Highest AQI Days For November 2020

100 $PM_{2.5}$	November 12 Thibodaux	88 $PM_{2.5}$	November 22 Lake Charles	69 $PM_{2.5}$	November 3, 4 Lafayette, Lake Charles	67 $PM_{2.5}$	November 5, 13 Baton Rouge, Lake Charles

Louisiana Air Quality Summary | November 2020

Sonoma Technology, Inc. (STI) meteorologists provide same-day, next-day, and two-day Air Quality Index (AQI) forecasts for ozone and particulate matter ($PM_{2.5}$) in eight Louisiana cities. The graphs and charts shown below, and on pages 2 and 3, summarize next-day AQI forecasts and observed AQI levels for November 2020. A monthly meteorological summary is shown on page 4, the year-to-date count of days in each AQI category by city is shown on pages 5 and 6, and forecast accuracy statistics are shown on page 7.

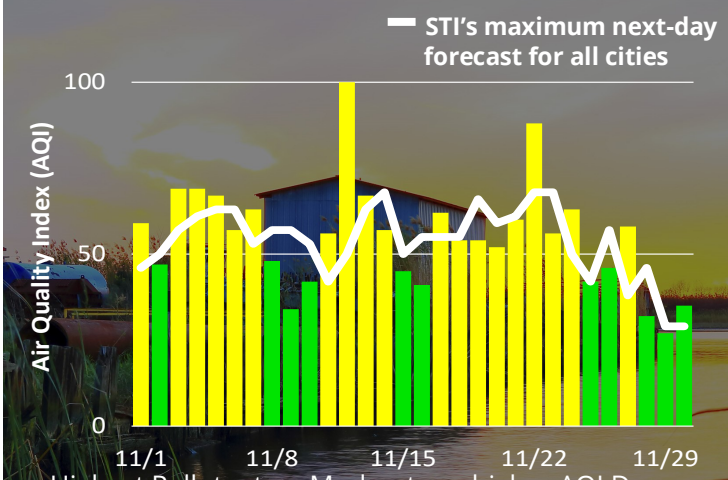
In November 2020, AQI levels in Louisiana were Good on 11 days and Moderate on 19 days. No Unhealthy for Sensitive Groups (USG) days were recorded and no Action Days were issued during the month.

Fine particles, commonly known as $PM_{2.5}$, were the primary pollutant for all 19 Moderate days this month. On these days, light winds hindered vertical mixing and pollutant dispersion. In addition, on cool mornings under clear skies, temperature inversions developed and trapped pollutants near the ground. Particle concentrations further increased in areas close to regional agriculture fires and on days with patchy fog, when increased low-level moisture enhanced particle production.

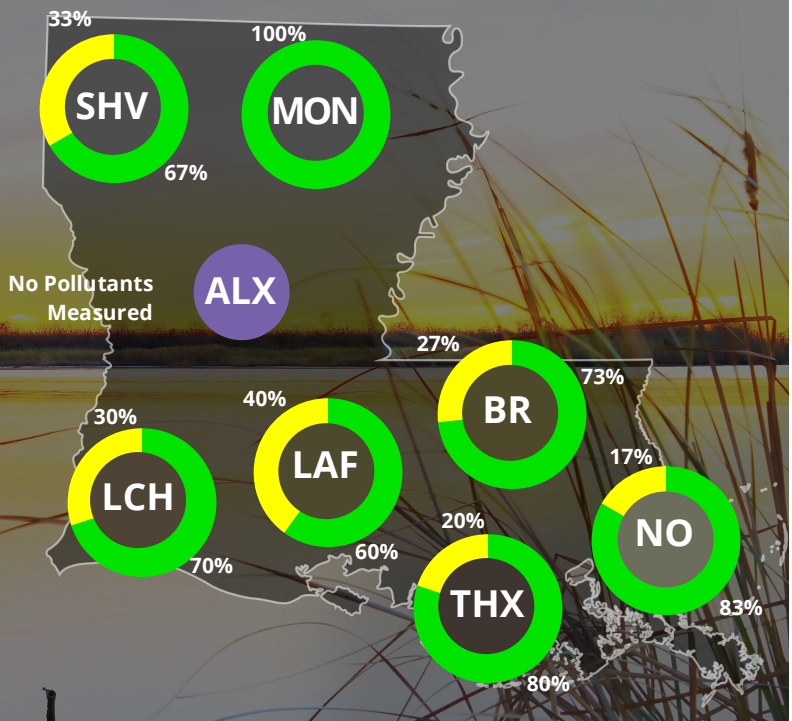
The month's highest AQI day was recorded on November 12 in Thibodaux. On this day, smoke from numerous agricultural fires north of the city increased particle concentrations, primarily in the afternoon and evening hours. Additionally, calm to light surface winds hindered dispersion, allowing pollutants to accumulate. These conditions resulted in an observed daily AQI value of 100, which is in the high-Moderate category.

