OUR OCEANS FACTSHEET

"THE OCEAN MAKES OUR PLANET A WONDERFUL PLACE TO LIVE. IT GIVES US MORE THAN HALF OF THE OXYGEN WE BREATHE. IT REGULATES THE CLIMATE, ABSORBS A QUARTER OF THE CARBON THAT WE PUT INTO THE ATMOSPHERE EVERY YEAR, PROVIDES LIVELIHOODS FOR HUNDREDS OF MILLIONS OF PEOPLE, AND CONTRIBUTES HUNDREDS OF BILLIONS OF DOLLARS TO THE GLOBAL ECONOMY"
– MARINE ECOLOGIST ENRIC SALA

No matter how far away from the beach you live, oceans still affect your life. We need oceans for the air that we breathe (oceans produce half the oxygen we breathe), the water we drink, the food we eat, the things we need to keep us safe, warm and well.

The ocean drives climate, stabilises temperature, provides most of our oxygen and shapes the Earth's chemistry.

The ocean has also been a source of spirituality, inspiration, income, mystery and adventure for as long as humans have been able to record their thoughts.

OCEAN LIFE

Life began in the ocean, and it continues to be home to the majority of Earth's plants and animals. These range in size from minuscule single-celled organisms all the way to the Earth's largest living animal, the blue whale.

The oceans are home to an enormous variety – and quantity – of life. This life thrives in a range of ecosystems, all of which are intertwined and dependent on each other. These ecosystems include coral reefs, intertidal zones, estuaries, mangroves, deep sea, seafloor, salt marshes, kelp forests, and the Arctic and Antarctic marine ecosystems.

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OCEANS AND PEOPLE

Apart from being dependent on oceans for fresh air, water and comfortable and stable climates, human relationships with oceans are varied.

Millions of people depend on oceans for their livelihoods. Fishing provides both food and income to people, and oceans provide trade routes for the transportation of goods around the world.

In addition, oceans are vitally important to Indigenous peoples around the world, playing crucial roles inconnections to culture and retaining ceremonies and customs.

For others, the ocean is a source of solace, inspiration and spirituality. It also provides countless people around the world with a source of recreation and leisure, and much needed connections to the natural world.

OCEAN FACTS

The ocean is a continuous body of water that makes up about 70% of the Earth's surface, although with rising sea levels this number is expected to increase. Geographers divide the ocean up into four main areas: the Pacific, Atlantic, Indian and Arctic. There are also many smaller ocean regions called seas, gulfs and bays.

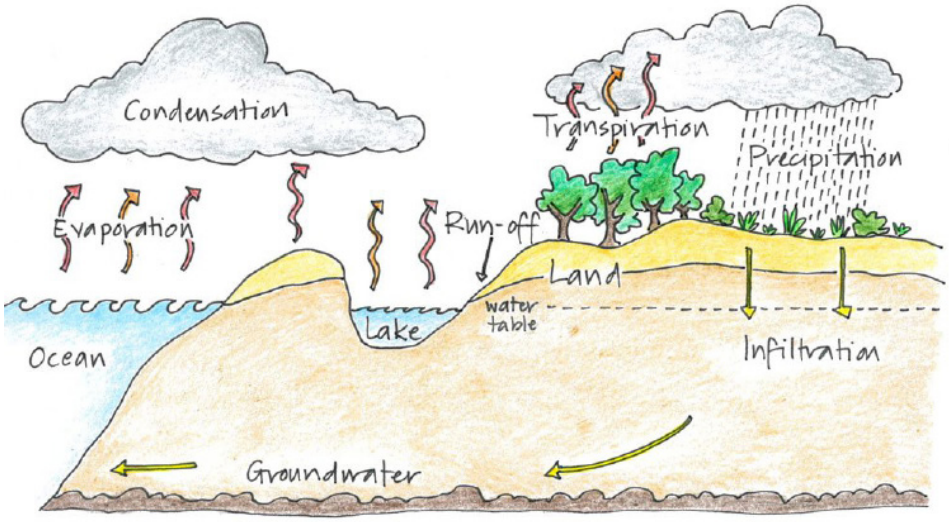
The oceans hold about 1.35 billion cubic kilometers of water. This is about 97% of the Earth's water. The water in the ocean is 3.5% salt and contains traces of all chemical elements found on Earth. The remaining 3% of water on Earth is freshwater. 69% of this is held in glaciers, 30% is underground, and less than 1% is located in lakes, rivers and swamps. It is this 1% that is usable by humans for drinking.

