Plainfield Township

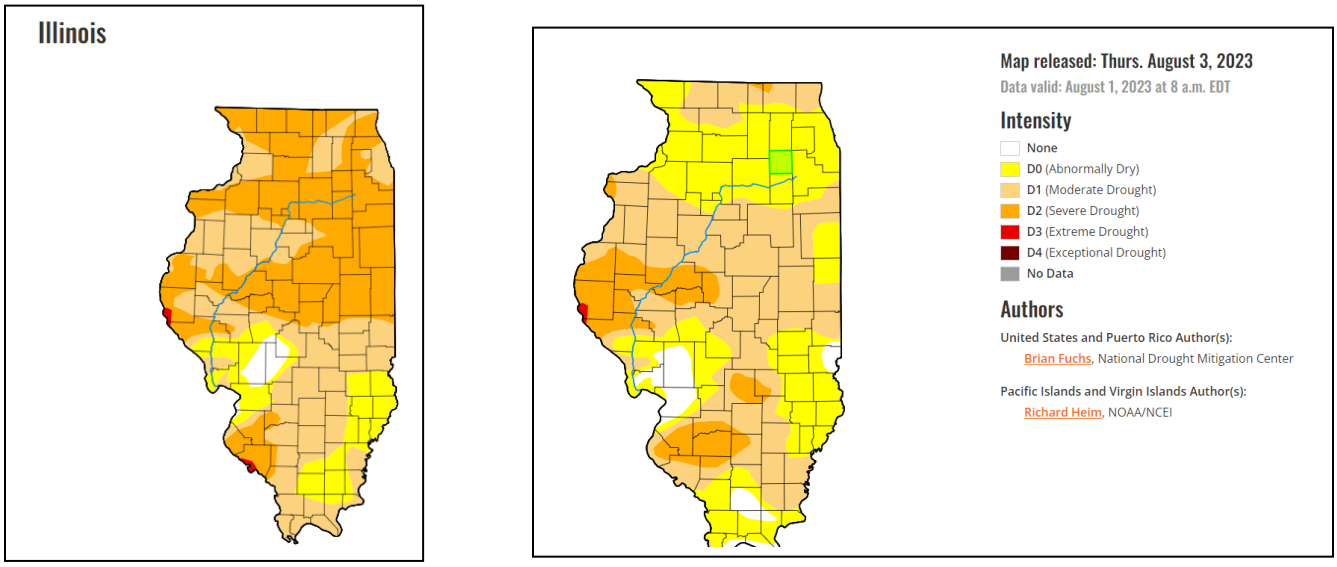
August 2023 - Status Report

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.

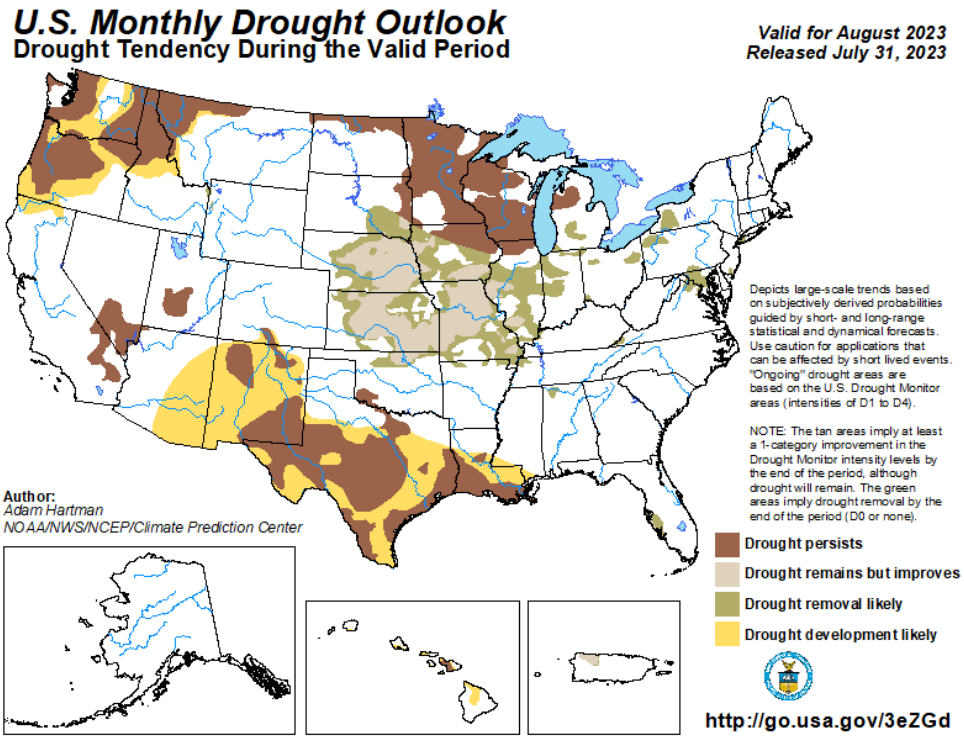
July rainfall improves soil moisture and drought conditions.

