ERAC-CT-2005-0260025

IWRM-NET

Towards a European-wide exchange Network for integrating research efforts on Integrated Water Resources Management

Thematic priority: Integrated water resource management

D56 ERA-net Information Exchange Effectiveness: A quick assessment of the effectiveness of the human ERA-network and selected information repositories.

Start of the project: 1 January 2006   *Duration*: 5 years

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Dissemination level		
PU	Public	X
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services).	
CO	Confidential, only for members of the consortium (including the Commission Services).	

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1   INTRODUCTION

1.1   WHAT IS IWRM.NET

IWRM-NET (n°ERAC-CT-2005-026025) is a five year (20 06-2010) European Research Area project (ERA-Net) funded by the European Commission. IWRM-NET aims to implement new research activities at the national and regional levels related to Integrated Water Resource Management (IWRM) with a focus on the Water Framework Directive.

The Vision IWRM.Net has been defined in the Description of work and states:

By 2010, *IWRM.Net* will be established as:

1. THE source for knowledge about IWRM-research being undertaken in Europe at Members States level, with a focus on the WFD;

2. A forum for prospective and co-ordination of research needs and programmes on related issues in different countries, including accession states and EU neighbours

3. The facilitator between research and water policy makers and managers to bridge the communication gap

4. A facilitator for bringing together researchers and funders from different countries to work on joint research programmes

5. A forum for exchanging best practices on administrating research programmes across Europe

The 17 European partners currently involved in IWRM-NET are research programme managers and have agreed on what should be IWRM-NET by 2010.

IWRM-NET is open to new research programme managers working at national or regional level and dealing with Integrated Water Resource Management issues. Information to join the IWRM-NET community can be found on the project website (www.iwrm-net.eu).

1.2   PURPOSE OF THIS DOCUMENT

This document is a deliverable of WP5 – "Liaison strategy". This deliverable comprises the results of an experiment to assess the effectiveness of the human networks of IWRM-net and CRUE ERA-net in comparison to information repositories.

2   BACKGROUND, OBJECTIVES AND APPROACH

One of the key aspects of an ERA-net is the exchange of information between research funding agencies on ongoing research and research programmes. For this purpose, ERA-net typically developed information repositories (databases) on national research programmes and research projects. In addition, email is used to enhance transnational exchange of project and programme information, e.g. by sending out request to all partners. It is however unclear how valuable the different instruments perform. To get some insight we carried out a quick-scan study with the following leading questions:

1) What is the response of the human networks (IWRM-net and CRUE ERA-net) to specific questions of a water manager ("Network consultation")

2) What can be found in a selected number of information repositories (databases on projects and programmes) with respect to the questions used in (1) (called "Database search")?

3) What can be concluded from the findings in (1) and (2)?

For this purpose, we identified four research questions that are emerging in the Netherlands, and of which is thought that research in other countries may be beneficial. The research questions have developed in a multi-party strategic research agenda exercise, and are part of the "Nationaal Waterplan[1]". Because of the multi-party, national character, the research questions are abstract, in particular if compared to the needs of the research community.

Three of the four questions relate to CRUE-type of work, three relate to IWRM-net work.

Research Questions CRUE / IWRM-net

1a) Are (elements of a) method(s) available (past research, present, expected soon) to determine an acceptable risk for large numbers of flood-related casualties and large scale societal disruption? (**CRUE**)

1b) Are there key national research projects (recently finalized, ongoing or planned) dealing with adaptive policy making (pairing short term decision making with long term flexibility) while explicitly considering risk and uncertainty? (**IWRM-net**)

2) Are there (elements for) decision support systems for building in low-lying / flood-prone (polder) areas, including long-term notions, flood risk management and cost-benefit analysis? (**CRUE / IWRM-net**)

3) Are there key research projects (recently finalized, ongoing or planned) which aim to predict and assess morphological, environmental, economic and social impacts of large-scale beach nourishments? (**CRUE / IWRM-net**)

Steps in the experiment:

1) We asked the members of IWRM-net and CRUE-ERA-net if they have answers to the questions raised (or if not, just to mention that). We did not expect them to spend much time, so just to provide maybe a URL if one was aware of input or work in progress. Results in any language were welcome.
   We asked the CRUE and IWRM-net partners to keep the time needed to invest in the search and to provide the answers. We expected answers within 2 weeks.

2) We transformed the questions into key-words which were than used to query a selected set of information repositories. Without aiming to be complete Table 1 provides an overview of relevant information repositories. In the experiment the following databases were included CRUE-ERAnet "Cruise", IWRM-net database, CORDIS-Projects, EUGRIS, NOW project database, Coastal-wiki and WISE-RTD. It should be noted that only the free search capacities of different databases were tested. Some databases, e.g. CRUISE, can be queried after a specific sub-theme has been selected.

3) We assessed the complementarities of the results.

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[1] http://www.verkeerenwaterstaat.nl/english/topics/water/water_and_the_future/national_water_plan/

Table 1: Some examples of research information repositories. Many more repositories exist.

Repository	Dominant Language	Content	Origin
AquaSearch	Dutch	Water sector information of the Netherlands	Living with Water program, STOWA Foundation and the Netherlands Water Partnership
COASTAL-WIKI	English	The coastal wiki is not really a database such as the aforementioned. The Coastal Wiki is a (scientific) coastal and marine internet encyclopaedia consisting of 1397 information pages (articles), including information about coastal programmes and projects. (status early 2010)	FP6-Encora
DEFRA Science and Research Projects	English	Details of all Defra funded projects are available through this site.	United Kingdom
German Catalogue "Förderkatalog"	German	A catalogue with more than 110.000 projects in different scientific fields.	German Government
CORDIS - Community Research and Development Information Service	English	European Framework Programme Research projects	European Commission
CRUE-CRUISE	English	CRUISE (CRUe Information System Europe) provides a starting point for users interested in finding out more about European research in FRM, both at the research programme level and ultimately the individual project level. CRUISE is intended to be useful to a broad range of users such as policy makers, FRM funding bodies, the research community, FRM practitioners and the general public.	FP ERA-net CRUE
Datenbank Klimawandelanpassung (Austria)	German	Austrian projects on climate change adaptation research and experiences	Environment Agency in Austria
Environment Research Funders Forum (ERFF, UK)	English	environmental research activities funded by ERFF members	ERFF
EUGRIS: Portal for soil and water management in Europe	English	web portal offering information and services on topics related to soil and water	FP5-EUGRIS
IW: Learn	English	IW:LEARN is the Global Environment Facility's (GEF) International Waters Learning Exchange and Resource Network.	In collaboration with UNEP, UNDP, World Bank
IWRM-net database and knowledge	English	Database containing mainly national programmes and several projects regarding Integrated Water	FP ERA-net IWRM.Net

