

ENVIRONMENT RESEARCH FUNDERS' FORUM
UK- Environmental Observation Framework

Decision Support Framework

Concepts and Tools

**A step towards transparent, evidence based
decision making in the UK public sector.**

Version 1: Draft for Discussion and Trial at MSCC and UK-EOF
Management Group

This is work in progress: Please provide feedback to UKEOF team
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ERFF and UK-EOF members



1. Introduction

Public bodies in the UK spend at least £300 million per year on environmental observations. These funders have hard decisions to make about how best to invest their resources. As constraints on spending increase yet questions we need to answer become more complex and technology changes, the business case for collaboration becomes more compelling. It makes sense to share resources and to collect information once and use it many times.

There are also more calls for the UK to participate in international programmes to increase understanding of global environmental change. These programmes are often long term and require significant levels of public commitment e.g. to satellites or deep sea instruments.

In addition there is growing pressure on funders to make their decision process transparent and based on sound evidence. Ultimately resources should be allocated so that the full suite of observation activities the UK funds provide the information to enable society to understand, to live in and respond to the changing natural environment.

A change to full transparency will take time, commitment and trust. However, the ERFF Main Board¹ has recognised the potential for significant benefits to be gained by using these tools to collate the evidence, and to discuss the funding decisions among the interested parties in a forum. They have strongly recommended that organisations engage with, and consider the outcome of the process as sound advice so that changes can be implemented.

This paper sets out the principles, scope, criteria and practical application of the Decision Support Framework, which has been designed to support the numerous decision processes already underway in each organisation. It is the first step towards transparency between UK environmental observation funders. This Decision Support Framework is designed to be used by those funders, to prioritise spend for activities within departments, within organisations, and across organisations, domains or geographical areas.

This paper is the first stage. The criteria and framework will be developed in light of operational experience before being embedded in organisational business models towards the end of 2010.

The community will need to work together to agree, adopt and embed the principles within each public sector funding organisation. When all parties understand and respect the process, they will value the advice and evidence to inform and implement their decisions. Working with the framework will reduce the need for the numerous bilaterals which currently exist between funders and create more effective discussion between all parties involved. It will widen the frame of reference to enable funding decisions to be made in the light of full knowledge of the risks and implications to all UK organisations, not just to the proposer's.

¹ A list of ERFF and UK-EOF members is given on page 1



2. What is the Decision Support Framework?

2.1 The Purpose and Scope

The purpose and scope of this Framework were established at a meeting in September 2009 with senior colleagues from NERC, Defra, Environment Agency and Scottish Government. These were then discussed and agreed by the wider ERFF Main Board Members in November 2009.

The purpose is;

- To ensure that decision making is joined up, and collaboration enhanced so that the suite of observations as a whole avoids overlap/ duplication/ redundancy, provides for both short and long term needs, recognises commitments to and requirements of the UK, European and International legislative bodies and addresses key evidence gaps.
- To enable individual organisations to make informed investment decisions within a consistent, transparent and collaborative framework.
- To provide a mechanism to discuss and agree UK commitment to, and funding for, large scale (and/ or international) activities e.g. GMES Argo, Jason etc.

The scope is:

- public sector commissioned environmental observation activities in the context of private and third sector investments. The process (see figure 1) will not make decisions for an organisation but will enable the decisions to be taken in the context of information provided by:
 - UK-EOF Statement of Need: which outlines the Uks requirements from observations from all perspectives
 - UK-EOF Environmental Observation Activity Catalogue: which lists the activities already underway
 - An Activity Information Sheet completed by the funder(s)/ proposer(s) of the activity [including a risk evaluation matrix / cost benefit analysis] (Annex A)
 - A scorecard with the judgements and opinions of both the proposer and the other organisations who have an interest / impact (Annex B)
 - The conclusions of a discussion forum (if appropriate)

2.2 Opportunities for use

The tools can be used, by individual funders within departments, across departments or by collaborations of funders. Most users will be looking to;

- Start a new activity or convert one-off (research) projects into longer term operational systems.
- To stop, reduce or modify an existing activity
- To rationalise spending across different activities within the context of the different organisations, domains and geographical areas, and data already available.



- To increase collaborative initiatives and share the cost of activities
- Assess the impacts on internal and external organisations of undertaking any of the above options.

The criteria are scalable so that they can be applied to any decisions by research leaders, centre director or Chief Executive or by central or devolved administrations. Decisions will ultimately be supported by evidence from scorecards and background information which will be submitted when a proposal for change is initiated.

