Create virtual balloon flight

Main Page: Virtual Balloon Distance Race

Create documentation

How to create the data files to participate in the virtual gas balloon long distance competition.

Launch point

Koordinates of the launch point:

48.69311 N 6.183333 E Place Stanislas[1)] in Nancy (FRANCE)

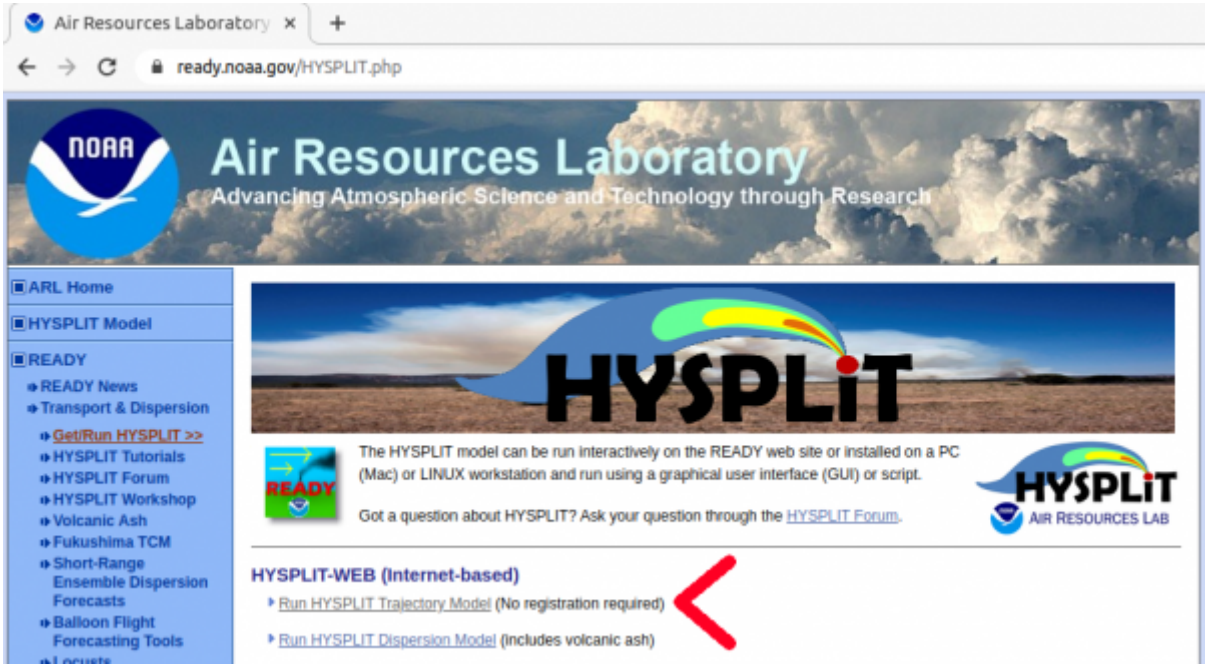
Calculate Trajectory

https://www.ready.noaa.gov/HYSPLIT.php

1

!If you have difficulties to reach the server, try another browser.

