First WHO Global Conference on Air Pollution and Health: Improving air quality, combatting climate change – saving lives

Pre-Conference Workshop

From Satellites to Burdens

29 October 2018, Geneva
WHO Headquarters, Salle C, 14h–17h

Coordinator: Dr Sophie Gumy

Concept Note

Background

In May 2018, the World Health Organization (WHO) released new estimates of global air quality showing that air pollution levels are dangerously high in many parts of the world. The new estimates reveal an alarming toll of 7 million deaths every year that can be associated with exposure to outdoor and household air pollution, and that 90% of people worldwide breathe polluted air.

In this workshop, we will explore the process in which ground monitoring data of PM$_{2.5}$ (particulate matter with diameter of less than 2.5 μm) air pollution is supplemented with information from remote sensing satellites and other sources to produce high-resolution estimates of concentrations for every country. We will then show how these estimates form the basis of the calculations of country-level, regional and global, burden of disease.

Target audience:

Experts in atmospheric or environmental science, air pollution managers, epidemiologists, statisticians, public health professionals.
Language:

Presentations and materials provided will be in English; the working language will also be English.

Workshop Program / Provisional Agenda

The workshop will take place over half a day and will comprise of two parts:

1) Producing a database of global air quality. This will include an analysis of the different sources of data and a description of the Data Integration Model for Air Quality (DIMAQ) that combines information from ground measurements with information from satellites and chemical transport models. There will be worked examples showing how the model works and how the outputs can be used to produce pollution profiles, and maps, for individual countries. In addition to these examples being presented, participants will have the opportunity to work through the examples themselves using open source software which will be provided.

2) Calculating the burden of disease. In this section we will see how a map of concentrations within a country can be used to produce population-level exposures, e.g. SDG 11.6.2. Through worked examples, we will learn how these are combined with mortality rates to calculate the population attributable fraction (PAF) and we will learn how these can be used to produce estimates of the disease burden for each country and aggregated to produce regional, and global estimates. As in the first part, within the presentation of the material there will be a “hands on” sessions in which there will be the opportunity for participants to perform calculations on individual countries (of their choice).

Workshop lecturers:

Prof Gavin Shaddick, University of Exeter, Exeter, UK.

Participant registration

The workshop is open and a registration form is provided on the website:
Pre-conference events: http://www.who.int/airpollution/events/conference/preconference/en/
Registration: https://extranet.who.int/datacol/survey.asp?survey_id=3914
Deadline for registration is 21 October 2018.