Repository	Dominant Language	Content	Origin
management tool		Research Management	
LIFE(+) projects	English	LIFE is the EU's financial instrument supporting environmental and nature conservation projects throughout the EU, as well as in some candidate, acceding and neighbouring countries. Since 1992, LIFE has co-financed some 3115 projects, contributing approximately €2 billion to the protection of the environment.	European Commission – DG Envrionment
Netherlands Organisation for Scientific Research (NWO) database	English	National database containing 9000 research projects in all scientific fields	Netherlands Org. for Scientific Research (NWO) database
NetWatch	English	Comprehensive description of national programmes participating in ERA-NETS and other programme collaboration schemes.	European Commission
SNIFFER - Scotland and Northern Ireland Forum for Environmental Research	English	Many projects on : Climate change; Sustainable land use and water management ; Flood Risk Management; Water Framework Directive implementation; Sustainable places; Environmental regulation	SNIFFER
WaterWiki	English	WaterWiki aims at connecting Water professionals to knowledge and experience based on work in the context of the UN.	Initiated by UNDP and many supporters
WISE-RTD	English	WISE-RTD has not been developed as a typical database, but as a science-policy linking mechanism. It is managing and servicing the comprehensive disclosure of information about existing policies and scientific and technical knowledge with direct relevance to the EU Water Framework Directive and its relevant guidelines. The information one can obtain contains news about events, products, but also reports, project-descriptions, articles (either published or not) and varied information about ongoing affairs, policies, best practices and their implementation (all but databases). Information is presented from all over Europe (and even beyond), at European, national and regional level as well as for river (sub-)basins.	FP-Harmoni-CA and SPI-WATER

3   RESULTS OF THE NETWORK CONSULTATION

3.1   RESULTS

The following table 2 gives an overview of the network consultation. Annex 1a provides the list of respondents. In annex 2 more detail is provided.

Table 2. Overview of number of emails sent and replies received

ERA net	Number of emails sent	Replies received within 2 weeks			
		useful	not useful (no time)	absence	rebounced
CRUE	18	1	-	2	3
IWRM-net	56	2 + 7[2]	1 + 1[2]		
Total	**74**	**10**	**2**	**2**	**3**

3.2   OBSERVATIONS

- The number of replies is quite low. This may (partially be) due by the (busy) end of year period.
- The overall (useful) response for the two networks together is around 14%, for CRUE around 6% and for IWRM-net around 16% (of which the main part is coming from the German national network). If we omit the additional responses from the German network, both CRUE and IWRM response levels are about 6%.
- The replies are quite diverse but appear to contain valuable information, from rather general internet addresses till specific information on the research issues. We received two references to specialized institutes.
- Question 3 resulted in only a few results, probably because it is a very specific issue (beach nourishments) and relatively few consulted people actually work in this field.
- Responses were mainly expert opinions: In one case, the respondent had used a regional database to search for potentially useful projects.
- There is (much) time needed to elaborate and asses thoroughly if the replies given provide much additional knowledge. Unfortunately, in this quick-scan experiment there was no time available to do this. However, it is clear than on national and regional levels much research is ongoing which cannot be found in the European-wide databases.

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[2] Replies from German representative who forwarded the email to the full national (German) network

4   RESULTS OF THE DATABASE SEARCH

4.1   NUMERICAL RESULTS

The following tables 3a and 3b provide an overview of the database search. Explanatory notes are provided below the tables. A bold number indicates that the projects are included in appendix 2.

Table 3a. Overview of number of relevant programs and projects scored in several databases regarding four research questions and related keywords (""indicates a wildcard, Prog = Programmes, Proj = Projects)*

	CRUISE[3]		IWRM-net [4]		CORDIS[5]		EUGRIS[6]
	Prog	**Proj**	**Prog**	**Proj**	**Prog**	**Proj**	**Proj**
Question 1a Keywords							
Flood*	*30*	*261*	16	5	5	402	19 (15)
Flood* + risk	*19*	*97*	2	3	1	82	6 (3)
Flood* + assess*	*5*	*29*	0	1	4	134	3 (2)
Flood* + method*	*3*	*27*	0	0	3	158	9 (5)
Flood* + damage	*1*	*6*	0	0	1	38 (11)	2 (1)
Flood* + risk + assess*	-	-	0	*1*	1	49 *(25)*	0
Time needed (min)		*10*		20		15	10
Question 1b Keywords							
Adapt*	*2*	*7*	14	2	139	6424	30
Adapt* + risk	*19*	*97*	0	0	33	371	10
Adapt* + polic*	*11*	*19*	0	0	105	1064	10
Adapt* + decision	*7*	*13*	0	0	69	427	8
Adapt* + manage*	*27*	*104*	0	0	93	2210	19
Adapt* + risk* + polic* + water*	-	-	0	0	11	**36**	**3**
Time needed (min)		10		20		15	10
Question 2 Keywords							
Flood*	*30*	*261*	16	5	5	402	19
Flood* + protect*	*9*	*15*	0	0	3	204	5
Flood* + build*	*2*	*5*	0	0	2	95	2
Flood* + decision	*7*	*13*	0	0	3	49	10
Flood* + econom*	*11*	*14*	0	0	4	154	9
Flood* + protect* + build*	-	-	0	0	1	**54**	**2**
Time needed (min)		10		20		15	10
Question 3 Keywords							
Coast*	*5*	*55*	16	4	40	1376	15 (5)
Coast* + beach	*0*	*14*	0	0	0	32 (22)	0
Coast* + nourish*	*0*	*0*	0	0	0	7	0
Coast* + sand	*0*	*4*	0	0	0	32 (22)	0
Coast* + beach + nourish*	-	-	0	0	0	**7**	0
Time needed (min)		10		20		15	10

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[3] In CRUISE a search with a combination of key words is not possible (only the 'exact phrase' will be searched for); therefore in this case all mentioned key words are searched separately. For example "Adapt* + risk" means in the case of CRUISE that only risk was searched for. This makes comparison with the results of the other databases difficult

[4] No wildcards were used because they led to inexplicable results.

