

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 Stanislas¹⁾ 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

A screenshot of a web browser showing the NOAA Air Resources Laboratory (ARL) website. The browser's address bar displays 'ready.noaa.gov/HYSPLIT.php'. The page header includes the NOAA logo and the text 'Air Resources Laboratory Advancing Atmospheric Science and Technology through Research'. A left-hand navigation menu lists various options, including 'ARL Home', 'HYSPLIT Model', and 'READY'. The main content area features a large banner with the HYSPLIT logo and a description: 'The HYSPLIT model can be run interactively on the READY web site or installed on a PC (Mac) or LINUX workstation and run using a graphical user interface (GUI) or script.' Below this, there is a link to 'Got a question about HYSPLIT? Ask your question through the HYSPLIT Forum.' Under the heading 'HYSPLIT-WEB (Internet-based)', there are two links: 'Run HYSPLIT Trajectory Model (No registration required)' and 'Run HYSPLIT Dispersion Model (Includes volcanic ash)'. A red arrow points to the first link.

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«



READY users produced 3407 un-registered HYSPLIT sim

Type of Trajectory(ies)

Number of Trajectory Starting Locations 1 2 3

Type of Trajectory Normal Matrix Ensemble Frequency

Note: By choosing just one source location, more options for selecting the starting location are available: by latitude/longitude, by WMO ID, or by plant location. Multiple source locations are allowed. This option is ignored for trajectory ensemble and frequency.

Next>>

4 Meteorology and Starting Location


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

Meteorology & Starting Location(s)

Trajectory Calculation

1 **Meteorology:** [More info ▶](#)
[View Current NAM Fire Weather Domains](#)

Source Location (enter using one of the following methods):



Click a location on the map or select from below:

2 **Decimal Degrees Latitude:**

DDD/MM/SS Latitude:

City (Country or State: name: lat: lon):

Airport or WMO ID (i.e., dca): [ID Lookup](#)

5 Meteorology File

You can overtake the proposal.

Meteorology File

Meteorology: GFS
Source Location: Lat: 48.693611 Lon: 6.183333

Select Meteorological Forecast Cycle: [More info ▶](#)

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



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):
Current time: 12:14
year: 21 month: 03 day: 22 hour: 10 More info ▶

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? Yes No More info ▶

Will override selections below.

4 Level 1 height: 500 meters AGL meters AMSL More info ▶

Level 2 height: 0

Level 3 height: 0

5 **Display Options**

GIS output of contours? None Google Earth (kmz) GIS Shapetile [More info](#)

The following options apply only to the GIF, PDF, and PS results (not Google Earth)

Plot resolution (dpi): [More info](#)

Zoom factor: [More info](#)

Plot projection: Default Polar Lambert Mercator [More info](#)

Vertical plot height units: Pressure Meters AGL Theta [More info](#)

Label interval: No labels 1 hour 6 hours 12 hours 24 hours [More info](#)

Plot color trajectories? Yes No [More info](#)

Use same colors for each source location? Yes No [More info](#)

Plot source location symbol? Yes No [More info](#)

Distance circle overlay: None Auto [More info](#)

U.S. county borders? Yes No [More info](#)

Postscript file? Yes No [More info](#)

PDF file? Yes No [More info](#)

Plot meteorological field along trajectory? Yes No [More info](#)

Note: Only choose one meteorological variable from below to plot

Dump meteorological data along trajectory: [More info](#)

- Terrain Height (m)
- Potential Temperature (K)
- Ambient Temperature (K)
- Rainfall (mm per hr)
- Mixed Layer Depth (m)
- Relative Humidity (%)
- Downward Solar Radiation Flux (W/m**2)

