

The Monthly SSU/AMSU/ATMS stratospheric temperatures CDR data are saved in netcdf4 format, including the following variables:

- longitude: longitude of the grid
- latitude: latitude of the grid
- levels: pressure levels of the 3 SSU channels: channel 1: 15 hPa, channel 2: 5 hPa, channel 3: 1.5 hPa.
- time: days since 1978-11-01 00:00:00
- tb: the Merged SSU/AMSU-A/ATMS temperature, array with 4 dimensions of " time, levels, latitude, longitude "

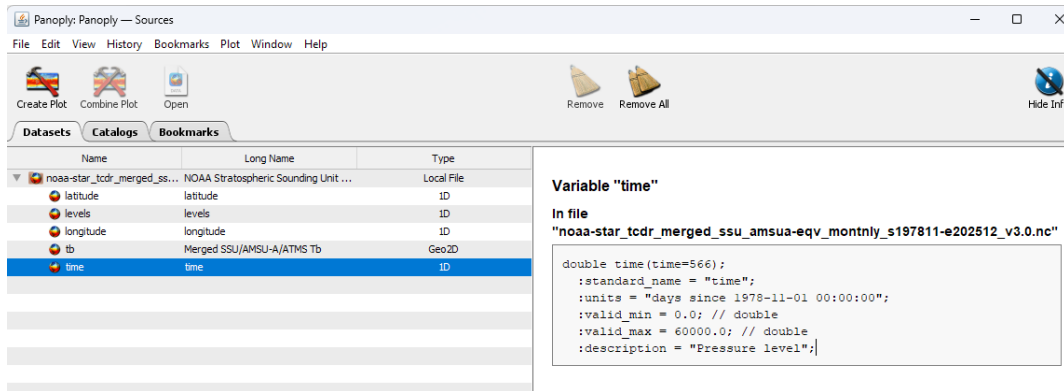


Figure 1. Variables in the data file.

Example code to read the data:

Python:

```
import numpy as np
from netCDF4 import Dataset
import math

file="noaa-star_tcdr_merged_ssua-eqv_monthly_s197811-e202512_v3.0.nc"
ncid = Dataset(file, 'r')
t = ncid.variables['time'][:]
lat = ncid.variables['latitude'][:]
lon = ncid.variables['longitude'][:]
p = ncid.variables['levels'][:]
T = ncid.variables['tb'][:]
ncid.close()

print(T.shape)
# (566, 3, 72, 144)
# [time, level, latitude, longitude]
```

Matlab:

```
file="noaa-star_tcdr_merged_ssua-eqv_monthly_s197811-e202512_v3.0.nc";
lon=ncread(file,"longitude");
lat=ncread(file,"latitude");
p=ncread(file,"levels");
t=ncread(file,"time");
T=ncread(file,"tb");
sz=size(T)
% [144 72 3 566]
% [longitude, latitude, level, time]
```