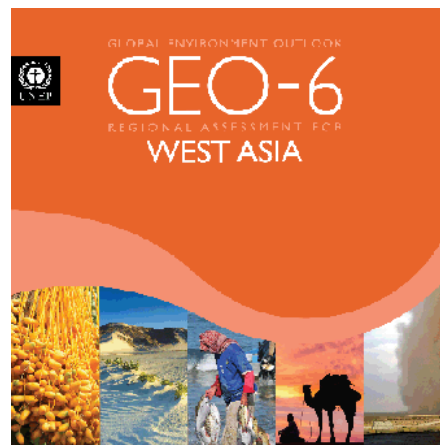
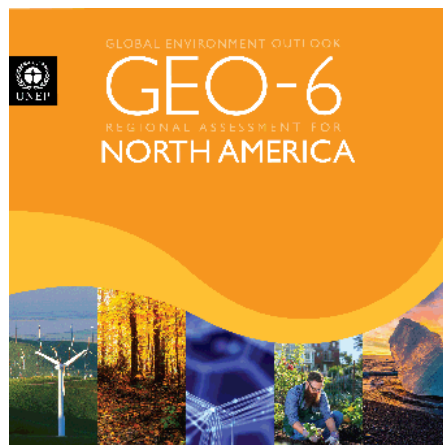
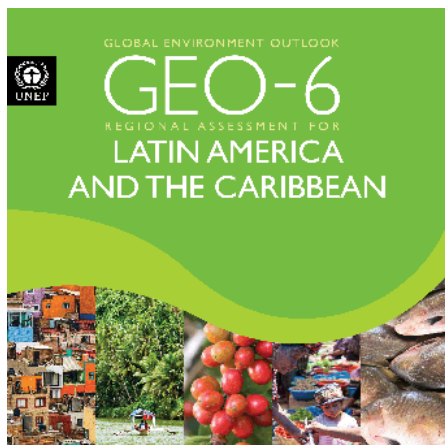
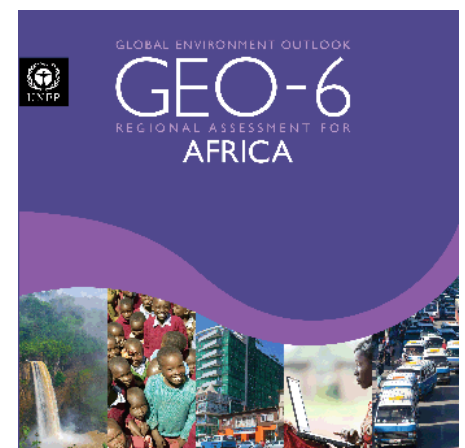
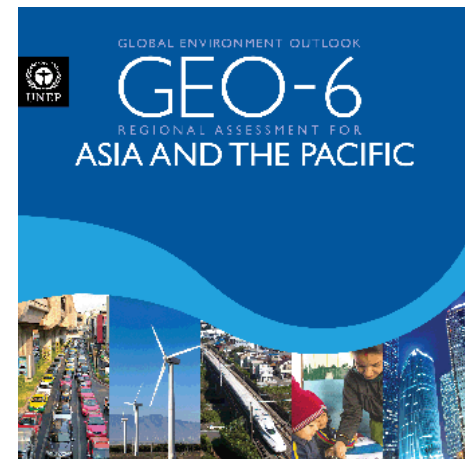




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Regional Assessments Selected findings on pollution





Pollution themes

1. **Air pollution**, including sand and dust storms
2. **Marine pollution**,
3. **Fresh water pollution**, including nutrients pollution
4. **Chemicals** including toxic substances and contamination relating to industrial accidents
5. **Waste** including electronics and radioactive waste, micro plastic in marine environment, food waste and land contamination



Air Pollution:

- West Asia, Africa: **sand and dust storms**, mineral dust,
- Africa: **indoor air pollution** high, outdoor increasing
- North America: **air quality improvement** – between 1970 and 2013, **68% reduction in six air pollutants**
- Asia Pacific: improvement in SO_2 and NO_x , but increasing **particulate matter** and **ozone** levels
- Europe: air pollution is the region's **largest health risk**



Marine Pollution:

1. Africa: **pollution from land-based sources** and coastal activities, especially cities
2. Asia Pacific, North America: **marine debris**, particularly plastic, and **nutrient enrichment**
3. West Asia: **oil spills** – 20% mangroves and 50% of coral reefs affected by spill off the east coast of Saudi Arabia
4. Latin America and the Caribbean, Europe: after the Mediterranean, the Caribbean sea is **most-plastic contaminated** sea



Fresh Water Pollution:

- Africa, Asia Pacific: poor **sanitation**, discharge of **contaminants**, **wetlands destruction**
- West Asia: sea water intrusion, **salanisation**
- Asia Pacific, Europe, North America: **nutrients** – in North America 85% from non-point sources
- Latin America and the Caribbean: **waste water** and **nutrients** are by far the major pollutants; in addition, heavy metals, pharmaceuticals and other chemicals
- Europe: **ground water pollution**



Chemicals:

- Persistent Organic Pollutants
- Organochlorines, pesticides
- Brominated flame retardants
- Pharmaceuticals
- Endocrine disruptors
- Microplastics
- Personal care products
- Nano-materials
- New chemicals



Waste:

- Africa: poor management **dumpsites, hazardous wastes, waste burning**
- West Asia, Asia Pacific: **rising waste generation** – 870 million tonnes municipal solid waste in 2014, 43% of world total
- Europe, Asia Pacific: new and complex waste streams – **food waste, e-waste, disaster waste**



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Thank you

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