Level-3 25 km Brightness Temperature & Sea Ice Concentration Data Fields

The following notations are used throughout this document:

Table 1. Terms In This Document

Int8	8-bit (1-byte) signed integer
Int16	16-bit (2-byte) signed integer
NT2	Enhanced NASA Team algorithm
ABA	AMSR Basic Algorithm

North polar grids are 304 pixels by 448 pixels. Data type for all parameters in Int16

South polar grids are 316 pixels by 332 pixels. Data type for all parameters in Int16

Table 2. North Polar Grids

Parameter	Description	Scale Factor
SI_25km_NH_06V_ASC	6.9 GHz vertical, daily average ascending Brightness Temperatures (T_bs). Valid range: approximately 50 to 300 K	For K, multiply by 0.1
SI_25km_NH_06V_DSC	6.9 GHz vertical, daily average descending T_bs. Valid range: approximately 50 to 300 K	For K, multiply by 0.1.
SI_25km_NH_06V_DAY	6.9 GHz vertical, daily average T_bs Valid range: approximately 50 to 300 K	For K, multiply by 0.1.
SI_25km_NH_06H_ASC	6.9 GHz horizontal, daily average ascending T_bs Valid range: approximately 50 to 300 K	For K, multiply by 0.1.
SI_25km_NH_06H_DSC	6.9 GHz horizontal, daily average descending T_bs. Valid range: approximately 50 to 300 K	For K, multiply by 0.1.
SI_25km_NH_06H_DAY	6.9 GHz horizontal, daily average T_bs. Valid range: approximately 50 to 300 K	For K, multiply by 0.1.
SI_25km_NH_10V_ASC	10.7 GHz vertical, daily average ascending T_bs. Valid range: approximately 50 to 300 K	For K, multiply by 0.1.
SI_25km_NH_10V_DSC	10.7 GHz vertical, daily average descending T_bs. Valid range: approximately 50 to 300 K	For K, multiply by 0.1.
SI_25km_NH_10V_DAY	10.7 GHz vertical, daily average T_bs. Valid range: approximately 50 to 300 K	For K, multiply by 0.1.

Parameter	Description	Scale Factor
SI_25km_NH_10H_ASC	10.7 GHz horizontal, daily average ascending T_bs. Valid range: approximately 50 to 300 K	For K, multiply by 0.1.
SI_25km_NH_10H_DSC	10.7 GHz horizontal, daily average descending T_bs. Valid range: approximately 50 to 300 K	For K, multiply by 0.1.
SI_25km_NH_10H_DAY	10.7 GHz horizontal, daily average T_bs. Valid range: approximately 50 to 300 K	For K, multiply by 0.1.
SI_25km_NH_18V_ASC	18.7 GHz vertical, daily average ascending T_bs. Valid range: approximately 50 to 300 K	For K, multiply by 0.1.
SI_25km_NH_18V_DSC	18.7 GHz vertical, daily average descending T_bs. Valid range: approximately 50 to 300 K	For K, multiply by 0.1.
SI_25km_NH_18V_DAY	18.7 GHz vertical, daily average T_bs. Valid range: approximately 50 to 300 K	For K, multiply by 0.1.
SI_25km_NH_18H_ASC	18.7 GHz horizontal, daily average ascending T_bs. Valid range: approximately 50 to 300 K	For K, multiply by 0.1.
SI_25km_NH_18H_DSC	18.7 GHz horizontal, daily average descending T_bs. Valid range: approximately 50 to 300 K	For K, multiply by 0.1.
SI_25km_NH_18H_DAY	18.7 GHz horizontal, daily average T_bs. Valid range: approximately 50 to 300 K	For K, multiply by 0.1.
SI_25km_NH_23V_ASC	23.8 GHz vertical, daily average ascending T_bs. Valid range: approximately 50 to 300 K	For K, multiply by 0.1.
SI_25km_NH_23V_DSC	23.8 GHz vertical, daily average descending T_bs. Valid range: approximately 50 to 300 K	For K, multiply by 0.1.
SI_25km_NH_23V_DAY	23.8 GHz vertical, daily average T_bs. Valid range: approximately 50 to 300 K	For K, multiply by 0.1.
SI_25km_NH_23H_ASC	23.8 GHz horizontal, daily average ascending T_bs. Valid range: approximately 50 to 300 K	For K, multiply by 0.1.
SI_25km_NH_23H_DSC	23.8 GHz horizontal, daily average descending T_bs. Valid range: approximately 50 to 300 K	For K, multiply by 0.1.
SI_25km_NH_23H_DAY	23.8 GHz horizontal, daily average T_bs. Valid range: approximately 50 to 300 K	For K, multiply by 0.1.
SI_25km_NH_36V_ASC	36.5 GHz vertical, daily average ascending T_bs. Valid range: approximately 50 to 300 K	For K, multiply by 0.1.

