

EUPORIAS WP23 Impact Models for impact predictions

- AQUATOOL: It is a Water Management Tool with different modules (SIMGES, OPTIGES, SIMRISK). [?Model URL: http://www.upv.es/aquatool/index_E.html](http://www.upv.es/aquatool/index_E.html)
- MORDOR: It is a hydrological model for catchments in France.
- E-HYPE: This model simulates water flow and substances on their way from precipitation through soil, river and lakes to the river outlet. The catchment is divided into sub-basins, which in turn are divided into classes depending on land use, soil type and elevation. This Pan-European hydrological model with high resolution is operational in the SMHI production environment. It is operational to deliver real-time and forecast hydrological and nutrient data from the entire European coastline. [?Model URL: http://www.smhi.se/en/2.575/Hydrology/european-hydrological-predictions-for-the-environment-1.12711](http://www.smhi.se/en/2.575/Hydrology/european-hydrological-predictions-for-the-environment-1.12711)
- VIC (Variable Infiltration Capacity model): It is a hydrological impact model. [?Model URL: http://www.hydro.washington.edu/Lettenmaier/Models/VIC/index.shtml](http://www.hydro.washington.edu/Lettenmaier/Models/VIC/index.shtml)
- CGMS (Crop Growth Modelling System): Is a detailed crop model with representation of specific crop varieties. [?Model URL: http://www.marsop.info/marsopdoc/cgms92/5_en.htm](http://www.marsop.info/marsopdoc/cgms92/5_en.htm)
- LPJm1: This model will be used for hydrological impacts and agricultural impacts. [?Model URL: http://www.pik-potsdam.de/research/projects/lpjweb](http://www.pik-potsdam.de/research/projects/lpjweb)
- JULES: The Joint UK Land Environment Simulator. It is a community land surface model that has evolved from the Met Office Surface Exchange Scheme (MOSES).

All these Impact Models require different variables with different temporal frequencies as input data:

Variables	Time Frequency	Impact Models	Optional for
Surface temperature	Daily	GSS, HI, Hyl, HDD, UDIC	
Surface temperature	Instantaneous at 7am, 2pm and 9pm (local time)	PET	
Surface temperature	Instantaneous at noon local standard time or daily maximum	FWI	
Minimum temperature	Daily	T<-17°C, CI	
Maximum temperature	Daily	HI	
Dew point temperature	Daily	UDIC	
Wind Speed	Monthly mean	CFU	
Wind Speed	Instantaneous at 7am, 2pm and 9pm (local time)	PET	
Wind Speed	Instantaneous at noon local standard time or daily mean	FWI	
Surface moisture	Daily	UDIC	
Precipitation accumulated over 24h	Instantaneous, Daily	FWI	
Precipitation	Daily	GSP, Hyl	
Relative Humidity	Instantaneous at noon local standard time or daily mean	FWI	
Relative Humidity	Instantaneous at 7am, 2pm and 9pm (local time)	PET	
Short wave radiation flux	Instantaneous at 7am, 2pm and 9pm (local time)	PET	
Long wave radiation flux	Instantaneous at 7am, 2pm and 9pm (local time)	PET	
Cloudiness (in octas)	Instantaneous at 7am, 2pm and 9pm (local time)	PET	