



THE
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CONFERENCE
UNITED NATIONS, NEW YORK, 5-9 JUNE 2017

Factsheet: People and Oceans

General

- The ocean is vast, covering 140 million square miles (363 million square km), equivalent to approximately 72 per cent of the earth's surface.
- More than 600 million people (around 10 per cent of the world's population) live in coastal areas that are less than 10 meters above sea level.
- Nearly 2.4 billion people (about 40 per cent of the world's population) live within 100 km (60 miles) of the coast.
- Oceans, coastal and marine resources are very important for people living in coastal communities, who represent 37 per cent of the global population in 2017.

Health and nutrition

- Human health is being impacted by the enhanced survival and spread of tropical diseases due to increasing ocean temperatures.
- Fish is one of the most important sources of animal protein. It accounts for about 17 per cent of protein at the global level and exceeds 50 per cent in many least-developed countries.
- The nutrients found in fish are important for optimal neurodevelopment in children and for improving cardiovascular health.

Sustainable livelihoods and decent work

- About 97 per cent of the world's fishermen live in developing countries and fishing is their major source for food and income. Women account for most of the workers in secondary marine-related activities such as fish processing and marketing.
- Overall, 80 per cent of the world's fish stocks for which assessment information is available are reported as fully exploited or overexploited. Illegal, unregulated, unreported fishing affects about 20 per cent of the global fish yields, which cost about \$US23 billion a year. An estimated 27 per cent of landed fish is lost or wasted between landing and consumption.
- Small scale fisheries supply almost half of the world's seafood stock. Small scale fisheries are however, among others, disadvantaged by lack of access to markets, even domestically, and a lack of pricing power.

Economy

- The ocean-economy, which includes employment, ecosystem services provided by the ocean, and cultural services, is estimated at between US\$3-6 trillion/year.
- Fisheries and aquaculture contribute \$US100 billion per year and about 260 million jobs to the global economy.

- Shipping is responsible for more than 90 per cent of the trade between countries. The global oceans-based economy is estimated at \$US3 trillion a year, which is around 5 per cent of global GDP.
- Approximately 50 per cent of all international tourists travel to coastal areas. In some developing countries, notably Small Island Development States, tourism accounts for over 25 per cent of GDP.



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Factsheet: Marine pollution

Marine debris

- More than 8 million tonnes of plastic enter the oceans each year, equal to dumping a garbage truck of plastic every minute. As much as 80 per cent of all litter in our oceans is made of plastic.
- As many as 51 trillion microplastic particles — 500 times more than the stars in our galaxy — litter our oceans and seas, seriously threatening marine wildlife.
- Marine debris is harming more than 800 species. 40 per cent of marine mammals and 44 per cent of seabird species are affected by marine debris ingestion.
- According to some estimates, at the rate we are dumping items such as plastic bottles, bags and cups after a single use, by 2050 oceans will carry more plastic mass than fish, and an estimated 99 per cent of seabirds will have ingested plastic.
- Plastic waste kills up to 1 million sea birds, 100,000 sea mammals, marine turtles and countless fish each year. Plastic remains in our ecosystem for years, harming thousands of sea creatures every day.
- Abandoned, lost or otherwise discarded fishing gear in the oceans makes up around 10 percent (640 000 tonnes) of all marine litter. This gear continues to catch fish through so called “ghost fishing”, and also traps turtles, seabirds and marine mammals.

Land-based activities

- 80 per cent of all pollution in seas and oceans comes from land-based activities.
- Nitrogen loads to oceans roughly tripled from pre-industrial times due to fertilizer, manure and wastewater. The global economic damage of nitrogen pollution is estimated at \$200–800 billion per year.
- In many parts of the world, (urban) sewage flows untreated, or under-treated, into the ocean.
- Pollution and eutrophication (excessive nutrients in water) are also caused by run off from the land, which cause dense plant growth and the death of animal life. The five large marine ecosystems most at risk from coastal eutrophication are: Bay of Bengal, East China Sea, Gulf of Mexico, North Brazil Shelf and South China Sea.
- Increased nutrient loading from human activities, combined with the impacts of climate change and other environmental change has resulted in an increase in the frequency, magnitude, and duration of harmful algal blooms worldwide. These algal blooms can contaminate seafood with toxins, and impact ecosystem structure and function, recreational activities, fisheries, tourism and coastal property values.
- Nutrient over-enrichment from agricultural, municipal and industrial sources contributes to the so-called “dead zones”—hypoxic regions that exhibit oxygen levels that are too low to support many aquatic organisms including commercially desirable species. The extent and duration of “dead zones” is also increasing worldwide.

Oil spills

- Oil tankers transport some 2,900 million tonnes of crude oil and oil products every year around the world by sea. In addition to large tanker incidents, small oil spills happens every day, due to drilling incidents or leaking motors, and cause the death of birds, marine mammals, algae, fish and shellfish. Oil spills remain a concern, though actual spills have decreased steadily for several decades.



