

L1- L3 ANCILLARY PRODUCTS

Data Set ID	Data Set Title	Data Set Summary	Sub-Product Title	Sub-Product Description	Standard SMAP Products Used In	Sub-Product File Naming Convention
SMAP_L1_L3 Ancillary Static Data	Soil Moisture Active Passive (SMAP) L1-L3 Ancillary Static Data	This ancillary SMAP product contains more than 50 data sets. These data sets contain the inputs necessary to create SMAP products from raw instrument counts, such as permanent masks (land, water, forest, urban, mountain, etc.), the grid cell average elevation and slope derived from a Digital Elevation Model (DEM), permanent open water fraction, soils information (primarily sand and clay fraction), vegetation parameters, and surface roughness parameters.	AngularPosition	Provides the angular position of the 48 pins that underlie the rotating antenna assembly	SpiceAntennaAzimuth	File Name: SMAP_IP_Angular_Position_v002.xml
			AntPatternCorr	SMAP antenna pattern correction calibration table used for transforming antenna temperature to brightness temperature in L1B_TB.	SPL18TB	File Name: AntPatternCorr_170830_v010.h5
			BETA_PARAM_DEFAULT	Pre-computed beta parameter coefficients, providing a default set of Tb disaggregation parameters to use in L2_SM_AP active/passive retrievals.	SPL2SMAP	File Name: BetaParamDefault_B00000000_0000_v03_R00000_006.float32
			BFPQ_DECODE_EXP	Block Floating Point Quantizer Decoding Table for Exponent. Used by high-res L1C processor to decode high-res samples in telemetry.	SPL1CS0	File Name: bfpq_mult_decode_arr_16_4_5_20120101_v001.bin
			BFPQ_DECODE_MANT	Block Floating Point Quantizer Decoding Table for Mantissa. Used by high-res L1C processor to decode high-res samples in telemetry.	SPL1CS0	File Name: bfpq_decode_mant_arr_m4_20120101_v001.bin
			CAL_LT_HIRES_DEFAULT	The default version of the Hi Res Long Term Radar Calibration Record Product.	SPL1CS0	File Name: SMAP_CAL_LT_HIRES_DEFAULT_v006.xml
			CAL_LT_LORES_DEFAULT	The default version of the Lo Res Long Term Radar Calibration Record Product.	SPL1BS0	File Name: SMAP_CAL_LT_LORES_DEFAULT_v006.xml

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			CHANGE_INDEX_REF_S0	Backscatter reference (low, high) table used in the soil moisture change index algorithm for L2_SM_A.	SPL2SMA	File Name: sigma0RefState4mv_004.float32
			COASTALMASK	Table containing distance of each grid cell center from the nearest coastline, used for coastal-cell flagging in L2_SM_A and L2_SM_AP retrievals.	SPL2SMA, SPL2SMAP	Generic File Name: CoastlaMask_M[##]_002.float32 File Naming Convention: [##] - Grid resolution, in km (e.g. 03, 09)
			CROP_TYPE	The SMAP crop type ancillary dataset is a composite derived from USDA (US), AAFC (Canada), ECOCLIMAP (Europe) and a statistical database for the rest of the globe by Monfreda (2008). This ancillary data is expected to change on a seasonal to annual basis, as new data become available.	SPL2SMA	File Name: 4crops_M03_B20100101_004.uint8
			CUBESSET_CONFIG	The cubeset configuration file is a text file that defines the mapping of landcover class index to specific radar data cube files, used in the active soil moisture retrieval processing.	SPL2SMA	File Name: CubesetConfig_B20010101_003.txt
			DATA_CUBE	A table of radar backscatter as a function of dielectric constant, vegetation water content, and surface roughness, used in the retrieval of soil moisture for the active (radar-only) L2_SM_A product. Each of the 16 data cube files represents a different landcover and/or crop type.	SPL2SMA	Generic File Name: Datacube_<type>_###.float32 File Naming Convention: <type> - Ecosystem (e.g. MixedForest, ClosedShrub, BareSoil, etc.) ### - Version number (e.g. 002, 003)
			DataVolumeEstimate	The contents of the DataVolEstimate file has information per orbit path for how much hi Res data vs total data is expected for both RAD and SAR	SPL1AA, SPL1AP,	File Name: DataVolLUT_160307212420_v01.txt

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			DEM_LIST	Digital Elevation Map List. The SMAP spacecraft travels in a cycle that repeats after 117 orbits. Each of those orbits flies over a subset of the tiles that comprise the complete Digital Elevation Map. The Radar team provides a library of 234 list files, one for each ascending half orbit path and one for each descending half orbit path. Used by high-res L1C processor for SAR correlation and geo-location.	SPL1BS0, SPL1CS0	Generic File Name: smap_dem_###_[A]D.tm File Naming Convention: ### - Orbit number (0 - 117) [A]D - Ascending (A) or Descending (D)