It is assumed that all observation activities:

- follow sound (documented) scientific principles and best practice for collection, utilising the most appropriate technology;
- meet the standards for storage, management and publication of the observation data; and
- have data licence conditions in place which ensure maximum reuse of the data.

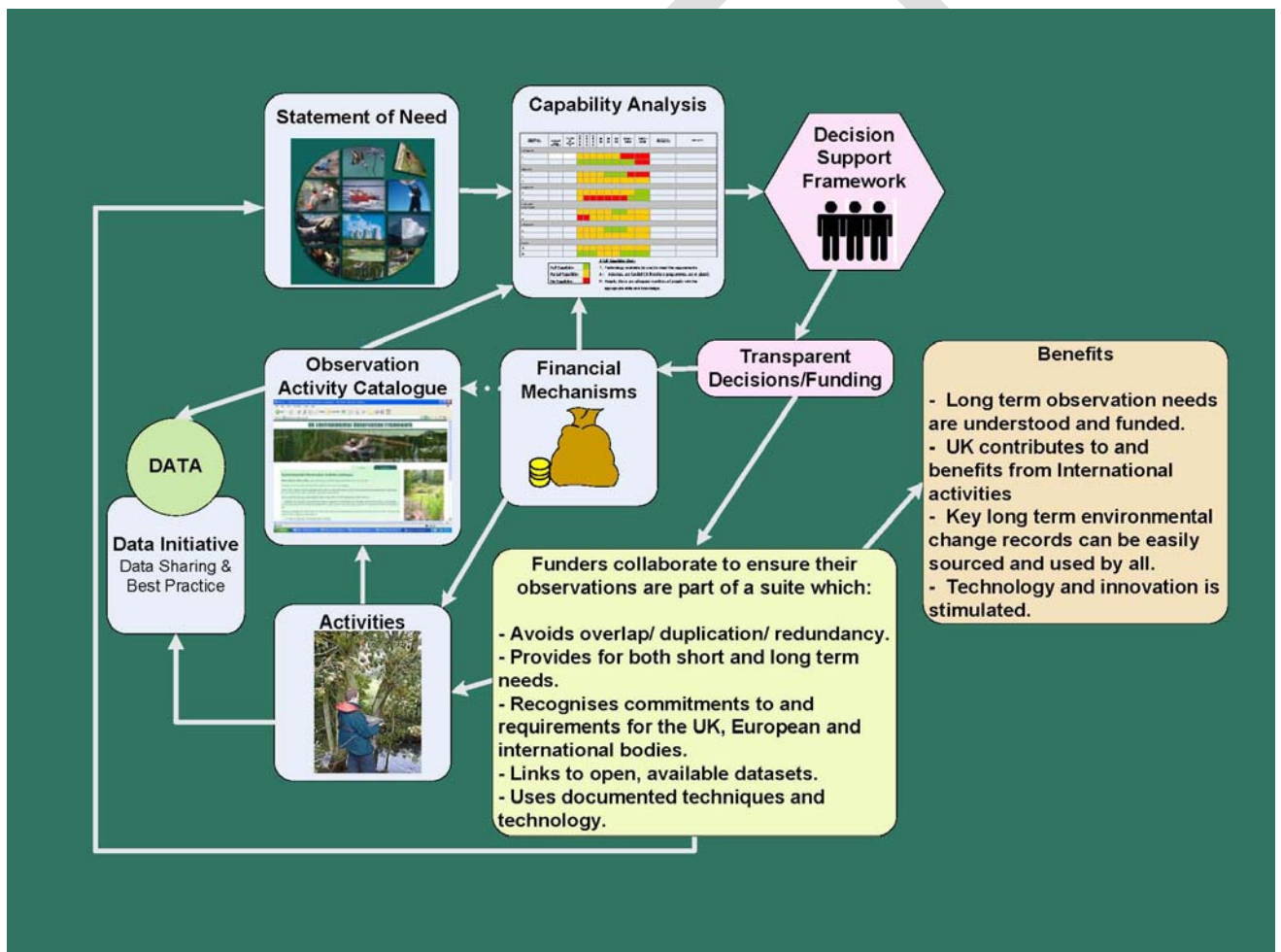


Figure 1 – The overall purpose and benefits of a Decision Support Framework and the Statement of Need and Observation Activity Catalogue as key tools in the process.



