



# Air Sciences Inc. Configures Remote Monitoring Graphs, Dashboards, & Alerts Using Innovative Software

eagle.io Helps Save Programmer Resource Time and Costs

## PROVIDING A VARIETY OF AIR QUALITY SERVICES

Air Sciences Inc. is an environmental consulting firm that has served clients for over 40 years. Their projects span a range of air quality services, with projects in permitting and compliance – especially in the mining industry. They also provide support for dust mitigation projects and community monitoring. The team installs and operates a range of EPA-approved instruments that monitor meteorological parameters and measure criteria pollutants. Some of these include monitoring for ozone, NO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and other pollutants.

## REPLACING LABOR-INTENSIVE IN-SITU MONITORING FOR A CLIENT

Recently, Air Sciences launched a public dashboard using environmental IoT platform eagle.io to save a long-time client hours of manual labor each week.

Prior to deploying the dashboard, the client had the labor-intensive challenge of maintaining evaporation pans as a means to monitor the water balance of process ponds and tailing impoundments. The client's operators would have to physically maintain the pans and review data. These pans are prone to inaccurate measures of evaporation as local wildlife drink the water collected in the pans. The collected water can also freeze during the winter making it impossible to measure.

With eagle.io, the Air Sciences team developed a user-friendly dashboard that calculates theoretical total evaporation using publicly available National Oceanic and Atmospheric Administration (NOAA) meteorological data.

"We use calculations to present evaporation rates to clients on a historical basis by using the precipitation and then the theoretical evaporation rate to create a water balance," said Dr. Katie Kolesar, senior air quality scientist with Air Sciences. "One of our long-time clients loves the feature and uses it all the time."

The eagle.io solution means their client can quickly check this dashboard as part of the active management of their water and tailings pond management. The process has removed costly and labor-intensive evaporation pan maintenance, as well as the issues of wildlife interference and freezing temperatures.

## WORKING AROUND AN OLDER SYSTEM BEFORE TURNING TO EAGLE.IO

Air Sciences previously used an outdated system that required expensive updates and substantial ongoing maintenance. Additionally, team members would have to wait on a programmer to make changes or add new stations.

The team had multiple projects that required ongoing monitoring and, as a result, needed new tools and modern capabilities. The old system became difficult to use as it was not user friendly and required a programmer to make changes and updates to station configuration and reports. In addition, there was no visual interface for clients to interact with the data. This meant that scientists had to wait on a programmer for basic tasks, and clients had to wait on scientists to download and visualize their data.

"We had an outdated data validation system, and it was going to need a lot of work to make a new version," Kolesar said. "So we were looking for something reliable that we wouldn't have to maintain."

## PROJECT SUMMARY ORGANIZATION

Air Sciences, Inc.

## SOLUTION

Air Quality Monitoring

## LOCATION

Golden, Colorado; Portland, Oregon; and Los Angeles

## PROJECT PLAYBOOK

eagle.io™

## FAST FACTS

- ♦ Air Sciences is an environmental consulting firm providing a range of air quality services to its clients for over 40 years.
- ♦ eagle.io enables Air Sciences to build custom functions for its clients, and the platform's flexibility allows teams to develop fit-for-purpose tools.
- ♦ By adopting eagle.io, Air Sciences no longer requires personnel on staff to maintain and update their old data systems, saving expensive programmer wages.

## ROI

- ♦ Using eagle.io helps Air Sciences save on costs and time related to labor-intensive evaporation pan maintenance.

“With other systems there was a constant lag for updates as we waited on the programming staff. With eagle.io anyone can do it.”

– Dr. Katie Kolesar, Senior Air Quality Scientist, Air Sciences, Inc.

## SWITCHING TO A USER-FRIENDLY ENVIRONMENTAL INTELLIGENCE PLATFORM

With eagle.io, the entire team can now quickly configure and update user-friendly dashboards, and scientists can create unique dashboards and alerts for specific users. Air Sciences is now able to save hours of time—as well as frustration—for their team by removing the programming bottleneck of setting up graphs and displays, Kolesar said.

“One thing that eagle.io has that our old platform doesn’t is the user-friendly interface through which we can create graphs and ways to display the data,” Kolesar said. “With other systems, there was a constant lag for updates as we waited on the programming staff. With eagle.io anyone can do it.”

