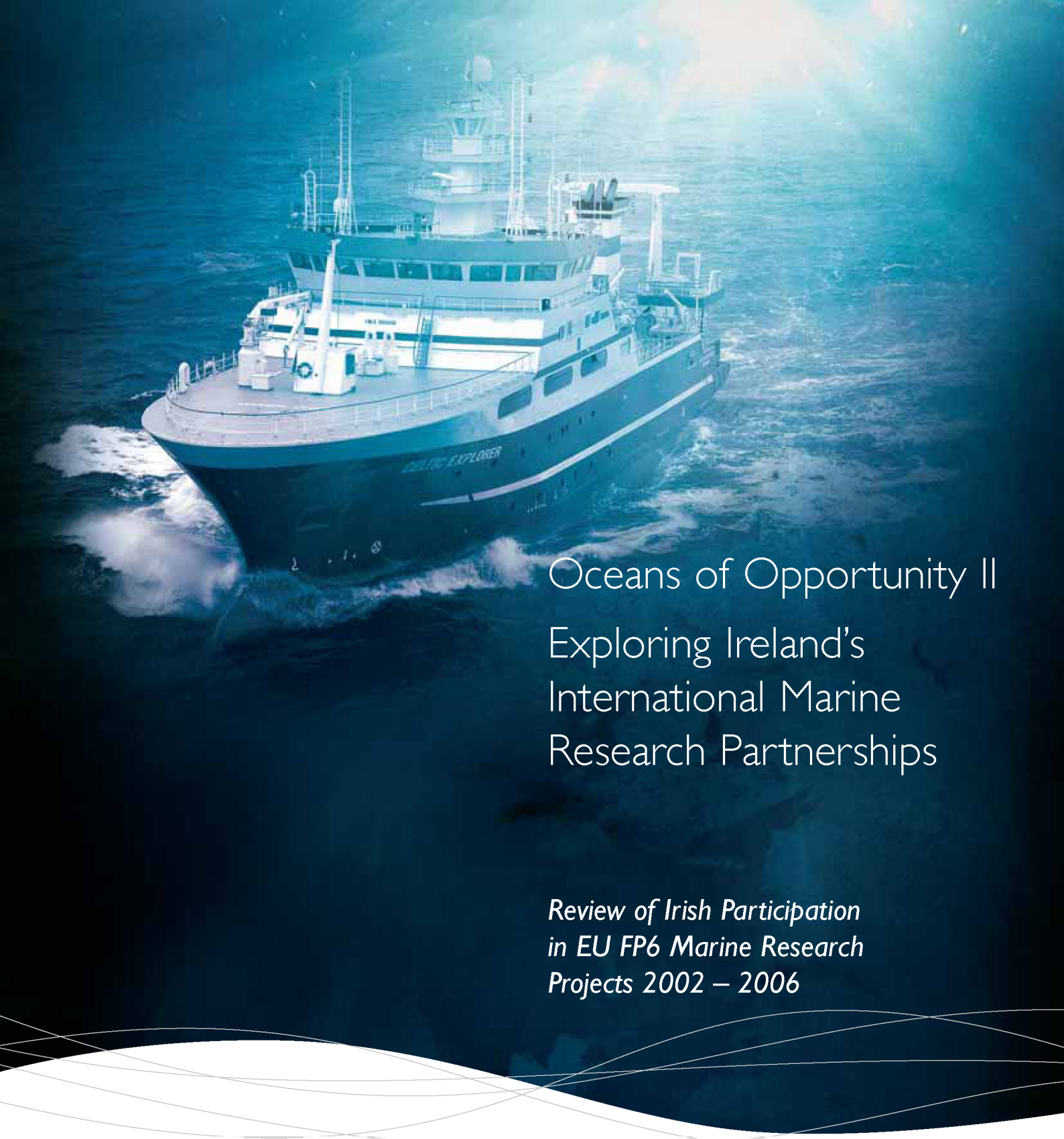

Oceans of Opportunity II

Exploring Ireland's International Marine Research Partnerships

Review of Irish Participation in EU FP6 Marine Research Projects 2002 – 2006

April 2007

Marine Institute
Foras na Mara

The Marine Institute was created in 1991 with the following functions:

"to undertake, to co-ordinate, to promote and to assist in marine research and development and to provide such services related to marine research and development, that in the opinion of the Marine Institute will promote economic development and protect the marine environment"

Marine Institute Act - 1991

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Galway
Ireland

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Oceans of Opportunity II

Exploring Ireland's International Marine Research Partnerships

Review of Irish Participation in EU FP6 Marine Research Projects 2002 – 2006

April 2007

Compiled by:

Yvonne Cronin, Niall McDonough & Geoffrey O'Sullivan
Strategic Planning & Development Services
Marine Institute

FP6. Sixth Framework Programme 2002 – 2006

SIXTH FRAMEWORK PROGRAMME

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SIXTH FRAMEWORK
PROGRAMME

Forward

International co-operation is an essential ingredient of successful marine research & development. This is recognised at a European level and supported by the EU Framework Programme (FP) through the provision of competitive funding for collaborative research.

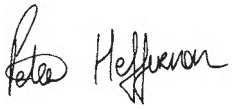
Irish marine researchers have participated in 59 competitively funded FP6 (2002 – 2006) marine research projects and have won over €10.6 million in grant-aid. But it is not just about money. Participation in collaborative international research projects:

- adds significant value to national research funding investments.
- ensures that our research efforts are meeting the most demanding international standards.
- facilitates the achievement of the necessary scale of effort whereby national research priorities can be more effectively addressed.
- supports the mobility of scientists, enhances domestic quality, stimulates innovative thinking and enhances skills.
- supports large-scale research at a regional level.
- helps to avoid unnecessary duplication and fragmentation of efforts.
- enhances access to international state-of-the-art research facilities.
- can lead to deeper alliances and commercial opportunities.

Recent years have seen significant investments in Irish Science & Technology (National Development Programme, 2000 – 2006). This funding has allowed us to close a longstanding infrastructure gap (e.g. construction of the ocean going Research Vessel *Celtic Explorer*) and greatly strengthen our research capacity. These developments are now paying off in terms of our increasing participation and success in competitive international projects.

In parallel, Ireland has played a leadership role in promoting marine science and technology on the European Agenda (e.g. Galway Declaration – 2004) and, working with the Commission and other Member States, has ensured that *"marine sciences and technologies have been identified as a priority cross-cutting theme"* in the new €54 billion EU FP7 Programme (2007 – 2013).

The projects and research teams described here are at the forefront of European and global marine science and technology. They provide an example of what can be achieved and a benchmark against which our continued competitiveness can be measured.



Dr. Peter Heffernan
Chief Executive - Marine Institute
February 2007

SIXTH FRAMEWORK PROGRAMME

Directory of Irish marine success in the EU FP6 Programme (2002 - 2006)

Introduction

European Union Framework Programmes (FP) play a major role in facilitating and supporting Irish participation in collaborative European marine research projects.

Although there was no targeted marine science and technology programme in FP6 (2002 – 2006), available data suggest that **267** marine science and technology projects received over **€559 million,** or **3.5%,** of the FP6 budget (Appendix 1).

Irish researchers were involved in **59** marine projects and received over **€10.6 million** in grant-aid. This represents **1.8%** of the FP6 allocation to marine sciences and **4.4%** of the allocation to projects in which Ireland participated.

The largest Irish participation was in the Global Change & Ecosystems (18 projects, €3.3 million) and Research for Policy Support (esp. Fisheries & Aquaculture) (11 projects, €1.4 million) Programmes. The largest single Irish marine project was the Marie Curie TRAMWAYS (Marine biotechnology) project (€1.5 million). Other areas with strong Irish participation include: seafood quality, air/sea interactions, deep sea research, marine mammals, biotoxins and harmful algal blooms.

Aims & Objectives

The aim of this review is three-fold:

a) to describe the range and scope of Irish participation in EU FP6 grant-aided marine research projects.

b) to encourage future participation in such projects (e.g. in FP7: 2007 – 2013) by describing current successes.

c) to facilitate complementarities and synergies between nationally funded and EU funded marine projects by identifying what is being supported under EU grant-aid schemes.

Marine sciences & technologies in FP6

It has already been pointed out that there was no targeted marine science and technology programme in FP6 (2002 – 2006). However, Figure 1 (FP6 Thematic budgets allocated to marine projects) and Figure 2 (Number of marine projects funded under various FP6 Thematic Areas) illustrate that there was, in fact, a strong marine FP6 component which spanned various Thematic Areas and which accounted for over 3.5% of the FP6 budget.

The strongest supported thematic areas were Maritime Transport (32%) and Global Change & Ecosystems (28%).

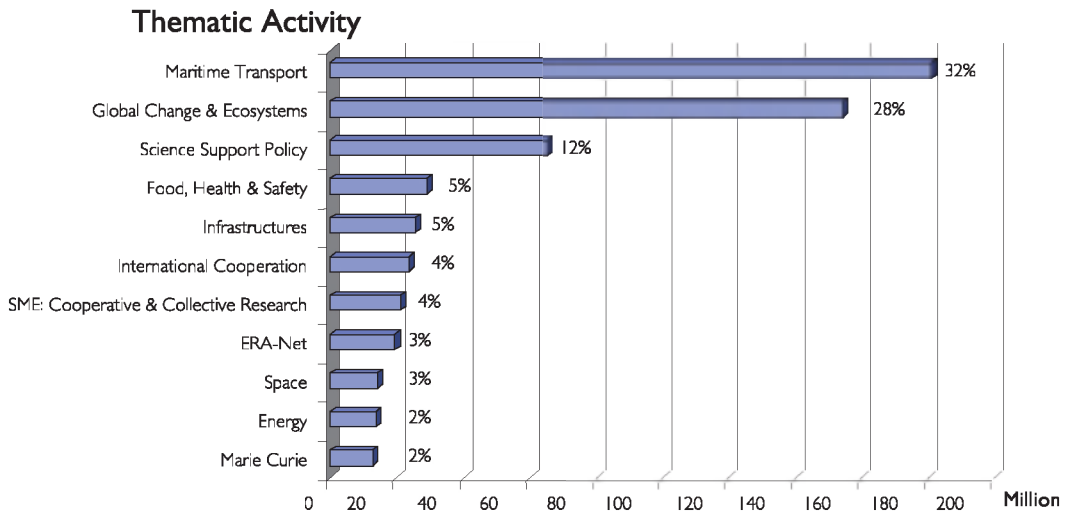


Figure 1.
FP6 Thematic budgets allocated to marine research projects.
Ref: Marine Related Research and the Future European Maritime Policy, November 2006.
% = percentage of budget of identified programme allocated to marine research.

Directory of Irish marine success in the EU FP6 Programme (2002 - 2006)

Irish participation in FP6 marine science & technology projects.
Figure 2 illustrates the number of marine projects funded under various FP6 Thematic Areas and the number and percentage of projects with Irish participation funded under these Themes.

Irish marine research teams performed well in the Global Change & Ecosystems (18 projects) and Research Support for Policy (Fisheries & Aquaculture) (11 projects) Thematic Areas.

However Irish performance was very low (4%) in the Maritime Transport Programme, illustrating a weakness in this area.

In terms of beneficiaries of grant-aid, the university sector took 58% of grant-aid, followed by the public sector (22%) and the private sector (20%).

Data sources used.
The list of projects included here was extracted from the Marine Institute / Forfas database of FP6 marine projects with Irish participation.

Other useful sources of data exist on FP6 marine projects, these include:

- The EurOCEAN database: www.eurocean.org (European Information – FP6).
- The EU FP6 Major Projects Library: http://ec.europa.eu/research/fp6/projects.cfm.

It should be noted, however, that these databases are not necessarily complete and may differ in their definition of what is a "marine" research project.

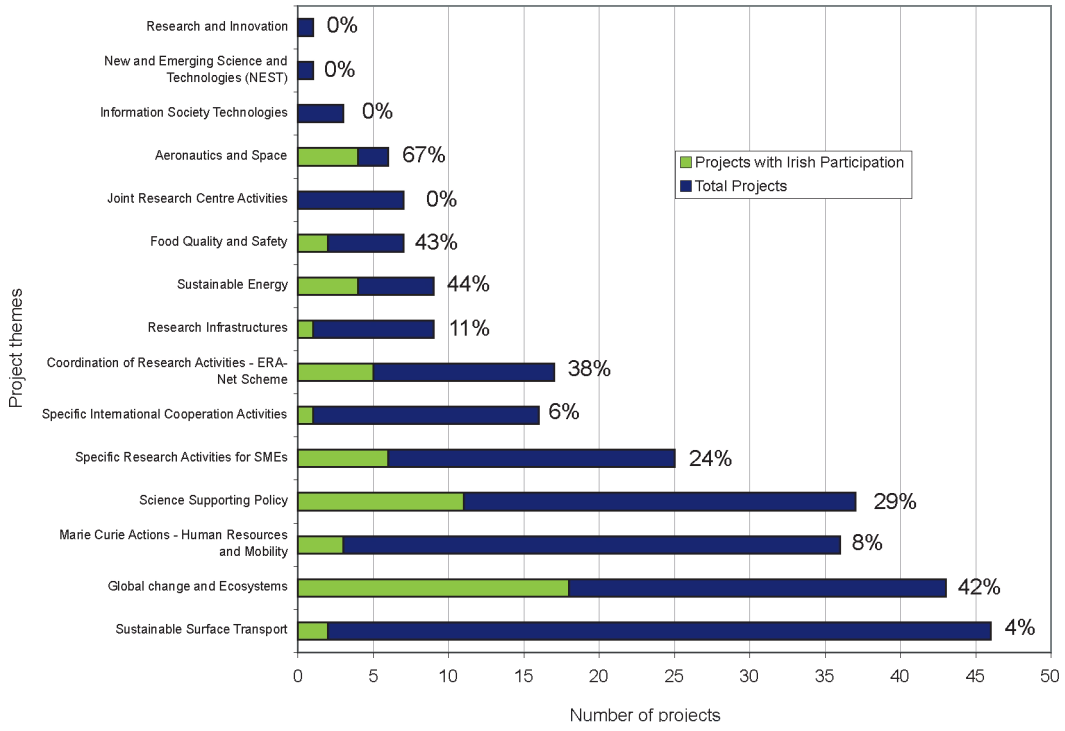


Figure 2.
Number of marine projects (total and those with Irish participation) funded under various FP6 Thematic Areas.

ACCENT – Atmospheric Composition Change: The European Network of Excellence

General Information
FP6 Programme: Global Change & Ecosystems.
Project type: Network of Excellence
Project duration: 6 Years
EU Grant aid: €11,220,000
Total project cost: €11,220,000
Value to Irish partners: €80,000 (based on completed activity)
Website: http://www.accent-network.org

Abstract

Changes in atmospheric composition directly affect many aspects of life, determining climate, air quality and atmospheric inputs to ecosystems. In turn, these changes affect the fundamental necessities for human existence: human health, food production, ecosystem health and water. Atmospheric composition change research is, therefore, fundamental for the future orientation of Europe's sustainable development strategy. ACCENT aims to become the authoritative voice in Europe on issues dealing with atmospheric composition change and sustainability. The ACCENT joint research programme focuses on aerosols, biosphere-atmosphere interaction and transport and transformation of pollutants and it also looks for new partnership in economic and Earth System analysis.

Activities

The overall goals of ACCENT are to:

- Promote a common European strategy for research on atmospheric composition change.
- Develop and maintain durable means of communication and collaboration within the European scientific community.
- Facilitate this research and to optimise two-way interactions with policy-makers and the general public.

In so doing, ACCENT will establish Europe as an international leader in atmospheric composition research, able to steer research agendas through its involvement in major international programmes. ACCENT will also reinforce European environmental policy-making and will support Member States and the European Union in international negotiations and agreements.

Project Leader			
IT	Consiglio Nazionale delle Ricerche, Bologna		
Project Partners			
IE	1 Irish Institute (NUIG)	GR	2 Greek Institutes
BE	1 Belgian Institute	HU	1 Hungarian Institute
AT	1 Austrian Institute	LT	1 Latvian Institute
BL	1 Bulgarian Institute	LIT	1 Lithuanian Institute
DE	6 German Institutes	NO	2 Norwegian Institutes
DK	1 Danish Institute	PL	1 Polish Institute
FR	2 French Institutes	PT	1 Portuguese Institute
FI	3 Finnish Institutes	ES	1 Spanish Institute
SE	1 Swedish Institute	UK	5 UK Institutes
NLD	4 Dutch Institutes		1 International Organisation (IIASA)
IT	1 Italian Institute	EC	the JRC of the European Commission
CH	2 Swiss Institutes		

For further infornmation contact:

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Project Leader
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Tel: +39 0722 303316

SIXTH FRAMEWORK PROGRAMME

ALARM – Assessing Large-scale Environmental Risks with Tested Methods

General Information
FP6 Programme: Global Change & Ecosystems
Project type: Integrated Project
Project duration: 6 Years
Project No.: 506675
Total project cost: €15,458,592
EU Grant aid : €12,000,000
Value to Irish partners: €120,534
Web address: http://www.alarmproject.net

Abstract

- To develop an integrated large-scale risk assessment to biodiversity (terrestrial, marine and freshwater ecosystems) as a part of a broader environmental risk assessment.
- To focus on risks consequent on climate change, environmental chemicals, rates and extent of loss of pollinators and biological invasions.
- To establish socio-economic risk indicators related to the drivers of biodiversity pressures as a tool to support long-term mitigating policies and to monitor their implementation.
- To develop, for the first time, a research network that is consistently thinking, interacting, and investigating on a continental scale across different environmental problems (impacts) and across different spatial and temporal scales of ecosystem diversity changes.
- To provide a contribution to objective-based politics, to policy integration and to derive outcome-oriented policy measures in the field of biodiversity preservation. The project is performing an integrated assessment of socio-economic drivers which affect biodiversity and developing integrated, long-term oriented means to mitigate them.