			DEM_SLP	Terrain slope derived from the GMTED2010 digital elevation map (DEM).	SPL2SMP, SPL2SMAP	Generic File Name: DEMSLP_[M][N][##]_003.float32 File Naming Convention: [M][N] - Grid type (M = Mid and low latitudes, N = North) [##] - Grid resolution, in km (e.g. 01, 03)
			DEM_SLPSTD	Terrain slope standard deviation, derived from the GMTED2010 digital elevation map (DEM).	SPL2SMAP	Generic File Name: DEMSLPSTD_[M][N][##]_003.float32 File Naming Convention: [M][N] - Grid type (M = Mid and low latitudes, N = North) [##] - Grid resolution, in km (e.g. 01, 03)
			DEMSTD	Elevation standard deviation derived from the GMTED2010 digital elevation map (DEM).	SPL2FTA, SPL2SMA	Generic File Name: DEMSTD_[M][N][##]_003.float32 File Naming Convention: [M][N] - Grid type (M = Mid and low latitudes, N = North) [##] - Grid resolution, in km (e.g. 01, 03)
			DirectGalaxyLUT	Lookup table for applying the direct galaxy correction to the L1B_TB antenna temperature.	SPL18TB	Generic File Name: DirectGalaxyLut_####_v003.0 File Naming Convention: #### - File version (e.g. 0101, 1231)
			DIST2WATER	Table providing the distance from a grid cell center to the nearest open water body.	SPL2SMP	Generic File Name: dist2water_M[##]_002.float32 File Naming Convention: [##] - Grid resolution, in km (e.g. 03, 09)
			DSK	SPICE Digital Shape Kernels (DSK) each of which supplies one tile of the digital elevation map (DEM).	SPL1BS0, SPL1CS0	Generic File Name: DSK_LL##[N][S]###E_UR##[N][S]###E_YYYYMMDD_GMTED2010_v000.bds File Naming Convention: LL##[N][S] - Latitude of lower left tile ###E - Longitude (000 - 359) UR##[N][S] - Latitude of upper right corner of tile ###E - Longitude (000 - 359) YYYYMMDD - Date in year-month-day format

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			EPS_TO_MV_DOBSON	Dielectric constant to soil moisture inversion table, using the Dobson dielectric model, used in active soil moisture retrievals.	SPL2SMA	File Name: eps2mvDobson_002.float32
			EPS_TO_MV_MIRONOV	Dielectric constant to soil moisture inversion table, using the Mironov dielectric model, used in active soil moisture retrievals.	SPL2SMA	File Name: eps2mvMironov_002.float32
			FT_PARAMETERS	Table of freeze and thaw reference backscatter states and the retrieval algorithm thresholds, at each EASE grid cell, used in the L2_FT_A and L2_SM_A freeze-thaw flag determination.	SPL2SMA, SPL2FTA	Generic File Name: FTParameters_[M N]03_007.float32 File Naming Convention: [M N] - Grid type (M = Mid and low latitudes, N = North)
			FT_PASV_PARAMETERS	Parameters used for passive freeze-thaw retrieval. These include freeze and thaw reference states for NPR retrieval, thresholds for SCV retrievals, and AMSR-E based never-frozen/never-thawed flags for false-flag mitigation. Separate files used for Polar and Global processing, at both 36 km and 9 km grid resolutions.	SPL3FTP, SPL2FTP_E	Generic File Name: FT_PASV_Parameters_[M N]##_v.vv.float32 File Naming Convention: [M N] - Grid type (M = Mid and low latitudes, N = North) ## - Grid resolution, in km (e.g. 09, 36) vv - Version number (e.g. 002, 005)
			FullBandCoeffs	Coefficients for internal calibration sources used to convert raw instrument counts to L1B_TB antenna temperatures.	SPL1BTB	Generic File Name: FullBandCoeffs_YYMMDDhmm_v016.h5 File Naming Convention: YYMMDD - Date in abbreviated year-month-day format hmm - Time in hours and minutes
			GBTs_DEFAULT	Dummy Global Backscatter Time Series file, filled with FillValues, used at the start of the SMAP radar time series where there are no prior measurements available.	SPL2SMA, SPL2SMAP	File Name: GBTs_E00000000_035_v03_R00000_000.float32
			HiResExternalTargets	Locations of external targets for the L1C_S0 HiRes data calibration, used for Cal/Val only.	SPL1CS0	File Name: HiResExternalTargets_131120_v001.xml
			IMS_LAT	Pre-computed latitudes for NOAA IMS snow data grid, at 4 km resolution.	SNOW_EXT	File Name: imslat_4km_NH.bin