[5] Between brackets the number of most relevant projects

[6] Between brackets the number of most relevant projects

Table 3b. *Overview of number of relevant programs and projects scored in several databases regarding four research questions and related keywords ("*"indicates a wildcard, Prog = Programmes, Proj = Projects) (bold: projects are included in Appendix 2)*

	NWO	Coastal Wiki [7]		WISE-RTD [8]		NetWatch
	Proj	Titles	Pages	Policy [9]	RTD [10]	Prog.
Question 1a Keywords						
Flood*	72	6	70	65	93	0
Flood* + risk	17	1	32	17	19	0
Flood* + assess*	25	0	9	37	11	0
Flood* + method*	18	0	15	20	8	0
Flood* + damage	3	0	13	9	6	0
Flood* + risk + assess*	**10**	0	5	16	**3**	0
Time needed (min)	10		10		15	1 min
Question 1b Keywords						
Adapt*	575	?	?	46	29	3[11]
Adapt* + risk	45	0	6	10	4	0
Adapt* + polic*	48	0	0	14	9	0
Adapt* + decision	20	0	7	19	12	0
Adapt* + manage*	72	0	3	26	20	0
Adapt* + risk* + polic*	11	0	0	6	**1**	0
Time needed (min)	10		10		15	
Question 2 Keywords						
Flood*	72	6	70	65	93	0
Flood* + protect*	5	0	13	44	30	0
Flood* + build*	5	0	6	12	8	0
Flood* + decision	3	0	22	26	10	0
Flood* + econom*	12	0	0	29	16	0
Flood* + protect* + build*	**1**	0	**3**	9	**2**	0
Time needed (min)	10		10		15	1
Question 3 Keywords						
Coast*	178	13	342	109	90	1[12]
Coast* + beach	6	1	137	2	1	0
Coast* + nourish*	0	0	3	0	1	0
Coast* + sand	10	0	106	4	5	0
Coast* + beach + nourish*	0	0	**3**	0	0	0
Time needed (min)	10		10		15	1 min

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[7] The Coastal Wiki is a coastal and marine internet encyclopedia. It is not a program or project database as such, so the comparison with the other databases is just indicative. The search results are showed for 'article titles' and 'web pages' (the latter including article titles)

[8] No wildcards were used

[9] Policy implementations

[10] Research, technology and development

[11] Key-word « adaptation », no results on adaptability

[12] Key-word coast, no results for coastal

4.2   OBSERVATIONS

4.2.1   General

- The selection of key words is extremely important and will determine the usefulness of the search results. It is recommended to invest in 'pre-testing' some key words and combinations in order to find valuable results.
- It is not always clear if wildcards can and should be used. In some instances we observed strange search results when using wildcards, reducing our trust in the result of a search. In both IWRM-net and WISE-RTD, we did not use wildcards.
- It took some time to get familiar with the different kinds of databases and search engines. The diversity is a pity, since users hence need to invest time to get acquainted with each database.
- Sometimes it was not clear to the researchers if "logging in" is required to use a system, or if logging in will provide additional information.
- No database provided publicly insight in its use. We hope that such information is available in the back-offices, and results are used to improve the performance of the different databases.

4.2.2   CRUISE

- Since CRUISE has been developed for flood related research, we consider all project and programme entries in CRUISE relevant to question 1a, 2 and to some extend question 3.
- Having said that, a user of CRUISE cannot narrow down by using multiple key words (Status beginning of 2010): Only the 'exact phrase' will be searched for (i.e. not AND OR operators). This makes it difficult to find results via free search. We recommend to adjust the CRUISE search mode on this point.
- Using the pre-defined classification of records may provide better results. We did not test this potential strong point of CRUISE. We limited ourselves to free-search.
- Unfortunately, this makes the CRUISE search modes not sufficient and not comparable with the search modes of the other databases:
- The use of a wildcard (*) is not needed.
- The user interface is simple, and a clear distinction is made between programmes, projects, organisations, research units and documents.

4.2.3   IWRM-net

- The use of a wildcard (*) in a single keyword search led to a smaller number of hits than in using that same keyword in combination with a second keyword. Although some hits can be classified as useful, we recommend not to use wildcards. Using no wildcard it was furthermore striking that many a key word combination did not result in any programme or any project found. We recommend improving and testing the database on the use of wildcards.
- The use of 'rules' is complex and requires many 'clicks'. It takes some time to apply. We recommend improving this useful facility.
- Using the pre-defined filters of records may provide better results. We did not test this potential strong point of IWRM-net.
- As the members of IWRM-net focussed on exchanging programme information the number of programmes found is higher than the number of projects.

4.2.4   CORDIS

- We recommend users to use the advanced search mechanism, since we found less results using "simple search".
- We recommended listing the search results in relevance order (although even then still not all is relevant, because there are many different themes in this database). We would appreciate an explanation on how the relevance is determined.
- The use of wildcards (*) is needed – they are not automatically assumed.

- The search engine is very easy to use.
- The database contains abundant data from numerous scientific fields. Therefore more detailed selection criteria (key words) need to be used (as compared to this experiment) in order to get most useful results. E.g. In the case of 'adapt*' it became clear that this word is not only used regarding climate change but also regarding the process industry.

4.2.5   EUGRIS

- The search resulted in very relevant selections of projects on water and soil issues.
- In this database only projects are mentioned (no programmes), but this can be a matter of definition
- The search engine is very easy to use.
- The use of wildcards (*) is needed – they are not automatically assumed.

4.2.6   NWO

- The search engine is easy to use.
- In this database only projects are mentioned (no programmes), but this can be a matter of definition.
- The database contains many relevant projects.

