



City of Geneva

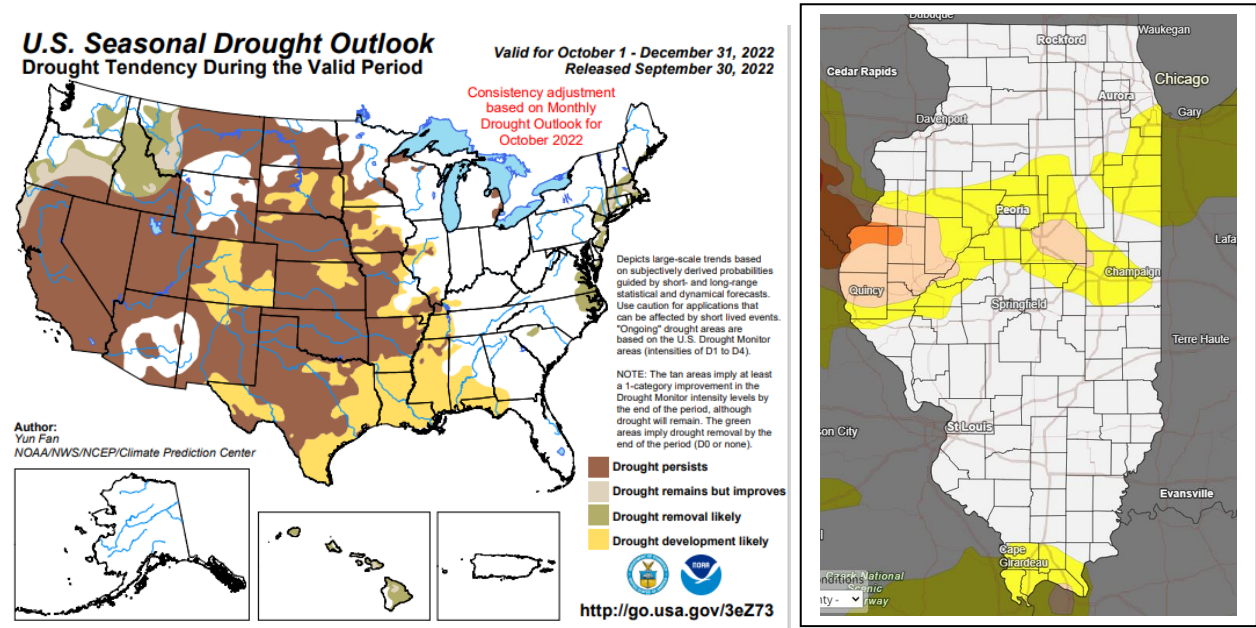
September 2022 - Status Report

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.

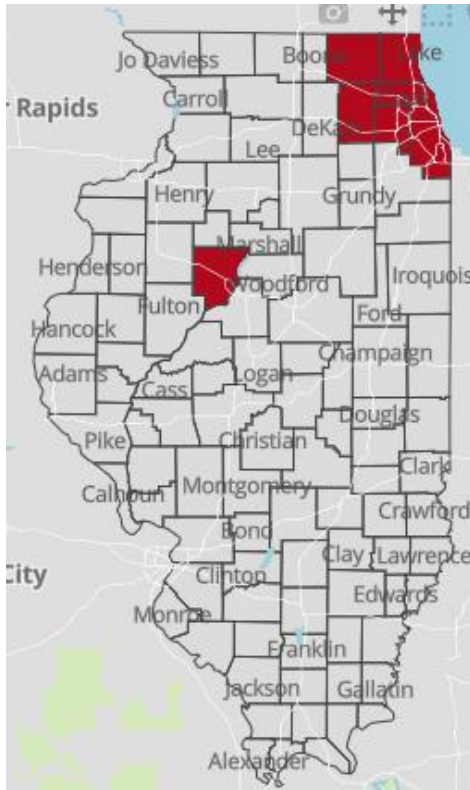
Soil Moisture Conditions Improved As Late Season West Nile Virus Human Cases Increase

Significant rainfalls in late August and early September improved the soil moisture deficit across northern Illinois. The dominant dry conditions in July and August curtailed the impact of the 2022 floodwater mosquito population. On the other hand, the *Culex* mosquito and WNV disease vector, develops under dry conditions and caused late season WNV transmission to humans.





