Global Terrestrial Observing System

Report of the Coordination and Implementation Meeting

12-15 May 1997, Rome, Italy

GTOS - 8

Contents

Coordination and Implementation Meeting

12-15 May 1997, Rome, Italy

Meeting Report

The GTOS Coordination and Implementation meeting was held in Rome, on 12-15 May 1997. It was hosted by FAO and chaired by Dr. Michael Glantz, chairman of the GTOS Steering Committee.

I. Opening of the Meeting

The chairman welcomed the participants (see attachment I) and reviewed the agenda (see attachment II). He explained that the main purpose was to discuss the preliminary draft of the Implementation Plan, and to provide comments and suggestions for its finalization.

The draft Implementation Plan was introduced by Michael Gwynne, who prepared it on the basis of the GTOS Planning Group Report and the first meeting of the GTOS Steering Committee, December 1996, Rome. He stressed that, although we have the Planning Group Report, there are many conceptual issues that still need to be defined, e.g. what is GTOS about, what are its priority areas, which activities have to be undertaken in order to make GTOS operational. He suggested that a first priority should be to get existing monitoring networks involved with GTOS, in order to have stations in the field working on specific data requirements. A fundamental requirement is to set up an operational secretariat, with sufficient staffing and resources to provide continuity and efficiency to GTOS activities.

II. Implementation Plan

The programme proposed by the draft Implementation Plan is in three main phases:

- Short-term (1997): preparatory phase
- Medium-term (1998-99): establishment phase
- Long-term (beyond 2000): operational phase

The main activities of the *preparatory phase* would be to include the technical definition and the design framework for its operation. In this phase, the priorities of GTOS should be to: establish a working Secretariat and obtain secure funding; define a plan and a strategy; establish its boundaries in scope and operation; and prepare

backgound documents about the concept of GTOS and the value-added that it would bring to the users.

The *establishment phase* would aim to incorporate suitable existing observing systems into the GTOS framework. This would involve identifying a few existing international networks that share the GTOS objectives and which could form the core if they were brought together.

During the *operational phase*, action would be directed towards the gradual implementation of the on-going programme, the production of a range of outputs, continued evaluation and improvement of the programme, and establishing a GTOS identity.

It was agreed that Michael Gwynne would revise the preliminary draft of the Implementation Plan, taking into consideration the results of the discussion during this meeting and incorporating the comments and suggestions of the Steering Committee members not present at the meeting. A revised draft would be circulated by mid-August 1997 to the Steering Committee and Co-sponsors.

i. Outline for the GTOS Plan

It was agreed that the document would be a *GTOS Plan* rather than an Implementation Plan. This will allow broader treatment of some of the issues addressed. Anthony Janetos proposed an overall outline (see attachment III), including the changes suggested by the group and the main results of the discussion.

Many elements of the plan were revised and some were eliminated. The plan would maintain *three main phases*, but the tasks for the near and medium term (1997-1999) would be more detailed and divided into specific categories, while the last phase ("GTOS in the 21st century") will consist of text on the long-term objectives.

The group proposed to have as *appendices* a short history of GTOS, as well as of GCOS and GOOS, and the Executive Summary of the Planning Group Report.

ii. What is GTOS?

Discussion on what GTOS is and what it should be arose during the meeting. Some participants noted that while GCOS and GOOS have focus with regard to target interests (respectively climate and ocean), GTOS is *land* and covers many more issues: land-use planning, land degradation, ecosystems, freshwater availability, biodiversity, coastal zones, socio-economics aspects, etc.

There is therefore an urgent need to select *priority areas* to get started, even though there are legitimate issues in which GTOS could and should be involved with. It was agreed that the GTOS Plan has to define a sharp and realistic strategy, so that GTOS can be less abstract and more focus, providing examples and products.