4.2.7   COASTAL-WIKI

- The coastal wiki is not really a database such as the aforementioned. The Coastal Wiki is a (scientific) coastal and marine internet encyclopaedia consisting of 1397 information pages (articles), including information about coastal programmes and projects. However, it is not a programme or project database as such, so the comparison with the other databases is not appropriate and just indicative.
- The search for key words is (automatically) done for 'article titles' and 'web pages'. The latter shows the articles (web pages) in which the key words are mentioned.
- Search results were rather limited for the 'article titles' but more abundant for the 'web pages'. However results are only partly concerning programmes or projects

4.2.8   WISE-RTD

- Like the coastal wiki WISE-RTD has not been developed as a typical database, but as a science-policy linking mechanism.
- The results produced by using WISE-RTD were plentiful.
- We find the search engine is user-friendly.
- Besides searching on one or more keywords ('free search') the user is also able to grant him- or herself a domain right from the beginning: one is able to approach information as a manager, as a researcher/consultant or as a stakeholder on the "guide search" device. In that case, the machine itself pre-selects areas of interest the user might qualify as being most interesting. The machine provides the visitor also with a demo and a fair lay out. Like with CRUISE, we did not use this facility.
- The database currently does not seem to be very well kept up-to-date: the last news bulletin dates back from March 2009 (Status early 2010).

5   ADDED VALUE OF THE NETWORK

We selected six national projects/programmes with acronyms from the 'human network' exercise. We tested if these projects appear in other pan-European databases. The results are shown in the table below.

Acronym	Project / Programme title	Country	Cruise	IWRM-net	WISE-RTD	EUGRIS
RADOST	Regional adaptation strategies fort he German Baltic coast. (Regionale Anpassungsstrategien für die deutsche Ostseeküste)	D	NO	NO	NO	NO
KLIWA	Climate change and the consequences on water resources (Klimaveränderung und Konsequenzen für die Wasserwirtschaft).	D	NO	NO	NO	NO
KLIWAS	Climate change effects on waterways and navigation: Development of adaptation options (Auswirkungen des Klimawandels auf Wasserstraßen und Schifffahrt – Entwicklung von Anpassungsoptionen).	D	NO	YES	NO	NO
Rimax	Risk Management of extreme flood events (BMBF-Förderaktivität "Risikomanagement extremer Hochwasserereignisse" (RIMAX)).	D	YES	YES	NO	NO
CLIMAR	Evaluation of climate change impacts and adaptation responses for marine activities	Be	NO	NO	NO	NO
CCI-HYDR	Climate change impact on hydrological extremes along rivers and urban drainage systems in Belgium	Be	NO	NO[13]	NO	NO

We excluded CORDIS, NWO and Netwatch, since:

- CORDIS project database only concerns European funded research
- NWO only concerns Dutch research
- NetWatch did not reveal many 'hits' to begin with.

This result shows, that the 'human network' established by IWRM-net and CRUE provides additional results.

6   OVERALL CONCLUSIONS AND RECOMMENDATIONS

This small experiment intended to give some more insight in the effectiveness of using 'human ERA-net networks by email consultation' versus searching a variety of databases. A key assumption was that the human network will deliver different results: in particular, national initiatives would surface. 'Human ERA-net networks by email consultation' is of course only a part of the exchange of information: scientists will typically publish results in scientific journals and present at conferences.

From a quantitative perspective, the experiment showed that the response of the human network is relatively low. We did not research the reasons for this low response. However, it may have been caused by (i) the busy times at the end of the year; (ii) unclear questions; (iii) willingness to deliver to an unknown group, etc.

The experiment also revealed that a lot of information is available in various databases.

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[13] CCI-HYDR delivered many results in the IWRM-net database. However, we did not find the CCI-HYDR project.

Quantitatively speaking the benefit of the human network compared to the databases is clear: Based on six trials, the national projects would rarely be found without the human network. Hence, while database searches deliver (depending on the database) numerous results, the human network reaching into European Countries does have added value. Since we did not assess if the response in the network delivered truly useful results we recommend that this should be assessed in a future project.

A qualitative comparison of the different results is difficult if not impossible to carry out. We believe that a problem owner in a specific setting should carry out a larger scale quantitative and qualitative benchmark of databases: We would like to stimulate people who are actively searching information to record and evaluate their efforts.

In this experiment, we included a number of databases, being fully aware that many more exist, some of which are listed in this report. We did not compare the outputs of the different databases, but one can imagine that some overlap between the different systems exists, meaning that information has been provided multiple times. European funded projects will appear in EUGRIS, WISE-RTD and CORDIS. However, each of these systems has its own approach, strength and weaknesses. While different approaches and user interfaces are useful, basic information about projects remains the same: It is therefore a pity that sometimes this information is replicated in different databases. We recommend that a study should be carried out that assesses the possibility of a user interfaces that accesses multiple databases at once. Alternatively, a study should be taken forward to fully interlink or merge various European and National systems. Only if the user can easily access multiple systems and gain trust about the completeness of results, programme and project repositories will be efficiently and effectively utilized. As a first step, a more thorough analysis of overlap of information in different databases should be carried out, leading to some first agreements about alignments of information systems.

Appendix 1 Respondents of the network consultation

Name	Organisation	Country
Wouter Vanneuville	**Flanders Hydraulics Research**	**Belgium**
Philippe Vervier	**ECOBAG, France**	**France**
Stephen Midgley	**Sniffer, Scotland**	**United Kingdom**
Dagmar Ridder	**Seecon**	**Germany**
Martin Pusch	**IGB Berlin**	**Germany**
Anja Soboll	**University of Munich**	**Germany**
Stefan Kaden	**DHI Wasy**	**Germany**
Jürgen Reich	**Ministry of Environment and Transport Baden-Württemberg**	**Germany**
Andreas Kron	**Karlsruhe Institute of Technology**	**Germany**
Gerhild Linau	**Ministry of the Environment and Climate protection of Niedersachsen**	**Germany**

Appendix 2 Detailed results of the database search

Important notices:

1) Only database results containing all keywords have are included in the tables below.

2) Only projects are included, which implies that Coastal wiki results are not included.

3) Results of CRUISE are not included since CRUISE did not allow to combine keywords

4) Results of IWRM-net are included, but without the use of wild-cards

5) Maximum results shown per database is 10. (Top 10)

Appendix 2-a Question 1a

Are (elements of a) method(s) available (past research, present, expected soon) to determine an acceptable risk for large numbers of flood-related casualties and large scale societal disruption? (**CRUE**)

Only those database records are shown that contain all three keywords: Flood* risk assess (maximum 10 per database). All results from the networks are shown.