			IMS_LON	Pre-computed longitudes for NOAA IMS snow data grid, at 4 km resolution.	SNOW_EXT	File Name: imslon_4km_NH.bin
INDEX_2D1D	To economize disk space, GBTS keeps the backscatter time-series record over global land only and in a 1D array. The 2D to 1D conversion table is used by GBTS.	SPL2SMA	File Name: Index2D1D_M03_002.int32			
L1BAdHoc	Empirically derived bias corrections to the low-res radar data as a function of scan angle and orbit position. These are all set to unity as no relative bias corrections were needed by low-res radar data.	SPL1B50	Generic File Name: L1BAdHoc_YYMMDD_V###.h5 File Naming Convention: YYMMDD - Date in abbreviated year-month-day format ### - Version number (e.g. 001)			

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			L2_SM_A_DEF AULT	A dummy HDF5 L2_SM_A file used by the L2_SM_P SPS when a required L2_SM_A input file is not available.	SPL2SMP	File Name: SMAP_L2_SM_A_00000_D_0000000T000000_D00000_005.h5
			L3_FT_A_DEFAULT	A dummy HDF5 L3_FT_A file used by the L3_FT_A SPS when the prior-day L3_FT_A input file is not available.	SPL3FTA	File Name: SMAP_L3_FT_A_00000000_D00000_006.h5
			L3_FT_P_DEFAULT	Dummy L3_FT_P file with empty data arrays, used as a prior-day input when there is no full prior-day product available.	SPL3FTP	File Name: SMAP_L3_FT_P_00000000_D00000_007.h5
			L3_FT_P_E_DEFAULT	Dummy L3_FT_P_E file with empty data arrays, used as a prior-day input when there is no full prior-day product available.	SPL3FTP_E	File Name: SMAP_L3_FT_P_E_00000000_D00000_007.h5
			L3_SM_COMPOSITE_DEFAULT	A dummy L3_Composite file used by the Beta_Parameter preprocessor at the startup of the SMAP time series, when no prior sigma0 and brightness temperature data are available.	BetaParam internal product	File Name: CompositeL3SM_B00000000_v03_D00000_000.float32
			LAND_MASK	Global land/ocean mask used by the L1B_S0_LoRes ocean calibration analysis during cal/val only.	SPL1BS0	File Name: LandMask_140302_v001.dat
			LAND_MASK_1	Land-water mask at 1 km resolution used in the TB water correction algorithm in L1B_TB.	SPL1BTB	File Name: Land_Mask_1km_EASE2_grid_150101_v004.h5
			LANDCOVER_CLASS	Dominant IGBP landcover class index, based on largest areal fraction in the EASE grid cell.	SPL2SMA, SPL2SMP, SPL2SMAP	Generic File Name: dominantIGBP_[M N]###_B20120101_003.uint8 File Naming Convention: [M N] - Grid type, (M = Mid and low latitudes, N = North) ## - Grid resolution, in km (e.g. 01, 03)
			LANDCOVER_CLASS_FRACTION_TOP3	Fractional areal coverage for the top three landcover classes appearing in each EASE grid cell.	SPL2SMP	File Name: top3IGBPfrac_M36_B20120101_004.float32

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			LinearCoeffs	Coefficients used to correct raw instrument counts for nonlinear instrument response when generating L1B_TB antenna temperatures.	SPL1BTB	File Name: LinearCoeffs_1309010000_v006.h5
			LoResExternalTargets	Locations of external targets for the L1B_S0_LoRes data calibration, used for Cal/Val only.	SPL1B50	File Name: LoResExternalTargets_131120_v001.xml
			NDVI	The Normalized Difference Vegetation Index (NDVI) is a numerical indicator that uses the visible and near-infrared bands of the electromagnetic spectrum, and is adopted to analyze remote sensing measurements and assess whether the target being observed contains live green vegetation or not. The NDVI climatology used by SMAP is derived from MODIS data.	SPL2SMA, SPL2SMP, SPL2SMAP	Generic File Name: NDVI_M[?].###_002.int16 File Naming Convention: [?] - Grid resolution, in km (e.g. 01, 09) ### - Day of year, where Jan 1 = 001
			OCEAN_MODEL	These files contain parameters that define the ocean model in the L1B S0 LoRes. The SPS reads four files, one for each of the polarization channels	SPL1B50	Generic File Name: OceanModel_<pol>_140302_v###.dat File Naming Convention: <pol> - Polarization (e.g. VV, VH) ### - Version number (e.g. 001, 002)
			PASSIVE_COEFF	Extended table of tau-omega model coefficients used in passive SM retrieval. Currently a "dummy" file not actually used in L2_SM_P/E.	SPL2SMP_E	Generic File Name: pasv_[?].M##_001.float32 File Naming Convention: [?] - Polarization (e.g. hh, hv) M## - Grid type (M = Mid and low latitudes) and resolution, in km (e.g. 09)
