



Municipality

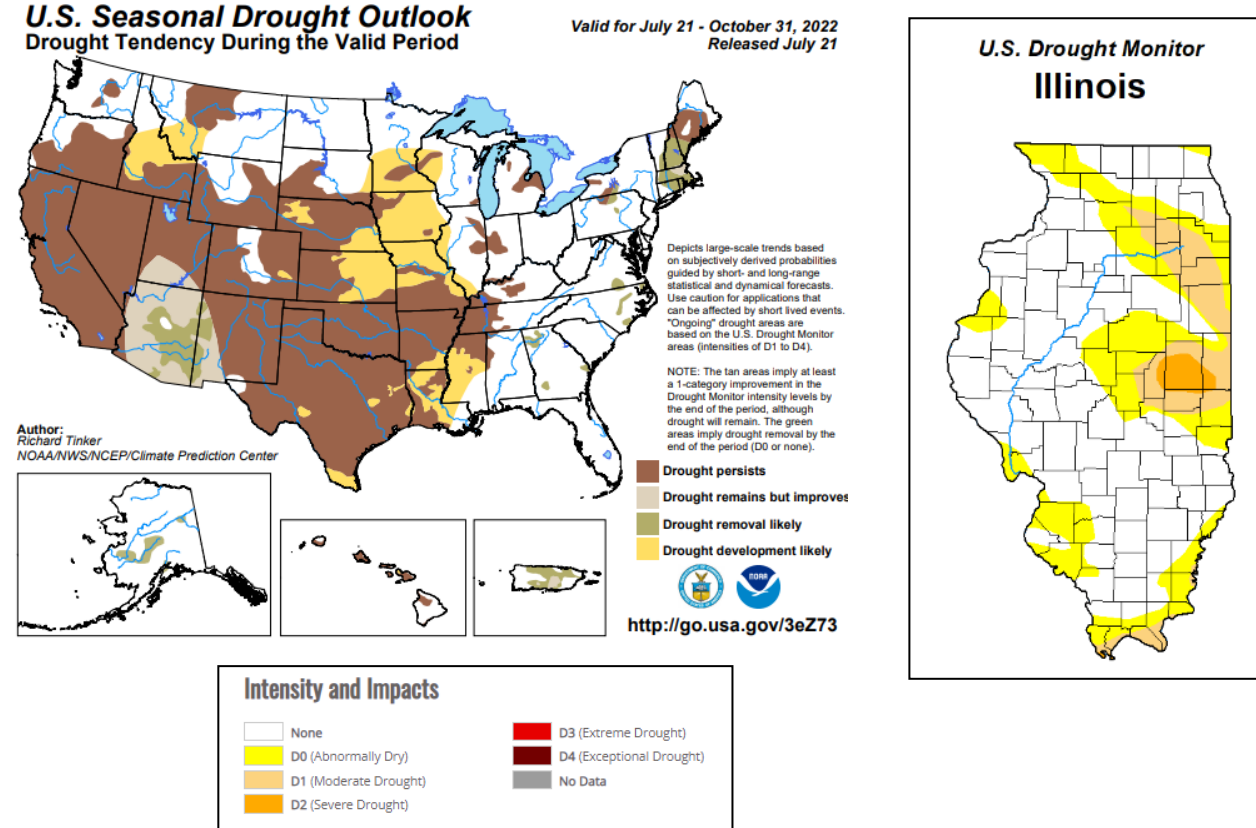
July 2022 - Status Report

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.

Abnormally Dry Soil Moisture Conditions Persist Across Portions of Northern Illinois