Select HYSPLIT-WEB (Internet-based) –> Run HYSPLIT TRAJECTORY MODEL



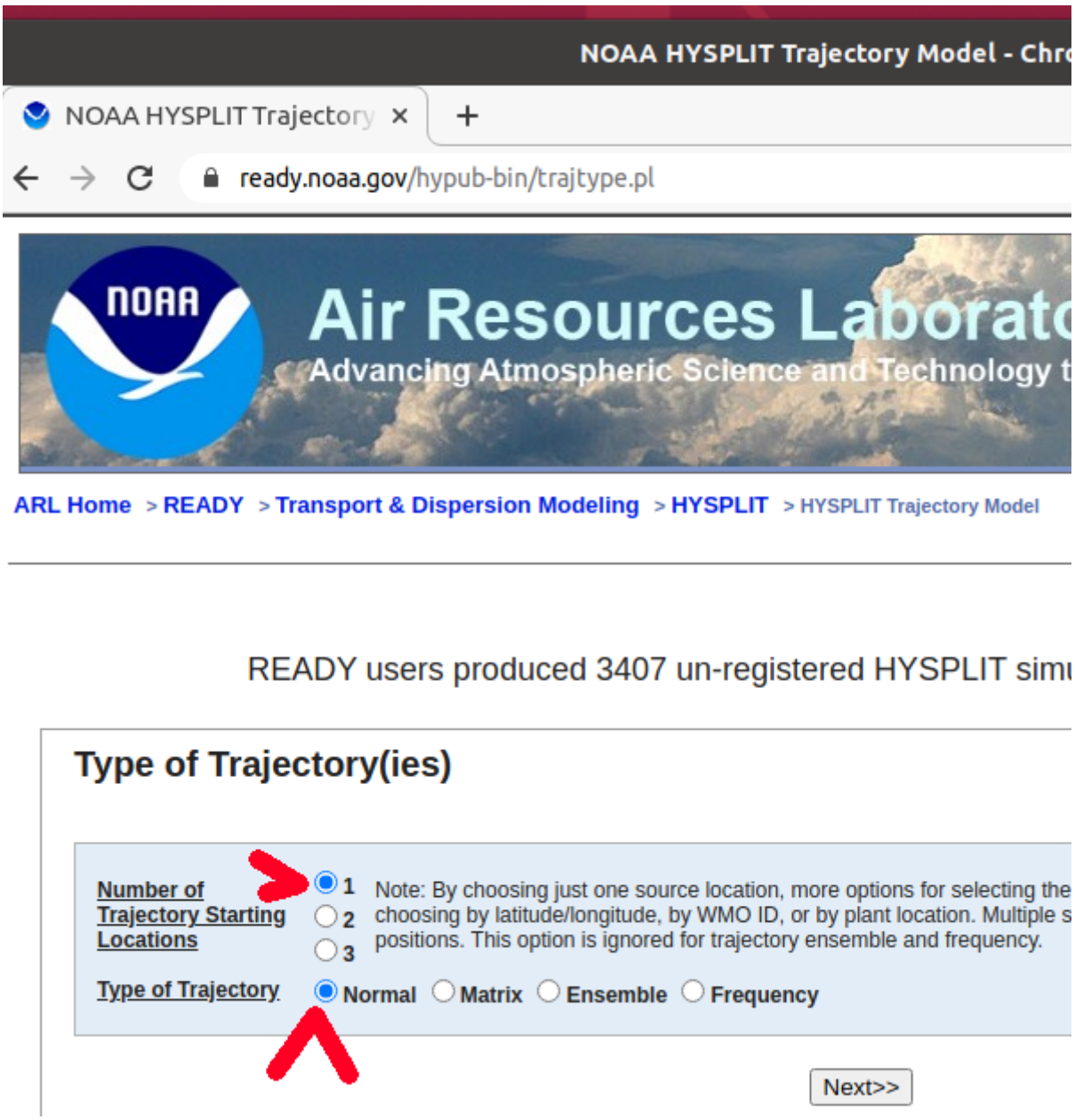
2

https://www.ready.noaa.gov/HYSPLIT_traj.php

Select »Compute forecast trajectories«.

