

THE OZONE LAYER

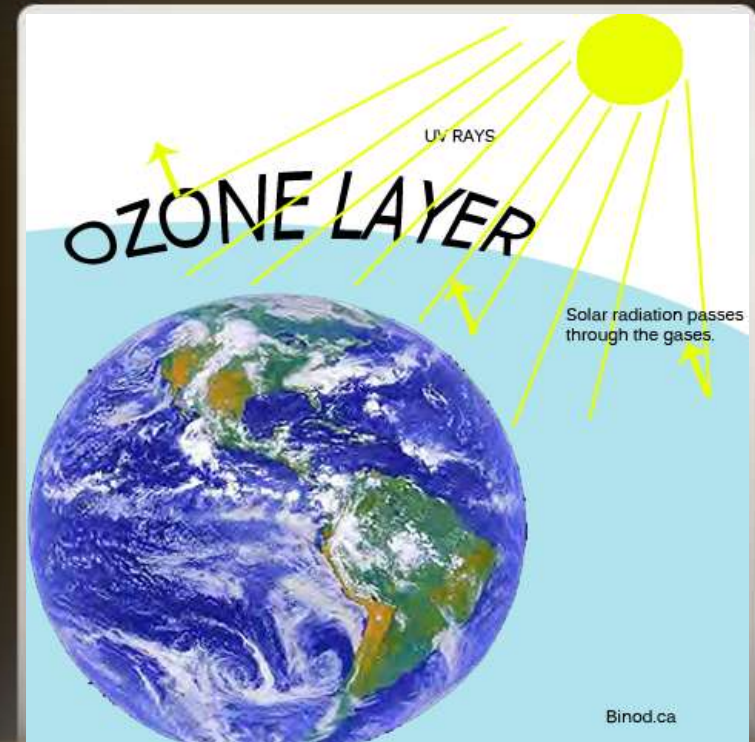
The Ozone Layer

The Earth's atmosphere is divided into several layers. The lowest region extending up to about 10 miles is known as the troposphere and houses all human activity on the planet. The next layer, the stratosphere, continues from 10 to about 30 miles. This layer is where commercial airlines fly. The stratosphere may also be the most important, home to the most concentrated portion of the atmospheric ozone.



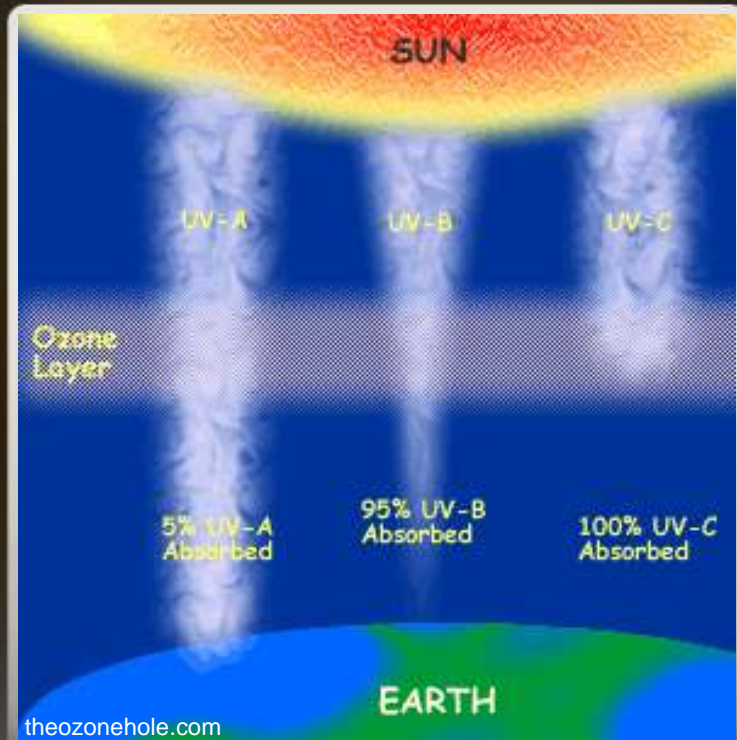
The Ozone Layer

The ozone layer forms a thin shield high up in the sky. It protects life on Earth from the sun's ultraviolet (UV) rays.



