



StrewnLAB Bulletin — Flensburg, Germany

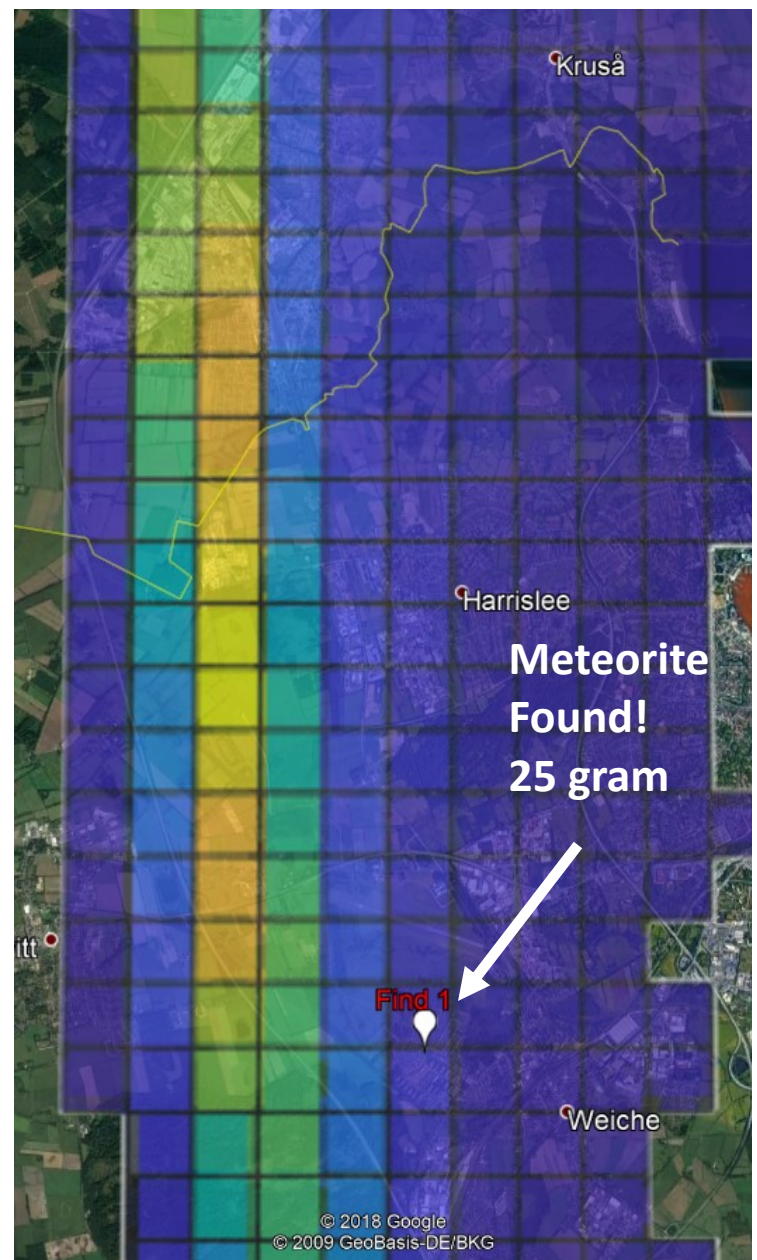
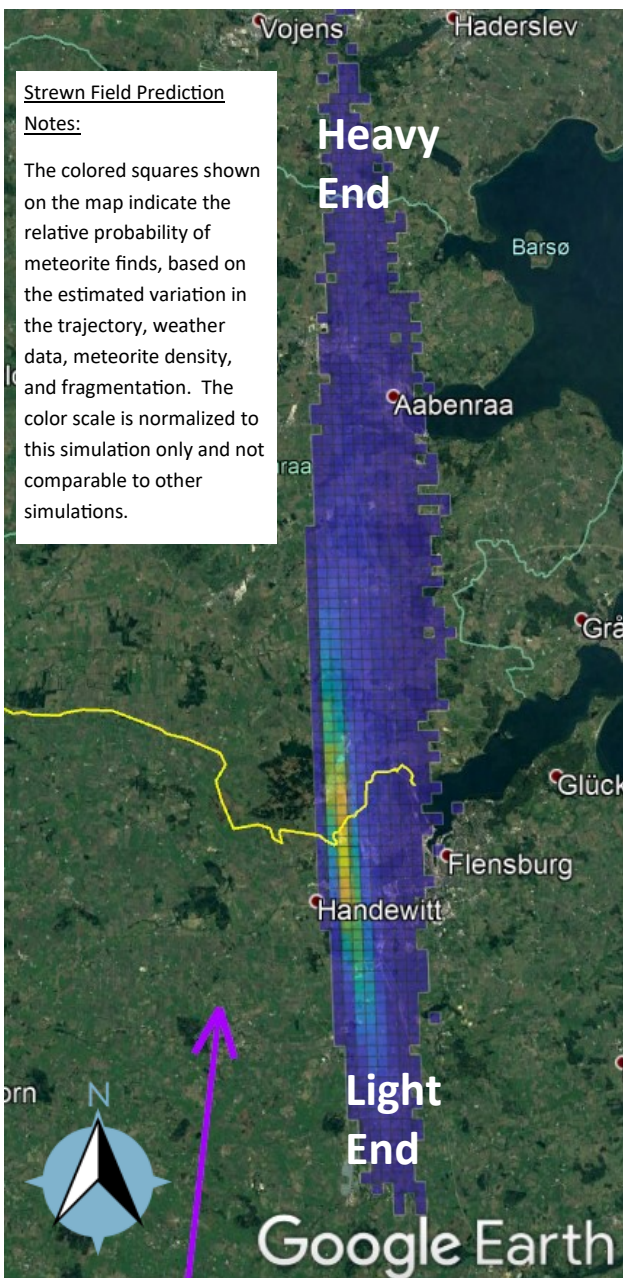
Version 4.0 | November 27, 2019 06:00 UTC