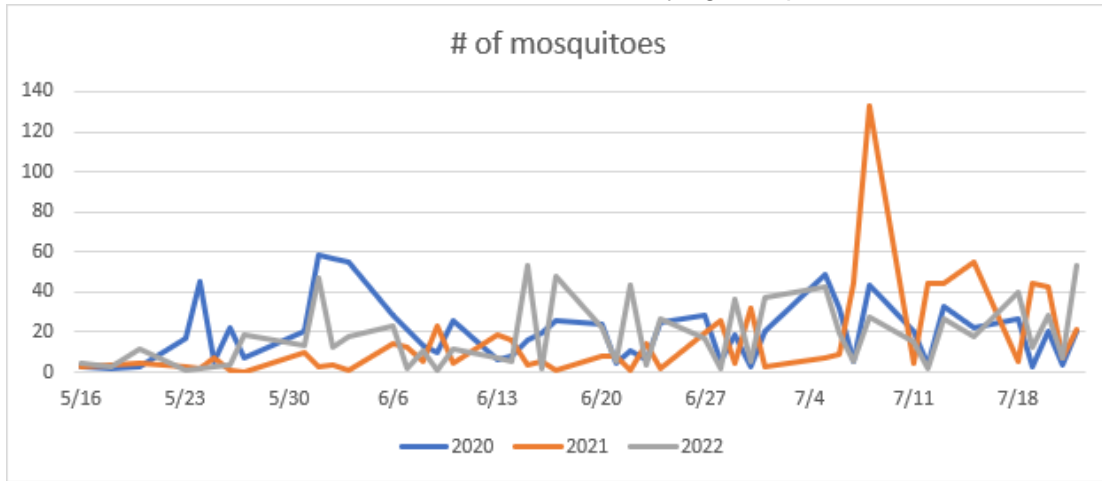
The following United States Drought Outlook map shows some improvement for Illinois. The current Illinois Drought Monitor map depicts there are abnormally dry conditions persisting across portions of Northern Illinois with drought development likely:





The dry conditions have triggered an alarming surge in the *Culex* mosquito population positive for WNV. For example, in July across 40 Cook County municipalities, 158 WNV+ mosquito samples have been reported with 89.2% occurring since July 1st on the Illinois Department of Public Health website ([West Nile Virus in Illinois - Surveillance](#)). Moreover, 102 of the 158 samples were reported during the last half of July. Due to the predominantly hot and dry pattern, *Culex* mosquitoes and WNV risk are expected to increase under stagnant water conditions.

The following year-to-date chart compares the 2022 year-to-date mosquito population levels to 2020 and 2021 from our network of 100 New Jersey light traps in northeastern Illinois:



As shown, the 2022 population has been lighter than previous years reflecting the low floodwater mosquito population. Heavy rainfalls on July 22nd and 23rd, totaling just under 2 inches, could produce significant floodwater mosquito (*Aedes vexans*) annoyance in early August.

Operations Plan. Clarke operations will continue to focus on permanent larval development habitats for the control of the *Culex* mosquito, the WNV disease vector. To protect public health, truck ULV adulticide applications will be recommended as warranted by surveillance data for WNV and annoyance levels per the following Centers for Disease Control & Prevention (CDC) strategy guidelines:

“The objective of the adult mosquito control component of an IVM (Integrated Vector Management) program is to complement the larval management program by reducing the abundance of adult mosquitoes in an area, thereby reducing the number of eggs laid in breeding sites. Adult mosquito control is also intended to reduce the abundance of biting, infected adult mosquitoes in order to prevent them from transmitting WNV to humans and to break the mosquito-bird transmission cycle.” (West Nile Virus in the United States: Guidelines for Surveillance, Prevention, and Control. Page 35. June 2013); [wnvGuidelines.pdf \(cdc.gov\)](#)



Floodwater Mosquito Brood Prediction

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
Will Co.	06/25/2022	0.50	07/10/2022
Will Co.	07/01/2022	0.75	07/17/2022
Will Co.	07/15/2022	1.13	08/01/2022
Will Co.	07/22/2022	0.40	08/05/2022
Will Co.	07/23/2022	0.90	08/06/2022
Will Co.	07/24/2022	0.57	08/07/2022