3. An overview of the Process

3.1 Overview of the Decision Support Framework

The Decision Support Framework provides:

- a way of capturing and summarising the key evidence needed to make a decision based on a set of common criteria/ issues
- a forum for discussion and provision of informed advice to the activity owner or potential funders(s)
- a central support body such as the UK-EOF secretariat to coordinate the inputs to the process and host the discussions

Figure 2 illustrates the stages and formal elements of the decision support framework (stages 2 - 4) which can be coordinated by a central body if necessary. The elements in stages 1, 5 and 6 illustrate that ultimately the decision rests with the funder(s) / budget holder.

The process will require input from a variety of organisations, each with different roles at different stages of the process. The following description outlines the actions and who is involved at each stage of the process.



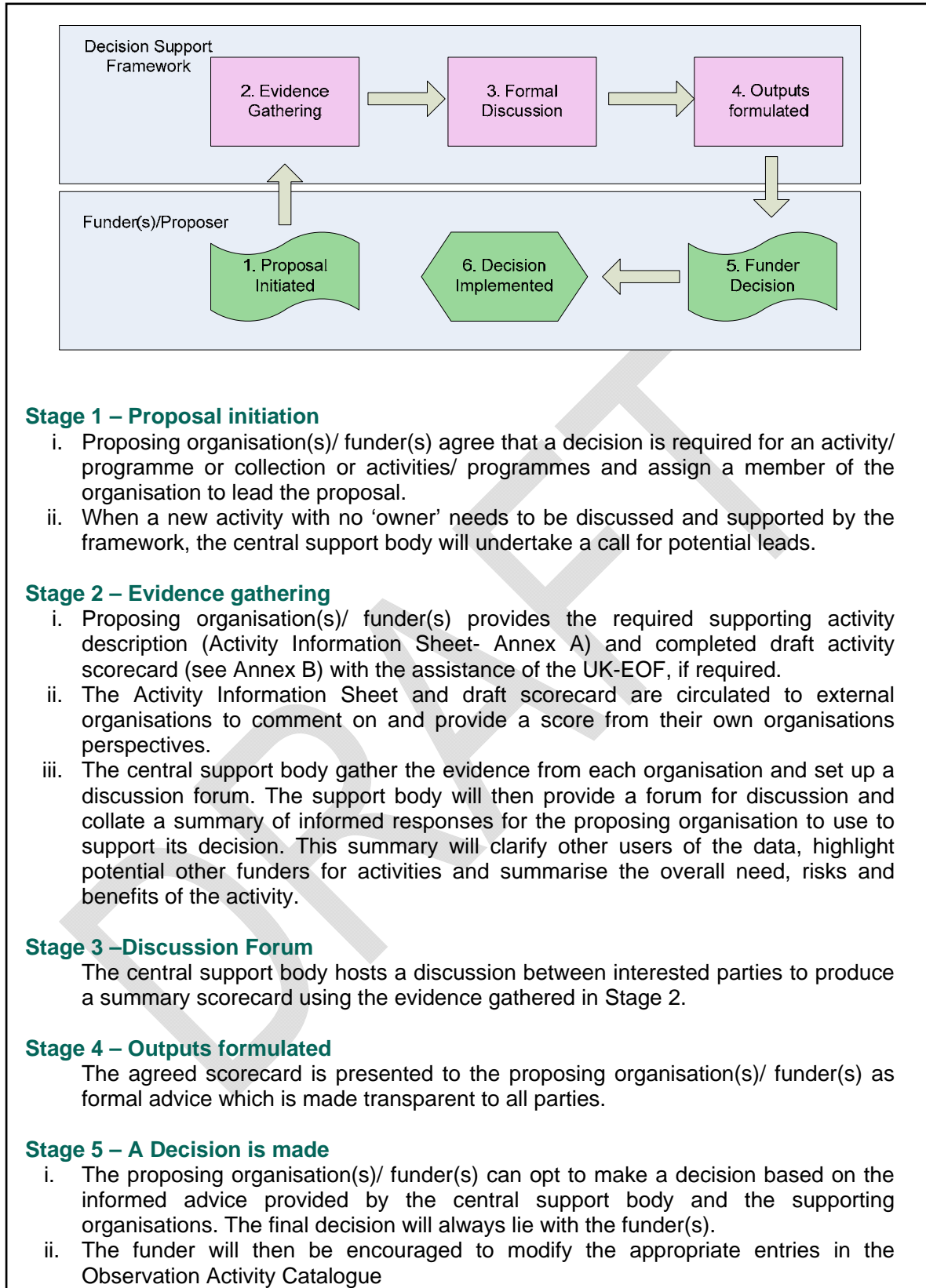


Figure 2 –The stages of the decision support framework and the formal elements of the decision support framework (stages 2-4) which can be coordinated by a central body if necessary. The elements in shown in stages 1, 5 and 6 illustrate that ultimately the



decision rests with the funder / budget holder.