Objectives

To achieve the objectives, ALARM consists of 3 major, methodologically defined work packages:

- Application of scientific methods for basic research (RTD activity).
- Method tests and protocol development for applications (combined RTD/innovation activity).
- Dissemination of Results and Toolkits (innovation activity).

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Project Leader
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Project Leader	
DE	Helmholtz Centre for Environmental Research – UFZ, Germany

Project Partners			
IE	1 Irish SME (Marine Organisms Investigations)	ES	3 Spanish Institutes
SE	4 Swedish Institutes	CH	2 Swiss Institute
BE	2 Belgian Institutes, 1 Belgian SME	PT	1 Portuguese Institute
IT	1 Italian Institute	PL	3 Polish Institutes
DK	1 Danish Institute	BG	1 Bulgarian Institute, 1 Bulgarian SME
DE	4 German Institutes, 2 German SMEs	NLD	1 Dutch Institute
UK	6 UK Institutes, 1 UK SME	LIT	1 Lithuanian Institute
GR	1 Greek Institute	RU	1 Russian Institute
CZ	1 Czech Institute	FR	2 French Institute
AT	2 Austrian Institutes	IS	1 Israeli Institute
EE	2 Estonian Institute	RO	1 Romanian Institute
SL	1 Slovenian Institute	CL	1 Chilean Institute
FI	2 Finnish Institutes	AR	1 Argentinean Institute

SIXTH FRAMEWORK PROGRAMME

DAISIE – Delivering Alien Invasive Species Inventories for Europe

General Information
FP6 Programme: Global Change & Ecosystems
Project type: Specific Targeted Research Project (STREP)
Project duration: 3 Years
Contract No.: 511202
Total project cost: €3,580,917
EU Grant aid: €2,400,000
Value to Irish partners: €92,714
Website: http://www.daisie.ceh.ac.uk/

Abstract

Effective control of invasive alien species has been hampered by:

- Insufficient monitoring for alien species at frequent enough intervals in regions of concern.
- A means to report, verify the identifications, and warn of new sightings.
- Risk assessments that predict the likelihood of a particular species becoming invasive.

Europe has yet to establish a programme with the primary goal of detecting, quantifying the possible risk, and warning managers before a respective alien species spreads beyond its point of initial introduction. Such a programme should provide:

- A warning system to alert regional managers.
- A European information dissemination system.
- An early detection and monitoring system for alien species.
- An inventory of alien species against which invasive alien species can be determined.

Objectives

In response to these requirements the DAISIE project will deliver a European "one-stop-shop" for information on biological invasions in Europe. It will bring together:

- The European alien species expertise registry: a directory of researchers and research.
- The European alien species database: including all known naturalised alien species in Europe.
- European invasive alien species information system: descriptions of all naturalised alien species known to be invasive in Europe.
- Species distribution maps and spatial analysis: distribution maps of all invasive alien species in Europe known, or suspected of having, environmental or economic impacts.

Project Leader			
UK	Natural Environment Research Council Centre for Ecology & Hydrology		
Project Partners			
IE	1 Irish SME (Marine Organisms Investigations)	CH	1 Swiss Institute
CZ	1 Czech Institute	DE	2 German Companies
FR	1 French Institute	SI	2 Slovenian Institute
LT	1 Lithuanian Institute	RU	1 Romanian Institute
IL	2 Israeli Institute	SE	1 Swedish Institute
IT	1 Italian Institute	GR	1 Greek Institute
ES	1 Spanish Institute	AT	1 Austrian SME

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Project Leader
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Tel: +44 (0)1330 826351

SIXTH FRAMEWORK PROGRAMME

ECOOP – European Coastal-shelf Sea Operational Monitoring and Forecasting System

General Information
FP6 Programme: Global Change and Ecosystems
Project type: Integrated Project
Project duration: 3 Years
Contract No.: 036355-2
Total project cost: €11,425,019
EU Grant aid: €7,000,000
Value to Irish partners: €75,000
Website: No website available

Abstract

ECOOP aims to develop, validate and demonstrate a European coastal and shelf seas operational monitoring and forecasting system, targeted at detecting environmental and climate changes, predicting their evolution, producing forecasts and facilitating decision support needs.

ECOOP aims to support the consolidation, integration and development of existing networks (remote sensing and in-situ observations) into an integrated, pan-European system able to make long-term systematic measurements of the oceanic parameters, including biological parameters, in the regional and coastal seas of Europe. Such a system is targeted at detecting environmental and climate changes, predicting their evolution, producing forecasts and developing decision-supporting systems, taking into account the GMES and GEO initiatives.

Emphasis will be given to international co-operation and to the participation of SMEs and to international co-operation partners, as well as on the potential for technology transfer.

Activities

- Assess the present operational coastal monitoring and forecasting system in Europe and identify gaps and limitations.
- Integrate and implement a pan-European Marine Information System of Systems (EuroMISS) for coastal and regional seas based on existing relevant systems.
- Advance downscaling approaches and improve region-specific monitoring and forecasting products, including necessary supporting information.

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Head of Centre for Ocean and Ice
Danish Meteorological Institute
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Tel: + 45 39 15 75 00

Project Leader	
NDL	Netherlands Institute for Fisheries Research (IMARES), The Netherlands
Project Partners (72 partners in total)	
IE	2 Irish Institutes - (Marine Institute, CMRC - UCC) 1 Irish SME (TechWorks Marine)

EDIT – Towards the European Distributed Institute of Taxonomy

General Information
FP6 Programme: Global Change and Ecosystems
Project type: Network of Excellence
Project duration: 5 Years
Contract No.: 018340
Total project cost: €11,900,00
EU Grant aid: €11,900,000
Value to Irish partners: €11,600
Website: http://www.e-taxonomy.eu/

Abstract

The objectives of EDIT are to help to reduce the fragmentation in European taxonomic research and expertise, and to co-ordinate the European contribution to the global taxonomic effort, in particular the Global Taxonomy Initiative, through an integrated initiative aimed at improving society's capacity for biodiversity conservation.

Activities

The operational and structural objectives of EDIT are:

- to reduce fragmentation and to transform taxonomy into an integrated science.
- to strengthen the scientific, technological and information capacities needed for Europe to understand how biodiversity is modified through Global change.
- to progress toward a transnational entity by encouraging durable integration of the most important European taxonomic institutions, forming the nucleus of excellence around and from which institutions and taxonomists can integrate their activities.
- to promote the undertaking of collaborative research developing, improving and utilising the bio-informatics technologies needed.
- to create a forum for stakeholders and end-users for taxonomy in biodiversity and ecosystem research.
- to promote the spreading of excellence to fulfill the needs of biodiversity and ecosystem research for taxonomy based information.

Project Leader			
FR	Museum national d'Histoire naturelle, France		
Project Partners			
IE	1 Irish Partner (SMEBD)	NLD	4 Dutch Partners
BE	3 Belgian Partners	ES	1 Spanish Partner
DK	1 Danish Partner	UK	3 UK Partners
FR	3 French Partners	SL	2 Slovac Partners
HU	1 Hungarian Partner	RUS	2 Russian Partners
DE	2 German Partners	USA	2 American Partners
PL	2 Polish Partners		

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Project Leader
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EDIT project leader
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Tel (33) (0)1 40 79 37 41

SIXTH FRAMEWORK PROGRAMME

ENCORA – European Network on Coastal Research

General Information
FP6 Programme: Global Change and Ecosystems
Project type: Coordination Action
Project Duration: 3 Years (2006-2009)
Contract No.: 518120
EU Grant Aid: €3,000,000
Value to Irish partners €110,000
Web address: www.encora.eu

Abstract

The capacity to generate knowledge for sustainable coastal development is spread in Europe over a large number of institutes and research groups. Many hundreds of institutions have responsibility for coastal policy-making and coastal management. There is significant overlap in the research and management tasks carried out by these organisations. However, the links existing at present within the coastal science and practitioner community are weak. Europe is not yet able to take advantage of its scale to efficiently tackle the challenges posed by the future of our coasts. The ENCORA Coordination Action provides a networking mechanism that contributes to overcoming existing fragmentation. ENCORA aims to:

- Initiate a self-sustaining process of cooperation in Europe, with new mechanisms for knowledge-sharing within and between the communities of coastal sciences and coastal practice.
- Stimulate multidisciplinary approaches.
- Strengthen communication between scientists, practitioners and policymakers.

Activities

ENCORA is a European network structure with new mechanisms for communication on shared problems within and between the communities of coastal science, policy and practice. In 13 European countries National Coastal Networks have been established; in other countries the establishment of a National Network is anticipated. Ten trans-national, cross-disciplinary Thematic Networks, led by institutions with outstanding expertise, address major ICZM issues. They include participants from all EU countries, including those where a national network is not yet established. After three years the project will deliver a fully operational and tested European coastal network structure supporting the exchange of knowledge and experience within and between the communities of science, policy and practice..

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Project Leader			
NLD	National Institute for Coastal and Marine Management (RIKZ)		
Project Partners			
IE	1 Irish Institute (UCC)	GR	2 Greek Institutes
BE	3 Belgian Institutes	IT	1 Italian Institute, 2 Networks
DK	1 Danish Institute	NLD	2 Dutch Institutes, 1 Network, 1 SME
FR	1 French Institute	PL	1 Polish Institute
DE	1 German Institute	PT	1 Portuguese Institute
SE	1 Swedish Institute	ES	1 Spanish Institute
UK	1 UK Institute, 1 UK Network		

Note: The majority of the participating Institutes co-ordinate, and therefore represent, National Coastal Networks

ESONET-NoE – European Sea Floor Observatory Network

General Information
FP6 Programme: Global Change and Ecosystems
Project type: Network of Excellence
Project duration: 1 Year, 6 Months
Contract No.: EV K3-CT-2002-80008
Total project cost: €7,000,000
EU Grant aid: €7,000,000
Value to Irish partners: €165,000
Website: http://www.oceanlab.abdn.ac.uk/research/esonet.shtml

Abstract

The aim of the ESONET Network of Excellence is to create an organisation capable of implementing, operating and maintaining a network of multidisciplinary ocean observatories in deep waters around Europe from the Arctic Ocean to the Black Sea. The NoE will structure the resources of the participating institutes to create the necessary critical mass, remove barriers and through a joint programme of activities arrive at durable solutions for this future organisation.

Activities

To provide representative sampling Ten European regional networks are proposed in contrasting oceanographic regions:

Arctic – Arctic Ocean, Norwegian margin - Atlantic Ocean, Nordic Seas – Atlantic Ocean, Porcupine/Celtic – Atlantic Ocean, Azores – Atlantic Ocean, Iberian Margin – Atlantic Ocean, Ligurian – Mediterranean Sea, East Sicily – Mediterranean Sea, Hellenic – Mediterranean Sea , Black Sea

A mobile response observatory will be available for rapid deployment in areas of anthropogenic or natural disasters to provide data for environment management and government agencies.

The total system will comprise of approximately 5000km of fiber-optic sub-sea cables linking observatories to land via junction box terminations on the sea floor. The cables will provide power to observatory instruments and two-way real-time data telemetry capability using IP protocols. A phased development is proposed with the use of conventional autonomous or satellite telemetry observatories on the key sites in order to integrate a fully cabled system. Each network will be commissioned and managed by a regional legal person (RLP) who will be a member of the ESONET federation. Users will be able to deploy observatories around Europe linked to the junction boxes. The ESONET federation will oversee standards, data management and co-ordinate observatory deployment. Data will be interfaced to national and international data centres.

Project Leader			
UK	University of Aberdeen, Scotland, UK		
Project Partners			
IE	1 Irish SME - CSA Group Ltd	DE	3 German Partners
UK	1 UK Partner	GR	1 Greek Partner
FR	1 French Partner	IT	3 Italian Partner
NDL	1 Dutch Partner	PT	1 Portuguese Partner

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Phone +44-(0)1224-274408

SIXTH FRAMEWORK PROGRAMME

ESONIM – European Seafloor Observatory Network Implementation Model

General Information
FP6 Programme: Global Change and Ecosystems
Project type: Specific Support Action
Project duration: 1 Year, 6 Months
Contract No.: 018315
Total project cost: €426,900
EU Grant aid: € 426,900
Value to Irish partners: €268,800
Web address: http://www.oceanlab.abdn.ac.uk/esonet/esonim.shtml

Abstract

The ESONIM SSA will produce a business plan to implement a seafloor observatory site including:

- The scientific justification for the establishment of a seabed Observatory Network.
- The technical specifications of the observatory components and the observatory architecture that will deliver the best technical solution.
- A ten year cashflow forecast for the observatory including Capital Expenditure, Operating Expenditure, and projected revenue.
- Draft contracts and partnership agreements that will address the share of financial risk and insurance liability between the private and public sector partners in the observatory.
- An implementation model which can be extended to some or all of the proposed ESONET sites.

Activities

- Project management
- Seafloor Observatory – specification of user needs
- Review engineering design
- Investigation of financial model
- Investigation of legal framework
- Implementation model for ESONET test site
- Dissemination and promotion

For further information contact:

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Project Leader			
IE	Marine Institute		
Project Partners			
IE	3 Irish Companies/SMEs (CSA Group Ltd; Goodbodys Stockbrokers; P. Lee Solicitors)	UK	1 UK Company, 1 Institute
		SE	1 Swedish Institute
DE	1 German Institute		
FR	1 French Institute		

EUCAARI – Aerosol - Climate - Air Quality Interactions

General Information
FP6 Programme: Global Change and Ecosystems
Project type: Integrated Project
Project duration: 4 Years
Contract No.: 036833
Total project cost: €15,077,500
EU Grant aid: €9,999,947
Value to Irish partners: €240,000
Website: www.atm.helsinki.fi/eucaari

Abstract

The European Integrated project on Aerosol Cloud Climate and Air Quality Interactions, EUCAARI, brings together leading European research groups, state of the art infrastructure and key players from the 3rd countries to investigate the role of aerosol on climate and air quality. The objectives of EUCAARI are (I) to reduce the uncertainty in the quantification of the impact of aerosols on climate by 50% and to improve the prediction of regional air quality changes and (II) to estimate the side-effects of European air quality directives on global and regional climate. EUCAARI will also contribute to technological developments in the aerosol measurement industries, thereby enhancing future field experiments and air quality observation networks. The EUCAARI project is organised around 4 scientific elements designed to maximize the integration of different methodologies and scales and to integrate our scientific understanding of air quality and climate. These are: "Emissions and Formation", "Transport and Transformation", "Climate and Air Quality Effects" and "Impacts".

Activities

New ground-based, aircraft and satellite measurements will be integrated with existing data to produce a single, globally consistent dataset with the highest possible accuracy. A European measurement campaign will be designed around simultaneous multi-station observations, lagrangian aircraft measurements and carefully selected "super-sites". A hierarchy of process models on all scales has been selected to interpret the measurements and will result in measurable improvements to the project's climate models and regional air quality models. The outcomes of EUCAARI (scenarios, recommendations, state-of-the-art models, harmonized datasets and new knowledge) will be disseminated through user-friendly web interfaces targeted at authorities, policy makers, the research community, industry, instrument designers and the EU-ESA GMES.

Project Leader			
FIN	University of Helsinki		
Project Partners			
AU	1 Austrian Institute	PO	1 Polish Institute
CZ	1 Czech Republic Institute	PT	1 Portuguese Institute
DK	2 Danish Institutes	SWE	2 Swedish Institutes
EST	2 Estonian Institutes	SWZ	2 Swiss Institutes
FR	4 French Institutes	UK	5 UK Institutes
DE	6 German Institutes	BRAZ	1 Brazilian Institute
GR	3 Greek Institutes	CHIN	2 Chinese Institutes
HU	1 Hungarian Institute	IND	1 Indian Institute
IE	**1 Irish Institute (NUIG)**	S.A.	1 South African Institute
IS	1 Israeli Institute		
NE	2 Dutch Institutes	EC	1 International Organisation

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SIXTH FRAMEWORK PROGRAMME

GEOMON – Global Earth Observation & Monitoring

General Information
FP6 Programme: Global Change and Ecosystems
Project type: Integrated Project
Project duration: 4 Years
Contract No.: 036677
Total project cost: €10,203,389
EU Grant aid: €6,621,740
Value to Irish partners: €120,000
Website: http://geomon.ipsl.jussieu.fr

Abstract

GEOMON is a first step to building a future integrated pan-European Atmospheric Observing System dealing with systematic observations of long-lived greenhouse gases, reactive gases, aerosols, and stratospheric ozone. This will lay the foundations for a European contribution to GEOSS and optimise the European strategy for environmental monitoring in the field of atmospheric composition observations.