7

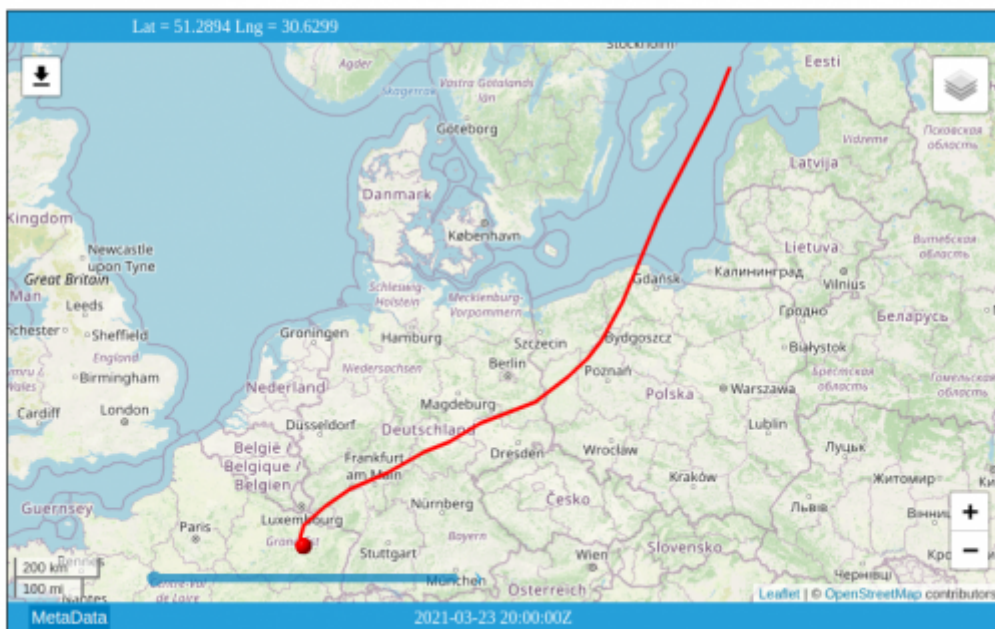
Download PDF and KMZ

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



HYSPLIT MODEL RESULTS FOR JOB NUMBER 131640

Model Status: Mon Mar 22 08:30:17 EDT 2021
The model and graphics are now complete.
Finished generating graphics for job 131640.



RESULTS	Click on text link to view images in a new window.			
	GIF Plots	PDF Plots	Google Earth	Leaflet Maps
Trajectories	.gif	.pdf	.kmz	.kmz

1 2

- **Modify the trajectory plot without rerunning the model.**
- **Trajectory endpoints file.**
 - [Trajectory endpoints format help.](#)
- **HYSPLIT SETUP file.**
- **HYSPLIT CONTROL file.**
- **HYSPLIT MESSAGE (diagnostics) file.**
 - [MESSAGE file format help \(pdf\)](#)

[Return to main menu \(keep user inputs\)](#)

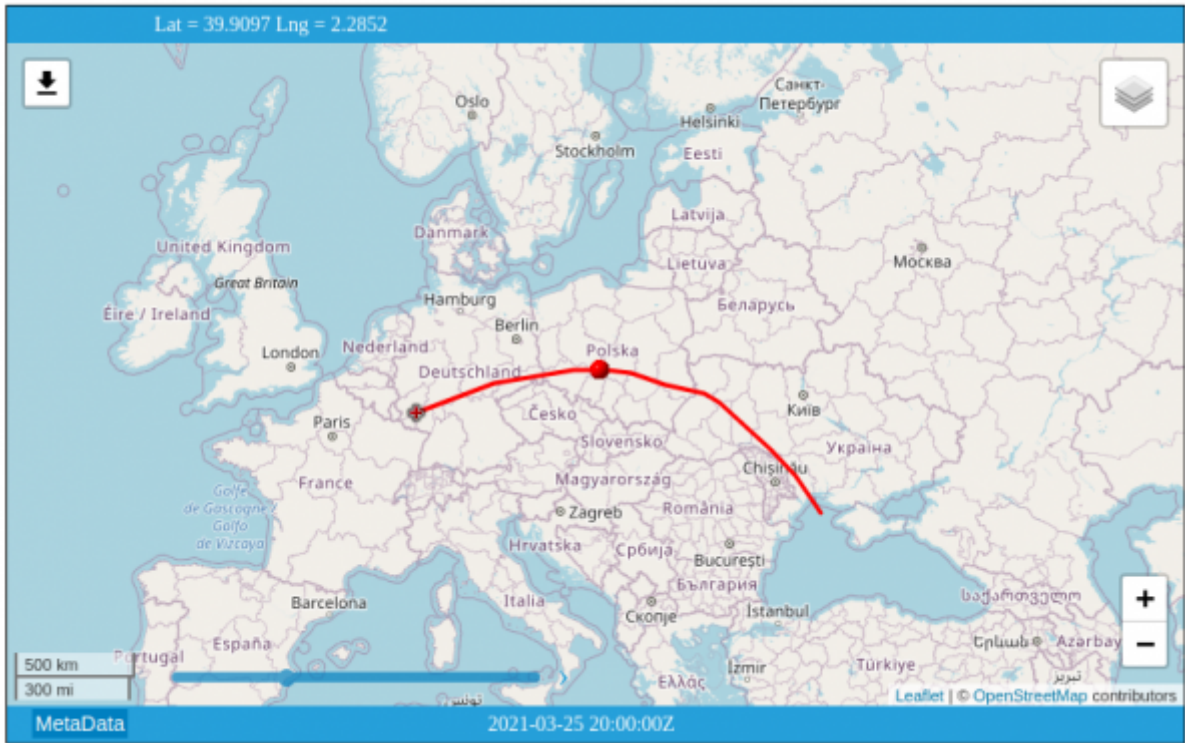
[Return to main menu \(clear user inputs\)](#)