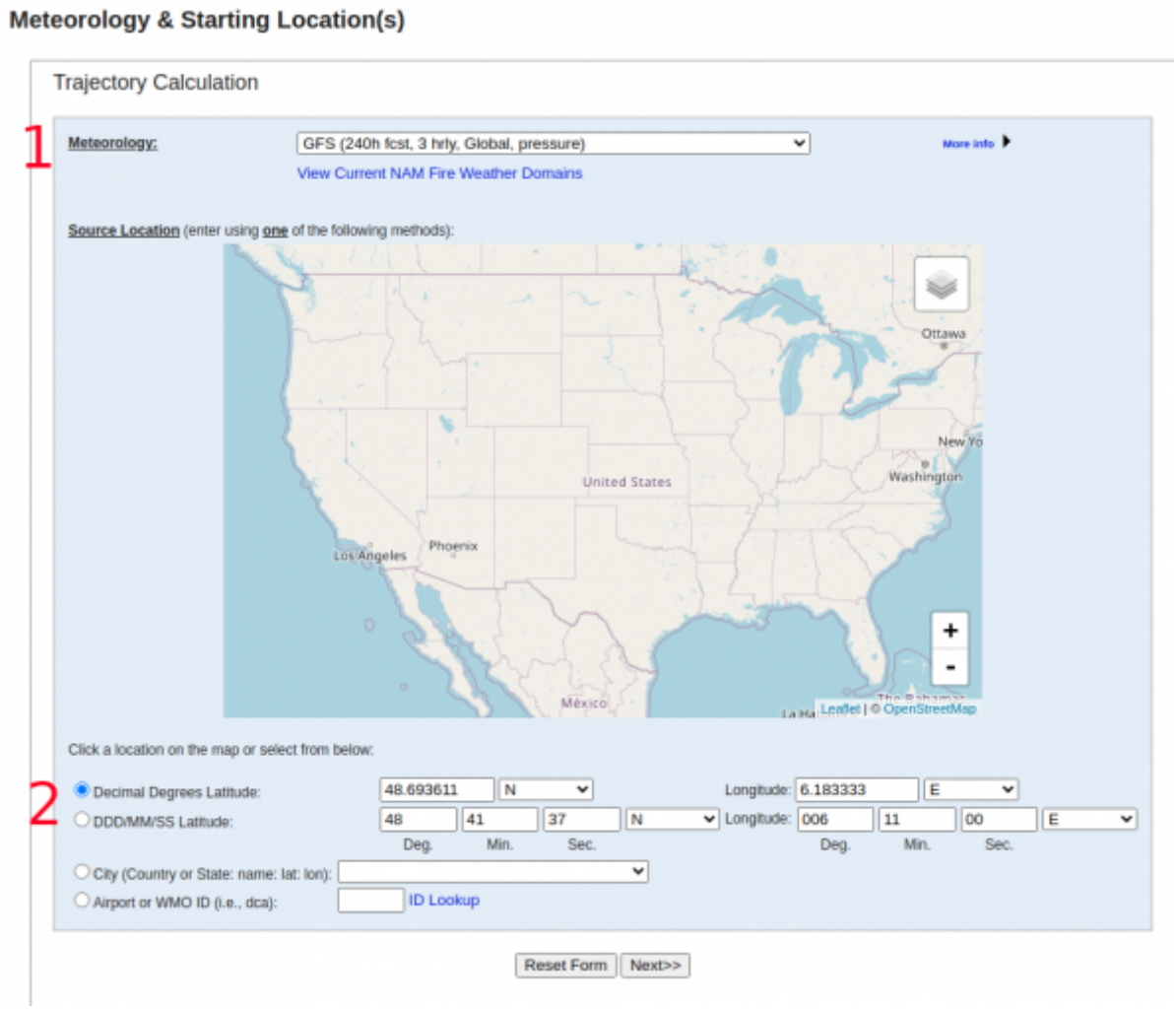
3

- Number of Trajectory Starting Locations: Select »1«
- Type of Trajectory: Select »Normal«



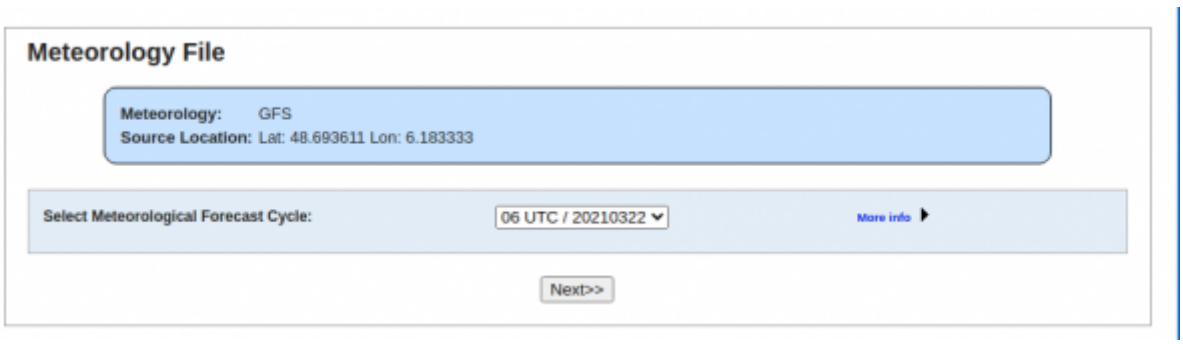
4 Meterology and Starting Location

1. Meteorology: Select »GFS (240h fcst, 3 hrly, Global, pressure)
2. Fill in the coordinates of the starting location.



5 Meteorology File

You can overtake the proposal.



6 Model run details

1. Trajectory direction: Select »Forward«
2. Vertical Motion: Select »Isobaric«
3. Start time (UTC): Choose your time of the planned launch.
4. Choose your flight level. Normally you can choose up to three, but for the competition file choose only one please.
5. Display Options: Select Google Earth (kmz) and PDF file? Yes

ARL Home > READY > Transport & Dispersion Modeling > HYSPLIT > HYSPLIT Trajectory Model

Model Run Details

Request trajectory

The current GFS model has archive data beginning at 03/14/21 0600 UTC and 240 hours of forecast data beginning at 03/22/21 0600 UTC.

Model Parameters

1 **Trajectory direction:** (•) Forward ( ) Backward (Change the default start time!) More info

2 **Vertical Motion:** ( ) Model vertical velocity (•) Isobaric ( ) Isentropic More info

3 **Start time (UTC):** year 21 | month 03 | day 22 | hour 10 More info
Current time: 12:14

Total run time (hours): 240 More info

Start a new trajectory every: 0 hrs Maximum number of trajectories: 24 More info

Start 1 latitude (degrees): 48.693611 More info

Start 1 longitude (degrees): 6.183333 More info

Start 2 latitude (degrees):

Start 2 longitude (degrees):

Start 3 latitude (degrees):

