Variable	Units	Description
TIMEKEEPING		
TIMESTAMP	YYYYMMDDHHMM	ISO timestamp - short format
TIMESTAMP_START	YYYYMMDDHHMM	ISO timestamp start of averaging period - short format
TIMESTAMP_END	YYYYMMDDHHMM	ISO timestamp end of averaging period - short format
MICROMETEOROLOGICAL		
TA_F		Air temperature, consolidated from TA_F_MDS and TA_ERA
HH	deg C	TA_F_MDS used if TA_F_MDS_QC is 0 or 1
DD	deg C	average from half-hourly data
WW-YY	deg C	average from daily data
TA_F_QC		Quality flag for TA_F
HH	adimensional	0 = measured; 1 = good quality gapfill; 2 = downscaled from ERA
DD	adimensional	fraction between 0-1, indicating percentage of measured and good quality gapfill data
WW-YY	adimensional	fraction between 0-1, indicating percentage of measured and good quality gapfill data (average from daily data)
SW_IN_POT		Shortwave radiation, incoming, potential (top of atmosphere)
HH	W m-2	
DD	W m-2	average from half-hourly data
WW-MM	W m-2	average from daily data
YY	W m-2	not defined
SW_IN_F		Shortwave radiation, incoming consolidated from SW_IN_F_MDS and SW_IN_ERA (negative values set to zero)
HH	W m-2	SW_IN_F_MDS used if SW_IN_F_MDS_QC is 0 or 1
DD	W m-2	average from half-hourly data
WW-YY	W m-2	average from daily data
SW_IN_F_QC		Quality flag for SW_IN_F

HH	adimensional	0 = measured; 1 = good quality gapfill; 2 = downscaled from ERA
DD	adimensional	fraction between 0-1, indicating percentage of measured and good quality gapfill data
WW-YY	adimensional	fraction between 0-1, indicating percentage of measured and good quality gapfill data (average from daily data)
LW_IN_F		Longwave radiation, incoming, consolidated from LW_IN_F_MDS and LW_IN_ERA
HH	W m-2	LW_IN_F_MDS used if LW_IN_F_MDS_QC is 0 o 1
DD	W m-2	average from half-hourly data
WW-YY	W m-2	average from daily data
LW_IN_F_QC		Quality flag for LW_IN_F
HH	adimensional	0 = measured; 1 = good quality gapfill; 2 = downscaled from ERA
DD	adimensional	fraction between 0-1, indicating percentage of measured and good quality gapfill data
WW-YY	adimensional	fraction between 0-1, indicating percentage of measured and good quality gapfill data (average from daily data)
VPD_F		Vapor Pressure Deficit consolidated from VPD_F_MDS and VPD_ERA
HH	hPa	VPD_F_MDS used if VPD_F_MDS_QC is 0 or 1
DD	hPa	average from half-hourly data
WW-YY	hPa	average from daily data
VPD_F_QC		Quality flag for VPD_F
HH	adimensional	0 = measured; 1 = good quality gapfill; 2 = downscaled from ERA
DD	adimensional	fraction between 0-1, indicating percentage of measured and good quality gapfill data
WW-YY	adimensional	fraction between 0-1, indicating percentage of measured and good quality gapfill data (average from daily data)
PA_F		Atmospheric pressure consolidated from PA and PA_ERA
HH	kPa	PA used if measured
DD	kPa	average from half-hourly data

	WW-YY	kPa	average from daily data
PA_F_QC			Quality flag for PA_F
	HH	adimensional	0 = measured; 2 = downscaled from ERA
	DD	adimensional	fraction between 0-1, indicating percentage of measured data
	WW-YY	adimensional	fraction between 0-1, indicating percentage of measured data (average from daily data)
P_F			Precipitation consolidated from P and P_ERA
	HH	mm	P used if measured
	DD	mm	average from half-hourly data
	WW-YY	mm	average from daily data
P_F_QC			Quality flag for P_F
	HH	adimensional	0 = measured; 2 = downscaled from ERA
	DD	adimensional	fraction between 0-1, indicating percentage of measured data
	WW-YY	adimensional	fraction between 0-1, indicating percentage of measured data (average from daily data)
WS_F			Wind speed, consolidated from WS and WS_ERA
	HH	m s-1	WS used if measured
	DD	m s-1	average from half-hourly data
	WW-YY	m s-1	average from daily data
WS_F_QC			Quality flag of WS_F
	HH	adimensional	0 = measured; 2 = downscaled from ERA
	DD	adimensional	fraction between 0-1, indicating percentage of measured data
	WW-YY	adimensional	fraction between 0-1, indicating percentage of measured data (average from daily data)
WD			Wind direction
	HH	Decimal degrees	
	DD-YY	Decimal degrees	not defined
RH			Relative humidity, range 0-100
	HH	%	
	DD-YY	%	not defined
USTAR			Friction velocity
	HH	m s-1	

