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Natural Phenomena Dictionary

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Rain

deszcz/ploaie/Pioggia/Yağmur

Rain is liquid water in the form of droplets thathave condensed from atmospheric water vapor and then become heavy enough to fall under gravity. Rain is a major component of the water cycle and is responsible for depositing most of the fresh water on the Earth. It provides suitable conditions for many types of ecosystems, as well as water for hydroelectric power plants and crop irrigation.

The major cause of rain production is moisture moving along three-dimensional zones of temperature and moisture contrasts known as weather fronts.

Rainbow

tęcza/curcubeu/Arcobaleno/Gökkuşağı

• **A rainbow** is a meteorological phenomenon that is caused by the reflection, refraction and scattering of light in water droplets, resulting in a spectrum of light appearing in the sky.

• This rainbow is caused by the refraction of light when it enters a drop of water, then reflected inside on the back of the drop and refracted again when it comes out of it.

Tornado

tornado/tornada/Tornado/Kasırga

• **A tornado** is a violently rotating column of air that is in contact with both the surface of the Earth and a cumulonimbus cloud or, in rare cases, the base of a cumulus cloud. It is often referred to as a twister, whirlwind or cyclone, although the word cyclone is used in meteorology to name a weather system with a low-pressure area in the center around which, from an observer looking down toward the surface of the Earth, winds blow counterclockwise in the Northern Hemisphere and clockwise in the Southern. Tornadoes come in many shapes and sizes, and they are often visible in the form of a condensation funnel originating from the base of a cumulonimbus cloud, with a cloud of rotating debris and dust beneath it. Most tornadoes have wind speeds less than 180 km/h (110 mph), are about 80 m (250 feet) across, and travel several kilometers (a few miles) before dissipating.

Lightning

błyskawica/fulger/Lampo/Şimşek

Lightning is a naturally occurring electrostatic discharge during which two electrically charged regions, both in the atmosphere or with one on the ground, temporarily neutralize themselves, causing the instantaneous release of an average of one gigajoule of energy. This discharge may produce a wide range of electromagnetic radiation, from heat created by the rapid movement of electrons, to brilliant flashes of visible light in the form of black-body radiation. Lightning causes thunder, a sound from the shock wave which develops as gases in the vicinity of the discharge experience a sudden increase in pressure. Lightning occurs commonly during thunderstorms as well as other types of energetic weather systems, but volcanic lightning can also occur during volcanic eruptions.

Storm

burza/furtuna/Tempesta/Fırtına

A **storm** is any disturbed state of an environment or in an astronomical body's atmosphere especially affecting its surface, and strongly implying severe weather. It may be marked by significant disruptions to normal conditions such as strong wind, tornadoes, hail, thunder and lightning (a thunderstorm), heavy precipitation (snowstorm, rainstorm), heavy freezing rain (ice storm), strong winds (tropical cyclone, windstorm), or wind transporting some substance through the atmosphere as in a dust storm, blizzard, sandstorm, etc.

Storms have the potential to harm lives and property via storm surge, heavy rain or snow causing flooding or road impassibility, lightning, wildfires, and vertical and horizontal wind shear. Systems with significant rainfall and duration help alleviate drought in places they move through. Heavy snowfall can allow special recreational activities to take place which would not be possible otherwise, such as skiing and snowmobiling.

The English word comes from Proto-Germanic **sturmaz* meaning "noise, tumult".

Snow

śnieg/zapada/Neve/Kar

- **Snow** comprises individual ice crystals that grow while suspended in the atmosphere—usually within clouds—and then fall, accumulating on the ground where they undergo further changes. It consists of frozen crystalline water throughout its life cycle, starting when, under suitable conditions, the ice crystals form in the atmosphere, increase to millimeter size, precipitate and accumulate on surfaces, then metamorphose in place, and ultimately melt, slide or sublimate away.
- Snowstorms organize and develop by feeding on sources of atmospheric moisture and cold air. Snowflakes nucleate around particles in the atmosphere by attracting supercooled water droplets, which freeze in hexagonal-shaped crystals. Snowflakes take on a variety of shapes, basic among these are platelets, needles, columns and rime.

