# Office of the New Jersey State Climatologist

# We assist decision makers, and so much more

Dr. David A. Robinson Distinguished Professor, Department of Geography & New Jersey State Climatologist Rutgers University

# http://njclimate.org



# **Locals Trust Locals**

- •Trusted relationships with state and local communities have developed over many years of service
- •Climate information must be put into context for each client
- •State Climate Offices are experts at doing this because they know the local climate, economy and geography

# Understanding NJ Weather & Climate Extremes

















## Examples of Activities Over the Course of a Year

#### Within Rutgers

Cooperate with colleagues on integrated coastal environmental monitoring, solar and offshore wind energy efforts, integrated solar and agriculture project, etc. Provide climate data to colleagues (extension, faculty, students) Presentations at meetings/workshops, guest lectures

## Assisting State Government

Collaborate with, prepare reports for, and contribute to efforts of numerous state agencies: NJ Department of Environmental Protection NJ Department of Transportation NJ Office of Emergency Management NJ Board of Public Utilities NJ Highlands Commission

#### Assisting Federal Government

Collaborate with, prepare reports for, and contribute to efforts of numerous federal agencies: Federal Emergency Management Agency National Drought Monitor US Department of Agriculture US Forest Service NOAA Eastern Region Climate Team NOAA Northeast Regional Climate Center

### **Outreach/Communication**

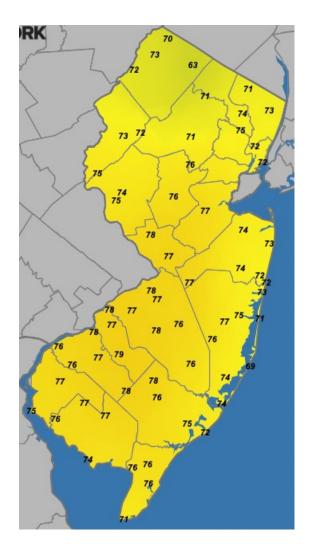
Maintain websites and social media accounts Provide more than 200 media interviews annually Respond to over 200 data/information requests annually Post monthly, seasonal and annual NJ weather/climate reports Presentations to several dozen schools, libraries, NGOs, etc. annually

## Data gathering/archiving/dissemination activities

Maintain Rutgers New Jersey Weather Network. Currently 67 active stations. (approximately one half billion observations recorded in 2022)
Contribute daily NJWxNet observations to the Network for Environment and Weather Applications (NEWA) agricultural program
Oversee the NJ Community Collaborative Rain, Hail and Snow Network
Maintain NJ Snow Event Totals database and website

# Rutgers New Jersey Weather Network

# njweather.org



#### NJWxNet stations measure:

Air temperature Wind speed and direction Dew point/Relative humidity Precipitation Barometric pressure Solar radiation Soil temperature Soil moisture Snow depth

#### Solar power

#### Cellular communications

Ability for expansion built into station design



Pittstown, NJ Rutgers Snyder Research and Extension Farm

## Product development

In cooperation with the US Forest Service

Employing data from: Rutgers NJWxNet NIFC RAWS

Updated every 5 minutes

Site	Air Temp	RH	Wind Sp	Peak Gust	Wind Dir	10hr Fuel Moisture	10hr Fuel Temp	24hr Precip
Ancora Hospital	75	46	10	25	wsw	13	86	
Berkeley Twp.	76	41	17	29	wsw		79	0.12
Coyle Field	78	42	11	26	w	12	90	
Cream Ridge	73	42	9	26	WNW	10	80	0.00
Forsythe	78	43	11	23	wsw			
Fort Dix I	75	40	8	20	wsw	11		0.16
Hammonton	74	37	13	26	WNW			0.09
Howell	75	41	4	22	NNW			0.06
Jackson	76	45	7	21	WNW	13	84	
Lakehurst		40	21	36	w			0.08
Oswego Lake	75	42	17	26	wsw		80	0.16
Piney Hollow	73	43	11	21	wsw		2	0.10
Silas Little	74	34	25	31	w	11	92	0.07
South Brunswick	74	49	11	28	w	11	83	
Upper Deerfield	75	33	24	31	wsw			0.04
Woodbine	76	40	22	26	wsw		1	0.06

