Gridset 0 coordSys=Coordinate System (time yc xc)

t=time(time=1) (ucar.nc2.dataset.CoordinateAxis1DTime)

y=yc(yc=177) (ucar.nc2.dataset.CoordinateAxis1D)

x=xc(xc=119) (ucar.nc2.dataset.CoordinateAxis1D)

Projection: StereographicAzimuthalProjection origin lat,lon=90.000000,-45.000000 scale,trueScaleLat=0.969846,70.000000 earth=equatorRadius=6378273.000000 inverseFlattening=298.280123

LLbb= ll: 32.13N 80.60W+ ur: 34.62N 102.6E bb= min: -3781 -5281 size: 7437 11062

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Unit\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_hasMissing\_Description

dt0 seconds true delta time for start of displacement

lon1 degrees\_east true longitude at end of displacement

lat1 degrees\_north true latitude at end of displacement

dt1 seconds true delta time for end of displacement

dX km true component of the displacement along the x axis of the grid

dY km true component of the displacement along the y axis of the grid

status\_flag true rejection and quality level flag

uncert\_dX\_and\_dY km true uncertainty (1 standard deviation) of dX and dY components of the drift vector

Gridset 1 coordSys=Coordinate System (yc xc)

y=yc(yc=177) (ucar.nc2.dataset.CoordinateAxis1D)

x=xc(xc=119) (ucar.nc2.dataset.CoordinateAxis1D)

Projection: StereographicAzimuthalProjection origin lat,lon=90.000000,-45.000000 scale,trueScaleLat=0.969846,70.000000 earth=equatorRadius=6378273.000000 inverseFlattening=298.280123

LLbb= ll: 32.13N 80.60W+ ur: 34.62N 102.6E bb= min: -3781 -5281 size: 7437 11062

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Unit\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_hasMissing\_Description

lat degrees\_north false latitude coordinate

lon degrees\_east false longitude coordinate

GeoReferencing Coordinate Axes

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Units\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Type\_\_\_\_\_\_Description

time(time=1) seconds since 1978-01-01 00:00:00Time reference time of product

xc(xc=119) km GeoX x coordinate of projection (eastings)

yc(yc=177) km GeoY y coordinate of projection (northings)

lat(yc=177, xc=119) degrees\_north Lat latitude coordinate

lon(yc=177, xc=119) degrees\_east Lon longitude coordinate

----------------------------------------------------

Parsing with Convention = ucar.nc2.dataset.conv.CF1Convention

Coordinate Variable added = time for dimension time = 1;

Coordinate Variable added = xc for dimension xc = 119;

Coordinate Variable added = yc for dimension yc = 177;

CoordinateAxis = lat added; referenced from var= dt0

CoordinateAxis = lon added; referenced from var= dt0

created implicit CoordSystem 'yc xc' for var= lat

assigned implicit CoordSystem 'yc xc' for var= lon

created implicit CoordSystem 'time lat yc lon xc' for var= dt0

assigned implicit CoordSystem 'time lat yc lon xc' for var= lon1

assigned implicit CoordSystem 'time lat yc lon xc' for var= lat1

assigned implicit CoordSystem 'time lat yc lon xc' for var= dt1

assigned implicit CoordSystem 'time lat yc lon xc' for var= dX

assigned implicit CoordSystem 'time lat yc lon xc' for var= dY

assigned implicit CoordSystem 'time lat yc lon xc' for var= status\_flag

assigned implicit CoordSystem 'time lat yc lon xc' for var= uncert\_dX\_and\_dY

Made Coordinate transform polar\_stereographic from variable Polar\_Stereographic\_Grid: ucar.nc2.dataset.transform.PolarStereographic@34d28e28

\*\*\*assign (implicit coordAxisType) coordTransform Polar\_Stereographic\_Grid to CoordSys= yc xc

\*\*\*assign (implicit coordAxisType) coordTransform Polar\_Stereographic\_Grid to CoordSys= time lat yc lon xc

----------------------------------------------------

netcdf /Users/mariapinavomero/Downloads/nh\_drift/april18/multi-oi/20180408.nc {

dimensions:

time = 1;

nv = 2;

xc = 119;

yc = 177;

variables:

int Polar\_Stereographic\_Grid;

