Table 1: ALADIN/SURFEX (ISBA) physiographic fields

Description	Name	Unit	Remark
surface geopotential	SURFGEOPOTENTIEL SPECSURFGEOPOTEN	J/kg	constant
land-sea mask	SURFIND.TERREMER	1	constant
standard deviation of sub-grid scale orography	SURFET.GEOPOTENT	J/kg	constant (used in GWD)
anisotropy of sub-grid scale orography	SURFVAR.GEOP.ANI	1	constant (used in GWD)
angle between the direction of sub-grid scale orography and x-axis	SURFVAR.GEOP.DIR	rad	constant (used in GWD)
bare land roughness length	SURFZ0REL.FOIS.G	J/kg	constant
dynamical roughness length times g	SURFZ0.FOIS.G	J/kg	monthly
thermal roughness length times g	SURFGZ0.THERM	J/kg	monthly
momentum roughness length times g	SURFZ0VEG.FOIS.G	J/kg	monthly
land fraction (lakes?)	SURFPROP.TERRE	1	constant
fraction of urbanization	SURFPROP.URBANIS	1	constant
dominant vegetation index	SURFIND.VEG.DOMI	1	constant
maximum depth of soil column	SURFEPAI.SOL.MAX	m	monthly
soil depth	SURFEPAIS.SOL	m	monthly
proportion of clay	SURFPROP.ARGILE	1	constant
proportion of sand	SURFPROP.SABLE	1	constant
maximum vegetation fraction	SURFPROP.VEG.MAX	1	monthly
vegetation fraction	SURFPROP.VEGETAT	1	monthly
albedo	SURFALBEDO	1	monthly
bare land albedo	SURFALBEDO.COMPL	1	monthly
sea/ice albedo	SURFALBEDO.SOLNU	1	monthly
vegetation albedo	SURFALBEDO.VEG	1	monthly
surface temperature	SURFTEMPERATURE	K	monthly
surface emissivity	SURFEMISSIVITE	1	monthly
deep soil temperature	PROFTEMPERATURE	K	monthly

relaxation parameters for deep soil temperature	`RELATEMPERATURE`	K	monthly
surface moisture	`SURFPROP.RMAX.EA`	kg/m^2	monthly
deep soil moisture	`PROFPROP.RMAX.EA`	kg/m^2	monthly
relaxation parameters for deep soil moisture	`RELAPROP.RMAX.EA`	kg/m^2	monthly
snow depth water equivalent	`SURFRESERV.NEIGE`	kg/m^2	monthly
leaf area index	`SURFIND.FOLIAIRE`	m^2/m^2	monthly
minimal plant stomatal resistance	`SURFRESI.STO.MIN`	s/m	monthly

Table 2: ALADIN/SURFEX (ISBA) prognostic surface variables

surface temperature	`SURFTEMPERATURE`	K	
deep soil temperature	`PROFTEMPERATURE`	K	
surface liquid water content	`SURFRESERV.EAU`	kg/m^2	
deep soil liquid water content	`PROFRESERV.EAU`	kg/m^2	
surface ice content	`SURFRESERV.GLACE`	kg/m^2	
deep soil ice content	`PROFRESERV.GLACE`	kg/m^2	
surface snow depth water equivalent	`SURFRESERV.NEIGE`	kg/m^2	
soil wetness index (SWI)		1	in preparation