			PRECIP_DEFAULT	A dummy PRECIP ancillary file, in which the grid is filled with fillValues, used by L2 SPSes when no valid PRECIP data are available.	SPL1SMA, SPL2SMP	Generic File Name: PrecipSMAP_[M N]##_P0000000T000000_A_0000000T000000_R00000_002.float32 File Naming Convention: [M N] - Grid type (M = Mid and low latitudes, N = North) ## - Grid resolution (e.g. 03, 09)
			RadarAntennaPattern	The SMAP radar antenna gain pattern, provided in dB relative to the peak gain, in azimuth/elevation coordinates.	SPL1B50, SPL1CS0	Generic File Name: Elaz_Complete_SAR_Band_[V H]pol_v001.grd File Naming Convention: [V H] - Polarization (V = vertical, H = horizontal)
			RadiometerAntPattern	Antenna pattern model output used when correcting for solar and lunar contamination to convert L1B_TB antenna temperatures to Tb's.	SPL1BTB	File Name: RadiometerAntPattern_170830_v011.h5

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			ReflectedSunLUT	Approximation of sun reflected off Earth contribution to antenna temperatures used when converting to Tb.	SPL1BTB	File Names: ReflectedSunLUT_0101_v004.h5 ReflectedSunLUT_1231_v004.h5
			Reflector	Coefficients related to the reflector and radome used to convert raw instrument counts to L1B_TB antenna temperatures and Tb's.	SPL1BTB	Generic File Name: Reflector_YYMMDD_v003.h5 File Naming Convention: YYMMDD - Date in abbreviated year-month-day format
			RFIKurtosisParameters	Coefficients used in the RFI detection algorithms.	SPL1BTB	Generic File Name: RFIKurtosisParameters_YYMMDD_v###.h5 File Naming Convention: YYMMDD - Date in abbreviated year-month-day format ### - Version number (e.g. 012, 013)
			RFIParameters	Coefficients used in the RFI detection algorithms.	SPL1BTB	Generic File Name: RFIParameters_YYMMDD_v###.h5 File Naming Convention: YYMMDD - Date in abbreviated year-month-day format ### - Version number (e.g. 012, 013)
			ScaleFactors	Coefficients used when converting raw instrument counts to L1B_TB antenna temperatures.	SPL1AA	File Name: ScaleFactors_140131_v002.bin
			SignedMasks	Coefficients used when converting raw instrument counts to L1B_TB antenna temperatures.	SPL1AP	File Name: SignedMasks_130820_v001.bin
			SNOW_DEFAULT	A dummy SNOW ancillary file, in which the grid is filled with fillValues, used by L2 SPSes when no valid SNOW data are available.	SPL2SMA, SPL2SMP, SPL2SMAP	Generic File Name: SnowSMAP_[M N]##_P00000000T000000_R00000_002.float32 File Naming Convention: [M N] - Grid type (M = Mid and low latitudes, N = North) ## - Grid resolution, in km (e.g. 03, 09)
			SOIL_TEXTURE	Soil Texture attributes include sand and clay fractions, bulk density, and organic content. The dataset used by SMAP is compiled from the Harmonized World Soil Database and regional datasets (ASRIS, STATSGO, NSDC).	SPL2SMA, SPL2SMP, SPL2SMAP	Generic File Name: [clay sand bulk]_M##_004.float32 File Naming Convention: [clay sand bulk] - Soil type ## - Grid resolution, in km (e.g. 01, 03)
			SpiceEarthFixedFrame	SPICE kernel containing definition of Earth body fixed coordinate system.	SPL1AA, SPL1AP, SPL1BTB, SPL1BS0, SPL1CS0	File Name: earth_assoc_itr93.tf
			SpiceEarthOrientation	SPICE kernel containing Earth pole orientation geometric data	SPL1AA, SPL1AP, SPL1BTB, SPL1BS0, SPL1CS0	File Name: earth_000101_190326_190103.bpc
			SpiceLeapSecond	SPICE kernel containing leap second (TAI-UTC) data	SPL1AA, SPL1AP, SPL1BTB, SPL1BS0, SPL1CS0	File Names: naif0011.tls naif0012.tls
			SpicePlanetaryConstants	SPICE kernel containing solar system data (including Earth)	SPL1AA, SPL1AP, SPL1BTB, SPL1BS0, SPL1CS0	File Name: pck00010.tpc

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			SpiceProjectFrames	SPICE kernel containing the definitions of the SMAP coordinate systems	SPL1AA, SPL1AP, SPL1BTB, SPL1BS0, SPL1CS0	File Name: smap_pf_v14.tf
			SpiceSCLK	SPICE kernel containing the correlation between the spacecraft clock (SCLK) and UTC, expressed as a baseline UTC and a slope parameter of UTC seconds per spacecraft "seconds"	SPL1AA, SPL1AP, SPL1BTB, SPL1BS0, SPL1CS0	File Name: smap_cl_v00097.tsc
			SubBandCoeffs	Coefficients for internal calibration sources used to convert raw instrument counts to L1B_TB antenna temperatures.	SPL1BTB	Generic File Name: SubBandCoeffs_YYMMDDhhmm_v017.h5 File Naming Convention: YYMMDD - Date in abbreviated year-month-day format hhmm - Time in hours and minutes