Humans have explored nearly every corner of land on Earth. However, we have explored less than 5% of the ocean. Nearly half of the ocean is more than 3,000 meters deep, making it both difficult for humans to explore and for life to thrive.

OUR OCEANS FACTSHEET

OCEANS AND THE WATER CYCLE

Oceans are an integral part of the water cycle, and all life on Earth depends on the water cycle for survival.



ABOUT THE WATER CYCLE

AT SEA LEVEL, THE WATER ABSORBS HEAT FROM THE SUN, WHICH CAUSES IT TO TURN INTO A GAS OR 'EVAPORATE'. DURING EVAPORATION, WATER LOSES ITS IMPURITIES AND BECOMES CLEAN AND FRESH AGAIN. THIS IS BECAUSE WATER VAPOUR CANNOT RISE INTO THE CLOUDS WHILE BITS OF DIRT ARE ATTACHED TO IT. THE HEAVY THINGS IN THE WATER ARE LEFT BEHIND AND ONLY FRESH, CLEAN WATER RISES INTO THE AIR.

THE WATER VAPOUR RISES UP THROUGH THE ATMOSPHERE. WHERE THERE ARE TALL MOUNTAINS, THE CLOUDS OF WATER VAPOUR RUN INTO THESE MOUNTAINS AND ARE FORCED TO TRAVEL HIGHER IN THE ATMOSPHERE, WHERE THE TEMPERATURE IS MUCH COLDER.

THIS CAUSES THE WATER VAPOUR TO COOL RAPIDLY. THIS MAKES THE WATER VAPOUR TURN BACK INTO ITS LIQUID FORM. WHEN A GAS TURNS BACK INTO A LIQUID, WE CALL IT 'CONDENSATION'. TINY WATER DROPLETS COLLECT TOGETHER, FORMING CLOUDS.

WHEN THE DROPLETS OF WATER IN CLOUDS GET TOO HEAVY TO STAY IN THE AIR, THEY FALL. THIS PROCESS IS CALLED 'PRECIPITATION'. WE CALL THE PRECIPITATION OF LIQUID WATER 'RAIN'. PRECIPITATION CAN ALSO OCCUR IN THE FORM OF HAIL OR SNOW.

THE RAIN, HAIL OR SNOW FALLS INTO HIGHLAND LAKES AND RIVERS, WHERE IT BECOMES LIQUID WATER AGAIN. THE WATER WILL BE USED AGAIN AND AGAIN.

