers soaked areas from the southern and eastern Plains into the Midwest and Northeast, maintaining adequate to locally excessive soil moisture for summer crop development. The wet conditions slowed final winter wheat harvesting on the central and southern Plains and caused minor harvest disruptions in the Ohio Valley. Although cool, wet conditions significantly eased long-term drought in the southwestern Corn Belt, dry, occasionally hot weather caused drought intensification and stressed dryland crops on the central and northern High Plains. In the South, soil moisture remained generally adequate from the Delta westward, although a late-month drying trend depleted topsoil moisture across southern Texas. Mid- to late-month showers in the Southeast aided pastures and summer crops, but provided little relief from long-term drought. Meanwhile in the Southwest, the early arrival of seasonal showers eased irrigation requirements and curbed the wildfire threat. In California, favorably warm, dry weather followed early-month showers. Much of the interior Northwest remained dry throughout the month, promoting winter wheat maturation but reducing soil moisture for spring-sown grains.

Monthly temperatures averaged near normal in the Northwest, but generally ranged from 1 to 5ºF above normal in California and the Southwest. More than 100 daily-record highs were set by June 10, many of them in the Southwest before heat briefly overspread the Plains and upper Midwest. A short-lived but intense heat wave produced numerous monthly and all-time records in California on June 14. East of the Rockies, the only large area of above-normal June temperatures (up to 3ºF above normal) encompassed the middle and southern Atlantic regions. In contrast, monthly readings averaged 1 to 4ºF below normal in much of the Plains and Midwest. Corn Belt temperature remained at or below 90ºF throughout the month, except for a brief period in early June across western areas, favoring corn and soybean development.

As June began, extremely heavy rain soaked parts of the southern Plains and upper Midwest. On the 1st, rainfall totaled 4.81 inches in Rochester, MN, breaking their single-day June record (previously 4.18 inches on June 25, 1913). In Texas, Lubbock collected 3.59 inches in a 24-hour period on June 1-2. The wet start helped both Rochester (12.52 inches) and Lubbock (8.48 inches) set June rainfall records. Rochester also noted their wettest month on record, breaking a July 1978 standard, and registered 14 days with measurable rainfall. In Minnesota's Root River basin at Hokah, the water level peaked near 52.2 feet, slightly higher than the ice-jam floods of March 1972 and February 1994, and 1.4 feet higher than the record rainfall-induced crest of July 2, 1978.

For the week ending June 4, Iowa received an average of 1.55 inches of rain, the State's wettest week since June 1999. Two weeks later (the week ending June 18), Iowa had its wettest week (2.13 inches, on average) since October 1998. Finally, another 2.43 inches struck the State from June 19-25, Iowa's wettest week since June 1998. Dubuque, IA experienced their wettest June day (3.84 inches) on the 13th, previously established with a 3.66-inch total on June 14, 1938. In Illinois, the Rock River at Joslin crested 6.55 feet above flood stage on June 16, only 0.33 feet below the February 1997 record. Two days earlier, a levee broke along the river near Erie, IL, flooding areas from Erie downstream to Hillsdale, IL. Farther north, flooding struck the Red River Valley twice in a week. Grand Forks, ND received 4.47 inches of rain from June 12-15, then another 1.84 inches on June 19-20. During the latter event, extensive flooding affected areas in and near Fargo, ND, where the 2-day rainfall reached 6.82 inches. Near Halstad, MN, the Wild Rice River crested nearly 12.5 feet above flood stage on June 26. Fargo's monthly total of 11.72 inches (416 percent [%] of normal) easily surpassed their June record of 9.40 inches, set in 1975.

Wettest Month (Inches) on Record

Location	Total	Normal	Former Record/Month
Rochester, MN	12.52	3.72	12.33 in July 1978

Record-High June Precipitation (Inches)

Location	Total	Normal	Former Record/Year
Fayetteville, AR	14.39	4.97	13.63 in 1982
Rochester, MN	12.52	3.72	11.95 in 1914
Fargo, ND	11.72	2.82	9.40 in 1975
Ft. Wayne, IN	8.55	3.59	8.29 in 1958
Lubbock, TX	8.48	2.75	7.95 in 1967
Cold Bay, AK	8.35	2.10	6.98 in 1952

Wettest June (Inches) at Selected Locations Since...

