
Subject: Re: gaussian air dispersion model

Posted by [guillaume.drolet.1](#) on Fri, 25 Nov 2005 17:28:28 GMT

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Hi Mark,

The following comes from N. Kljun. She developed the footprint model:

"...you'll get the along-wind extent, but it's a crosswind-integrated model (no y-information).

the full model gives you the y-information, but is not easy to be applied and it will be extremely time-consuming to run it for that many cases as you will have to.

it'll be easier to estimate the y-extent using a simple gaussian dispersion function."

I'm sorry, I made a mistake in my first post: I need to estimate the 'across-wind' extent (y-extent), and NOT the 'along-wind' (x-extent), which will be given by the model.

For this simple model, the following inputs are needed:

zm = Measurement height [m]
znot = Roughness length [m]
h = Boundary layer height [m]
sigmaw = sigmaw [m s-1]
ustar = u^* [m s-1]
r = Percentage to be included [%]

Some inputs are available from flux towers measurements (zm,sigmaw,ustar) while others are estimates (znot,h). The outputs are:

xmax: location of maximum influence for the location
xr :distance from receptor which include r% of the area contributing to the measured flux.

Is that enough information? For more details on the model, see:
<http://footprint.kljun.net>

Thanks again.

Gui