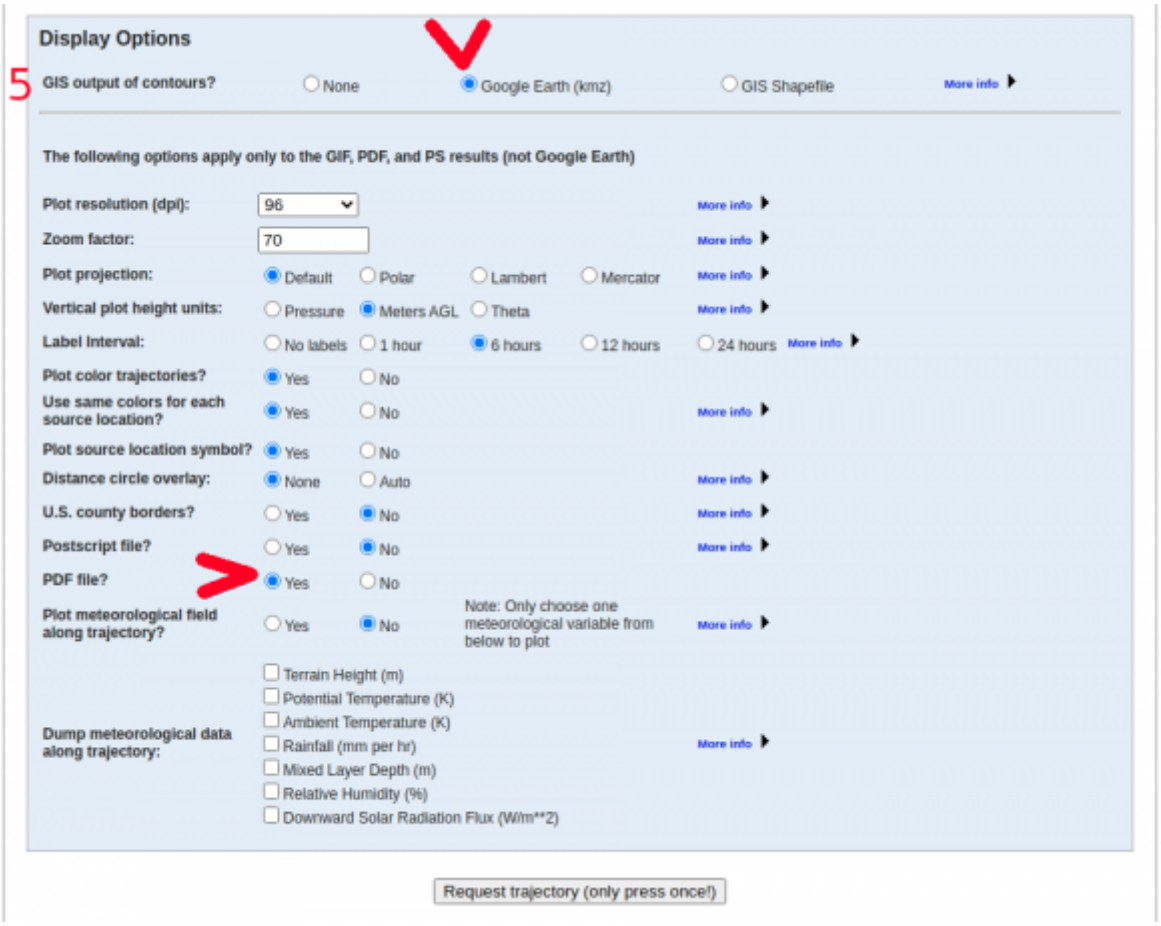
Start 3 longitude (degrees):

Automatic mid-boundary layer height? Will override selections below. ( ) Yes (•) No More info

