



## News

**Wastewater treatment plants – a surprising source of microplastic pollution**

A lot of attention has been drawn recently to microplastics in freshwater and marine environments, and the threat they pose to ecosystems and people's health. The source of microplastics is generally thought to be well known: most plastic items are not recycled or incinerated when they are discarded. Plastic waste therefore ends up in landfill or in our rivers and oceans where it gradually breaks down into smaller and smaller pieces and particles. Microplastics are defined as pieces of plastic 5mm in diameter or less. A new study, however, concludes that treated sewage effluents are also key sources of microplastics – the implication being that wastewater treatment plants are not effective at filtering them out. "The fact that the quantity of microplastics present in receiving waters was greater downstream of each of the six wastewater treatment plants studied confirms that treated sewage effluent is a key source of microplastics," concluded the authors. The study also found microplastics upstream .....[Read more...](#)

**Date:** August 22, 2018**Source:** UN Environment**Air pollution causes 'huge' reduction in intelligence, study reveals**

Air pollution causes a "huge" reduction in intelligence, according to new research, indicating that the damage to society of toxic air is far deeper than the well-known impacts on physical health. The research was conducted in China but is relevant across the world, with 95% of the global population breathing unsafe air. It found that high pollution levels led to significant drops in test scores in language and arithmetic, with the average impact equivalent to having lost a year of the person's education. "Polluted air can cause everyone to reduce their level of education by one year, which is huge," said Xi Chen at Yale School of Public Health in the US, a member of the research team. "But we know the effect is worse for the elderly, especially those over 64, and for men, and for those with low education. If we calculate [the loss] for those, it may be a few years of education." .....[Read more...](#)

**Date:** August 27, 2018**Source:** The Guardian**China is hot spot of ground-level ozone pollution**

"We find that in the most populous urban regions of eastern and central China, there are more than 60 days in a calendar year with surface ozone levels exceeding the Chinese national ozone air quality standard," said Lin Zhang of Peking University, lead author of the study in the current issue of Environmental Science & Technology Letters. "China has become a hot spot of present-day surface ozone pollution," said Owen Cooper, a co-author on the research paper and a CIRES scientist working in NOAA's Chemical Sciences Division. "Human and vegetation exposure in China is greater than in other developed regions of the world with comprehensive ozone monitoring." Many countries regulate ozone because of the damage the pollutant does to plants and people.....[Read more...](#)

**Date:** August 29, 2018**Source:** Science Daily**Most land-based ecosystems worldwide risk 'major transformation' due to climate change**

The researchers used fossil records of global vegetation change that occurred during a period of post-glacial warming to project the magnitude of ecosystem transformations likely in the future under various greenhouse gas emissions scenarios. They found that under a "business as usual" emissions scenario, in which little is done to rein in heat-trapping greenhouse-gas emissions, vegetation changes across the planet's wild landscapes will likely be more far-reaching and disruptive than earlier studies suggested. The changes would threaten global biodiversity and derail vital services that nature provides to humanity, such as water security, carbon storage and recreation, according to study co-author Jonathan Overpeck, dean of the School for Environment and Sustainability at the University of Michigan. ....[Read more...](#)

**Date:** August 30, 2018**Source:** Science Daily**Adapt, move or die: How biodiversity reacted to past climate change**

Nature is reacting to climate change. We see altered behaviour and movement among plants and animals; flowers change flowering period and owls get darker body colour, due to warmer winters. So, how does the future for biodiversity look like? Will plants and animals be able to adjust quickly enough to survive the changing temperatures, precipitation and seasons? Lead-author of a new study Professor David Bravo-Nogues from Center for Macroecology, Evolution and Climate, University of Copenhagen, explains, "We compiled an enormous amount of studies of events, which we know influenced biodiversity during the past million years. It turns out species have been able to survive new conditions in their habitat by changing either their behaviour or body shape. However, the current magnitude and unseen speed of change in nature may push species beyond their ability to adapt." .....[Read more...](#)

**Date:** August 30, 2018**Source:** Science Daily

## NEWSBULLETIN COMMITTEE

**Executive Editor**

Dr. Pankaj Kumar Srivastava

pankajk@nbri.res.in

**Compiled By**

Mr. Sunil Tripathi, Mr. Diwakar Saini, Mrs. Vineeta Yadav

NBRI ENVIS Node: <http://www.nbrienviis.nic.in>NBRI Website: <http://www.nbri.res.in>ENVIS Cell: <http://enviis.nic.in>Ministry of Environment & Forests: <http://envfor.nic.in>

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