Source	Keywords	Acronym of relevant projects	Full title (& comments)	Other relevant info
NETWORKS	N.A.	ADAPT	The ADAPT project – Floods: Towards an integrated decision tool for adaptation measures	Belgium
NETWORKS	N.A.	AMICE	Adaptation of the Meuse to the Impacts of Climate Evolutions	Transnational Interreg
CORDIS	Flood* risk assess* (top10)	EFFS	An european flood forecasting system	Completed
WISE-RTD	Flood risk assess	FIRMA	FIRMA Augmenting water supply to reduce risk, financing investment in Llobregat, Spain	
CORDIS	Flood* risk assess* (top10)	FLADAR	Flood zoning in Southeast Attica using gauge calibrated radar rainfall and advanced modeling techniques	Execution
CORDIS	Flood* risk assess* (top10)	FLOODGEN	Flood risk reduction by space borne recognition of indicators of ex cess runoff generating areas	Completed
WISE-RTD	Flood risk assess	FLOODSITE	FLOODsite Integrated flood risk analysis and management methodologies	
CORDIS	Flood* risk assess* (top10)	FLOODSITE	INTEGRATED FLOOD RISK ANALYSIS AND MANAGEMENT METHODOLOGIES	Completed
CORDIS	Flood* risk assess* (top10)	FLOODSTAND	Integrated flooding control and standard for stability and crises management	Execution
IWRM-net	Flood risk assess	FRMRC	Flood Risk Management Research Consortium (FRMRC)	
NWO	Flood* + risk + assess*	N.A.	Analysing local climate vulnerability and local adaptation strategies	started 2005
NETWORKS	N.A.	N.A.	Assessing the Benefits of Flood Warning	UK
NETWORKS	N.A.	N.A.	Assessing the Benefits of Flood Warning Phase 2	UK
NETWORKS	N.A.	N.A.	Assessing the Benefits of Flood Warning: Phase 3	UK

Source	Keywords	Acronym of relevant projects	Full title (& comments)	Other relevant info
NETWORKS	N.A.	N.A.	Business Risks of Climate Change to Public Sector Organisations in Scotland	UK
NWO	Flood* + risk + assess*	N.A.	Climate change predictions in Sub-Saharan Africa: impacts and adaptations	started 2009
NETWORKS	N.A.	N.A.	Digital Good Practice Manual for Flood Risk Management	UK
NETWORKS	N.A.	N.A.	Estimating Uncertainty Within WFD Classification Tools	UK
CORDIS	Flood* risk assess* (top10)	N.A.	Flash-flood risk assessment under the impact of land use changes an d river engineering works	Completed
WISE-RTD	Flood risk assess	N.A.	GWP Toolbox C1 Water Resources Assessment. Understanding resources and needs	
NWO	Flood* + risk + assess*	N.A.	Impact of the three gorges dam (China) on the distribution along the lower Yangtze of wetland biotopes and habitat of over-wintering bird species	ended 2008
NWO	Flood* + risk + assess*	N.A.	Interactions between nutrients and contaminants in flood plain lake ecosystems.	ended 2008
NETWORKS	N.A.	N.A.	Morphological Alterations Database (Scotland)	UK
NETWORKS	N.A.	N.A.	Natural Flood Management - Scoping Project	UK
CORDIS	Flood* risk assess* (top10)	N.A.	Natural hazards	Accepted
NETWORKS	N.A.	N.A.	Peer Review for Natural Flood Management Project	UK
NETWORKS	N.A.	N.A.	Policy Development Decision Making Framework for the Tertiary Treatment Commercial and Industrial Waste	UK
NETWORKS	N.A.	N.A.	Review of Climate Change Mitigation Tools for Local Authorities	UK
NWO	Flood* + risk + assess*	N.A.	Risk of extreme hydrometeorological events in low-lying areas of the North and the Caspian Seas	ended 2006
NETWORKS	N.A.	N.A.	Scoping Study PM2.5 Concentrations, Sources and Regulatory Impacts of New Policy Framework	UK
NWO	Flood* + risk + assess*	N.A.	Soil functioning and species redundancy in contaminated soils: the relevance of environmental heterogeneity.	ended 2006
NWO	Flood* + risk + assess*	N.A.	The impact of land-use changes and river restoration on flood risk (water quantity) and sediment delivery (water quality) in a meso-scale catchment: A modelling approach	started 2007
NWO	Flood* + risk + assess*	N.A.	The regulation of metal toxicity in wetlands by sulfur and nitrogen biogeochemistry	ended 2007
NWO	Flood* + risk + assess*	N.A.	The theoretical and emperical development of FRIS: the Framework of Risk Information Sufficiency	ended 2009
NWO	Flood* + risk + assess*	N.A.	Working with Water: adaptive land use and water management in the Pearl River Delta under climate change and sea level rise	started 2009
CORDIS	Flood* risk assess* (top10)	RAMFLOOD	Decision support system for Risk Assessment and Management of FLOODs	Completed
CORDIS	Flood* risk assess* (top10)	RIPARIUS	Risk of Inundation - Planning and Response Interactive User System	Completed
CORDIS	Flood* risk assess* (top10)	SPHERE	Systematic, palaeoflood and historical data for the improvement of flood risk estimation	Completed

Appendix 2-b Question 1b

Are there key national research projects (recently finalized, ongoing or planned) dealing with adaptive policy making (pairing short term decision making with long term flexibility) while explicitly considering risk and uncertainty? (**IWRM-net**)

Only those database records are shown that contain all three keywords: Adapt* + risk* + polic* (maximum 10 per database). All results from the networks are shown.

