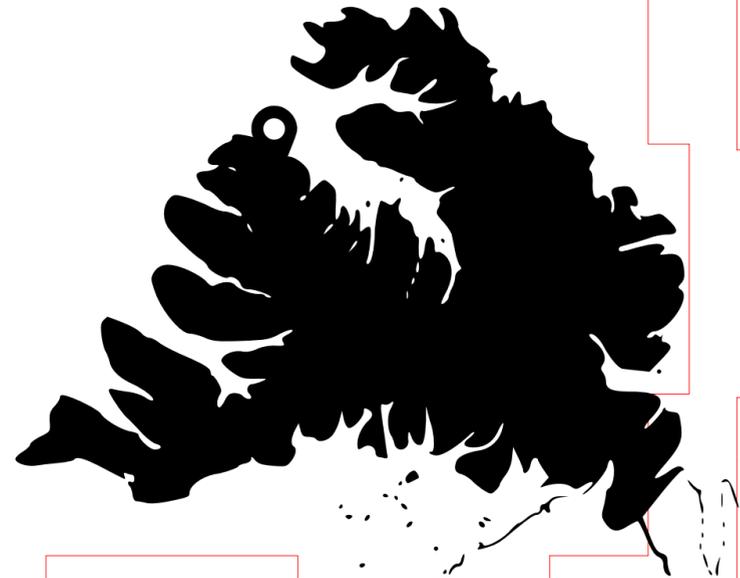
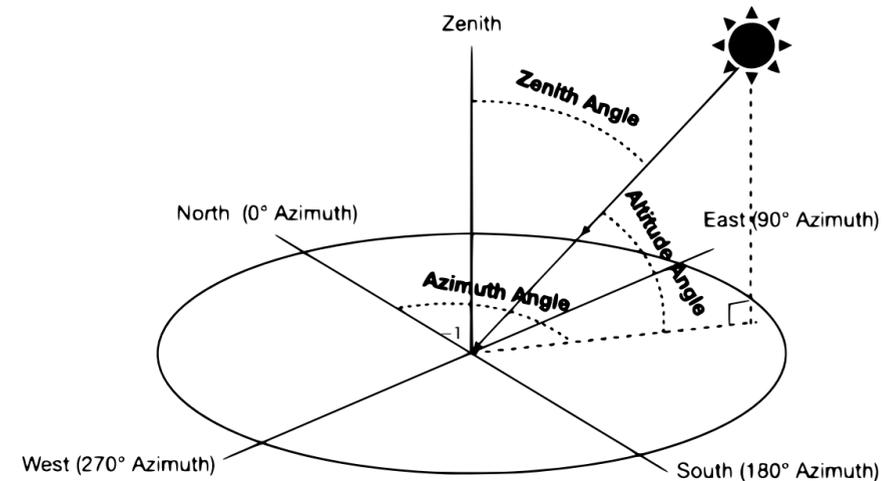


## Days of darkness in Ísafjörður

The last day before the sun  
disappears behind the  
mountains in Ísafjörður  
is November 16th  
and it reappears on  
January 25th.



## Solar azimuth and zenith angle



Formula for solar azimuth angle

$$A = \cos^{-1}[(\sin(\delta) - \sin(\varphi) * \cos(h)) / (\cos(\varphi) * \sin(h))]$$

Formula for solar zenith angle

$$\cos \theta_s = \sin \alpha_s = \sin \Phi \sin \delta + \cos \Phi \cos \delta \cos h$$

**Input:**

dd:mm:hh  
Lat/Lon

**Output:**

Azimuth of landscape plate  
 $0^\circ \leq \alpha < 360^\circ$

Elevation of the sun  
 $0^\circ \leq \beta < 90^\circ$

