



## Validation of global fire model SEVER-FIRE

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Validation study of the daily time-step SEVER-DGVM fire module, at global and regional scale, over the 1997-2006 period is presented. Model-estimated burned areas and emissions are compare to the Global Fire Emission Database version 2 (GFED), derived from satellite observations. SEVER-Fire reproduces the main features of climate driven inter-annual fire variability at a regional scale, such as the large fires over the 1997-98 El Niño event in Indonesia, which had critical ecological and atmospheric impacts. The role of precipitation and temperature, shown to be ecosystem-dependent and thus strongly determined by the DGVM / Fire module coupling, is also well captured. Spatial and seasonal patterns of fire incidence reveal substantial inaccuracies, and we discuss the implication of DGVM inferred vegetation types distribution, and of assumed proxies of human fire practices. We further suggest possible development directions, to enable such models to better project future fire activity.