Fog

mgła/ceata/Nebbia/Sis

- **Fog** is a visible aerosol consisting of tiny water droplets or ice crystals suspended in the air at or near the Earth's surface. Fog can be considered a type of low-lying cloud usually resembling stratus, and is heavily influenced by nearby bodies of water, topography, and wind conditions. In turn, fog affects many human activities, such as shipping, travel, and warfare.
- Fog appears when water vapor (water in its gaseous form) condenses. During condensation, molecules of water vapor combine to make tiny liquid water droplets that hang in the air. Sea fog, which shows up near bodies of saline water, is formed as water vapor condenses on bits of salt. Fog is similar to, but less transparent than, mist.

Hail

grad/grindina/Grandine/Dolu

Hail is a form of solid precipitation. It is distinct from ice pellets (American English "sleet"), though the two are often confused. It consists of balls or irregular lumps of ice, each of which is called a **hailstone**. Ice pellets generally fall in cold weather, while hail growth is greatly inhibited during cold surface temperatures.

- Unlike other forms of water ice precipitation, such as graupel (which is made of rime ice), ice pellets (which are smaller and translucent), and snow (which consists of tiny, delicately-crystalline flakes or needles), hailstones usually measure between 5 mm (0.2 in) and 15 cm (6 in) in diameter. The METAR reporting code for hail 5 mm (0.20 in) or greater is **GR**, while smaller hailstones and graupel are coded **GS**.

Dew

rosa/roua/Rugiada/çiy

- **Dew** is water in the form of droplets that appears on thin, exposed objects in the morning or evening due to condensation.
- Dense dew on grass
- As the exposed surface cools by radiating its heat, atmospheric moisture condenses at a rate greater than that at which it can evaporate, resulting in the formation of water droplets.
- When temperatures are low enough, dew takes the form of ice, called frost.
- Because dew is related to the temperature of surfaces, in late summer it forms most easily on surfaces that are not warmed by conducted heat from deep ground, such as grass, leaves, railings, car roofs, and bridges.
- Dew should not be confused with guttation, which is the process by which plants release excess water from the tips of their leaves.

Thunder

grzmot/tunet/Tuono/Gök gürültüsü

- **Thunder** is the sound caused by lightning. Depending upon the distance from and nature of the lightning, it can range from a long, low rumble to a sudden, loud crack. The sudden increase in temperature and hence pressure caused by the lightning produces rapid expansion of the air in the path of a lightning bolt. In turn, this expansion of air creates a sonic shock wave, often referred to as a "thunderclap" or "peal of thunder". The study of thunder is known as *brontology*.

Wind

wiatr/vant/Vento/Rüzgâr

- **Wind** is the natural movement of air or other gases relative to a planet's surface. Winds occur on a range of scales, from thunderstorm flows lasting tens of minutes, to local breezes generated by heating of land surfaces and lasting a few hours, to global winds resulting from the difference in absorption of solar energy between the climate zones on Earth. The two main causes of large-scale atmospheric circulation are the differential heating between the equator and the poles, and the rotation of the planet (Coriolis effect). Within the tropics and subtropics, thermal low circulations over terrain and high plateaus can drive monsoon circulations. In coastal areas the sea breeze/land breeze cycle can define local winds; in areas that have variable terrain, mountain and valley breezes can prevail.

