

The GEO-4 Assessment

GEO-4 aims to provide a comprehensive, reliable and scientifically credible, policy-relevant, up-to-date assessment of, and outlook for, the state of the global environment

GEO-4 Background

The Global Environment Outlook process has over the years produced a series of global integrated environmental assessments aimed at providing comprehensive, reliable and scientifically credible, policy-relevant assessments on the interaction between environment and society.

In line with its core mandate of "keeping the global environment under review," UNEP has coordinated a series of extensive consultative and participatory processes which have led to the production of three volumes of the comprehensive *Global Environment Outlook (GEO)* report: *GEO-1* in 1997; *GEO-2000* (GEO-2) in 1999 and; *GEO-3* in 2002 prior to the World Summit on Sustainable Development (WSSD). The consultative processes for the design of *GEO-4* began in 2003.

GEO-4 is the first of the GEO series of comprehensive reports to enter into a five-year production cycle. The UNEP Governing Council decisions 22/1/1B extended the interval between the comprehensive Global Environment Outlook reports from two to five years and requested the fourth report to be published in 2007.

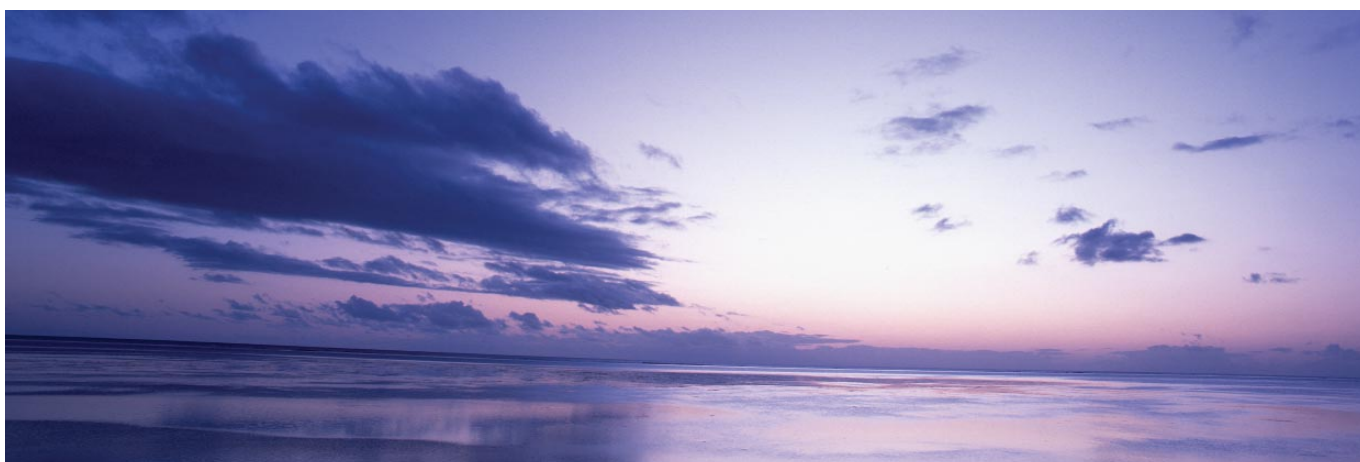
GEO-4: Objective, scope and outline

Objective

To provide a global, comprehensive, reliable and scientifically credible, policy-relevant and legitimate assessment of and outlook on the interaction between environment and society.

