
DATA VISUALIZATIONS ON A EXPANDING KNOWN STAR CLUSTER | MADE WITH HOUDINI
By Juno Reuvers

Fig. 1

Above you see a data Visualization of a star cluster expanding over time, made in Houdini. Consists out of 18 datasets of over 64000 stars.
Dataset used:
https://www.kaggle.com/datasets/mariopasquato/star-cluster-simulations
https://youtu.be/ZjYXMDh98YU <- Link to the video that showcases the visualization

A visualization of stars, based on their temperature and logarithmic luminosity |
Made with DataWrapper by Juno Reuvers

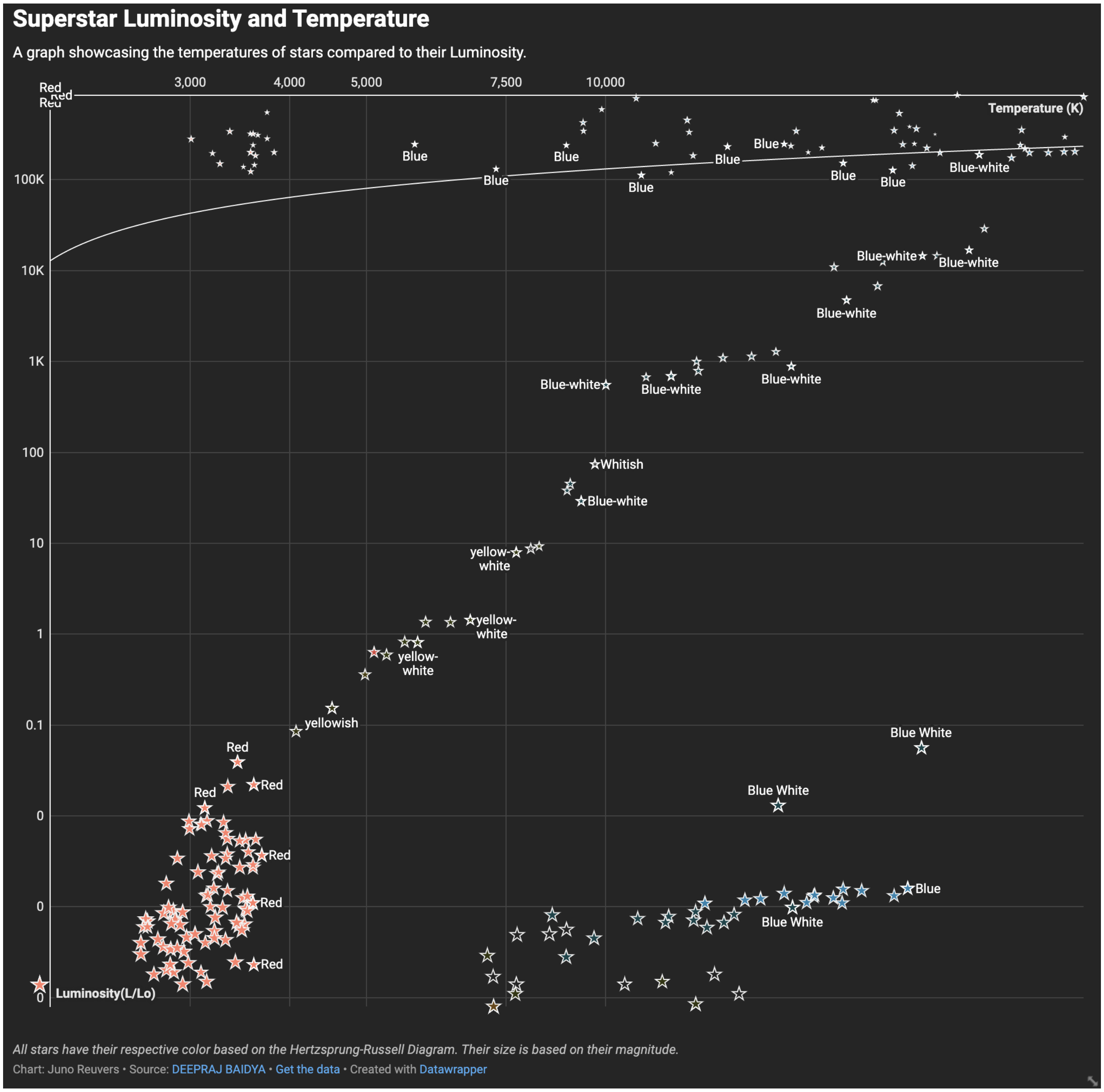


Fig. 2
Dataset used: https://www.kaggle.com/datasets/deepu1109/star-dataset

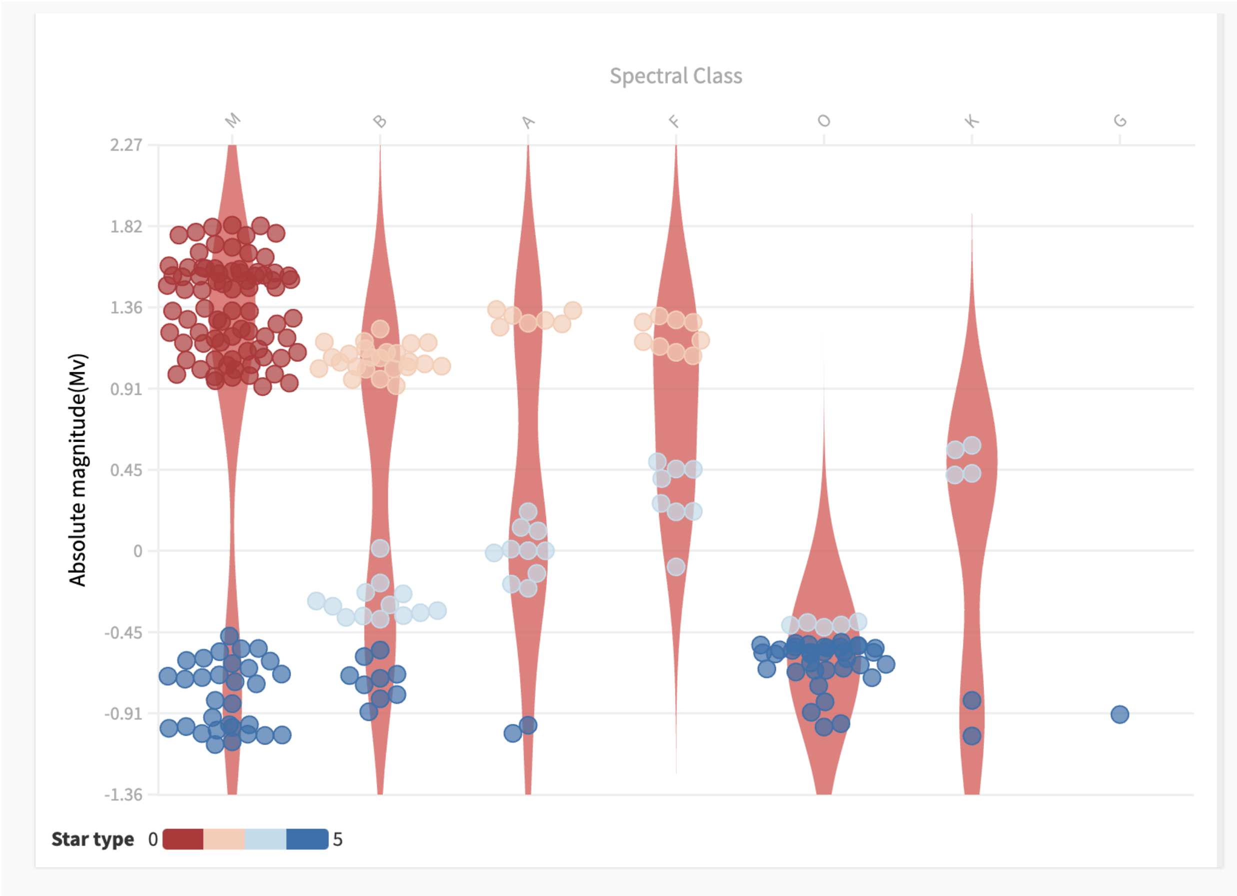
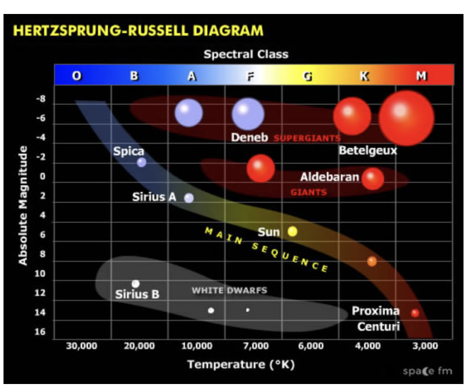