UV Radiation

- UVA rays are the most common rays to reach us because they are not filtered by the ozone layer. They are the least strong but can still have health effects.
- UVB rays cause the most damage to human health but an intact ozone layer is able to filter most UVB rays.
- UVC rays are strong and dangerous but are filtered by the ozone layer.



UV Index

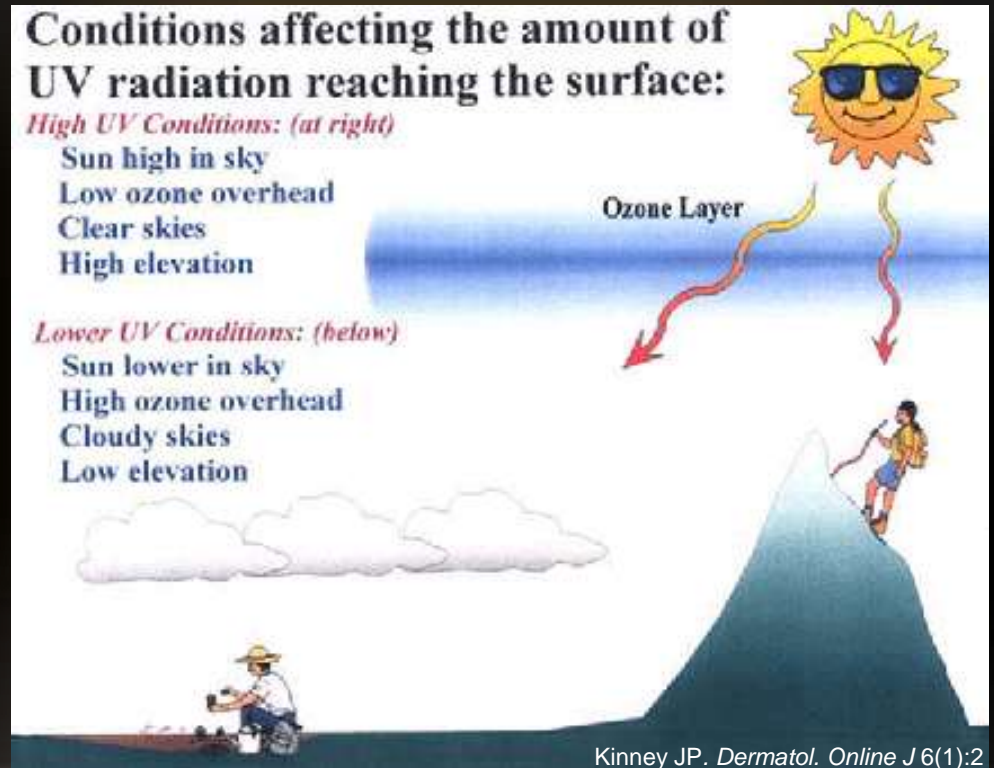
The amount of UV rays reaching the earth is measured as the UV index.

EXPOSURE CATEGORY	INDEX Number	Sun Protection Recommendations
LOW	1-2	<ul style="list-style-type: none">● Wear sunglasses on bright days. In winter, reflection off snow can nearly double UV Strength.● If you burn easily, cover up and use sunscreen.
MODERATE	3-5	<ul style="list-style-type: none">● Take precautions, such as covering up and using sunscreen, if you will be outside.● Stay in shade near midday when the sun is strongest.
HIGH	6-7	<ul style="list-style-type: none">● Protection against sunburn is needed.● Reduce time in the sun between 11am and 4pm.● Cover up, wear a hat and sunglasses, and use sunscreen.
VERY HIGH	8-10	<ul style="list-style-type: none">● Take extra precautions. Unprotected skin will be damaged and can burn quickly.● Try to avoid the sun between 11am and 4pm. Otherwise, seek shade, cover up, wear a hat and sunglasses, and use sunscreen.
EXTREME	11+	<ul style="list-style-type: none">● Seek shade, cover up, wear a hat and sunglasses, and use sunscreen.● Avoid the sun between 11am and 4pm● Take all precautions. Unprotected skin can burn in minutes. Beachgoers should know that white sand and other bright surfaces reflect UV and will increase UV exposure.