Trajectory Data:

Date/Time UTC	09/12/2019 12:49:48
Local Date/Time (+2.0)	09/12/2019 2:49:48 PM
Reference Location	54.51°N 9.18°E
Reference Altitude	42 km
Estimated Energy/Mass	0.48 kt / 12000 kg
Bearing (Heading)	8.30° North
Incidence Angle	65.46° from vertical
Entry Speed	20.00 km/s

Strewn Field Prediction Data:

Simulation Engineer	Jim Goodall
Trajectory Data Source	CNEOS* Marchal v. Video Holger Scheele Video Jörg Strunk Video Marknesse Video
Weather Data Source	IGRA Weather Balloon Data
Simulation Type	Monte Carlo, Carbonaceous Meteoroid
Simulation Data Count	44 scenarios / 83,496 fragments



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Meteorite Find Summary

Finder	Undisclosed Private Citizen
Find Date/Time (+2.0)	09/13/2019 11:00 AM
Mass	25g (Approximate)
Nominal Location (not exact)	54.761°N 9.381°E
Location Description	Private property, near Flensburg Airport

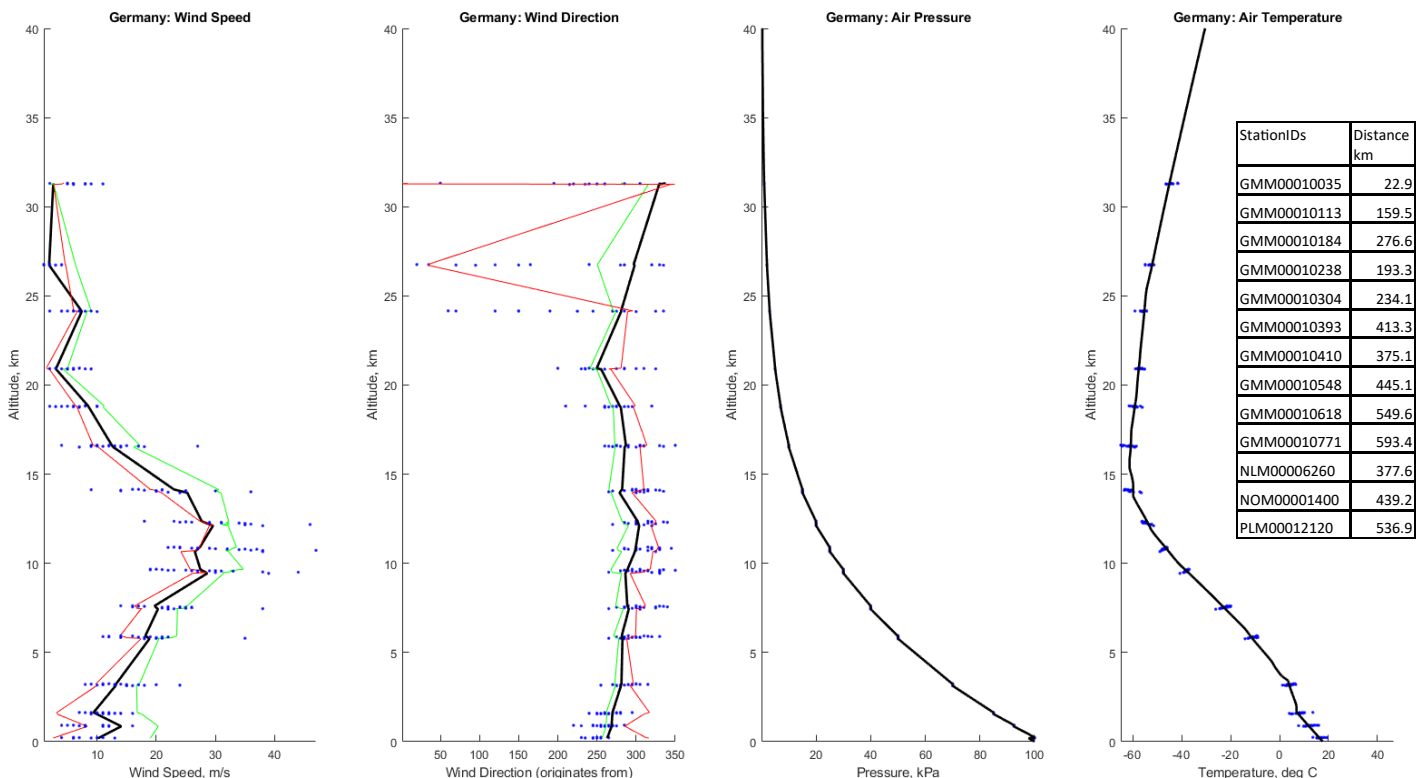


Photos © Carsten Jonas - Meteorite found near Flensburg!

As reported by Andreas Moeller, on AKM e.V. Forum, a German forum on atmospheric phenomenon [Translated from German]:

As some of you have certainly heard, Sirko [Molau] gave a talk at the IMC in Bollmannsruhe about the fireball over the North Sea and also reported on a possible find. The following happened: One day after the event, someone from Flensburg reported on the fireball reporting form with a photo of a meteorite he allegedly found. Afterwards, the AKM contacted this person and examined the meteorite. I would like to mention here that the person has requested absolute discretion and the exact location of the meteorite is kept secret. For this reason, the Kong-Arrildshoj Park, in the western part of Flensburg so locality indicated. At this point, a big thank you to Dieter Heinlein, who has worked hard to ensure that the Fund is scientifically studied. Maybe Dieter will write a few more details. Currently it seems to be a very light (~ 2g / ccm) CC [Carbonaceous Chondrite] with a striking rusty color. Here are two photos of Carsten [Jonas].