The overall goal of the GEOMON project is to sustain and analyze European ground-based observations of atmospheric composition, complementary with satellite measurements, in order to quantify and understand the ongoing changes.

Specifically, GEOMON will unify and harmonize the main European networks of surface and aircraft-based measurements of atmospheric composition parameters and integrate these measurements with those of satellites. The access to data and data-products will be co-ordinated at a common data centre for more efficient use.

Activities

GEOMON will:

- support data gathering at existing networks and, if necessary, will rescue and compile existing ground-based data. The project will develop new methodologies to use these data for satellite validation and interpretation.
- enable innovative ground-based measurements complementary to satellites, made by upward looking ground based remote sensing instruments Max-DOAS, FTIR, and LIDAR.
- Develop systematic measurement programmes of upper-tropospheric composition using passenger aircraft CARIBIC and MOZAIC.
- use the data collected to reduce biases and random errors in satellite observations and facilitate interpretation of the columnar measurements in combination with surface data.

As a result of using these collaborated data, a significant improvement in the use of existing and future satellite data is inevitable. Common techniques and modelling tools will be used in order to add value to the GEOMON data observations, to facilitate their use in satellite validation and help design an optimal network.

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Project Leader			
FR	Laboratoire des Sciences du Climat et de l'Environnement, France		
Project Partners			
FR	6 French Institutes	GR	1 Greek Institute
FI	2 Finish Institutes	IT	1 Italian Insititute
UK	5 UK Insititutes	**IE**	**1 Irish Insititute (NUIG)**
NLD	3 Dutch Insititutes	DK	1 Danish Insititute
DE	6 German Insititutes	ES	2 Spanish Institutes
BE	1 Belgian Institute	RU	1 Russian Institute
SW	1 Swedish Institute	NO	1 Norwegian Institute
			4 Others

HABIT – Harmful Algal Bloom Species in Thin Layers

General Information
FP6 Programme: Global Change & Ecosystems
Project type: Specific Targeted Research Project (STREP)
Project duration: 3 Years
Project No.: 3932
Total project cost: €1,700,000
EU Grant aid: €950,000
Value to Irish partners: €266,000
Website: http://www.cefas.co.uk/habit/

Abstract

The HABIT project is investigating the development and dispersion of Harmful Algal Bloom (HAB) populations in sub-surface micro-layers. The project focuses on a genus of phytoplankton that has a serious impact on the economic development of the European coastal zone and which frequently occurs in thin sub-surface, micro-layers. The overall objectives of HABIT are to resolve fundamental patterns in the occurrences of *Dinophysis spp.* and quantify the processes that are important in governing their distribution. The HABIT project will:

- Investigate the maintenance and persistence of high density, thin layers through studying interactions between fine-scale physical diffusion, net growth and trophic relationships within them.
- Investigate the precise role of small-scale structures on the coastal shelf as incubators for accumulations of *Dinophysis spp.*
- Utilise physical models to examine the formation and persistence of gyres on the shelf, to predict their transport, and, as a consequence, HAB events at the coast.

Activities

A high-resolution vertical profiler will be utilised for studying HAB species occurrences. Thin layers of *Dinophysis* will be identified. Small-scale physical processes (vertical and horizontal diffusion) will be measured, and related to net growth. Results will allow an overview of the balance between dispersion and accumulation in the layers and the time-scale of their persistence. Retention zones and other small-scale structures on the coastal shelf will be investigated as incubators for thin layers of HABs using quality physical models to model and predict the formation, persistence and movement of these structures. In this way, potential incubator sites will be shown to depend on the hydrodynamic regime of the coastal ocean. The origins of HAB events will be identified and essential information given to managers, as mitigation actions against the impacts of HAB events will depend upon their prediction.

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****The HABIT project has links with the SEED project (page 26) ****

Project Leader			
IE	National University of Ireland, Galway		
Project Partners			
ES	1 Spanish Institute	UK	1 UK Institute
FR	1 French Institute		

SIXTH FRAMEWORK PROGRAMME

HERMES – Hotspot Ecosystem Research on the Margins of European seas

General Information
FP6 Programme: Global Change & Ecosystems
Project type: Integrated Project
Project duration: 4 Years
Contract No.: 511243
Total project cost: €21,651,404
EU Grant aid: €14,993,993 (indicative)
Value to Irish partners: €555,759
Website: http://www.eu-hermes.net

Abstract.

HERMES is designed to gain new insights into the biodiversity, structure, function and dynamics of ecosystems along Europe's deep ocean margin. It represents the first major attempt to understand European deep-water ecosystems and their environment in an integrated way by bringing together expertise in biodiversity, geology, sedimentology, physical oceanography, microbiology and biogeochemistry, so that the generic relationship between biodiversity and ecosystem functioning can be understood.

Study sites will extend from the Arctic to the Black Sea and include open slopes, where landslides and deep-ocean circulation affect ecosystem development, and biodiversity hotspots, such as cold seeps, cold-water coral mounds, canyons and anoxic environments, where the geopsphere and hydrosphere influence the biosphere through escape of fluids, presence of gas hydrates and deep-water currents. These important systems require urgent study because of their possible biological fragility, unique genetic resources, global relevance to carbon cycling and possible susceptibility to global change and man-made disturbances.

Past changes, including catastrophic events, will be assessed using sediment archives. The project will make estimates of the flow rates of methane from the geosphere and calculate how much is utilised by benthic communities, leaving the residual contribution to reach the atmosphere as a greenhouse gas.

Activities

HERMES will enable forecasting of biodiversity change in relation to natural and man-made environmental changes by developing the first comprehensive pan-European margin Geographic Information System (GIS). This will provide a framework for integrating science, environmental modelling and socio economic indicators in ecosystem management. The results will underpin the development of a comprehensive European Ocean and Seas Integrated Governance Policy enabling risk assessment, management, conservation and rehabilitation options for margin ecosystems.

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Project Leader			
UK	Natural Environment Research Council (NERC)		
Project Partners			
IE	1 Irish Institute (NUIG)	BE	1 Belgian Institute
FR	5 French Institutes, 2 French Companies	PT	2 Portuguese Institutes
ES	2 Spanish Institutes, 2 Spanish Companies	SE	1 Swedish Institute
DE	6 German Institutes, 2 German Companies	RO	1 Romanian Institute
GR	1 Greek Institute	MT	1 Maltese Institute
IT	3 Italian Institutes	NLD	1 Dutch Institute
NO	2 Norwegian Institutes, 2 Companies	TK	1 Turkish Institute
UK	6 UK Institutes, 1 UK SME		

MAP – Secondary Marine Aerosol Production from Natural Sources

General Information
FP6 Programme: Global Change and Ecosystems
Project type: Specific Targeted Research Project (STREP)
Project duration: 3 Years
Contract No.: 018332
Total project cost: €3,096,000
EU Grant aid: €2,600,000
Value to Irish partners: €702,000
Web address: http://macehead.nuigalway.ie/map

Abstract

Marine aerosol contributes significantly to the global radiative budget. Consequently changes in marine aerosol abundance and/or chemical composition will impact on climate change. Various climate feedback mechanisms have been proposed involving the sulphur, sea-salt, iodine and organic sea-spray cycles. However, all cycles and their impacts on aerosol haze and cloud layers remain poorly quantified.

MAP will consolidate the current state-of-the-art in the fields of aerosol nucleation and growth and primary marine aerosol (PMA) production to quantify the key processes associated with primary and secondary marine aerosol (SMA) production from natural sources. MAP will focus on the newly identified aerosol formation mechanisms involving iodine oxides, for secondary aerosol production, and the primary production of marine organic matter aerosols produced by plankton and transferred to the atmosphere via the bubble bursting process at the ocean surface.

Activities

Key processes will be identified, parameterized and implemented in a global/regional-scale chemical transport model and in a regional climate model. Combining the knowledge gathered on key processes with satellite-derived information on oceanic and meteorological parameters, an algorithm will be developed to produce a Sea-Spray Source Function (S3F) which will subsequently be used in large scale models to quantify the impacts of marine aerosols. The algorithm and its application will be proposed as a service contributing to GMES/GEOSS. Similarly, an organo-iodine source function will also be developed. The impact of marine aerosol on atmospheric chemistry, radiative forcing and climate will be evaluated using the large-scale models.

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Project Leader			
IE	National University of Ireland, Galway		
Project Partners			
NLD	1 Dutch Organisation	UK	3 UK Institutes
IT	2 Italian Institutes	SE	1 Swedish Institute
FIN	3 Finnish Institutes	CEC	Joint Research Centre
DE	3 German Institutes	GR	1 Greek Institute

SIXTH FRAMEWORK PROGRAMME

MarBEF – Marine Biodiversity and Ecosystem Functioning

General Information
FP6 Programme: Global Change & Ecosystems
Project type: Network of Excellence
Project duration: 6 Years
Project No.: 505446
Total project cost: €14,352,557
EU Grant aid: €8,707,000
Value to Irish partners: €536,221
Web address: http://www.marbef.org

Abstract

The creation of the network of excellence MarBEF (Marine Biodiversity and Ecosystem Functioning) aims at integrating research efforts by forming a dedicated group of marine scientists and institutes. The project will create a virtual European institute with a long-term research programme and dedicated links with industry and the public at large. This involves coordination of research, training, personnel and data exchange and outreach activities in several relevant fields of science, including marine ecology and biogeochemistry, fisheries biology, taxonomy and socio-economic sciences. Better integration of research is also required to support the legal obligations of the EU and its member states and associated states for the Convention for Biological Diversity, the OSPAR and Barcelona conventions as well as several EU directives (Bird and Habitat Directives, Water Framework Directive). The network will also improve links with the large and growing number of industries depending on the sustainable use and exploitation of marine biodiversity. This includes tourism, fisheries and aquaculture but also new industries that explore and commercialise marine genetic and chemical products.

Activities

The specific integration effort of MarBEF is made up of the following major activities:

- Creating a virtual centre for durable integration and improving access to resources.
- Calculating the socio-economic importance of marine biodiversity.
- Providing specialist training.
- Developing an integrated marine data and information management system.
- The transformation of MarBEF's long-term, strategic approach into policy.

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Project Leader			
NLD	Netherlands Institute of Ecology - Centre for Estuarine and Marine Ecology		
Project Partners			
IE	1 Irish Institute (UCD), 1 Irish SME (ECOSERVE)	PL	2 Polish Institutes
NLD	9 Dutch Institutes	FI	1 Finnish Institute
UK	11 UK Institutes	SL	1 Slovenian Institute
ES	2 Spanish Institutes	DK	2 Danish Institutes
IT	4 Italian Institutes	NO	2 Norwegian Institutes, 1 Norwegian SME
BE	2 Belgian Institutes	LIT	1 Lithuanian Institute
DE	5 German Institutes	FR	6 French Institutes
PT	2 Portuguese Institutes	GR	1 Greek Institute
		SE	1 Swedish Institute

MONRUK – Monitoring the Marine Environment in Russia, Ukraine and Kazakhstan using Synthetic Aperture Radar

General Information
FP6 Programme: Aeronautics and Space
Project type: Specific Targeted Research Project (STREP)
Project duration: 2 Years
Contract No.: TBC
Total project cost: €1,012,564
EU Grant aid: €632,314
Value to Irish partners: €50,000
Website: Website not yet available

Abstract

The overall objective of MONRUK is to develop and implement satellite Synthetic Aperture Radar (SAR) monitoring of the marine environment in Russia, Ukraine, Kazakhstan (the RUK area) as a component of GMES. Satellite SAR images for the three study areas will be collected in order to develop and validate retrieval algorithms for ocean and sea ice parameters. The SAR data collection will be done by: (a) using existing ERS and ENVISAT SAR data retrieved from ESA archives; (b) new acquisition of ENVISAT ASAR data, including alternating polarisation images, and (c) RADARSAT SAR images.

Activities

- Develop and test algorithms for retrieval of marine geophysical parameters from SAR images, including open ocean parameters as well as sea ice parameters.
- Improve the forward modelling of sea surface radar scattering, including effects of current features, ocean fronts and slicks.
- Apply retrieval algorithms and radar scattering models as methods in the analysis of SAR images for improved quantification of sea surface parameters with focus on oil spill and sea ice monitoring.

GMES objectives

- Facilitate and coordinate access to SAR and other satellite data as well as met-ocean data and in situ validation data needed for monitoring of the Northern Sea Route, the Black Sea and the Caspian Sea.
- Establish and test service chains for SAR monitoring in the study areas, including agreements with users who will receive information products and provide feedback to the service providers.
- Develop and implement a user-friendly, harmonized, pan-European, inter-operable system to access data and information about the marine environment based on web map server technology.
- Build a network with other related projects, organizations and agencies to create momentum for developing operational oceanography services, focusing in the three study areas, with strong components of satellite observation.

Project Leader			
NO	Nansen Environmental and Remote Sensing Center, Norway		
Project Partners			
IE	Irish Institute - UCC	UKr	Ukrainian Institute
FR	French Institute	KZ	Kazak Institute
RU	Russian Institute	IT	Italian Institute

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SIXTH FRAMEWORK PROGRAMME

SEED – Life history transformations among HAB species and the environmental and physiological factors that regulate them

General Information
FP6 Programme: Global Change & Ecosystems
Project type: Specific Targeted Research Project (STREP)
Project duration: 4 Years
Contract No.: 3875
Total project cost: €1,896,039
EU Grant aid: €1,500,000
Value to Irish partners: €86,320
Website: http://www.icm.csic.es/bio/projects/seed/

seed

Abstract

The SEED project aims to understand how, and to what extent, anthropogenic forces influence the non-vegetative stages of the life cycles of harmful algal species, thereby contributing to the increase in harmful algal blooms in European marine, brackish and fresh waters. The overall objectives are:

- To improve and extend our understanding of the transition between the different life history stages.
- To identify the environment and physiological factors that regulate those transitions, and hence the relative importance of anthropogenic vs. natural causes.
- To integrate the recent acquired knowledge in the development of new simulation models or refining existing ones. This will allow improved prediction, mitigation and management strategies.

Activities

SEED will focus on an array of target HAB species, ranging from marine to brackish to fresh water organisms, and covering a broad range of phylogenetic types. SEED research is multifaceted, as the problems in life history transitions are complex and processes occur over a wide range of scales.

SEED will combine field studies and laboratory experiments. Field work is centred on areas where ongoing monitoring programmes and significant baseline information on distribution of species and physical-chemical data already exists.

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** The SEED project has links with the HABIT project (page 21) **

Project Leader			
ES	Consejo Superior de Investigaciones Cientificas		
Project Partners			
IE	1 Irish Institute (NUIG)	SE	1 Swedish Institute
ES	1 Spanish Institute	FI	2 Finnish Institutes
IT	4 Italian Institutes	EE	1 Estonian Institute
UK	1 UK Institute		

SPICOSA – Science and Policy for Coastal System Assessment

General Information
FP6 Programme: Global Change and Ecosystems
Project type: Intergrated Project
Project duration: 4 Years
Contract No.: 036992
Total project cost: €14,580,200
EU Grant aid: €10,000,000
Value to Irish partners: €222,000
Website: http://cmrc.ucc.ie/pages/K_project_page.php?project_code=spicosa

Abstract

Based on a system approach, a multidisciplinary assessment framework will be developed with a balanced consideration of the ecological, social and economic aspects (ESE) of coastal systems. Achieving this objective will require a restructuring of the science needed to understand the interactions between complex natural and social systems at different spatial and temporal scales including the overall economic evaluation of alternative policies and contribute to international programmes to which the European Union is committed.

Activities

SPICOSA aims to:

- Create an operational Systems Approach Framework (SAF) for CZ System assessments of policy alternative objectives and instruments. The SAF must emerge from existing knowledge and evolve with new knowledge.
- Overcome two critical challenges facing multidisciplinary science; that of creating a working science-policy interface and that of qualifying and quantifying complex systems, in order that the SAF is scientifically credible and operationally functional.
- Implement and test the SAF over eighteen diverse study site applications throughout the European region, such that its operational use is not limited to any specific policy issue, socio-economic condition, or Coastal Zone type.
- Generate a SAF Portfolio consisting of generic assessment methodologies, specific tools, models, and new knowledge useful for ICZM, in a manner that is user-friendly and updateable.
- Improve the Communication and Integration among the main actors and infrastructures of CZ Systems that promote Sustainable Development in a manner that is self-perpetuating.
- Generate new opportunities for academic and professional Training in ICZM.

Project Leader			
FR	French Research Institute for Exploration of the sea – IFREMER, France		
Project Partners			
IE	1 Irish Institute - UCC	NO	1 Norwegian Partner
FR	4 French Partners	BE	1 Belgian Partner
ES	1 Spanish Partner	UK	2 UK Partners
IT	2 Italian Partners	PT	1 Portuguese Partner
NDL	1 Dutch Partner	TR	1 Turkish Partner

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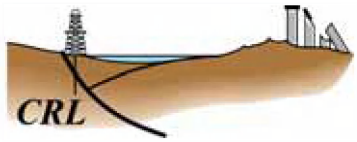
SIXTH FRAMEWORK PROGRAMME

3HAZ-CORINTH Earthquakes, tsunamis and landslides in the Corinth rift, Greece: A multidisciplinary approach for measuring, modelling, and predicting their triggering mode and their effects

General Information
FP6 Programme: Global Change and Ecosystems
Project type: Specific Targeted Research Project (STREP)
Project duration: 3 Years
Contract No.: SSPI 004043
Total project cost: €1,994,910
EU Grant aid: €1,499,990
Value to Irish partners: €50,000
Website: http://crl.ens.fr/metadot



Abstract

3HAZ-CORINTH will contribute to the improved measurement, modelling, and prediction of the processes leading to earthquakes, landslides, submarine slides and tsunamis. Their effect in terms of hazard will also be more comprehensively understood. The study area is the rift of Corinth, well known for its exceptional seismic activity.