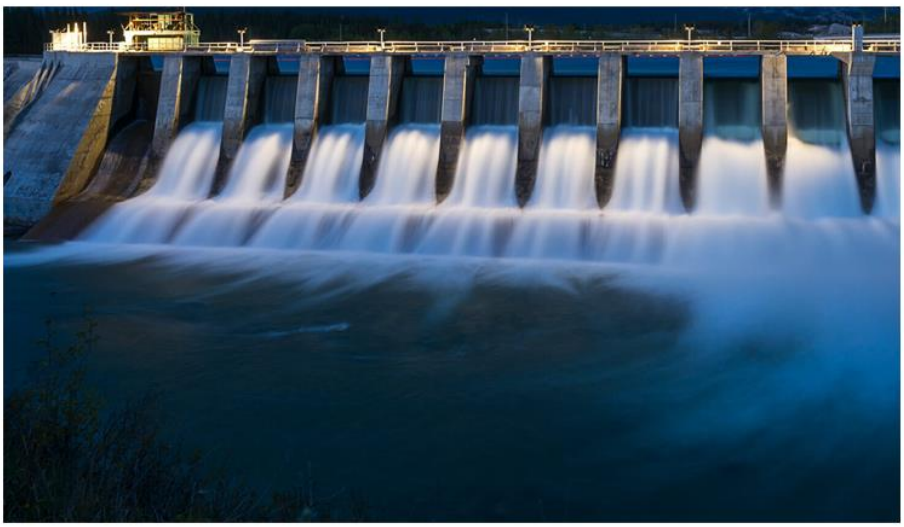
Glacier

lodowiec/ghetar/Ghiacciaio/Buzul

- A **glacier** is a persistent body of dense ice that is constantly moving under its own weight. A glacier forms where the accumulation of snow exceeds its ablation over many years, often centuries. Glaciers slowly deform and flow under stresses induced by their weight, creating crevasses, seracs, and other distinguishing features. They also abrade rock and debris from their substrate to create landforms such as cirques, moraines, or fjords. Glaciers form only on land and are distinct from the much thinner sea ice and lake ice that forms on the surface of bodies of water.
- On Earth, 99% of glacial ice is contained within vast ice sheets (also known as "continental glaciers") in the polar regions, but glaciers may be found in mountain ranges on every continent other than the Australian mainland, including Oceania's high-latitude oceanic island countries such as New Zealand

Hydropower

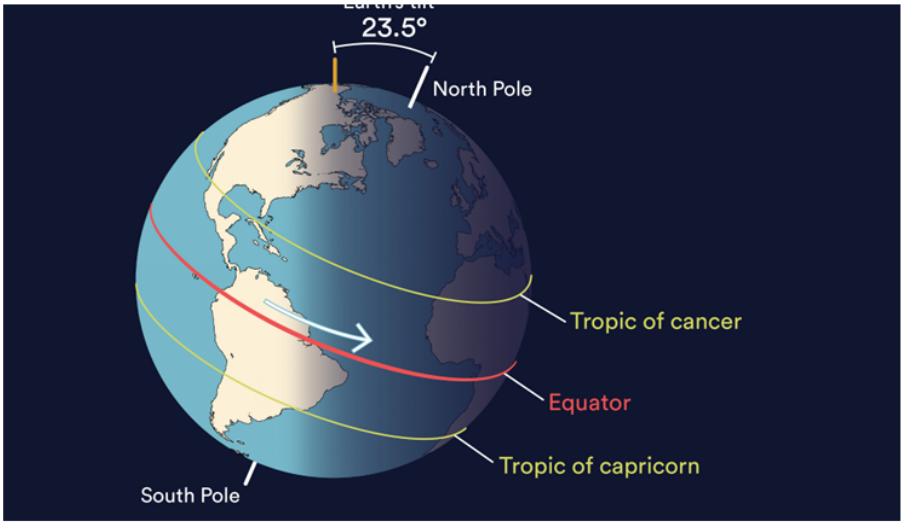
energia wodna/hidroenergie/Energia idroelettrica/hidroelektrik



- **Hydropower,** also known as **water power**, is the use of falling or fast-running water to produce electricity or to power machines. This is achieved by converting the gravitational potential or kinetic energy of a water source to produce power. Hydropower is a method of sustainable energy production.
- Since ancient times, hydropower from watermills has been used as a renewable energy source for irrigation and the operation of mechanical devices, such as gristmills, sawmills, textile mills, trip hammers, dock cranes, domestic lifts, and ore mills. A trompe, which produces compressed air from falling water, is sometimes used to power other machinery at a distance.
- Hydropower is now used principally for hydroelectric power generation, and is also applied as one half of an energy storage system known as pumped-storage hydroelectricity.

