We used HPAC 6.7 was used for this model exercise. Each model was set up with the wind direction parallel to Cartesian coordinate axis (winds from the west for Desert Tortoise, winds from the north for Fladis). This also helped with setting up the samplers in the model as the sampler grid could only be oriented in the same Cartesian coordinate system. To simulate these releases, we used the horizontal jet module in HPAC. This module requires the use of a log normal distribution to simulate the released droplets. The mean mass diameter and corresponding sigma for this distribution was calculate with the help from Tom Spicer (Spicer, T. et. al., 2005) as well as the exit velocity.

We did a sensitivity test between the supplied Monin-Obukhov length and HPAC’s own calculated boundary layer conditions for all releases. For Desert Tortoise, we also did a sensitivity test between the original paper supplied liquid fraction (~80%) and one that was calculated (~20%) based on the supplied parameters (once again, big help from Tom Spicer for this part as well).

Desert Tortoise log normal distribution values

|  |  |  |  |
| --- | --- | --- | --- |
|  | **DT1** | **DT2** | **DT4** |
| MMD (µm) | 26.0 | 26.0 | 26.0 |
| Sigma | 2.0 | 2.0 | 2.0 |
| Exit Velocity (m/s) | 87.3 | 92.4 | 95.1 |

Fladis log normal distribution values

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Fladis9** | **Fladis16** | **Fladis24** |
| MMD (µm) | 51.0 | 43.0 | 64.0 |
| Sigma | 2.0 | 2.0 | 2.0 |
| Exit Velocity (m/s) | 56.2 | 39.5 | 38.7 |