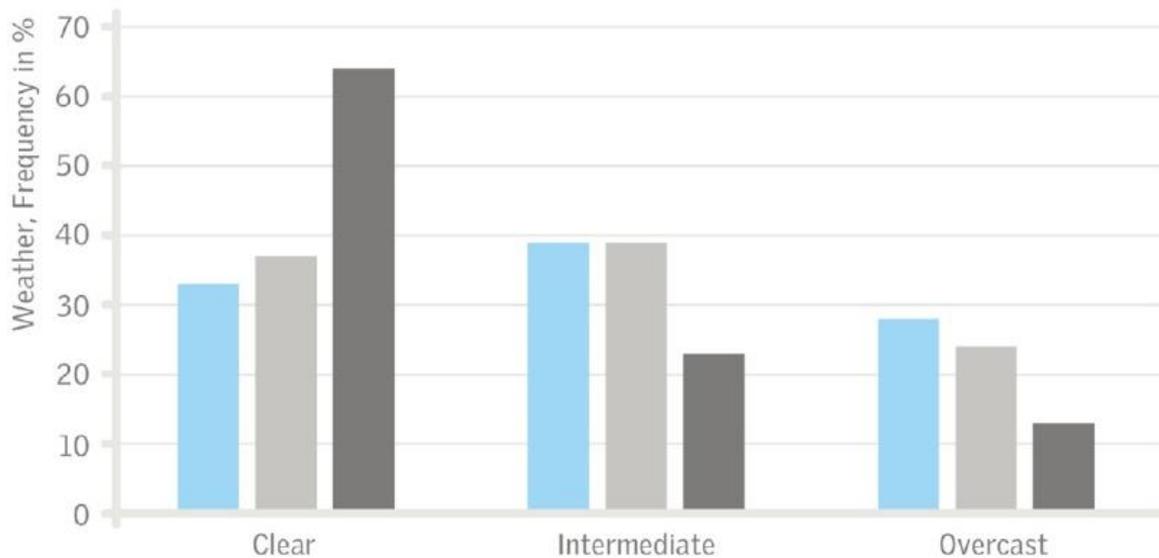


# Climate

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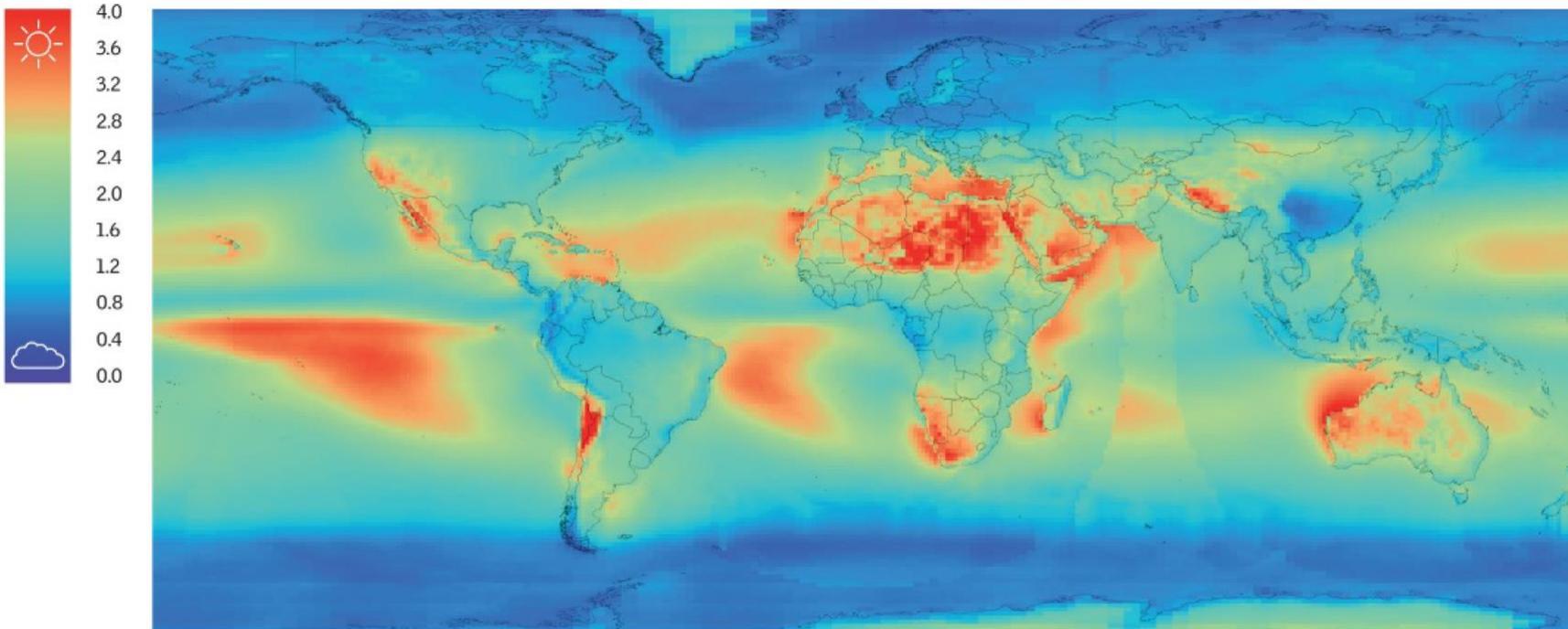


## Preconditions

The prevailing climatic conditions of a building site define the overall preconditions for the daylighting design in terms of sunlight availability, visual comfort, thermal comfort and energy performance.