Now the entire Air Sciences team, even those without advanced programming skills, can quickly build and update the dashboards, and can even configure dashboards for specific users. “It’s nice to be able to configure the dashboards and charts. I’ve configured dashboards that are specific for specific users and people who are interested in different aspects of the data.”

“We now use the software for all of our monitoring needs. This includes the QA/QC of data that is then used for quarterly reports delivered to state regulatory agencies for review and approval. For some clients who need to be alerted if any pollutant concentrations are high, we have set up alerts,” said Kolesar.

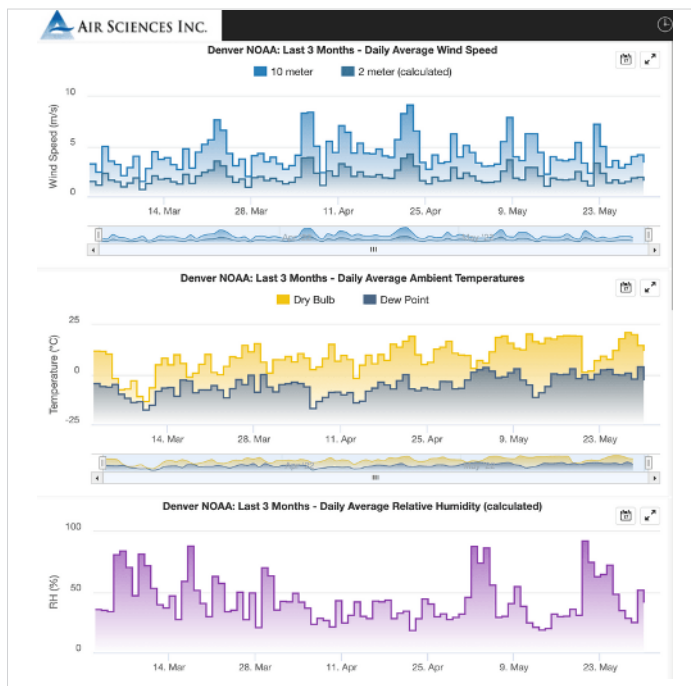
## EAGLE.IO HELPS AIR SCIENCES SATISFY EACH CLIENT’S SPECIFIC NEED

Using eagle.io enables Air Science to build custom functions for its clients. The platform’s flexibility allows their team to develop fit-for-purpose tools, such as the evaporation calculation dashboards. It also helps to remove programmer bottlenecks so that their whole team can use eagle.io, freeing staff to make changes and better serve clients without needing the IT department. They can also provide ongoing value to clients with real-time alerts for pollutant concentrations and precipitation levels.

By adopting eagle.io, Air Sciences no longer requires personnel on staff to maintain and update their old data systems, saving expensive programmer wages.

“Being able to do the alerts is great. We have some folks that we have alerts set up for precipitation,” said Kolesar. “They need to pay close attention to their water balance to ensure their ponds do not overflow. We have an alert set for 0.1 inches per day, 0.2 inches per day, 0.3, and so on. We have other clients who have concentration-based alerts for other parameters.

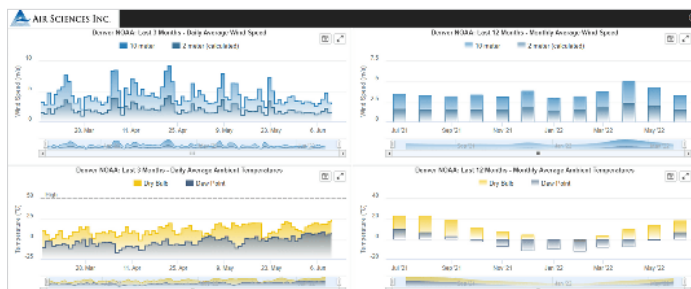
“That’s been one of the most useful ongoing things for [our] clients. It’s user-friendly, so some of our team who do not have programming knowledge are able to get the information that they need. They have been able to step in, look at and use the data,” said Kolesar.



Air Sciences' dashboard of meteorological data.



A user-friendly dashboard that calculates theoretical total evaporation using publicly available NOAA meteorological data.



eagle.io dashboard that shows average wind speeds and temperatures.