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Factsheet: Biodiversity

Biosphere

- The world's oceans contain somewhere between 500,000 and 10 million marine species.
- Marine phytoplankton (the plant components of the plankton community) produces 50 per cent of oxygen on Earth.
- Oceans have absorbed as much as half of all anthropogenic carbon emissions over the past two centuries. “Blue carbon” ecosystems such as mangroves, seagrass beds, tidal marshes and other marine and coastal vegetated ecosystems are among the most intense carbon sinks on the planet.
- The species diversity in the oceans ranges from 0.7 to 1.0 million species, with millions more bacteria, other microbes and viruses. Much of the biodiversity in the ocean, particularly in the deep sea and in the microbial ocean, is unknown, and up to 2,000 new species are described per year.

Loss of Biodiversity

- Coral reefs (both tropical and cold water) are very sensitive to ocean acidification, with 60 per cent of reefs currently threatened by a combination of ocean warming, acidification and other anthropogenic impacts, a number that will rise to 90 per cent by 2030 and about 100 per cent by 2050.
- About 20 per cent of the world’s coral reefs have been destroyed and show no immediate prospects for recovery; about 16 per cent of them were seriously damaged by coral bleaching in 1998, but of these about 40 per cent have either recovered or are recovering well.
- 1998 was declared the first major coral bleaching event. The second major global bleaching event was triggered by the El Niño of 2010. The third major global coral bleaching event was declared in 2015, and it has become the longest, most widespread and most damaging event recorded, impacting some reefs in consecutive years and it is continuing in 2017.
- The Great Barrier Reef of Australia, for example, has experienced its worst coral bleaching event in 2016, and bleaching has already begun again in 2017. The leading causes of coral bleaching are the above-average sea water temperatures caused by climate change.
- An estimated 20 per cent of global mangroves have been lost since 1980.
- Projected increasing temperatures in oceans will likely result in changes in distribution of marine species and can significantly influence the reproductive cycles of fish.
- Pressures on coastal and marine biodiversity continue to increase, as an estimated 40 per cent of the world’s population lives within 100km of the coast, putting unsustainable strain on coastal resources. Human population is projected to increase to more than 9 billion people by 2050, bringing increasing pressure marine and coastal resources.



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Factsheet: Climate Change

Climate change and the ocean

- About 93 per cent of the excess heat energy stored by the Earth over the last 50 years is found in the ocean more than three quarters of the total exchange of water between the atmosphere and the Earth's surface through evaporation and precipitation takes place over the oceans.
- The ocean contains 50 times more carbon than the atmosphere and is at present acting to slow the rate of climate change by absorbing about 30 per cent of human emissions of carbon dioxide from fossil fuel burning, cement production, deforestation and other land use change.

Ice melting in polar regions

- Over the last two decades, the Greenland and Antarctic ice sheets have been losing mass, glaciers have continued to shrink almost worldwide, and Arctic sea ice and Northern Hemisphere spring snow cover have continued to decrease in extent).
- Over the past three decades, Arctic summer sea ice retreat was unprecedented and sea surface temperatures were anomalously high in at least the last 1,450 years.

Sea level rise

- Between 1901 and 2010, global sea level rise increased at an accelerating rate and recent sea level rise appears to have been the fastest in at least 2800 years.
- During the last four decades, 75 per cent of the sea level rise can be attributed to glacier mass loss and ocean thermal expansion. This gives Antarctica alone the potential to contribute more than a metre of sea level rise by 2100 and more than 15 metres by 2500.
- Sea level rise leads to coastal erosion, inundations, storm floods, tidal waters encroachment into estuaries and river systems, contamination of freshwater reserves and food crops, loss of nesting beaches, as well as displacement of coastal lowlands and wetlands. In particular, sea level rise poses a significant risk to coastal regions and communities.
- Almost two-thirds of the world's cities with populations of over five million are located in areas at risk of sea level rise.
- The potential costs associated with damage to harbours and ports due to sea level rise could be as high as \$US111.6 billion by 2050 and \$US367.2 billion by the end of the century.

Extreme weather events

- Ocean warming has been linked to extreme weather events as increasing seawater temperatures provide more energy for storms that develop at sea, leading to fewer but more intense tropical cyclones globally.
- Latest figures show that disasters—90 per cent of which are classed as climate related—now cost the world economy US\$520 billion per year and push 26 million people into poverty every year.

Displacement

- It is estimated that at least 11 to 15 per cent of the population of Small Island Developing States live on land with an elevation of 5 meters or lower, and that a sea level rise of half a meter could displace 1.2 million people from low-lying islands in the Caribbean Sea and the Indian and Pacific Oceans; with that number almost doubling if the sea level rises by 2 metres.
- It has been reported that an annual average of 21.5 million people have been forcibly internally displaced by sudden weather-related hazards since 2008.