Source	Keywords	Acronym of relevant programs or projects	Full title (& comments)	Other relevant info
NETWORKS	N.A.	Klimzug	A set of projects with respect to regional climate adaptation: • INKA BB – Innovationnetwork Climate Adaptation Region Brandenburg Berlin (Innovationsnetzwerk Klimaanpassung Region Brandenburg Berlin) • KLIMZUG-NORD – Strategic adaptation solution trials in metropolitan Hamburg (Strategische Anpassungsansätze zum Klimawandel in der Metropolregion Hamburg) • KLIMZUG-Nordhessen – Climate adaptation network for the retion of Nordhessen (Klimaanpassungsnetzwerk für die Modellregion Nordhessen) • nordwest2050 – Perspectives for climate-adapted innovation processes in the metropolitan area of Bremen-Odenburg (Perspektiven für klimaangepasste Innovationsprozesse in der Metropolregion Bremen-Oldenburg im Nordwesten) • RADOST – Regional adaptation strategies fort he German Baltic coast. (Regionale Anpassungsstrategien für die deutsche Ostseeküste) • REGKLAM – Development and testing of an integrated climate adaptation programme fort he region of Dresden. (Entwicklung und Erprobung eines integrierten Regionalen Klimaanpassungsprogramms für die Modellregion Dresden)	Germany
NETWORKS	N.A.	ADAM	Adaptation and Mitigation Strategies – Supproting European Climate Policy	International – FP
NWO	Adapt* + risk* + polic*	N.A.	Adapting to climate-related natural hazards in building rural livelihoods in Mutarara District, Mozambique	started 2006
NWO	Adapt* + risk* + polic*	N.A.	Adapting to Water Change: Social-Ecological Resilience and Livelihood Innovation as a Consequence of Aquatic-Ecological Change and Changing Water Regimes of the Mahakam River, East Kalimantan, Indonesia	started 2005
CORDIS	Adapt* risk* polic* water* (top10)	DAYWATER	Adaptive decision support system for stormwater pollution control	Completed
NETWORKS	N.A.	IDRC Project	Adaptive Policymaking for Agriculture and Water Resources (India, South Africa, Canada)	Canada
NWO	Adapt* + risk* + polic*	N.A.	Analysing local climate vulnerability and local adaptation strategies	started 2005
NETWORKS	N.A.	N.A.	Assessing the Benefits of Flood Warning	UK
NETWORKS	N.A.	N.A.	Assessing the Benefits of Flood Warning Phase 2	UK
NETWORKS	N.A.	N.A.	Assessing the Benefits of Flood Warning: Phase 3	UK
NETWORKS	N.A.	IWRM-Algeria	BMZ/GTZ project – Integrated water management in Algeria (programme). (Integrierte Wasserwirtschaft, Algerien (Program))	Germany
NETWORKS	N.A.	N.A.	Business Risks of Climate Change to Public Sector Organisations in Scotland	UK
NETWORKS	N.A.	KLIWA	Climate change and the consequences on water resources (Klimaveränderung und Konsequenzen für die Wasserwirtschaft).	Germany
NETWORKS	N.A.	KLIWAS	Climate change effects on waterways and navigation: Development of adaptation options (Auswirkungen des Klimawandels auf Wasserstraßen und Schifffahrt – Entwicklung von Anpassungsoptionen).	Germany

Source	Keywords	Acronym of relevant programs or projects	Full title (& comments)	Other relevant info
NETWORKS	N.A.	Klimaforschung in Niedersachsen	Climate Research in Niedersachsen (Program) – Research themes: Climate; Spatial planning, Crop production, Animal production; Forestry; Inland water; Coast	Germany
EUGRIS	Adapt* risk polic*	ETCA	Concerted Action Environmental Technologies	
CORDIS	Adapt* risk* polic* water* (top10)	N.A.	Development and application of soil productivity indexes for central America	Completed
NETWORKS	N.A.	N.A.	Digital Good Practice Manual for Flood Risk Management	UK
CORDIS	Adapt* risk* polic* water* (top10)	DINAS-COAST	Dynamic and interactive assessment of national, regional and global vulnerability of coastal zones to climate change and sea-level rise (DINAS-COAST)	Completed
CORDIS	Adapt* risk* polic* water* (top10)	N.A.	Dynamics of sediments and water in alpine catchments - processes and prediction	Completed
NWO	Adapt* + risk* + polic*	N.A.	Effects of supplementation of zinc and other micronutrients on mental and psychomotor development of African children (Tanzania)	started 2005
NWO	Adapt* + risk* + polic*	N.A.	Effects of supplementation with zinc and other micronutrients on health, development and well-being of African children (Tanzania)	stared 2004
NETWORKS	N.A.	N.A.	Estimating Uncertainty Within WFD Classification Tools	UK
CORDIS	Adapt* risk* polic* water* (top10)	RESPONSES	European responses to climate change: deep emissions reductions and mainstreaming of mitigation and adaptation	Execution
NETWORKS	N.A.	EPOS	Evaluating Policies for Sustainable Development (BMBF Vorhaben EPOS)	Germany
NWO	Adapt* + risk* + polic*	N.A.	'Getting down to business': Economic responses to climate change	ended 2009
NETWORKS	N.A.	Projekt GLOWA-Danube	GLOWA Danube: Influence of global change on the Upper Danube (Einfluss des Globalen Wandels auf die Obere Donau).	Germany
NETWORKS	N.A.	IWRM-Indonesia	Integrated water resources management in Gunung (Integriertes Wasserressourcen-Management (IWRM) in Gunung Kidul, Java, Indonesien).	Germany
NETWORKS	N.A.	IWRM-Jordan	Integrated Water Resources Management in the Lower Jordan Rift Valley	Germany
NWO	Adapt* + risk* + polic*	N.A.	Interactions of White certificates for energy efficiency and other market instruments in an international policy context: Can they be effective? A power sector case study	started 2005
NETWORKS	N.A.	IWRM-Vietnam	IWRM-Vietnam: Development of a planning and decision support system (Entwicklung eines Planungs- und Entscheidungsunterstützungssystems). Part of BMBF IWRM programme	Germany
NWO	Adapt* + risk* + polic*	N.A.	Linking pollution-induced community tolerance (PICT) and community shifts induced by chronic exposure to metal contamination for microbial and nematode communities.	started 2001
EUGRIS	Adapt* risk polic*	MAGIC	Management of Groundwater at Industrially Contaminated Areas	
NETWORKS	N.A.	Sniffer database	Many projects on : Climate change; Sustainable land use and water management ; Flood Risk Management; Water Framework Directive implementation; Sustainable places; Environmental regulation	Scotland & Northern Ireland
NETWORKS	N.A.	MELIA	MELIA Coordination Action: Fostering the Euro-Mediterranean Integrated Water Resources Management (IWRM) Communities of Practice	International – FP
NETWORKS	N.A.	N.A.	Morphological Alterations Database (Scotland)	UK
CORDIS	Adapt* risk* polic* water* (top10)	BIOFILMS	Natural biofilms as high-tech conditioners for drinking water	Completed
NETWORKS	N.A.	N.A.	Natural Flood Management - Scoping Project	UK
WISE RTD	Adapt + risk + polic	NeWater	New Approaches to Adaptive Water Management under Uncertainty	
EUGRIS	Adapt* risk polic*	NeWater	New Approaches to Adaptive Water Management under Uncertainty	
CORDIS	Adapt* risk* polic* water* (top10)	NEWATER	New Approaches to Adaptive Water Management under Uncertainty	Completed