4 **Level 1 height:** 500 (•) meters AGL ( ) meters AMSL More info

Level 2 height: 0

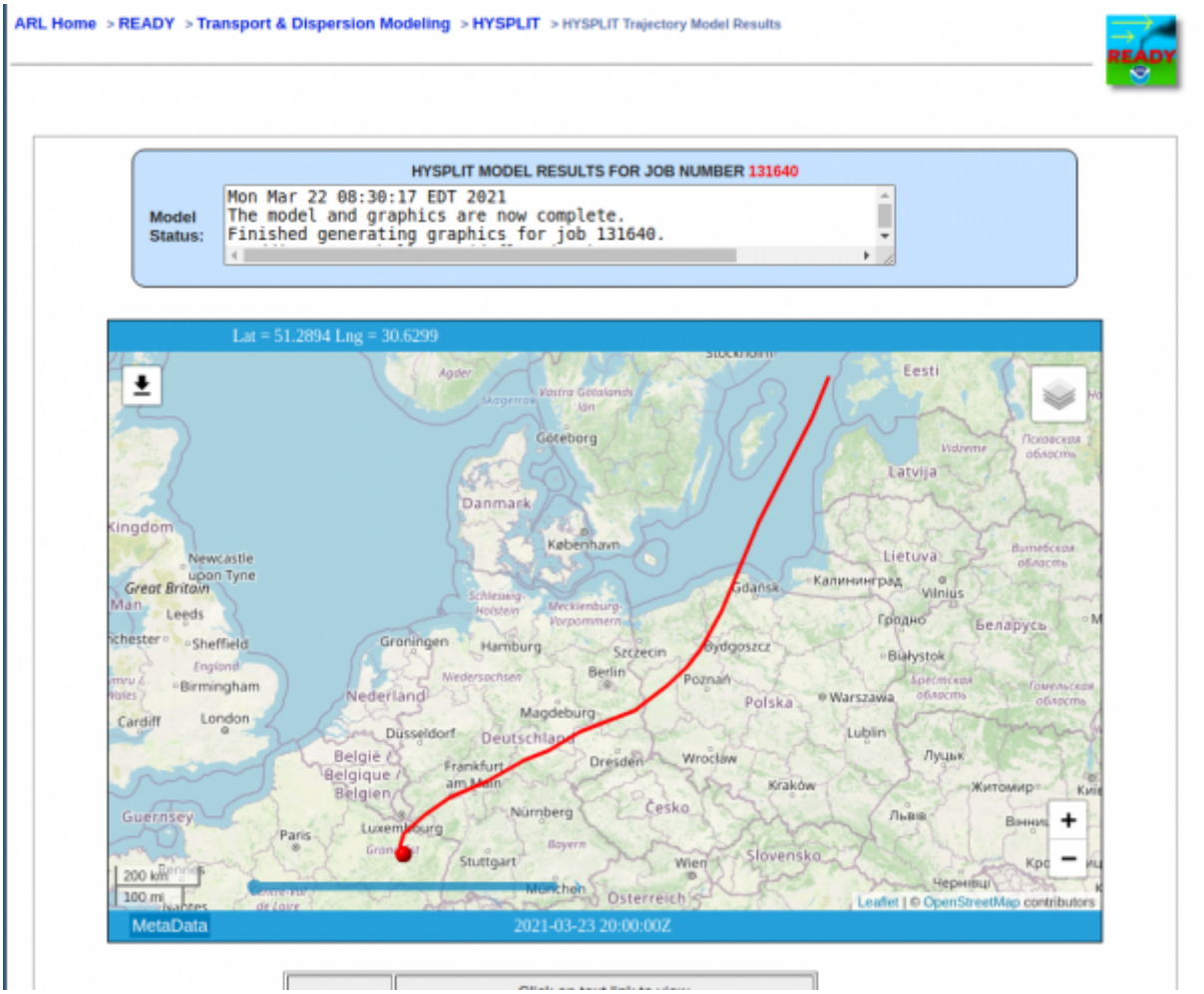
Level 3 height: 0

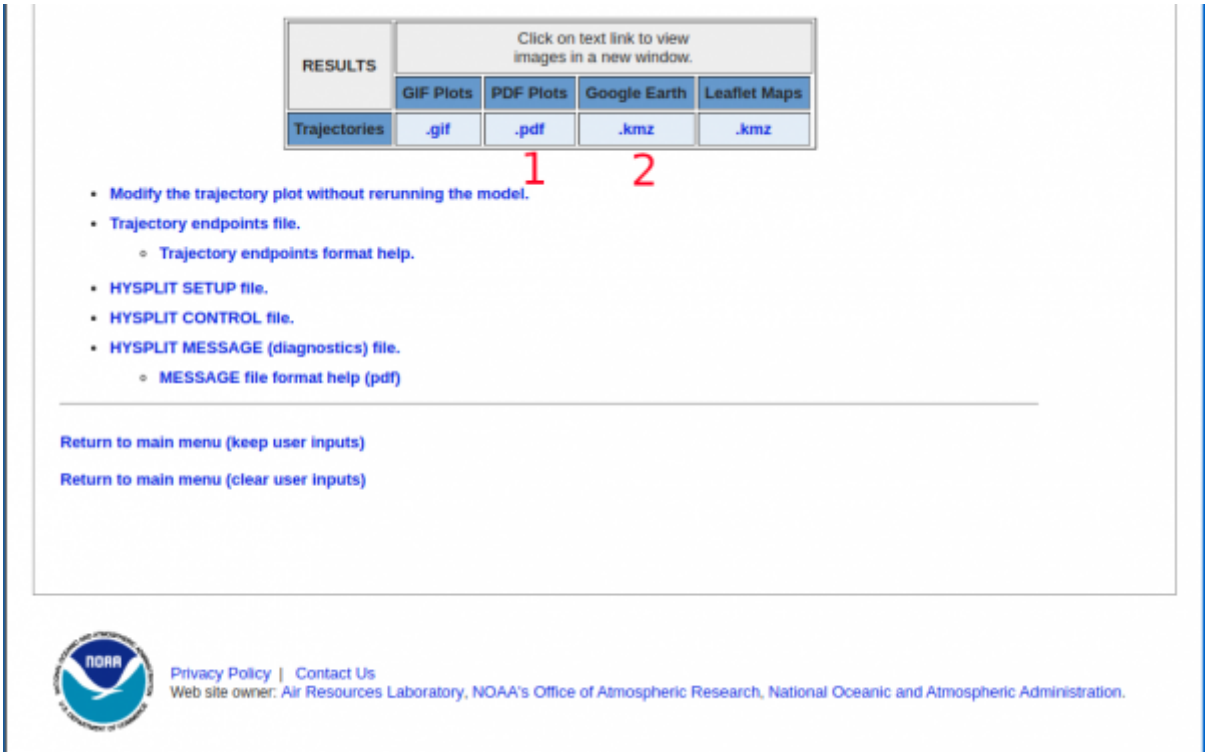


7

Download PDF and KMZ

