

## Daily Global Data Record of Landscape Freeze/Thaw Metadata

Variable	Description
<b><u>GRANULE LEVEL METADATA</u></b>	<b><u>GRANULE LEVEL METADATA</u></b>
<b>CONVENTIONS</b>	<b>CF-1.4</b>
<b>GRANULENAME</b>	<b>Granule Specific (example: SSMI_37V_AM_FT_1988_day001)</b>
<b>Title</b>	<b>An ESDR for Land Surface Freeze/Thaw State (NASA MEaSURES)</b>
<b>History</b>	<b>F/T ESDR created at University of Montana 2009- 2017</b>
<b>Sponsor</b>	<b>NASA MEaSURES</b>
<b>Institution</b>	<b>University of Montana</b>
<b>References</b>	<b>Y. Kim, J.S. Kimball, J. Glassy, and J. Du. 2017. An Extended Global Earth System Data Record on Daily Landscape Freeze-Thaw Determined from Satellite Passive Microwave Remote Sensing. Earth System Science Data, 9 (1), 133-147</b>
<b>Comment</b>	<b>This NASA ESDR F/T release is formatted in HDF5 v1.8.x</b>
<b>ProjectID</b>	<b>NASA Measures Freeze/Thaw ESDR Project</b>
<b>Producer</b>	<b>University of Montana</b>
<b>PointOfContact</b>	<b><a href="#">National Snow and Ice Data Center</a></b>
<b>Units</b>	<b>F/T status classification code (dimensionless index)</b>
<b>TimeResolution</b>	<b>daily</b>
<b>PixelResolution</b>	<b>25km</b>
<b>Instrument</b>	<b>SMMR, SSM/I(S), AMSR-E, AMSR2</b>
<b>Channel</b>	<b>37 GHz, 36.5 GHz</b>
<b>Polarization</b>	<b>V</b>
<b>Overpass_Code</b>	<b>Granule Specific (AM, PM, and CO)</b>
<b>Rank</b>	<b>2</b>
<b>Y_DIM</b>	<b>586</b>
<b>X_DIM</b>	<b>1383</b>
<b>Total_Pixels</b>	<b>810438</b>
<b>N_Channels</b>	<b>1</b>

<b>MapProjectionType</b>	rectangular
<b>MapProjection</b>	Global EASE-GRID v.1 25km
<b>Granule_Year</b>	Granule Specific (example: 1988)
<b>Granule_YearDay</b>	Granule Specific (example: 001)
<b>GEOGRAPHIC_LATLON_NW</b>	86.717,-179.74
<b>GEOGRAPHIC_LATLON_NE</b>	86.717,179.999
<b>GEOGRAPHIC_LATLON_SE</b>	-84.24,179.999
<b>GEOGRAPHIC_LATLON_SW</b>	-84.24,-179.74
<b>Production_Datetime</b>	Granule Specific (example: 2010-07-02T15:43:01MST)
<b>GridSpacing</b>	25
<b>GridSpacingUnits</b>	KM
<b>RangeBeginningDate</b>	Granule Specific (example: 1988-01-01)
<b>RangeBeginningTime</b>	Granule Specific (example: 00:00:01)
<b>RangeEndingDate</b>	Granule Specific (example: 1988-01-01)
<b>RangeEndingTime</b>	Granule Specific (example: 23:59:59)
<b>CollectionDescription</b>	NASA Measures Freeze/Thaw Earth System Data Record (FT-ESDR)
<b>AlgorithmDescriptor</b>	NASA Measures Freeze/Thaw ESDR daily global algorithm
<b>NorthBoundingCoordinate</b>	86.717
<b>SouthBoundingCoordinate</b>	-84.24
<b>EastBoundingCoordinate</b>	179.999
<b>WestBoundingCoordinate</b>	-179.74
<b>GLOSSARY km</b>	Kilometers
<b>GLOSSARY Rank</b>	Number of dimensions
<b>GLOSSARY F/T</b>	Freeze/Thaw status
<b>GLOSSARY Overpass code CO</b>	combined morning and afternoon overpass
<b>Accuracy_DayOfYear</b>	Granule Specific (example: 001)
<b>Accuracy_Daily_Metric</b>	Granule Specific (example: 56.855347)
<b>REFERENCE_DOCUMENT_DOI</b>	10.5194/essd-9-133-2017
<b>GRANULE_UUID</b>	Granule Specific (example: fa170d84-a3f4-53ba-917e-7f617e1244d9)
<b>PRODUCT_ESDR_VERSION</b>	Granule Specific (example: 1.0.2-2010-10-08T15:38:01MST)

<b><u>FT_SSMI METADATA</u></b>	<b><u>FT_SSMI METADATA</u></b>
<b>short_name</b>	<b>FT</b>
<b>standard_name</b>	<b>FT_SSMI</b>
<b>units</b>	<b>Freeze-Thaw status classification code (dimensionless index)</b>
<b>FT Status code 0</b>	<b>Frozen (AM/PM frozen)</b>
<b>FT Status code 1</b>	<b>Thawed (AM/PM thawed)</b>
<b>FT Status code 2</b>	<b>Transitional (AM frozen and PM thawed)</b>
<b>FT Status code 3</b>	<b>Inverse Transitional (PM frozen and AM thawed)</b>
<b>FT Status code 252</b>	<b>No FT status available</b>
<b>FT Status code 253</b>	<b>Non-cold constraint area</b>
<b>FT Status code 254</b>	<b>100 Percent Open Water</b>
<b>FT Status code 255</b>	<b>Fill value</b>
<b>minimum_value</b>	<b>0</b>
<b>maximum_value</b>	<b>255</b>
<b>coordinates</b>	<b>cell_lat cell_lon</b>
<b>long_name</b>	<b>Freeze Thaw generated from SSMI 37V</b>
<b>_lastModified</b>	<b>Granule Specific (Example: 1988-01-01T23:59:59Z)</b>
<b>RANK</b>	<b>2</b>
<b>Y_DIM</b>	<b>586</b>
<b>X_DIM</b>	<b>1383</b>
<b>N_CELLS</b>	<b>810438</b>
<b>N_CHANNELS</b>	<b>1</b>
<b><u>Cell_Lat METADATA</u></b>	<b><u>Cell_Lat METADATA</u></b>
<b>long_name</b>	<b>Grid cell latitude</b>
<b>minimum_value</b>	<b>-84.24</b>
<b>maximum_value</b>	<b>86.717</b>
<b>_CoordinateAxisType</b>	<b>Lat</b>
<b>units</b>	<b>degrees_north</b>
<b>_lastModified</b>	<b>Granule Specific (Example: 1988-01-01T23:59:59Z)</b>
<b>X_DIM</b>	<b>1383</b>
<b>Y_DIM</b>	<b>586</b>

<b>N_CELLS</b>	<b>810438</b>
<b><u>Cell Lon METADATA</u></b>	<b><u>Cell Lon METADATA</u></b>
<b>long_name</b>	<b>Grid cell longitude</b>
<b>minimum_value</b>	<b>-179.74</b>
<b>maximum_value</b>	<b>179.999</b>
<b>_CoordinateAxisType</b>	<b>Lon</b>
<b>units</b>	<b>degrees_east</b>
<b>_lastModified</b>	<b>Granule Specific (Example: 1988-01-01T23:59:59Z)</b>
<b>X_DIM</b>	<b>1383</b>
<b>Y_DIM</b>	<b>586</b>
<b>N_CELLS</b>	<b>810438</b>