Weather Data Summary:



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Version Log:

Date	Version	Change Notes	Author(s)
09/15/2019	1	Original version based on CNEOS trajectory and validated against video footage.	Jim Goodall
09/16/2019	1.1	Typo correction, 12kg —> 12000kg, minor formatting changes	Jim Goodall
09/17/2019	2	Strewn field relocated 3 km west, based on video data.. Strewn field filtered to only include fragments larger than 10g.	Jim Goodall
09/21/2019	2.2	Confidence is improved after further video analysis, but it is difficult to improve the precision, due to clouds in the videos. Simulation re-run	Jim Goodall
09/22/2019	3.0	Confidence is further improved, with the addition of calibrated camera data from Herford, Germany. Improved accuracy and precision	Jim Goodall
11/27/2019	4.0	After the news of the meteorite found near Flensburg Airport, I narrowed the density range to within 5% of the reported 2 g/cm ³ and changed the meteoroid material to carbonaceous. I also adjusted the reference point 1.7km NE, which is within the farthest allowed by the camera observations. The new strewn field matches the find fairly well. It should be noted that the last version of the strewn field did include the new strewn field, but the probability in that area was low, and rightly so, because carbonaceous chondrites only make up 5% of witnessed falls.	Jim Goodall

References:

AMS Event 4385-2019. American Meteor Society. C2019. https://fireball.amsmeteors.org/members/imo_view/event/2019/4385.

Arbeitskreis Meteore eV (Online Forum). C2019. <https://www.meteoros.de/>

Jonas, Carsten (Photographer). 2019. Meteorite Photograph.

IGRA Radiosonde Database. c2019. National Centers for Environment Information, National Oceanic and Atmospheric Administration. <https://www.ncdc.noaa.gov/data-access/weather-balloon/integrated-global-radiosonde-archive>.

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