

Global conditions for the observation of the main meteor showers

Peter Zimnikoval

Observatory Banská Bystrica, Slovakia
zimnikoval@gmail.com

The geometrical conditions for the observability of most active meteor showers are presented. The regions of the Earth's surface where radiants reach suitable values of altitude above the horizon are drawn on a texture map of the Earth's surface (NASA). The radiant positions were taken from the IMO 2015 Meteor Shower Calendar (McBeath, 2014).

1 Introduction

The observational circumstances for several meteor showers are presented on a texture map of the Earth's surface. The diagrams are based on the radiant positions at the time of their maxima. All diagrams are calculated for 0^h UT. The shapes are roughly valid at 0^h of local time worldwide (their positions will, of course, move around the Earth). Zones at which radiant altitudes are higher than 20° are plotted in a grey color. Zones with altitudes above 30°, 40°, 50° and 60° are shown in different tints

of red color. The shapes displayed also take into account the altitude of the Sun and are displayed for when the Sun is more than 12° below the horizon. The Eta Aquariids are combined with the diagram for the Quadrantids, but shifted to the left by 90° (6 hours) due to reasons of space and visibility. The small diagrams display information about the moonlight conditions during the next few years. The yellow color indicates that the Moon will be above the horizon and its elongation from the Sun will be more than 60°.