Parameter	Description	Scale Factor
SI_25km_NH_36V_DSC	36.5 GHz vertical, daily average descending T_bs. Valid range: approximately 50 to 300 K	For K, multiply by 0.1.
SI_25km_NH_36V_DAY	36.5 GHz vertical, daily average T_bs. Valid range: approximately 50 to 300 K	For K, multiply by 0.1.
SI_25km_NH_36H_ASC	36.5 GHz horizontal, daily average ascending T_bs. Valid range: approximately 50 to 300 K	For K, multiply by 0.1.
SI_25km_NH_36H_DSC	36.5 GHz horizontal, daily average descending T_bs. Valid range: approximately 50 to 300 K	For K, multiply by 0.1.
SI_25km_NH_36H_DAY	36.5 GHz horizontal, daily average T_bs. Valid range: approximately 50 to 300 K	For K, multiply by 0.1.
SI_25km_NH_89V_ASC	89.0 GHz vertical, daily average ascending T_bs. Valid range: approximately 50 to 300 K	For K, multiply by 0.1.
SI_25km_NH_89V_DSC	89.0 GHz vertical, daily average descending T_bs. Valid range: approximately 50 to 300 K	For K, multiply by 0.1.
SI_25km_NH_89V_DAY	89.0 GHz vertical, daily average T_bs. Valid range: approximately 50 to 300 K	For K, multiply by 0.1.
SI_25km_NH_89H_ASC	89.0 GHz horizontal, daily average ascending T_bs. Valid range: approximately 50 to 300 K	For K, multiply by 0.1.
SI_25km_NH_89H_DSC	89.0 GHz horizontal, daily average descending T_bs. Valid range: approximately 50 to 300 K	For K, multiply by 0.1.
SI_25km_NH_89H_DAY	89.0 GHz horizontal, daily average T_bs. Valid range: approximately 50 to 300 K	For K, multiply by 0.1.

Parameter	Description		Scale Factor
SI_25km_NH_ICECON_ASC	Conc., daily ascending average	Key: 0 = Open Water 1-100 = % conc 120 = Land Mask	N/A
SI_25km_NH_ICECON_DSC	Conc., daily descending average		N/A
SI_25km_NH_ICECON_DAY	Conc., daily average		N/A
SI_25km_NH_ICEDIFF_ASC	Sea ice concentration daily ascending average, using the difference between ABA and NT2 algorithms. Key: 0=Open Water; 1 to 100 or -1 to -100=Percent Difference Between Algorithms*; 120=Land Mask; 200 to 300=Missing NT2 value (200+ABA)**; -200 to -300=Missing ABA value (-200-NT2)**		N/A
SI_25km_NH_ICEDIFF_DSC	Sea ice concentration daily descending average, using the difference between ABA and NT2 algorithms. Key: 0=Open Water; 1 to 100 or -1 to -100=Percent Difference Between Algorithms*; 120=Land Mask; 200 to 300=Missing NT2 value (200+ABA)**; -200 to -300=Missing ABA value (-200-NT2)**		N/A
SI_25km_NH_ICEDIFF_DAY	Sea ice concentration daily average, using the difference between ABA and NT2 algorithms. Key: 0=Open Water; 1 to 100 or -1 to -100=Percent Difference Between Algorithms*; 120=Land Mask; 200 to 300=Missing NT2 value (200+ABA)**; -200 to -300=Missing ABA value (-200-NT2)**		N/A

*Positive values 1 to 100% represent the difference in concentration where NT2 is greater than BBA and negative values -1 to -100% represent the difference in concentration where BBA is greater than NT2.

