

The Earth's Shadow

Before sunrise or just after sunset, when the sun sinks deeper below the horizon, dark blue band rises up the horizon. What you see here is simply the "earth's shadow" being cast in the sky. One could say that it's the border between day (above) and night (below). The "earth's shadow" is best seen if the correct atmospheric conditions are met: the sky is clear and our line of sight is very long. The "earth's shadow" can be seen at twilight on most clear evenings or at sunrise sinking into west.

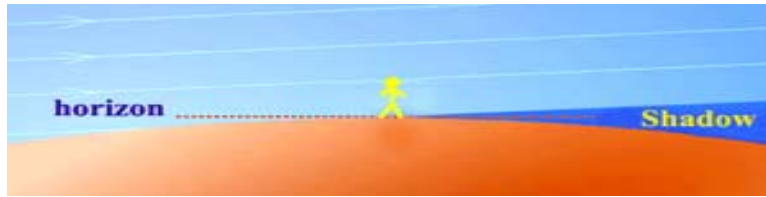
The shadow boundary is a three dimensional void of unlit atmosphere. The sky high above the shadowed air is bright because it is still sunlit and the air scatters light down to the eye.

Since this phenomenon is seen all the way from side to side on the horizon, it's difficult to take a picture of the whole effect of the "earth's shadow", this being only a small part.

Immediately above the dark band of the "earth's shadow", where the evening air is still lit, glows a pink band often called the "Belt of Venus". The colour pink arises from scattered and deeply reddened sunlight mingling with the deep blues of the eastern sky. If you look westwards before sunrise you'll watch the shadow sinking towards the horizon.



The horizon is faintly seen here and is levelled with the picture; the shadow, however, is leaning and imagine it as a part of the whole bow displayed as the shadow of a spherical object, the planet earth.



Geometry of the Earth's Shadow



The beginning of the shadow is seen here on the left, where the dark area rises up from eastern horizon. To the right the typical atmospheric red shift.