Scope

- (a) Present global and regional issues in the context of the development of international environmental governance and its relation to the Millennium Development Goals and targets since the World Commission on Sustainable Development (the Brundtland Commission, 1987), *inter alia* in the Rio Declaration, Agenda 21, the Millennium Declaration, the Johannesburg Declaration and Plan of Implementation and relevant environmental global and regional instruments.
- (b) Assess the state-and-trends of the global environment in relation to previous GEO reports, analysing human drivers and pressures, and the impact of natural phenomena on the environment, the consequences of environmental change for ecosystem services and human well-being, progress and barriers towards meeting commitments under multilateral environmental agreements, and the effectiveness of policy responses.
- (c) Assess interlinkages between major environmental challenges and their consequences for policy and technology response options, and trade-offs, identifying success stories and lessons learned. It will also assess opportunities for technology and policy interventions for both mitigating and adapting to environmental change.
- (d) Assess challenges and opportunities of certain key cross-cutting issues, particularly as they relate to how environment can contribute to the sustainable development goals and targets, and how environmental degradation can impede progress towards those targets, focusing on vulnerable groups, species, ecosystems and areas.
- (e) Present a global and sub-global outlook, including short-term (up to 2015) and medium-term (up to 2050) scenarios for the major environmental issues and possible policy responses, using examples from global, regional and local level wherever possible and appropriate.



Keeping the global environment under review

Outline

The GEO-4 assessment report is comprised of 5 sections consisting of 10 chapters.

Section A. Overview

The GEO-4 Overview Section has three distinct sub-sections – **Introduction, Summary for Decision Makers and Chapter 1: Environment for Development.** The sections provide an overview of the process, the main findings of the report as well as drivers and pressures contributing to environmental change and their impact on human well-being.

Section B. State of the Environment: 1987 – 2007

The section contains an integrated analysis of the state-and-trends in the four major themes (air, land, water, and biodiversity) (**Chapters 2 to 5**) and regionally significant environmental issues (**Chapter 6**) over the past 20 years. These four themes will also integrate sub-themes on agriculture, forests, coastal and marine areas, chemicals, nitrogen and urban areas, providing among others, both global and regional examples.

Section C. Environmental Change – Human Dimensions

Interlinkages

Chapter 7 assesses interlinkages between major environmental challenges and their consequences for policy and technology response options and trade-offs, identifying success stories and lessons learned, and assessing opportunities for technology and policy interventions for both mitigating and adapting to environmental change.



Challenges and Opportunities

Chapter 8 assesses challenges and opportunities by focusing on certain key cross-cutting issues and how environment can contribute to the sustainable development goals and targets, and how environmental degradation can impede progress towards those targets, with a focus on vulnerable groups, ecosystems and locations.

Section D. The Outlook – Towards 2015 and beyond

Chapter 9 *The Future Today*. Using the content and findings of Section B and C as a starting point, it describes a number of plausible short-term (up to year 2015) and medium-term (up to year 2050) and some long-term (up to 2100) scenarios of major different societal pathways and their consequences for the interaction between environment and society at the global level with regional examples.

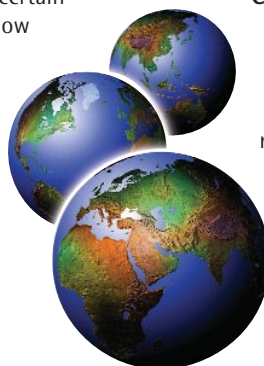
Section E. Environment for Development: Our Common Future

Chapter 10 Policy Options.

Synthesizes the overall policy-relevant findings and conclusions of the GEO-4 assessment, and assesses the state of knowledge regarding the effectiveness of different approaches to overarching environmental policies.

GEO-4 Related Specialist Reports

- (a) Summary for Decision-Makers;
- (b) Human Well-Being technical report
- (c) Capacity Building Resource Book includes GEO-4 methodologies and analytical approaches to support capacity building for the development of national level reports.





Chapter Development and Peer Review

Chapter Development

To ensure scientific credibility and independence, the assessment is being carried out by Chapter Expert Groups assigned with assessing a specific set of issues within the overall outline of GEO-4. The groups consist of coordinating lead and contributing authors.

Experts are chosen on the basis of merit, paying particular attention to the need for ensuring a balanced geographical and gender representation.

Chapter group outputs are subject to an extensive expert and government peer review.

Peer review process

Scientific and policy review has always been a key component of the Global Environment Outlook (GEO) process, involving many stakeholders in and outside government structures. GEO-4 review will take different forms - informal and non-official, and formal and official to include formal regional and global review consultation meetings and targeted expert review and input.