It was agreed that a clear *vision statement* is needed, based on the Planning Group Report, explaining what GTOS is, what it will become and how it will be implemented. It should appear in the first page of the GTOS Plan, as well as on the overheads, brochure and other GTOS documents. It needs also to be emphasized that GTOS is an international endeavour. There was some concern about the wording in the draft Plan: we have to be positive, we should not promise what we cannot do, or give the impression that GTOS is already up and running.

It was stressed during the discussion that the *main principles* needed for GTOS are: data quality assurance; data ownership and distribution; harmonization of methods and compatibility; governance; value-added; data use; identification of gaps. It was agreed that Bernard Tinker would draw up draft principles and circulate them to the Steering Committee and the Co-sponsors.

The group agreed that GTOS should not undertake *early warning* per se - although it is suggested in the Planning Group Report - but rather provide Early Warning Systems with reliable information and/or data since they are an important user group.

iii. Potential Users

The discussion addressed *users*, who have not yet been consulted but are essential to GTOS: who are they, what are their needs, how can they benefit from GTOS? It was recalled that the environmental conventions are important users of GTOS information. GTOS should also focus on the information needs of governments, especially in developing countries, so that they can meet their obligations to the conventions. Work on indicators and indices related to visible issues is one way to focus the attention of users.

There is a number of specific issues to address with regards to the users:

- identify potential users (including the private sector);
- identify the customers that could have the ability to support GTOS activities;
- identify the users needs;
- define the GTOS benefits and added-value;
- present relevant and focused activities to governments.

iv. Networks

Although the draft Plan is consistent with the Planning Group Report, it is a stand-alone document. It was suggested that GTOS could start without full agreement on a core set of variables and site selection criteria, in order to focus immediately on a high priority, i.e. to get existing monitoring networks working together. A list should be prepared of the most likely existing observation networks (not more than 50). From this, not more than six should be chosen for initial contact in the first three years phase of GTOS (1997-1999). At least two of them should be involved with GTOS in 1998. The choice should preferably be among the larger networks with a wide geographical spread rather than smaller networks involving few countries.

This activity was referred to by the group as the *Prototype Network*. It was agreed that to start, the following activities would be needed:

- identify and contact potential collaborating networks;
- identify the goals of the Network;
- set up a Network Panel;
- define criteria for the Networks participation;
- identify potential goals of Prototype Network case studies.

An initial list of about 50 networks would be developed and serve to identify *candidates* for the Prototype Network. GTOS has to be consistent in its choice, according to the criteria identified and to the priority areas defined for the first phase of implementation. Therefore a network may not necessarily be selected, even if its activities may be relevant to GTOS.

The Prototype Network would have five substantive *goals*: create a learning environment; comparison of methods; sharing and exchange of data of interest to GTOS; sharing and exchange of data of interest to the networks; documentation of results.

The Prototype Network would be guided by a *Network Panel*, which would be a sub-committee of the Steering Committee, initially composed of a few members of the Steering Committee, and would then include representatives of participating networks. The Secretariat will prepare draft Terms of Reference and circulate them first to the group, then through the list server.

The *criteria* for the selection of the networks would be based on specific requirements, such as technical experience and international interest, active data gathering, relevance to one of the GTOS priority areas, coverage of data-poor geographic regions, elements of functional complementarity, expectation of continuity, and extent of areal coverage.

Case studies could document the role and function of the participating networks, the measurement methods used, the direct and modeling use of monitoring data, data gaps and approaches to filling them, and upscaling issues.

There was discussion with regards to the message that GTOS should present to the *GCOS/GTOS meeting of the representatives of the major networks*, which will be held in *Bilbao*, Spain, 17-20 June 1997. The basic objective of this meeting is to get advice from the networks themselves on the best way to proceed to form an international network serving GTOS and GCOS purposes. It was agreed that a three page outline would be prepared and sent to the Steering Committee for comments before the Bilbao meeting. This outline would provide a brief overview on GTOS, clearly stating GTOS objectives, and a general presentation on the Prototype Network.

v. Intergovernmental Mechanism

Considering that the support of governments is essential to the success of GTOS, it was suggested in the draft Implementation Plan to set up an intergovernmental mechanism, in order to facilitate the communication with them. There was some concern expressed about this process. The group agreed that GTOS needs to establish contacts with governments, but that establishing an intergovernmental mechanism could be time consuming and inefficient.