Work will focus on the western end of the rift, close to the cities of Patras and Aigion, where the risk is highest.

Activities

Short term seismic hazards will be studied, as well as seismology, geodesy, geophysics, and geochemistry.

In order to more comprehensively model fault mechanics and earthquake preparation processes, strong motion analysis and prediction, transience processes such as seismic swarms, silent earthquakes and fluid transients will be studied. New instrumentation will be built to compliment the existing monitoring arrays and database. Near real-time alarms systems for significant earthquakes will be developed and tested. In order to further understand long term seismic hazards, the seismic potential of active faults will be assessed both on land and offshore. Past and future potential slumps will be identified and mapped in order to more comprehensively cover submarine slope failures. Marine sediment coring and dating on selected places will add to the understanding of the slope failures. Slope failure and coseismic displacement scenarios will form the input for proposed tsunami modelling and early warning alarms will also be developed and tested.

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Project Leader			
FR	Institut de physique du globe de Paris, France		
Project Partners			
IE	1 Irish Partner - UCD	FR	7 French Partners
CZ	1 Czech Partner	IT	2 Italian Partners
GR	6 Greek Partners	SW	1 Swiss Partner

AQUAFIRST – Combined genetic and functional genomic approaches for stress and disease resistance marker assisted selection in fish and shellfish

General Information
FP6 Programme: Fisheries and Aquaculture
Project type: Research for Policy Support
Project duration: 4 Years
Contract No.: 513692
Total project cost: €5,820,000
EU Grant aid: €3,799,954
Value to Irish partners: €220,796
Web address: http://aquafirst.vitamib.com/

Abstract:
Many farmed fish and shellfish are vulnerable to disease, infection and poor performance from physiological stress. These factors have a significant effect on the economic performance of the fish-farming sector, which would be improved if the risk of disease and stress could be reduced through targeted, selective breeding. The intention is to use sea bream, sea bass, oyster and rainbow trout to identify genes associated with disease and stress resistance. Their characteristics will be used as identifiers (markers) for selective breeding of disease and/or stress-resistant individuals.

Activities
The overall aim of the project is to identify in sea bream, sea bass, oyster, and rainbow trout, genes of which expression is associated with disease and stress resistance. From this information, genetic approaches will be developed that allow characterisation of genetic markers for marker-assisted selective breeding of disease and/or stress resistant individuals. The following are the main objectives:

- The characterisation of stress and disease-responsive genes in sea bream, sea bass, trout and oysters as potential candidate gene markers for desirable traits.
- Investigating the associations between variations in response to stress and resistance to pathogens.
- Selected candidate genes and microsatellite makers by segregation analysis in appropriate families (QTL analysis).
- Mapping of these genes in linkage and gene maps.

Project Leader			
FR	INRA		
Project Partners			
IE	1 **Irish Institute (NUIG)**	ES	2 Spanish Institutes
UK	3 UK Institutes	NLD	1 Dutch Institute
SE	1 Swedish Institute	PT	1 Portuguese Institute
FR	3 French Institutes	BE	1 Belgian Institute
IT	1 Italian Institute	GR	1 Greek Institute, 1 Company

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CONSCIENCE – Concepts and Science for Coastal Erosion Management

General Information
FP6 Programme:
Research for Policy Support
Project type:
Specific Targeted Research Project (STREP)
Project duration:
3 Years
Contract No.:
FP6-2005-SSP-5A
Total project cost:
€834,197
EU Grant aid:
€609,972
Value to Irish partners:
€80,142
Website:
http://www.conscience-eu.net

Abstract

The strategic objective of the CONSCIENCE project is to develop and test scientifically justified guidelines, concepts and methods to implement sustainable coastal erosion management for the European coasts. The first aim of the project is to translate process knowledge of coastal erosional behaviour into a framework of quantifiable concepts such as coastal resilience, coastal sediment cells, favourable sediment status and strategic sediment reservoirs that can be used for coastal managers to decide on sustainable erosion control measures. The second aim is to produce guidelines and tools to enable an effective uptake of these concepts in European coastal management. These guidelines and tools will be validated in selected test sites.

Activities

The project results will be disseminated along the project life time to stakeholders at EU and national levels, particularly to the EU-ICZM Working group. The CMRC will work with colleagues in the HMRC to lead on Work Package 2, which involves the development of a framework for the implementation of the sediment/ resilience concepts and coastal state indicators in coastal policy & management. The local study site will examine relevant issues in Roscarbery, West Cork.

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Project Leader			
NDL	Delft Hydraulics, The Netherlands		
Project Partners			
IE	1 Irish Institute (UCC)	UK	1 UK Institute
NDL	2 Dutch Institutes	RO	1 Romanian Institute
ES	1 Spanish Institute	PO	1 Polish Institute

DEGREE – Development of Fishing Gears with Reduced Effects on the Environment

General Information
FP6 Programme: Research for Policy Support
Project type: Specific Targeted Research Project (STREP)
Project duration: 2 Years
Contract No.: 022576
Total project cost: €3,520,000
EU Grant aid: €2,000,000
Value to Irish partners: €97,283
Website: http://www.rivo.dlo.nl/degree

Abstract

High levels of concern have been expressed for many years about the adverse effects that towed fishing gear can have on the seabed and the benthic communities that live on and in the seabed. To counter these effects, there is growing pressure to close significant areas of the sea to fishing which could have significant socio-economic impacts on fishing-dependent communities. Another alternative would be the development of fishing gear with a lower environmental impact. Closing established areas to fishing may protect some benthic communities but it may also lead to increased exploitation of more vulnerable components of stock and increase the socio-economic strains on fishing-dependent communities.

Activities

As an alternative to this approach to environmental protection, DEGREE will:

- Develop new fishing gear (otter trawl, beam trawl, dredges) that reduce the adverse effects on the seabed and benthic communities.
- Quantify the potential reduced effect on habitats and benthic communities.
- Assess the socio-economic consequences of introducing these gear in established fisheries. The development of modified, low-impact fishing gear will help the EU and Member States to meet their international obligations for the protection of the marine environment, habitats and species.
- DEGREE will inform fishery management decision-makers about environmental protection and the socio-economic consequences of individual decisions.
- Information collected and gear developed by DEGREE will assist the EU in meeting numerous aspects of declared fishery policy, such as 'adopting measures to reduce the impact of fishing activity on marine ecosystems' (Council Reg. 2371/2002 Art 4).

Deliverables

- Video: Physical models in flume tank – January 2007
- Mid-term report – January 2008
- Video: Effects of standard and modified fishing gear on seabed – April 2008
- Model: Ecological effects on benthic communities – August 2008
- Model: Physical interactions between seabed-gear components – August 2008
- Full-scale prototypes of low-impact fishing gear – April 2009
- Final report – April 2009

Project Leader			
NLD	Netherlands Institute for Fisheries Research (IMARES), The Netherlands		
Project Partners			
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FR	1 French Partner		

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SIXTH FRAMEWORK PROGRAMME

EFIMAS – Operational evaluation tools for fisheries management options

General Information
FP6 Programme: Research for Policy Support
Project type: Specific Targeted Research Project (STREP)
Project duration: 5 Years
Contract No.: 502516
Total project cost: €7,648,875
EU Grant aid: €4,499,998
Value to Irish partners: €90,475
Website: http://www.efimas.org/

efimas
operational evaluation tools
for fisheries managent options

Abstract:

The objective of the EFIMAS project is to develop an operational management evaluation framework that allows evaluation of the trade-off between different management objectives when choosing between different management options. The evaluation framework will be developed to inform an exploratory, adaptive decision-making process. Evaluation tools will be developed to appraise the biological, social and economic effects of fisheries management measures in the EU, and these will be applied to important fisheries. The tools will take account of the dynamics in the fisheries systems, as well as of uncertainties and will include risk assessments.

Activities

The overall approach uses stochastic simulation techniques. These cover the full scope of the fisheries system from the fish resources, through data collection, assessment and management, and the response of the system to management. The input data to the management system are generated by a descriptive model, which is assumed to represent the "true / real" system. The input data are then processed by a traditional assessment model, or by an alternative model, which is used to generate management advice. By simulating the effect that the resultant management actions would have on the "true / real" system it is possible to generate a range of performance measures, covering the resource and the fishery. These measures can then be compared across different assessment models and management approaches.

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Project Leader			
DK	The Danish Institute for Fisheries Research		
Project Partners			
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DK	2 Danish Institutes	PT	1 Portuguese Institute
UK	5 UK Institutes	GR	2 Greek Institutes
NLD	2 Dutch Institutes	NO	2 Norwegian Institutes
FR	1 French Institute	SE	2 Swedish Institutes
FIN	2 Finnish Institutes	PL	1 Polish Institute
ES	5 Spanish Institutes	IT	1 Italian Institute

GENIMPACT – Evaluation of Genetic Impact of Aquaculture Activities on Native Populations – a European Network

General Information
FP6 Programme: Research for Policy Support
Project type: Coordination Action
Project duration: 1 Year
Contract No.: 22802
Total project cost: €500,000
EU Grant aid: €500,000
Value to Irish partners:
Website: http://genimpact.imr.no

Abstract

The genetic impact of aquaculture activities has aroused a great deal of concern among scientists and the general public. The perceived risks are often associated with detrimental impacts on wild populations and the ecosystem through ecological interactions and interbreeding, posing a threat to biodiversity. Public health issues are also matters of concern. There is a need to strengthen the knowledge base required to assess the genetic impact of aquaculture on the environment, and to improve the dissemination of information to a wider public. GENIMPACT will integrate current knowledge of the impact of aquaculture on the genetics of wild stocks and identify future research needs. To this end, internationally recognised scientists and European enterprise groupings have linked up to study the genetic impact of aquaculture production on native populations, discuss the results with aquaculture, breeding, environmental and animal welfare organisations, and provide information for policy makers.

Activities

GENIMPACT will cover

- Genetic impacts of escapees and restocking and introduction of non-native strains,
- Genetic impacts of culture practices,
- Triploids (both fish and shellfish), tetraploid mother oyster strains,
- Growth enhancement in fish by gene transfer,
- Recombinant DNA vaccines,
- Genetic impact evaluation, monitoring tools and modelling,
- Predictive tools: modelling and assessment of risk. The results will be disseminated to scientists, industry, NGOs, policy makers and the press

The scientific information will be used to:

- develop consensus statements on the genetic impact of farming activities and implications for aquaculture management, stock conservation and environment safety.
- integrate the scientific basis for the establishment of preventive measures for important aquaculture species like Atlantic salmon, Atlantic cod, European sea bass, gilthead sea bream, turbot, carp, halibut, scallops, mussels, oysters (Pacific oyster and European flat oyster) and European lobster.

Project Leader			
NO	Institute of Marine Research (IMR), Bergen, Norway		
Project Partners			
IE	1 Irish Partner - UCC	IT	2 Italian Partners
CZ	2 Czech Partners	NLD	1 Dutch Partner
FR	4 French Partners	NO	2 Norwegian Partners
GR	2 Greek Partners	ES	1 Spanish Partner
I	2 Iceland Partners	UK	2 UK Partners

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SIXTH FRAMEWORK PROGRAMME

NECESSITY – Nephrops and Cetacean Species Selection Information and Technology

General Information
FP6 Programme: Research for policy support
Project type: Specific Targeted Research Project (STREP)
Project duration: 3 Years, 2 Months
Contract No.: 501605
Total project cost: € 7,507,545
EU Grant aid: €4,274,000
Value to Irish partners: €1,982,456
Website: http://www.rivo.dlo.nl/sites/necessity/default.asp

Abstract:

The NECESSITY project has two main aims, both involving the development of effective and acceptable fishing gear modifications (by-catch reduction devices) and alternative fishing tactics in co-operation with the fishing industry. The first seeks to reduce by-catch and mortality of non-target fish species in European *Nephrops* fisheries, the second to reduce mortality of cetaceans in European pelagic fisheries.

Emphasis is placed on disseminating the results of the work to the fishing industry and recommending proper implementation of alternative gear and fishing tactics. The biological effects and socio-economic repercussions of using such devices will also be studied.

Activities

The project consists of 10 work-packages as follows:

WP1. Management and co-ordination.

WP2. Statistical planning, modelling and analysis.

WP3 Species selective - *Nephrops* gear.

WP4. Alternative tactics - *Nephrops* fisheries.

WP5. Biological effects - *Nephrops* fisheries.

WP6. Cetacean by-catch & alternative tactics.

WP7. Gear modification pelagic trawls - cetaceans.

WP8. Impact on cetacean stocks.

WP9. Socio-economic repercussions.

WP10. Dissemination and implementation.

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FIN	1 Finnish Institute	PT	1 Portuguese Institute
DK	3 Danish Institutes	ES	2 Spanish Institutes
IT	1 Italian Institute	TR	1 Turkish Institute
GR	2 Greek Institutes		

OATP – Offshore Aquaculture Technology Platform

General Information
FP6 Programme: Research for Policy Support
Project type: Coordination Action
Project duration: 1 Year, 2 Months
Contract No: Coordination Action
Total project cost: €201,300
EU Grant aid: €201,300
Value to Irish partners: €136,800
Website: TBC

Abstract

Evaluation of the Promotion of Offshore Aquaculture Through a Technology Platform. The Objective is *"To investigate the opportunity and usefulness for the aquaculture industry of promoting offshore aquaculture through a technological platform"*. The general methodology of the approach is to form a consortium of service providers, manufacturers, aquaculture practitioners with offshore experience, research and development organisations and agencies from the sector which will pool the available knowledge and experience by the most efficient and practical methods available. The goal is to ensure that the stated objective above is addressed accurately, comprehensively and efficiently. This will be achieved by:

- A survey by way of a bespoke questionnaire, administered by direct interview. Survey to cover all members of consortium and additional stakeholders in EU/EETA region.
- Informal seminars in key regions to identify key areas for future discussions.
- An interim report for circulation in advance of international workshop.
- International Workshop over two days for partners and stakeholders.
- A final report, with recommendations and roadmap of way forward. Report to reflect the proceedings of the workshop and the considered views of the partners on the functions of a technology platform is achieving the goals set out above.

Activities

To investigate the opportunity and usefulness for the aquaculture industry of promoting offshore aquaculture through a technological platform. Achieving this objective requires the collection, validation and collation of information, both data and opinions, from a diverse range of sources on the opportunities and requirements for offshore aquaculture, in the European context, and it's evaluation to assess the appropriateness of a technological platform as a suitable promotional vehicle.

This will be achieved by:

- Developing an up-to-date sector profile for offshore aquaculture across the EU and EAA.
- Agreeing a common vision of offshore aquaculture in Europe and the role of RTDI in achieving that vision.
- Carrying out a gap analysis to identify gap areas, areas of strength and areas requiring strengthening.
- Identifying the role(s) of a technology platform approach in bringing increased synergies and added value to offshore aquaculture RTD to boost competitiveness to a world-leading position.
- Preparing a final report for the Commission.

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Project Leader	
IE	Marine Institute

Project Partners			
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ES	2 Spanish Partners	BE	1 Belgian Partner
ML	1 Maltese Partner		

SIXTH FRAMEWORK PROGRAMME

PANDA – Permanent network to strengthen expertise on infectious diseases of aquaculture species and scientific advice to EU policy

General Information
FP6 Programme: Research for Policy Support
Project type: Coordination Action
Contract No. 502329
Project duration: 3 Years
EU Grant aid: €494,155
Total project cost: €494,155
Value to Irish partners: €26,665
Website: http://www.europanda.net

Abstract

Infectious diseases are the principal threat to Europe's €2.2 billion aquaculture sector (60,000 jobs). Several Member States have improved prevention and management of fish and shellfish diseases by enhancing laboratory facilities, diagnostic expertise, control protocols, and therapeutic strategies. Networks of Community and national reference laboratories support the improvement and harmonisation of standards in the field. Yet to bring the full force of European expertise to bear on the problem, it is essential to expand the multidisciplinary networking effort within the EU and beyond. The PANDA project aims to establish a permanent network of aquatic animal health specialists, including research scientists and diagnosticians, to provide them with a forum for the debate of issues concerning diseases in European aquaculture, and to communicate the results of these discussions to the European Commission with provision of advice.

Activities

PANDA aims to establish an enlarged and permanent European network of experts in aquatic animal health. All known EU (and key non-Union experts and laboratories will be encouraged to join. Specialised task forces will address the following topics with a view to issuing recommendations to the Commission:

- Risk analysis of exotic emerging and re-emerging disease hazards
- Developing an epidemiology database and advising on methods for disease diagnosis, surveillance, and containment
- Evaluating diagnostic methods (notably their standardisation and validation)
- Environmentally safe disease control strategies
- Training needs and opportunities.

