



percent of the planet's ocean by 2030 is the minimum level needed to ensure it will be healthy, scientists have said.

The Treaty will make it easier to manage shipping, fishing and other activities that have historically contributed to the deterioration of ocean health in the high seas. The high seas are home to millions of species and is the largest habitat on the planet.

"It's been a very long journey to get to a Treaty. We will be looking to the 52 states that make up the High Ambition Coalition to lead the charge to adopt, ratify and identify important High Seas areas to protect", said Mrs. Rebecca Hubbard in the High Seas Alliance press release.

One of the major sticking points in Treaty negotiations was how best for nations to share marine genetic resources (MGR) and the profits that will eventually come from them, reported The Guardian. MGR are the genetic material of deep-sea organisms like krill, seaweeds, corals, marine sponges and bacteria, which can potentially be used in cosmetics and medications.

"The High Seas Treaty opens the path for humankind to finally provide protection to marine life across our one ocean. Its adoption closes essential gaps in international law and offers a framework for governments to work together to protect global ocean health, climate resilience and the socio-economic wellbeing and food security of billions of people", said Director of the International Union for Conservation of Nature's Global Marine and Polar Program Minna Epps.

The new Treaty will be opened for signatures on Sept. 20, during the annual meeting of world leaders at the General Assembly, and it will take effect once it is ratified by 60 countries. The Treaty will create a new body to manage conservation of ocean life and establish marine protected areas in the high seas. It also establishes ground rules for conducting environmental impact assessments for commercial activities in the oceans. Secretary - General Antonio Guterres told delegates that the adoption of the treaty comes at a critical time, with the oceans under threat on many fronts ■

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(Source: *The Guardian*)

In mid-2022, a toxic algal bloom began to quickly spread through the Oder River, which in part straddles the border between Germany and Poland. The algae, *Prymnesium parvum*, normally lives in the brackish waters near coastlines. But fed by salty run-off from industrial sites, and made more concentrated by low water levels, it enveloped huge stretches of one of Europe's longest waterways.

THE RESULT WAS CATASTROPHIC

During a six-week stretch from July to September, the algae is suspected to have killed 360 tonnes of fish. Such a massive die-off in the heart of Europe sparked handwringing and caused officials to ban bathing and fishing for many of the 16 million people who live in the Oder basin. A recent European Union report found the crisis could have been averted with better monitoring of the Oder's water. The event, say experts, is a prime example of why countries need to more closely track the health of their rivers, lakes and aquifers, which are facing mounting pressure from not only pollution but also climate change and biodiversity loss.

"By closely monitoring changes in our water bodies, we can better predict cascading risks and tipping points that lead to disasters," says Head of the United Nations Environment Program's (UNEP's) Marine and Freshwater Branch Leticia Carvalho. "That will help us more sustainably use our precious water resources and head off catastrophes that could affect tens of millions of people". Mrs. Leticia Carvalho's comments came just ahead of the World Water Week Conference in Stockholm, where delegates are expected to discuss how innovation can help countries safeguard water supplies for communities and the increasingly fragile biodiversity that relies on healthy blue ecosystems.

Most of the disasters that afflict humanity are in some way tied to water. Along with severe cases of pollution, those crises include floods, landslides, storms, droughts and wildfires. Shifts in the Earth's hydrological cycle linked to climate change are increasing the frequency and intensity of many of those events, says a UN-convened panel of climate scientists. Since 2000, the number of flood-related disasters has more than doubled and the duration of droughts has jumped almost 30 percent.

In the next 30 years, the number of people at risk from water-related disasters could rise to 1.6 billion from 1.2 billion, according to a 2019 report by the Organization for Economic Cooperation and Development. Experts say that monitoring the state of freshwater bodies brings



As water-related disasters mount, experts push for early warning systems

with it a host of benefits. Along with heading off disasters, like the one in the Oder River, it can help states do everything from track pandemics to better cool nuclear plants. While in recent years, many countries have stepped up efforts to monitor pollution, water levels and a host of other water-related data, huge gaps still remain in both developed and developing countries. This often leaves policymakers without the information they need to make crucial decisions about freshwater resources that support hundreds of millions of people.

For instance, significant information gaps exist on emerging pollutants in water supplies, including so-called “forever chemicals”. This group of human-made substances, found in everything from household cleaning agents to non-stick cookware and which can endure for several thousand years, are linked to cancer, reproductive harm and immune system damage, even at low levels. In many places, there is also a lack of information about the prevalence of potentially dangerous microorganisms and chemicals in pharmaceuticals that can cause health problems in humans. Data derived from satellite imagery, artificial intelligence (AI) and more conventional sources can help countries head off water-related disasters. There is evidence that just 24-hour advance notice for storms and heatwaves, which have been linked to changes in the water cycle, makes a 30 percent difference in loss of life and damage.

Cyclone, typhoon and hurricane early warnings regularly save countless lives. Google, a UNEP partner, recently expanded its AI-enabled flood forecasting platform, Flood Hub, to 60 countries. Data can identify which areas are prone to flooding and droughts and help local and national governments plan for climate adaptation and disaster risk reduction. In the face of climate breakdown all over the world, more countries are investing in multi-hazard early warning systems as a way to adapt to extreme weather. To support these efforts, the United Nations Secretary-General launched a push in 2022 to ensure all people on the planet are covered by early warning systems by 2027. That’s considered especially important in the world’s least-developed countries, less than half of which have access to these systems.

AVERTING POTENTIAL CRISES

Early warnings are a cost-effective way of building resilience at local and national levels, and avoiding severe economic setbacks. In Panama, drought has been threatening to close the Panama Canal, as the lake water needed to operate locks that allow shipping to pass through the canal is becoming depleted. Water data aids planning that can help prevent an economic catastrophe. Data covering water flow, levels and quality gathered by countries and global institutions, such as the World Meteorological Organization, help public authorities manage and protect ecosystems more effectively, as they allow for target-setting, detailed planning and law enforcement. New technology can be an asset: machine learning can help identify likely untreated sewage spills and help water companies identify malfunctioning treatment plants.

Water data can also identify emerging crises in unexpected areas. For example, data on the state of river basins is key to predicting impacts on energy systems. According to the World Meteorological Organization, in 2020, 87 percent of global electricity generated from thermal, nuclear and hydroelectric systems directly depended on water availability. About a quarter of existing and projected hydropower dams are within river basins that have a medium to very high risk of water scarcity.

Water temperature information is also important. Nuclear power stations in France had to reduce output last year when river water got too warm for cooling purposes. Monitoring can also help countries reduce plastic pollution in rivers, which in many places has reached crisis levels. A warning system developed by the UNEP-DHI Centre surveys all major river systems in the world, helping researchers identify pollution hotspots (the data can be accessed through the Global Partnership on Plastic Pollution and Marine Litter (GPML) Data Hub).

Wastewater sampling can also help identify the emergence of diseases. Since microorganisms often pass from humans into water systems, scientists have long used wastewater to track polio. In recent years it was used to detect possible waves of COVID-19. “In the past few years, there has been an explosion of climate and nature-related disasters, but there has also been a data explosion”, says Mrs. Leticia Carvalho. The challenge now is effective water data analysis for policymakers in all countries to help people plan for, adapt to, and mitigate threats to terrestrial and marine ecosystems and promote sustainable development ■

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(Source: *Unep.org*)