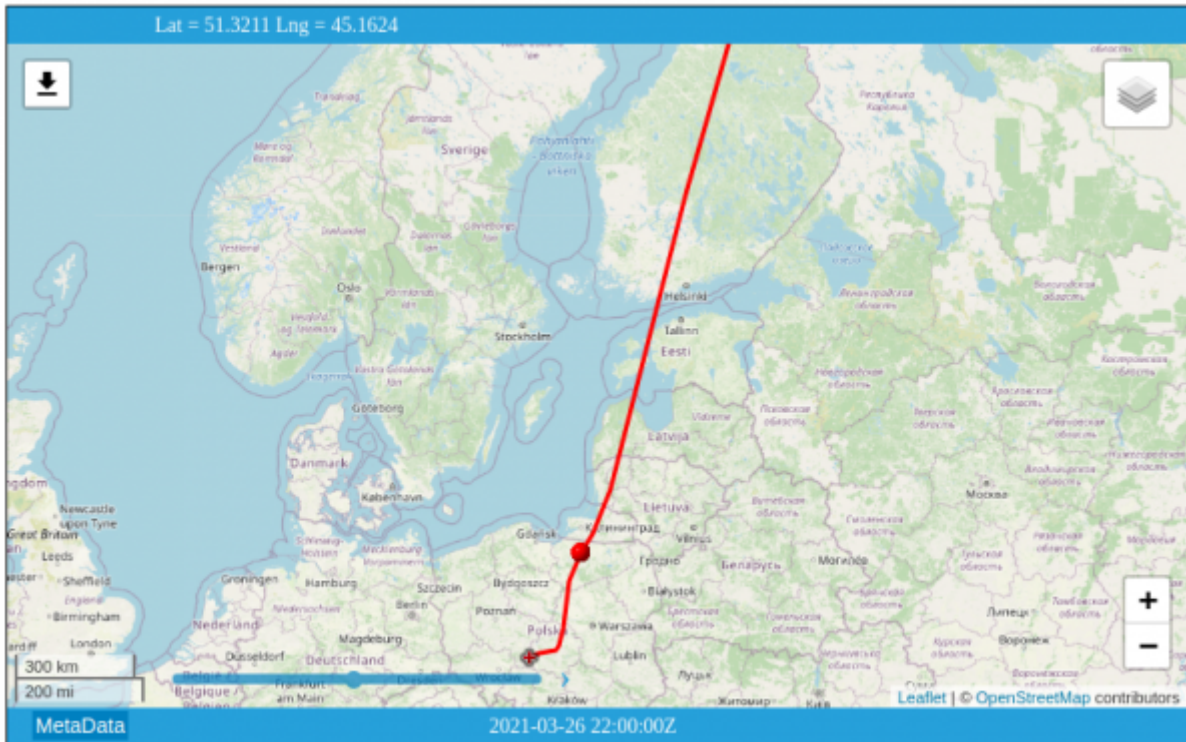
Privacy Policy | Contact Us
Web site owner: Air Resources Laboratory, NOAA's Office of Atmospheric Research, National Oceanic and Atmospheric Administration.

Endurance

Select until when the altitude is to be maintained.



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>

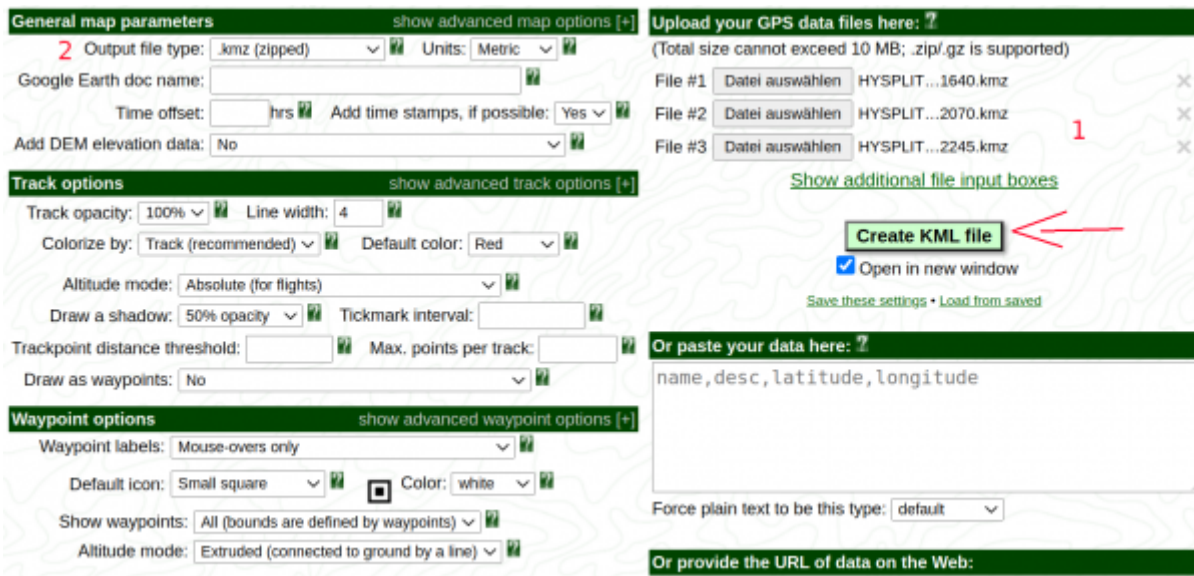
Select »Google Earth« : https://www.gpsvisualizer.com/map_input?form=googleearth

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 measure 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](#)

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