4. The Criteria, Evidence and Scorecard

4.1 The evidence needed to make decisions

Evidence gathering is an important stage in the decision process, providing the justification for each activity, enhancing transparency and creating trust between organisations. Although this a complex stage in the process it will provide the key information on which decisions will be based.

Annex A prompts organisations to look at the various aspects of the activity required to address the criteria as outlined below.

4.2 An overview of the Criteria to be judged on

The 'criteria' are set of questions which address 4 aspects of the activity / change being proposed.

What is the primary need?

- How unique is the observation? Does it have to be done this way?
- Are there other key users?
- What is the balance between benefit and costs and risks?

If the factual answers to these questions are provided in the answers in Annex A, the score card asks the same questions about each activity.

There are three reasons for working through these questions:

1. To ensure that all aspects of the activity have been thought about.
2. To stimulate cultural change. For example, asking the question, "does the activity adhere to best data practice?" implies this is important to funders and should be encouraged. Making changes to reduce costs, reusing existing data, activities and platforms are also practices to be encouraged by completing and discussing the questions on the scorecard.
3. Using a common set of questions will allow comparison and judgement across and between activities.

4.3 What the scorecard does not do

It does not assign weighting to the answers.

This first iteration of the score card is deliberately generic. It does not assume that some answers are more important than others. This will be for the user of the tool to decide.

For example, if Defra are using the tool they may consider that the risks of infraction are a more important reason to fund an activity than advancing science. NERC may have the exact opposite focus. Another example is questioning the length of time of previous



investment – this could be very important to some and not to others.

Equally there are a number of internal strategies and documents that the activities will need to align to. This generic tool could not cover all of these but there is recognition of these in the Information sheet.

4.4 Completing the Scorecard

The scorecard can be completed by any number of interested parties. The card represents a 'judgement' of the evidence produced in the Activity Information Sheet. Therefore there may be different options depending on the perspective of who fills it in.

Where there are differences the central body will set up a discussion forum so that a summary score card can be completed.

5. The Discussion Forum

When a discussion forum is necessary to agree summary scorecards, the parties should be led by a neutral chair. Representatives should have an overview of UK needs and activities as well their own organisations' views. A discussion should be held with the aim of producing a summary scorecard to inform the proposer(s)/ funder(s).

[This area needs development and discussion by the UK-EOF Management Group and ERFF Main Board].

6. The Next Steps

There are still outstanding issues around the decision support framework which need to be worked out;

- Who will coordinate the central support body? Should this be a role for the UK-EOF who already brings together funders of environmental observations?
- Will a list of observational activities that will be part of the framework be highlighted in advance by each organisation?
- Who will initiate proposals for new activities with no clear funder? How will they make it to the forum for discussion?
- How will organisations use the framework? Will all members be able to propose activities or will this be limited to selected staff?
- Will the framework provide a confidential forum? Will using a centralised system run by the central support body create enough security for organisations to discuss sensitive decisions?
- How do the discussion forums run? Who chairs? How do they have authority?

These issues need to be addressed by the UK-EOF Management Group and ERFF Main Board in order to finalise the detail of the framework. The UK-EOF will also be working closely with the Marine Science Coordination Committee (MSCC). This collaboration will help identify practical solutions.

Future work will focus on implementing the system and encouraging organisations to embed the tool within funding organisations across the UK to achieve a more joined up



approach.

7. Further Information

More information about the delivery of the Decision Support Framework and other work being carried out by the UK-EOF can be found on the UK-EOF website at <http://www.ukeof.org.uk/decision.aspx> Information about the UK-EOF Environmental Observation Activity Catalogue and the live search function can be found at <http://www.ukeof.org.uk/catalogue/default.aspx>

We would like to hear from you if you have any comments, queries or suggestions concerning the UK-EOF Decision Support Framework. Please send your feedback via email to office@ukeof.org.uk and mark the subject 'Decision Support Framework'.



Annex A – Activity Information Sheet

ENVIRONMENT RESEARCH FUNDERS' FORUM UK- Environmental Observation Framework

Decision Support framework – Activity Information Sheet

- This form is the critical evidence about an activity which is needed to complete the scorecard and hence support the decision process. It should be completed by the proposer(s)/ funder(s).
- Other organisations should use this document to refer to when filling in their own perspectives about the activity being proposed.
- Provide any additional documentation, not referred to in the criteria questions, which provide evidence for the value of the activity.