Fig. 3
Dataset used: https://www.kaggle.com/datasets/deepu1109/star-dataset
Violin Plot of The Absolute magnitude per spectral class.

Brown Dwarf -> Star Type = 0
Red Dwarf -> Star Type = 1
White Dwarf-> Star Type = 2
Main Sequence -> Star Type = 3
Supergiant -> Star Type = 4
Hypergiant -> Star Type = 5



Based on the original visualisation of the HR-diagram.

DATA VISUALIZATIONS ON ALL KNOWN METEORITE LANDINGS FROM 1880 - NOW | MADE WITH FLOURISH
By Lisemijn Presser

Using a dataset from NASA: https://data.world/nasa/meteorite-landings

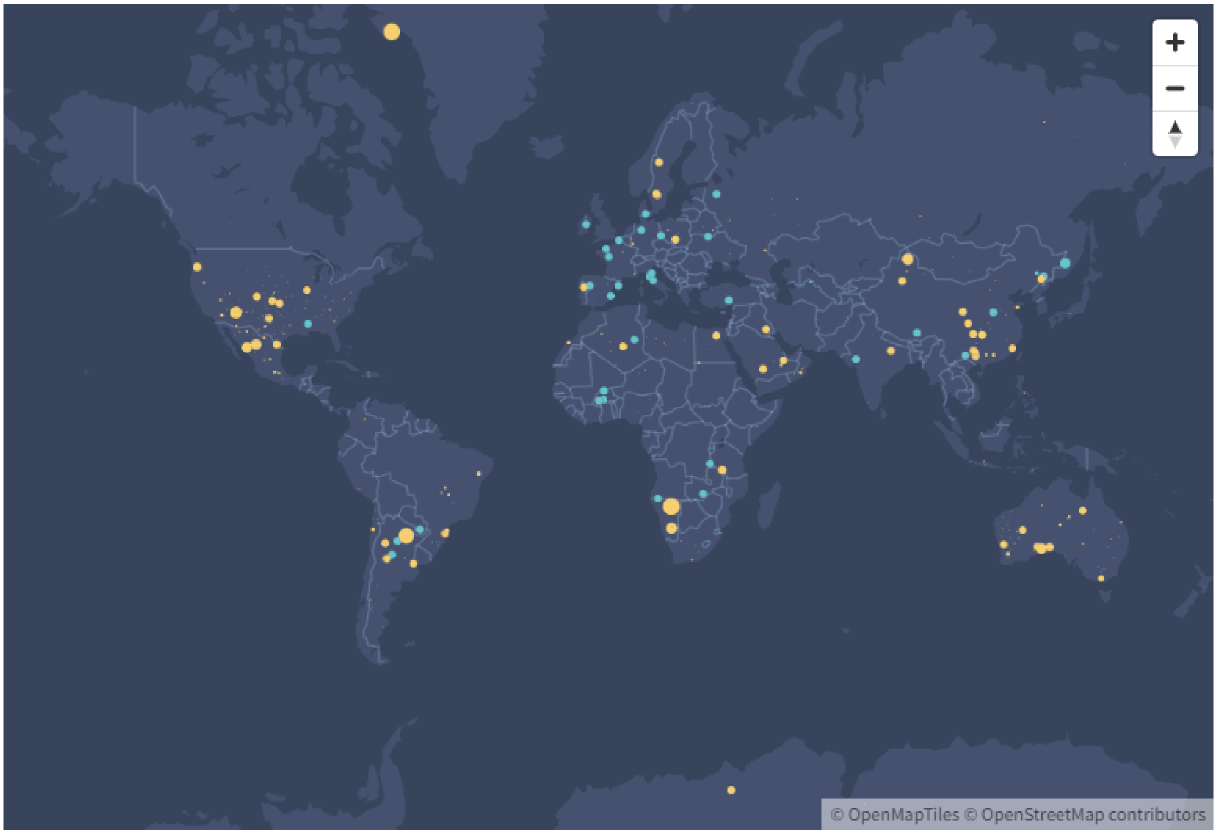
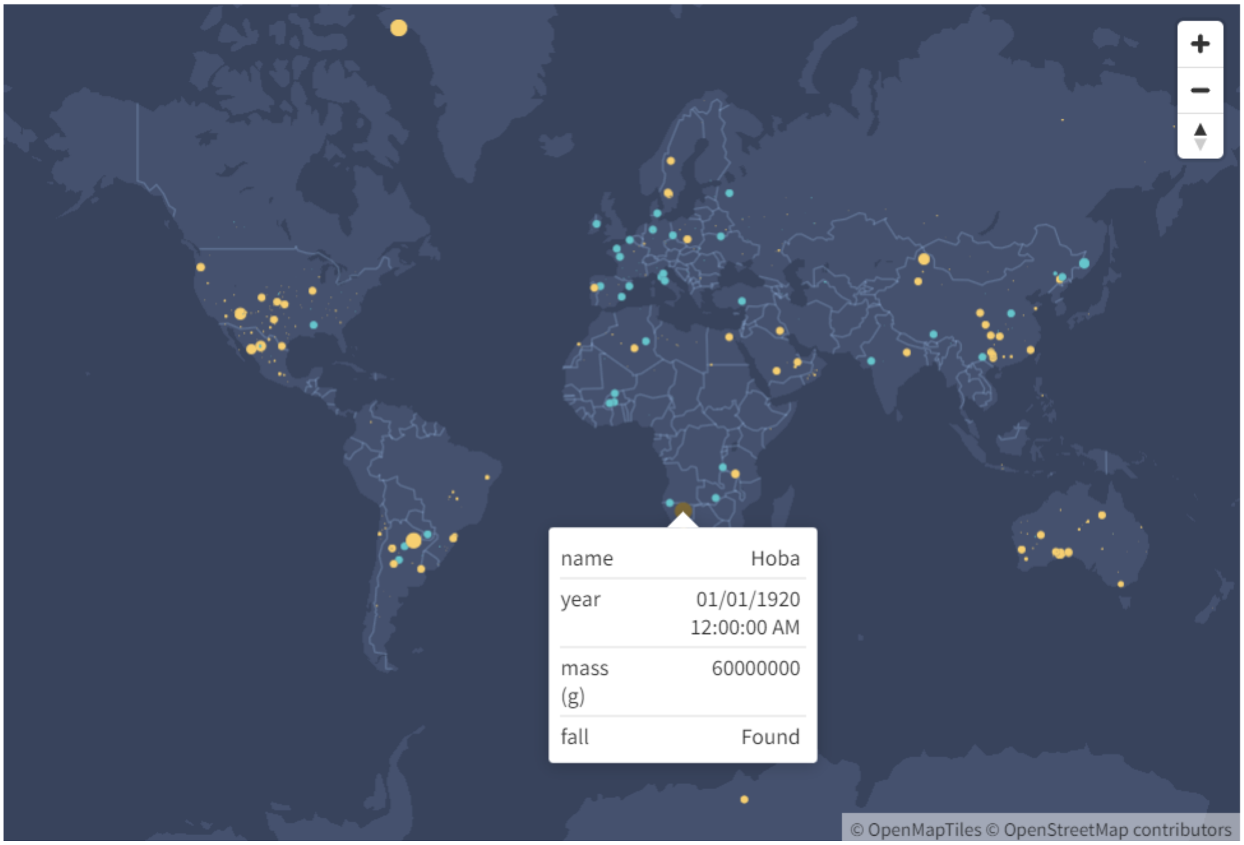
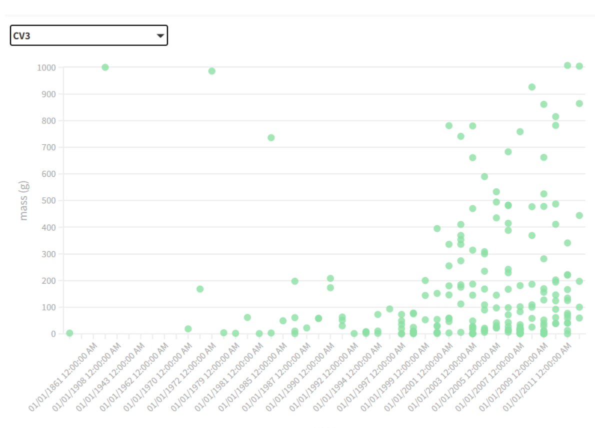