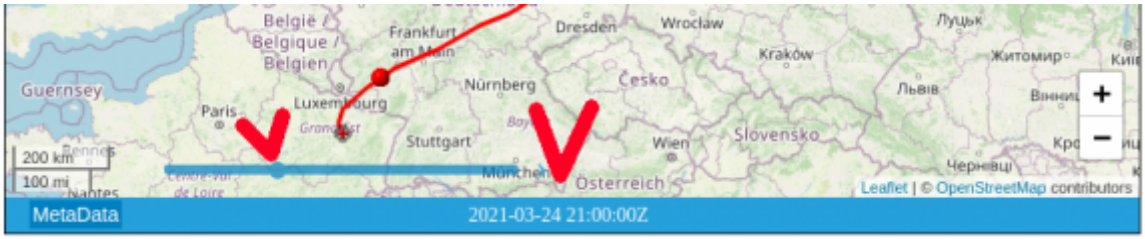
1. Download PDF PLots ».pdf«
2. Download Google Earth ».kmz«





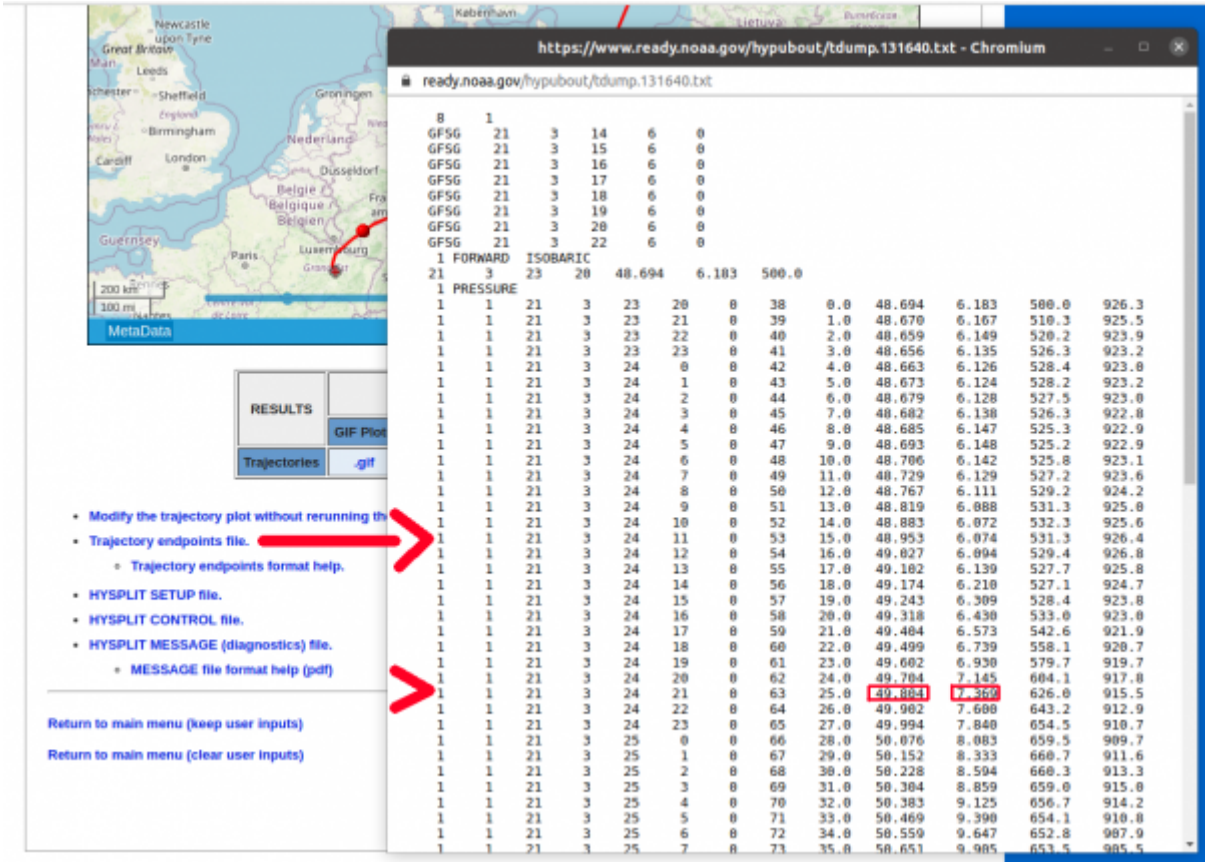
Endurance

Select until when the altitude is to be maintained.