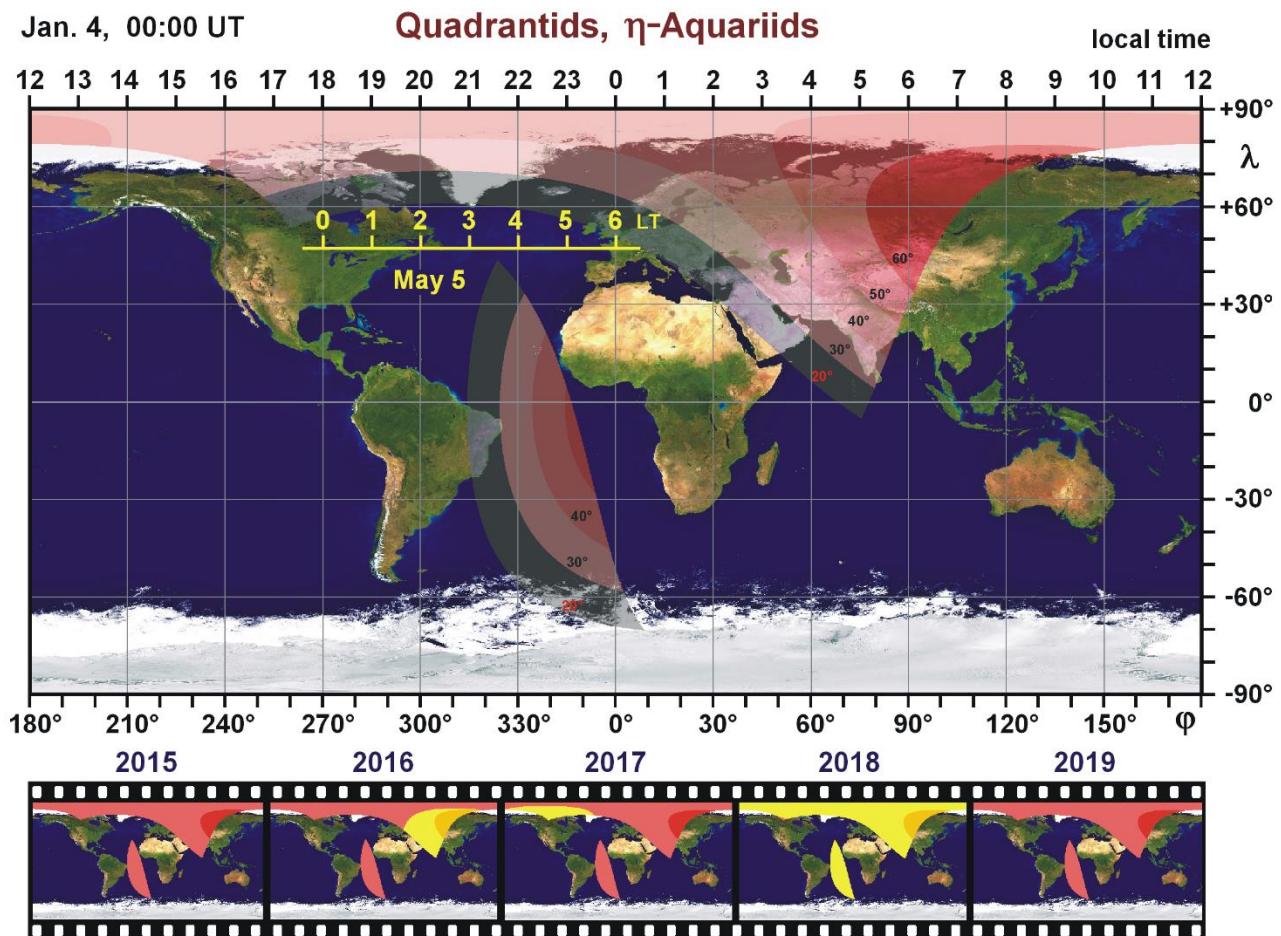


Figure 1 – Quadrantids, η Aquariids, texture map of the Earth's surface (NASA)¹.