Earth's rotation

obrót ziemi/rotatia pamantului/Rotazione terrestre/dünyanın dönüşü



- **Earth's rotation** or **Earth's spin** is the rotation of planet Earth around its own axis, as well as changes in the orientation of the rotation axis in space. Earth rotates eastward, in prograde motion. As viewed from the north pole star Polaris, Earth turns counterclockwise.
- The North Pole, also known as the Geographic North Pole or Terrestrial North Pole, is the point in the Northern Hemisphere where Earth's axis of rotation meets its surface. This point is distinct from Earth's North Magnetic Pole. The South Pole is the other point where Earth's axis of rotation intersects its surface, in Antarctica.
- Earth rotates once in about 24 hours with respect to the Sun, but once every 23 hours, 56 minutes and 4 seconds with respect to other distant stars.

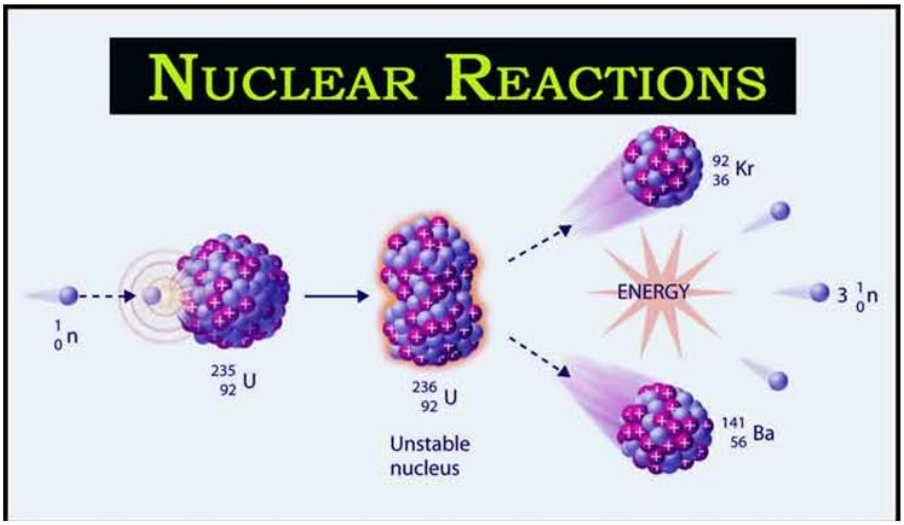
Reflection

odbicie/reflectie/Riflesso/Refleks

- **Reflection** is the change in direction of a wavefront at an interface between two different media so that the wavefront returns into the medium from which it originated. Common examples include the reflection of light, sound and water waves. The *law of reflection* says that for specular reflection the angle at which the wave is incident on the surface equals the angle at which it is reflected. Mirrors exhibit specular reflection.
- In acoustics, reflection causes echoes and is used in sonar. In geology, it is important in the study of seismic waves. Reflection is observed with surface waves in bodies of water. Reflection is observed with many types of electromagnetic wave, besides visible light. Reflection of VHF and higher frequencies is important for radio transmission and for radar. Even hard X-rays and gamma rays can be reflected at shallow angles with special "grazing" mirrors.