Statewide Maximum AQI for November 2020

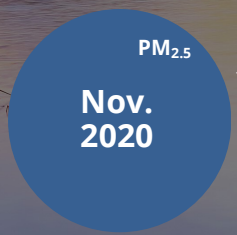
In November 2020, AQI levels in Louisiana were Good on 11 days and Moderate on 19 days. No Unhealthy for Sensitive Groups (USG) days were recorded, and no Action Days were issued during the month.



Daily Maximum AQI for November 2020 by Category and City*



Highest Pollutant on Moderate or higher AQI Days



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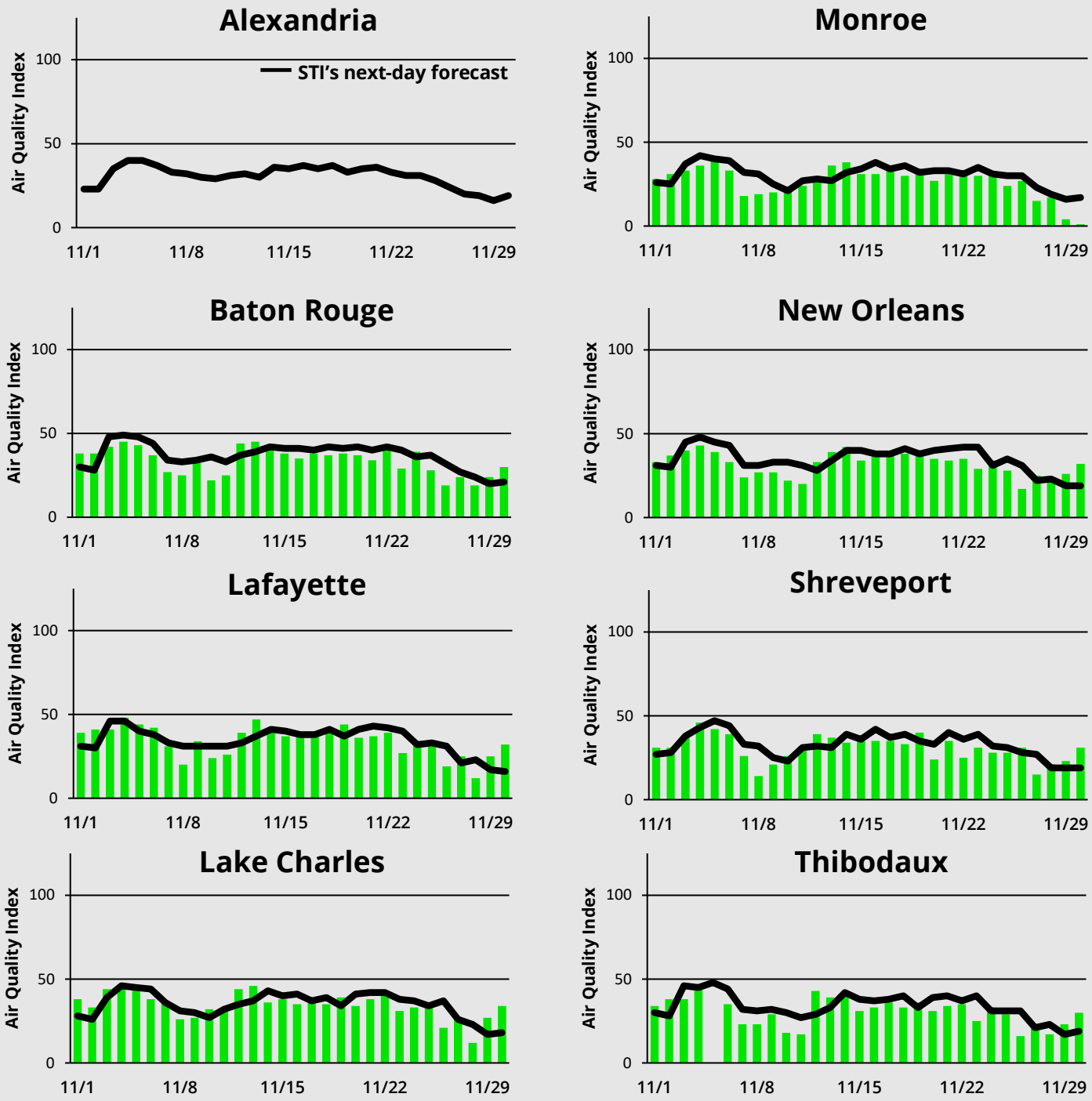
*BR – Baton Rouge
NO – New Orleans
SHV – Shreveport
LCH – Lake Charles
LAF – Lafayette
THX – Thibodaux
MON – Monroe
ALX – Alexandria