There was also discussion whether GTOS has an international mandate from countries as is the case with GCOS and GOOS. The Co-sponsors explained that there is an implicit mandate from their respective governing bodies. It was suggested that this issue could be discussed at the Sponsors Group meeting in September, Geneva.

vi. Secretariat and Co-sponsors

The GTOS Plan was accepted as the background authority for the activities of the Secretariat in 1997. Timing is critical, and the Secretariat is expected to prepare by the end of 1997 specified background and approach documents about the concept of GTOS and the benefits that it would bring to countries, to agencies and organizations, and to science.

The need for a strengthened Secretariat was unanimously endorsed. The group called on the Co-sponsors to provide additional support for the Secretariat. The Co-sponsors responded that, at present, they would be unable to increase their contribution to the Trust Fund. They pointed out that the efforts towards fund raising is a joint task of the Co-sponsors, the Steering Committee members and the Secretariat, and that specific project proposals should be formulated. FAO proposed to explore the possibility of recruiting scientific officers for the Secretariat through its Academic Exchange Programme. Terms of Reference would be prepared by the Secretariat for two scientific officers.

Follow-up actions:

- Secretariat to draft a GTOS Vision Statement and to circulate it to the Steering Committee and Co-sponsors for their comments.
- Bernard Tinker to draw up draft GTOS principles and circulate them to the Steering Committee and Co-sponsors for their comments.
- Secretariat to prepare draft Terms of Reference for the Network Panel and to circulate them to the participants of the meeting, then to all the Steering Committee members.
- Secretariat to prepare a three pages outline for the GCOS/GTOS meeting of the Representatives of the Major Networks in Bilbao, and to send it to the Steering Committee and Co-sponsors for review. This outline should provide a brief overview of GTOS and a general presentation of the Prototype Network.

- Secretariat to prepare Terms of Reference for two scientific officers and to circulate them to the Steering Committee and the Co-sponsors for their comments.

- Michael Gwynne to provide the Steering Committee and Co-sponsors with a revised draft of the GTOS Plan by mid-August 1997, incorporating the comments and suggestions made by the participants of this meeting and the Steering Committee members not present.

III. Update and Review of GTOS Activities

The Secretariat presented briefly the activities undertaken the last months, which were mainly the follow-up actions as described in the report of the first Steering Committee meeting.

i. Overheads and Brochure

A draft set of overheads was presented to the group for review. It was agreed that the opening slide would contain the vision statement of GTOS. The objectives were revised and reworded in more explicit and concise sentences. The graphics in relation to the GTOS structure, the joint panels and the tier sampling hierarchy were to be revised. It was suggested to use a diagram graphic for the joint panels and activities between the three observing systems. The Secretariat was asked to prepare a new set of overheads to send to the Chairman for his review before the final printing. Overheads would also be prepared in 35 mm slide format. Sets of both overheads and slides would be made available to all Steering Committee members.

A draft brochure was presented. It was agreed that the brochure would be based on the text in the overheads, and that users should be mentioned. It was suggested to turn the five key questions into examples.

There was also need for overheads and a brochure in other languages (e.g. french and spanish). This should be taken up immediately following the finalization of the english version.

Follow-up actions:

- Secretariat to revise the overheads and the brochure and to send a draft to the Chairman before the final printing.

- Secretariat to arrange reproduction and distribution of overheads and brochure.

IV. Programme Support

The Secretariat presented draft project proposals on the support to the Terrestrial Ecosystem Monitoring Sites (TEMS) database, on the identification of users requirements, and on support to the Secretariat. The question was raised as to: who are the potential donors? How can we convince them to support a proposal? It was suggested to reduce the costs of the proposals, either by reviewing the objectives or by breaking them into smaller parts.