Guidance and Support

High Level Consultative Group

A regionally and gender-balanced consultative group provides high level guidance to the process. The High Level Consultative Group is comprised of senior government policy makers, funding partners, scientists and academics as well as representatives of Multilateral Environmental Agreements, international organizations, the private sector, Collaborating Centres (CCs), and civil society. The High Level Consultative Group provides strategic advice on collaborative aspects of the GEO-4 process as well as its

contribution to the wider initiatives on strengthening the scientific base of UNEP, the Environment Watch System, capacity building, outreach and strategic engagement. The Consultative Group's mandate runs until the completion of the GEO-4 publishing and launch process in December 2007.

Collaboration and Partnership

A long-standing network of GEO Collaborating Centres with regional mandates or with specialized thematic expertise is at the core of the GEO process. They engage stakeholders at different levels and provide specific inputs to the assessment process such as research and drafting inputs, scenario development, capacity building, data and information and outreach and engagement.

UNEP works closely with its network of collaborating centres (CCs) and other partners, including chapter and thematic working groups, UN agencies, the private sector, civil society, including indigenous groups to undertake the assessment and its support activities in full consultation with UNEP Regional offices.

Implementation Support

There are a number of key implementation mechanisms that support and advance the GEO-4 process in different ways:

Outreach and Engagement

The key to ensuring that GEO-4 is policy relevant and legitimate is to strengthen the interaction between science and policy making. A well functioning interaction helps define policy challenges and opportunities as well as research priorities. Building strong ownership of the report and its findings by involving the media and private sector, and connecting to global networks is the role of Outreach and Engagement.

An Outreach Working Group (OWG), with specialists from the fields of marketing and communication, science, education and technology, has been formed to support and advise UNEP DEWA in its outreach and engagement activities.



Roadmap to GEO-4

Consultative Process on Strengthening the Scientific Base of UNEP – The Science Initiative, February 2004

Recommended:

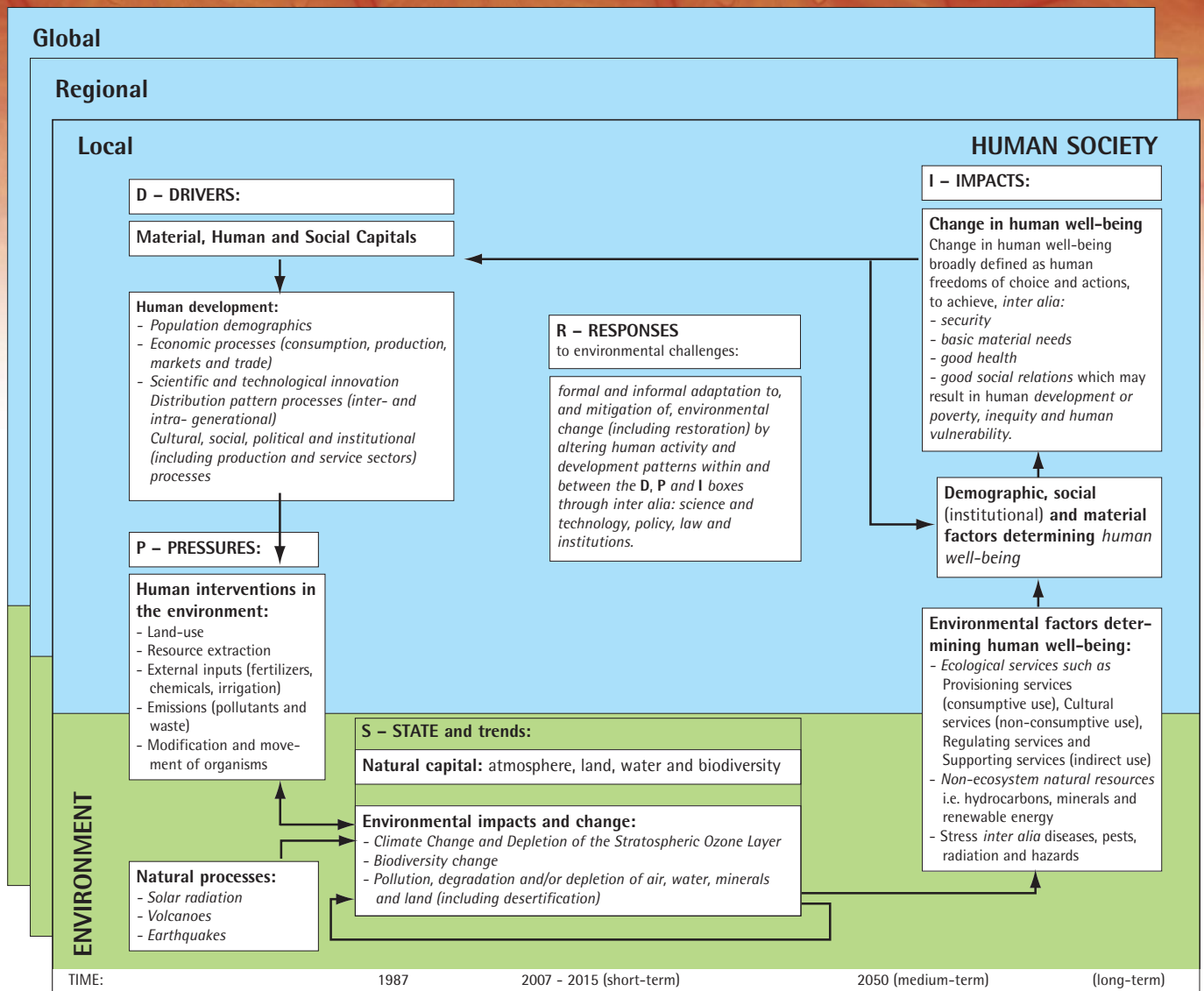
- Continued assessment of current environmental challenges and identification of new and emerging issues.
- Inclusion of interlinkages assessment, including environmental and development challenges interlinked through complex interactions between human society and the natural environment.
- Stronger linkages between science and policy
- Stronger analysis of the direct, indirect and opportunity costs of environmental degradation in relation to social and economic planning.
- Greater involvement of developing-country scientists and research institutions.

Initial Design Meeting, Nairobi (June 2004)	The initial design meeting developed a first draft outline of the GEO-4 and recommended that: <ul style="list-style-type: none"> • The report of the Brundtland Commission "Our Common Future" (1987) serves as the starting point for the assessment. • GEO-4 should relate to the existing environmental goals and targets and assess to what extent these targets have been met. • The DPSIR analytical framework should be enriched by other approaches such as vulnerability considerations.
Regional Ad Hoc Expert Consultations (September-October 2004)	For the first time in a comprehensive GEO report cycle, a series of Ad-hoc Regional Expert Consultations were held in Africa, Asia and the Pacific, Europe, Latin America and the Caribbean, North America and West Asia. The regions suggested that: <ul style="list-style-type: none"> • GEO-4 should be strongly action-oriented, identifying how to achieve environmental goals and targets. • A new section be included on policy analysis, showing successful examples of environmental management that could be replicated. • A new section be included on cross-cutting issues relating to human well-being; trade and economics; health; water; monitoring and reporting; governance and civil society; sectoral issues; technology; and transboundary issues. • There should be increased stakeholder involvement in the production of the GEO products, to encourage ownership, and improve relevance and utility.
2nd design meeting in Nanyuki, Kenya, in November 2004	Over 70 representatives from GEO Collaborating Centres, other UN organizations and UNEP participated. Meeting outcomes included: <ul style="list-style-type: none"> • A draft overall story line and recommendations regarding the scope, key questions to be answered and process for the different sections of GEO-4. • A mechanism for ensuring continuity and linkages between chapters, outreach, strengthening of the scientific advisory aspects of the process, and the peer review process.
The Global Intergovernmental and Multi-Stakeholder Consultation (February 2005)	Another first for the comprehensive GEO report cycle was the convening of a Global Intergovernmental and Multi-Stakeholder Consultation aimed at informing governments and stakeholders on the preparatory work related to the design of GEO-4 and to ensure that the assessment is responsive to policy makers needs. The consultation represented the culmination of the GEO-4 design process, and presented the UNEP Executive Director with: <ul style="list-style-type: none"> • A statement with a clear set of conclusions and recommendations on the GEO-4 objective, process, scope, overarching outline and key questions to be considered. These conclusions and recommendations are a key guide to the experts undertaking the assessment.
Multilateral Environmental Agreement Secretariat (MEA) Consultations	A key activity for UNEP in the preparation of GEO-4 is the creation of synergies with Multilateral Environmental Agreements (MEAs). UNEP Divisions - DEWA and Division of Environmental Conventions (DEC) consulted with a number of MEA secretariats to strengthen synergy and collaboration, in policy analysis.
Expert and Partner Consultations	In parallel with the main design meetings, a series of more informal expert and partner consultations have taken place to support the GEO-4 process: <ul style="list-style-type: none"> • Consultations took place with several international organizations on their participation in the GEO process, including FAO, UNESCO, WMO, OECD and the European Environment Agency, among others. • An Expert Group Meeting on human well-being, environmental valuation, equity, governance and related indicators was held to agree on key elements that underpin the GEO-4 report.
Future Consultations: Regional Global Intergovernmental and Multi-stakeholder	<ul style="list-style-type: none"> • Further consultations and networking in the regions to review the 1st GEO-4 draft provides additional data and information to strengthen the report. • Another global intergovernmental and multistakeholder consultation is expected to be held in 2007 to present the progress and findings of the GEO-4 report.
GEOForum September 2007	<ul style="list-style-type: none"> • A multistakeholder platform for outreach, participation and dialogue on the findings of the GEO-4 Report.

