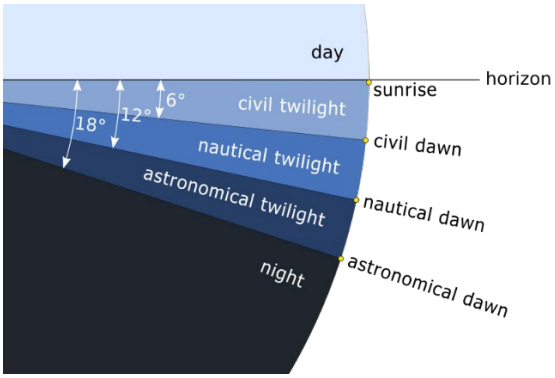
What is Twilight?
Defining/Classifying Twilight

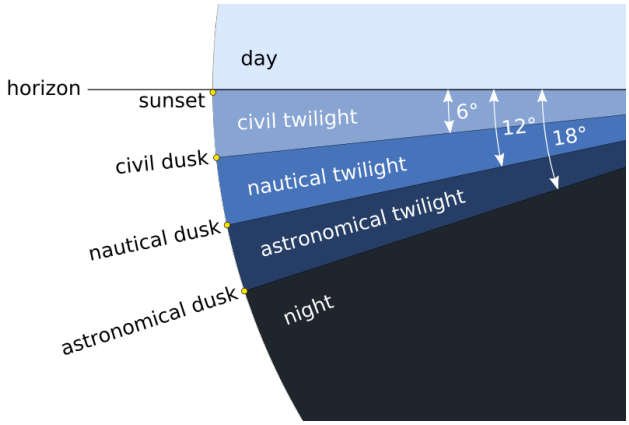
The following definitions are excerpted from Wikipedia and generally derived from the US Naval Observatory.

One of our themes is "How we classify things," and this is a good example of how your definition of "twilight" depends on how you apply it.

First, it should be noted that all of these definitions relate to the apparent altitude of the Sun. Due to atmospheric refraction, the true Sun position is lower by about 0.5°, the diameter of the Sun. In other words, when we see the lower part of the Sun touching the horizon at sunset, the Sun has actually just completely set.



Dawn (Wikimedia Commons)



Dusk (Wikimedia Commons)

Civil Twilight

Morning civil twilight begins when the (apparent) geometric center of the Sun is 6° below the horizon and ends at sunrise. Evening twilight begins at sunset and ends when the (apparent) geometric center of the Sun reaches 6° below the horizon. Under clear weather conditions, civil twilight approximates the limit at which solar illumination suffices for the human eye to clearly distinguish terrestrial objects.

Civil Twilight

Morning nautical twilight begins when the geometric center of the Sun is 12° below the horizon in the morning and ends when the geometric center of the Sun is 6° below the horizon in the morning. Evening nautical twilight begins when the geometric center of the Sun is 6° below the horizon in the evening and ends when the geometric center of the Sun is 12° below the horizon in the evening. Sailors can take reliable star sightings of well-known stars, during the stage of nautical twilight when they can distinguish a visible horizon for reference. Under good atmospheric conditions with the absence of other illumination, during nautical twilight, the human eye may distinguish general outlines of ground objects but cannot participate in detailed outdoor operations.

Astronomical Twilight

Morning astronomical twilight begins when the geometric center of the Sun is 18° below the horizon in the morning and ends when the geometric center of the Sun is 12° below the horizon in the morning. Evening astronomical twilight begins when the geometric center of the Sun is 12° below the horizon in the evening and ends when the geometric center of the Sun is 18° below the horizon in the evening. Where the sky is dark enough for nearly all astronomical observations, astronomers can easily make observations of point sources such as stars both during and after astronomical twilight in the evening and both before and during astronomical twilight in the morning. Theoretically, the faintest stars detectable by the naked eye (those of approximately the sixth magnitude) will become visible in the evening when astronomical twilight ends and come invisible when astronomical twilight begins.