It was agreed that proposals be sent to Steering Committee members for their comments. The group recommended to follow a strategy in generating proposals, that is in line with the GTOS Plan and that demonstrates some substantive and coherent progress in implementing GTOS.

i. Support for the Assessment and Development of Users Requirements

This project would develop a prioritized list of the long-term observational requirements based on consultation with policy makers, planners and scientists. These requirements would be developed according to the five GTOS priority issues: water resource management; land use change, land degradation and ecosystems; climate change; loss of biodiversity; and pollution and toxicity.

The proposal was seen as a high priority for GTOS that would allow the programme to focus on specific activities and be justified to developing countries by explaining how it can assist them and what it will provide. It was agreed the proposal should be linked with the Prototype Network and cover the activities described in the GTOS Plan as well as in the document, *GTOS and the Conventions*. The section on "potential users" of the GTOS Plan should be included as well as focus on the international and regional levels rather than national.

ii. Support to the Terrestrial Ecosystem Monitoring Sites (TEMS) Meta-database

The objectives suggested for this project proposal are to: expand the number of registered terrestrial monitoring sites, update the content and quality of existing data, introduce a pc-based version of the database, incorporate new features and make the Internet access more robust, transfer of the Oracle-based TEMS meta-database from the Swiss Federal Institute for Forest, Snow and Landscape Research (WSL) to FAO headquarters, and promote the use of TEMS among scientists and policy analysts.

There was an inquiry whether TEMS needed to be located in FAO, as opposed to, for example, a developing country. The group agreed that there is a need to review the TEMS strategy before updating the database, and evaluate its benefits. The questionnaire - sent to sites and networks during the Planning Phase of GTOS - should be reviewed as well. Too much information is requested and it is not clear what sites gain by joining the meta-database.

iii. Scientific and Technical Support to the Secretariat of GTOS

This proposal would provide scientific and technical support to the GTOS Secretariat which in turn will, under the guidance of the Steering Committee, implement and manage the GTOS programme. The activities would be to recruit two scientific officers, organize an annual meeting of the GTOS Steering Committee and promote technical and financial collaboration with GCOS and GOOS.

It was recommended to reduce the costs of the proposal, and to show in the budget what is already supported by the Co-sponsors. This proposal has to be carefully structured because it is difficult to obtain funding for a Secretariat. It was agreed to focus on the scientific officers, and eventually the joint panels with GCOS and GOOS, but the group was of the view that the Steering Committee meeting is a core function of GTOS that should be paid from the contributions of the Co-sponsors and not from external donors.

iv. Development of GTOS Integrated Indices

A copy of a preliminary outline on the development of GTOS integrated indices, prepared by Antonio Cendrero, was circulated to the group. The use of these indices would help to synthesize, simplify and communicate information concerning spatial and temporal changes in the state of the environment related to both global changes or more local human influences.

It was agreed that this is an important activity on which GTOS should focus. A more complete proposal should be developed and sent to the Steering Committee and Co-sponsors for their comments.

v. South-East Asia Proposal

The project has two main purposes: 1) to identify a set of users needs for climate related data for the countries in SE Asia; 2) to demonstrate the utility of Global Climate Observing System, Global Terrestrial Observing System and Global Ocean Observing System data in a national assessment of the impacts of climate change.

This proposal is still being reviewed by GCOS, GOOS and GTOS. It was stressed that it fits well with the objectives of GTOS and therefore should be finalized as soon as possible. It was suggested to develop a similar proposal for Latin America.

vi. Norway Proposal

The overall objective of this project is to define and demonstrate the operational aspects of GTOS, GCOS and GOOS in close cooperation with the relevant institutions of six widely varying developing countries in Africa, Asia and Latin America and two developed countries in Europe.

The project was submitted to the government of Norway in 1996, which agreed to support a portion of it but requested the collaboration of other donors. The proposal was therefore sent to other potential donors (Belgium, the Netherlands, Sweden). A mission from FAO will go to the Netherlands in June 1997 to discuss their support to the project.

vii. West-African Proposal (GEF)

This proposal was sent by UNEP-GEF to FAO, which expressed interest and proposed that it could be considered as a GTOS type of project with some modifications in the proposal. The project would prepare a Trans-boundary Diagnostic Analysis (TDA) for the protection of the Canary current large marine ecosystem from land-based activities in 7 west-African countries.