Highest AQI Days For Ozone								
48 Ozone	November 4 Lafayette	47 Ozone	November 13 Lafayette	45 Ozone	November 5 Lake Charles	44 Ozone	November 3, 12, 19 Three Cities

Ozone Forecasts and Observations, November 2020



Observational ozone data are not measured for Alexandria. No bars are shown for monitors or dates for which data were not available.

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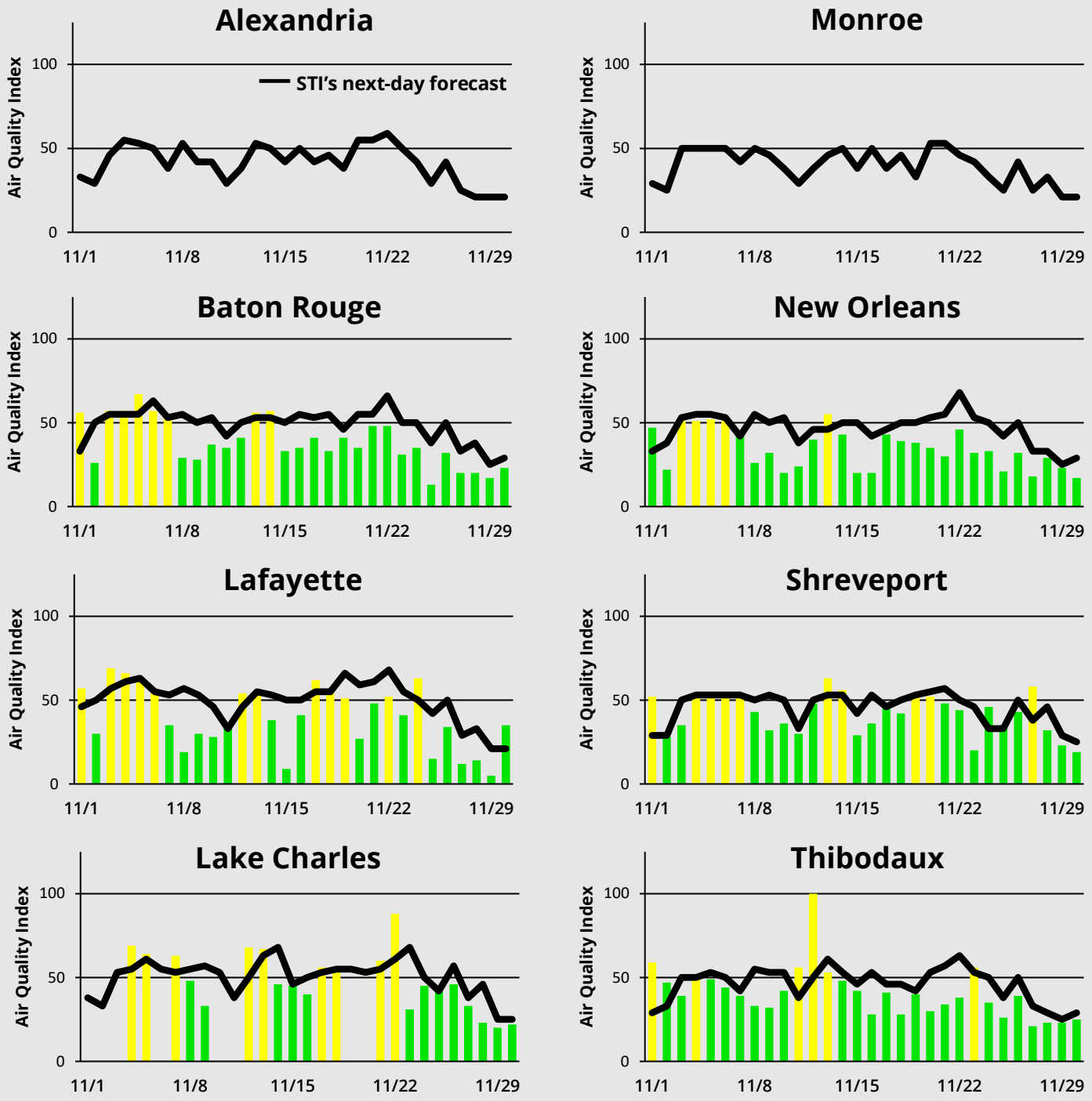
Highest AQI Days For $PM_{2.5}$								
100 $PM_{2.5}$	**November 12** Thibodaux	88 $PM_{2.5}$	**November 22** Lake Charles	69 $PM_{2.5}$	**November 3, 4** Lafayette, Lake Charles	67 $PM_{2.5}$	**November 5, 13** Baton Rouge, Lake Charles