Completing the Activity Information Sheet and Scorecard

Each activity proposal should be accompanied by an Activity Information Sheet and Scorecard which is completed by the proposing proposer(s)/ funder(s). The Activity Information Sheet should then be used by other organisations to help them assess the activity and produce their own scores. The following instructions set out guidelines for completing the Activity Information Sheet and Scorecard. You will need approximately 2 hours to complete these documents, assuming you have the required background information available, which includes;

- Access to the UK-EOF Environmental Observation Activity catalogue <http://www.ukeof.org.uk/catalogue/default.aspx>
- The UK-EOF FEC guidelines http://www.ukeof.org.uk/documents/UK-EOF_Guidelines-for-submitting-cost-info_May09.pdf
- The UK-EOF 'Towards a Statement of Need' document <http://www.ukeof.org.uk/statementofneed.aspx>
- Relevant internal strategy documents
- Advice and support from activity leaders and experts in the relevant field
- Access to the computerised documents (Annex A and B)

Proposing Organisations

- a) Fill in the basic details at the top of Annex A (Activity Information Sheet) and B (Scorecard) and fill in your organisations name in the scorecard column marked 'Organisation 1'. Mark you answer in this column. The Activity Information sheet and Scorecard should be filled in at the same time.
- b) Work through each part of the questions on the scorecard (unless directed otherwise), making your own judgement and marking you answer (usually a tick beside the appropriate response, a monetary value or a short piece of text,) in the appropriate column. Refer to Annex A when answering each question and fill in any further details as prompted.
- c) Where a question is not appropriate to the activity being assessed, leave the score



- column blank and move onto the next question.
- d) If you do not have the required information to answer a question, but you are able to gain the information from another source, providing you can produce this evidence for others to use, answer the question and attach the appropriate reference/ link to the alternative source in Annex A. The alternative evidence needs to be made available to provide a transparent assessment.
 - e) When each of the relevant questions have been answered, save and clearly label the scorecard document with 'Decision Support Framework Scorecard' followed by the name of your organisation on the Central Desktop² space. Each proposal will have a designated space for other organisations to comment on this scorecard and for the following discussion.

Other Organisations

Other organisations will provide their own perspective on the scorecard questions using the evidence provided in the Activity Information Sheet and Scorecard and supporting it with their own needs. The following instructions are set out as guidelines for these organisations.

- a) Use the Activity Information Sheet and Scorecard already completed by the proposing organisation(s)/ funder(s) and type the name of your organisation in the next available column on the scorecard.
- b) Work through each part of the question on the scorecard (unless directed otherwise), making your own judgement and marking your answer (usually a tick beside the appropriate response, a monetary value or a short piece of text) in the appropriate column. Refer to Annex A when answering each question and fill in any further details requested.
- c) Organisations with no interest/ impact on the activity do not need to comment on the activity.

After all organisations have had the opportunity to comment, the UK-EOF secretariat will collate the responses and initiate the discussion around the members to provide the informed advice back to the proposing organisation.

²The Central Desktop space is a facility provided by the UK-EOF secretariat to provide its members access to documents which are not for public viewing. This space will therefore provide a secure environment for organisations to use. Members can only access this space after initial authorisation has been granted by the UK-EOF secretariat, assuming the secretariat form the central support body. This web-based access forum will become functional when the UK-EOF Management Group and ERFF Main Board have decided if the UK-EOF secretariat is to run the forum.



Title of Proposed Activity	
Name of organisation	
Name of nominated delegate	
Date of submission to central body	

PART A - Give a brief description of the activity outlining the purpose

DRAFT

PART B – SCORECARD QUESTIONS

Question 1 –Does the activity contribute towards the UKs needs? Provide evidence from the Statement of Need



Question 2 – What are the major reasons for undertaking/ funding the activity and hence the risks and impacts of not undertaking/ stopping/ reducing this activity for your organisation? (tick as appropriate and enter the code (in bold) in the scorecard). List the names of relevant policies/ goals etc

- Legislative and regulatory requirement to avoid infraction (**Legislative**)
- Ministerial commitment e.g. International Convention, agreement or Devolved Administration requirement (**Ministerial**)
- Innovation/ Advancing science (including modelling) (**Science**)
- Policy formulation and assessment/ Shaping future policy (**Policy**)
- Contractual obligation (**Contract**)
- Responding to emergencies (**Emergency**)
- Continuation of data series/ access to data (**Data**)
- Internal/ departmental/ organisational strategic goals (**Internal goal**)
- Duty of co-operation e.g. international reputation (**Reputation**)
- Maintaining competence (**Competence**)
- Providing statutory advice (**Cooperation**)
- International collaboration (**International**)
- Moral obligation (**Moral**)
- Other - please state (**other**)

List policies/ internal goals etc below

Question 3 – Does the activity provide a unique output? Provide a list of titles from the UK-EOF catalogue here.