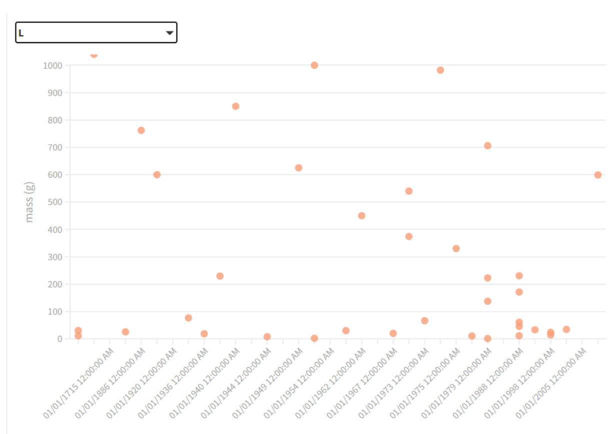
Figure 4. Geolocations of fallen meteorites through the years, ordered by fallen(yellow)or found(blue). [*https://app.flourish.studio/visualisation/10390754/edit*](https://app.flourish.studio/visualisation/10390754/edit)

On this map we can see all locations where a meteorite has been found through the years. The difference in dot size indicates the mass of the meteorite. (more info is displayed when hovering over a chosen dot.



(World map animation through time: https://app.flourish.studio/visualisation/10391813/edit)





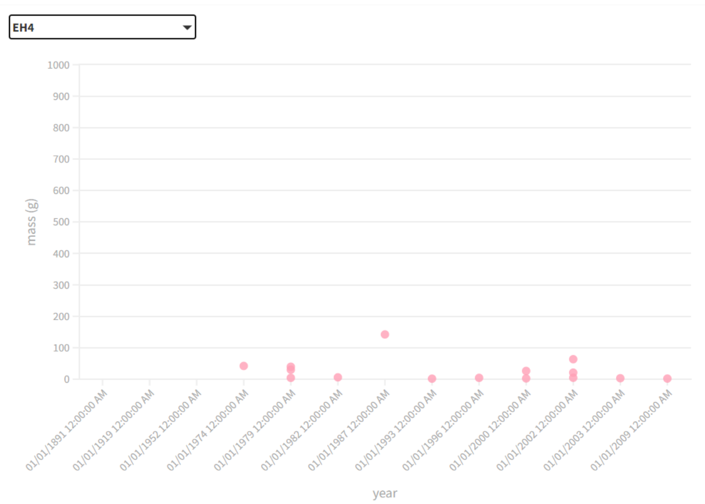


Figure 5. Variations of meteorites through the years, ordered by size (with a maximum of 1000 gram) and filtered by class (As an example we took the three classes CV3, L and EH4).
https://app.flourish.studio/visualisation/10391559/edit

Meteorites are divided in different classes according to the mean material that it is made of off. The L class meteorite for example is a chondrite type meteor, one of the most common groups of meteors found on earth. We can see in the graphs that indeed L is more often found than for example EH4, which is one of the more rarer types.

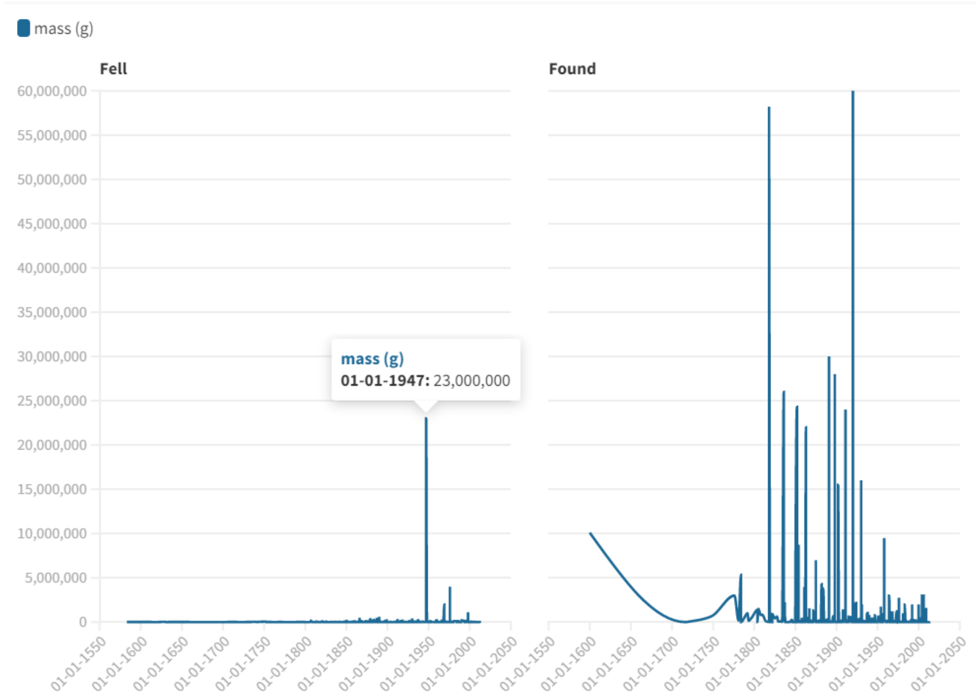


Figure 6. Different masses of meteorites through the years, sorted by fallen or found.
https://app.flourish.studio/visualisation/10392594/edit

We can see that overall the average mass of fallen meteorites is smaller than the found meteorites. This makes sense as found meteorites are often discovered on accident without prior knowledge of their location, smaller meteorites are often not found if they weren't seen during the fall, increasing the average mass of all found meteores.