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Project Partners			
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DK	Danish Institute	NO	Norwegian Institute
FR	French Institute	ES	Spanish Institute
BE	Belgian Association		

PROFET POLICY Fish Policy Flow

General Information
FP6 Programme: Research for Policy Support
Project type: Specific Support Action
Project duration: 3 Years
Contract No: 022771
Total project cost: €766,390
EU Grant aid: €728,070
Value to Irish partners: €44,783
Website: http://www.profetpolicy.info

Abstract

Considerable time, effort and resources are invested each year in fishery-related research projects but there is widespread concern that the benefit of this investment is not fully realised. There is a continual need to review how information is disseminated and taken up by those whom the research is intended to benefit. The Commission has funded a number of projects, including AQUAFLOW and PROFET, which were aimed at improving the dissemination and increasing the uptake of EU-funded project results. Now this approach needs to be taken to the next step.

PROFET POLICY will build a platform for the communication and dissemination of EU-funded research projects in fisheries and aquaculture. It will:

- Employ modern communication methods to facilitate the flow of information, focusing on policy-relevant results, to a wide range of stakeholders;
- Organise complementary workshops on a thematic and regional basis to promote an exchange of views between aquaculture producers, fishers, scientists, policy-makers and other stakeholders; and
- Distribute widely the individual and complete workshop proceedings.

Activities

Contribution to policy development:

- PROFET POLICY aims to increase the benefits to all stakeholders from EU-funded project results. The PROFET POLICY partner organisations include key players in producing scientific advice for fisheries-related issues and members of institutions, such as the Advisory Committee for Fisheries and Aquaculture. This will provide a direct link between project conclusions and policy formulation.
- Participation in ACFA, and other influential bodies or institutions, will provide informed discussion on current policy and research needs in support of fisheries and aquaculture.
- The project linkages established between industry, research and the EU will increase the transparency of policy development.

Project deliverables

- Report: Review of background policy and project research documents – February 2006.
- Announcement of dates and places for nine thematic workshops – June 2006.
- Reports: proceedings of workshops – within 3 months of each workshop.
- Annual project report and newsletter – January 2007, 2008, December 2008.
- Project final report – December 2008.

Project Leader			
BE	Federation of European Aquaculture Producers (FEAP), Belgium		
Project Partners			
IE BE	1 Irish SME - AquaTT 2 Belgian Partners	DK	2 Danish Partners

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SIXTH FRAMEWORK PROGRAMME

PROTECT – Marine Protected Areas as a tool for ecosystem conservation and fisheries management

General Information
FP6 Programme: Research for Policy Support
Project type: Specific Targeted Research Project (STREP)
Project duration: 4 Years
Contract No : 513670
Total project cost: €3,007,123
EU Grant aid: €2,000,000
Value to Irish partners: €191,945
Website: www.dfu.min.dk

PROTECT
Marine Protected Areas as a Tool for Ecosystem Conservation and Fisheries Management

Abstract

Marine protected areas (MPAs) are seen as an instrument for improving both fishery management and marine environmental protection. Although such benefits are often easily identified, little empirical evidence exists to demonstrate the real effectiveness of MPAs. This is due to insufficient information and instruments for MPA design, monitoring and evaluation.

Activities

PROTECT seeks to provide European policy-makers with improved tools for the identification, design and management of MPAs. It brings together the collective expertise of 17 leading European marine research institutes who will:

- Evaluate the potential of MPAs as a tool to protect sensitive species and habitats against the effects of fishing;
- Develop scientific methods and information products to design and evaluate the effect of MPAs;
- Co-operate with other EU-funded projects, such as EMPAFISH;
- Organise a series of thematic workshops and compile reports that will draw from experience and lessons learnt from specific case studies.

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Project Leader			
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Project Partners			
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DK	1 Danish Institute	PL	1 Polish Institute
Fin	1 Finnish Institute	FR	1 French Institute
SE	2 Swedish Institutes	NLD	1 Dutch Institute
DE	2 German Institutes	NO	2 Norwegian Institutes

SLIME – Study Leading to Informed Management of Eels

General Information
FP6 Programme: Research for Policy Support
Project type: Specific Support Action
Project duration: 2006 (7 Months)
Contract No.: 022488
Total project cost: €220,430
EU Grant aid: €199,999
Value to Irish partners: €24,800
Website: http://www.rivo.wag-ur.nl/FTP_DIR/Biology_Ecology/Willem/SLIME/

Slime

Abstract

The eel stock in Europe is in rapid decline. The European Commission, the International Council for the Exploration of the SEA (ICES) and the European Inland Fisheries Advisory Commission (EIFAC) have all advised that urgent management action needs to be taken to protect and restore stocks. Given the scattered distribution of the eel in inland and coastal waters across Europe, this can only be achieved through local management measures, integrated on a European scale.

SLIME will review the information available and identify options for a coherent European management strategy.

The project will:

- Describe suitable models for the evaluation of the eel stock, quantifying recruitment and escapement and demonstrating compliance, or otherwise, with escapement limits and targets;
- Apply test case datasets for different life stages and catchment/fishery types;
- Formulate advice for a scientific framework based on the outcomes from the various models.

Activities

- The Community Action Plan for the management of the European eel assigns responsibility for stock restoration measures primarily to local-level management.
- SLIME will provide a scientific basis upon which the Commission can develop coherent EU-wide stock-management proposals.
- A consistent, scientifically informed approach across Europe will help the EU and Member States meet their international obligations towards safeguarding aquatic biodiversity.

Project deliverables

- Internal report: Description of management information requirements – April 2006.
- Internal report: Detailed description of analysis models – April 2006.
- Workshop: Preparing first draft of final report – April 2006.
- Final report – June 2006.
- Policy implementation plan – July 2006.

Project Leader			
NTH	Netherlands Institute for Fisheries Research (IMARES), The Netherlands		
Project Partners			
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FR	2 French Institutes	UK	2 UK Institutes

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BIOTOX – Cost effective tools for risk management and traceability systems for lipophilic marine biotoxins in seafood

General Information
FP6 Programme: Food Quality and Safety
Project type: Specific Targeted Research Project (STREP)
Project duration: 4 Years
Contract No.: 514074
Total project cost: €5,532,533
EU Grant aid: €3,010,000
Value to Irish partners: €662,352
Web address: www.biotox.org

Abstract

Over the last 25 years the consumption and trade of shellfish has increased globally as well as in Europe. However, an increase has been observed in the frequency and diversity of toxic algal blooms. These algae are accumulated by most shellfish species and can cause serious health problems for the consumers. The lack of reliable analytical methods for the determination of toxins that cause DSP is one of the main problems for dealing with the potential problems associated with toxic shellfish. The BIOTOX project is an ambitious multi-disciplinary project in which the lack of analytical methods for the determination of marine lipophilic shellfish toxins is addressed.

Activities

The objectives of this proposal in order of priority are:

- Development and validation of confirmatory analytical methods for the detection of lipophilic toxins in shellfish, and of robust, rapid and cost-effective assays that cover all lipophilic shellfish toxins mentioned in the EU limits, to enable a phase-out of all animal tests currently applied in this field.
- Development of advanced early warning tools for the detection of shellfish toxins in algae, based on gene expression and passive sampling.
- Development of decontamination methods for shellfish, contaminated with lipophilic toxins.
- Implementation of the developed methods in adequate HACCP control and verification procedures in Europe for the monitoring, traceability and depuration of biotoxins, and advice on the harmonisation of these procedures in European member states.

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Project Leader			
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Project Partners			
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		NO	2 Norwegian Institutes, 1 Norwegian SME
NLD	1 Dutch Institute	IT	1 Italian Institute
		BE	1 Belgian Institute

CONSENSUS – Multi-stakeholder platform for sustainable aquaculture in Europe

General Information
FP6 Programme: Food Quality & Safety
Project type: Coordination Action
Project duration: 2005 – 2008
Contract No.: 513998
Total project cost: €1,447,627
EU Grant aid: €1,447,627
Value to Irish partners: €39,000
Website: http://www.euraquaculture.info/

Abstract

CONSENSUS is driven by major European stakeholders representing consumer interests, aquaculture producers, aquatic feed suppliers, environmental, animal health and welfare groups, as well as by stakeholders from various levels of legislative bodies in both the EU Member States and associated countries.

Activities

The main aim of CONSENSUS is to ensure that sustainability becomes normal practice in the aquaculture industry in terms of the environment, social contribution and economic success into the future. The actions proposed to achieve this objective are based on the development and implementation of sustainable aquaculture protocols. The protocols are based on low environmental impact, high competitiveness and ethical responsibility with regard to biodiversity and animal welfare. These protocols will be developed through stakeholder participation and will lead to the establishment of sustainability standards, agreed by the consumers with balanced information showing the benefits of sustainable European aquaculture and its products. The platform will also focus on the transfer of existing knowledge to SMEs. This Co-ordination Action will be steered by the principal European stakeholders – the European Consumers' organisation, the European Bureau for Conservation Development, the Federation of European Aquaculture Producers, the European Mollusc Producers Association, the European Feed Manufacturers Federation and the European Aquaculture Society (EAS). Newly generated results from the FP6 Integrated Project SEAFOOD plus will provide valuable input. Under the co-ordination of EAS, specialised working groups comprised of experts in the area that influence the sustainability of the sector will produce draft protocols. Through a wider consultation phase, these drafts will be adapted and collected to provide a set of protocols that are fully representative ad fully European.

Project Leader	
BE	European Aquaculture Society, Belgium

Project Partners			
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BE	8 Belgian Institutes, 2 SMEs, 4 Associations	NO	2 Norwegian Institutes
DK	1 Danish Institute	ES	1 Spanish Institute
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SEAFOODplus – Health Improving, Safe Seafood of High Quality in a Consumer Driven Farm-to-Fork Concept

General Information
FP6 Programme: Food Quality & Safety
Project type: Integrated Project
Project duration: 5 Years
Contract No.: 506359
Total project cost: €26,000,000
EU Grant aid: €14,400,000
Value to Irish partners: €648,469
Web address: http://www.seafoodplus.org

Abstract

The strategic objective of the SEAFOODplus Integrated Project is to reduce health problems and to increase wellbeing among European consumers by applying the benefits obtained through consumption of health-promoting and safe seafood products of high eating quality. Dietary intervention and epidemiological studies will assess the potential role of seafood in the diet to help alleviate the increased burden of cardiovascular disease, cancer and inflammatory diseases in population groups. The health of young adult populations particularly in relation to obesity, metabolic and bone health will be specifically targeted. The role of fish consumption is also being investigated in relation to postpartum depression observed in some women after giving birth.

Activities

- The **seafood safety component** aims to make seafood safe for the consumer.
- The **total value chain** is addressed by developing consumer driven tailor-made, functional seafood products to improve health and to ensure nutritional quality and safety.
- The **aquaculture component** will study the effects of dietary modulation, husbandry, fish physiology, genetics and pre-slaughter conditions.
- **Validated traceability systems** will be assessed within SEAFOODplus to make it possible to apply a total chain approach from the live fish to the consumer product, and to trace back any feature from fork-to-farm.

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DK	Danish Institute for Fisheries Research (DIFRES), Denmark		
Project Partners			
IE	3 Irish Institutes (Teagasc, UCC, Marine Institute)	IC	2 Icelandic Institutes, 1 Icelandic SME
NO	6 Norwegian Institutes, 3 Norwegian SMEs	BE	2 Belgian Institute, 1 Belgian Association
FR	7 French Institutes, 1 French Association	DE	3 German Institutes
NLD	9 Dutch Institutes, 1 Dutch SME	PT	1 Portuguese Institutes
UK	4 UK Institutes, 1 UK SME	SE	2 Swedish Institutes
ES	6 Spanish Institutes, 1 Spanish SME	IT	1 Italian Institute
DK	3 Danish Institutes, 3 Danish SMEs	FIN	1 Finnish Institute
HU	1 Hungarian Institute	CA	1 Canadian Institute
PL	1 Polish Institute, 1 Polish SME		

GEMS – Global and Regional Earth-System Monitoring using Satellite and In-Situ Data

General Information
FP6 Programme: Aeronautics and Space
Project type: Integrated Project
Project duration: 4 Years
Contract No.: 516099
Total project cost: €15,065,600
EU Grant aid: €11,000,000
Value to Irish partners: €290,000
Website: http://www.ecmwf.int/research/EU_projects/GEMS/

Abstract:

Fifteen thousand excess deaths in the heat-wave of summer 2003 showed that Europe lacks operational capabilities to provide adequate medium-range (3 – 7 day) and short-range (1 – 3 day) forecasts for natural disasters involving atmospheric chemistry and dynamics. This project aims to create new European operation capabilities for medium-range and short-range air chemistry forecasts through much improved exploitation of satellite data.

The project will develop and implement at the European Centre for Medium-Range Weather Forecasts (ECMWF) a comprehensive, validated, and novel operational global data assimilation / forecast system for atmospheric dynamics and composition, which combines all available remotely sensed and in-situ data to achieve global monitoring of the dynamics and composition of the atmosphere from global to regional scales (50km) and covering the troposphere and stratosphere. The deliverables will include current and forecast three-dimensional global distributions (four times daily with a horizontal resolution of 50km) of key atmospheric trace constituents including greenhouse gases, reactive gases and aerosols.

Activities

- The global assimilation / forecast system will provide initial and boundary conditions for nine operational regional air-quality and 'chemical weather' forecast systems across Europe. This will provide improved operational real-time air-quality forecasts. It will also provide a methodology for assessing the impact of global climate changes on regional air quality.
- For the ENVISAT-EOS era (1999-2007) GEMS will provide a retrospective analysis of all accessible in-situ and remotely sensed data on atmospheric dynamics and composition, as validation material for the project itself, and as a service to the wider science community on which the project relies.
- GEMS will develop operational state-of-the-art variational estimates of the sources/sinks, plus inter-continental transports, of many trace gases and aerosols. These estimates will be designed to meet, on a monthly or quarterly basis, policy makers' key information requirements relevant to the Kyoto and Montreal protocols and to the UN Convention on Long-Range Trans-boundary Air Pollution.

Project Leader			
UK	European Centre for Medium-Range Weather Forecasts		
Project Partners			
IE	1 Irish Institute (NUIG)	NLD	1 Dutch Institute
UK	1 UK Institute	BE	2 Belgian Institutes
FR	4 French Institutes	GR	1 Greek Institute
DE	5 German Institutes	NO	1 Norwegian Institute
IT	3 Italian Institutes		

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LIMES – Land/Sea Integrated Monitoring of European Security

General Information
FP6 Programme: Aeronautics and Space
Project type: Integrated Project
Project duration: 3 Years, 6 Months
Contract No.: 031046
Total project cost: €21,248,157
EU Grant aid: €11,980,618
Value to Irish partners: €138,780
Website: http://cmrc.ucc.ie/pages/K_project_page.php?project_code=limes

Abstract

LIMES (Land/Sea Integrated Monitoring of European Security) will, for the first, time, systematically develop GMES applications relating to security, applying innovative solutions and services based on Earth Observation systems and satellite communication and positioning technologies. It will have applications in the surveillance of European seas and the monitoring of borders and critical infrastructure (nuclear power stations, pipelines, etc) in Europe and beyond. It will also provide support for humanitarian missions, such as the management of humanitarian aid, the consequences of natural disasters such as tsunamis or earthquakes, the movement of refugees, reconstruction and development aid.

Activities

The LIMES project will supplement the GMES program until 2008 by providing expertise in the security area. Its purpose is to define and develop prototype information services based on satellite technology to support security management efforts at European and global levels in the following political and thematic interest areas:

- Organization and distribution in the fields of humanitarian aid and reconstruction.
- Monitoring the EU's external borders (land and sea).
- Monitoring and protecting ship traffic (sensitive freight).
- Protection against future threats to security (terrorism, trade in drugs, weapons and human beings, proliferation of weapons of mass destruction).

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Project Leader			
IT	Telespazio, Italy		
Project Partners			
IE	1 Irish Partner (UCC)	UK	2 UK Partners
IT	17 Italian Partners	FR	7 French Partners
EU	3 European/International Partnerships	NO	2 Norwegian Partners
DE	4 German Partners	PO	1 Polish Partner
ES	4 Spanish Partners	BE	2 Belgian Partners
GK	4 Greek Partners	AT	2 Austrian Partners

MerSea – Marine Environment and Security for the European Area

General Information
FP6 Programme: Aeronautics & Space. GMES.
Project type: Integrated Project
Project duration: 4 Years
Contract No.: 502885
Total project cost: €24,420,987
EU Grant aid: €14,047,799
Value to Irish partners: €70,750
Web address: http://www.ifremer.fr/merseaip/

Abstract

The main aim of the MERSEA project is to provide an integrated service of global and regional ocean monitoring and forecasting to intermediate users and policy makers in support of safe and efficient offshore activities, environmental management, security and sustainable use of marine resources. The MERSEA project aims to develop a European system for operational monitoring and forecasting on global and regional scales of ocean physics, biogeochemistry and ecosystems. The prediction time scales of interest extend from days to months. The system to be developed in this 4-year project will be the Ocean and Marine services element of GMES (Global Monitoring for Environment and Security) to be established in 2008.

