

**MISSION STATEMENT FOR THE UK ENVIRONMENTAL CHANGE NETWORK (ECN)**  
**(Also includes a draft of the Memorandum of Understanding and Letter of Intent between**  
**partners)**  
**(Originally published in 1991)**

**1. Rationale**

Environmental change, whether natural or man-induced, is the subject of major policy and regulatory initiatives, from global conventions (eg on CFC's) to regional or local actions. There is international agreement on the need for dependable and adequate monitoring of the environment in order to understand and assess environmental change and establish the need for or effectiveness of policy action.

Comparable and reliable long-term data sets on physical and biological change are a pre-requisite for understanding and predicting environmental change. The UK needs a well-designed and cost-effective national network to identify, assess and research environmental change nationally and to provide a basis for European and international collaboration.

**2. Objectives**

- a. To establish and maintain a selected set of sites within the UK from which to obtain comparable long-term data sets by means of measurement at regular intervals of variables identified as being of major environmental importance.
- b. To provide for the integration and analysis of these data sets, so as to identify environmental change and improve understanding of the causes of change.
- c. To make these long-term data sets available as a basis for research and prediction.
- d. To provide, for research purposes, a range of representative sites where there is good instrumentation and reliable environmental information.

**3. Background**

Various public bodies and committees have, in different contexts, identified the need to acquire long-term data relating to environmental issues. It is evident that much information is already being gathered on a regular basis, but by different agencies for a variety of purposes, employing different methods, but with little inter-agency co-ordination or exchange of data and information. It has been proposed that the agencies carrying out such work shall join together into a consortium to develop a uniform system of long-term data collection, using common protocols and giving common access to the data acquired. This co-operation will bring together information from different disciplines to provide an integrated approach to understanding environmental change. Such an approach will provide a consensus view of environmental change, give far greater value for money, and will help to place the UK in a strong position in relation to environmental monitoring in a European and global context.

**4. Organisation**

The Natural Environment Research Council (NERC) has taken the initiative to develop the United Kingdom Environmental Change Network (ECN) and is the appropriate organisation to take the lead responsibility for the management of ECN as a whole. It has set up a Central Co-ordination Unit which

will provide a secretariat, co-ordinate measurements, and operate data handling and assessment facilities. Any agency with a major interest in environmental change, and which is prepared to sponsor one or more sites or provide equivalent financial support will be eligible to join the ECN Steering Committee, which is responsible for all decisions on policy and management. Member agencies will be required to sign a Memorandum of Understanding to formalise the position.

## **5. Sites**

The Network as a whole will be representative of the major environmental types in the UK. The first tranche of sites will be in terrestrial environments, to be followed as soon as possible by the recruitment of freshwater sites. The addition of coastal sites is under consideration, and close liaison will be maintained with marine monitoring schemes. Ideally a single site will include more than one environment. Each ECN site will be sponsored by one or more of the participating agencies. The site may be owned or rented by the agency, or operated by it, or may be provided by contractual arrangements between an agency and the owner or operator of the site (eg a Higher Education Institution). The arrangements will be set out in an exchange of letters (Letter of Intent) between NERC, acting on behalf of the ECN Steering Committee, and the sponsoring or funding agencies. These letters will specify a suite of measurements to be made at the site including the protocols to be followed. The sponsoring or funding agency will undertake to make all the resulting data available to ECN through the Central Co-ordination Unit. In return, sponsoring or funding agencies will have right of access to the data from other sites in the network (see paragraph 9). Monitoring of some variables may already be in progress, but in future will need to accord with ECN arrangements at the time of acceptance into the network. The sponsoring or funding agency will be responsible for appropriate staffing, funding, security and continuity at one or more ECN sites.

## **6. Site selection and operation**

The selection criteria for terrestrial sites will include the following:

- a. accessibility and security;
- b. stable and well-defined land management;
- c. representativeness of a major environmental type;
- d. availability of historical data of acceptable quality for at least a few years;
- e. adequate size to allow associated experimental work;
- f. preferably with records of previous appropriate experimental work.

The selection criteria for freshwater sites will include the following:

- a. known anthropogenic influences and their catchments having a known history of change;
- b. a wide geographical spread, with a range of upland and lowland catchments;
- c. preferably already monitored for a wide range of determinands;
- d. a reasonable set of accessible time-series data;
- e. adequate size, in terms of flow, residence time, to have their resilience and capacity respond to and integrate changes in their catchment.

# ENVIRONMENTAL CHANGE NETWORK

## MEMORANDUM OF UNDERSTANDING

The undersigned Sponsoring or Funding Agency agrees to the principles of the United Kingdom Environmental Change Network (ECN) outlined in the Mission Statement and agrees to participate, either directly or by nomination of a representative, in the Steering Committee set up to establish and manage the ECN.