The UV Index Changes

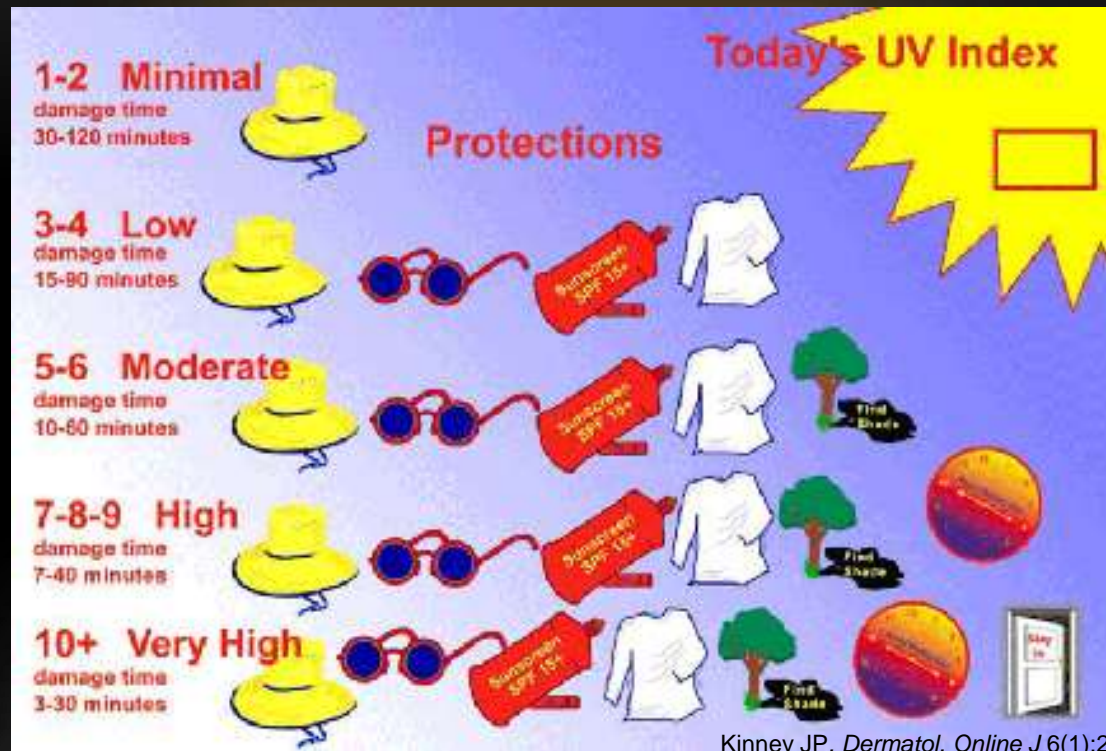
Several factors influence the UV index.

- UV is strongest between 10 AM-4 PM
- The time of year
- The elevation (altitude)
- Close to the equator (latitude)
- Reflection off of sand, snow or water
- Weather: not all clouds absorb UV rays



UV index and sun protection

When the UV Index is high you burn more quickly. Limit exposure during times of high UV index or use more sun protective strategies.