GEO-4 PRODUCTION SCHEDULE AND RELATED EVENTS

Date / timing	Activity / Outputs
2006	
March 6 - 10	Second production and authors' meeting
May - July	Regional consultations on Draft 1 of GEO-4
July 15	Deadline for submission of comments / recommendations from regional consultations to UNEP
August 15	Database of collated comments available to authors
September 9	Deadline for CLAs* to submit draft responses to review comments on GEO-4 to UNEP
September 10 - 22	Individual chapter meetings to revise chapters based on review comments on Draft 1 and finalize responses to review comments
September 18 - 20	Chapter 10 meeting to revise chapter (3 days) and 1st High-level consultative group (2 days)
September 29	Deadline for submission of Draft 2 from chapter CLAs to UNEP
October 2	Draft 2 circulated for internal review by UNEP and CREs*
October 2 - 23	Internal review period for Draft 2 of GEO-4
October 23	Deadline for submission of internal review comments on Draft 2 to UNEP
November 1	Database of collated comments on GEO-4 available to authors
November 13	Deadline for CLAs to submit draft responses to review comments on GEO-4 to UNEP
November 13 -17	Final production and authors - meeting
November 30	Deadline for submission of Final Draft of GEO-4 from chapter CLAs to UNEP
December 1	Draft 0 SDM circulated for internal review by CLAs, LAs, UNEP and High-level consultative group
December	Editing Begins
2007	
January - February	Continued editing and final check by CLAs
January 12	Deadline for submission of internal review comments on Draft 0 of SDM * to UNEP
January 19	Database of collated comments on draft 0 SDM available to authors
February	Progress Report to UNEP GC 24
February 14	Finalization of draft 1 SDM
February 15	Invitations to GEO-forum meeting and advanced alert SDM review sent out to governments and stakeholders
February 28	Formatted draft 1 of SDM sent out for peer review
March - April	External review period for SDM
March - July	Layout, translation and printing
April 30	Deadline for submission of review comments on Draft 1 of SDM to UNEP
May 15	Database for collated comments available for CLAs and High-level consultative group
May 21 - 25	2nd High-level consultative group and CLA meeting to prepare final draft SDM
June 30	Deadline for finalization of final draft SDM
August 1	Deadline for printed GEO-4 report and draft SDM in all UN languages
August 10	Printed English version of GEO-4 report and final draft of SDM in all UN languages circulated to governments and stakeholders
September 17 - 21	Intergovernmental and multistakeholder consultation (GEOForum) to consider GEO-4 findings and approve SDM
September 21	High level panel debate on WCED + 20 and GEO-4 findings
October 9-10	GEO-4 Launch and seminars in all regions
2008	
February	Consideration of GEO 4 by the tenth Special Session of UNEP GC/GMEF