The Agency recognises the role of the Natural Environment Research Council (NERC) as the managing agent for ECN, as depository for Memoranda of Understanding and Letters of Intent, and as a provider of secretarial functions for the ECN.

The Agency undertakes to do its best to identify potential ECN sites in which it has special interests, to arrange funding and management of these, and to submit them to the Steering Committee for formal acceptance as ECN sites, or to provide equivalent financial support.

The arrangements for such sites and for ECN activities will be governed by an exchange of letters (Letter of Intent) between NERC, on behalf of the Steering Committee, and the Agency.

This Memorandum remains in force until the Agency withdraws from ECN or until the Steering Committee members from other agencies decide unanimously that it should be terminated.

.....Agency

.....Signature

.....Name & Position

.....Date

**LETTER OF INTENT TO PARTICIPATE IN  
THE UNITED KINGDOM ENVIRONMENTAL CHANGE NETWORK (ECN)  
BY [AGENCY X] IN RELATION TO [SITE X].**

This agreement is between the [AGENCY X] and the Natural Environment Research Council (NERC). Each signatory to this agreement will bear the cost of its own participation in the ECN and the agreement will be reviewed in March 2000.

**The [AGENCY X] agrees:**

- 1) To establish the [site X] as a participating site in the ECN, the Mission Statement of which has already formed the basis for a Memorandum of Understanding signed by [Agency X].
- 2) To protect the area identified as the Target Sample Site (TSS) from unnecessary change in management or disturbance.
- 3) To provide or arrange for the provision of the equipment necessary for long-term recording of climate, surface water hydrology, air pollution, precipitation chemistry, soil solution chemistry, soil characteristics, vegetation and fauna, at the site or on the TSS where appropriate; the equipment is that defined in the protocols and agreed by the ECN Steering Committee.
- 4) To undertake or arrange for the routine recording of ECN core measurements as defined in the protocols and agreed by the ECN Steering Committee.
- 5) To maintain an up-to-date computerised data base of information from the site and from the TSS and relating to ECN.
- 6) To provide data from the site and from the TSS collected for ECN purposes to the Central Coordination Unit (CCU) in agreed computer-compatible format. Data collected prior to the signing of this agreement will be made available on the usual terms of scientific collaboration required by [Agency X].
- 7) To consider support for long-term recording of variables agreed by the ECN Steering Committee which are additional to the core measurements and which can provide other indications of environmental change and/or their effects.
- 8) To allow researchers from other Institutions, as designated by the ECN Steering Committee, to undertake observations on the site and TSS as part of the agreed programme of core or additional measurements on the usual terms required by the [Agency X] for field work and collection of data by non-staff members.
- 9) To take part in and support quality control and assurance procedures as agreed by the ECN Steering Committee.
- 10) To participate in the analysis, interpretation and publication of the combined results from the ECN programme.
- 11) To encourage analysis, interpretation and publication of ECN observations from [Site X] by responsible staff, making appropriate acknowledgement to ECN.
- 12) To participate in the implementation and development of ECN through participation in the ECN Steering Committee and in such Working Groups or Meetings as may be agreed by the ECN Steering Committee.

**NERC agrees:**

- 1) To organise and service the ECN Steering Committee and such Working Groups and Meetings as may be agreed by the ECN Steering Committee.
- 2) To establish and maintain a Central Coordination Unit to assist in the implementation of agreed activities. In particular the CCU will collate data from ECN sites, maintain the ECN data base, produce annual summaries for the ECN network and analyse and interpret long-term and comparative data from network sites.
- 3) To assist and encourage participation of the [Site X] ECN site in the analysis, interpretation and publication of long-term data relevant to ECN.
- 4) To make available to bona fide participants in the ECN programme, data from the network sites collected under the auspices of ECN or data which have been agreed to be suitable for general release by the contributing organisations.
- 5) To develop, and assist and encourage development by others, methods of analysis of temporal and spatial data relevant to ECN and to make these analyses available to participants.
- 6) To maintain and make available to participants a data base containing information relating to other national and international networks involved in environmental survey or monitoring activities relevant to ECN.
- 7) To develop, maintain and distribute detailed protocols for the observation, measurement and recording of core variables and of additional non-mandatory variables relevant to ECN.
- 8) To undertake or organise quality control and assurance procedures as agreed by the ECN Steering Committee.
- 9) To produce a regular Newsletter to inform ECN participants of activities in ECN and in related monitoring networks.
- 10) To publicise ECN nationally and internationally making appropriate acknowledgment of network sponsors and sites, and to seek funding to support and enhance ECN activities.

**LETTER OF INTENT TO PARTICIPATE IN THE UNITED KINGDOM ENVIRONMENTAL CHANGE NETWORK (ECN) BY [AGENCY X] IN RELATION TO [SITE X].**

Signed on behalf of [Agency X]

Signature .....

Name .....

Date .....

Signed on behalf of the Natural Environment Research Council

Signature .....

Name .....

Date .....