Oslo Paris Rome

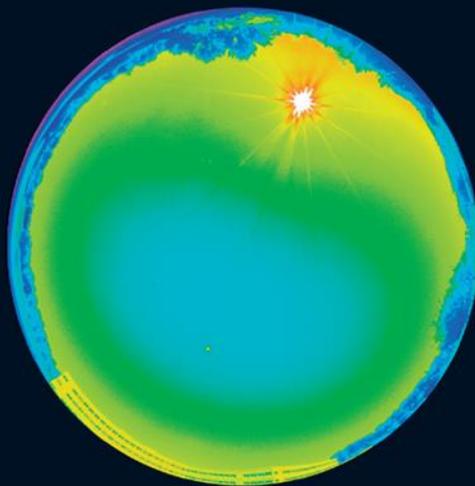
**Example:** The chart above shows an overview of the monthly sky conditions for 3 European locations: Rome, Paris and Oslo. It shows that Rome is a location where the occurrence of clear sky conditions is much more frequent, and where overcast sky conditions are rather seldom. The other two locations have more balanced conditions between the occurrence of clear, intermediate and overcast skies.



Direct-to-diffuse solar irradiation ratio on Earth.

Climate





Log. (cd/m<sup>2</sup>)

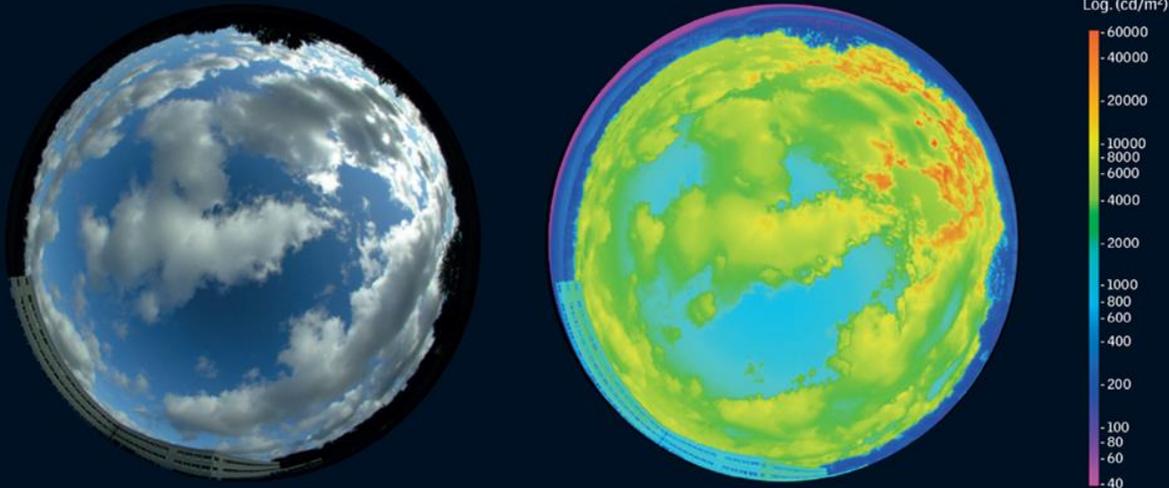


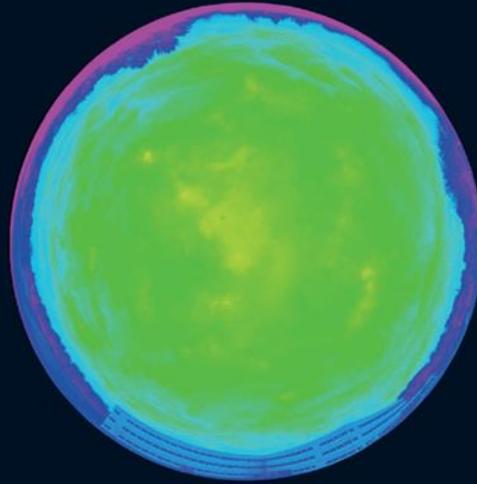
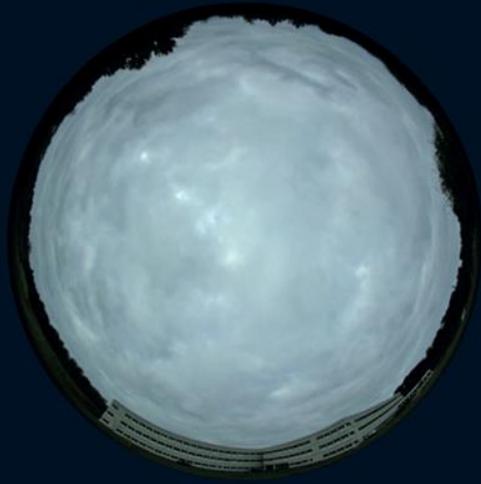
## Clear sky

Luminance map of a clear sunny sky. The image above describes a clear sky luminance distribution. Under clear sky conditions, the sky luminance is about ten times brighter at the horizon than the zenith. In addition to the sky luminance is the sun luminance. The sun acts as a dynamic light source of very high intensity.

## Intermediate sky

Luminance map of an intermediate sky. The image above describes an intermediate sky luminance distribution. In this particular case, the sun energy has been scattered by the clouds, which results in a softer transition between the very intense luminance of the sun and the luminance of the sky. It is possible to observe that the clouds (illuminated by the sun) have higher luminance values than the sky.





Log. (cd/m<sup>2</sup>)



## Overcast sky

Luminance map of an overcast sky. The image above describes an overcast sky luminance distribution. Under perfect overcast sky conditions, the sky luminance is the same in all orientations, and the zenith is about three times brighter than the horizon.



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