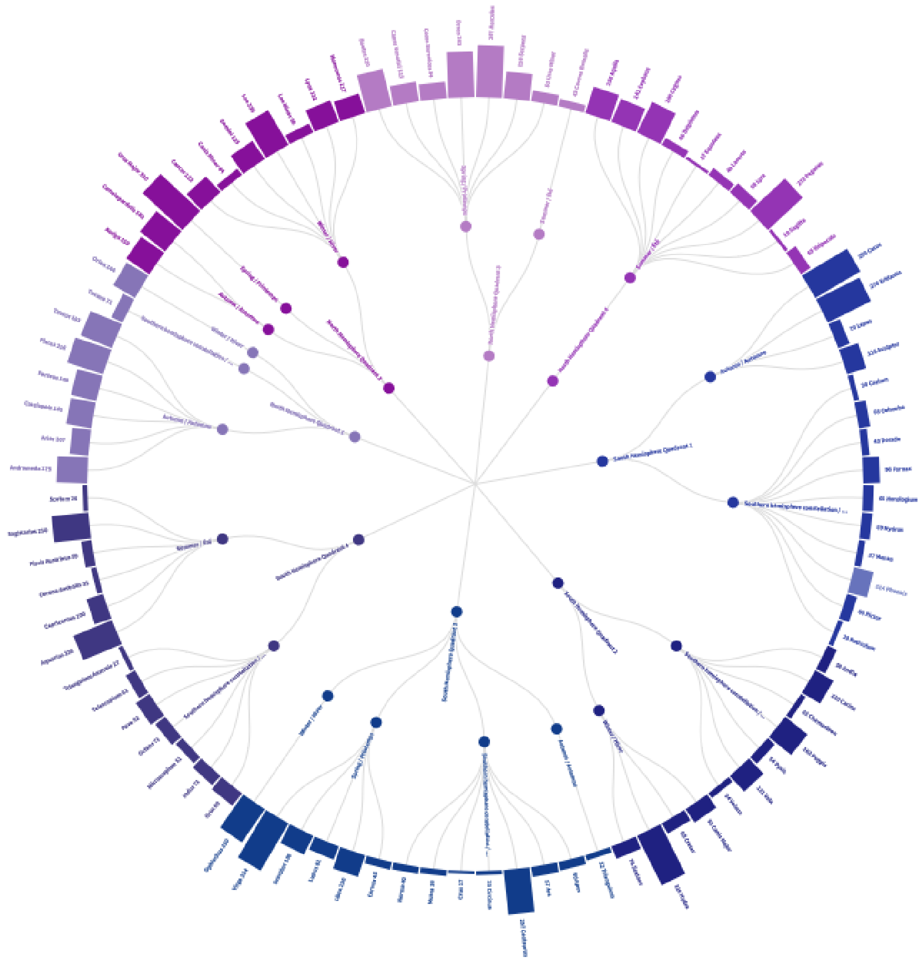


Figure 7. Visualization of where and in which season constellations are most visible, in which quadrant of the hemisphere they are most visible and how much angular % of space they take in

Made by: Jelle Brouwer
Data from
https://www.datastro.eu/explore/dataset/88-constellations/table/?disjunctive.season_saison&disjunctive.iau_code&disjunctive.dec_declinaison&disjunctive.test&disjunctive.constellation_area_in_of_the_celestial_sphere_etendue_de_la_constellation_en_de_la_sphere_celeste&disjunctive.constellation_zone_celestial_equator_zone_de_la_constellation_equateur_celeste&disjunctive.constellation_zone_milky_way_zone_de_la_constellation_voie_lactee&disjunctive.quad_repere_de_l_hemisphere_et_du_quadrant&disjunctive.name_origin_origine_de_l_apellation&sort=iau_code
Visualizations made with: Flourish
Same data and data visualization tools used for the next two visualizations

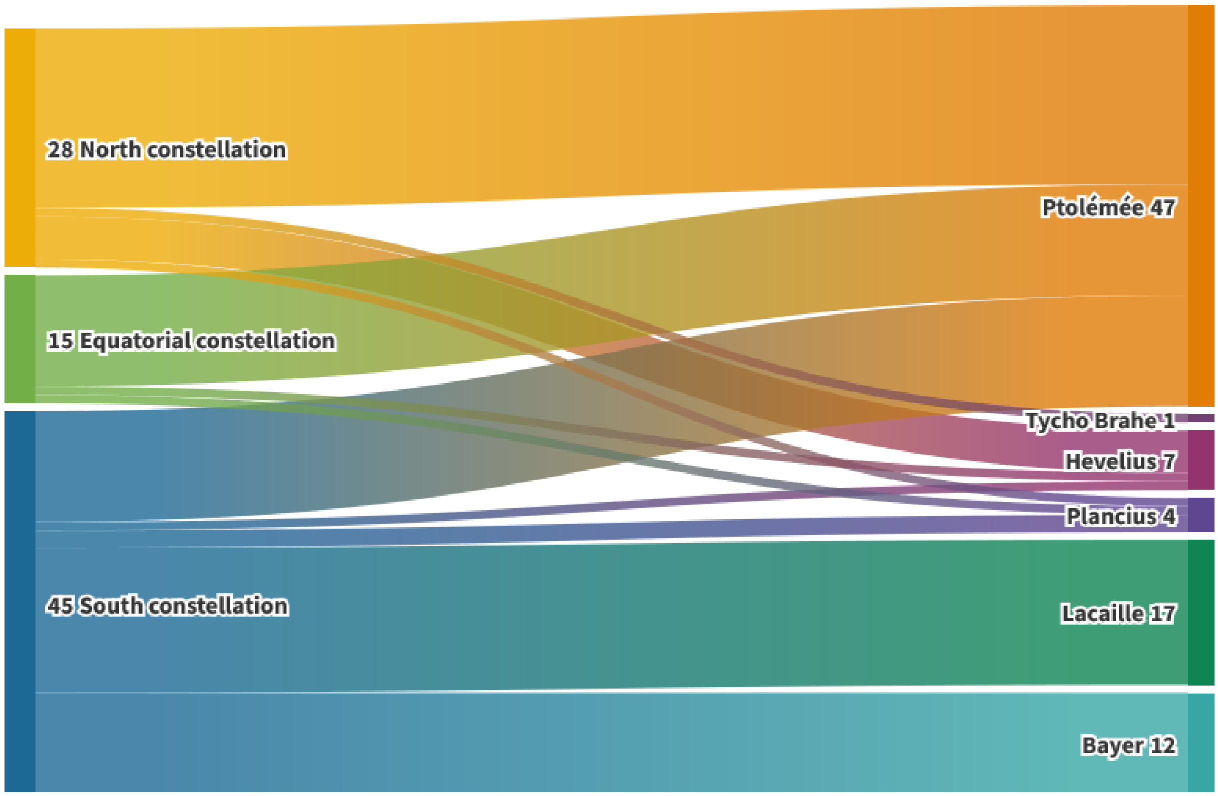


Figure 8. Visualization of where in the sky a constellation is located and where their name originates from

