An Overview of the Arizona Meteorological Network

Jeremy Weiss, PhD  AZMet Program Manager  jlweiss@arizona.edu
New AZMet website
azmet.arizona.edu
AZMet at Present

Resources, part 1
• 30 active stations across western, central, and southern Arizona
• Measurements of air and soil temperature, humidity, wind direction and speed, precipitation, and solar radiation
• Calculations of chill hours, cotton heat stress, dewpoint, evapotranspiration, heat units, and vapor pressure
• Information on cotton growth stages, crop and turf water use, wine grape ripening conditions*

Station reliability
• Quarterly sensor calibration and additional clean-and-inspect visits
• Preventative replacement and upgrades of sensors and equipment

Resources, part 2
• Real-time observations updated every 15 minutes
• Database of hourly and daily values of both measured and calculated variables, with daily and monthly summaries and reports
• Real-time observations, past data, and summaries available on the new AZMet website: azmet.arizona.edu

Data quality and access
• Manual and automated checks for data validity, station communications and power, and faulty sensors
• A new, secure data system for collection, processing, storage, backup, and access (API, or application programming interface)
AZMet at Present

Recent highlights, part 1

- Developed an R package for programmatic access to the AZMet API: uace-azmet.github.io/azmetr
- Increased frequency of data collection from stations, which helped AZMet join the National Mesonet Program
- Added new automated quality checks of data coming in from the stations and into the database

Current and upcoming activities

- Finish standardization of stations
- Modernize real-time data system and online resources
- Build new tools for checks on data quality and station communications and power
- Develop new online resources for station-level data, tools, and information

Recent highlights, part 2

- Improved station communications with cellular signal and tower surveys and antenna upgrades
- Began measurements of two-minute sustained wind speeds at all network stations
- Began preventative replacement program for rain gauges

Who we are

- Jeremy Weiss, AZMet Program Manager
- Scott White, AZMet Research Professional
- Craig Boesewetter, CCT Senior Web Designer
- Matt Harmon, CCT Senior Web Developer
- Eric Scott, CCT Scientific Programmer
An Overview of the Arizona Meteorological Network

Jeremy Weiss, PhD  AZMet Program Manager  jlweiss@arizona.edu