DD	m s-1	average from half-hourly data (only days with more than 50% records available)
WW-YY	m s-1	average from daily data (only periods with more than 50% records available)
USTAR_QC		Quality flag of USTAR
HH	adimensional	not defined
DD	adimensional	fraction between 0-1, indicating percentage of data available (measured)
WW-YY	adimensional	fraction between 0-1, indicating percentage of data available (average from daily data)
NETRAD		Net radiation
HH	W m-2	
DD	W m-2	average from half-hourly data (only days with more than 50% records available)
WW-YY	W m-2	average from daily data (only periods with more than 50% records available)
NETRAD_QC		Quality flag of NETRAD
HH	adimensional	not defined
DD	adimensional	fraction between 0-1, indicating percentage of data available (measured)
WW-YY	adimensional	fraction between 0-1, indicating percentage of data available (average from daily data)
PPFD_IN		Photosynthetic photon flux density, incoming
HH	W m-2	
DD	W m-2	average from half-hourly data (only days with more than 50% records available)
WW-YY	W m-2	average from daily data (only periods with more than 50% records available)
PPFD_IN_QC		Quality flag of PPFD_IN
HH	adimensional	not defined
DD	adimensional	fraction between 0-1, indicating percentage of data available (measured)
WW-YY	adimensional	fraction between 0-1, indicating percentage of data available (average from daily data)
PPFD_DIF		Photosynthetic photon flux density, diffuse incoming
HH	W m-2	

DD	W m-2	average from half-hourly data (only days with more than 50% records available)
WW-YY	W m-2	average from daily data (only periods with more than 50% records available)
PPFD_DIF_QC		Quality flag of PPFD_DIF
HH	adimensional	not defined
DD	adimensional	fraction between 0-1, indicating percentage of data available (measured)
WW-YY	adimensional	fraction between 0-1, indicating percentage of data available (average from daily data)
PPFD_OUT		Photosynthetic photon flux density, outgoing
HH	W m-2	
DD	W m-2	average from half-hourly data (only days with more than 50% records available)
WW-YY	W m-2	average from daily data (only periods with more than 50% records available)
PPFD_OUT_QC		Quality flag of PPFD_OUT
HH	adimensional	not defined
DD	adimensional	fraction between 0-1, indicating percentage of data available (measured)
WW-YY	adimensional	fraction between 0-1, indicating percentage of data available (average from daily data)
SW_DIF		Shortwave radiation, diffuse incoming
HH	W m-2	
DD	W m-2	average from half-hourly data (only days with more than 50% records available)
WW-YY	W m-2	average from daily data (only periods with more than 50% records available)
SW_DIF_QC		Quality flag of SW_DIF
HH	adimensional	not defined
DD	adimensional	fraction between 0-1, indicating percentage of data available (measured)
WW-YY	adimensional	fraction between 0-1, indicating percentage of data available (average from daily data)
SW_OUT		Shortwave radiation, outgoing
HH	W m-2	