Nuclear Reaction

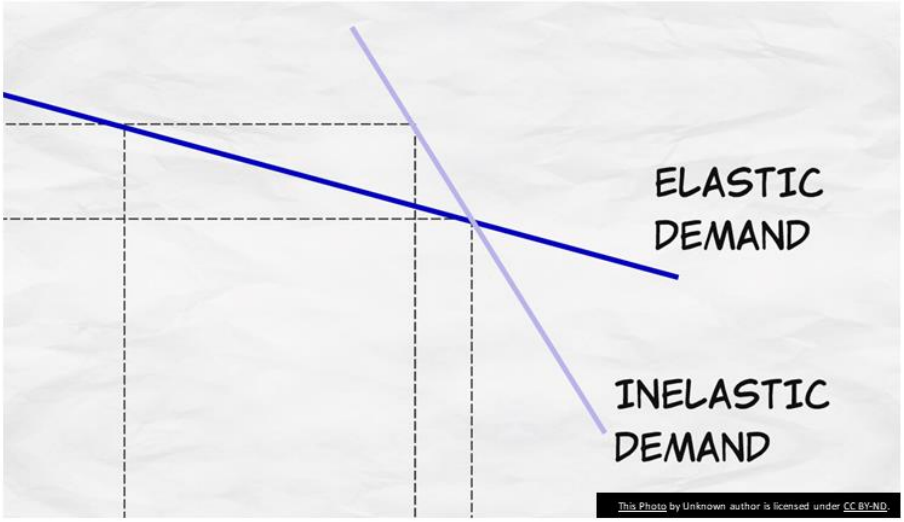
reakcja jądrowa/reactie nucleara/Reazione nucleare/Nükleer reaksiyon



- In nuclear physics and nuclear chemistry, a **nuclear reaction** is a process in which two nuclei, or a nucleus and an external subatomic particle, collide to produce one or more new nuclides. Thus, a nuclear reaction must cause a transformation of at least one nuclide to another. If a nucleus interacts with another nucleus or particle and they then separate without changing the nature of any nuclide, the process is simply referred to as a type of nuclear scattering, rather than a nuclear reaction.
- In principle, a reaction can involve more than two particles colliding, but because the probability of three or more nuclei to meet at the same time at the same place is much less than for two nuclei, such an event is exceptionally rare (see triple alpha process for an example very close to a three-body nuclear reaction).

Elasticity

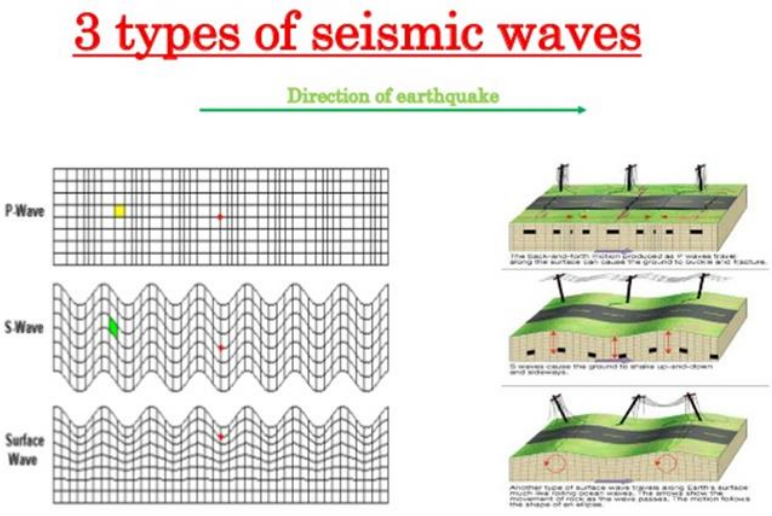
sprężystość/elasticitate/Elasticità/esneklik



- In physics and materials science, **elasticity** is the ability of a body to resist a distorting influence and to return to its original size and shape when that influence or force is removed. Solid objects will deform when adequate loads are applied to them; if the material is elastic, the object will return to its initial shape and size after removal. This is in contrast to *plasticity*, in which the object fails to do so and instead remains in its deformed state.
- The physical reasons for elastic behavior can be quite different for different materials. In metals, the atomic lattice changes size and shape when forces are applied (energy is added to the system). When forces are removed, the lattice goes back to the original lower energy state. For rubbers and other polymers, elasticity is caused by the stretching of polymer chains when forces are applied.