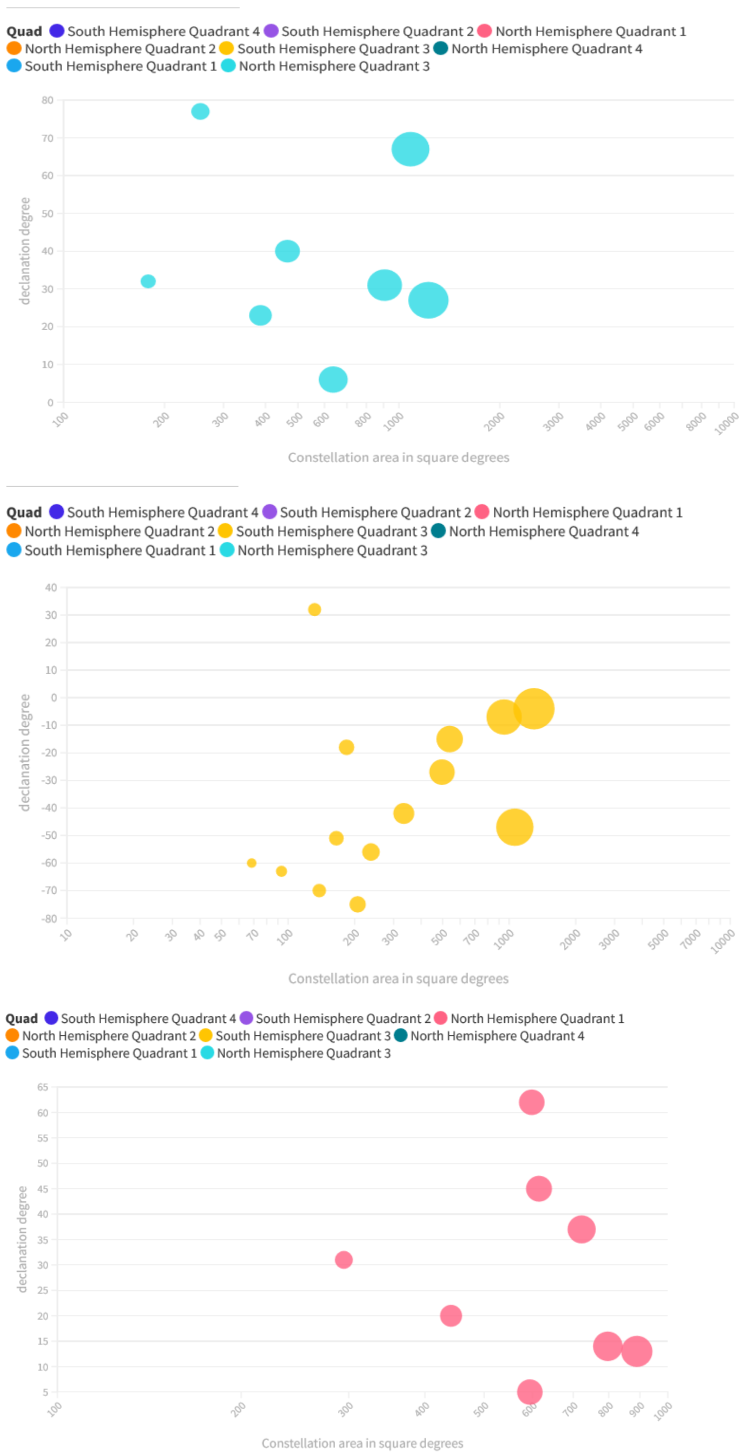


Figure 9. Visualization based on the size the constellation takes up in the sky and the speed they rotate with, size is based on the angular width of the constellation and the data can be sorted by in which hemisphere the constellation is best visible

FIREBALL AND BOLIDE REPORTS || MADE WITH FLOURISH
By Noah Busger op Vollenbroek
Dataset used: https://data.world/nasa/fireball-and-bolide-reports
Note: Fireballs/bolides are exceptionally bright meteors, bright enough to be seen over a wide area.

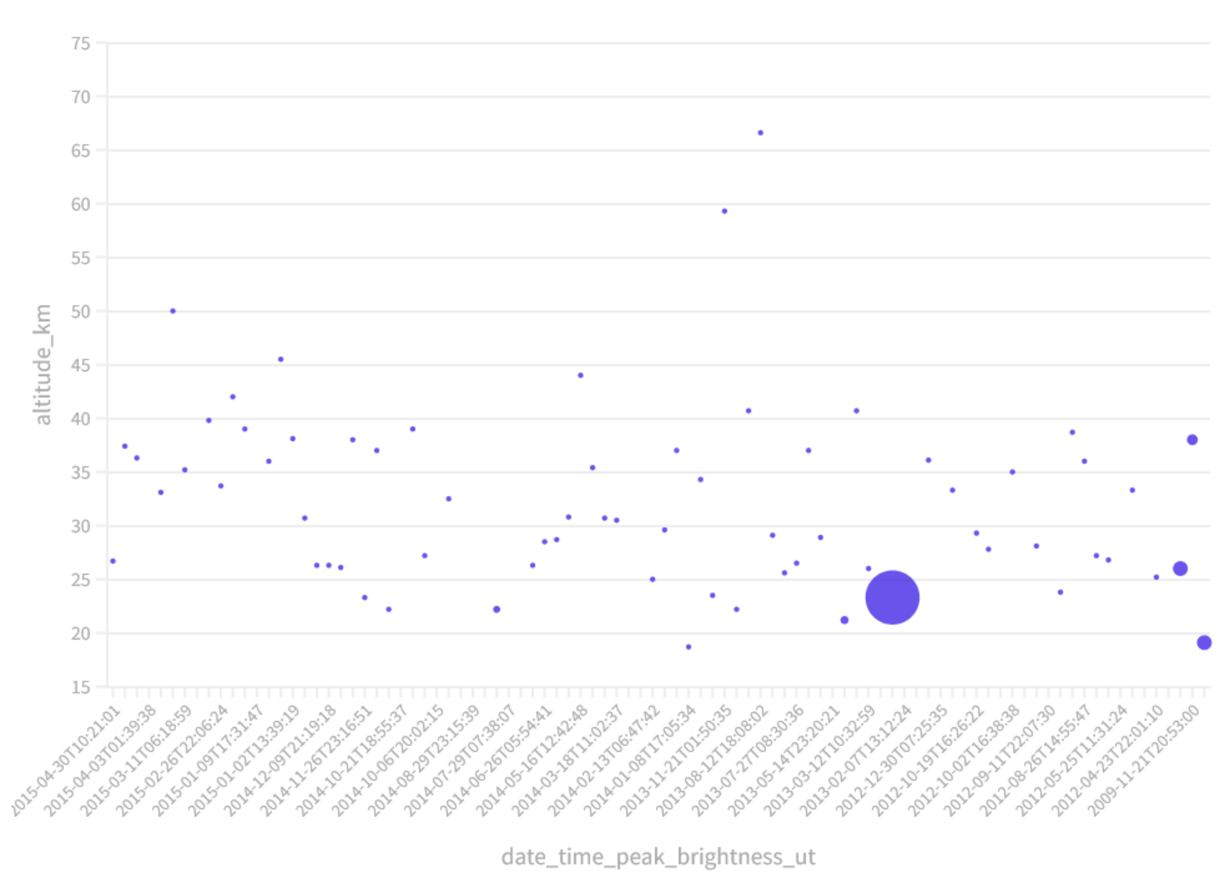
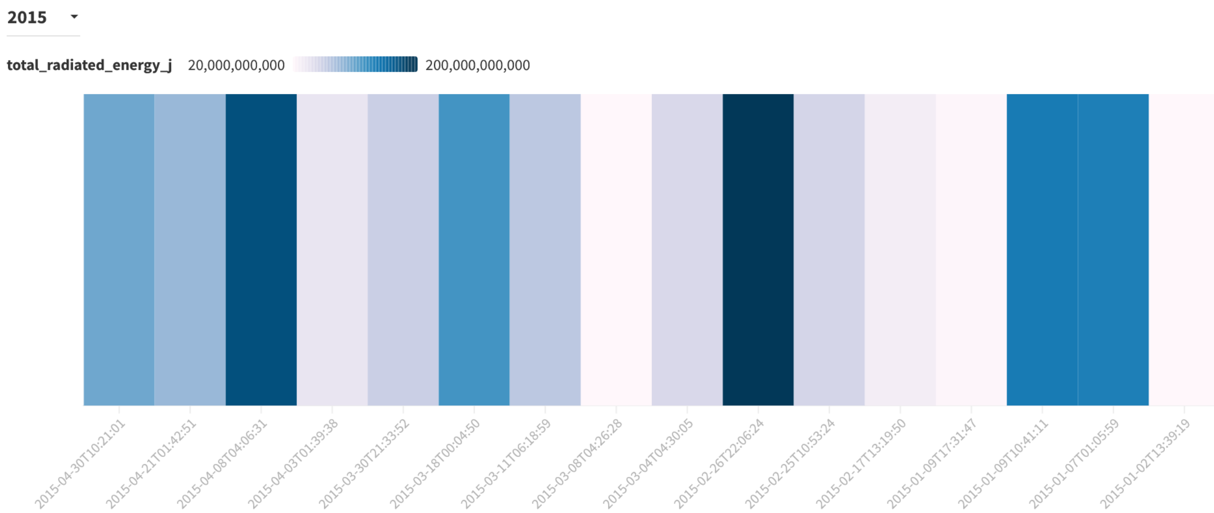
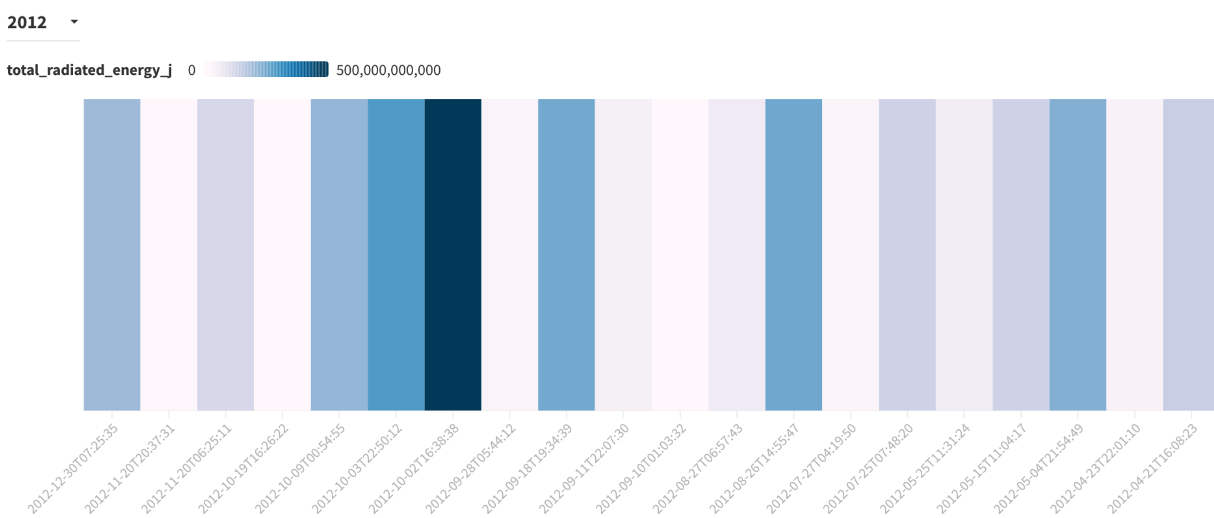