			SURFACE_ROUGHNESS	The effective roughness of the surface as a function of landcover type, used in the Tau-Omega radiative transfer model.	SPL1BTB	Generic File Name: roughness_M##_002.float32 File Naming Convention: ## - Grid resolution, in km (e.g. 01, 03)
			SURFACE_ROUGHNESS_COEFF	The physical (RMS) roughness of the surface in centimeters, based on statistics of surface roughness as a function of landcover type	SPL2SMA, SPL2SMP, SPL2SMAP	Generic File Name: h_M##_002.float32 File Naming Convention: ## - Grid resolution, in km (e.g. 03, 09)
			SurfaceWaterFraction	The main-lobe gain weighted water fraction output is based on a water fraction look-up table (waterTable). The waterTable is generated with Matlab code by smoothing a 1-km land/water map using a Gaussian mask based on the SMAP radiometer antenna mainlobe shape.	SPL1BTB	File Name: SurfaceWaterFraction_141212_v002.h5
			TempCoefs	Temperature-dependent calibration coefficients used for converting L1A telemetry values to engineering units.	SPL1AP	Generic File Name: TempCoefs_YYMMDD_v001.bin File Naming Convention: YYMMDD - Date in abbreviated year-month-day format
			TEMPORAL_WINDOW	The Temporal Window grid is an array containing the number of days required to obtain a time series of brightness temperature and radar backscatter with the assumption that the surface conditions (e.g., vegetation and surface roughness) are not changing much. This is essential to obtain physically relevant and statistically robust Beta Parameter at each grid cell.	internal BETA_PARAM product	File Name: TemporalWindow_M36_002.int32

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			VoltageCurrentCoeffs	Coefficients used to convert raw engineering telemetry counts to engineering units (voltage, current and temperatures).	SPL1AP	Generic File Name: VoltageCurrentCoeffs_YYMMDD_v001.bin File Naming Convention: YYMMDD - Date in abbreviated year-month-day format
			WATER_FRACTION	Static water fraction based on 12-year MODIS 44W dataset, giving the areal fraction of each EASE grid cell containing open water.	SPL2FTA, SPL2SMA, SPL2SMP, SPL2SMAP	Generic File Name: waterfrac_[M N]##_002.float32 File Naming Convention: [M N] - Grid type (M = Mid and low latitudes, N = North) ## - Grid resolution, in km (e.g. 09, 36)
SMAP_L1_L3 Ancillary Satellite Data	Soil Moisture Active Passive (SMAP) L1-L3 Ancillary Satellite Data	This ancillary SMAP product contains two dynamic data sets describing 1) the attitude and 2) the trajectory of the SMAP satellite. The data files are generated using quaternions from the SMAP spacecraft and inputs from earth receiving stations, respectively.	SpiceSpacecraftAttitude	Processed Attitude based on quaternions from SMAP spacecraft	SPL1AA, SPL1AP, SPL1BTB, SPL1BS0, SPL1CS0	Generic File Name: smap_at_[#####]_[????????]_v##.bc File Naming Convention: [#####] - Start time, in abbreviated year-month-day-hour-minute format [????????] - End time, in abbreviated year-month-day-hour-minute format ## - Version number (e.g. 00, 01)
			SpiceSpacecraftTrajectory	Processed spacecraft trajectory of SMAP based on inputs (doppler) from earth receiving stations	SPL1AA, SPL1AP, SPL1BTB, SPL1BS0, SPL1CS0	Generic File Name: traj_SPK_[#####]_[????????]_[*****]_sci_[OD###]_v???.bsp File Naming Convention: [#####] - Coverage start time, in abbreviated year-month-day-hour-minute format [????????] - Coverage end time, in abbreviated year-month-day-hour-minute format [*****] - Reconstructed end time, in abbreviated year-month-day-hour-minute format [OD###] - Serial number ?? - Version number (e.g. 00, 01)

Data Set ID	Data Set Title	Data Set Summary	Sub-Product Title	Sub-Product Description	Standard SMAP Products Used In	Sub-Product File Naming Convention
