

Air pollution model takes off

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Australia's capabilities in understanding the impact of air pollution have advanced with a new version of software that can predict the direction and concentration of odours and pollutants.

"The Air Pollution Model (TAPM) increases our ability to pinpoint pollutant behavior in a wider range of atmospheric conditions," says CSIRO's Dr Peter Hurley.

"Over the coming years the new model will continue to fill a gap between simple air pollution dispersion models and the much more complex earth system models such as The Australian Community Climate and Earth-System Simulator (ACCESS)."

Earlier versions of the software are widely used throughout Australia by government, researchers and consultants, as well as internationally by 190 customers in 25 countries.

From a one-dimensional model created by Dr Hurley in the mid-1990s, the software has evolved into a complex environmental modelling tool with meteorological and air pollution components that will suit most local-scale environmental applications.

In Australia, the model has recently been used in Launceston where strong temperature inversions trap particulate emissions from wood fires, burning-off, vehicles and industry.

The software package predicts local meteorology and assesses the likely pathway and concentration of pollutants as they disperse.

Some new research directions are also emerging, such as the use of TAPM coupled with CSIRO's complex chemistry model by CSIRO scientists Drs Martin Cope and Sunhee Lee. Applications include urban planning under future climate scenarios.

Other applications of TAPM coupled to a more complex land surface scheme that includes a carbon cycle, by CSIRO's Dr Ashok Luhar, include carbon dioxide geosequestration assessment.

Source: CSIRO Australia

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