Location	Total	Normal	Wettest June Since...
Juneau, AK	5.72	3.15	6.22 in 1996
Springfield, IL	7.46	3.43	8.16 in 1994
South Bend, IN	7.75	4.11	10.86 in 1993
San Antonio, TX	7.61	3.81	7.69 in 1987
Norfolk, VA	8.31	3.82	9.72 in 1963
Tucson, AZ	1.56	0.20	2.07 in 1938

In the Northeast, Albany, NY netted a monthly total of 6.69 inches (185% of normal), 3.30 inches of which fell on June 6. Binghamton, NY received 4.68 inches (130% of normal), raising their record-setting January-June total to 27.76 inches (157%). Binghamton experienced their least-sunny June (165 hours, or 36% of the possible sunshine) since a record-low 152 hours in 1972.

While locally heavy showers in the Southeast dampened topsoils, long-term drought persisted. In Tallahassee, FL, rainfall during the first half of 2000 totaled 11.15 inches (35% of normal), or 20.81 inches below normal. In South Carolina, Greenville-Spartanburg's (GSP's) June rainfall deficit of 3.46 inches left their 26-month (May 1998 - June 2000) deficit at 32.84 inches. During that period, GSP's precipitation of 78.89 inches was 71% of normal. Elsewhere, Tampa, FL netted 4.53 inches (83% of normal) during June, following their second-driest January to May period on record (3.11 inches, or 25%). Tampa's 31-day (May 11 - June 10) dry spell ended on the 11th. Although New Orleans, LA received above-normal rainfall (4.78 inches, or 107%) in June, their year-to-date total (14.27 inches) stood 15.71 inches below normal.

The first tropical depression of the Atlantic hurricane season and associated moisture brought heavy rain to the South-Central

States prior to mid-month. The depression formed on June 7 in the southwestern Gulf of Mexico, but dissipated the next day just east of Tampico, Mexico. Nevertheless, tropical showers persisted in the region for several more days. San Antonio's monthly rainfall of 7.61 inches (200% of normal)–more than 5 inches of which fell from June 8-13–represented their highest June total since 1987.

Although dry weather returned to southern Texas toward month's end, excessive rainfall continued to pound the southeastern Plains and adjacent areas. En route to a June-record rainfall of 14.39 inches (290% of normal), Fayetteville, AR netted more than 1 inch of rain on 5 different days (1.09 inches on the 14th, 2.41 inches on the 17th, 2.95 inches on the 21st, 1.11 inches on the 24th, and 4.46 inches on the 28th). Elsewhere in the region, monthly precipitation reached 11.98 inches in Muskogee, OK and 13.33 inches in Highfill, AR.

Cool weather accompanied the wet conditions, especially across the Plains and Midwest. After a record-hot May in Abilene, TX, during which the mercury hit 100ºF on 7 days, there was no 100-degree heat there in June (the highest reading was 96ºF on the 24th). Abilene's average temperature during June was 78.3ºF, 1.9ºF below normal and 1.1ºF below their May reading. In Indiana, Indianapolis' highest temperature during June was 89ºF on the 10th. Indianapolis most recently failed to reach the 90-degree mark during the first half of a year in 1997; their first occurrence that year was July 2. Similarly, Chicago, IL experienced their first June without 90-degree heat since 1960. In addition, Chicago went through May and June without a single dry spell longer than 3 days (their most recent 4-day dry spell stretched from April 24-27).

Farther west, however, very dry conditions persisted on the central High Plains. North Platte, NE received only 1.53 inches (45% of normal) in June, following their driest September-May period (6.46 inches, or 58%) since only 6.23 inches fell in 1952-53. In addition, North Platte's high of 104ºF on June 7 represented their earliest occurrence (by 3 days) of a maximum temperature above 100ºF. A day later, highs soared to 107ºF in Pierre, SD and 101ºF in Redwood Falls, MN.

The heat that briefly struck the Plains and upper Midwest followed an early-month cool spell. Williston, ND logged a low of 30ºF on June 2. Valentine, NE noted a daily-record high of 102ºF on the 8th, just 3 days after a daily-record low of 32ºF. Cool weather was more persistent in New England, where Caribou, ME received a trace of sleet and snow on June 11 (their second-latest observation of frozen precipitation behind June 17, 1964). The following day, Bangor, ME notched a daily-record low of 38ºF.