Source	Keywords	Acronym of relevant programs or projects	Full title (& comments)	Other relevant info
NETWORKS	N.A.	Newater	New Approaches to Adaptive Water Management under Uncertainty	International – FP
NWO	Adapt* + risk* + polic*	N.A.	New foundations for prevention and control of notifiable animal diseases	started 2005
NETWORKS	N.A.	N.A.	Peer Review for Natural Flood Management Project	UK
NETWORKS	N.A.	N.A.	Policy Development Decision Making Framework for the Tertiary Treatment Commercial and Industrial Waste	UK
NETWORKS	N.A.	N.A.	Review of Climate Change Mitigation Tools for Local Authorities	UK
CORDIS	Adapt* risk* polic* water* (top10)	ROSES	Risk of Subsidence due to Evaporite Solution. A European Prediction and Management Scheme	Completed
NETWORKS	N.A.	N.A.	Scoping Study PM2.5 Concentrations, Sources and Regulatory Impacts of New Policy Framework	UK
CORDIS	Adapt* risk* polic* water* (top10)	SEINIT	Security expert initiative	Completed
NETWORKS	N.A.	SLIM	Social Learning for the Integrated Management and sustainable use of water at catchment scale	International – FP
NETWORKS	N.A.	SAFER	Strategies and Actions for Flood Emergency Risk Management	Transnational Interreg
NWO	Adapt* + risk* + polic*	N.A.	The relation of adaptation to toxicants and ecological functioning of microbial communities in aquatic ecosystems.	started 2006
NWO	Adapt* + risk* + polic*	N.A.	Towards more effective landscape planning in an emerging metropolis.	ended 2009
NETWORKS	N.A.	NoRegret	Water shortage and its impact on land use	Transnational Interreg
CORDIS	Adapt* risk* polic* water* (top10)	WCC 3	World Climate Conference 3 - «Better Climate Information for a Better Future»	Completed

Appendix 2-c Question 2

Are there (elements for) decision support systems for building in low-lying / flood-prone (polder) areas, including long term notions, flood risk management and cost-benefit analysis? (**CRUE / IWRM-net**)

Only those database records are shown that contain all three keywords: Flood* + protect* + build* (maximum 10 per database). All results from the networks are shown.

Source	Keywords	Acronym of relevant programs or projects	Full title (& comments)	Other relevant info
EUGRIS	Flood* protect* build*	AQUATERRA	Integrated modelling of the river-sediment-soil-groundwater system; advanced tools for the management of catchment areas and river basins in the context of global change	
CORDIS	Flood* protect* build* (top10)	CHEF	Cultural heritage protection against Flood	Execution
NETWORKS	N.A.	Concert' Eau (More)	Collaborative Technological Plateform for implementation for WDF within agricultural context (includes a decision support tool)	France
WISE RTD	Flood + protect + build	FAR	FAR Extreme Floods and Flood Protection along the Rhine	
CORDIS	Flood* protect* build* (top10)	FLOODAWARE	Applied research on a transferable metthodology, devoted to flood awareness and mitigation, helping the decision and negotiation processes,a dpated to a changing environment, and respecting the water resources	Completed
NETWORKS	N.A.	Floodrisk	Flood Information System that has been set up within the framework of the ESA project GSE RISKEOS (www.risk-eos.com)	International
NETWORKS	N.A.	IRMA-SPONGE	Umbrella Program brings together 13 European scientific projects researching a wide range of flood risk management issues along the Rivers Rhine and Meuse	Transnational
NETWORKS	N.A.	Klimaforschung in Niedersachsen	Climate Research in Niedersachsen (Program) – Research themes: Climate; Spatial planning, Crop production, Animal production; Forestry; Inland water; Coast	Germany
NETWORKS	N.A.	KLIWA	Klimaveränderung und Konsequenzen für die Wasserwirtschaft	Germany
NETWORKS	N.A.	LATIS	LATIS software	Belgium
EUGRIS	Flood* protect* build*	MAGWAT	Magnetic Resonance Imaging System for Ground Water Investigations	
NETWORKS	N.A.	MARE	Managing Adaptive Responses	Transnational Interreg
NETWORKS	N.A.	N.A.	Assessing the Benefits of Flood Warning	UK
NETWORKS	N.A.	N.A.	Assessing the Benefits of Flood Warning Phase 2	UK
NETWORKS	N.A.	N.A.	Assessing the Benefits of Flood Warning: Phase 3	UK
NETWORKS	N.A.	N.A.	Business Risks of Climate Change to Public Sector Organisations in Scotland	UK
NETWORKS	N.A.	N.A.	Digital Good Practice Manual for Flood Risk Management	UK
CORDIS	Flood* protect* build* (top10)	N.A.	Ecological bases for the sustainable management of flooded tropical ecosystems - case studies in the Llanos, Venezuela and the Pantanal, Brazil	Completed
NETWORKS	N.A.	N.A.	Estimating Uncertainty Within WFD Classification Tools	UK
CORDIS	Flood* protect* build* (top10)	N.A.	EUROPEAN FLOOD STUDY	Completed
CORDIS	Flood* protect* build* (top10)	N.A.	Flash-flood risk assessment under the impact of land use changes an d river engineering works	Completed