**The difference values need input from both the NT2 and ABA sea ice concentration algorithms. These new values indicate when one of these is missing. If there is a valid ABA value and missing NT2, it takes on the value 200+ABA. Like wise, a valid NT2 and missing ABA takes on the value -200-NT2. A difference value of 200 means the ABA was open water and the NT2 was missing; a value of 225 means the ABA was 25% and the NT2 was missing. A value of 300 means ABA was 100 and NT2 was missing. The normal range of difference values is -100 to 100.

Table 3. South Polar Grids

Parameter	Description	Scale Factor
SI_25km_SH_06V_ASC SI_25km_SH_06V_DSC SI_25km_SH_06V_DAY	6.9 GHz vertical, daily average ascending (ASC), descending (DSC), and daily average (DAY) Tbs. Valid range: approximately 50 to 300 Kelvin (K)	Multiply data values by 0.1 to obtain units in kelvin (K)
SI_25km_SH_06H_ASC SI_25km_SH_06H_DSC SI_25km_SH_06H_DAY	6.9 GHz horizontal, daily average ascending (ASC), descending (DSC), and daily average (DAY) Tbs. Valid range: approximately 50 to 300 Kelvin (K)	Multiply data values by 0.1 to obtain units in kelvin (K)
SI_25km_SH_10V_ASC SI_25km_SH_10V_DSC SI_25km_SH_10V_DAY	10.7 GHz vertical, daily average ascending (ASC), descending (DSC), and daily average (DAY) Tbs. Valid range: approximately 50 to 300 Kelvin (K)	Multiply data values by 0.1 to obtain units in kelvin (K)
SI_25km_SH_10H_ASC SI_25km_SH_10H_DSC SI_25km_SH_10H_DAY	10.7 GHz horizontal, daily average ascending (ASC), descending (DSC), and daily average (DAY) Tbs. Valid range: approximately 50 to 300 Kelvin (K)	Multiply data values by 0.1 to obtain units in kelvin (K)
SI_25km_SH_18V_ASC SI_25km_SH_18V_DSC SI_25km_SH_18V_DAY	18.7 GHz vertical, daily average ascending (ASC), descending (DSC), and daily average (DAY) Tbs. Valid range: approximately 50 to 300 Kelvin (K)	Multiply data values by 0.1 to obtain units in kelvin (K)
SI_25km_SH_18H_ASC SI_25km_SH_18H_DSC SI_25km_SH_18H_DAY	18.7 GHz horizontal, daily average ascending (ASC), descending (DSC), and daily average (DAY) Tbs. Valid range: approximately 50 to 300 Kelvin (K)	Multiply data values by 0.1 to obtain units in kelvin (K)
SI_25km_SH_23V_ASC SI_25km_SH_23V_DSC SI_25km_SH_23V_DAY	23.8 GHz vertical, daily average ascending (ASC), descending (DSC), and daily average (DAY) Tbs. Valid range: approximately 50 to 300 Kelvin (K)	Multiply data values by 0.1 to obtain units in kelvin (K)