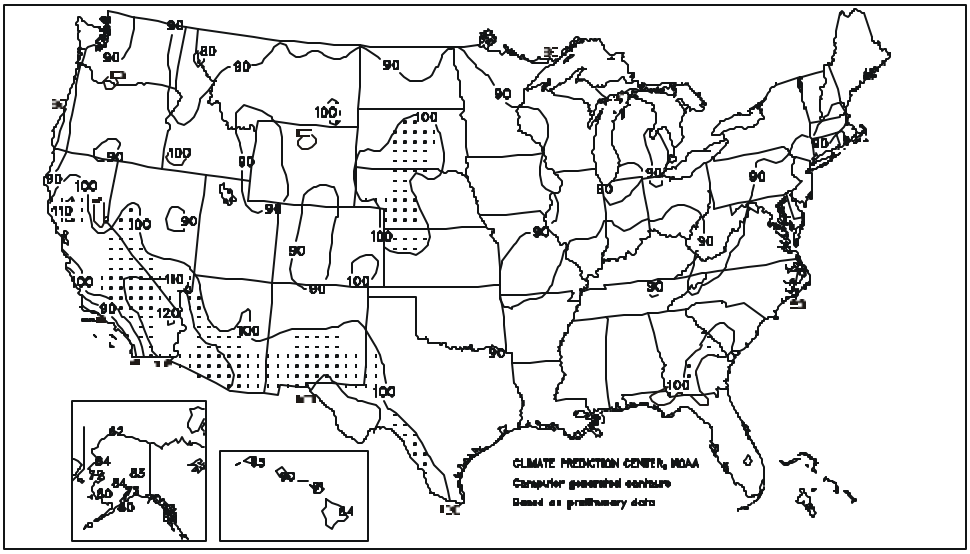
Intense heat arrived along the West Coast at mid-month. San Jose, CA notched consecutive record highs (100 and 109ºF) on June 13-14, the second of which broke their June and all-time records. Elsewhere in California on the 14th, all-time-record highs were set or tied in locations such as Paso Robles (115ºF), Mountain View/Moffett Field (106ºF), and downtown San Francisco/Duboce Park (103ºF). The following day, Death Valley, CA noted 126ºF, just 2ºF shy of the June record, set on June 30, 1994.

Meanwhile in the Southwest, Phoenix, AZ marked their second-earliest monsoon onset (defined in Phoenix as the third consecutive day with an average dewpoint of 55ºF or higher) on June 17. Phoenix's earliest monsoon start date was June 16, 1925, exactly 3 weeks earlier than normal. For the month, showers dropped 0.30 inch (231% of normal) in Phoenix and 1.56 inches (780%) in Tucson, AZ, their wettest June since a record 2.07-inch total in 1938. Even more impressive totals soaked parts of southern New Mexico, where June rainfall reached 5.54 inches (298% of normal) in Ruidoso and 4.58 inches (654%) in Silver City. Although showers helped to suppress wildfire activity in the Southwest, the national wildfire acreage through June (over 1.5 million acres) was more than 170% of the 10-year average.

In Alaska, monthly temperatures generally ranged from 0 to 3ºF above normal. Portions of mainland Alaska turned unfavorably dry, contributing to the spread of numerous late-month wildfires that consumed more than 150,000 acres in the Yukon and Tanana River Valleys. In Fairbanks, where thick smoke arrived during the last week in June, monthly rainfall totaled 0.72 inch (53% of normal). Fairbanks' temperatures–at or above normal on 21 days during June, including a high of 83ºF on the 24th–averaged 1.7ºF above normal. Also on the 24th, Bethel's high of 80ºF represented their highest temperature since July 5, 1997. A day later, St. Paul Island's high of 62ºF eclipsed their previous June record of 61ºF, set on June 27, 1984. Elsewhere, significant precipitation dampened both northern and southern Alaska. On the Arctic Coast, Barrow netted 0.74 inch (264% of normal), including only their third thunderstorm (on the 19th) since 1978. Farther south, Juneau's monthly rainfall, 5.72 inches (182% of normal), was their third-highest June total on record, while Cold Bay's total of 8.35 inches (398%) was a June record.

Extreme Maximum Temperature (°F)

JUN 2000



Widespread showers returned to Hawaii late in the month, providing some drought relief to windward areas and western parts of the State. On the Big Island, June rainfall in Hilo totaled 8.19 inches (132% of normal), boosting their year-to-date total to 43.00 inches (66%). Lihue, Kauai, netted 1.12 inches (66% of normal), lifting their January-June sum to 8.12 inches (37%). On Oahu, however, only light showers (0.03 inch, or 6% of normal) dampened Honolulu, completing the city's driest June since 0.03 inch fell in 1975. Honolulu's 32-month (October 1997 - June 2000) rainfall deficit grew to 41.92 inches, a period during which their rainfall totaled 20.05 inches, or 32% of normal.

Fieldwork

In early June, severe storms moved across the Corn Belt, but most of the precipitation was beneficial for crop development. Corn and soybeans emerged well ahead of normal, and by June 4, 97% of the corn and 80% of the soybeans were emerged. However, emergence was slowed by saturated soils in Wisconsin, Michigan, and Ohio, while moisture shortages hindered emergence and growth in parts of the western Corn Belt.