¹ <http://pics-about.space/earth-texture-nasa?p=5>

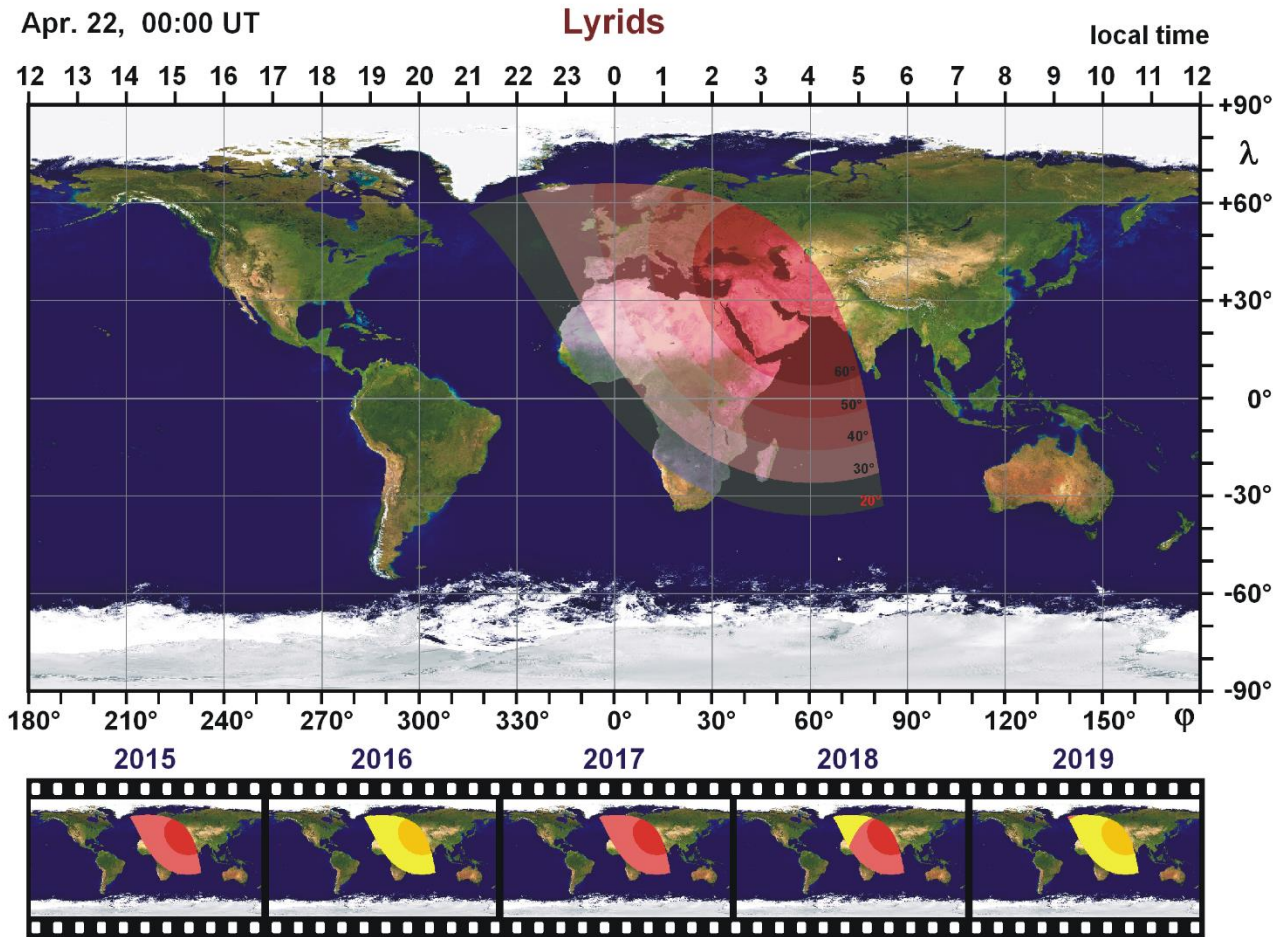


Figure 2 – Lyrids.