$PM_{2.5}$ Forecasts and Observations, November 2020



Observational $PM_{2.5}$ data are not measured for Monroe or Alexandria. No bars are shown for monitors or dates for which data were not available.

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Meteorological and Air Quality Summary

Temperatures were well above average across Louisiana in November 2020. Despite a low pressure system producing widespread heavy rainfall between November 25 and 29, monthly precipitation totals were below average for most cities. Particle pollution accounted for all Moderate AQI days during the month, as light winds limited pollutant dispersion. Particle concentrations were further increased in locations close to regional agricultural fires. Most cities recorded Moderate particle levels between November 3 and 6 as upper-level high pressure hindered mixing, allowing pollutants to accumulate.

Although temperatures were warmer than normal this month, Good ozone levels were observed on all days as decreased sunlight inhibited ozone formation.

November 2020	Alexandria	Baton Rouge	Lafayette	Lake Charles	Monroe	New Orleans	Shreveport
Average temperature (Average temperature departure from normal) (°F)	60.0 (+2.6)	63.7 (+3.3)	64.3 (+2.7)	63.8 (+2.7)	59.4 (+3.0)	67.3 (+4.6)	60.8 (+4.4)
Highest Temperature (°F) (Day)	82 (10,11)	83 (13,14)	84 (11)	85 (11)	85 (10)	83 (15)	81 (10,14)
Lowest Temperature (°F) (Day)	36 (16)	34 (30)	35 (30)	35 (30)	37 (30)	45 (30)	31 (30)
Precipitation (Precipitation departure from normal) (inches)	4.93 (-0.56)	3.99 (-0.11)	3.80 (-0.55)	5.21 (+0.78)	1.43 (-3.41)	6.39 (+1.90)	1.08 (-3.45)
Number of days with 0.5 inches of precipitation or more	4	3	3	4	1	2	1
Number of clear days (as defined by the National Weather Service)	17	18	18	19	19	12	13
Average wind speed (mph)	5.1	5.9	5.2	7.7	4.7	7.6	6.0

Red: warmer-than-normal temperatures. Blue: colder-than-normal temperatures.
Green: wetter-than-normal conditions. Brown: drier-than-normal conditions.