Ozone in danger

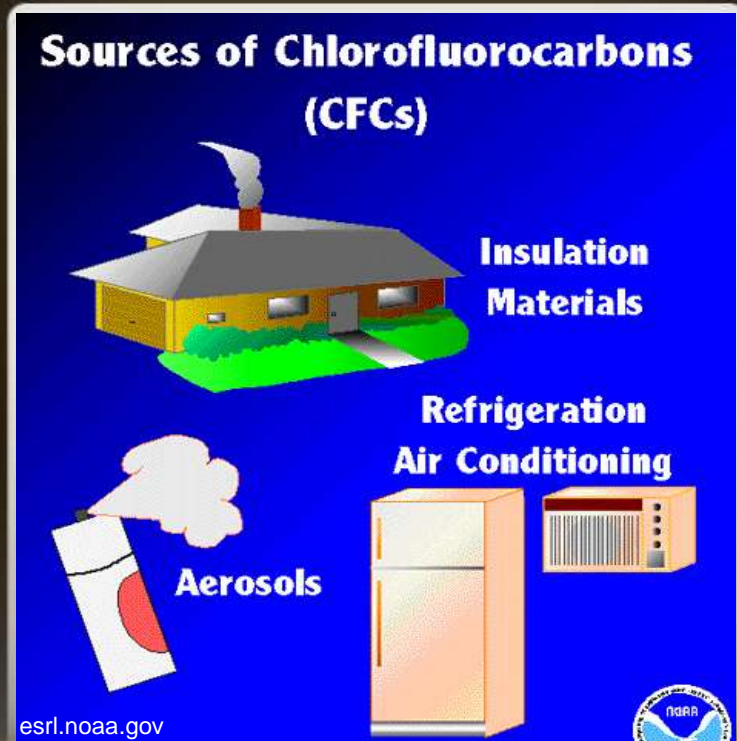
In the 1980s, scientists began finding clues that the ozone layer was going away. This allows more UV radiation to reach the Earth's surface. This can cause people to have a greater chance of getting too much UV radiation. Too much UV can cause bad health effects like skin cancer and eye damage.



<http://www.clker.com/clipart-10788.html>

Ozone Depletion

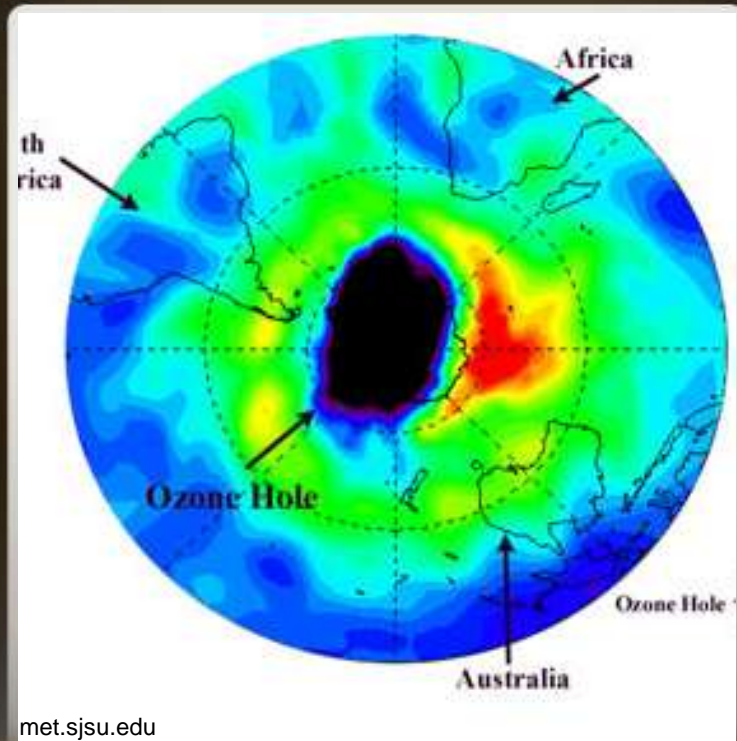
Until recently, chlorofluorocarbons (CFCs) were used in industry and at home to keep things cold and to make products. Winds carry CFCs up into the stratosphere where UV radiation breaks them apart, releasing chlorine atoms. The chlorine from CFCs reduces the amount of ozone in the stratosphere.



The Ozone Hole

Scientists predict that ozone depletion should peak around year 2010. As the world reduces the release of ozone-depleting substances, nature will repair the ozone layer. By year 2065 stratospheric ozone should return to the amount present in 1980. Until then, we can expect higher levels of UV radiation at the Earth's surface.

We need to take care to avoid the bad health effects that could result from too much UV radiation.