As of September 28th, the Illinois Department of Public Health has reported twenty (20) human cases in six (6) counties, as shown by the following map and chart:



COUNTY	CASES
Cook	13
DuPage	3
Kane	1
Lake	1
McHenry	1
Peoria	1
Total	20

Operations Plan. Late July through September is the critical time to protect the public health from WNV. Due to the dry weather pattern, Clarke operations focused on floodwater on *Culex* habitats, including the completion of catch basin applications and monitoring of wastewater treatment plants, and stagnant water areas. **Truck ULV adulticide applications were recommended, as warranted by surveillance data, to proactively suppress the potential of WNV transmission to the human population.**



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
Elgin	08/19/2022	0.83	09/07/2022
Elgin	08/28/2022	1.45	09/19/2022
Elgin	09/11/2022	1.15	10/07/2022
Elgin	09/18/2022	0.54	10/02/2022

New Jersey Light Trap Counts

(*Red numbers indicate an annoyance level)

M = Malfunction

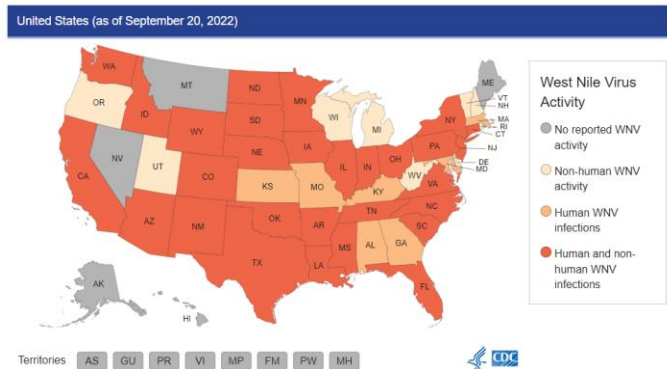
Trap Location	9/02	9/06	9/07	9/09	9/12	9/14	9/16
37W681 Kaneville Rd	41	3	14	10	0	6	19
Eastside Dr Fire Station	6	0	6	0	0	4	6
Westhaven & Heartland well site	9	3	11	10	0	3	12
Wheeler Dr & Stevens St	30	22	30	28	2	11	24

MOSQUITO-BORNE DISEASE UPDATE

West Nile Virus (WNV)

2022 – USA. As of September 20th, four hundred twenty (420) USA human WNV cases have been reported to the CDC in thirty-six (36) states, including twenty-five (25) fatalities.

West Nile Virus Activity by State 2022

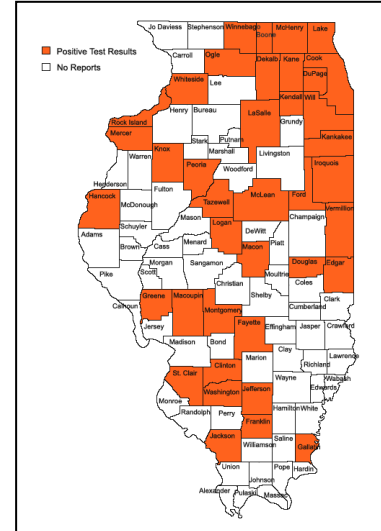




2022 – Illinois. As of September 28th, twenty (20) human WNV cases have been reported to IDPH in Cook, DuPage, Kane, Lake, McHenry and Peoria Counties. The DuPage County Health Department has reported human cases in Medinah, Oakbrook and Woodridge. The following chart compares 2022 to the same YTD periods in 2021 and 2012 (the last year of a major WNV outbreak):

West Nile Virus Activity Comparison and Summary (as of September 28, 2022)

	Number Collected in all Counties	# WNV Positives	% WNV Positives
2022 Data as of September 28			
2022 Mosquito Surveillance Samples	15,136	2,292	15.1%
2022 Bird Surveillance Samples	154	13	8.4%
2022 WNV Positive Counties	41		
2022 Human Cases as of September 28	20		
2021 Historical Data as of September 28 for Comparison			
2021 Mosquito Surveillance Samples	15,857	2,634	16.6%
2021 Bird Surveillance Samples	157	27	17.2%
2021 WNV Positive Counties	41		
2021 Total Human Cases	64		
2012 Historical Data as of September 28 for Comparison			
2012 Mosquito Surveillance Samples	19,339	5,003	25.9%
2012 Bird Surveillance Samples	565	124	21.9%
2012 WNV Positive Counties	50		
2012 Total Human Cases	290		



OPERATIONS UPDATE

Services Performed - September 2022:

Service Item	Job Date(s)
Natular G 5#/Acre Hand	09/12/2022
Targeted Site Larval Insp Serv	09/12/2022

No Upcoming Services for 2022