Figure 10: Fireball/Bolide reports: X-axis shows date & time of meteor event, Y-axis shows altitude of meteor, size shows total radiated energy in Joules.

Figure 11 & 12: Fireball/Bolide reports: Location of event, size shows total radiated energy in Joules.



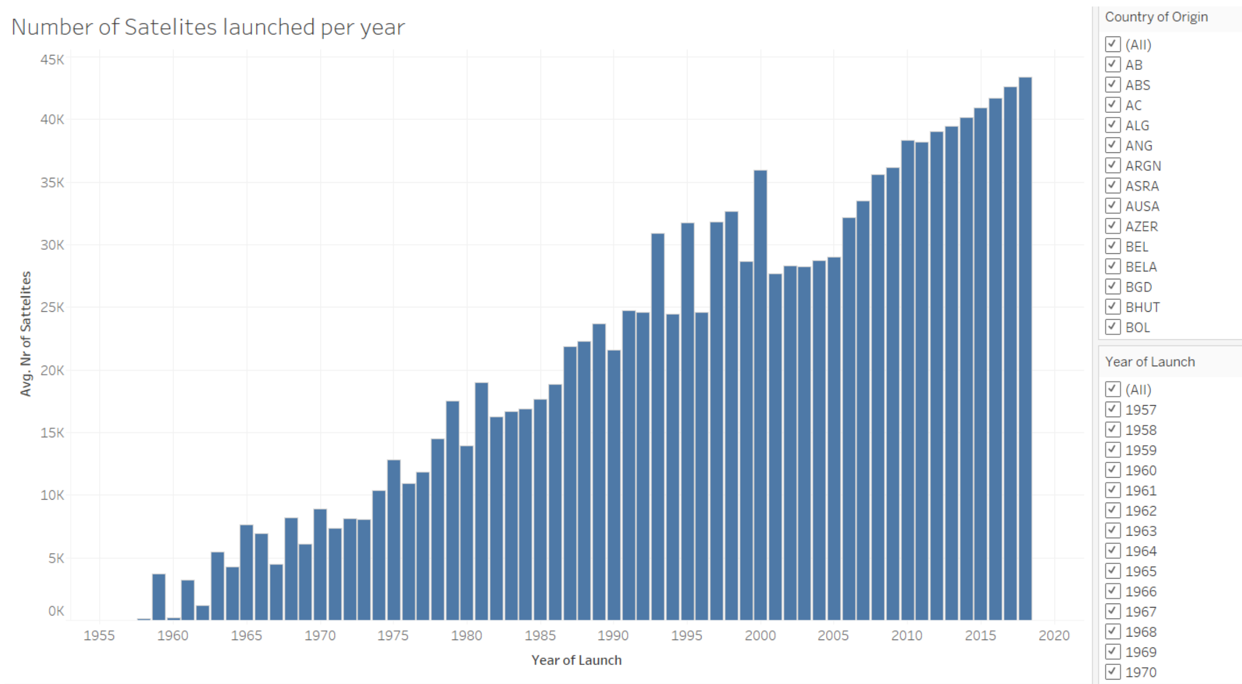
Source: Met Office National Climate Information Centre



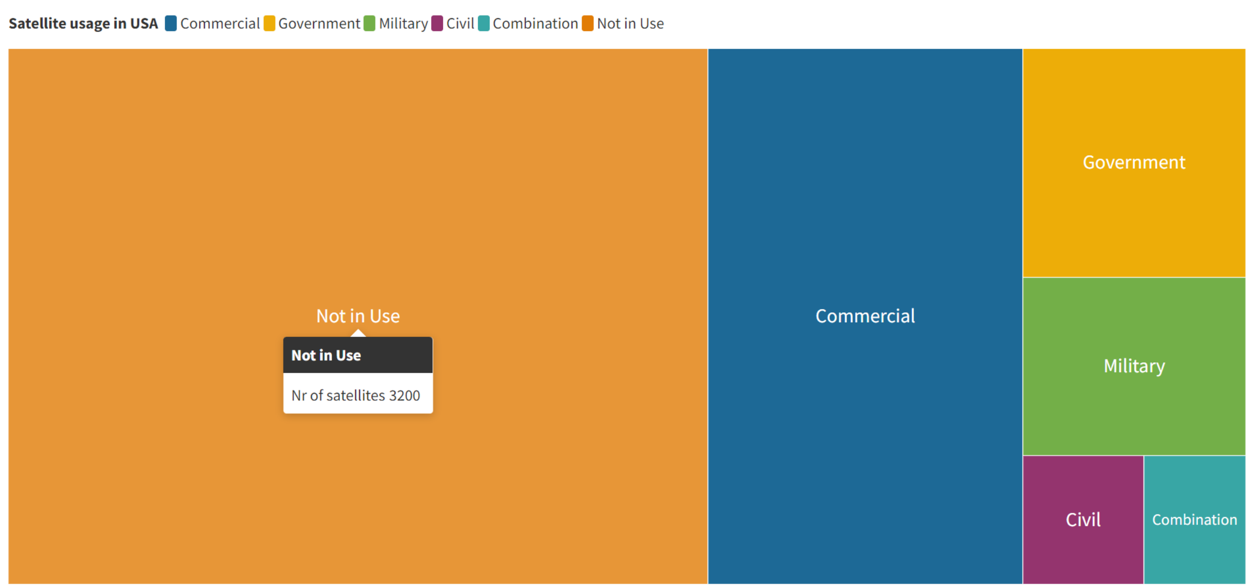
Source: Met Office National Climate Information Centre

Figure 13 & 14: Fireball/Bolide reports: Total radiated energy per sighting, sightings are filtered per year.