OUR OCEANS FACTSHEET

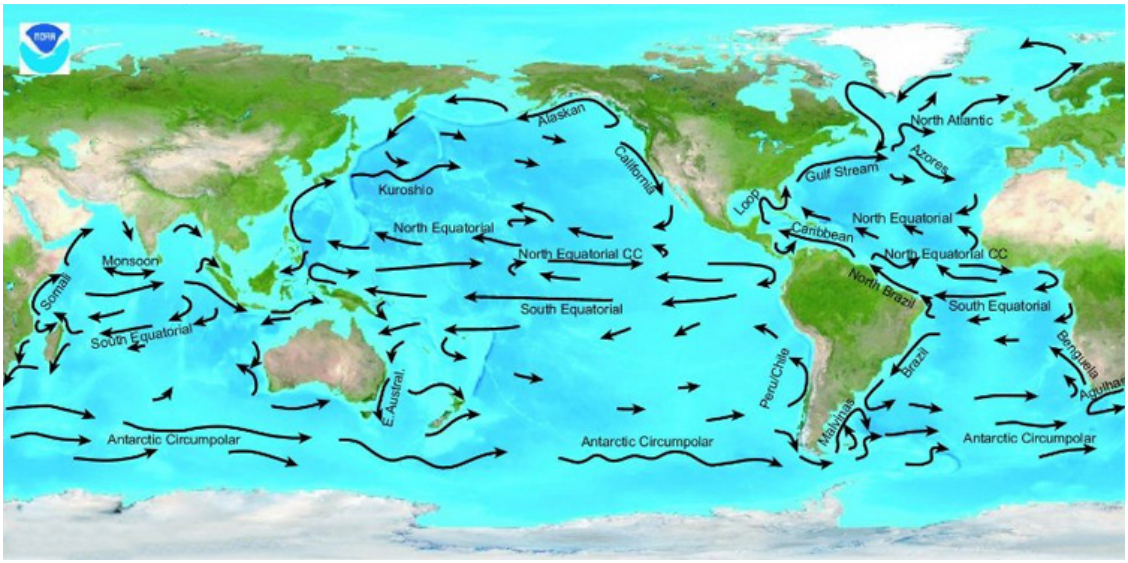
The water cycle is responsible for the fresh air that we breathe, for the rain that falls on the crops that we eat, for the water that fills our water glasses, bathtubs and washing machines, and for many processes that are required to produce and manufacture the extraordinary range of products that our lives have become dependent upon.

But it's also responsible for keeping our environment healthy; for providing safe habitats and food sources for most of the life on Earth.

OCEANS AND CLIMATE

Oceans play a starring role in the Earth's climate.

Oceans absorb the majority of the heat from the sun, acting as a huge heat-retaining solar panel. It then transfers this heat back into the atmosphere and distributes it around the world through ever-moving ocean currents. This continual process drives weather patterns around the globe. The image below from NOAA (National Ocean Atmospheric Administration) shows the direction of currents around the world.



Ocean currents act send heat toward the chilly polar regions and helping the steamy tropical regions cool down.
Image source: http://oceanexplorer.noaa.gov/facts/climate.html

Ocean currents behave in similar way to conveyer belts, moving warm water and precipitation from the equator toward the poles, and then moving cold water from the poles back to the tropics. In this way, currents regulate the global climate. They help to regulate the uneven distribution of heat from the sun on the Earth's surface. If we didn't have currents then temperatures around the world would tend to be more extreme, with very hot temperatures at the equator and very, very cold temperatures towards the north and south poles. The effect of this would be an Earth with far fewer habitable areas.

OUR OCEANS FACTSHEET

OCEANS IN TROUBLE

Despite persistent human belief in the 'endless ocean', we are now recognising that human activities are affecting almost every part of the ocean.

Vast quantities of plastic waste have been dumped into our ocean, affecting huge numbers of animals. Discarded ghost nets drift through the sea catching any animal that crosses their path. Oil spills, toxic waste and run-off from land-based activities turn vast areas of oceans into dead zones. Coastal development harms intertidal, mangrove and sand dune ecosystems. Overfishing and unsustainable fishing practices have seen many fish and shark species suffer drastic declines in numbers. Carbon dioxide emitted through human activities and absorbed by oceans is altering the acidity levels of oceans, while an influx of freshwater from melting glaciers may alter the currents, and subsequently contribute to climate change.

Now, ocean guardians across the generations and around the world are speaking out and inviting all of us to take action to protect our precious oceans, whose health we are completely dependent upon.

> "FOR MOST OF HISTORY, MAN HAS HAD TO FIGHT NATURE TO SURVIVE; IN THIS CENTURY HE IS BEGINNING TO REALISE THAT, IN ORDER TO SURVIVE, HE MUST PROTECT IT"
> – JACQUES–YVES COUSTEAU

BECOME AN OCEAN GUARDIAN AND JOIN THE GLOBAL MOVEMENT NOW!

Go to the Blue website to become an ocean guardian
and take action for our ocean (https://bluethefilm.org/take-action/)

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