:grid\_mapping\_name = "polar\_stereographic";

:straight\_vertical\_longitude\_from\_pole = -45.0f; // float

:latitude\_of\_projection\_origin = 90.0f; // float

:standard\_parallel = 70.0f; // float

:false\_easting = 0.0f; // float

:false\_northing = 0.0f; // float

:semi\_major\_axis = 6378273.0f; // float

:semi\_minor\_axis = 6356889.5f; // float

:proj4\_string = "+proj=stere +a=6378273 +b=6356889.44891 +lat\_0=90 +lat\_ts=70 +lon\_0=-45";

:\_CoordinateTransformType = "Projection";

:\_CoordinateAxisTypes = "GeoX GeoY";

double time\_bnds(time=1, nv=2);

:units = "seconds since 1978-01-01 00:00:00";

int dt0(time=1, yc=177, xc=119);

:long\_name = "delta time for start of displacement";

:units = "seconds";

:\_FillValue = 2147483647; // int

:valid\_min = -43200; // int

:valid\_max = 43200; // int

:grid\_mapping = "Polar\_Stereographic\_Grid";

:coordinates = "lat lon";

float lon1(time=1, yc=177, xc=119);

:long\_name = "longitude at end of displacement";

:units = "degrees\_east";

:\_FillValue = -1.0E10f; // float

:grid\_mapping = "Polar\_Stereographic\_Grid";

:coordinates = "lat lon";

float lat1(time=1, yc=177, xc=119);

:long\_name = "latitude at end of displacement";

:units = "degrees\_north";

:\_FillValue = -1.0E10f; // float

:grid\_mapping = "Polar\_Stereographic\_Grid";

:coordinates = "lat lon";

int dt1(time=1, yc=177, xc=119);

:long\_name = "delta time for end of displacement";

:units = "seconds";

:\_FillValue = 2147483647; // int

:valid\_min = -43200; // int

:valid\_max = 43200; // int

:grid\_mapping = "Polar\_Stereographic\_Grid";

:coordinates = "lat lon";

float dX(time=1, yc=177, xc=119);

:long\_name = "component of the displacement along the x axis of the grid";

:standard\_name = "sea\_ice\_x\_displacement";

:units = "km";

:\_FillValue = -1.0E10f; // float

:grid\_mapping = "Polar\_Stereographic\_Grid";

:coordinates = "lat lon";

:ancillary\_variables = "uncert\_dX\_and\_dY status\_flag";

float dY(time=1, yc=177, xc=119);

:long\_name = "component of the displacement along the y axis of the grid";

:standard\_name = "sea\_ice\_y\_displacement";

:units = "km";

:\_FillValue = -1.0E10f; // float

:grid\_mapping = "Polar\_Stereographic\_Grid";

:coordinates = "lat lon";

:ancillary\_variables = "uncert\_dX\_and\_dY status\_flag";

byte status\_flag(time=1, yc=177, xc=119);

:long\_name = "rejection and quality level flag";

:standard\_name = "sea\_ice\_x\_displacement status\_flag";

:valid\_min = 0B; // byte

:valid\_max = 30B; // byte

:grid\_mapping = "Polar\_Stereographic\_Grid";

:coordinates = "lat lon";

:flag\_values = 0B, 1B, 2B, 3B, 4B, 10B, 11B, 12B, 13B, 20B, 21B, 22B, 30B; // byte

:flag\_meanings = "missing\_input\_data over\_land no\_ice close\_to\_coast\_or\_edge summer\_period processing\_failed too\_low\_correlation not\_enough\_neighbours filtered\_by\_neighbours smaller\_pattern corrected\_by\_neighbours interpolated nominal\_quality";

:flag\_descriptions = "\n 0 -> missing satellite image data\n 1 -> grid point is over land\n 2 -> grid point is not over sufficient ice\n 3 -> grid point is too close to coast or edge\n 4 -> unreliable vector was removed because in summer period\n 10 -> optimization of the correlation (CMCC) failed\n 11 -> vector removed because too low cross-correlation \n 12 -> vector removed because not enough neighbouring vectors\n 13 -> vector removed because motion is not consistent with neighbours\n 20 -> vector processed using a smaller matching window\n 21 -> vector corrected using the neighbouring vectors\n 22 -> vector interpolated from the neighbours (multi-sensor product)\n 30 -> vector was retrieved with nominal CMCC algorithm";

float uncert\_dX\_and\_dY(time=1, yc=177, xc=119);