Seismic wave

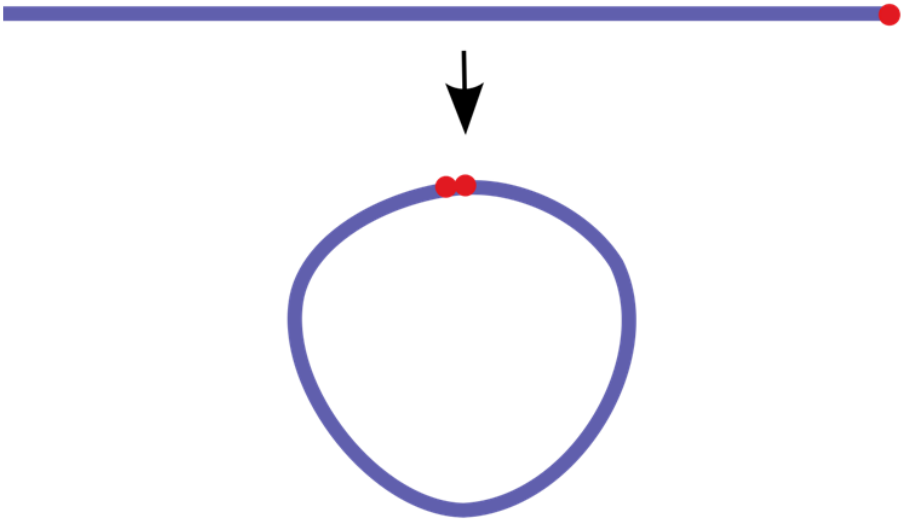
fala sejsmiczna/unda seismica/Onda sismica/Sismik dalga



- **Seismic waves** are waves of energy tha t travel through Earth's layers, and are a result of earthquakes, volcanic eruptions, magma movement, large landslides and large man-made explosions that give out low-frequency acoustic energy. Many other natural and anthropogenic sources create low-amplitude waves commonly referred to as ambient vibrations. Seismic waves are studied by geophysicists called seismol ogists. Seismic wave fields are recorded by a seismometer, hydrophone (in water), or accelerometer.

Strain

napięcie/tulpina/Deformazione/Gerginlik



- **Strain** is related to deformation in terms of *relative* displacement of particles in the body that excludes rigid-body motions. Different equivalent choices may be made for the expression of a strain field depending on whether it is defined with respect to the initial or the final configuration of the body and on whether the metric tensor or its dual is considered.
- In a continuous body, a deformation field results from a stress field due to applied forces or because of some changes in the temperature field of the body. The relation between stress and strain is expressed by constitutive equations, e.g.

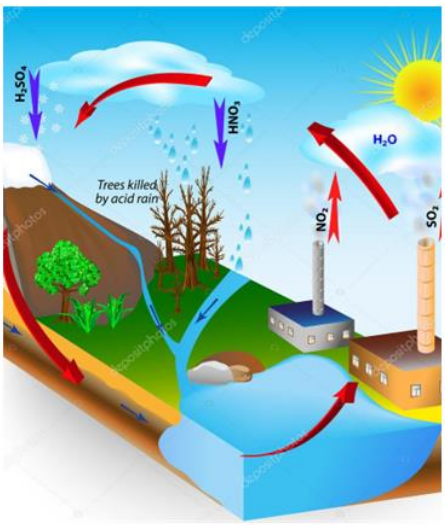
Transparency

przejrzystość/transparenta/Trasparenza/şeffaflık

- In the field of optics, **transparency** (also called **pellucidity** or **diaphaneity**) is the physical property of allowing light to pass through the material without appreciable scattering of light. On a macroscopic scale (one in which the dimensions are much larger than the wavelengths of the photons in question), the photons can be said to follow Snell's Law. **Translucency** (also called **translucence** or **translucidity**) allows light to pass through, but does not necessarily (again, on the macroscopic scale) follow Snell's law; the photons can be scattered at either of the two interfaces, or internally, where there is a change in index of refraction. In other words, a translucent material is made up of components with different indices of refraction.