Although the subject is relevant both to GTOS and GOOS, it was agreed that it would be premature for GTOS to be involved in this project. The Secretariat was asked to advise the GEF that it would not participate but could provide joint GOOS and GTOS comments in order to improve the proposal.

viii. Japan

Inquiries were being made with the Government of Japan regarding possible support to TEMS and the sponsorship of a future meeting of the Steering Committee. Preliminary results were expected by mid-June.

Follow-up actions:

- Secretariat to prepare new drafts of the proposals on Users, TEMS Database and Secretariat and to circulate them to the Steering Committee and Co-sponsors for their comments.
- Secretariat to prepare, with the assistance of Antonio Cendrero, a project proposal on GTOS Integrated Indices and to circulate it to the Steering Committee and Co-sponsors for their comments.
- Secretariat to keep the Steering Committee and the Co-sponsors informed on the follow-up of the South-East Asia and the Norway proposals.
- Secretariat to send a letter to UNEP-GEF declining to participate in the West-African project but proposing comments from GTOS and GOOS in order to improve this project proposal.

V. Collaboration with Other Organizations

i. CEOS

Gérard Brachet, chair of the Committee on Earth Observation Satellites (CEOS), gave an informal presentation on CEOS and *IGOS* (Integrated Global Observing Strategy). He introduced a project proposed by Canada on the *Global Forest Cover*, that indicated GTOS support. CEOS is considering the possibility of having a CEOS/IGFA/GxOS sponsors meeting in early 1998 to finalize the selection and implementation schedule of specific projects.

The group agreed on the need for GTOS interaction with CEOS, but questions arose about the requirements for GTOS to co-sponsor CEOS projects. It was suggested to develop a policy, or at least some criteria in the choice of being associated with CEOS projects and in the role that GTOS should have.

ii. Global Climate Observing System (GCOS)

Tom Spence, Director of the Joint Planning Office for GCOS, provided a brief overview of the activities that have been conducted jointly between GCOS and GTOS, in particular DIMP, GOSSP and TOPC. He mentioned in addition the joint publication of Version 2.0 of the TOPC Plan and the Bilbao meeting, coming up in the near future. He pointed out the need to have a joint publication policy, share common terminology and set up some process where the three observing systems explicitly agree on joint activities, in order to strengthen the collaboration and coordination among them. Tom Spence also addressed the Sponsors meeting held in Geneva in January. He felt it was the first time the sponsors actually took note of their responsibilities as sponsors. He stressed the need for GCOS, GOOS and GTOS to prepare a coordinated position for their next meeting in September. It was agreed that a copy of the January sponsors group report will be distributed to the Steering Committee.

iii. Global Ocean Observing System (GOOS)

Colin Summerhayes, Director of the GOOS Support Office, provided an introduction to GOOS. GOOS has five modules: Coastal Zones, Living Marine Resources, Health of the Oceans, Climate, and Services. Emphasis is placed on “end-to-end” services and products. In addition they jointly sponsor DIMP and GOSSP with GCOS and GTOS. He felt that the DIMP plan was an excellent starting point and that by GOOS adopting it has saved a considerable amount of work. GTOS should review it carefully and decide where to go from here. With regards to the *coastal zones*, he recognized the common interests between GTOS and GOOS, but did not feel the time was right for a joint panel. He suggested that GOOS and GTOS should have observers on each others panels.

At the Sponsors Group meeting in January, Geneva, it was agreed to produce a joint GCOS/GOOS/GTOS brochure. A draft text prepared by ICSU was circulated to the participants, asking them to send their comments to Sophie Boyer King in ICSU.

Follow-up actions:

- Secretariat to send to the Steering Committee a copy of the report of the First Sponsors Group meeting (Geneva, 13-14 January 1997).