Activities

The project will develop Marine Applications addressing the needs of both intermediate and end-users, whether institutional or from the private sector, with the objectives of:

- Improving the safety and efficiency of maritime transport and naval operations.
- Enabling the sustainable exploitation and management of ocean resources (offshore oil and gas industry, fisheries).
- Efficiently mitigating the effects of environmental hazards and pollution crisis (oil spills, harmful algal blooms).
- Improving the contribution to ocean climate variability studies and seasonal climate prediction and its effects on coastal populations.
- Improving national security and reduce public health risks.
- Advancing marine research with the aim to better understand the global climate, the ocean and its ecosystems.

Project Leader			
FR	Institut Français de Recherche pour l'Exploitation de la MER (IFREMER)		
Project Partners			
IE	1 Irish SME, Techworks Marine Ltd.	CY	1 Cypriot Institute
BE	1 Belgian Institute, 1 Council	GR	1 Greek Institute
DK	3 Danish Institutes	IT	7 Italian Institutes, 1 Company
FR	3 French Institutes, 3 French Company	NLD	1 Dutch Institute, 1 Company
FIN	1 Finnish Institute	NO	3 Norwegian Institutes
ES	4 Spanish Institute	TK	1 Turkish Institute
UK	7 UK Institutes, 2 Company	URN	1 Ukrainian Institute
DE	3 German Institutes	CA	1 Canadian Institute

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SIXTH FRAMEWORK PROGRAMME

AMPERA – European Concerted Action to foster prevention and best response to Accidental Marine Pollution

General Information
FP6 Programme: Coordination of Reseach Activities – ERA-Net Scheme
Project type: Coordination Action
Project duration: 4 Years
Contract No.: 016165
Total project cost: €1,570,000
EU Grant aid: €1,570,000
Value to Irish partners: €18,515
Website: http://www.cid.csic.es/ampera/

Abstract

We often think that oil spills at sea are unavoidable, but many disasters could be averted through better preventative measures and improved emergency responses. The AMPERA ERA-Net project is the first ever attempt to link these two areas at an EU level. It creates a platform where government policy makers and project managers can meet to discuss all aspects of Accidental Marine Pollution (AMP), and to implement EU-wide measures as required. By moving towards the co-ordination (and eventual integration) national and regional AMP research programmes, the network will maximise the EU's research output and make important contributions to the protection of Europe's coastal ecosystems and economies.

AMPERA ERA NET provides the forum of an EU perspective on AMP research. It will enable the research to be planned strategically to address the needs of the entire Community, not just individual nations, and maximise the outputs from existing efforts. While it will not be possible to prevent every accident, the work of AMPERA will certainly help to avert many potential disasters and improve the response systems.

Activities

- Improved Co-ordination of national / regional research programmes on accidental marine pollution, based on well identified thematic priorities, and providing incentives for areas of innovation interest.
- Preparing a long-term strategy on RTD activities on accidental marine pollution by identifying synergies and complementarities that may be nuclei for sustainable co-operations between partners and contribute to the creation of a European Research Area in accidental marine pollution.
- Improved linking of accidental marine contamination research with prevention and mitigation activities which values the role of sound knowledge in decision making.
- Improved validation of RTD programmes by documentation of national implementation and management approaches and design strategies to overcome barriers that hinder trans-national co-operation aimed at opening up of national/ regional programmes.
- Dissemination of knowledge at different levels, underscoring the science-public interface and the impact of the potential outcome in society.

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Project Leader			
ES	CID- CSIC, Spain		
Project Partners			
IE	1 Irish Institute (Marine Institute)	EA	1 Estonian Institute
ES	1 Spanish Institute	UK	1 UK Institute
FR	2 French Institutes	PT	1 Portuguese Institute
BE	1 Belgian Institute	NO	1 Norwegian Institute

BiodivERsa – ERA-Net in Biodiversity Sciences

General Information
FP6 Programme: Co-ordination of Research Activities – ERA-Net scheme
Project type: Coordination Action
Project duration: 4 Years
Contract No.: 517836
Total project cost: €2,837,000
EU Grant aid: €2,837,000
Value to Irish partners: €18,480
Website: http://www.eurobiodiversa.org/

Abstract

BiodivERsa is an ERA-Net project where funding agencies seek best practice as a basis for cooperation in order to strengthen European biodiversity research. BiodivERsA will network the main biodiversity research funding agencies in Europe. The purpose is to promote, at the European level, the emergence of a coherent strategy for managing research, which could, in turn, support conservation policies.

Activities

The overall objective of BiodivERsA is to network Biodiversity Research Funding Agencies in Europe, in order to:

- Contribute to the implementation of the Göteborg 2010 target to halt biodiversity loss, the recommendations of the Malahide Conference (May 2004) and the European Council of June 28th 2004.
- Develop a durable partnership in research funding policy and practice between the partner organisations, thereby creating added value in high quality biodiversity research across national boundaries.
- Increase co-operation between national programmes, developing a transnational research funding programme between the partner organisations.
- Build a platform of co-operation which can be extended to other European countries and other fields of science, beyond the field of biodiversity.
- Contribute to the coordination of biodiversity research funding policies of the Member States in cooperation with developing countries.
- Promote the reciprocal opening of Member State biodiversity research programmes through networking of research funding agencies and the publication of at least one joint call for proposals.

Project Leader			
FR	Institut Français de la Biodiversité, France		
Project Partners			
IE	**1 Irish Partner – EPA**	NDL	1 Dutch Partner
DE	2 German Partners	NO	1 Norwegian Partner
BL	1 Belgian Partner	ESF	1 European Social Fund Partner
EST	1 Estonian Partner	PT	1 Portuguese Partner
HN	1 Hungarian Partner	ES	1 Spanish Partner
IT	1 Italian Partner	SW	3 Swedish Partners
UK	2 UK Partners		

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ECORD – European Consortium for Ocean Research Drilling

General Information
FP6 Programme: Coordination of Research Activities – ERA Net Scheme
Project type: Coordination Action
Project duration: 4 Years
Contract No.: 510218
Total project cost: €2,240,000
EU Grant aid: €2,240,000
Value to Irish partners: €0
Website: http://www.ecord.org/

Abstract

This programme represents and funds International Ocean drilling at a European level. As a coordinated unit, ECORD enables Europe to achieve critical mass and economics of scale in its progress towards equal partnership with the USA and Japan, which are currently considered the world leaders in marine geosciences.

Activities

The proposed research within the IODP (Integrated Ocean Drilling Program) concerns a wide range of fundamental and applied issues for society, such as:

- global climate change
- bio-diversity
- origin of life
- natural hazards involving the study of
  - eathquake processes;
  - mineral and energy resources along continental margins;
  - the internal structure and dynamics of our planet.

Under the IODP, officially launched in October 2003, a multiple platform approach has been used:

- the U.S.A. and Japan will operate riserless and riser drillling vessels.
- ECORD's role is to extend the scientific capability of the program by providing support for mission-specific platform-MSP operations. MSPs operate in key areas such as ice-covered regions (e.g. Arctic Coring Expedition) and shallow seas (e.g. Tahiti Sea Level Expedition), non-accessible to the US and Japanese vessels.
- Providing mission-specific platforms to become the third Operational Component for the IODP needs a concerted action by the European scientific community together with funding organisations which have intensely participated in the planning of the IODP.

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Project Leader			
SW	Swedish Research Council, Sweden		
Project Partners			
IE	I Irish Member - Geological Survey of Ireland	BE	I Belgian Member
		DK	I Danish Member
CN	I Canadian Member	FR	I French Member
FIN	I Finnish Member	IC	I Icelandic Member
DE	I German Member	IT	I Italian Member
NDL	I Dutch Member	NWY	I Norwegian Member
PT	I Portuguese Member	ES	I Spanish Member
SW	I Swedish Member	SWS	I Swiss Member
UK	I UK Member		

MARIFISH – Coordination of European Marine Fisheries Research Programmes

General Information
FP6 Programme: Coordination of Research Activities – ERA Net scheme
Project type: Coordination Action
Project duration: 5 Years
Contract No.: 0259989
Total project cost: €2,977,070
EU Grant aid: €2,977,070
Value to Irish partners: €5,000
Website: http://www.marifish.net/

Abstract

MariFish will bring together the major European national funders of marine fisheries research. This effective, working partnership will exchange information on national research programmes (content, management, funding and evaluation). It will link and influence existing co-ordination and collaborative systems and encourage co-ordination of research activities. The partnership will also identify and facilitate joint funding of strategic long-term research programmes. The total combined annual fisheries research budget of all partners amounts to approximately €160 million and represents a very significant European research resource and body of scientific knowledge.

To help MariFish achieve its many challenging goals, the following statement of overall purpose has been adopted by the partners: *"MariFish will focus on that research which provides evidence to managers for the development of strategies for sustainable fisheries, including links with aquaculture, set within the ecosystem based principle."*

Activities

To achieve its aim MariFish will undertake the following key activities over a 5 year period:

- Exchange information on current R&D/research programmes.
- Improve practices in the planning and procurement of research through shared knowledge.
- Identify existing regional, European and international collaboration.
- Enhance co-ordination between fisheries research and other disciplines.
- Compare and analyse national research programmes to identify areas of common interest, gaps and possible duplication.
- Develop and commission shared research programmes.
- Identify innovative, strategic research needs and develop a jointly funded programme.

Research makes a significant contribution to the translation of the Common Fisheries Policy and other policies into practical effect. Fisheries research must strive to achieve sustainable fisheries management within the ecosystem-based principle. MariFish will bring much needed dialogue and cooperation between national programme managers of fisheries research through the development of an effective partnership.

Project Leader			
UK	Department for Environment, Food & Rural Affairs, UK		
Project Partners			
IE	1 Irish Partner – Marine Institute	FR	1 French Partner
UK	2 UK Partners	DK	1 Danish Partner
NO	1 Norwegian Partner	PT	1 Portuguese Partner
DE	1 German Partner	PL	2 Polish Partners
NDL	1 Dutch Partner	CY	1 Cypriot Partner
SW	1 Swedish Partner	GR	1 Greek Partner
IC	1 Icelandic Partner	BE	1 Belgian Partner
ES	1 Spanish Partner		

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SIXTH FRAMEWORK PROGRAMME

MarinERA – Facilitating the Coordination of National and Regional Marine RTD Programmes in Europe

General Information
FP6 Programme: ERA-NET
Project type: Coordination Action
Project duration: 4 Years
Contract No.: 515871
Total project cost: €2,954,279
EU Grant aid: €2,954,279
Value to Irish partners: €319,000
Website: www.marinera.net

Abstract

MarinERA is a partnership of 15 leading Marine RTD Funding Organisations from 13 European Member and Associated States, supported by the Marine Board - European Science Foundation (MB-ESF). Together, these Funding Agencies manage research budgets in excess of €3.4 billion per annum, of which circa €80 million per annum is available for competitive marine research.

MarinERA aims to:

- Map European marine research programmes and specialised infrastructures to assist in the creation of the *Marine* European Research Area (mERA), facilitating the creation of an internal market and quantifying the existing European marine research capacity.
- Facilitate the networking of marine research funding agencies in the European Union leading to a more cost-effective and efficient use of member state resources including scientific personnel, specialist infrastructures and planned investments.
- Contribute to the development of a European Marine Research Policy, identifying future challenges and opportunities and the priority research programmes that need to be put in place to address / benefit from them.
- Provide a basis for the sharing of available resources to address priority issues, which are beyond the capacities of individual Member States.
- Progress the mutual opening of Member State RTD Programmes, which has been identified as a key objective of the ERA.

In the event that MarinERA would continue under the auspices of FP7, it would provide the opportunity to extend it's membership to include further state representation of the major Marine RTD Funding Organisations in the European Union (EU27) and Associated States.

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Project Leader	
FR	Coordinator: Institut Francais de recherche pour l'exploitation de la mer (Ifremer). Deputy Coordinator: Marine Board – European Science Foundation (MB-ESF)

Project Partners			
IE	**1 Irish Institute (Marine Institute)**	UK	1 UK Institute
DE	1 German Institute	BE	2 Belgian Institutes
PT	1 Portuguese Institute	ES	1 Spanish Institute
FIN	1 Finnish Institute	GK	1 Greek Institute
NLD	1 Dutch Institute	NO	1 Norwegian Institute
		PL	2 Polish Institute
		MT	1 Maltese Institute

SIXTH FRAMEWORK PROGRAMME

LOGBASED – Logistics Based Design

General Information
FP6 Programme: Sustainable Transport
Project type: Specific Targeted Research Project (STREP)
Project duration: 3 Years
Project No. : 001708
Total project cost: €3,030,000
EU Grant aid: €1,780,000
Value to Irish partners: € 159,500
Web address: http://www.logbased.no/

Abstract

The overall objective of LOGBASED is to develop ro-ro (roll-on, roll-off) vessels enabling "Motorways of the Sea" to become competitive with their road/rail equivalents competing for transport missions between origin and destination. To accomplish this aim, LOGBASED partners will generate a ship design methodology which will lead to the design of better ships functioning as an integral part of dynamic intermodal transport chains. It is aimed to achieve improvements of up to 30% for various ship capabilities, such as resistance, stability, safety, etc. as well as for various logistics performance parameters within intermodal transport chains.

Activities

The development of "Motorways of the Sea" is a strategic issue for the EU economy. The LOGBASED project aims to develop a ship design methodology, which will lead to the design of better ships, through the integration of logistics/operational issues in the design process. More specifically, efficient ro-ro vessels, which shall function as an integral part of dynamic intermodal transport chains, will be developed based on the utilisation of the methodology. The resulting ship designs will be compared to state-of-the-art ship designs.

The methodology will also offer its users (ship operators, port operators, cargo owners, ship brokers, shipyards and consultants) a common platform to develop dynamic intermodal transport solutions, which provide the logistics/operational requirements for ships, port facilities, cargo handling equipment, etc.

Project Leader			
NO	LMG Marin		
Project Partners			
IE	1 Irish SME (NECL)	PR	2 Portuguese Companies
NO	2 Norwegian Companies	UK	1 UK Institute
DE	1 German Company	GR	1 Greek Institute
ES	1 Spanish Company	FIN	1 Finnish Company
DK	1 Danish Company		

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MARNIS – Maritime Navigation and Information Services

General Information
FP6 Programme: Sustainable Transport
Project type: Integrated Project
Project duration: 4 Years
Contract No.: 506408
Total project cost: €27,170,000
EU Grant aid: €12,000,000
Value to Irish partners: €125,000
Web address: http://www.marnis.org/

Abstract

The main goals of MarNIS are to accommodate the principal elements in the European Transport Policy 2010, "Time to Decide", and specified objectives further developed in the Sustainable Surface Transport Work Programme 2002 – 2006. One of the challenges is to turn the vision of "One Stop Shopping" into reality on a pan-European and global basis. The development of mandatory systematic use of modern localisation and communication systems will be a key element in this process. The role of sea transport in an intermodal transport chain will be focused throughout the project.

The process will build upon the results of ongoing and previous projects to be time-and cost-effective. Close relations will be established with the relevant authorities, users and research institutions to ensure a best possible knowledge of the present state-of-the-art as a basis for new inventions and innovative solutions to cater for future operational pan-European requirements.

Activities

- Improvement of safety and the protection of the environment.
- Improvement of security.
- Improvement of efficiency and reliability.
- Improvement of the economic aspects of sea transport.
- Improvement of the legal and organizational aspects.

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Project Leader			
NLD	Ministry of Transport, Public Works and Water Management		
Project Partners			
IE	1 Irish SME (NECL)	ES	3 Spanish Companies, 2 Authorities
NLD	6 Dutch Companies, 2 Associations, 3 Institutes	NO	4 Norwegian Institutes, 6 Companies
		IT	5 Italian Companies
UK	2 UK Institutes, 3 Companies	DE	2 German Companies
GR	1 Greek Institute	PT	2 Portuguese Institutes
BE	2 Belgian Institutes, 1 Company	SE	2 Swedish Institutes, 1 Company
FR	3 French Institutes, 1 Group, 1 Company		

BLUESEED – Technology development for a reliable supply of high-quality seed in blue mussel farming

General Information
FP6 Programme: Specific Research Activities for SMEs
Project type: Co-operative Research (CRAFT)
Project duration: 2 Years
Contract number: 017729
Total project cost: €1,374,320
EU Grant aid: €805,377
Value to Irish partners: €20,000
Website http://www.blueseedproject.com/

Abstract

A problem blue mussel producers face is the unpredictability of seed supply. Seed is mostly harvested from wild mussel seed beds. The amounts of wild seed available are extremely variable from year to year. A second problem is that recently spawned mussels cannot be sold due to insufficient meat content.

Activities

The objectives of the BLUESEED project are to secure a reliable supply of blue mussel seed and to develop techniques allowing farmers to market blue mussels year round. Producers will benefit greatly from a hatchery-based technique, such as triploid induction, that produces non-maturing mussels that can be marketed year round.