Acid rainfall

kwaśne deszcze/ploaie acida/Pioggia acida/asit yağışı



- **Acid precipitation is precipitation with a pH below 5.6, which is acidic. They contain acids such as sulfur dioxide, carbon dioxide, nitrogen oxide and hydrogen chloride.**

A collateral sun

słońce poboczne /soare colateral/Sole collaterale/bir teminat güneşi

- **A collateral sun is an optical phenomenon in the atmosphere. It is a bright spot of light formed at the intersection of a 22-degree halo and a parhelic circle. It often occurs on both sides of the sun. It is best seen when the sun is low on the horizon. This is one of the most commonly observed halo types. It is formed as a result of the refraction of the sun's rays in hexagonal ice crystals falling horizontally, similar to falling leaves**

Aurora Borealis

zorza polarna północna/aurora boreala/Aurora boreale/Aurora borealis

- **Aurora Borealis - A light phenomenon observed in the upper atmosphere near the magnetic poles of the planet, which has a strong magnetic field of a dipole nature.**

A storm in a volcanic cloud

burza w wulkanicznej chmurze/o furtuna intr-un nor vulcanic/Una tempesta in una nuvola vulcanica/Volkanik bir bulutta bir fırtına

- **A dirty storm (or volcanic lightning) is a weather phenomenon associated with the formation of lightning in a volcanic cloud. The famous photo of this phenomenon, was taken by Carlos Gutierrez in Chile over Chaiten Volcano. Volcanic lightning, scientists believe, is the result of an electrical charge that is discharged during an eruption by the friction of ash particles against each other. Smaller eruptions are accompanied by smaller storms that are difficult to detect through the dense ash cloud.**

Bioluminescence

bioluminescencja/bioluminescenta/Bioluminescenza/biyolüminesans

- **Bioluminescence can take place in very few environments. It is a glow produced by flowering algae. They carry millions of bioluminescent bruises that glow to scare away predators. Bioluminescence can only be seen in the dark, so you have to be in an area with no light to see it. Plankton lights up when threatened, though only for a moment. The more confusion in the environment, the brighter the glow - boats usually produce the most intense effect.**

Colorful mountains

kolorowe góry/munti colorati/Montagne colorate/ renkli dağlar

These crazy technicolor mountain formations really do exist. Layers of different colored sandstones and minerals overlapped for 24 million years and then were compressed by tectonic plates. The rock formations in China are formed of red sandstones and conglomerates mainly from the Cretaceous period.

Ice flowers

lodowe kwiaty/flori de gheata/Fiori di ghiaccio/Buz çiçekleri

- **Beautiful, though rare, ice flowers are formed in the fall or early winter mornings when very thin layers of ice are pushed off plant stems or wood. They then form wonderful patterns that twist and fold into beautiful petals. When the temperature drops below freezing, the sap in plant stems increases in volume, putting pressure on the outer layer of the stem, which begins to crack. Through the microscopic cracks, the sap flows out and freezes. The plant continues to draw water from the soil, so the sap keeps coming, expanding, pushing out the previous frozen layers and creating those amazing flowers seen in the photos.**

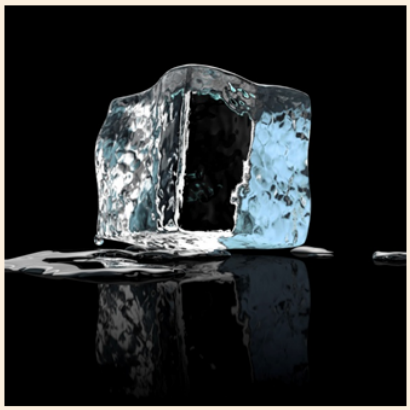
Incineration

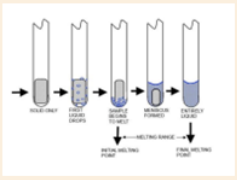
spalanie/incinerare/Incenerimento/Yakma

- **Incineration - an exothermic chemical reaction between a combustible material or fuel and an oxidant, releasing heat and light. Fuels and oxidizers can exist in three states of aggregation: gas, liquid and solid. Oxygen in air is a commonly available gaseous oxidant.**