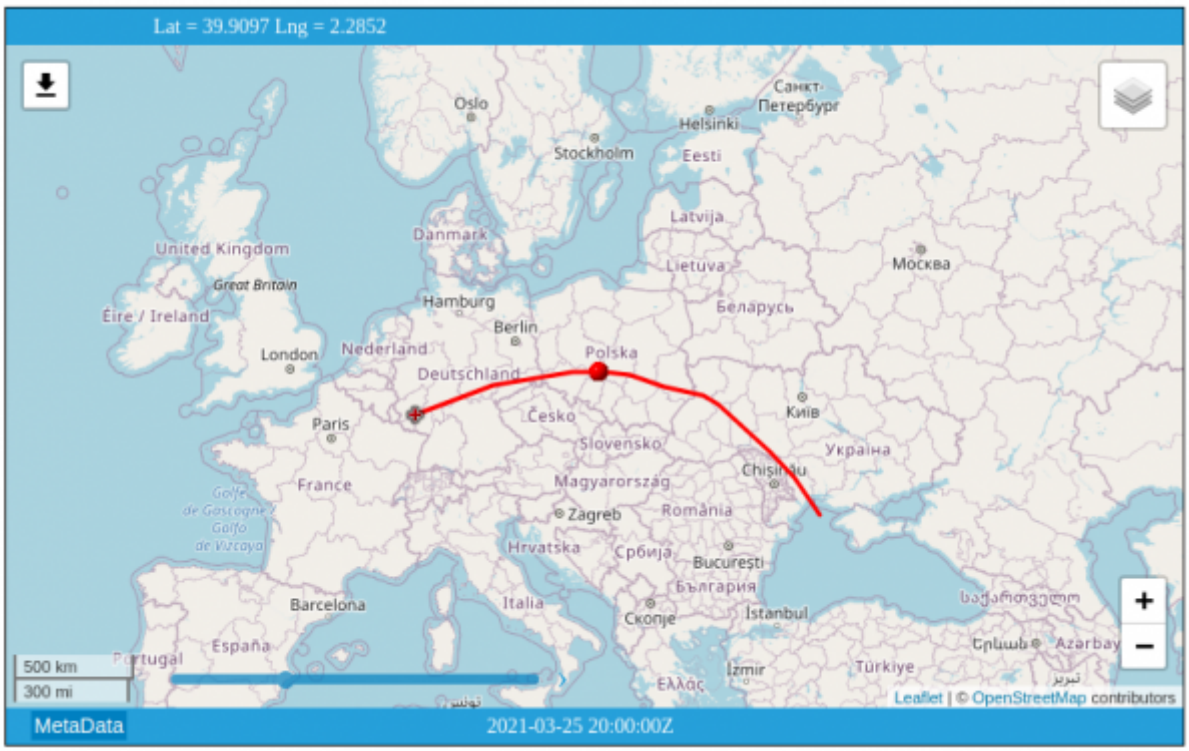


Coordinates for new calculation

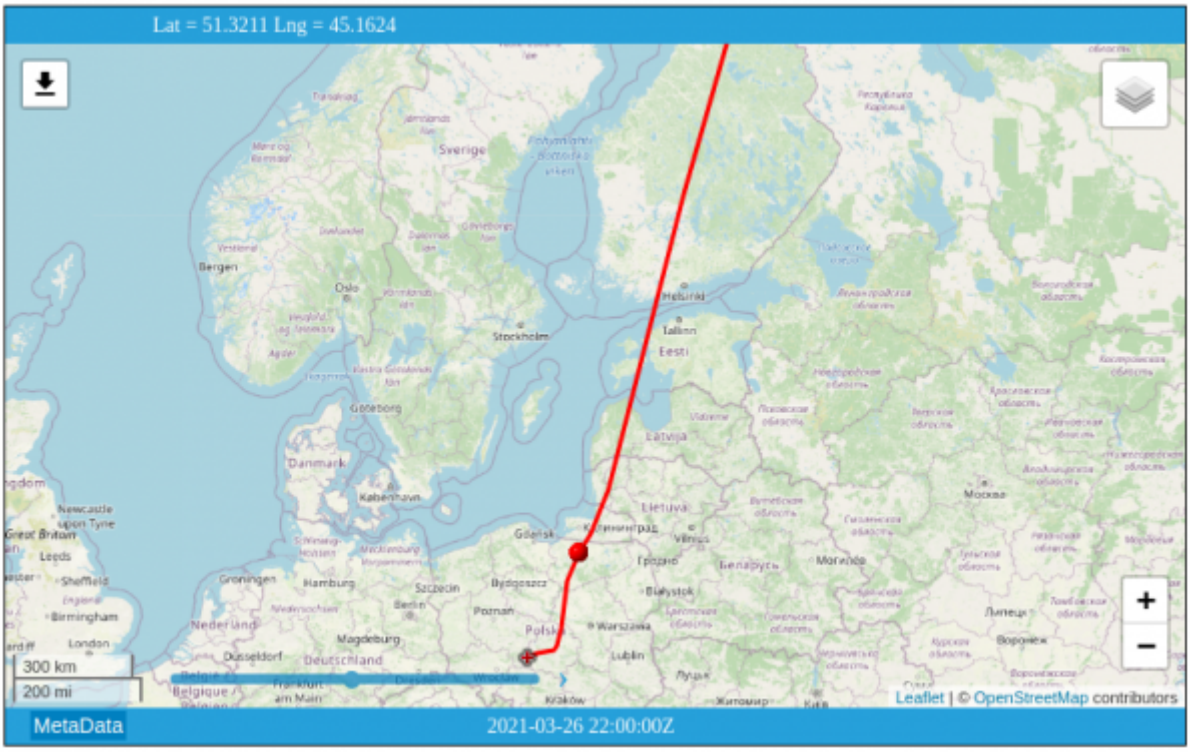
1. Open »Trajectory endpoints file«.
2. Select the data and time you want to change altitude.
3. Copy the coordinates of the point
4. Submit the coordinates and the start time to a new calculation.
5. If you use »Return to main menu (keep user inputs)«, you have only to change coordinates, time and altitude.



2nd altitude



3rd altitude



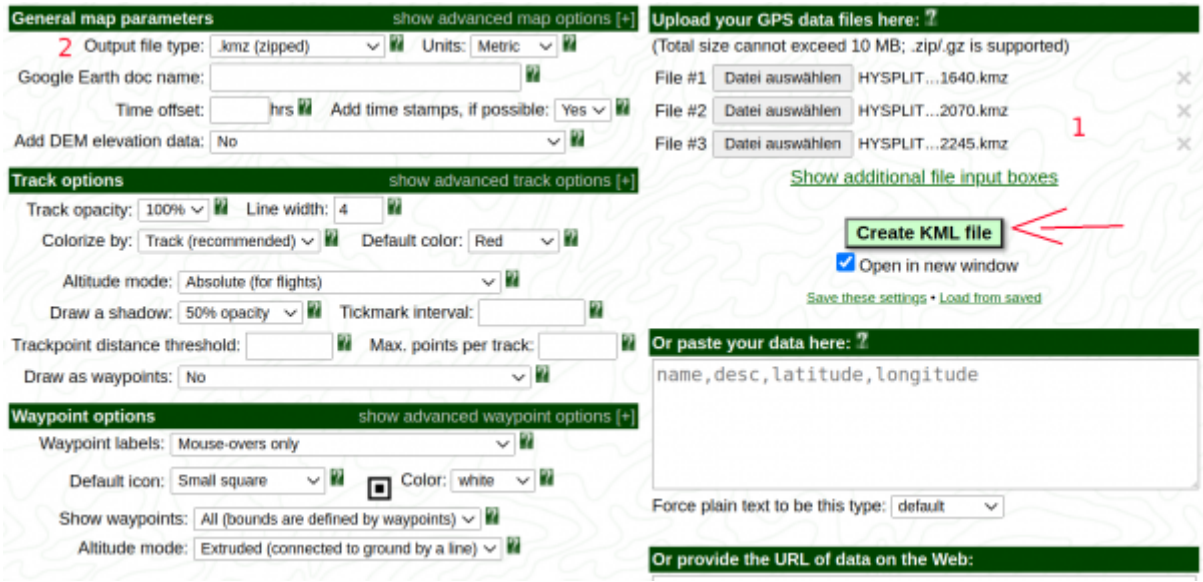
You can merge up to 8 sections of the flight with gpsvisualizer. But we propose to start with maximum 3 sections.

Compose file for competition flight

To merge the files use https://www.gpsvisualizer.com

Select »Google Earth« : https://www.gpsvisualizer.com/map_input?form=googleearth

1. Upload your files. Used in this example:
   HYSPLITtraj_131640.kmz
   HYSPLITtraj_132070.kmz
   HYSPLITtraj_132245.kmz
   .
2. Select .kmz for Google Earth.
3. Set the other values as shown in the example.



Result:

.kmz
.kml

The chart has been created with the KML-file. Due to copyright questions we have not published a screenshot of the Google Earth. To calculate the distance we will mesure between the launch point A and the final point B conform to the rules. In this case, between SR and SS, not over water, and within the competition area. Kaliningrad is outside the competition area, so the final point will be south of the border of Kaliningrad and it is the last point before sunset.

1)

Place_Stanislas