DD	W m-2	average from half-hourly data (only days with more than 50% records available)
WW-YY	W m-2	average from daily data (only periods with more than 50% records available)
SW_OUT_QC		Quality flag of SW_OUT
HH	adimensional	not defined
DD	adimensional	fraction between 0-1, indicating percentage of data available (measured)
WW-YY	adimensional	fraction between 0-1, indicating percentage of data available (average from daily data)
LW_OUT		Longwave radiation, outgoing
HH	W m-2	
DD	W m-2	average from half-hourly data (only days with more than 50% records available)
WW-YY	W m-2	average from daily data (only periods with more than 50% records available)
LW_OUT_QC		Quality flag of LW_OUT
HH	adimensional	not defined
DD	adimensional	fraction between 0-1, indicating percentage of data available (measured)
WW-YY	adimensional	fraction between 0-1, indicating percentage of data available (average from daily data)
CO2_F_MDS		CO2 mole fraction, gapfilled with MDS
HH	umolCO2 mol-1	
DD	umolCO2 mol-1	average from half-hourly data
WW-YY	umolCO2 mol-1	average from daily data
CO2_F_MDS_QC		Quality flag for CO2_F_MDS
HH	adimensional	0 = measured; 1 = good quality gapfill; 2 = medium; 3 = poor
DD	adimensional	fraction between 0-1, indicating percentage of measured and good quality gapfill data
WW-YY	adimensional	fraction between 0-1, indicating percentage of measured and good quality gapfill data (average from daily data)
TS_F_MDS_#		Soil temperature, gapfilled with MDS (numeric index "#" increases with the depth, 1 is shallowest)
HH	deg C	

	DD	deg C	average from half-hourly data
	WW-YY	deg C	average from daily data
TS_F_MDS_#_QC			Quality flag for TS_F_MDS_#
	HH	adimensional	0 = measured; 1 = good quality gapfill; 2 = medium; 3 = poor
	DD	adimensional	fraction between 0-1, indicating percentage of measured and good quality gapfill data
	WW-YY	adimensional	fraction between 0-1, indicating percentage of measured and good quality gapfill data (average from daily data)
SWC_F_MDS_#			Soil water content, gapfilled with MDS (numeric index "#" increases with the depth, 1 is shallowest)
	HH	%	
	DD	%	average from half-hourly data
	WW-YY	%	average from daily data
SWC_F_MDS_#_QC			Quality flag for SWC_F_MDS_#
	HH	adimensional	0 = measured; 1 = good quality gapfill; 2 = medium; 3 = poor
	DD	adimensional	fraction between 0-1, indicating percentage of measured and good quality gapfill data
	WW-YY	adimensional	fraction between 0-1, indicating percentage of measured and good quality gapfill data (average from daily data)
ENERGY PROCESSING			
G_F_MDS			Soil heat flux
	HH	W m-2	
	DD	W m-2	average from half-hourly data
	WW-YY	W m-2	average from daily data
G_F_MDS_QC			Quality flag of G_F_MDS
	HH	adimensional	0 = measured; 1 = good quality gapfill; 2 = medium; 3 = poor
	DD	adimensional	fraction between 0-1, indicating percentage of measured and good quality gapfill data
	WW-YY	adimensional	fraction between 0-1, indicating percentage of measured and good quality gapfill data (average from daily data)

LE_F_MDS			Latent heat flux, gapfilled using MDS method
	HH	W m-2	
	DD	W m-2	average from half-hourly data
	WW-YY	W m-2	average from daily data
LE_F_MDS_QC			Quality flag for LE_F_MDS, LE_CORR, LE_CORR25, and LE_CORR75
	HH	adimensional	0 = measured; 1 = good quality gapfill; 2 = medium; 3 = poor
	DD	adimensional	fraction between 0-1, indicating percentage of measured and good quality gapfill data
	WW-YY	adimensional	fraction between 0-1, indicating percentage of measured and good quality gapfill data (average from daily data)
LE_CORR			Latent heat flux, corrected LE_F_MDS by energy balance closure correction factor
	HH	W m-2	
	DD	W m-2	average from half-hourly data
	WW-YY	W m-2	average from daily data
LE_CORR_25			Latent heat flux, corrected LE_F_MDS by energy balance closure correction factor, 25th percentile
	HH	W m-2	
	DD	W m-2	average from half-hourly data
	WW-YY		not produced
LE_CORR_75			Latent heat flux, corrected LE_F_MDS by energy balance closure correction factor, 75th percentile
	HH	W m-2	
	DD	W m-2	average from half-hourly data
	WW-YY		not produced
LE_RANDUNC			Random uncertainty of LE, from measured only data
	HH	W m-2	uses only data point where LE_F_MDS_QC is 0 and two hierarchical methods (see header and LE_RANDUNC_METHOD)
	DD-YY	W m-2	from random uncertainty of individual half-hours (rand(i)) = [SQRT(SUM(rand(i)^2)) / n], where n is the number of half-hours used
H_F_MDS			Sensible heat flux, gapfilled using MDS method

