

Course Introduction

Welcome to this course on monitoring atmospheric composition. We live down here at the bottom of the atmosphere, but this enormous reservoir of air above us, even though it's invisible, matters to us. It's part of our life support system. We're all taught at school that the atmosphere is mostly nitrogen and oxygen, but mixed in with there are tiny quantities of particles and trace gases. And it's all moving, flowing over mountains and oceans and buildings and roads. It's a dynamic system. And together, the movements and the composition form a balance. And as we learn about that balance, we're also learning about how we're starting to change it and how that may harm our lives and our society.

Until the past few decades, we've mostly just looked up and through the atmosphere. But now, there are new technologies that allow us to look into the atmosphere to collect data and to measure and to see in that data what we can't see just by looking directly into the air, which is how the composition of the atmosphere is influencing our lives. This course is about that data, where it comes from, who measures it, what it means, and what opportunities it offers our society for the future.

We'll meet the organizations who are collecting and curating that data, at the Copernicus Atmospheric Monitoring Service and EUMETSAT. The ever-growing flood of data that's coming down from the sky is in impressive detail and in real time. And that doesn't just mean more science, it means direct benefits for public health with governments, for businesses, for citizens. And this course is about opening the door to all of those possibilities.