Meteorological data courtesy of the National Weather Service, w2.weather.gov/climate/index.php.
The National Weather Service does not report preliminary monthly climate data for Thibodaux.

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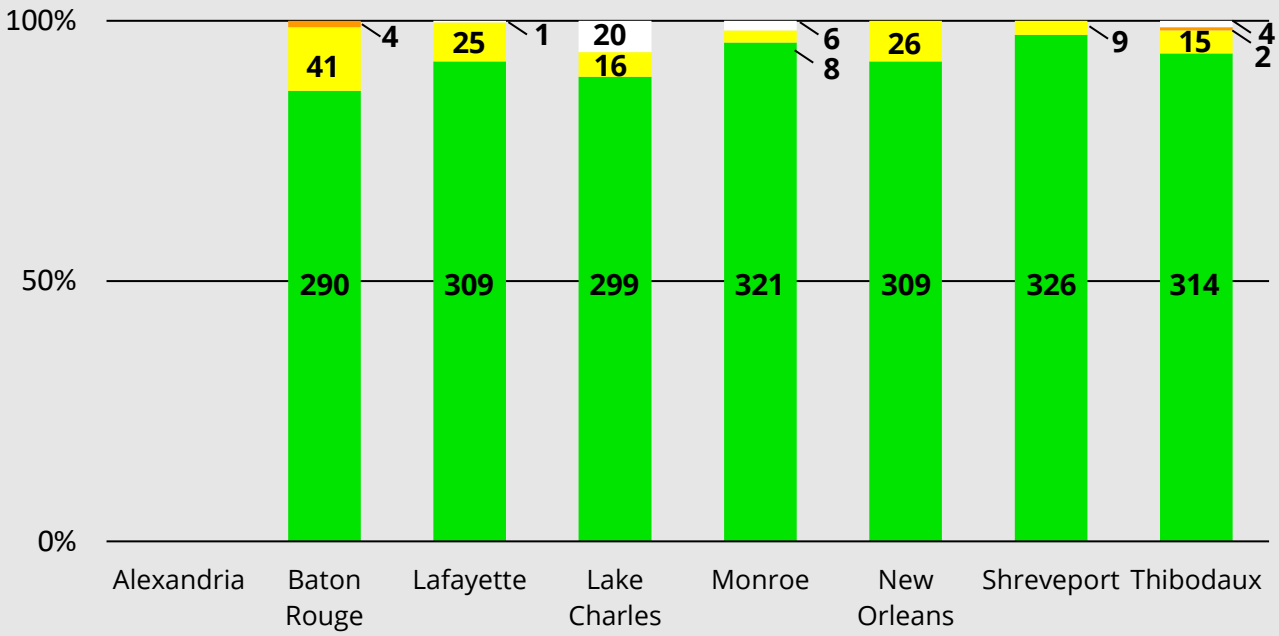
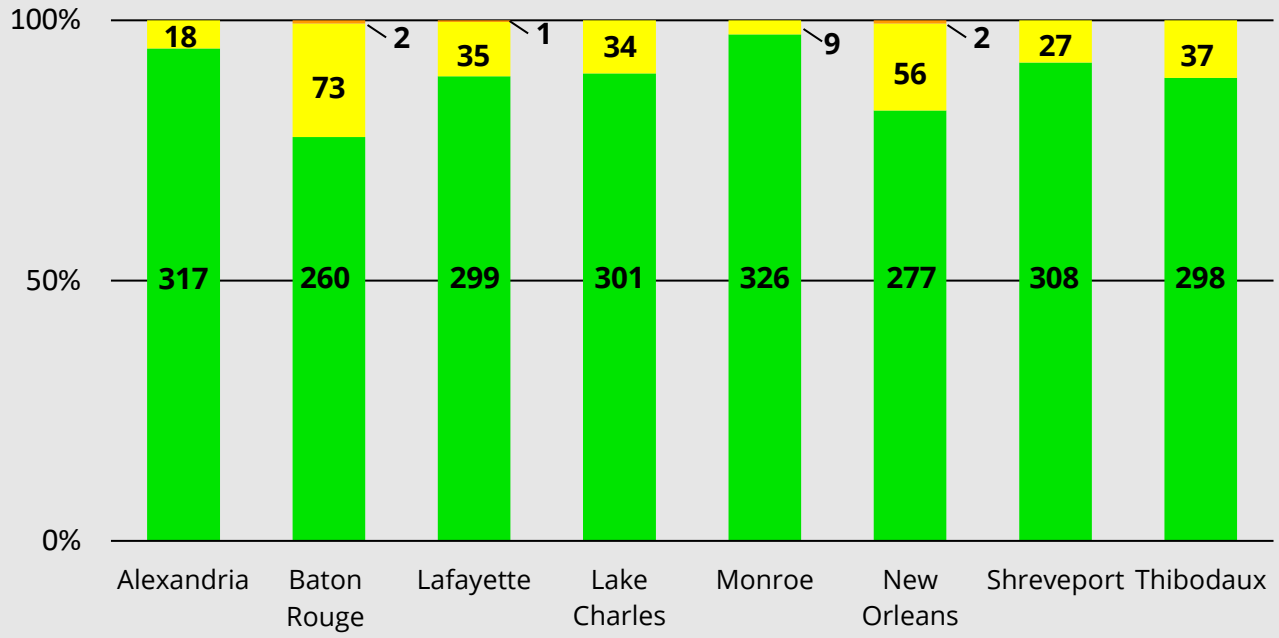
Year-to-Date Ozone