HH	W m-2	
DD	W m-2	average from half-hourly data
WW-YY	W m-2	average from daily data
H_F_MDS_QC		Quality flag for H_F_MDS, H_CORR, H_CORR25, and H_CORR75
HH	adimensional	0 = measured; 1 = good quality gapfill; 2 = medium; 3 = poor
DD	adimensional	fraction between 0-1, indicating percentage of measured and good quality gapfill data
WW-YY	adimensional	fraction between 0-1, indicating percentage of measured and good quality gapfill data (average from daily data)
H_CORR		Sensible heat flux, corrected H_F_MDS by energy balance closure correction factor
HH	W m-2	
DD	W m-2	average from half-hourly data
WW-YY	W m-2	average from daily data
H_CORR_25		Sensible heat flux, corrected H_F_MDS by energy balance closure correction factor, 25th percentile
HH	W m-2	
DD	W m-2	average from half-hourly data
WW-YY		not produced
H_CORR_75		Sensible heat flux, corrected H_F_MDS by energy balance closure correction factor, 75th percentile
HH	W m-2	
DD	W m-2	average from half-hourly data
WW-YY		not produced
H_RANDUNC		Random uncertainty of H, from measured only data
HH	W m-2	uses only data point where H_F_MDS_QC is 0 and two hierarchical methods (see header and H_RANDUNC_METHOD)
DD-YY	W m-2	from random uncertainty of individual half-hours (rand(i)) = [SQRT(SUM(rand(i)^2)) / n], where n is the number of half-hours used
NET ECOSYSTEM EXCHANGE		

NIGHT		Flag indicating nighttime interval based on SW_IN_POT
HH	adimensional	0 = daytime, 1 = nighttime
DD-YY		not produced
NEE_VUT_REF		Net Ecosystem Exchange, using Variable Ustar Threshold (VUT) for each year, reference selected on the basis of the model efficiency
HH	umolCO2 m-2 s-1	
DD	gC m-2 d-1	calculated from half-hourly data
WW-MM	gC m-2 d-1	average from daily data
YY	gC m-2 y-1	sum from daily data
NEE_VUT_REF_QC		Quality flag for NEE_VUT_REF
HH	adimensional	0 = measured; 1 = good quality gapfill; 2 = medium; 3 = poor
DD	adimensional	fraction between 0-1, indicating percentage of measured and good quality gapfill data
WW-YY	adimensional	fraction between 0-1, indicating percentage of measured and good quality gapfill data (average from daily data)
NEE_VUT_REF_RANDUNC		Random uncertainty for NEE_VUT_REF, from measured only data
HH	umolCO2 m-2 s-1	uses only data points where NEE_VUT_REF_QC is 0 and two hierarchical methods - see header and NEE_VUT_REF_RANDUNC_METHOD
DD-MM	gC m-2 d-1	from random uncertainty of individual half-hours (rand(i)) = [SQRT(SUM(rand(i)^2)) / n], where n is the number of half-hours used
YY	gC m-2 y-1	from random uncertainty of individual half-hours (rand(i)) = [SQRT(SUM(rand(i)^2)) / n], where n is the number of half-hours used
NEE_VUT_XX		NEE VUT percentiles (approx. percentile indicated by XX, see doc.) calculated from the 40 estimates for each period -- XX = 05, 16, 25, 50, 75, 84, 95
HH	umolCO2 m-2 s-1	XXth percentile from 40 half-hourly NEE_VUT_XX
DD	gC m-2 d-1	XXth percentile from 40 daily NEE_VUT_XX
WW	gC m-2 d-1	XXth percentile from 40 weekly NEE_VUT_XX
MM	gC m-2 d-1	XXth percentile from 40 monthly NEE_VUT_XX
YY	gC m-2 y-1	XXth percentile from 40 yearly NEE_VUT_XX

