

2020 NEWA Annual Report for New York State Mesonet

Project Leaders

Dan Olmstead¹, Juliet Carroll¹, and Jerry Brotzge²

¹ NYS IPM Program, Cornell University, Geneva, NY

² NYS Mesonet, University at Albany. Albany, NY

Introduction

The Network for Environment and Weather Applications (NEWA) is a collection of online insect pest and plant disease management tools build to provide NY growers with short-term crop risk assessments. Each tool or resource uses real-time weather data streamed from 10 weather stations across the state and can be accessed at <http://newa.cornell.edu>.

2020 marked the third year of collaboration between NEWA, which is part of the New York State IPM Program and Cornell Cooperative Extension at Cornell University, and the New York State Mesonet (NYSM), part of University at Albany. A 2018 pilot project that linked 10 data streams from key NYSM locations continued in 2020.

The following sections summarize NEWA digital outreach and impact among online users located within NY for the 2020 calendar year, based on internet service provider IP address physical location.

Definitions

User. A visitor who has initiated a session on the NEWA website for more than 0.5 seconds to exclude web bots and crawlers. These small web programs are often used by search engines to catalog websites, for example. Unfortunately, they are sometimes mistaken for real ‘Visits’ or ‘Users’.

Returning user. A visitor who has previously viewed the NEWA website within the past two years from the same device without clearing their cache where a unique ‘cookie’ id is stored.

Contact hours. The sum total of time spent, across all users, interacting with a specified NEWA resources. This value follows a HH:MM:SS second format where HH are hours, MM are minutes, and SS are seconds.

NYS Mesonet Stations Overview

Active stations as of 12/31/20	10
Stations added in 2020	0
Stations removed in 2020	0

Annual Sitewide Usage Summary for NYS Mesonet

Year	Users	Returning users	Contact hours
2020	224	208	03:08:04
2019	218	198	02:47:04
2018	166	157	03:15:26

Apple Resources

Apple diseases

Year	Users	Returning users	Contact hours
2020	17	17	00:00:16
2019	17	17	00:07:28
2018	16	16	01:36:56

Apple insects

Year	Users	Returning users	Contact hours
2020	2	2	00:00:00
2019	3	3	00:07:28
2018	6	6	00:10:00

Apple Carbohydrate Thinning

Year	Users	Returning users	Contact hours
2020	4	4	00:00:00
2019	2	2	00:00:00
2018	7	7	00:32:49

Grape Resources

Grape diseases and grape berry moth

Year	Users	Returning users	Contact hours
2020	7	7	00:01:23
2019	9	9	00:00:14
2018	10	10	00:11:46

Weather Resources

Daily summaries

Year	Users	Returning users	Contact hours
2020	11	10	00:32:42
2019	10	10	00:00:57
2018	11	10	00:42:41

Hourly data

Year	Users	Returning users	Contact hours
2020	25	23	00:34:52
2019	22	20	00:09:06
2018	11	10	00:07:08

Degree day monthly summaries

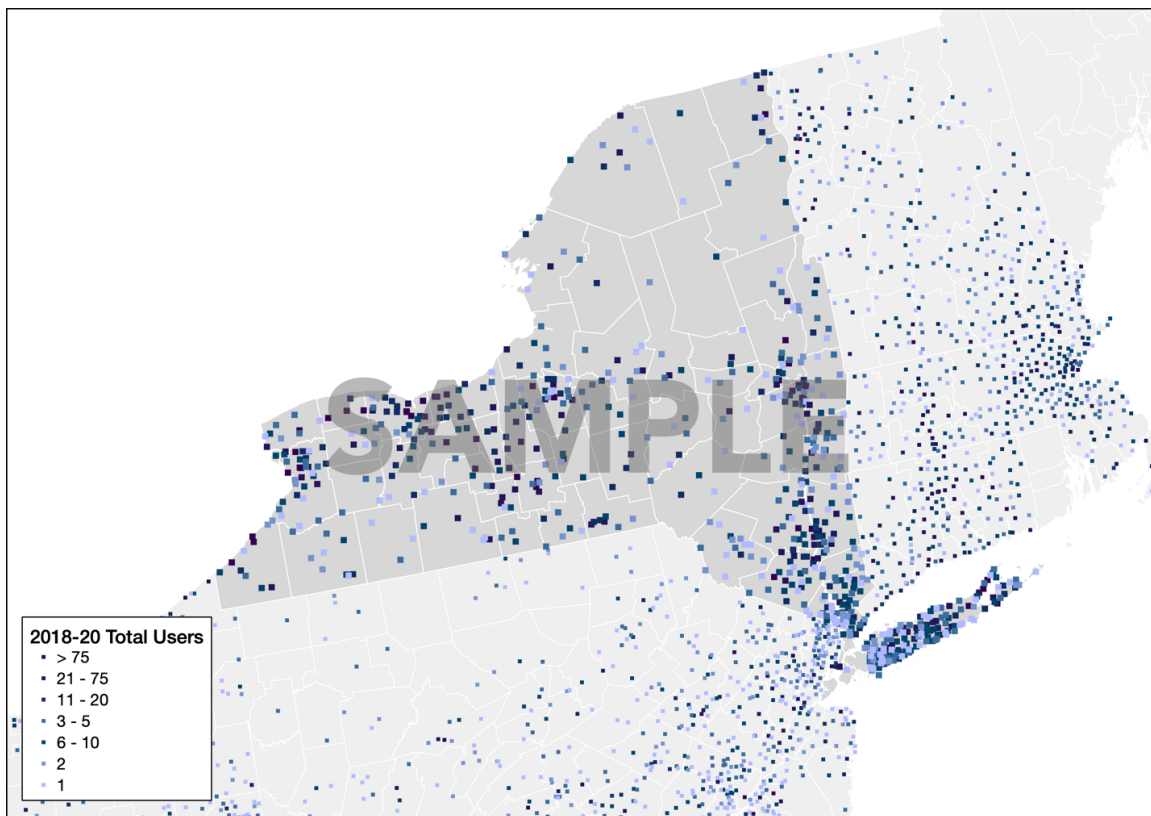
Year	Users	Returning users	Contact hours
2020	6	6	00:00:00
2019	6	6	00:00:00
2018	9	9	00:10:50

Degree day calculator

Year	Users	Returning users	Contact hours
2020	6	6	00:00:00
2019	9	9	00:00:00
2018	17	17	00:09:07

User Density and Geography

The example map below is generated from user data across all weather stations linked to NEWA in New York. The next annual report in 2021 will present similar results obtained from NYS Mesonet locations only.



Conclusions

Users who accessed NYSM pilot locations between 2018 and 2020 most often accessed the apple diseases models, followed by daily summaries, hourly data and apple carbohydrate thinning, respectively. Of the 10 locations, two are in grape-growing regions, one is in the Lake Ontario apple-growing region, one is on a berry farm and the other six are located in areas where field crops are primarily grown. Of these crops, only grapes and apples have a wealth of IPM tools on NEWA. This partnership provides an excellent opportunity to engage with new audiences for NEWA and explore the needs for IPM tools in new commodity areas, especially field crops.

Three years of collaboration demonstrates that broader collaboration is technologically within reach. NYS Mesonet at UAlbany has generously agreed to link an addition 116 weather stations with NEWA in the coming year. This will be possible through a data sharing agreement between University at Albany and Cornell University. This report will serve as an important resource to document the reach and impact of NYS Mesonet physical and digital resources on New York State's agricultural economy across multiple commodities in coming years.