Ultraviolet & Exposure Time

UV INDEX

The Effective UV Intensity is usually expressed in units of UV Index (UVI). They are classified into 5 categories.

UV INDEX	0-2	3-4	5-6	7-9	10-
INTENSITY LEVEL	Minimal	Low	Moderate	High	Very High
ICON					

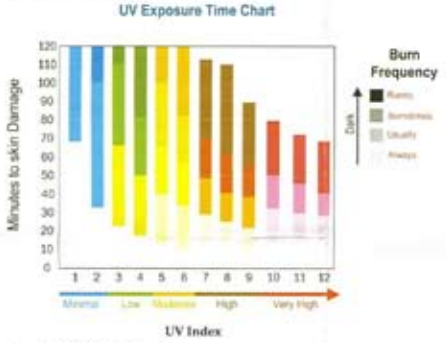
The UV Index is a forecast of the probable intensity of skin damaging ultraviolet radiation reaching the surface. The greater the UV Index is the greater the amount of skin damaging UV radiation. How much UV radiation is needed to actually damage one's skin is dependant on several factors, But in general the darker one's skin is, (that is the more melanin one has in his/her skin) the longer (or the more UV radiation) it takes to cause erythema (skin reddening).

Skin Factor

The individual skin sensitivity is characterized by a threshold dose to erythema onset with exposure to UV. When the skin absorbs more UV than this threshold dose , one gets skin damage(sunburn). Skin categories are classified 4 types as below.

Skin Categories	Skin color in Unexposed area	Tanning history	Skin factor value
Never tans, always burns	Pale or milky white, alabaster	Develops red sunburn, painful swelling, skin peels	4-10
Sometimes tans, usually burns	Very little brown, sometimes freckles	Usually burns, pink or red coloring appears, can gradually develop light brown tan	10-12
Usually tans, sometimes burns	Light tan, brown or olive, distinctly pigmented	Rarely burns, shows moderately rapid tanning response	11-14
Always tans, rarely burns	Brown, dark brown or black	Rarely burns, shows very rapid tanning response	12-16

UV Exposure Time Chart



How to USE This Chart

1) Find "Today's UV Index" from the bottom axis.
2) Move up to the appropriate shaded box for your burn frequency.
3) Look at the left axis to determine your Skin Damage time range.

Phases of the Moon and Percent of the Moon Illuminated

New Moon – The Moon's unilluminated side is facing the Earth. The Moon is not visible.

Waxing Crescent – The Moon appears to be partly but less than one-half illuminated by direct sunlight. The fraction of the Moon's disk that is illuminated is increasing.

First Quarter – One-half of the Moon appears to be illuminated by direct sunlight. The fraction of the Moon's disk that is illuminated is increasing.

Waxing Gibbous – The Moon appears to be more than one-half but not fully illuminated by direct sunlight. The fraction of the Moon's disk that is illuminated is increasing.

Full Moon – The Moon's illuminated side is facing the Earth. The Moon appears to be completely illuminated by direct sunlight.

Waning Gibbous – The Moon appears to be more than one-half but not fully illuminated by direct sunlight. The fraction of the Moon's disk that is illuminated is decreasing.

Last Quarter – One-half of the Moon appears to be illuminated by direct sunlight. The fraction of the Moon's disk that is illuminated is decreasing.

Waning Crescent – The Moon appears to be partly but less than one-half illuminated by direct sunlight. The fraction of the Moon's disk that is illuminated is decreasing.

Following waning crescent is New Moon, beginning a repetition of the complete phase cycle of 29.5 days average duration.

Tides and Tide Prediction

Tides are the alternating rise and fall of sea level with respect to land, as influenced by the gravitational attraction of the moon and sun. The moon plays a larger role than the sun in producing tides. This means that the oceans and other water bodies which are affected by the earth-moon system experience a tidal cycle every 12.42 hours. However, many other factors can influence the times of tides, such as coastline configuration, local water depth, winds and weather. Therefore, a tide prediction can differ from the actual times of tides . Because of the physical processes which occur to produce the tidal system, there are two high tides and two low tides each day. The two high tides each day do not have to be of equal height. The same holds true for the two low tides each day. Tides also differ in height on a daily basis.

Low Tide – The lowest sea level.

After low tide, the sea level is rising.

High Tide – The highest sea level.

After high tide, the sea level is falling.

Following is the Low Tide , and repeating another tidal cycle .