SMAP_L1_L3 Ancillary NOAA	Soil Moisture Active Passive (SMAP) L1-L3 Ancillary NOAA Data	This ancillary SMAP product contains six dynamic data sets originally produced by NOAA or NOAA-affiliated organizations. 1) NCEP Geophysical Forecast System modeled data provided in 6-hour time steps 2) Daily Reynolds Sea Surface Temperature data 3) Snow Cover data from NOAA Interactive Multisensor Snow and Ice Mapping System 4) NOAA Solar Radio Flux 5) GPS-derived total electron content used to compute the Faraday rotation correction for the SMAP radar 6) Instantaneous wave height measures	NCEP_GFS_ASM	Analysis model data from NCEP Geophysical Forecast System (GFS). Provided on instantaneous 6-hourly time centers for each day. Variables used include sea ice fraction and sea surface vector winds.	SPL18TB, SPL1B50	Generic File Name: SSW_[I U V]_gfs_ani_YYYYMMDD[T##]_t000_v001.txt File Naming Convention: [I U V] - I = Ice, U = Horizontal component of the wind, V = Veritconal component of the wind YYYYMMDD - Date in year-month-day format [T##] - Time in hours
			SeaSurfTemp	Daily Reynolds Sea Surface Temperature (SST) data used for estimate of ocean surface reflectivity needed to process Tb.	SPL18TB	Generic File Name: avhrr-only-v2.YYYYMMDD.nc File Naming Convention: YYYYMMDD - Date in year-month-day format
			SNOW_EXT	Snow cover data from NOAA IMS, providing 4 km polar gridded pixels of binary snow (1) and no snow (0) cover in each pixel.	SPL1SMA, SPL2SMP	Generic File Name: imsYYYYMMDD_4km.asc File Naming Convention: YYYYMMDD - Date in year-month-day format
			SolarRadioFlux	NOAA Solar Radio Flux (updated at local solar noon) for last 30 days used to correct for solar contributions to process Tb.	SPL18TB	Generic File Name: SolarRadioFlux_YYYYMMDD[THHMMSS]_v????.txt File Naming Convention: YYYYMMDD - Date in year-month-day format [THHMMSS] - Time in hour-minutes-seconds ??? - Version number (e.g. 001, 002)
			TotalElectronContent	GPS-derived total electron content (TEC) used to compute Faraday rotation correction for SMAP radar.	SPL1B50, SPL1CS0	Generic File Name: ig[r s]g###0.??i File Naming Convention: [r s] - r = rapid solution file, s = analysis file #### - Day of year, where Jan 1 = 001 ?? - File extension (15 - 19)
			WAVE_HEIGHT_ASM	Assimilated instantaneous significant wave height measures used for radar ocean calibration.	SPL1B50	Generic File Name: SWH_nww3_ani_YYYYMMDD[T??]_t000_v001.txt File Naming Convention: YYYYMMDD - Date in year-month-day format [T??] - Time in hours
SMAP_L1_L3 Ancillary GEOS	Soil Moisture Active Passive (SMAP) L1-L3 Ancillary GEOS Data	This ancillary SMAP product contains three dynamic GMAO GEOS-5 modeled data sets. Each data set contains surface and atmospheric parameters pertinent to SMAP provided in 1) hourly, 2) 3-hour, and 3) averaged over 3-hour intervals.	GEOS_INST1_ASM	GMAO GEOS-5 hourly analysis model data package. Contains a number of selected surface and atmospheric parameters pertinent to SMAP on instantaneous hourly intervals.	SPL2SMA, SPL2SMP, SPL2SMAP	Generic File Name: GEOS.fp.asm.inst1_2d_smp_Nx.YYYYMMDD_####.V???.nc4 File Naming Convention: YYYYMMDD - Date in year-month-day format #### - Hours, in military time ?? - version number (e.g. 01, 02)
			GEOS_INST3_ASM	GMAO GEOS-5 3-hourly analysis model data package. Contains a number of selected surface and atmospheric parameters pertinent to SMAP on instantaneous 3-hourly intervals.	SPL18TB	Generic File Name: GEOS.fp.asm.inst3_2d_smp_Nx.YYYYMMDD_####.V???.nc4 File Naming Convention: YYYYMMDD - Date in year-month-day format #### - Hours, in military time ?? - version number (e.g. 01, 02)
			GEOS_TAVG3_ASM	GMAO GEOS-5 hourly analysis model data package. Contains a number of selected surface and atmospheric parameters pertinent to SMAP averaged over 3-hour intervals.	SPL2SMA, SPL2SMP, SPL2SMAP	Generic File Name: GEOS.fp.asm.tavg3_2d_smp_Nx.YYYYMMDD_####.V???.nc4 File Naming Convention: YYYYMMDD - Date in year-month-day format #### - Hours in military time ?? - Version number (e.g. 01, 02)

L4 ANCILLARY PRODUCTS

Data Set ID	Data Set Title	Data Set Summary	Standard SMAP Products Used In	Sub-Product File Naming Convention
SMAP_L4_C_ANC_BPLUT	Soil Moisture Active Passive (SMAP) L4 Carbon Ancillary Biome Parameter Look Up Table	This ancillary SMAP product contains biophysical characteristics (biome parameters) used to estimate carbon fluxes and soil organic carbon in the SMAP L4 Carbon algorithm. Biophysical characteristics were established from previous studies and the parameters defined for the MODIS MOD17 operation GPP algorithm. This data set was refined through regional and global comparisons and calibration of prototype SMAP L4 Carbon calculations.	SPL4CMDL	File Names: SPL4C_Vb1010_SMAP_L4_C.BPLUT.csv SPL4C_Vv3040_SMAP_L4_C.BPLUT.csv