Considering the normal 2 to 3 year production cycle for blue mussel in Europe, the focus of the project will be on spat and seed production. The project outcomes will include a reliable method to produce triploid seed, allowing year round production of high quality mussels, protocols for spat and seed production and an analysis of the economic feasibility of the new techniques developed

Project Leader			
NL	Netherlands Institute for Fisheries Research (IMARES), The Netherlands		
Project Partners			
IE	1 Irish SME (Aqua TT)	UK	1 UK SME, 1 Institute
FR	1 French SME, 1 Institute	ES	1 Spanish Organisation, 1 Institute
NL	2 Dutch SMEs		

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Project Leader
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CRAB – Collective Research on Aquaculture Biofouling

General Information
FP6 Programme: Specific Research Activities for SMEs
Project type: SME Collective Research
Project duration: 3 Years
Contract number: 500536
Total project cost: €2,347,356
EU Grant aid: €1,584,733
Value to Irish partners: €464,467
Website: www.crabproject.com

Abstract

Surfaces immersed in the aquatic environment become biofouled when unwanted aquatic organisms such as barnacles, tubeworms and seaweed settle and grow on those surfaces. Biofouling is a complex and recurring problem in all sectors of the European fish-farming industry.

The CRAB project aims to provide the European marine aquaculture industry with low cost practical solutions to control biofouling.

Activities

The objective of this 3-year project is to develop effective biofouling management strategies for the aquaculture industry. The project will review current fouling control techniques and then select and optimise suitable strategies to combat biofouling in aquaculture. The following antifouling methods and strategies are covered:

- Biological control (using natural grazers such as sea-urchins to control biofouling)
- New materials such as non-toxic antifouling coatings
- Electrical methods generating biocides (Cl-) or pH shifts
- New shellfish handling and immersion techniques
- Optimised cleaning techniques, for example using enzyme technology to weaken the bond between biofouling and stock organisms
- Developing an improved knowledge base of biofouling that will allow avoidance measures to be taken.

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Project Leader			
NLD	TNO Science and Industry		
Project Partners			
IE	3 SMEs (Aqua TT, Fastnet Mussels, Curryglass Enterprises), 1 Institute (UCC), 2 Associations (ISGA, Crookhaven Fishermans Assoc)	UK	1 UK SME, 1 UK Co-op, 1 UK Institute
BE	1 Belgian Federation, 1 Belgian Society	NLD	2 Dutch Institutes
NO	1 Norwegian Federation, 2 Norwegian SMEs	ES	4 Spanish SMEs
		PT	3 Portuguese SMEs

FISHTANKRECIRC

General Information
FP6 Programme: Specific Research Activities for SMEs
Project type: Co-operative Research (CRAFT)
Project duration: Since 2004 onwards
Contract number: 512951
Total project cost: €1,324,479
EU Grant aid: €683,616
Value to Irish partners: €109,155
Website: http://www.fishtankrecirc.com/wip4/

Abstract

European aquaculture production has increased substantially in recent decades. However, overall production growth in Europe over the period 1994-2001 was 6.3%, 5.5% less than the global trend over the same period. European price rises also failed to keep track with global price increases for aqauculture produce.

Land-based aquaculture is a major economic growth area. However, innovation within the European industry is required in the face of strong competition from non-EU countries. Water recirculation systems are used in intensive land-based aquaculture for better temperature control and to preserve water resources. Maintaining water quality is vital in these systems for optimal fish growth.

The FISHTANKRECIRC project aims to improve water quality in recirculating systems using electro-coagulation techniques. Novel electrocoagulation and filtration configurations need to be established to produce state-of-the-art water control technology for European aquaculture.

Activities

The project aims to develop a water treatment system based on electro-coagulation technique to fulfil the need of European aquaculture for rearing inland fish through intensive recirculation of water with cost effective and reliable technology.

Fishtankrecirc will develop a novel reactor configuration for an electro coagulator, able to remove the organic particles, phosphates, nitrates, ammonia as well as soluble organics at the rate necessary to increase the water quality and associated growth rates of the fish.

New knowledge will be acquired for a deeper scientific understanding of the physical, chemical and biological environment in aquaculture tanks, the electrochemical processes and the performance of electrodes in waste water suspensions. An intelligent filtration and water control technology will be developed including a filtration unit for optimal collection of particles and a water flow system for maximum cleaning effects. An electro coagulation reactor will also be developed.

Project Leader			
NO	Artec Aqua AS		
Project Partners			
IE	2 Irish SMEs (Killybegs Electrical Refrigeration Services Ltd. & Pollution Control Systems Ltd.)	EA	1 Estonian SME
		GR	1 Greek SME
		UK	1 UK SME
NO	1 Norwegian SME, 1 Institute		

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KEYZONES – To Investigate Sustainable Biological Carrying Capacities of Key European Coastal Zones

General Information
FP6 Programme: Specific Research Activities for SMEs
Project type: Co-operative Research (CRAFT)
Project duration: 2 Years
Contract number: 512664
Total project cost: €1,164,280
EU Grant aid: €755,000
Value to Irish partners: €75,432
Website: http://www.keyzones.com/

Abstract

This project deals with the characterisation of the carrying capacity of key European coastal zones for commercial production of bivalve shellfish. The research is designed to produce powerful tools which would enable shellfish producers in the targeted areas to optimise production capacity, recruitment of young stock and quality whilst reducing waste. The project aims to help increase the quality commercial production of bivalve shellfish (oysters, scallops and mussels etc) whilst reducing waste in terms of human, financial and natural resources. This will have a positive impact on local production and harvest of these shellfish in the targeted areas throughout Europe, improving the quality and sustainability of the produce.

Activities

The research consists of:

- Historical Data Collection (collection and storage of historical data that describe environmental parameters and processes at each culture environment).
- Field Work: Objectives are to measure:
  - temporal and spatial variations in the environmental parameters that act as forcing functions driving our simulations of shellfish growth and ecosystem processes (e.g. food availability, light temperature);
  - physiological responses required to parameterize the generic physiological model for each shellfish species;
  - natural shellfish growth and ecosystem variables (e.g. chlorophyll) that will be used to calibrate and validate the models.
- Ecosystem scale modelling: Objectives are to describe and predict carrying capacity, using ecological modelling.

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Project Leader

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Project Leader			
UK	Plymouth Marine Laboratory		
Project Partners			
IE	3 Irish Interests (Southeast Shellfish Co-op, La Tene Maps, Clew Bay Marine Forum)	NLD	1 Dutch Co-op, 2 Companies, 2 Institutes
		UK	1 UK Association, 2 Companies, 1 Institute

SPIINES 2 – Sea Urchin Production in Integrated Systems, their Nutrition and Roe Enhancement

General Information
FP6 Programme: Specific Research Activities for SMEs
Project type: Co-operative Research (CRAFT)
Project duration: 2 Years
Contract number: 512627
Total project cost: €970,641
EU Grant aid:
Value to Irish partners: €28,882
Website: http://www.spiines.com/

Abstract

Sea urchin roe is a luxury food product. However, the wild stocks of edible urchins are now seriously depleted because of over fishing. Wild-harvested sea urchins now typically have a low roe content which is of poor colour, further devaluing the product. The biological basis for culture of sea urchins has been established but the developing industry is now meeting particular constraints. These are:

- The lack of DIETS which improve roe colour, while maintaining the other quantity and consistency parameters demanded by the market (flavour, texture, quantity).
- The lack of GROW-OUT TECHNOLOGY to reduce time to market.
- The lack of HARVEST PROTOCOLS positively influencing shelf-life and product quality.

Activities

This proposal addresses the above constraints by:

- Uniting the leading SMEs in sea urchin culture in Europe with experienced researchers who are best able to assist them.
- Focusing on the two most commonly fished, farmed and consumed sea urchin species in Europe.
- Investigating the pigment (carotenoid) content of sea urchin roes (workpackages 1 & 2) will facilitate the DESIGN OF SEA URCHIN DIETS containing pigments from natural sources (e.g. microalgae). The diets developed and tested will be species-specific and improve roe content and colour.
- Improving economic viability by reducing the time it takes for urchins to reach market size. The GROW-OUT TECHNOLOGY systems developed by this research are all integrated, linking sea urchin culture to that of other species with environmental and economic advantage (WP 3).
- Developing PROTOCOLS FOR MICROBIAL FOOD SAFETY (WP 4) will further enhance the competitiveness and market compliance of the product.

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Project Leader			
UK	Loch Duart Ltd.		
Project Partners			
IE	1 Irish SME (Dunmanus Seafoods Ltd.)	IS	1 Israeli Company, 1 Institute
NO	2 Norwegian Companies	UK	1 UK Company, 1 Association, 1 Institute

SIXTH FRAMEWORK PROGRAMME

SWIRL-JET STUDY

General Information
FP6 Programme: Specific Research Activities for SMEs
Project type: Co-operative Research (CRAFT)
Project duration: 18 Months
Contract number: 017225
Total project cost: €1,740,000
EU Grant aid: €984,000
Value to Irish partners: €25,000
Website: www.swirl-jet.org

Abstract

Research to evaluate the technological application of swirling jets in the fields of:

- Seabed excavation
- Vessel propulsion
- Underwater cleaning.

Activities

Participants in this research project share a common interest in swirling fluid jets, either from the standpoint of commercial exploitation or fundamental scientific curiosity or both. Swirling fluid jets can be created and studied in various ways in nature and technology.

The three project applications (seabed excavation, vessel propulsion and underwater cleaning) use jets formed by ducted-propellers and static swirl generator nozzles. Swirling jets are known to exhibit novel behaviours. Thus, at a particular axial-to-swirl velocity ratio, a columnar jet can suddenly splay out into a plane-wall cone, with the primary flow energy being concentrated in the form of a thin conical sheet.

Conical fan-jets, as they are known, have demonstrable utility for seabed excavation, and significant potential for the other two applications. However, they only exist over a limited range of flow parameters and are susceptible to disturbances which can cause dramatic and often undesirable changes in jet topology.

Means have been found to better control the formation and stability of conical jets through preliminary R&D in the area of seabed excavation. Provisional patents (held by the Co-ordinator) cover basic design for the three application areas, and act as a catalyst for the project. However, to fully realise the inventions' cutting-edge potential, and enable the SMEs to jointly exploit the technology, detailed research into swirling jet dynamics and kinematics is required. RTD Performers have been purposely chosen with these research goals in mind, and to create an integrated, highly focused, project team.

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Project Leader			
UK	Kort Propulsion Ltd		
Project Partners			
IE	**1 Irish SME, Imar Survey Ltd.**	IT	1 Italian Institute
UK	3 UK SMEs, 3 Institutes	ES	1 Spanish Institute
DE	1 German SME	FR	1 French SME

SEADATANET – A Pan-European Infrastructure for Ocean and Marine Data Management

General Information
FP6 Programme: Research Infrastructures
Project duration: 5 Years.
Contract No.: 026212
Total project cost: €10,680,000
EU Grant aid: €8,750,000
Value to Irish partners: € 141,000
Website: http://www.seadatanet.org/

Abstract:
Access to marine data is a key issue for various studies, from climate change prediction to off-shore engineering. However, such data, currently collected by hundreds of organisations under many different systems, is not easily obtainable. The objective of SEADATANET is to construct a standardized system for managing the large and diverse data sets collected by oceanographic fleets and the new automatic observation systems. It will be based on a semi-distributed model that incorporates, but enhances, currently existing infrastructures. The unique virtual data management system will provide on-line access to integrated data sets collected from the various sources.

Activities

The project presents several technical and organizational challenges in order to get a fully operational system, which include:

- Development of standards for communication and Quality Assurance issues on data, meta-data and products.
- A core of data management platforms equipped with adapted data processing software, archiving systems and a fast communication network.
- A network of multidisciplinary data centres from 35 countries and links with other major data sources.
- A joint research group of high level institutes to prepare integrated data products and elaborate new methodologies to improve the system.
- A project office which will have a call desk and tracking system to ensure the operational capability of the system and obtain feedback from end-users.

Project Leader					
FR	SISMER, Centre IFREMER de Brest				
Project Partners					
IE	1 Irish Institute (Marine Institute)	DE	2 German Institutes	NO	1 Norwegian Institute
AB	1 Albanian Institute	GR	1 Greek Institute	PL	1 Polish Institute
AG	1 Algerian Institute	IS	1 Icelandic Institute	PT	1 Portuguese Institute
BE	3 Belgian Institutes	INT	3 International	RO	1 Romanian Institute
BU	1 Bulgarian Institute	ISR	1 Israeli Institute	RUS	2 Russian Institutes
CN	1 Croatian Institute	IT	4 Italian Institutes	SL	1 Slovenian Institute
CY	1 Cypriot Institute	LV	1 Latvian Institute	ES	1 Spanish Institute
DK	1 Danish Institute	LEB	1 Lebanese Institute	SE	1 Swedish Institute
ES	1 Estonian Institute	LN	1 Lithuanian Institute	TUN	1 Tunisian Institute
FIN	1 Finnish Institute	MT	1 Maltese Institute	TK	1 Turkish Institute
FR	1 French Institute	MOR	1 Moroccan Institute	UKN	1 Ukrainian Institute
GN	1 Georgian Institute	NLD	2 Dutch Institutes	UK	1 UK Institute

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AQUALABS – Advanced Laboratory Training Courses in Aquaculture for Early-Stage Researchers.

General Information
FP6 Programme: Marie Curie Host Driven Action
Project type: Series of Events
Project duration: 2 Years
Contract number: 013325
Total project cost: €551,041
EU Grant aid: €535,641
Value to Irish partners: €243,374
Website: http://www.aquatt.ie/aquattinitiatives/currentinitiatives/aqualabs.php

Abstract

AQUALABS consists of seven events, six state-of-the-art advanced training courses for early-stage researchers emphasising the acquisition of practical skills and incorporating a substantial element of hands-on laboratory and field experience, with the seventh event being an innovative multidisciplinary workshop. Each training course is a collaborative effort between six or more European universities or institutes, facilitating up to 30 participants at centres recognised for expertise. The AQUALABS project is funded under Marie Curie host-driven actions: Conferences and Training Courses (SCF/LCF).

Activities

Training course titles include:

- Quality of Fish Products – University College Cork
- Molecular Biology and Ecology in Aquaculture – University of Kuopio
- Design and Operation of Recirculation Technologies – Wageningen University
- Aquatic Animal Disease Diagnostics – University of Stirling
- Freshwater Aquaculture and the Environment – Research Institute for Fisheries, Aquaculture and Irrigation
- Fish Welfare – University of Insubria.

The series of events will conclude with the Early-Stage Researchers Workshop held in conjunction with a European aquaculture industry tradeshow for added value. Workshop aims include:

- To examine scientific content (relative to course titles) & prediction of future needs.
- To review current and potential future research issues.
- To facilitate acquisition of complementary non-research competencies.

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Project Leader			
IE	AquaTT UETP Ltd		
Project Partners			
IE	Irish Institute (UCC)	IT	Italian Institute
UK	UK Institute	FIN	Finnish Institute
HU	Hungarian Institute	NLD	Dutch Institute

BIFF – Bivalves From Farm to Fork

General Information
FP6 Programme: Marie Curie Host Fellowship
Project type: Transfer of Knowledge – Industry Academic Partnership
Project duration: 4 Years
Contract No.:: 042331
Total project cost: €579,085.97
EU Grant aid: €579,085.97
Value to Irish partners: €422,262.45
Website: TBC

Abstract

Scallop aquaculture is constrained by the annual inconsistency in the quantity and quality of the wild seed supply. Differences in the quality and condition of the subsequent fully-grown scallops provide processors with a raw material very different from other food materials used in modern processing industries. With the increased demands for shellfish products due to their healthy image, improvements in food technology and product development are required. This project will integrate multi-disciplinary resources from bivalve hatchery production and on-growing to seafood processing by considering a "total food chain" approach on all research, training and technology transfer levels. The objective of the project will be to develop an economically viable and environmentally sustainable genetic breeding programme for scallops in order to produce seed in a hatchery to supplement the inconsistent wild seed supply. The project will also optimise ongrowing, harvesting (effects of size of animal and seasonal harvesting) and processing (effects of different handling, storage and packaging) of the shellfish.

Activities

The aim of the project is to optimise scallop aquaculture production and processing. This will be achieved through the following objectives:

- To review current best practice for hatchery technology and ongrowing of scallops select the most appropriate system and install it at the hatchery site.
- To design a selective breeding programme and carry out a successful breeding cycle.
- To develop "best practice" methods for transport of spat, ongrowing and harvesting.
- To determine optimal handling, storage and packaging systems for fresh and frozen scallop products.
- To assess the environmental, food-safety and economic risks of the hatchery breeding programme, on-growing and processing systems used.
- To disseminate industry guidelines, recommendations and associated scallop hatchery production, ongrowing and processing management tools to a wide audience.