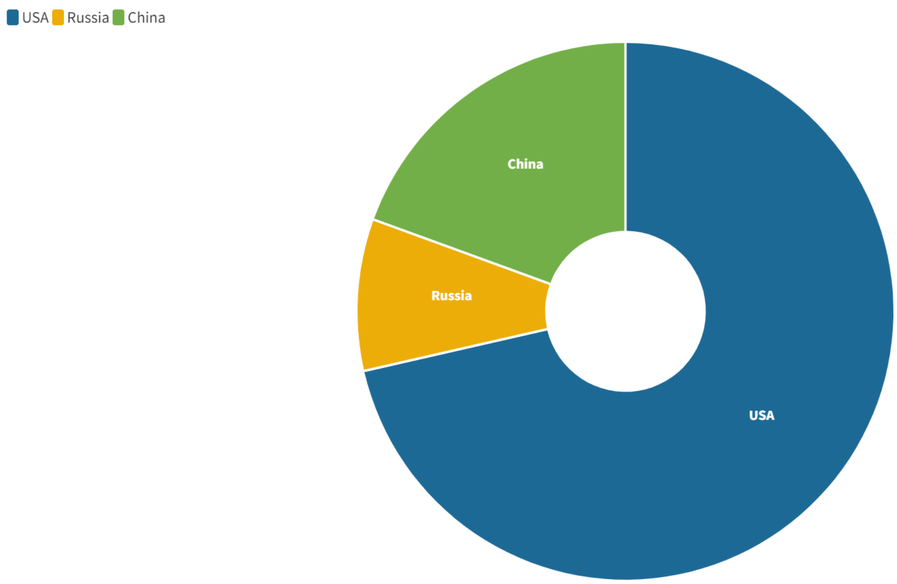
Data Visualization Satellites in Space
By Rafael Pedrosa



Nr of Satellites launched per year all Countries (https://hub.arcgis.com/datasets/esrifederal::satellite-catalog-1/explore?filters=eyJjb3VudF8iOlsxLDQzNjgyXX0%3D)



Satellite Usage in USA (https://www.weforum.org/agenda/2020/10/visualizing-easrth-satellites-sapce-spacex/)



Global super power satellite dominance
(https://www.weforum.org/agenda/2020/10/visualizing-easrth-satellites-sapce-spacex/#:~:text=The%20U.S.%20and%20Russia%20(then,1%2C308%20as%20of%20April%202020.)

Data Visualizations Black Holes by Bram M. Rouwhorst || Made with Tableau
Dataset used: doi.org/10.48550/arXiv.1804.11349

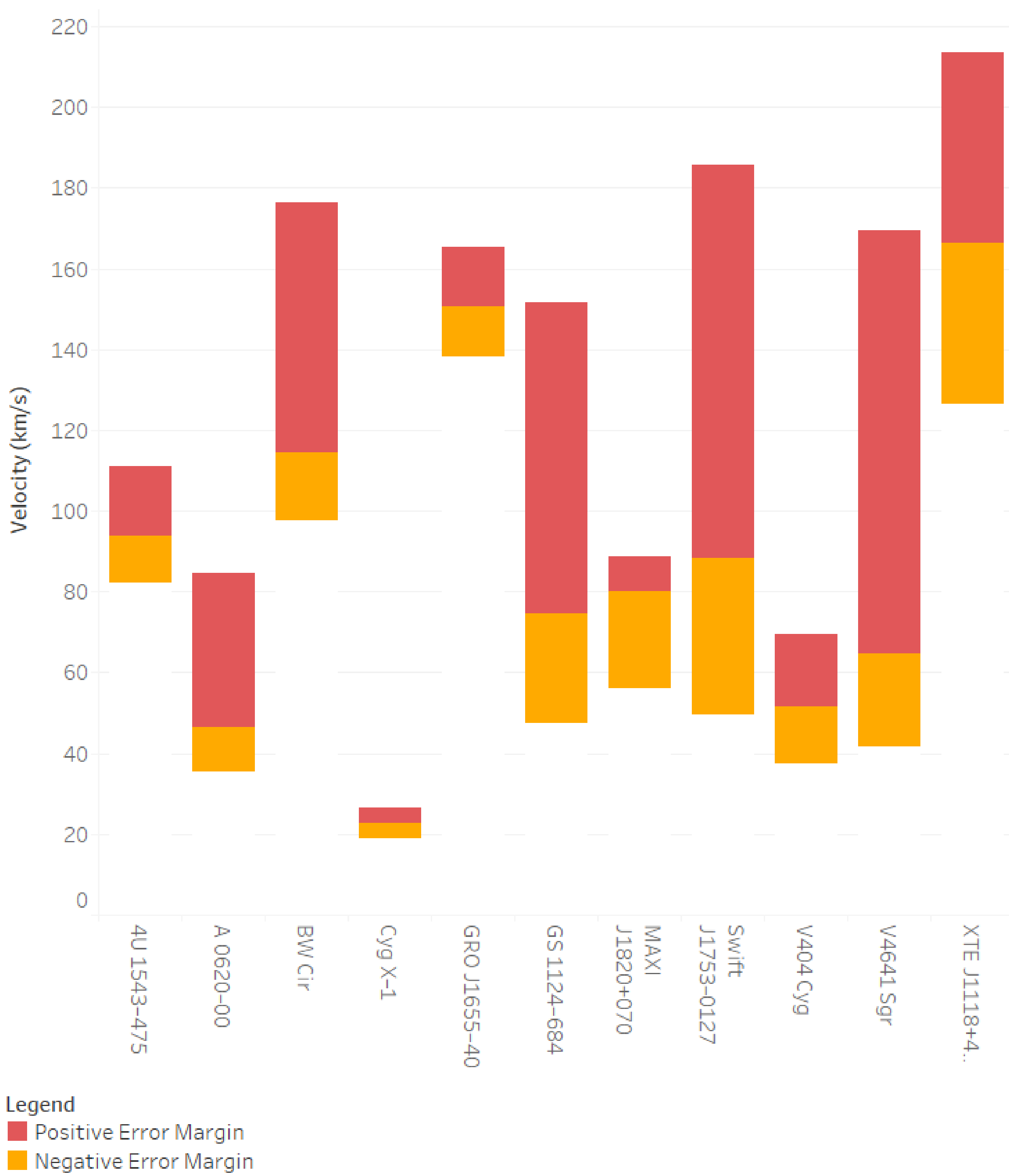


Figure 18: Uncertainty of velocity measurements by observatory spacecraft Gaia.
values are all relative to the galactic rotation (doi.org/10.48550/arXiv.1804.11349)