Triple-digit temperatures accelerated ripening of winter wheat in the central and northern Great Plains before mid-June. In Kansas, 57% of the wheat was ripe on June 11, compared with the 5-year average of 11%. In the Corn Belt, 90% of the wheat was headed in Michigan, 42% was turning color in Ohio, and 28% was ripe in Illinois. In Idaho and Washington, about one-fourth of the acreage entered the heading stage during the week ending June 11.

The winter wheat harvest progressed 1 week ahead of normal, as harvest rapidly progressed in the southern Great Plains and lower Mississippi Valley. Producers in Oklahoma and Arkansas harvested more than one-third of the acreage during the week ending June 11. Harvest also accelerated in California, Missouri, and North Carolina. Harvest began in Kansas, where growers harvested 9% of the acreage, and along the Ohio River Valley in the southern Corn Belt. Conditions deteriorated in the central and northern Great Plains due to hot weather and increasing moisture shortages.

Cotton planting and development progressed at a normal pace through mid-June, with 88% planted and 11% squaring on June 11. Development was most advanced in Arizona and California, but acreage squaring accelerated in the lower Mississippi Valley due to warm weather. Increasing moisture shortages stressed cotton in most areas of the Southeast and lower Mississippi Valley and parts of the southern High Plains. Meanwhile, rain provided adequate moisture in eastern Oklahoma and scattered parts of northern Texas.

Spring wheat and barley developed well ahead of normal, as timely showers aided emergence and stimulated growth across the Great Plains early in the month. In the Pacific Northwest, development continued even though cooler than normal weather prevailed. On June 11, spring wheat was 7% headed, barley was 12% headed, and oat acreage was 21% headed. Above-normal temperatures aided oat development in Iowa and Nebraska, where nearly two-thirds of the crop was at or beyond the heading stage.

Heavy rain boosted soil moisture supplies and improved crop conditions in the Corn Belt and parts of the southern Great Plains and lower Mississippi Valley near mid-month. Later in the month, strong thunderstorms provided additional moisture for parts of the Corn Belt and Great Plains. However, crops in parts of the northern and eastern Corn Belt deteriorated due to excessive soil moisture, while parts of the western and southern Corn Belt remained too dry.

As the end of June approached, winter wheat harvest rapidly progressed in the Great Plains and accelerated in the Corn Belt. Harvest progressed to 52% complete on June 25, and at 80%, the Kansas wheat harvest was four times the normal pace for this date. Harvest rapidly advanced in Illinois and Missouri, even though rain temporarily halted progress. The harvest gained momentum in Nebraska and began in Ohio and Colorado. Mostly dry conditions aided late-month harvest progress in Arkansas, California, and Texas.

Mostly light to moderate showers and some isolated heavy rainfall eased moisture shortages and boosted crop conditions in the Southeast near the end of June. Above-normal temperatures accelerated cotton development and by June 25, 59% was at or beyond the squaring stage, well ahead of last year's pace and the 5-year average. In the lower Mississippi Valley, cotton squaring rapidly progressed, despite seasonably cool weather. Acreage setting bolls advanced to 11%, as progress jumped 13 percentage points in Louisiana and Arizona during the week ending June 25. Below-normal temperatures briefly slowed development in Texas.

Four percent of the corn acreage was at or beyond the silking stage on June 25, slightly ahead of this date last year and the 5-year average for this date. Fields rapidly entered the silking stage in Missouri, even though temperatures averaged slightly below normal. A few fields entered the silking stage in Illinois, Kansas, and Nebraska.

Soybean development remained nearly 1 week ahead of the 5-year average, with 95% of the acreage emerged and 8% of the crop blooming on June 25. Crop development was most advanced in the lower Mississippi Valley, with 35 and 43% blooming in Louisiana and Mississippi, respectively. Despite below-normal temperatures, development accelerated in the Corn Belt, with more than 10% of the crop blooming in Illinois, Indiana, Iowa, Kansas, and Missouri. A few fields progressed to the blooming stage in the northern Great Plains.

Widespread, moderate to heavy rain increased soil moisture supplies and aided crop conditions in the southern and western Corn Belt late in the month. In the central and eastern Corn Belt, many fields suffered due to saturated soils and standing water. Excessive moisture also damaged some fields in Iowa and Nebraska, while parts of both States remained too dry. Warm, dry weather benefited corn fields in Michigan.

Heavy rain and severe flooding damaged soybean fields in North Dakota and parts of the Corn Belt late in the month. In Michigan, dry weather reduced surplus moisture supplies late in the month and significantly improved crop conditions. In other areas of the Corn Belt, especially in Missouri, much-needed rain improved conditions.