A series of late June and July rainfalls, totaling 6.03 inches at O'Hare Airport, improved the northern Illinois soil moisture and drought conditions as shown by the following Illinois Drought Monitor maps for July 4th vs. August 1st h https://droughtmonitor.unl.edu/:



Illinois Drought Conditions: 7/4 vs. 8/01

For the remainder of the 2023 mosquito season, the following U.S. Seasonal Drought Outlook map depicts a drought reversal and the return to normal soil moisture conditions:



As a result, the floodwater mosquito (*Aedes vexans*) is expected to produce significant periods of mosquito annoyance as the season progresses into Labor Day. In addition, WNV typically peaks in August and is expected to be a significant factor for the balance of the 2023 season. As of August 3rd, the following chart summarizes the number of WNV-positive *Culex* mosquito samples in northern Illinois:

County	No. of WNV-positive Culex Samples
Boone	6
Cook	571
DuPage	32
Kane	10
Lake	29
McHenry	6
Will	16

Operations Plan. Clarke operations will focus on permanent water larval development habitats for the control of *Culex,* as well as floodwater mosquito sites. 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. Floodwater mosquito population hatches, 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	07/02	0.52	07/18/2023
Will Co	07/07	0.45	07/25/2023
Will Co	07/11	1.60	07/28/2023
Will Co	07/12	0.70	07/29/2023
Will Co	07/27	0.71	08/10/2023
Will Co	07/28	0.68	08/11/2023
Will Co	08/05	0.58	08/19/2023

New Jersey Light Trap Counts

(*Red numbers indicate an annoyance level)

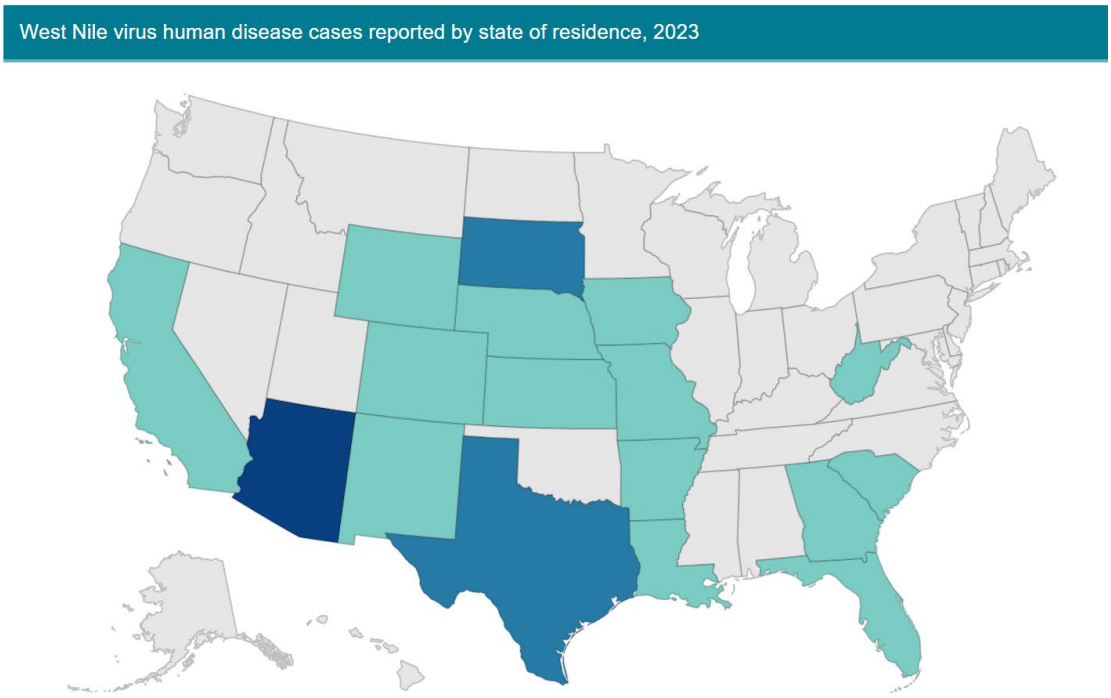
Trap Location	7/3	7/5	7/7	7/10	7/12	7/14	7/19	7/21	7/24	7/26
24711 Easy St	4	3	2	0	6	15	7	11	8	13

Trap Location	7/28	7/31	8/02	8/04
24711 Easy St	21	0	6	2

MOSQUITO-BORNE DISEASE UPDATE

West Nile Virus (WNV)

2023 – USA. As of August 1st, ninety (90) USA human WNV cases have been reported to the CDC in the following seventeen states: AR-AZ-CA-CO-GA-IA-LA-MD-MO-NE-NM-OR-SC-SD-TX-WV-WY. Forty-nine (49) of the cases have been diagnosed in AZ.



2023 – Illinois. To date, the Illinois Department of Public Health has reported 711 WNV-positive mosquito samples (8.2% positive) of the 8,716 samples tested from 35 counties. No human cases of West Nile virus have been reported in Illinois so far this year.

West Nile Virus Activity Comparison and Summary (as of August 3, 2023)

	Number Collected in all Counties	# WNV Positives	% WNV Positives
2023 Data as of August 3			
2023 Mosquito Surveillance Samples	8,716	711	8.2%
2023 Bird Surveillance Samples	85	5	5.9%
2023 WNV Positive Counties	35		
2023 Human Cases as of August 3	0		
2022 Historical Data as of August 3 for Comparison			
2022 Mosquito Surveillance Samples	9,440	562	6.0%
2022 Bird Surveillance Samples	120	3	2.5%
2022 WNV Positive Counties	20		
2022 Total Human Cases	34		
2012 Historical Data as of August 3 for Comparison			
2012 Mosquito Surveillance Samples	11,235	2,455	21.9%
2012 Bird Surveillance Samples	398	56	14.1%
2012 WNV Positive Counties	34		
2012 Total Human Cases	290		

OPERATIONS UPDATE

Services Performed - July & Early August 2023:

Service Item	Completion Date(s)
Natular G 5#/Acre Hand	07/10/2023
Targeted Site Larval Insp Serv	07/10/2023
Biomist 3+15 Truck ULV	07/17/2023
Natular G 5#/Acre Hand	07/24/2023
Targeted Site Larval Insp Serv	07/24/2023
Complete Site Larval Insp Serv	08/07/2023

Upcoming August 2023 Operations

Work Type	Number of Treatments
Complete Site Larval Insp Serv	1
Targeted Site Larval Insp Serv	2