This document describes the track data of mesocyclones analyzed in the following study.

Tamura, K., and T. Sato, 2020: Responses of polar mesocyclone genesis to topographic forcing along the eastern coast of Eurasian continent, *J. Meteor. Soc. Japan*, 98. 1261-1277, doi:10.2151/jmsj.2020-065.

The tracking data of each mesocyclone center created by using the output of three numerical experiments are available. Brief descriptions of the topography setting and the name of the topography file for each experiment are as below. There are two variables, topographic height and land use category, in the topography file. The definition of the land use category is identical with that used in the WRF model (see WRF user’s guide).

REAL: Realistic topography (*REAL.nc*)

NoMt: Removed the Sikhote-Alin mountain region (*NoMt.nc*)

HalfMt: Halved the height of the Sikhote-Alin mountain region (*HalfMt.nc*)

The tracking dataset covers the period from December to March in each of 36 winters spanning from 1981/1982 winter to 2016/2017 winter. The filename (*“YYYYMMDDHHlowXX.txt”*) denotes the date (YYYYMMDD) and the time (HH) of the genesis and the identification number (XX; unfixed digits) for each designated mesocyclone. Each file contains “YYYYMMDDHH” in UTC, “longitude”, “latitude”, “geopotential height of the mesocyclone center at 850hPa”, and “relative vorticity of the mesocyclone center at 850hPa” at every 1-hour until the tracking terminates.