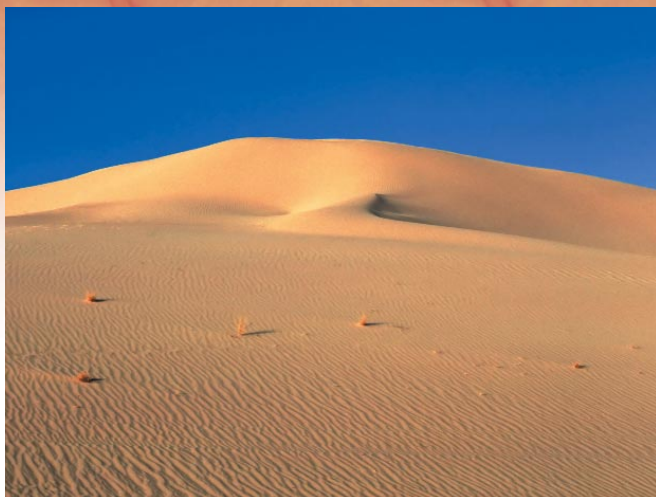
*CLA = Coordinating Lead Authors *LAs = Lead Authors *CRE = Chapter Review Editors *SDM = Summary for Decision Makers *GC = Governing Council



The DPSIR framework is used to assess and manage environmental problems. **Drivers** are the socio-economic and socio-cultural forces driving human activities, which increase or mitigate pressures on the environment. **Pressures** are the stresses that human activities place on the environment. **State**, or state of the environment, is the condition of the environment. **Impacts** are the effects of environmental degradation. **Responses** refer to the responses by society to the environmental situation.



Capacity building has been at the heart of the GEO process since its inception



Capacity building

Capacity building has been at the heart of the GEO process since its inception in 1995. Capacity building achieved through active participation of developing country experts in GEO-4 as well as hands-on support to governments to produce sub-global reports is supported by:

- (a) development and promotion of the use of integrated assessment tools and methodologies, GEO-4 modular resource book;
- (b) training and workshops;
- (c) networking and partnerships; and
- (d) GEO Fellowships awarded to students to work with the GEO process.

A Capacity Building Working Group supports, advises and guides GEO capacity building activities.

Data

Further development of the GEO data component is closely linked to establishing/strengthening cooperation with new/existing authoritative data providers around the world, focusing on new data and indicators that have become available and are relevant for GEO(-4). Promoting active participation of developing country experts and developing GEO data facilities in developing regions is an important component of the activity. It is supported by:



- (a) Updating the GEO Data Portal, to include the latest data, trends and indicators, mainly for use in GEO-4 Section B on the State of the Environment, and linking to the Outlook component in Section D;
- (b) developing specific regional GEO Data Portals in developing regions and promoting the use of such tools in GEO and related (sub-)regional integrated assessments;
- (c) developing guidelines, methodological and training materials;
- (d) training and workshops, connected to the Capacity Building component of GEO-4. The Bali Strategic Plan for Technology Support and Capacity Building is a key policy instrument in this regard;

- (e) networking and partnerships among global and regional data providers and users in UNEP, the UN and beyond.

The GEO Data Working Group supports and guides the GEO data component during the production of GEO-4 with the main focus on applicable, harmonized and up-to-date data tools, proper use of indicators, strengthening data capacities in developing regions, filling existing and identifying emerging data gaps, and improving data quality assurance and control.



Global and regional GEO Data Portals

<http://geodata.grid.unep.org>

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