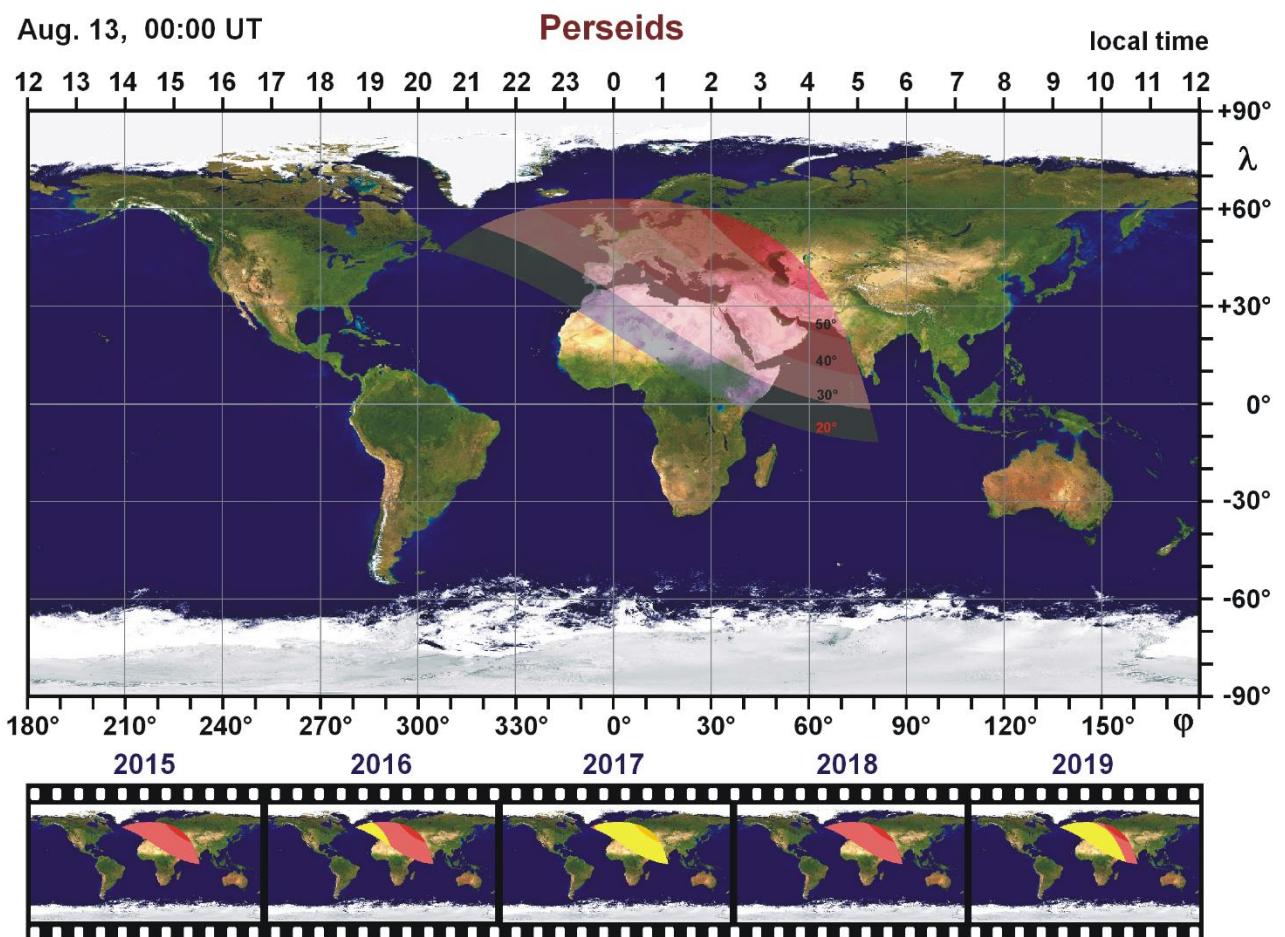


Figure 3 – Perseids.

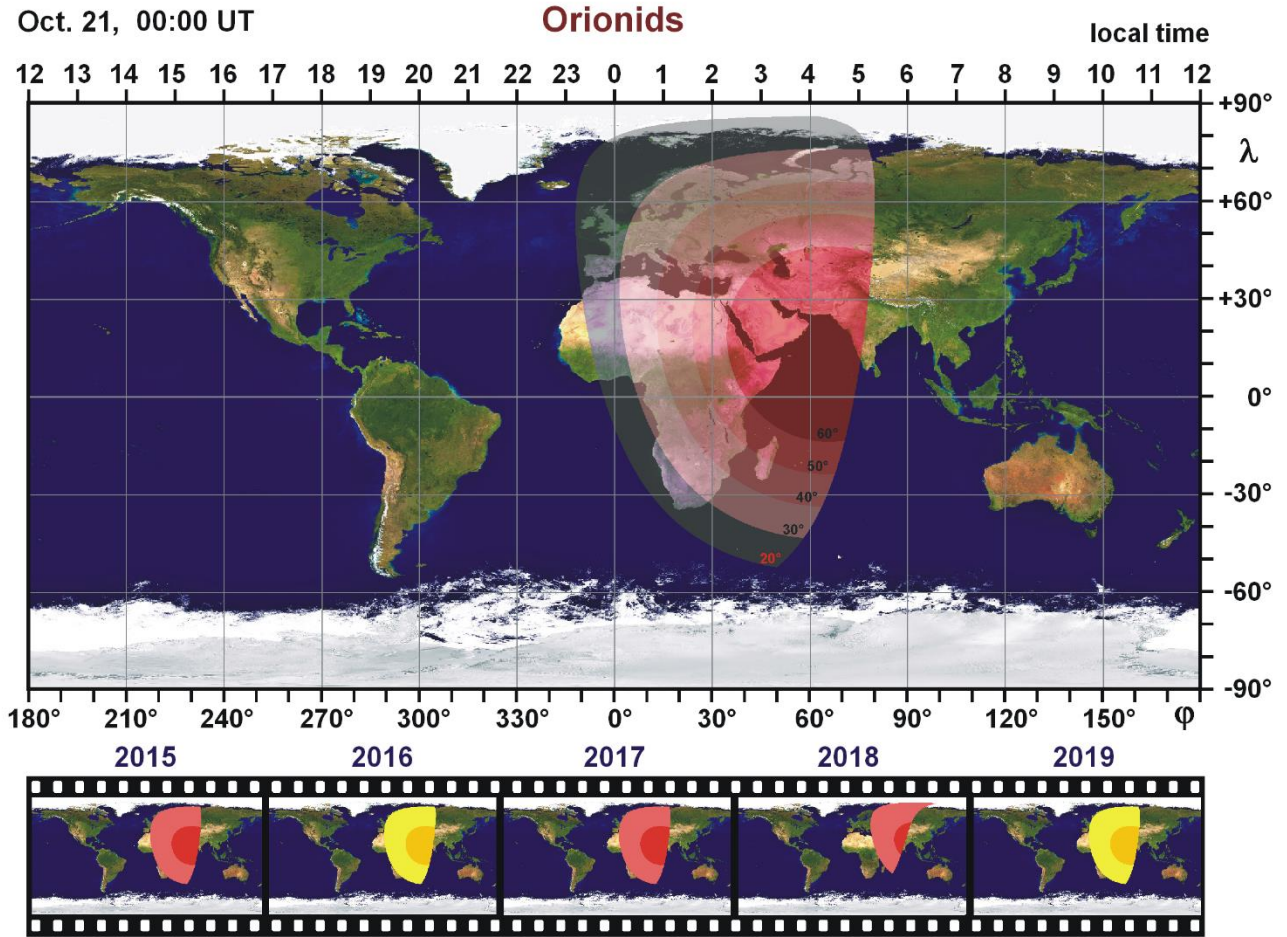


Figure 4 – Orionids.

