Michael McCarthy, PhD

### Contact Info

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## Summary

Founder and Chief Scientist at the environmental consulting firm **Radical Research, LLC**. Adjunct Professor of Environmental Analysis at [Pitzer College](https://www.pitzer.edu/). Vice-chair of [Riverside Neighbors Opposing Warehouses](https://sites.google.com/view/rivnow/). I have 25 years of experience as an atmospheric scientist, 20 years of experience as an environmental consultant, and a little over a year of experience as a community activist and professor.

My atmospheric science expertise includes near-road pollution gradients, health-risk assessments, spatio-temporal variability, source apportionment, emissions characterization, climate change, air toxics, and isotopic compositions. I typically apply statistical analysis and geospatial visualization methods to quantify and characterize air quality issues. I also develop custom applications for the display and visualization of large and complex datasets.

## Work

#### Experience

| Title | Organization | Where | Time |
| --- | --- | --- | --- |
| Founder | Radical Research LLC | Riverside, California | March 2021 -- Oct 2023 |
| Senior Atmospheric Scientist | Sonoma Technology, Inc. | Petaluma, California | January 2005 -- March 2021 |
| Air Quality Analyst | Sonoma Technology, Inc. | Petaluma, California | October 2003 -- December 2005 |

#### Skills

| Domain | Skills |
| --- | --- |
| Programming and Markup Languages | R, SQL, C+, BASH, fortran, IDL, Markdown, CSS, HTML, LaTeX |
| Web Applications | R Shiny, HTML, API |
| Database Software | R tidyverse, SQL |
| Quality Assurance | QAPPs, QMPs, DQOs SOPs, Dashboards, audits, verifications, blanks, one-point QC checks, precision, bias |
| Statistical Analysis | Regressions, factor analysis, time-series analysis, distributions, significance testing, geospatial statistics |
| Network and Monitoring Evaluations | Collocation comparisons, network assessments, community-scale monitoring, GIS, environmental justice |

## Academia

#### Education

| Degree | Institution | Where | Time |
| --- | --- | --- | --- |
| PhD in Chemistry | University of California at Berkeley | Berkeley, California | August 1998 -- December 2003 |
| BS in Chemistry | Creighton University | Omaha, Nebraska | August 1994 -- May 1998 |

#### Teaching Experience

| Title | Organization | Where | Time |
| --- | --- | --- | --- |
| Adjunct Professor | Department of Environmental Analysis, Pitzer College | Claremont, California | August 2022 -- Oct 2023 |

## Dashboards

### Applications

* [Warehouse CITY](https://radicalresearch.shinyapps.io/WarehouseCITY/) - (2022 to Present)
* [Air Toxics Dashboard](https://radicalresearch.shinyapps.io/ToxicsDashboard/) - (2021)
* [PM2.5 Data Quality Dashboard](https://sti-r-shiny.shinyapps.io/QVA_Dashboard/) - (2018 to Present)
* [Ozone Data Quality Dashboard](https://sti-r-shiny.shinyapps.io/ozone_Dashboard/) - (2020 to Present)
* [NO2 Data Quality Dashboard](https://sti-r-shiny.shinyapps.io/QVA_Dashboard/) - (2020 to Present)
* [NCore Dashboard](https://sti-r-shiny.shinyapps.io/NCORE_Dashboard/) - (2020 to Present)
* [Annual Monitoring Network Report](https://radicalresearch.shinyapps.io/NetworkAssessment/) - Under Development