MOSQUITO-BORNE DISEASE UPDATE

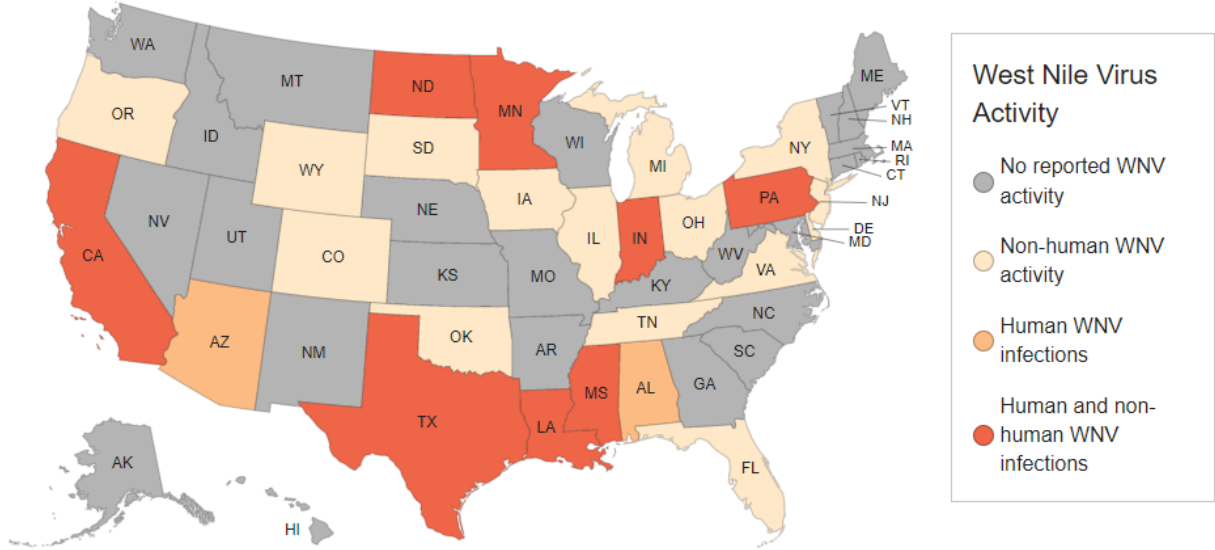
West Nile Virus (WNV)

2022 – USA. As of July 26th, thirty (30) USA human WNV cases have been reported to the CDC in thirty (30) states, including two (2) fatalities in AZ.



West Nile Virus Activity by State 2022

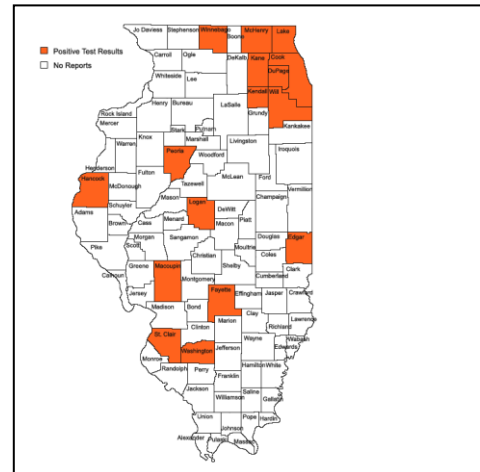
United States (as of July 26, 2022)



2022 – Illinois. As of July 20th, no Illinois human WNV cases have been reported to IDPH. The following chart compares 2022 to the same YTD periods in 2021 and 2012 (the last year of a major WNV outbreak):

West Nile Virus Activity Comparison and Summary (as of July 20, 2022)

	Number Collected in all Counties	# WNV Positives	% WNV Positives
2022 Data as of July 20			
2022 Mosquito Surveillance Samples	5,918	82	1.4%
2022 Bird Surveillance Samples	102	1	1.0%
2022 WNV Positive Counties	15		
2022 Human Cases as of July 20	0		
2021 Historical Data as of July 20 for Comparison			
2021 Mosquito Surveillance Samples	6,789	105	1.5%
2021 Bird Surveillance Samples	63	2	3.2%
2021 WNV Positive Counties	12		
2021 Total Human Cases	64		
2012 Historical Data as of July 20 for Comparison			
2012 Mosquito Surveillance Samples	8,858	1231	13.9%
2012 Bird Surveillance Samples	332	26	7.8%
2012 WNV Positive Counties	29		
2012 Total Human Cases	290		





OPERATIONS UPDATE

Services Performed - July 2022

Service Item	Job Date
DUET Truck ULV	07/08/2022

Upcoming August 2022 Operations

Service Item	Number of Treatments
DUET Truck ULV	1