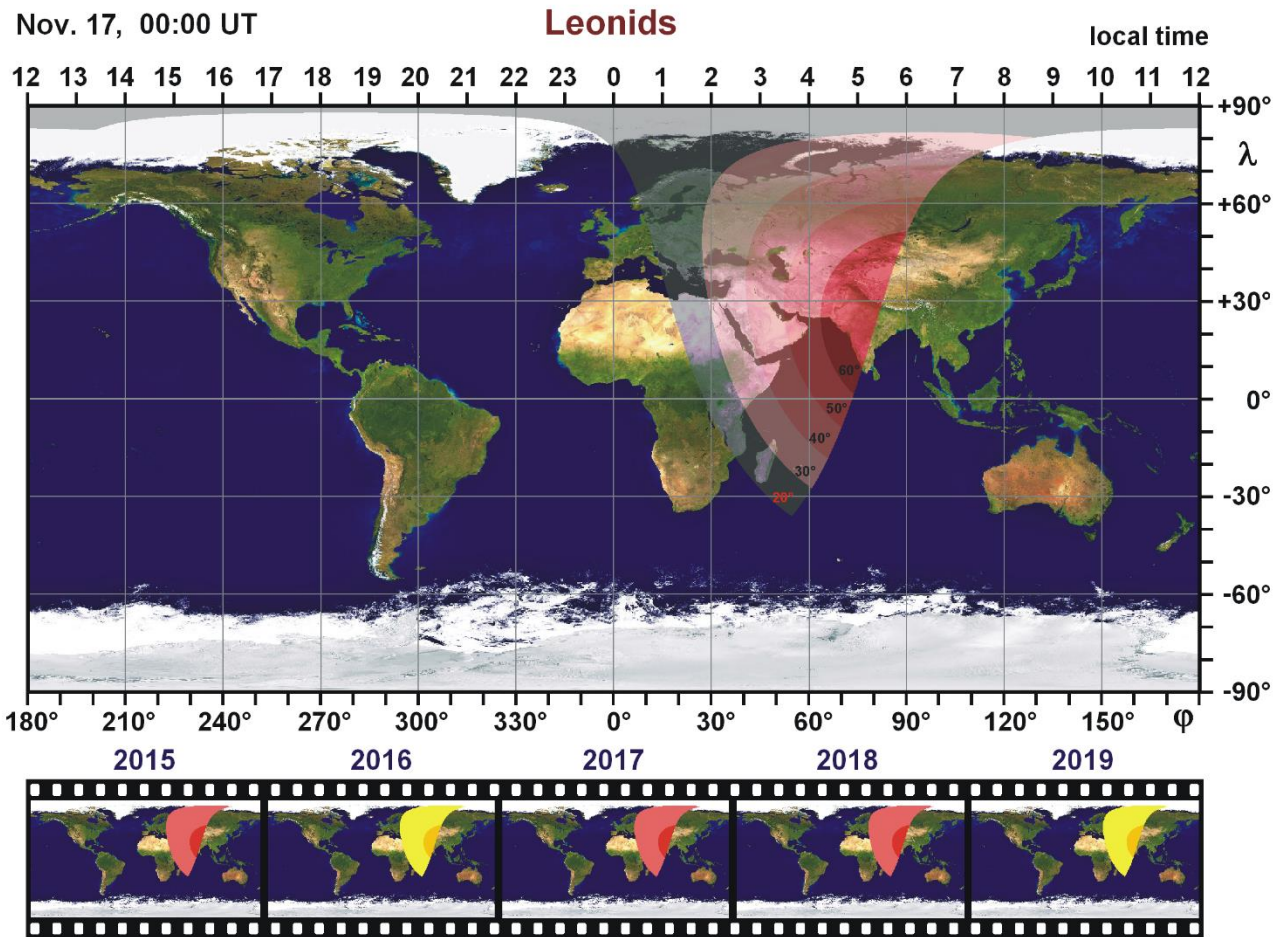


Figure 5 – Leonids.