Melting

topnienie/topire/Fusione/ Erime



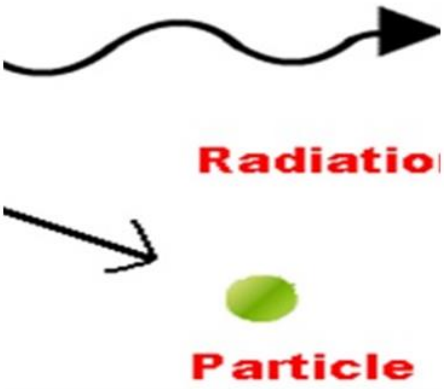


- **Melting - a phase transition involving the transition of a substance from a solid to a liquid. The phenomenon of melting is closely related to that of clotting. The melting point, determined experimentally, does not always correspond exactly to the pour point.**

Mist zamglenie/bruma/Fosc hia/Sis

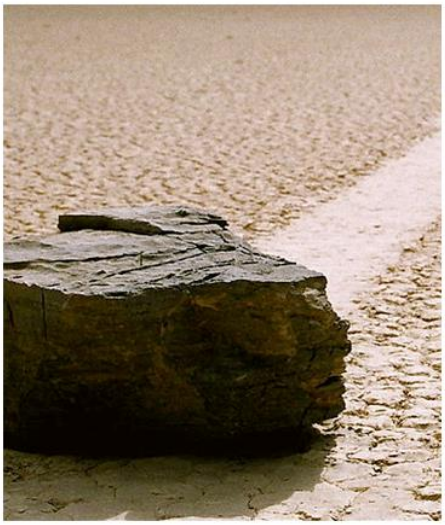
- **Mist – A natural, visible aerosol consisting of fine water droplets or ice crystals suspended in the air near the surface of the Earth**

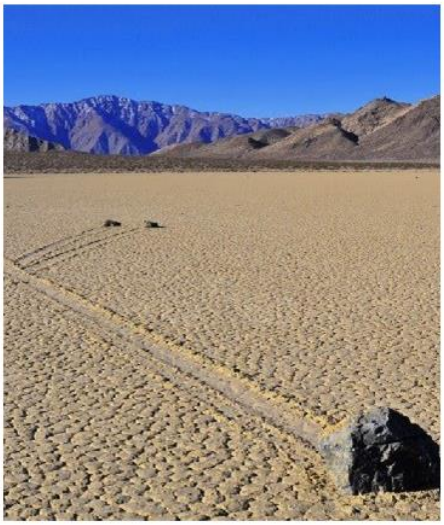
promieniotwórczości/fe nomenul radioctivitatii/Il



- The phenomenon of radioactivity- is the phenomenon of spontaneous decay of atomic nuclei combined with the emission of beta, alpha and gamma radiation

Wandering stones
wędrujące kamienie/furtuni/Pietre vaganti/Gezici taşlar





- Wandering stones are a geological phenomenon in which rocks move and leave long ruts behind them without human or animal intervention. Somehow the stones slide along the Racetrack Playa, creating visible furrows.

Lenticular clouds
chmura soczewkowata/nori lenticulari/Nuvole lenticolari/merceksi bulutlar

- Lenticular clouds, technically called altocumulus lenticularis, are stationary, lens-shaped clouds that form at high altitudes and are usually at right angles to the direction of the wind. Lenticular clouds have been mistaken for a UFO (or "visual cover" for UFOs) because they have a distinctive lens appearance and a smooth saucer shape.

Light poles
słupy świetlne/poli de lumina/Pali della luce/Işık direkleri

- Light columns appear when artificial or natural light reflects off flat ice crystals that float relatively close to the ground. When the light source is close to the ground, the light column will appear above the crystals. If the light comes from the sun or moon, the column may also appear below them. These can be observed in polar regions.

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