Question 4 – Does duplicate data already exist? Why can't this data be used? (tick as appropriate and enter the code (in bold) in the scorecard).

- Different geographic resolution/ geospatial distribution required (**Resolution**)
- Different frequency of collection required (**Frequency**)
- Standard procedures not used/ require different standards/ procedures/ protocols (**Standards**)
- Data is not available for reuse e.g. due to licence conditions (**Data unavailable**)
- Other - please state (**other**)



Question 5 – How long has the time series existed? How long does it need to continue to show (statistically significant) trends above natural variations? Provide any further evidence and comments

Question 6 – Provide the evidence that the activity follows appropriate internal/external protocols, standards or best practice procedures for;

- a. for data collection
- b. for data storage management and publication
- c. for data licence conditions to ensure maximum reuse

List protocol/ standard/ procedure (and name of organisation it adheres too where appropriate)

a.

b.

c.

Question 7 - What are the total annual costs of the activity calculated at Full Economic Costing? (Using UK-EOF guidelines) Are there any additional one-off costs - i.e. new technology/ infrastructure? Has your organisation made previous financial investments in the activity? If so, to what level? Provide any further evidence and comments

Question 8 – Have options (below) for cost efficiency been considered? Which options (below) should be explored further? (tick as appropriate and enter the code (in bold) in the scorecard).

- Re-scope/ modifying existing activity e.g. reducing geographical coverage/ frequency (**Re-scope**)
- Collaborating/ subsuming the activity with another activity/ initiative (**Collaborate**)
- Using different technology (**Technology**)
- Sourcing alternative funds (**Alternative funds**)
- Using different methods (**Methods**)
- Using different suppliers of equipment etc (**Different supplier**)
- Other - please state (**other**)



Question 9 - What is the level of risk associated with undertaking the activity? (tick as appropriate and enter the code (in bold) in the scorecard).

- Experimental (**Experimental**)
- Harsh environments (**Environment**)
- New technologies (**Technology**)
- Organisation discontinues funding (**Funding**)
- Other - please state (**other**)

Question 10 - Is there a clear nature of need/ level of obligation or requirement?

PART C - Risk evaluation matrix / cost benefit analysis

[To be discussed and agreed]



Annex B – Decision Support Framework Scorecard

Title of Proposed Activity	
Name of organisation	
Name of nominated delegate	
Date of submission to central body	

Number	Question		Organisation 1 (Tick or add text from Annex A)	Organisation 2 (Tick or add text from Annex A)
			Name:	Name :
1	Does the activity contribute towards the Uks needs? Refer to the Statement of Need	No- reconsider proposed activity & re-submit proposal		
		Yes		
2	What are the major reasons for undertaking/funding the activity and hence the risks and impacts of not undertaking/ stopping/ reducing this activity for your organisation (and the UK)?	Refer to list in Annex A		
3	Does the activity provide a unique output? (check the UK-EOF catalogue and provide the results in Annex A)	No		
		Yes		
4	Does duplicate data already exist?	Yes - reconsider proposed activity & re-submit proposal		
		No		
5	a How long has the time series existed?	Years		
	b How long does it need to continue to show (statistically significant) trends above natural variations?	Years		
6	Does the activity follow an appropriate internal/external protocol, standard or best practice procedure?	No		
		Partial compliance		
		Yes		
7	a What are the total annual costs of the activity calculated at Full Economic Costing? (Using UK-EOF guidelines)	Cost	£	
	b Are there any additional one-off costs - i.e. new technology/ infrastructure?	Yes	£	



			No		
	c	Have previous financial investments in the activity? If so, to what level?	No		
			Yes	£	
8	a	Have options for cost efficiency been considered (see Annex A)?	No		
			Partial consideration		
			Yes		
	b	Which options should be explored further?	Refer to list in Annex A		
9		Does the level of risk (see Annex A for details of risk) justify the information collected?	No		
			Yes		
SUMMARY					
10		Is there a clear nature of need/ level of obligation or requirement?	No		
			Yes - with modification to activity		
			Yes		