NEE_VUT_XX_QC		Quality flag for NEE_VUT_XX -- XX = 05, 16, 25, 50, 75, 84, 95
HH	adimensional	0 = measured; 1 = good quality gapfill; 2 = medium; 3 = poor
DD	adimensional	fraction between 0-1, indicating percentage of measured and good quality gapfill data
WW-YY	adimensional	fraction between 0-1, indicating percentage of measured and good quality gapfill data (average from daily data)
PARTITIONING		
NIGHTTIME		
RECO_NT_VUT_REF		Ecosystem Respiration, from Nighttime partitioning method, reference selected from RECO versions using a model efficiency approach. Based on corresponding NEE_VUT_XX version
HH	umolCO2 m-2 s-1	
DD	gC m-2 d-1	calculated from half-hourly data
WW-MM	gC m-2 d-1	average from daily data
YY	gC m-2 y-1	sum from daily data
RECO_NT_VUT_XX		Ecosystem Respiration, from Nighttime partitioning method, based on corresponding NEE_VUT_XX (with XX = 05, 16, 25, 50, 75, 84, 95)
HH	umolCO2 m-2 s-1	
DD	gC m-2 d-1	calculated from half-hourly data
WW-MM	gC m-2 d-1	average from daily data
YY	gC m-2 y-1	sum from daily data
GPP_NT_VUT_REF		Gross Primary Production, from Nighttime partitioning method, reference version selected from GPP versions using a model efficiency approach. Based on corresponding NEE_VUT_XX version
HH	umolCO2 m-2 s-1	
DD	gC m-2 d-1	calculated from half-hourly data
WW-MM	gC m-2 d-1	average from daily data
YY	gC m-2 y-1	sum from daily data

GPP_NT_VUT_XX		Gross Primary Production, from Nighttime partitioning method, based on corresponding NEE_VUT_XX (with XX = 05, 16, 25, 50, 75, 84, 95)
HH	umolCO2 m-2 s-1	
DD	gC m-2 d-1	calculated from half-hourly data
WW-MM	gC m-2 d-1	average from daily data
YY	gC m-2 y-1	sum from daily data
DAYTIME		
RECO_DT_VUT_REF		Ecosystem Respiration, from Daytime partitioning method, reference selected from RECO versions using a model efficiency approach. Based on corresponding NEE_VUT_XX version
HH	umolCO2 m-2 s-1	
DD	gC m-2 d-1	calculated from half-hourly data
WW-MM	gC m-2 d-1	average from daily data
YY	gC m-2 y-1	sum from daily data
RECO_DT_VUT_XX		Ecosystem Respiration, from Daytime partitioning method, based on corresponding NEE_VUT_XX (with XX = 05, 16, 25, 50, 75, 84, 95)
HH	umolCO2 m-2 s-1	
DD	gC m-2 d-1	calculated from half-hourly data
WW-MM	gC m-2 d-1	average from daily data
YY	gC m-2 y-1	sum from daily data
GPP_DT_VUT_REF		Gross Primary Production, from Daytime partitioning method, reference version selected from GPP versions using a model efficiency approach. Based on corresponding NEE_VUT_XX version
HH	umolCO2 m-2 s-1	
DD	gC m-2 d-1	calculated from half-hourly data
WW-MM	gC m-2 d-1	average from daily data
YY	gC m-2 y-1	sum from daily data
GPP_DT_VUT_XX		Gross Primary Production, from Daytime partitioning method, based on corresponding NEE_VUT_XX (with XX = 05, 16, 25, 50, 75, 84, 95)

HH	umolCO2 m-2 s-1	
DD	gC m-2 d-1	calculated from half-hourly data
WW-MM	gC m-2 d-1	average from daily data
YY	gC m-2 y-1	sum from daily data
SUNDOWN		
RECO_SR		Ecosystem Respiration, from Sundown Respiration partitioning method
HH	umolCO2 m-2 s-1	
DD	gC m-2 d-1	calculated from half-hourly data
WW-MM	gC m-2 d-1	average from daily data
YY	gC m-2 y-1	sum from daily data
RECO_SR_N		Fraction between 0-1, indicating the percentage of data avaiable in the averaging period to parametrize the respiration model
HH		not produced
DD-YY	adimensional	percentage of data available