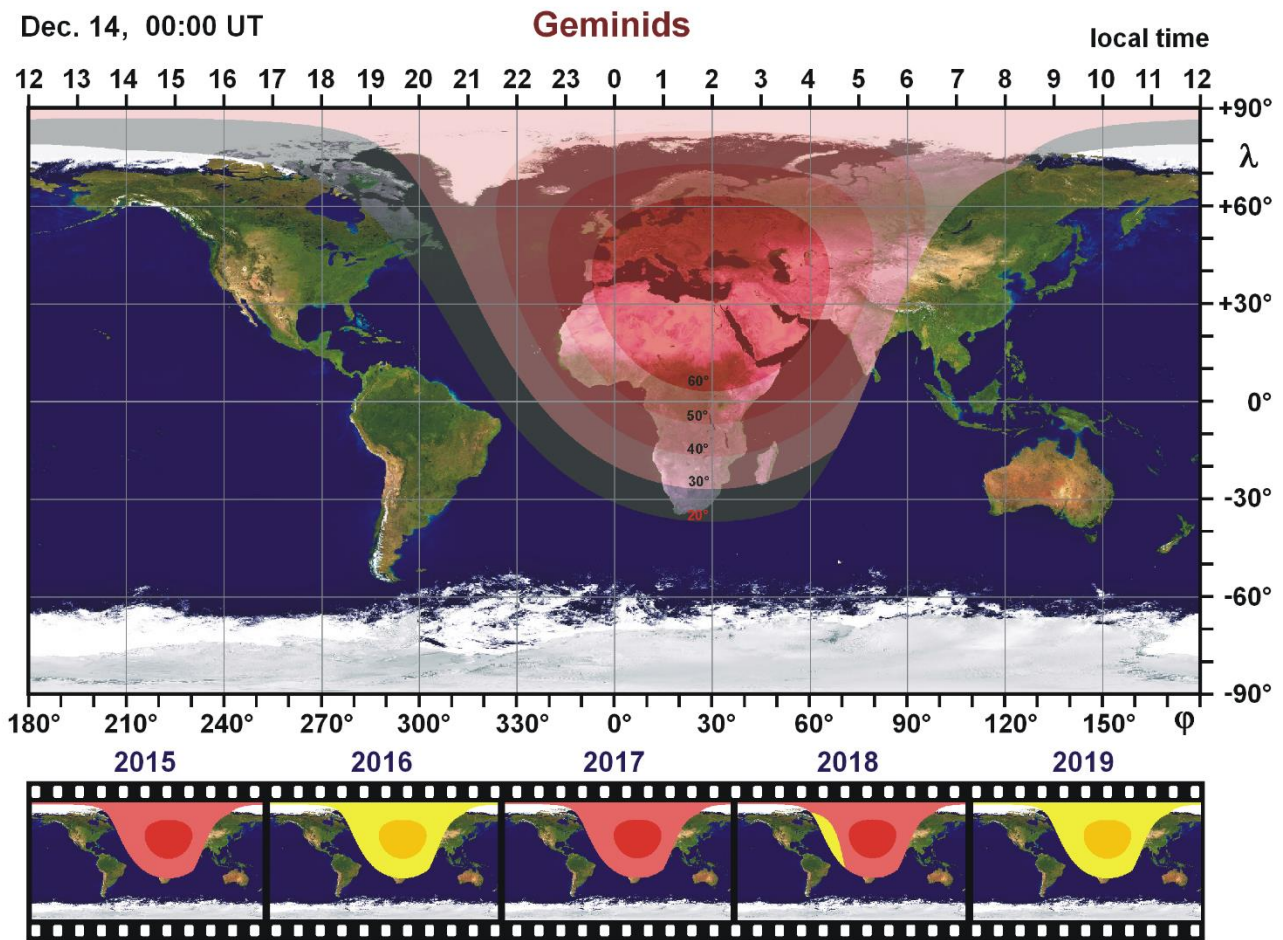


Figure 6 – Geminids.

References

- McBeath A. (2014). "2015 Meteor Shower Calendar".
IMO_INFO(2-14).