Count of Ozone Observations in Each AQI Category



Count of Ozone Forecasts in Each AQI Category



Observational ozone data are not measured for Alexandria.

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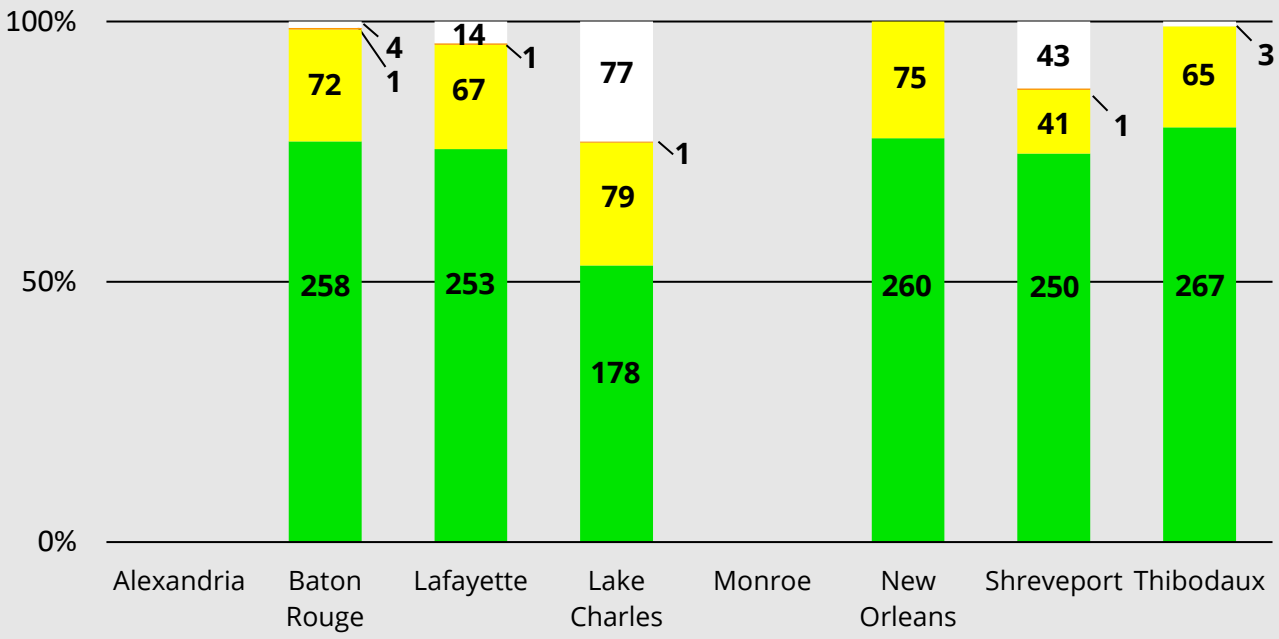
