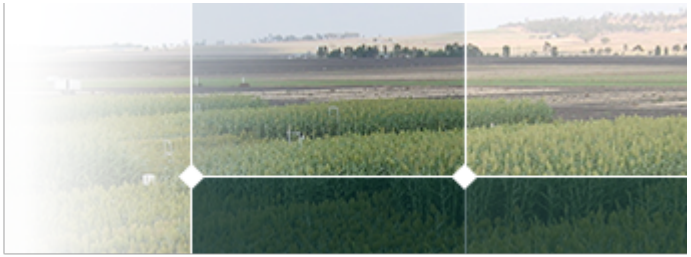

1 SoilTemperature

Parameters (Inputs)

Name	Description	Units	Type	Value
CONSTANT_TEMPdepth	Depth to the constant temperature lower boundary condition (m)		double	10

Properties (Outputs)

Name	Description	Units	Type	Settable?
AverageSoilSurfaceTemp	Temperature averaged over all time-steps within a day	oC	double	False
AverageSoilTemp	Temperature averaged over all time-steps within a day	oC	double	False
BoundaryLayerConductance		J/sec/m/K	double	False
Depth	Depth strings. Wrapper around Thickness.	mm	String	True
FinalSoilSurfaceTemp	Temperature at end of last time-step within a day - midnight	oC	double	False
FinalSoilTemp	Temperature at end of last time-step within a day - midnight	oC	double	False
HeatCapacity		J/m3/K/s	double	False
HeatStore		J/m3/K/s	double	False
MaxSoilSurfaceTemp		oC	double	False
MaxSoilTemp		oC	double	False
minSoilSurfaceTemp		oC	double	False
MinSoilTemp		oC	double	False
Tables	Tabular data. Called by GUI.		GridTable	False

Name	Description	Units	Type	Settable?
ThermalConductivity		J/sec/m/K	double	False
Thr_profile		oC	double	False
Value	Mandatory for ISoilTemperature interface. For now, just return average daily values		double	False

Links (Dependencies)

Name	Type	IsOptional?
clock	IClock	False
microClimate	MicroClimate	False
organic	Organic	False
physical	Physical	False
waterBalance	ISoilWater	False
weather	IWeather	False

Events published

Name	Type
SoilTemperatureChanged	Void SoilTemperatureChanged (Object sender, EventArgs e)

Methods (callable from manager)

Name	Description
OnCreated	void OnCreated()
RealsAreEqual	boolean RealsAreEqual(double double1, double double2) *Tests if two real values are practically equal*
Reset	void Reset(double values) *Perform a reset.*
Standardise	void Standardise(double targetThickness) *Gets the model ready for running in a simulation.*

Name	Description
VolumetricFractionAir	double VolumetricFractionAir(int32 i) *Volumetric fraction air.*
VolumetricFractionClay	double VolumetricFractionClay(int32 i) *Volumetric fraction clay.*
VolumetricFractionIce	double VolumetricFractionIce(int32 i) *Volumetric fraction ice. Ma be simulated in the future. Something like: (1 - VolumetricFractionOrganicMatter(i)) * waterBalance.Ice[i];*
VolumetricFractionOrganicMatter	double VolumetricFractionOrganicMatter(int32 i) *Volumetric fraction organic matter.*
VolumetricFractionRocks	double VolumetricFractionRocks(int32 i) *Volumetric fraction rocks.*
VolumetricFractionSand	double VolumetricFractionSand(int32 i) *Volumetric fraction sand.*
VolumetricFractionSilt	double VolumetricFractionSilt(int32 i) *Volumetric fraction silt.*
VolumetricFractionWater	double VolumetricFractionWater(int32 i) *Volumetric fraction water.*