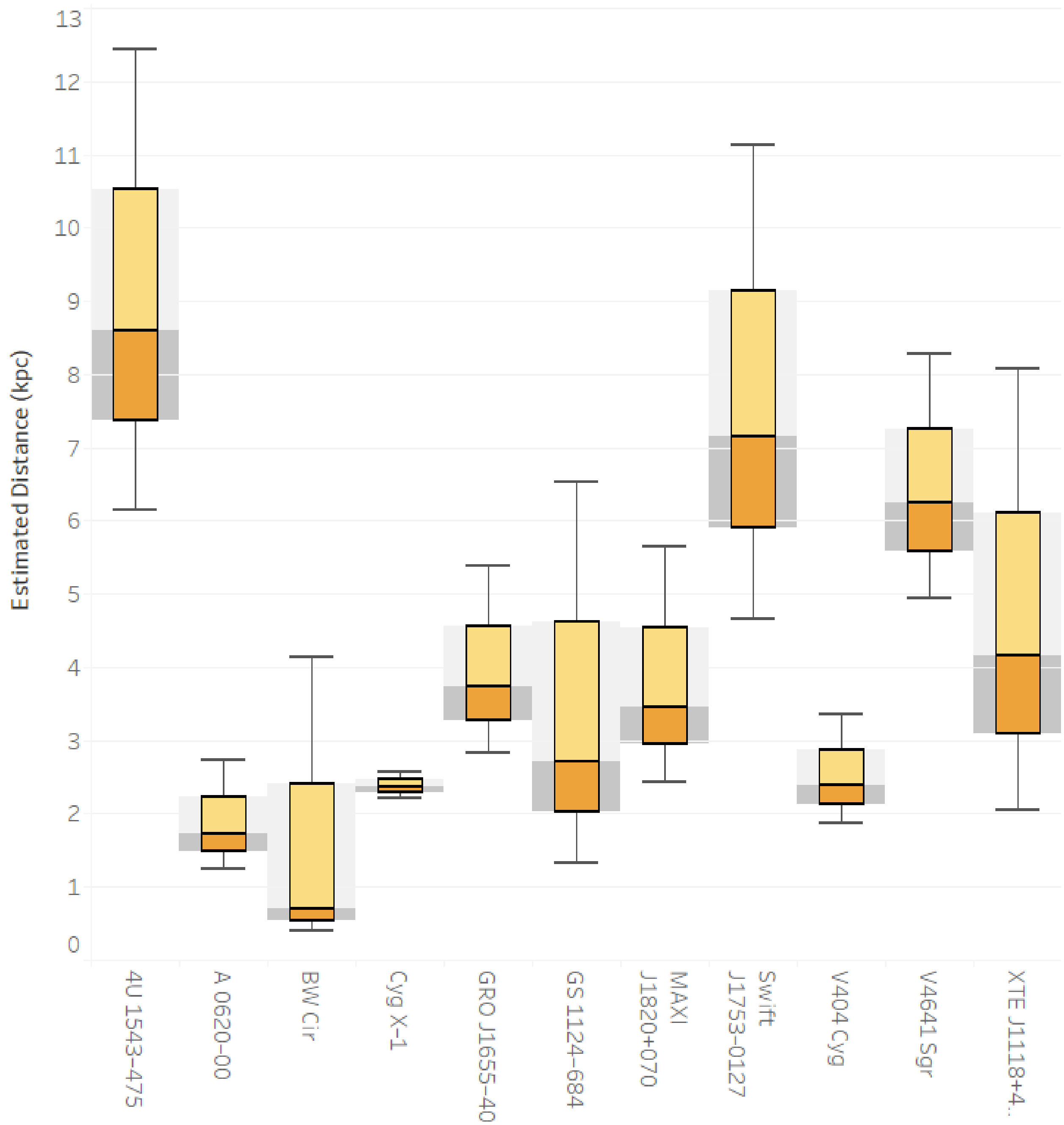


Figure 19: Uncertainty in the estimated distance of blackholes (doi.org/10.48550/arXiv.1804.11349)

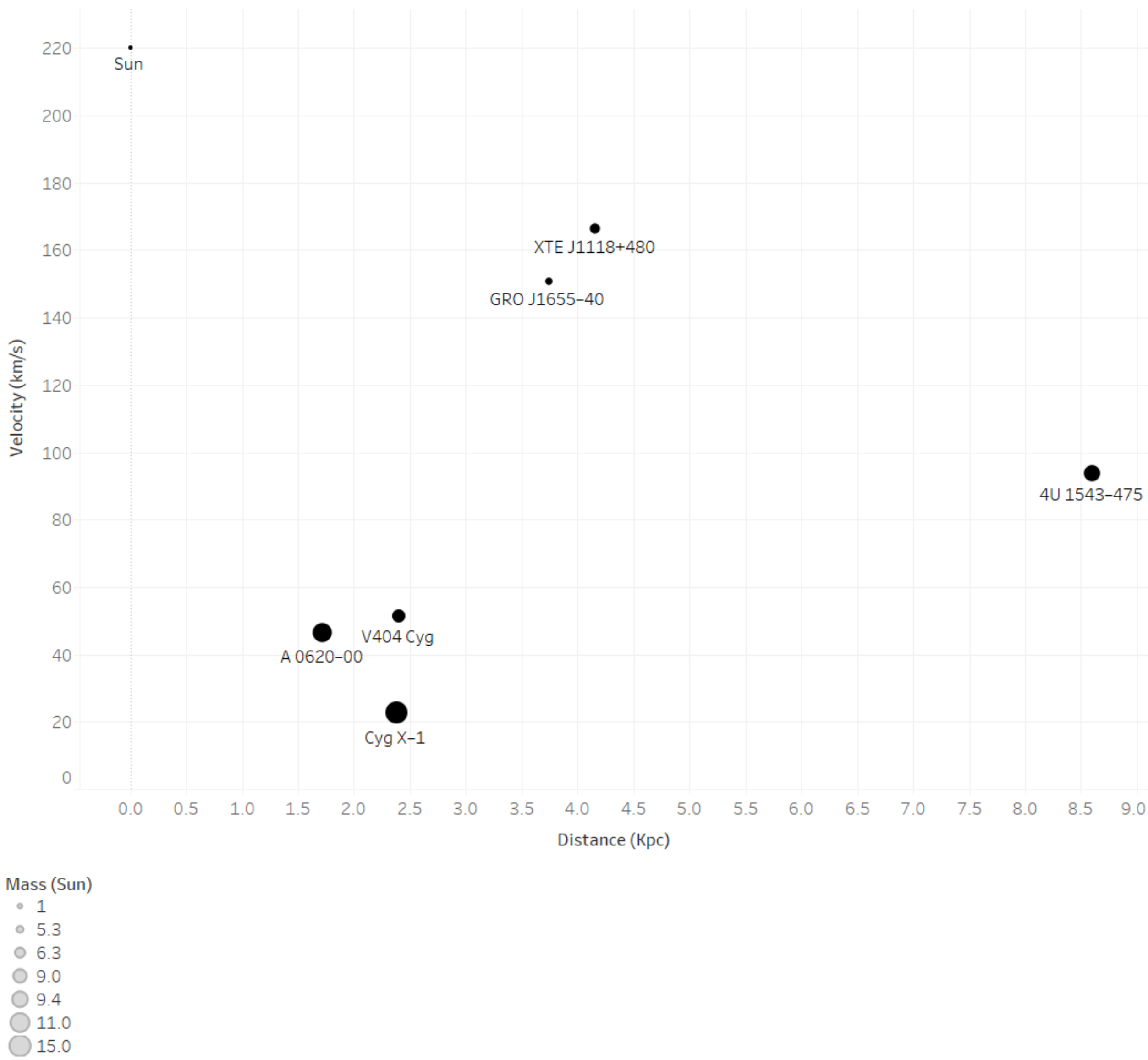


Figure 20: Nearby Blackholes' Distance, Velocity and Mass compared to our Sun. (doi.org/10.48550/arXiv.1804.11349 + https://web.archive.org/web/20220614124325/https://en.wikipedia.org/wiki/List_of_nearest_known_black_holes)