Parameter	Description	Scale Factor
SI_25km_SH_23H_ASC	23.8 GHz horizontal, daily average ascending (ASC), descending (DSC), and daily average (DAY) Tbs. Valid range: approximately 50 to 300 Kelvin (K)	Multiply data values by 0.1 to obtain units in kelvin (K)
SI_25km_SH_23H_DSC		
SI_25km_SH_23H_DAY		
SI_25km_SH_36V_ASC	36.5 GHz vertical, daily average ascending (ASC), descending (DSC), and daily average (DAY) Tbs. Valid range: approximately 50 to 300 Kelvin (K)	Multiply data values by 0.1 to obtain units in kelvin (K)
SI_25km_SH_36V_DSC		
SI_25km_SH_36V_DAY		
SI_25km_SH_36H_ASC	36.5 GHz horizontal, daily average ascending (ASC), descending (DSC), and daily average (DAY) Tbs. Valid range: approximately 50 to 300 Kelvin (K)	Multiply data values by 0.1 to obtain units in kelvin (K)
SI_25km_SH_36H_DSC		
SI_25km_SH_36H_DAY		
SI_25km_SH_89V_ASC	89.0 GHz vertical, daily average ascending (ASC), descending (DSC), and daily average (DAY) Tbs. Valid range: approximately 50 to 300 Kelvin (K)	Multiply data values by 0.1 to obtain units in kelvin (K)
SI_25km_SH_89V_DSC		
SI_25km_SH_89V_DAY		
SI_25km_SH_89H_ASC	89.0 GHz horizontal, daily average ascending (ASC), descending (DSC), and daily average (DAY) Tbs. Valid range: approximately 50 to 300 Kelvin (K)	Multiply data values by 0.1 to obtain units in kelvin (K)
SI_25km_SH_89H_DSC		
SI_25km_SH_89H_DAY		
SI_25km_SH_ICECON_ASC	Sea ice concentration, daily ascending average. Key: 0=Open Water 1 to 100=% Ice Concentration 110=Not Calculated 120=Land Mask	N/A

Parameter	Description	Scale Factor
SI_25km_SH_ICECON_DSC	Sea ice concentration daily descending average. Key: 0=Open Water 1 to 100=% Ice Concentration 110=Not Calculated 120=Land Mask	N/A
SI_25km_SH_ICECON_DSC	Sea ice concentration daily average. Key: 0=Open Water 1 to 100=% Ice Concentration 110=Not Calculated 120=Land Mask	N/A
SI_25km_SH_ICEDIFF_ASC	Sea ice concentration daily ascending average, using the difference between ABA and NT2 algorithms. Key: 0=Open water 1 to 100 or -1 to -100=% diff between algorithms* 110=Not calculated; 120=Land mask 200 to 300=Missing NT2 (200+ABA)** -200 to -300=Missing ABA (-200-NT2)**	N/A
SI_25km_SH_ICEDIFF_DSC	Sea ice concentration daily descending average, using the difference between ABA and NT2 algorithms Key: 0=Open water 1 to 100 or -1 to -100=% diff between algorithms* 110=Not calculated; 120=Land mask 200 to 300=Missing NT2 (200+ABA)** -200 to -300=Missing ABA (-200-NT2)**	N/A

Parameter	Description	Scale Factor
SI_25km_SH_ICEDIFF_DSC	Sea ice concentration daily average, using the difference between ABA and NT2 algorithms. Key: 0=Open water 1 to 100 or -1 to -100=% diff between algorithms* 110=Not calculated; 120=Land mask 200 to 300=Missing NT2 (200+ABA)** -200 to -300=Missing ABA (-200-NT2)**	N/A

* Positive values 1 to 100% represent the difference in concentration where NT2 is greater than BBA and negative values -1 to -100% represent the difference in concentration where BBA is greter than NT2.

**The difference values need input from both the NT2 and ABA sea ice concentration algorithms. These new values indicate when one of these is missing. If there is a valid ABA value and missing NT2, it takes on the value 200+ABA. Like wise, a valid NT2 and missing ABA takes on the value -200-NT2. A difference value of 200 means the ABA was open water and the NT2 was missing; a value of 225 means the ABA was 25% and the NT2 was missing. So I guess a value of 300 means ABA was 100 and NT2 was missing. The normal range of difference values is -100 to 100.