Source	Keywords	Acronym of relevant programs or projects	Full title (& comments)	Other relevant info
NETWORKS	N.A.	N.A.	Morphological Alterations Database (Scotland)	UK
NETWORKS	N.A.	N.A.	Natural Flood Management - Scoping Project	UK
NETWORKS	N.A.	N.A.	Peer Review for Natural Flood Management Project	UK
NETWORKS	N.A.	N.A.	Policy Development Decision Making Framework for the Tertiary Treatment Commercial and Industrial Waste	UK
CORDIS	Flood* protect* build* (top10)	N.A.	Rehabilitation and development of nature in the 'Grensmaas' area	Completed
NETWORKS	N.A.	N.A.	Review of Climate Change Mitigation Tools for Local Authorities	UK
NETWORKS	N.A.	N.A.	Scoping Study PM2.5 Concentrations, Sources and Regulatory Impacts of New Policy Framework	UK
WISE RTD	Flood + protect + build	N.A.	Siikalahti Protection and management of the valuable wetland Siikalahti	
CORDIS	Flood* protect* build* (top10)	N.A.	Stabilization of the population of beaver and otter	Completed
CORDIS	Flood* protect* build* (top10)	N.A.	Storms, Floods and Radar Hydrology	Completed
NETWORKS	N.A.	Projekt GLOWA-Danube	GLOWA Danube: Influence of global change on the Upper Danube (Einfluss des Globalen Wandels auf die Obere Donau).	Germany
CORDIS	Flood* protect* build* (top10)	PRO-TECH NATURE	Protecting from natural hazards using new technologies. The role of the researcher	Execution
NETWORKS	N.A.	Rimax	Risk Management of extreme flood events (BMBF-Förderaktivität "Risikomanagement extremer Hochwasserereignisse" (RIMAX)).	Germany
CORDIS	Flood* protect* build* (top10)	RIPARIUS	Risk of Inundation - Planning and Response Interactive User System	Completed
NETWORKS	N.A.	RISK-EOS	Earth Observation based Services for flood and fire risks management	International
NETWORKS	N.A.	SAFER	Strategies and Actions for Flood Emergency Risk Management	Transnational Interreg
NETWORKS	N.A.	Sniffer database	Many projects on : Climate change; Sustainable land use and water management ; Flood Risk Management; Water Framework Directive implementation; Sustainable places; Environmental regulation	Scotland & Northern Ireland
NETWORKS	N.A.	Watertoets.be	Webservice to that shows the effects of e.g. building developments on water reources.	Belgium

Appendix 2-d Question 3

Are there key research projects (recently finalized, ongoing or planned) which aim to predict and assess morphological, environmental, economic and social impacts of large-scale beach nourishments? (**CRUE / IWRM-net**)

Only those database records are shown that contain all three keywords: Coast* + beach* + nourish* (maximum 10 per database). All results from the networks are shown.

Source	Keywords	Acronym of relevant programs or projects	Full title (& comments)	Other relevant info
NETWORKS	N.A.	CCI-HYDR	Climate change impact on hydrological extremes along rivers and urban drainage systems in Belgium	Belgium
NETWORKS	N.A.	CLIMAR	Evaluation of climate change impacts and adaptation responses for marine activities	Belgium
CORDIS	Coast + beach + nourish	EVERANS	Evaluation of the efficiency of artificial reefs by advanced numerical simulations - towards environmentally friendly coastal protection	Execution
CORDIS	Coast + beach + nourish	ISEMAR	Application of integrated sea-bottom exploration by hydro-acoustic methods: Forecast of marine aggregates resources in Lithuania	Completed
NETWORKS	N.A.	Klimaforschung in Niedersachsen	Climate Research in Niedersachsen (Program) – Research themes: Climate; Spatial planning, Crop production, Animal production; Forestry; Inland water; Coast	Germany
NETWORKS	N.A.	N.A.	Assessing the Benefits of Flood Warning	UK
NETWORKS	N.A.	N.A.	Assessing the Benefits of Flood Warning Phase 2	UK
NETWORKS	N.A.	N.A.	Assessing the Benefits of Flood Warning: Phase 3	UK
NETWORKS	N.A.	N.A.	Business Risks of Climate Change to Public Sector Organisations in Scotland	UK
NETWORKS	N.A.	N.A.	Coast Research Centre (ForschungZentrum Küste (FZK))	Germany
NETWORKS	N.A.	N.A.	Digital Good Practice Manual for Flood Risk Management	UK
NETWORKS	N.A.	N.A.	Estimating Uncertainty Within WFD Classification Tools	UK
NETWORKS	N.A.	N.A.	German Coastal Engineering Research Council – including a project library and several links to lists of initiatives	Germany
NETWORKS	N.A.	N.A.	Morphological Alterations Database (Scotland)	UK
NETWORKS	N.A.	N.A.	Natural Flood Management - Scoping Project	UK
WISE RTD	Coast + beach + nourish	N.A.	NO RESULTS FOUND	
NETWORKS	N.A.	N.A.	Peer Review for Natural Flood Management Project	UK
NETWORKS	N.A.	N.A.	Policy Development Decision Making Framework for the Tertiary Treatment Commercial and Industrial Waste	UK
NETWORKS	N.A.	N.A.	Review of Climate Change Mitigation Tools for Local Authorities	UK
CORDIS	Coast + beach + nourish	N.A.	Risk analysis of coastal nourishment techniques	Completed
NETWORKS	N.A.	N.A.	Scoping Study PM2.5 Concentrations, Sources and Regulatory Impacts of New Policy Framework	UK
CORDIS	Coast + beach + nourish	NOURTEC	Innovative nourishment techniques evaluation	Completed
CORDIS	Coast + beach + nourish	OROMA	Operational radar and optical mapping in monitoring hydrodynamic, morphodynamic and environmental parameter for coastal management	Completed
NETWORKS	N.A.	PhD thesis of Wim Kellens	-> sent email to wim.kellens@ugent.be	Belgium
NETWORKS	N.A.	Projekt GLOWA-Danube	GLOWA Danube: Influence of global change on the Upper Danube (Einfluss des Globalen Wandels auf die Obere Donau).	Germany

Source	Keywords	Acronym of relevant programs or projects	Full title (& comments)	Other relevant info
CORDIS	Coast + beach + nourish	SAFE	[Performance of Soft Beach Systems and Nourishment Measures for European Coasts](#)	Completed
CORDIS	Coast + beach + nourish	SEDMOC	[Sediment Transport Modelling in Marine Coastal Environments](#)	Completed
NETWORKS	N.A.	[Sniffer database](#)	Many projects on : Climate change; Sustainable land use and water management ; Flood Risk Management; Water Framework Directive implementation; Sustainable places; Environmental regulation	Scotland & Northern Ireland