

In the previous section we looked at the air concentration contribution of a single particle trajectory as it passed over the domain during a 12 hour period. However to see the temporal resolution, we need to shorten the time interval of the particle integration. So continuing on with the same example, open up the set up run menu, and we're going to change the temporal averaging period from 12 hours to one hour. So we will look at the concentrations hourly. And the duration of the run, of course, is 12 hours. Now let's go ahead and do this run, and then display. It takes a little bit longer now, because 12 graphic images are generated, and then you can see, if you go through each image, how that particle contributes to the hourly average air concentration.

However there is another option that we can do. So go back to the grid setup and this first number is 0, which means that we average concentrations over this hourly period. If we change the first index to 1, that means that snapshots will be generated. So we will look at the concentrations, instead of averaged, we would just look at the concentrations just over one time step, save, and then run model, with the set up file.

And now following this, you can see the concentration pattern is really only one grid cell wide. Before, over the course of an hour, that single particle may have intersected more than one concentration grid cell. In this case, it only intersects one, each time step. This can be seen more clearly if you zoom, and the red is, the red square is the grid cell with the maximum concentration.

Of course when there's only one particle, there is only one grid cell and it will always be the maximum. And the colors that are outside of this are really just an artifact of the contouring program and the smoothing that is required.

Now one last thing we can do, once you've generated multiple frames, within an output file, is in the utilities menu, there is an option to convert the Postscript file to an image, that is convert the format of Postscript to some other format. In this case we're going to let it convert to GIF format, which is the only format available that can be animated. So will select the animation button, and will increase the resolution to make a nicer picture, and then when execute the conversion of the concplot.ps file to concplot.gif.

And when the conversion completes, the menu just closes, there is no automatic opening, because it can only be displayed through the browser. So you would need to go to file explorer, hysplit4/working and there you will see my GIF file that was just created, and you can see how the particle, especially right around here, so it bounces around to different locations, so as the particle moves up and down in the vertical, it also experiences different horizontal wind components.

So before we wrap up, you should go ahead and save the configuration, both for the CONTROL file and the name list file. So go back to set up run and save as, and let's call this conc_test_control.txt and we'll do the same for the

advanced menu, concentration, save as,
conc_test_setup.txt, as you see these files are in the
working directory.

And that concludes the discussion of the finer time
resolution and the animation.