SMAP_L4_C_ANC_FPAR_CLIM	Soil Moisture Active Passive (SMAP) L4 Carbon Ancillary FPAR Climatology	This ancillary SMAP product contains a static climatology data set. The climatology data is derived from MODIS Fractional Photosynthetically Active Radiation (FPAR) models and represents a global 8-day average.	SPL4CDML	File Name: SPL4C_Vb1010_SMAP_L4_C.FparClimatology.h5
SMAP_L4_C_ANC_MDL_LOG	Soil Moisture Active Passive (SMAP) L4 Carbon Ancillary Model Output Log Files	This ancillary SMAP product contains SMAP L4 Carbon model log files, including model outputs.	SPL4CDML	Generic File Name: SPL4C_[Version]_SMAP_L4_C.model_log.YYYYMMDD.txt File Naming Convention: [Version] - Science Version ID YYYYMMDD - Date in year-month-day format
SMAP_L4_C_ANC_MDL_RIP	Soil Moisture Active Passive (SMAP) L4 Carbon Ancillary Model Run Time Input Parameters	This ancillary SMAP product contains SMAP L4 Carbon model configurations, including model inputs.	SPL4CDML	Generic File Name: SPL4C_[Version]_SMAP_L4_C.model_runtime_input_param.YYYYMMDD.rip File Naming Convention: [Version] - Science Version ID YYYYMMDD - Date in year-month-day format
SMAP_L4_C_ANC_MET	Soil Moisture Active Passive (SMAP) L4 Carbon Ancillary Surface Meteorological Forcing Data	This ancillary SMAP product contains dynamic surface meteorological forcing data. The meteorological model is derived from the Modern-Era Retrospective Analysis for Research and Applications (MERRA) data set and used as an input in the SMAP L4 Carbon algorithm. The forcing data is processed from hourly GEOS-5 files into daily values. Daily files are processed every eight days.	SPL4CDML	Generic File Name: SPL4C_[Version]_SMAP_L4_C.MET.YYYYMMDD.h5 File Naming Convention: [Version] - Science Version ID YYYYMMDD - Date in year-month-day format
SMAP_L4_C_ANC_MET_LOG	Soil Moisture Active Passive (SMAP) L4 Carbon Ancillary Meteorology Preprocessor Output Log Files	This ancillary SMAP product contains daily meteorological model log files, including model outputs. The meteorological model is derived from the Modern-Era Retrospective Analysis for Research and Applications (MERRA) data set and used as an input in the SMAP L4 Carbon algorithm.	SPL4CDML	Generic File Name: SPL4C_[Version]_SMAP_L4_C.met_log.YYYYMMDD.txt File Naming Convention: [Version] - Science Version ID YYYYMMDD - Date in year-month-day format
SMAP_L4_C_ANC_MET_RIP	Soil Moisture Active Passive (SMAP) L4 Carbon Ancillary Meteorology Preprocessor Run Time Input Parameters	This ancillary SMAP product contains meteorological model configurations, including model inputs. The meteorological model is derived from the Modern-Era Retrospective Analysis for Research and Applications (MERRA) data set and used as an input in the SMAP L4 Carbon algorithm.	SPL4CDML	Generic File Name: SPL4C_[Version]_SMAP_L4_C.met_runtime_input_param.YYYYMMDD.rip File Naming Convention: [Version] - Science Version ID YYYYMMDD - Date in year-month-day format
SMAP_L4_C_ANC_MOD_LOG	Soil Moisture Active Passive (SMAP) L4 Carbon Ancillary MODIS FPAR Preprocessor Output Log Files	This ancillary SMAP product contains MODIS Fractional Photosynthetically Active Radiation (FPAR) model log files, including model outputs.	SPL4CDML	Generic File Name: SPL4C_[Version]_SMAP_L4_C.modis_log.YYYYMMDD.txt File Naming Convention: [Version] - Science Version ID YYYYMMDD - Date in year-month-day format

Data Set ID	Data Set Title	Data Set Summary	Standard SMAP Products Used In	Sub-Product File Naming Convention
SMAP_L4_C_ANC_MOD_RIP	Soil Moisture Active Passive (SMAP) L4 Carbon Ancillary MODIS Preprocessor Run Time Input Parameters	This ancillary SMAP product contains MODIS Fractional Photosynthetically Active Radiation (FPAR) model configurations, including model inputs.	SPL4CDML	Generic File Name: SPL4C_[Version]_SMAP_L4_C.modis_runtime_input_param.YYYYMMDD.zip File Naming Convention: [Version] - Science Version ID YYYYMMDD - Date in year-month-day format