- Secretariat to send to the absent members of the Steering Committee the draft text for the joint GCOS/GOOS/GTOS brochure, asking them to send their comments to Sophie Boyer King in ICSU.

VI. Other Matters

i. Working Groups

It was pointed out that the capacity of the working groups established at the first meeting of the GTOS Steering Committee was probably overestimated, but they remain a useful tool. It was suggested that the working group members be given time to meet when the second Steering Committee meeting is held.

ii. Steering Committee

There was some concern about the structure of the Steering Committee (i.e. technical members mixed with representatives from the Co-sponsors). It was reaffirmed that the role of the Steering Committee is to guide the Secretariat and to provide programme development, implementation guidance and scientific and technical advice to the Co-sponsors.

iii. Budget

There was discussion on the budget, which is still limited to the annual contributions of the Co-sponsors to the GTOS Trust Fund. The Co-sponsors were asked to commit at least the same amount of money for 1998 and 1999. It was agreed that every effort has to be made to provide visibility to GTOS, through publications and products in order to establish a communication and collaboration with the users.

All Steering Committee members, and not just the Co-sponsors, were encouraged to identify and follow up on opportunities for obtaining financial support for GTOS.

iv. Next Full Steering Committee Meeting

The group strongly recommended that an effort be made to organize the next full Steering Committee meeting before the end of 1997. It was agreed that the Secretariat would explore with some Steering Committee members the possibility of having support from Spain or USA. It was also suggested that it should be a 5 day meeting.

Follow-up actions:

- Co-sponsors to confirm their commitment, with regards to the annual contributions to the GTOS Trust Fund, for 1998 and 1999.

- Secretariat to prepare a detailed list of costs for a Steering Committee meeting and to explore the possibility of external support in Spain, Japan and the USA, in order to organize the second meeting of the Steering Committee before the end of 1997.

Annex 1: List of Participants

Steering Committee:

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Annex 2: Agenda

Monday 12 May

14.00 - 14.30	Opening of the meeting, review of agenda, objectives
14.30 - 15.00	Update and review of GTOS activities
15.00 - 16.30	GTOS Programme support
	Provisional budget plan 1997/98
16.30 - 17.00	Implementation plan: introduction

Tuesday 13 May

09.00 - 12.30	Implementation plan: comments, suggestions, objectives
12.30 - 14.00	Lunch
14.00 - 17.00	Implementation plan: continued

Wednesday 14 May

09.00 - 12.30	Implementation plan: continuation
12.30 - 14.00	Lunch
14.00 - 15.00	Committee on Earth Observation Satellites (CEOS)
15.00 - 17.00	Implementation plan: consolidation, conclusions

Thursday 15 May

09.00 - 10.00	Collaboration with other organizations (GxOS, others)
10.00 - 11.00	GTOS Working groups
11.00 - 12.00	Follow-up actions (until the next full SC meeting)
12.00 - 12.15	Other matters
12:15 - 12.30	Closure of the meeting

Annex 3: Overall Outline for the GTOS Plan

I. Executive Summary

II. Needs and Rationale

III. Vision and Principles

- A. Vision Statement
- B. Main Principles
  1. Governance
  2. Value-added
  3. Data quality and harmonization
  4. Data ownership and distribution
  5. Methods evolution
  6. Data use
  7. Identification of gaps

IV. General Activities and Users

- A. Overall Statement
- B. Facilitation of National and Regional Programs
- C. Collaboration and Support for Research Programs
- D. Guidance for Funding
- E. Potential Uses of Data
  1. Magnitude and impacts of global change
  2. Development and validation of models
  3. Facilitation of early warning
  4. Scientific understanding
  5. Effects of toxic exposures
  6. Planning for sustainable development

V. Structure

- A. Co-Sponsors
  1. Role
  2. Membership
- B. Steering Committee
  1. Main Committee
     a. Role
     b. Membership