What can I do?

- Avoid using aerosols and sprays composed of chlorofluorocarbon (CFC).
- Avoid using fire extinguishers with halogenated hydrocarbon.
- Reduce the use of heating and air-conditioning.
- Use refrigerator or an air-conditioner without CFC.
- Maintain your Air Conditioner otherwise it will produce CFC.
- Freezer and car air-conditioner leaks may produce CFC.
- Use alternate transport like buses, bicycles or walk.
- Use energy saving gadgets and bulbs. You will reduce levels of pollution.

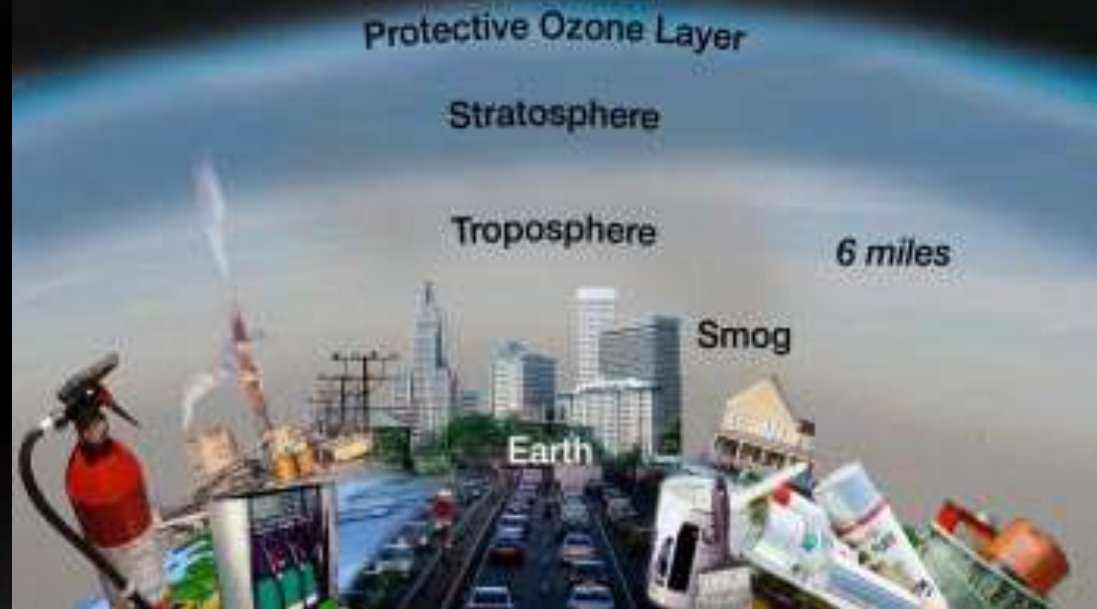


www.epa.gov

30 miles

Repairing the Ozone

If the United States and other countries stop producing ozone-depleting substances, natural ozone production should return the ozone layer to normal levels by about 2050.








REMEMBER THE UV INDEX

The infographic is set against a warm orange-to-yellow gradient background. On the left, the UV Index is categorized into five levels, each with a corresponding color-coded button: Extreme (purple), Very High (red), High (orange), Moderate (yellow), and Low (green). On the right, five circular icons illustrate protective measures: a long-sleeved shirt for sun-protective clothing, a sunscreen bottle for SPF30+ sunscreen, a wide-brimmed hat, a tree for seeking shade, and sunglasses for wrap-around sunglasses. A note at the bottom right states that sun protection is generally not needed unless outside for extended periods. The website earthyissues.com is listed at the bottom right.

UV Index

11+	Extreme
8, 9, 10	Very High
6, 7	High
3, 4, 5	Moderate
1, 2	Low

Protect Yourself in 5 Ways

-  Slip on sun-protective clothing.
-  Slap on SPF30+ sunscreen. Reapply every two hours.
-  Slap on a broad-brimmed hat.
-  Seek shade.
-  Slide on wrap-around sunglasses.

Sun protection is generally not needed unless outside for extended periods.

earthlyissues.com