

## **Evaluation of a Variable Time-Step Algorithm in CMAQ**

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### **Brief Description:**

A variable time-step algorithm was proposed and applied in CMAQ where high wind speeds in one part of the domain (e.g., over water) do not dictate unnecessarily small time steps in other parts. This new time stepping algorithm speedup CPU time in process of VDIFF, AERO, CLDPROC and ZADV by factor of 3 and more. Depends on the chemistry mechanism chosen in CMAQ calculation, the total CPU time speedup by a factor of at least 1.3.