



Plato Township

June 2021 - Status Report

SEASON PERSPECTIVE

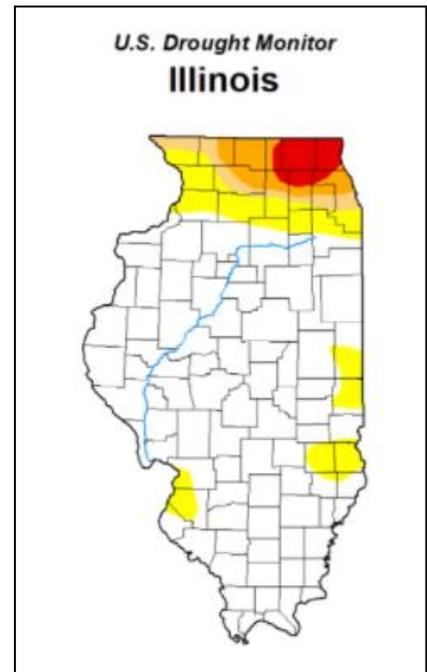
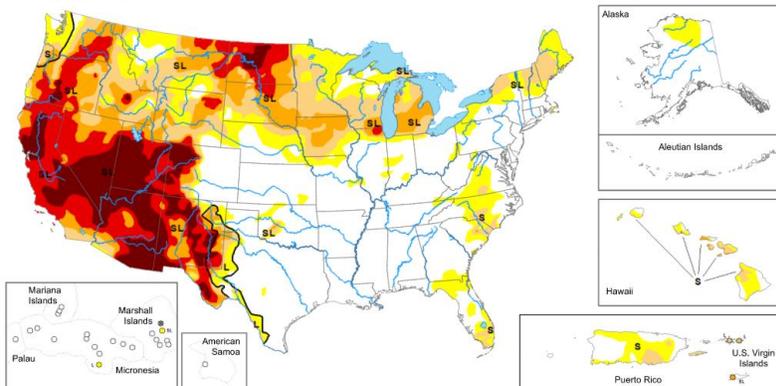
Introduction. Weather conditions critically affect the seasonal mosquito population. Excessive rainfall periods trigger hatches of floodwater mosquitoes (*Aedes vexans*), the dominant annoyance species in northern Illinois that has a flight range of 15 to 20 miles. The other target species is the northern house mosquito (*Culex pipiens*), the primary vector of West Nile virus (WNV) that flourishes under stagnant water and drought conditions.

Drought Conditions Intensified in Northeastern Illinois!

As of mid-June, the following United States Drought Monitor map depicts severe to extreme drought conditions in northeastern Illinois:

Map released: June 17, 2021

Data valid: June 15, 2021



Intensity and Impacts

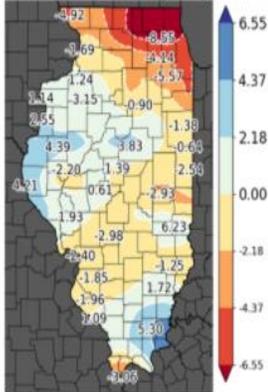
- None
- D0 (Abnormally Dry)
- D1 (Moderate Drought)
- D2 (Severe Drought)
- D3 (Extreme Drought)
- D4 (Exceptional Drought)
- No Data

On June 17th, the Illinois State Climatologist reported the persistent warm and dry first half of June worsened drought conditions in northern Illinois. May wrapped up an extremely dry spring. The period of March to May was the third driest spring on record in Chicago, and driest since the 1934 Dust Bowl era. For the first time since October of 2012, the Drought Monitor shows



“extreme drought” in parts of Illinois, including Lake, McHenry, Boone, DeKalb, Kane, and Cook Counties. The combination of the spring and first half of June periods have left northeast Illinois with an 8-to-10-inch precipitation deficit since March 1st as shown by the following map:

1 Mar 2021 thru 15 Jun 2021 Precipitation Departure [inch]
2021 is compared with 1951-2020 Climatology to compute departures



Extensive precipitation deficits have been exacerbated by the extreme high temperatures during the first half of June. During this period, the temperature in Chicago was 6.9° above normal, the warmest on record. So far in 2021, there have been 8 days with the high temperature over 90°, compared to 5 last year and a normal amount of 3 days.