SMAP_L4_C_ANC_PARAM	Soil Moisture Active Passive (SMAP) L4 Carbon Ancillary Parameters	This ancillary SMAP product contains assorted static ancillary parameters, such as reference grids and land cover classifications, also referred to as Plant Function Type (PFT) maps.	SPL4CDML	File Names: SPL4C_Vb1010_SMAP_L4_C.Ancillary.h5 SPL4C_Vv3040_SMAP_L4_C.Ancillary.h5
SMAP_L4_C_ANC_SOC_RST	Soil Moisture Active Passive (SMAP) L4 Carbon Ancillary Soil Organic Carbon Restart File	This ancillary SMAP product contains the yearly soil organic carbon (SOC) restart files. These files contain the area density of SOC at the start of the year, which is used to calculate daily SOC based on defined deposition and decay rates.	SPL4CDML	Generic File Name: SPL4C_[Version]_SMAP_L4_C.SOC.YYYYMMDD.h5 File Naming Convention: [Version] - Science Version ID YYYYMMDD - Date in year-month-day format
SMAP_L4_SM_ANC_CAT_TILE	Soil Moisture Active Passive (SMAP) L4 Soil Moisture Ancillary Catchment Model Tile Space	This ancillary SMAP product contains tile information for the NASA Land Data Assimilation System (LDAS) Catchment model, including center-of-mass latitude/longitude, minimum/maximum latitude/longitude, and the land area fraction of tiles.	SPL4SMGP, SPL4SMAU, SPL4SMLM	Generic File Name: SPL4SM_[Version]_ldas_[tilecoord domain].txt File Naming Convention: [Version] - Science Version ID [tilecoord domain] - tilecord indicates the file contains IDs, latitude and longitude coordinates, and tile area; domain indicates the file lists the IDs of the tiles in the model domain
SMAP_L4_SM_ANC_CLIM	Soil Moisture Active Passive (SMAP) L4 Soil Moisture Ancillary Climatology Files	This ancillary SMAP product contains a static soil moisture climatology data set. Specifically, this data set includes root zone and profile soil moisture climatology files for percentile conversion and post-processing of Land Data Assimilation Systems (LDAS) output.	SPL4SMGP, SPL4SMAU, SPL4SMLM	Generic File Name: SPL4SM_[Version]_clim_sm_wetness_EASEv2_M09.nc4 File Naming Convention: [Version] - Science Version ID
SMAP_L4_SM_ANC_LOG	Soil Moisture Active Passive (SMAP) L4 Soil Moisture Ancillary Output Log Files	This ancillary SMAP product includes Land Data Assimilation Systems (LDAS) Catchment model log files, including model outputs.	SPL4SMGP, SPL4SMAU, SPL4SMLM	Generic File Name: SPL4SM_[Version]_ldas_[obslog log].YYYYMMDD_0000z.txt File Naming Convention: [Version] - Science Version ID YYYYMMDD - Date in year-month-day format
SMAP_L4_SM_ANC_PARAM	Soil Moisture Active Passive (SMAP) L4 Soil Moisture Ancillary LDAS Parameters Files	This ancillary SMAP product contains three dynamic Land Data Assimilation Systems (LDAS) data sets. These data sets include Brightness Temperature (TB) scaling parameters; catchment model parameters such as topographic statistics, soil texture, and soil hydraulic parameters; and LDAS L-band microwave radiative transfer model parameters.	SPL4SMGP, SPL4SMAU, SPL4SMLM	Generic File Name: SPL4SM_[Version]_L1C_zscore_stats_[A D]_p###.bin SPL4SM_[Version]_ldas_catparam.YYYYMMDD_0000z.bin SPL4SM_[Version]_ldas_mwRTMparam.YYYYMMDD_0000z.bin File Naming Convention: [Version] - Science Version ID [A D] - Ascending (A) or Descending (D) p### - pentad of year (e.g. p02 = Jan 6-10) YYYYMMDD - Date in year-month-day format
SMAP_L4_SM_ANC_RIP	Soil Moisture Active Passive (SMAP) L4 Soil Moisture Ancillary Run Time Input Parameters	This ancillary SMAP product contains Land Data Assimilation Systems (LDAS) model configurations, including model inputs.	SPL4SMGP, SPL4SMAU, SPL4SMLM	Generic File Name: SPL4SM_[Version]_ldas_<??>_inputs.YYYYMMDD_0000z.nml File Naming Convention: [Version] - Science Version ID <??> - ??? (driver, ensprop, ensupd, catbias)
SMAP_L4_SM_ANC_RST	Soil Moisture Active Passive (SMAP) L4 Soil Moisture Ancillary Restart Files	This ancillary SMAP product contains static restart files for the Land Data Assimilation Systems (LDAS) Catchment model. This product includes prognostic variables for both the catchment model and perturbations model.	SPL4SMGP, SPL4SMAU, SPL4SMLM	Generic File Name: SPL4SM_[Version]_ens####.pert_ldas_rst.YYYYMMDD_0000z.bin File Naming Convention: [Version] - Science Version ID [catch pert] - Indicates whether the restart file is associated with the Catchment model or perturbations model YYYYMMDD - Date in year-month-day format