Legend:			
Relative Humidity	< 40%	< 30%	< 20%
Wind Speed/Gust	> 15	> 20	> 25
Fuel Moisture	< 20	< 15	< 10

#### NJ Fire Danger Monitoring Console

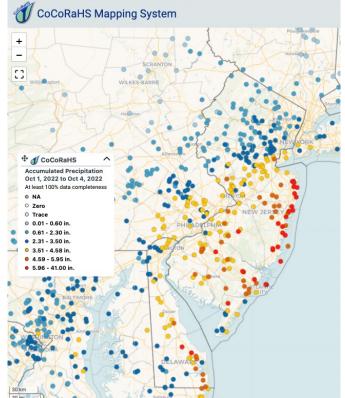
# Community Collaborative Rain, Hail and Snow Network (CoCoRaHS)



cocorahs.org

Daily observations by trained volunteers of all ages





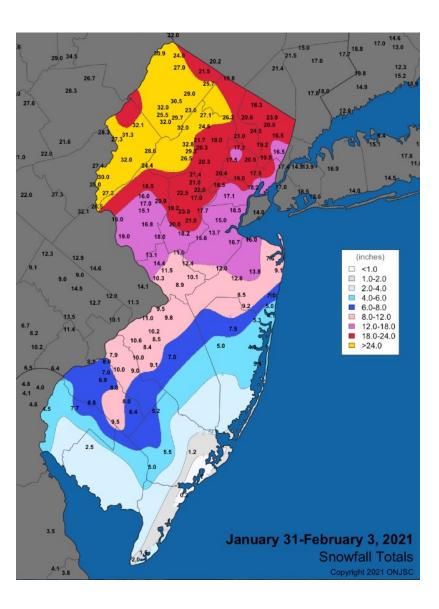
7AM 30 Sep 2022– 7AM 4 Oct 2022

## Product development

Snowstorm maps/tables

Employing data from: CoCoRaHS NWS Coop NWS Spotter ONJSC Spotter

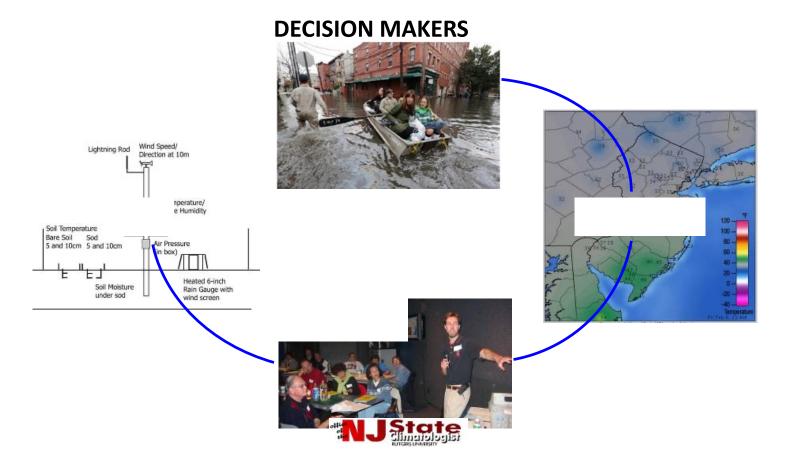
Major quality control effort by ONJSC



## **ONJSC Staff** (source of support)

Dave Robinson, NJ State Climatologist (20% NJ Agricultural Experiment Station (NJAES)) Mat Gerbush, NJ Assistant State Climatologist (100% NJAES) Chad Shmukler, Unit Computing Manager (grant funds) Jay Read, Unit Computing Specialist (grant funds) Dave Fittante, Senior Field Technician (part time; grant funds) Sharon DiAmore , Assistant Field Tech (part time; grant funds) Chitral Samala, Intern (Rutgers meteorology major, part time; grant funds)

# The ONJSC: Keeping an eye on NJ's weather and climate for user communities



To move from large-scale understanding of science to local scale decision making; therein lies the need for federal-state partnerships



# Summing up

# Knowledge through climate services

- baseline knowledge
- local expertise
- data/information
- collaboration
- outreach/communication

State climate offices always willing to assist and collaborate-

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