

# UNEP YEAR BOOK

EMERGING ISSUES  
IN OUR GLOBAL ENVIRONMENT

## 2014



United Nations Environment Programme



Ten years after the first Year Book in this series appeared a special anniversary edition – the UNEP Year Book 2014 app – presents a fresh look at ten emerging environmental issues highlighted over the past decade.



**[www.unep.org/yearbook/2014](http://www.unep.org/yearbook/2014)**

The UNEP Year Book 2014 is published as an interactive app. Should you, however, wish to receive a hard copy of the publication, please send an email to [year.book@unep.org](mailto:year.book@unep.org)

# UNEP Year Book 2014



## Excess nitrogen in the environment – beyond thresholds

The global nitrogen cycle has been profoundly altered by human activity. Excess nitrogen affects air, water and soil quality, putting pressure on ecosystems and biodiversity and leading to human health risks. New integrated management approaches can limit the environmental impacts of this essential plant nutrient while helping meet demands for food, fibre and fuel.



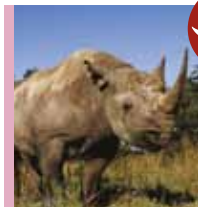
## Re-emergence of infectious diseases – the environmental linkages

Environmental change plays a major role in both the emergence and re-emergence of infectious diseases. While vaccines, antibiotics and pesticides have been the tools of choice in the fight against these diseases, innovative environmental strategies are being developed. Ecosystem- and community-based approaches have proven to be valuable tools.



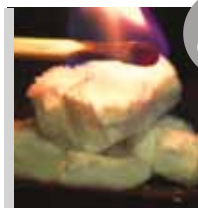
## Marine fish and shellfish farming – farming the sea for sustainable food

Pressures on freshwater and terrestrial ecosystems are increasing, including those related to climate change. Marine aquaculture provides food from the oceans. There has been progress in making marine fish and shellfish farming more sustainable, but environmental concerns remain – reflecting this sector's rapid growth. New approaches are being developed to reduce its environmental impacts.



## Illegal wildlife trade – an emerging issue turning into a crisis

The illegal wildlife trade is more than a potential death sentence for some of the planet's iconic animals. Increasingly governments are recognizing the impact this criminal traffic of wildlife, timber and fish is having on the health of the environment, the stability of economies and the security of communities, regions and countries.



## Methane hydrates – problem or promise?

A vast reservoir of methane is frozen in methane hydrates in ocean sediments along continental margins and in permafrost regions. Natural gas obtained from this source could potentially help meet future energy needs. However, complex challenges need to be met before methane extraction from hydrates can be considered technically feasible and economically and environmentally sustainable.

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## Citizen science – people power

It is the largest research group in the world – and it is growing. Through online websites, out in the neighbourhood or in the field, public participation in scientific research is helping to raise awareness of the environment, increase local interest and inform environmental policies at the community level. Traditional knowledge is finding a new voice thanks to citizen science.



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## Air quality - catching your breath

Air pollution is the world's single largest environmental health risk. Despite its enormous human, environmental and economic costs, it is getting worse, with particular concerns associated with urban areas. Some countries have been successful in reducing emissions of targeted pollutants, but much remains to be done by all countries to meet this transboundary environmental challenge.



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## Plastic debris in the ocean – reducing plastic foot-print

Plastic debris is found in marine ecosystems worldwide, including in the polar regions. Fragments of plastic – including very small ones called microplastics – can accumulate and distribute chemical contaminants. Efforts to stem flows of plastic to the environment need to be part of comprehensive efforts to improve waste management at sea and on land.



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## Soil carbon benefits – getting down to Earth

Over twice the amount of carbon in the atmosphere is stored in the top metre of the world's soils. Because soil carbon has a central role in many ecosystem services, its good management can help meet challenges including food and energy security, water availability and quality, climate change adaptation and mitigation, and biodiversity conservation.



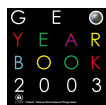
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## Rapid changes in the Arctic – searching for responses

The Arctic is more closely connected to the rest of the world than ever before. Accompanying losses of sea ice and unique biodiversity, and other impacts of global warming, new opportunities exist for economic development. However, urgent responses are needed to slow the pace of change in this fragile region and increase its resilience.

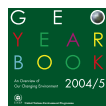


# UNEP Year Book series



## Year Book 2003

- 2003 Overview:
- Feature Focus: Freshwater
- Emerging Challenges - New findings
- GEO Indicators



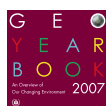
## Year Book 2004/5

- 2004 Overview
- Feature Focus: Gender, Poverty and Environment
- Emerging Challenges - New findings
- GEO Indicators



## Year Book 2006

- 2005 Overview
- Feature Focus: Energy and Air Pollution Challenge
- Emerging Challenges - New findings
- GEO Indicators



## Year Book 2007

- 2006 Overview
- Feature Focus: Environment and globalization: Minimizing risks, seizing opportunities
- Emerging Challenges - Nanotechnology and the environment
- GEO Indicators



## Year Book 2008

- Global Overview
- Feature Focus: Putting the Pieces Together: Using Markets and Finance to Fight Climate Change
- Emerging Challenges - Methane from the Arctic



## Year Book 2009

- Ecosystem Management
- Harmful Substances and Hazardous Waste
- Climate Change
- Disasters and Conflicts
- Resource Efficiency
- Environmental Governance



## Year Book 2010

- Ecosystem Management
- Harmful Substances and Hazardous Waste
- Climate Change
- Disasters and Conflicts
- Resource Efficiency
- Environmental Governance



## Year Book 2011

- Events and Developments
- Plastic Debris in the Ocean
- Phosphorus and Food Production
- Emerging Perspectives on Forest Biodiversity
- Key Environment Indicators



## Year Book 2012

- Year in Review
- Benefits of Soil Carbon
- Nuclear Decommissioning
- Key Environmental Indicators

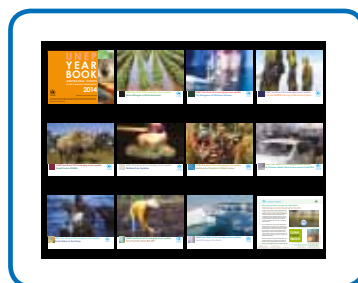


## Year Book 2013

- Year in Review
- Rapid Change in the Arctic
- Minimizing Chemical Risks
- Key Environmental Indicators

The UNEP Year Book 2014 takes advantage of the latest technology, providing a multi-media experience that helps illustrate the environmental challenges we face today and some of the innovative solutions that have been created to solve those challenges. Videos, animations, data visualization and stunning images from around the world help tell the stories. The publication can be downloaded on iPads and Android tablets. UNEP Year Book 2014 can be also accessed through UNEP Live ([www.unep.org/uneplive](http://www.unep.org/uneplive)).

## Digital UNEP Year Book 2014 for iPad and Android



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