2. Network Panel
    a. Role
    b. Membership

3. Working Groups
    a. Role
    b. Membership

C. Secretariat
1. Role
2. Organization

VI. GTOS Programme

A. Policy Development (?)

B. Prototype Network
1. Goals
2. Criteria
3. Activities

C. Users Needs Identification

1. International Agencies, Organizations, and Programmes

    a. IGBP
    b. CGIAR
    c. ICSU
    d. Environment related international agreements and conventions
    e. IPCC
    f. State of the World reporting
    g. International programs

2. National Governments and Programmes

3. Private Sector Customers

VII. Tasks for the Near Term: Prepatory Phase

A. Strengthening GTOS

1. Define GTOS more clearly (A)

2. Establish GTOS boundaries (A)

3. Develop GTOS plan (A)

4. Obtain Secretariat funding for years 2-4 (A)

5. Develop draft GTOS benefits package for GTOS as a whole (B; by December)

6. Develop draft policies; especially for information and data management, publications policy and programme (perhaps year 2)

B. Starting the Prototype Network (A)

1. Identify Goals of Prototype

a. Create a learning environment
b. Forum for comparison of methods
c. Forum for sharing and exchange of data relevant to the specific interests of GTOS
d. Forum for sharing and exchange of data relevant to the specific interests of the networks themselves
e. Series of reports (number is quite unclear)

2. Identify Network Panel

a. Select several members from Steering Committee
b. Identify candidates from prototypes networks themselves

3. Draft Criteria for Selection

a. Technical competence (need to smooth this out)
b. International interest
c. Active data gathering
d. Focus on one of the 5 key GTOS issues; perhaps initially terrestrial ecosystems, food, freshwater
e. Areal coverage/extent of coverage
f. Coverage of data-poor geographic regions
g. Element of functional complementarity
h. Expectation of continuity

4. Identify Potential Goals of the Prototype Network Case Study

a. What is purpose of network, who asked for it, what does it measure?
b. Analyze selection of methods: why are you doing what you're doing
c. Analyze the direct use of monitoring data
d. Analyze modeling use of monitoring data
e. Analyze data gaps
f. Analyze approaches to filling data gaps
g. Analyze different approaches to upscaling issues

5. Identify Candidates for Prototype Network

6. Approach and Select Candidates (year 2)

7. Develop case histories (year 2)

C. Establish Working Groups
1. Roles
2. Terms of Reference
3. Goals

D. Initiate User Needs Activity

E. Outreach to GCOS and GOOS

1. Improve working contacts with GCOS and GOOS at Secretariat and substantive levels

2. Preliminary consultations with GOOS and GCOS on joint coastal program

F. Continue participation in joint standing panels

1. DIMP
2. GOSSP

VIII. Tasks for the Near Term: Establishment Phase

A. Strengthening GTOS

1. Implement policies for information and data management

2. Implement publications policy and programme

3. Review TEMS strategy and database

4. Emphasize importance of GTOS products to national policy development and planning and in increasing scientific understanding

5. Develop independent review policy for GTOS

6. Define initial set of variables for non-climate topics

B. Starting the Prototype Network

1. Identify Network Panel

2. Approach and select candidates

3. Develop case histories

4. Develop database centers

C. Continue Working Groups

D. Continue (Finish?) User Needs Activity

1. Workshop
2. Publish report

E. Devise Strategy for Involving Individual Governments

F. Address Upscaling Issue

1. Workshop
2. Network Panel

G. Outreach to GCOS and GOOS

1. Implement first phase of a coastal program

H. Continue participation in joint standing panels

1. JDIMP
2. GOSSP

IX. Tasks for the Third Year

A. Review GTOS

B. Facilitate Data Distribution and Access

C. National Governments

1. First Expert Group meeting for ascertaining role of governments in GTOS

2. First GTOS mission to individual countries

X. GTOS in the 21st Century

A. God Only Knows

B. It is Revealed to the Steering Committee

Appendices:

History of the GxOS's
History of the GTOS
Executive Summary of Planning Document