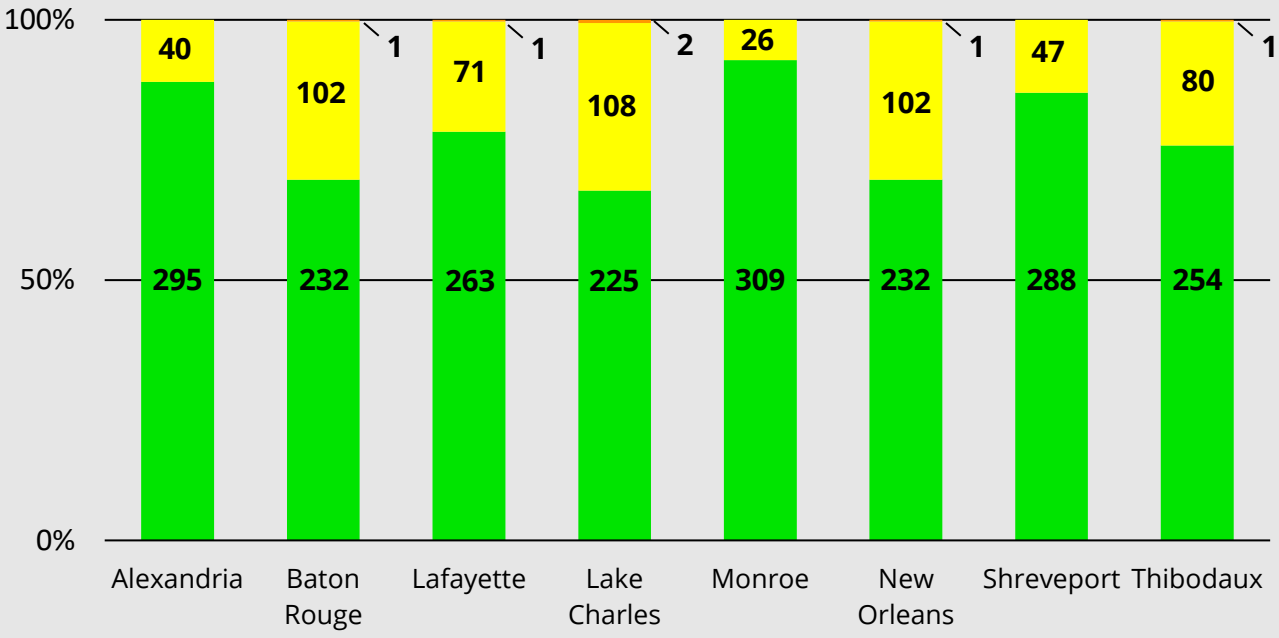
Year-to-Date $PM_{2.5}$

Count of $PM_{2.5}$ Observations in Each AQI Category



Count of $PM_{2.5}$ Forecasts in Each AQI Category



Observational $PM_{2.5}$ data are not measured for Monroe or Alexandria.