The timing of this drought is different than the “droughts of record” of 1988 and 2012 such that the “peak” of those past droughts was later in the summer in July and August.

Between June 20th and 26th, the extreme drought condition was improved by a series of rains that totaled over 4 inches. During this period, more rain fell in the Chicago area than in the months of April and May combined. However, because of the extreme moisture deficit, the National Weather Service stated the drought was improved, but not broken. Floodwater mosquito hatches will likely result in an increase in annoyance conditions in early July.

Operations Plan. Accordingly, Clarke operations will continue to focus on permanent water larval development habitats for the control of *Culex* species. Floodwater mosquitoes (*Aedes vexans*) are not anticipated to be a major factor. **Truck ULV adulticide applications will be recommended to protect the public health, as warranted by surveillance data, especially as WNV+ mosquitoes are detected.** Community-wide spraying for mosquito annoyance conditions will be warranted in July because of significant late June rainfalls.

Floodwater Mosquito Brood Prediction – O’Hare International Airport

The floodwater mosquito (*Aedes vexans*) is the key nuisance species in the Chicagoland area. Distinct hatches of floodwater mosquito populations, or broods, are triggered by significant rainfall events. The Clarke Brood Prediction Model calculates peak annoyance periods based on rainfall and temperature data collected from weather stations in your area.



Weather Station Name	Rain Date	Rain Amount	Brood Prediction Date
Elgin	04/08/2021	0.41	05/06/2021
Elgin	05/25/2021	1.26	06/12/2021
Elgin	05/28/2021	0.54	06/14/2021
Elgin	06/20/2021	1.82	07/04/2021
Elgin	06/24/2021	1.23	07/08/2021
Elgin	06/25/2021	1.29	07/09/2021
Elgin	06/26/2021	0.43	07/10/2021
Elgin	06/28/2021	0.91	07/12/2021

MOSQUITO-BORNE DISEASE UPDATE

West Nile Virus (WNV)

2021 – USA. As of June 15, 2021, a total of 4 cases of West Nile virus disease in people have been reported to CDC. Of these, 5 (100%) were classified as neuroinvasive disease (such as meningitis or encephalitis) and 0 (0%) were classified as non-neuroinvasive disease. The four human cases are in AZ (2), AR (1), and IA (1). The AR human case was a fatality.

2021 – Illinois. Drought conditions are conducive to WNV development. The northern house mosquito (*Culex pipiens*) flourishes in hot and dry weather conditions. During the 2012 drought, the State of Illinois reported 290 WNV human cases, including 12 fatalities. On June 16th, Dr. Ngozie Ezike, Illinois Department of Public Health Director (IDPH), stated: “We are started to see WNV make its annual appearance.” As of late June, WNV-positive *Culex* mosquitoes have been reported in Cook County (Berkeley, LaGrange and Skokie), and Lake County (Lake Bluff).

The following chart summarizes IDPH WNV 2021 surveillance data, as compared to historical data from 2020 and 2012, the last year of a state-wide outbreak:



West Nile Virus Activity Comparison and Summary (as of June 30, 2021)

	Number Collected in all Counties	# WNV Positives	% WNV Positives
2021 Data as of June 30			
2021 Mosquito Surveillance Samples	3,616	8	0.2%
2021 Bird Surveillance Samples	35	0	0%
2021 WNV Positive Counties	3		
2021 Human Cases as of June 30	0		
2020 Historical Data as of June 30 for Comparison			
2020 Mosquito Surveillance Samples	4,376	13	0.3%
2020 Bird Surveillance Samples	56	2	3.6%
2020 WNV Positive Counties	5		
2020 Total Human Cases	39		
2012 Historical Data as of June 30 for Comparison			
2012 Mosquito Surveillance Samples	4,030	106	2.6%
2012 Bird Surveillance Samples	301	18	6.0%
2012 WNV Positive Counties	20		
2012 Total Human Cases	290		