

## TM5-MP - Bug #549

### Restarbility broken

05/17/2016 09:10 AM - Philippe Le Sager

<b>Status:</b>	In Progress	<b>Start date:</b>	05/17/2016
<b>Priority:</b>	High	<b>Due date:</b>	
<b>Assignee:</b>	Philippe Le Sager	<b>% Done:</b>	50%
<b>Category:</b>		<b>Estimated time:</b>	0.00 hour
<b>Target version:</b>		<b>Spent time:</b>	0.00 hour
<b>Description</b>			
It was reported that the full-chemistry TM5-MP is not restartable anymore: stopping and restarting from a restart file changes results compared to a run done in one shot. First tests show that it happens with and without M7, so nothing to do with M7. Runs with only advection, convection, diffusion and wet/dry deposition are fine. So the problem is with sedimentation, boundary, chemistry or emissions.			

### History

#### #1 - 05/23/2016 09:45 AM - Philippe Le Sager

- % Done changed from 30 to 40

Same problem with cbm4. So far I can tell that it is a problem with the emissions, probably NOx.

#### #2 - 05/26/2016 11:38 AM - Philippe Le Sager

The problem is happening with the 3D NOx emissions. If the emissions are not vertically distributed, but added in the first layer, the problem goes away.

#### #3 - 06/09/2016 03:26 PM - Philippe Le Sager

- Status changed from In Progress to Resolved

- % Done changed from 40 to 100

Solved. The call to `ss_monthly_update` (sources and sinks update) had to be moved after meteo setup for a consistent vertical remapping of the NOx emissions across the two types of runs (with and without monthly restart). The call to `ss_monthly_update` must also be before the call to `Proces_Update`, because of the `getDMS` call down the line. This has been done, tested, and committed in [r347](#).

#### #4 - 06/09/2016 03:26 PM - Philippe Le Sager

- Status changed from Resolved to Closed

#### #5 - 06/15/2016 06:48 AM - Philippe Le Sager

- Status changed from Closed to In Progress

- % Done changed from 100 to 50

Reopened. It was not thoroughly tested, and it turns out that there is a problem with M7 sedimentation and/or chemistry.

#### #6 - 03/17/2017 11:40 AM - Philippe Le Sager

I've isolated the problematic lines of code. If I comment the calls to `sedimentation_calcv` and to `deposition_calcv`, TM5 is restartable. These calls are found in:

```
sedimentation.F90/sedimentation_apply
```

which is called from