:long\_name = "uncertainty (1 standard deviation) of dX and dY components of the drift vector";

:standard\_name = "sea\_ice\_x\_displacement standard\_error";

:units = "km";

:\_FillValue = -1.0E10f; // float

:grid\_mapping = "Polar\_Stereographic\_Grid";

:coordinates = "lat lon";

double time(time=1);

:axis = "T";

:long\_name = "reference time of product";

:standard\_name = "time";

:units = "seconds since 1978-01-01 00:00:00";

:calendar = "standard";

:bounds = "time\_bnds";

:comment = "The time scalar dimension holds the date of \_end\_ of motion.";

:\_CoordinateAxisType = "Time";

double xc(xc=119);

:axis = "X";

:units = "km";

:long\_name = "x coordinate of projection (eastings)";

:standard\_name = "projection\_x\_coordinate";

:\_CoordinateAxisType = "GeoX";

double yc(yc=177);

:axis = "Y";

:units = "km";

:long\_name = "y coordinate of projection (northings)";

:standard\_name = "projection\_y\_coordinate";

:\_CoordinateAxisType = "GeoY";

float lat(yc=177, xc=119);

:long\_name = "latitude coordinate";

:standard\_name = "latitude";

:units = "degrees\_north";

:\_CoordinateAxisType = "Lat";

float lon(yc=177, xc=119);

:long\_name = "longitude coordinate";

:standard\_name = "longitude";

:units = "degrees\_east";

:\_CoordinateAxisType = "Lon";

// global attributes:

:title = "Daily Low Resolution Sea Ice Displacement from OSI SAF EUMETSAT";

:product\_id = "OSI-405";

:product\_name = "osi\_saf\_lr\_ice\_drift";

:product\_status = "operational";

:abstract = "Gridded ice displacement fields obtained from satellite image\nprocessing. It is a low resolution product (62.5km resolution).\nThe time span of the ice displacement is approximately 48\nhours. This dataset is intended both for process studies and\ndata assimilation. Daily products are freely available from\nthe OSI SAF distribution chain.";

:topiccategory = "Oceans ClimatologyMeteorologyAtmosphere";

:keywords = "Sea Ice Motion,Sea Ice,Oceanography,Meteorology,Climate,Remote Sensing";

:gcmd\_keywords = "Cryosphere > Sea Ice > Sea Ice Motion\nOceans > Sea Ice > Sea Ice Motion\nGeographic Region > Northern Hemisphere\nVertical Location > Sea Surface\nEUMETSAT/OSISAF > Satellite Application Facility on Ocean and Sea Ice, European Organisation for the Exploitation of Meteorological Satellites";

:northernmost\_latitude = 90.0f; // float

:southernmost\_latitude = 31.961086f; // float

:easternmost\_longitude = 180.0f; // float

:westernmost\_longitude = -180.0f; // float

:activity\_type = "Space borne instrument";

:area = "Northern Hemisphere";

:instrument\_type = "Multi-sensor analysis";

:platform\_name = "Multi-sensor analysis";

:start\_date = "2018-04-06 12:00:00";

:stop\_date = "2018-04-08 12:00:00";

:project\_name = "EUMETSAT OSI SAF";

:institution = "EUMETSAT OSI SAF";

:PI\_name = "Thomas Lavergne";

:contact = "osisaf-manager@met.no";

:distribution\_statement = "Free";

:copyright\_statement = "Copyright 2018 EUMETSAT";

:references = "Product User Manual for OSI-405-c, Lavergne, v1.8, 2016\nValidation Report for OSI-405-c, Lavergne, v5, 2016\nAlgorithm Theoretical Basis Document for OSI-405-c, Lavergne, v1.3, 2016\nhttp://osisaf.met.no\nhttp://osi-saf.org";

:history = "2018-04-09 creation";

:product\_version = "2.0";

:software\_version = "5.1";

:netcdf\_version = "3.6.3";

:Conventions = "CF-1.4";

:\_CoordSysBuilder = "ucar.nc2.dataset.conv.CF1Convention";

}

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