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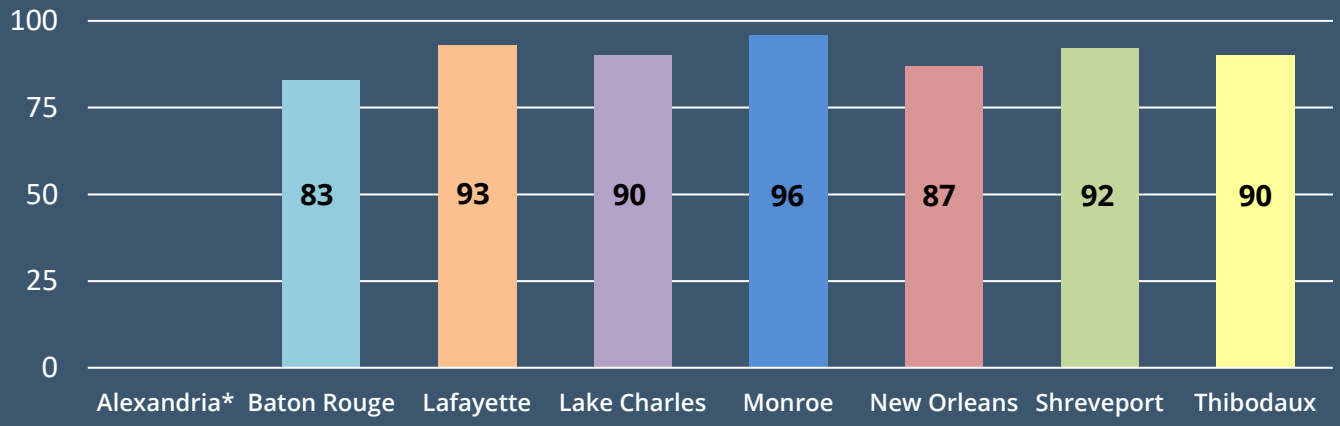
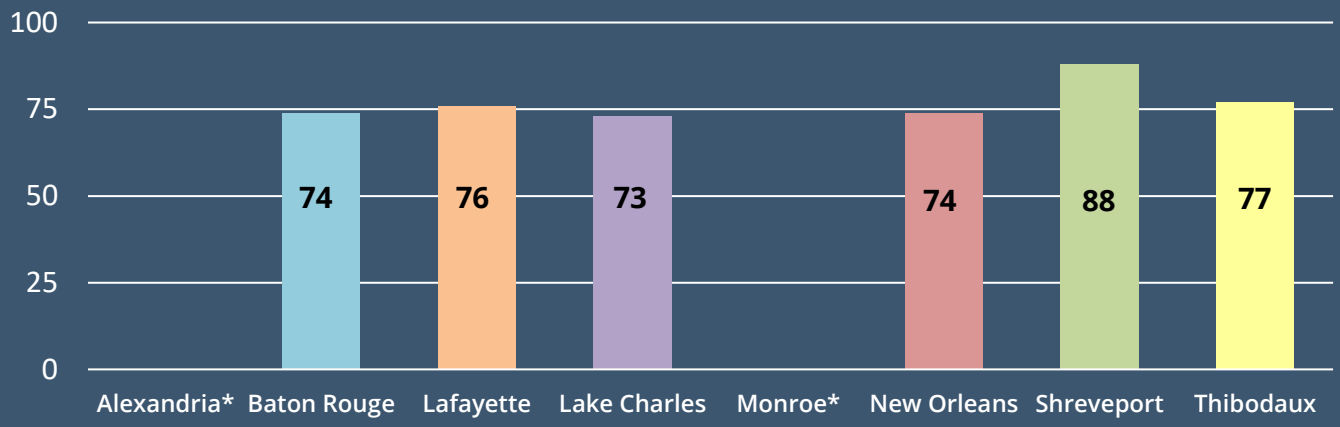
2020 Next-Day Forecast Statistics at the Good-to-Moderate Threshold

Next-day forecasting performance statistics for 2020 are presented in the charts below. The statistics are calculated by comparing forecasted and observed AQI levels for the Good-to-Moderate threshold. Percent Correct indicates the percentage of forecasts that correctly predicted whether observations would be above or below a certain threshold. Because few USG days were predicted or observed in the Louisiana forecast cities in 2020, Moderate-to-USG forecast statistics are not shown.

Percent Correct—Ozone



Percent Correct—$PM_{2.5}$



**Observational $PM_{2.5}$ data are not measured for Monroe, and ozone and $PM_{2.5}$ data are not measured for Alexandria.*

Although Sonoma Technology, Inc., prepares air quality forecasts using the highest professional standards, forecasting is an inexact science. Therefore, Sonoma Technology, Inc., cannot assume any liability or responsibility for any consequences that might arise due to the accuracy or inaccuracy of forecasts delivered under this contract, or for any decisions or actions taken based on the forecasts provided.

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