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Project Leader			
IE	Daithi O'Murchu Marine Research Station, Ireland		
Project Partners			
IE	1 Irish SME - Fastnet Mussels Ltd.	IT	1 Italian Institute
		NO	2 Norwegian Institutes

SIXTH FRAMEWORK PROGRAMME

ECO-IMAGINE – European Conferences and Forum for Integrated Coastal Management and Geo-Information Research

General Information
FP6 Programme: Marie Curie Host Driven Action
Project type: Series of Events
Project duration: 4 Years
Contract No.: 504444
Total project cost: €477,019
EU Grant aid: €477,019
Value to Irish partners: €25,500
Website: http://www.gisig.it

Abstract

ECO-IMAGINE is a series of 8 events developing a support tool which uses Integrated Coastal Management (ICM) and Geo-information/GIS. The initiative runs with an interdisciplinary approach in order to better integrate the different coastal aspects; a science based approach, as per the Johannesburg 2002 Summit, is ensured by employing GIS. Planning and management of coastal landscape is the main criteria with regard to natural and man-made coastal features. Three Working Groups will address the following main areas:

- **Building Coastal Knowledge, and GI**. Analyses and monitoring of coastal profiles using GIS as part of the ICM programme.
- **Coastal Governance, Planning and Design, and GI**. Development of an ICM programme using GIS and taking into account coastal resource usage, environmental impacts, assessment methodology and development of local policies/planning with a view to ICM.
- **Waterfront Management and GI**. Integrated management and planning of the waterfront as a core area for the sustainable development in a wider context. In particular the use of GIS to integrate waterfronts on a territorial scale will be emphasized.

A 4th cross-cutting working group deals with the technological features of GI and their application in the various fields of ICM.

Activities

The primary objective of the ECO-IMAGIN initiative is to discuss ICM and GIS issues on a Europe-wide scale. A multi-level approach to investigation is fundamental because of the various dimensions of challenges to be faced. The opportunity of sharing experiences and using state of the art equipment both in the field of ICM and Information Technologies (IT) is essential in order to encourage collaboration and launch new projects.

Specific activities are:

- two general conferences: the initial one to introduce the theme, the objectives and the working groups; the second one to summarise events and to list the achievements of the initiative.
- three thematic conferences focusing on issues and their relevance to each working group.
- three training courses to deal with the practical aspects of the themes.
- the use of the eco-imagine website and the virtual permanent conferences as a discussion forum and a data repository will ensure the development of an effective network of information across all participating bodies.

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IT	Geographical Information Systems International Group – Genova, Italy		
Project Partners			
IE	Irish Institute (UCC)	IT	2 Italian Institutes, 2 Associations
FR	French Institute	PT	2 Portuguese Institutes
GR	Greek Association	ES	Spanish Institute
HU	Hungarian Institute	UK	UK Institute

TRAMWAYS – Transfer of Knowledge in Microbial Signal Transduction Pathways and Metagenomics

General Information
FP6 Programme: Marie Curie Host Driven Action
Project type: Transfer of Knowledge
Project duration: 2 Years
Contract No.: 042062
Total project cost: €1,500,000
EU Grant aid: €1,500,000
Value to Irish partners: €1,500,000
Website: TBC

Abstract

The marine environment is estimated to contain around 3.67×10^{30} microorganisms, representing a dynamic gene pool of biodiversity. Bacteria associated with marine sponges are known to produce many novel bioactive compounds, including polyketides. At present, microbial sponge communities and their genomes are poorly understood and a substantial unculturable fraction exists within this micro-environment. This project aims to employ a metagenomic approach to exploit the potential metabolic versatility of the unculturable microbes associated with the *Haliclona* sponge species. This will allow the screening of metagenomic libraries, for whole metabolic pathways from the uncultured fraction of this microbial community; using high throughput assays, for novel bioactive compounds. Actinomycetes are a major source of natural products, including polyketides and nonribosomal peptides, and have been shown to express heterologous polyketides. Thus *Strepotmyces lividans* will be used as our expression host since BAC vectors are available for this host and a new high-throughput transformation system has recently been developed.

Activities

To develop a *Streptomyces*-based metagenomic system to identify novel bioactive compounds from a marine sponge-associated microbial ecosystem, with antibacterial and antifungal activities, particularly in ST pathways. To establish and embed *Streptomyces*-based metagenomic core platform technologies.

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Project Leader (Host Institute)	
IE	University College Cork

SIXTH FRAMEWORK PROGRAMME

WAVETRAIN – Research Training Network Towards Competitive Ocean Wave Energy

General Information
FP6 Programme: Marie Curie Action - HR
Project type: Research Training Networks
Project duration: 4 Years
Contract No.: 505166
Total project cost: €1,820,000
EU Grant aid: €1,820,000
Value to Irish partners: €141,859
Website: http://www.wavetrain.info

Abstract

The Research Training Network (RTN) WAVETRAIN has been established in order to assess the multiple scientific and technological challenges that come along with the pre-commercial phase of ocean wave energy utilisation. Involving research entities, universities and enterprises developing wave energy devices, the core of the project is to offer grants or contracts to "Early Stage" and "Experienced Researchers" from other countries.

Among the essential tasks of the project's work programme are wave energy modelling, assessment of power plants, device components and assessment of socio-economic and environmental impact.

Activities

The work programme is broken down into 5 tasks as indicated below and will be developed with two background concerns: the need for developing standards and integrating the experience with the pilot plants.

Task 1: A study on wave resource characterisation parameters including the identification of standard wave resource parameters; the production of representative wave records for device simulation in each standard wave climate and the determination of wave resource annual variability. This will result in a proposal for wave data and device performance reporting.

Task 2: A sensitivity study on extreme waves; the demonstration of advanced experimental techniques in laboratory testing of extreme waves; the development of a viscous 2D model for OWC operation; the development of a 3D non-linear model for an OWC pilot plant to be validated with sea trials and laboratory data and the integration of pilot plant design criteria from different device types.

Task 3: The power-take-off equipment performance of existing pilot plants is analysed and design methods based on the analysis of data sets provided are assessed. Design, control and operational measures to improve efficiency and reliability of PTO are identified and a design approach for safe and cheap mooring systems is proposed.

Task 4: The evaluation of plant performance and environmental impact, based on a representative and well-characterised set of data produced for each pilot plant and the identification of common aspects in plant monitoring. An improvement of pilot plant simulation models is envisaged, based on the development and adaptation of system identification methods.

Task 5: An integral environmental impact assessment study of pilot plants and large-scale application, and socio-economic impact assessment on National and European scale and beyond.

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Project Leader			
PT	Instituto Superior Tecnico, IST, Lisbon, Portugal		
Project Partners			
IE	1 Irish Institute (UCC)	NDL	1 Dutch Institute, 1 Dutch SME
DK	1 Danish SME	PT	2 Portuguese Institutes
FR	1 French Institute	SE	1 Swedish SME
		UK	2 UK Institutes

AqASEM – ASEM Aquaculture Platform

General Information
FP6 Programme: International Cooperation
Project type: Specific Support Action
Project duration: 2 Years
Contract No.: 502505
Total project cost: €587,500
EU Grant aid: €285,000
Value to Irish partners: Centrally managed budget by coordinator, only T&S
Web address: www.asemaquaculture.org

Abstract

The ASEM Aquaculture Platform is a multi-stakeholder platform for activities related to sustainable aquaculture between EU and ASEM (Asia European Meeting) member countries. The general objective of this proposal is to form a platform for activities related to sustainable aquaculture between EU and ASEM member countries. The platform will consist of a management committee, a steering committee and the platform members.

To achieve this objective the following activities are planned:

- Build & manage the platform
- Organise thematic workshops
- Organise dissemination within and beyond the platform
- Facilitate new partnerships & source necessary funding for new projects.

Throughout the various activities, constant care will be taken to comply with three societal concerns: 1) Fair trade, food security & safety; 2) Environmental sustainability; and 3) Social equitability.

The project objective is "…to work out an action-oriented agenda for co-operation and to develop a platform for multi-stakeholder dialogue, networking and continued co-ordination concerning sustainable aquaculture between EU and Asia."

The platform will deliver six workshops during 2004/ 2005 under the following themes:

- **Food security and food safety**
- **Regulatory issues**
- **Diseases**
- **Education and training**
- **Environment and ecosystem preservation**
- **Domestication & breeding.**

Project Leader			
BE	Ghent University		
Project Partners			
IE	1 Irish SME (Aqua TT)	JN	1 Japanese Institute
GR	1 Greek Institute	TH	2 Thai Institutes

For further information contact:

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Project Leader
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SIXTH FRAMEWORK PROGRAMME

CA-OE – Co-Ordinated Action on Ocean Energy

General Information
FP6 Programme: Sustainable Energy
Project type: Coordination Action
Project duration: 1 Year, 3 Months
Contract No.: 502701
Total project cost: €1,580,000
EU Grant aid: €1,500,000
Value to Irish partners: €110,000
Website: http://www.ca-oe.net

Abstract

Ocean energy industries and research organisations are at present small and scattered. Nevertheless between 5 and 10 different large ocean energy systems including new and unproven technology are in the process of seeking public funding and private investors to carry out the development required from scale models to working prototypes at sea.

Different principles for wave energy conversion and tidal stream systems are preparing for prototype testing at different sites within Europe and several other principles are being investigated at a more fundamental level.

The main objectives are:

- to develop of a common knowledge base necessary for coherent development R&D policies
- to bring a coordinated approach within key areas of ocean energy research and development
- to provide a forum for the longer term marketing of promising research deliverables.

Primary attention will be given to the collation and evaluation of data from ocean energy systems tested in real sea conditions with the objective of undertaking performance studies and analysis.

Focus will be given to revise and implement standards for monitoring and measuring the performance and presenting the results as described in Annex II of the IEA Implementing Agreement on Ocean Energy Systems and standards related to safety in relation to structure, personnel and electrical system as prepared during the Wave Energy Network.

Activities

In order to disseminate the knowledge and promote the technologies the Co-ordination Action on Ocean Energy will organize five dedicated interactive workshops, as vehicles to enable cooperation between the interested European parties in the sector of Ocean Energy.

1. Modelling of Ocean Energy Systems
2. Component Technology and Power Take-off
3. System design, Construction, Reliability & Safety
4. Performance Monitoring of Ocean Energy Systems
5. Environmental, Economics, Development Policy and Promotion of Opportunities

Proceedings from these Workshops will be made available on this website as they are completed. The workshops will provide a forum to the different research organisations and the fledgling ocean energy industry to interact and co-ordinate ongoing R&D efforts in the field of Wave and Tidal energy on a European and international level

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Project Partners			
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BE	1 Belgian Partner	IT	1 Italian Partner
BL	1 Bulgarian Partner	NLD	4 Dutch Partners
CA	1 Canadian Partner	PT	3 Portuguese Partners
FR	4 French Partners	SE	2 Swedish Partners
DE	2 German Partners	UK	10 UK Partners
DK	6 Danish Partners		

WAVE DRAGON – Oscillating Water Column Breakwater in Douro, Portugal

General Information
FP6 Programme: Sustainable Energy
Project type: Specific Targeted Research Project (STREP)
Project duration: 4 Years
Contract No.: 019983
Total project cost: €14,707,000
EU Grant aid: €2,431,000
Value to Irish partners: €110,000
Website: http://www.wavedragon.net

Abstract

Wave Dragon is a floating, slack-moored energy converter of the overtopping type that can be deployed in a single unit or in arrays of Wave Dragon units in groups resulting in a power plant with a capacity comparable to traditional fossil fuel-based power plants.

The first prototype connected to the grid is currently deployed in Nissum Bredning, Denmark. Long-term testing is carried out to determine system performance; i.e. availability and power production in different sea states. The energy absorption performance stated at this website has now been independently verified and focus will now be on power production optimisation. These tests will lead to a multi-MW deployment in 2007.

Activities

Wave energy converters often make use of either mechanical motion or fluid pressure and there are numerous techniques for achieving it, e.g. oscillating water/air columns, hinged rafts, gyroscopic/hydraulic devices. Wave Dragon does not have any conversion but uses the energy in the water directly.

Wave Dragon is a very simple construction and has only one kind of moving parts: the turbines. This is essential for any device bound for operating offshore where the extreme forces and fouling seriously affect any moving parts.

Wave Dragon represents a very complex design where large efforts have been spent on design, modelling and testing in order to:

- Optimize overtopping
- Refine hydraulic response: anti-pitching and anti-ruling, buoyancy etc.
- Reduce (the effect of) forces on wave reflectors, mooring system etc.
- Reduce construction costs, maintenance and running costs

All this with one goal: to produce as much electricity as possible at the lowest possible costs - and in an environmental friendly and reliable way.

Project Leader			
DK	Wave Dragon ApS, Denmark		
Project Partners			
IE	1 Irish Institute – ESB International	AS	1 Austria Partner
DK	3 Danish Partners	NO	1 Norway Partner
DE	1 German Partner		
UK	2 UK Partners		

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SIXTH FRAMEWORK PROGRAMME

Listing of all FP6 Marine Projects

Acronym	Title	Country
Aeronautics and Space (Priority 4)		
GEMS*	Global and regional earth-system monitoring using satellite and in-situ data	UK
HALO	Harmonised coordination of the atmosphere, land and ocean integrated projects of the GMES Backbone	UK
INSEA	Data Integration Systems for Eutrophication Assesment in Coastal Waters	EU
LIMES*	Land/Sea Integrated Monitoring for European Security	Italy
MERSEA*	Marine environment and security for the European area	France
MOTIIVE	Marine overlays on topography for Annex II (thematic data-marine/coastal) valuation and exploitation	UK
PEARL	Port Environmental Information Collector	UK
Strengthening the Foundations of the ERA		
AMPERA*	ERA-Net to foster prevention and best response to Accidental Marine Pollution	Spain
AQUAMAX	Sustainable aquafeeds to maximise the health benefits of farmed fish for consumers	Norway
BIODIVERSA*	ERA-Net in biodiversity sciences	France
BONUS	BONUS for the Baltic Sea science - network of funding agencies	Finland
CIRCLE	Climate impact research co-ordination within a larger Europe	Austria
CIRCLE CA	Climate impact research co-ordination within a larger Europe	Austria
COASTAL-ERA	Control objectives and shellfish target assurance levels ERA-NET	Spain
CRUE	Coordination of research financed in the European Union on Flood risk management	UK
ECORD*	European consortium for ocean research drilling	Sweden
EUROPOLAR	The European Polar Consortium: strategic coordination and networking of European polar RTD programmes	France
EUROPOLAR	Coordination of European Marine Fisheries Research Programmes	UK
MARIFISH*	Coordination of European Marine Fisheries Research Programmes	UK
MARINERA*	Coordination of national and regional marine RTD activities in Europe	France
MARTEC	Maritime Technologies	Germany
Food Quality and Safety (Priority 5)		
AQUAMAX	Sustainable Aquafeeds to Maximise the Health Benefits of Farmed Fish for Consumers	Norway
BIOTOX*	Cost effective tools for risk management and traceability systems for lipophilic marine biotoxins in seafood	Netherland
BIOTOXMARIN	Development of novel analytic tools for the detection of marine biotoxins	Germany
CODE-EFABAR	Code of good practice for farm animal breeding and reproduction	Netherlands
CONSENSUS*	Multi-stakeholder platform for sustainable aquaculture in Europe	Belgium
DETECTOX	Development of an SPR-based biosensor for the detection of lipophilic phycotoxins in shellfish residues	UK
IMAQUANIM	Improved immunity of aquacultured animals	Denmark
SEAFOODPLUS*	Health improving, safe seafood of high quality in a consumer driven fork-to-farm concept	Denmark
Global Change and Ecosystems (Priority 6.3)		
ACCENT*	Atmospheric composition change: a European network	Italy
ALARM*	Assessing Large Scale environmental risks and tested methods	Germany
ASCABOS	A Supporting Programme for Capacity Building in the Black Sea Region towards Operational Status of Oceanographic Services	Bulgaria
CARBOOCEAN	Marine carbon sources and sinks assessment	Norway
COBO	Integrating new technologies for the study of benthic ecosystem response to human activity: towards a Coastal Ocean Benthic Observatory	UK
DAISIE*	Delivering alien invasive species inventories for Europe	UK
DAMOCLES	Developing Artic Modelling and Observing Capabilities for Long-term Environmental Studies	France
DYNAMITE	Understanding the Dynamics of the Coupled Climate System	Norway
ECODIS	Dynamic sensing of pollution disasters and predictive modelling of their ecological impact	Netherlands
ECOOP*	European Coastal Shelf Sea Operational Observing and Forecasting System	Netherlands
ELME*	European lifestyles and marine ecosystems	UK
ENCORA*	European network for coastal research	Netherlands
EPICA-MIS	New Paleoconstructions from Antarctic Ice and Marine Records	France

Listing of all FP6 Marine Projects

Acronym	Title	Country
ESONET-NoE*	European Seas Observatory Network	UK
ESONIM*	European Seafloor Observatory Network Implementation	Ireland
ESTTAL	Expressed Sequence Tag (EST) Analysis of Toxic Algae	Germany
EUCAARI*	European Integrated Project on Aerosol Cloud Climate and Air Quality Interactions	Finland
EUR-OCEANS	European network of excellence for ocean ecosystems analysis	France
EXOCET/D	Extreme ecosystems studies in the deep ocean: technological developments	France
FACEIT	Fast advanced cellular and ecosystems information technologies	Switzerland
FISH & CHIPS	Towards DNA chip technology as a standard analytical tool for the identification of marine organisms in biodiversity and ecosystem science	Germany
FLOODsite	Integrated flood risk analysis and management methodologies	UK
GEOMON*	Global Earth Observation & Monitoring	France
GRAND	Grand Global Ocean Observing System (GOOS) regional alliances (GRASS) network development	Malta
HABIT*	Harmful algal bloom species in thin layers	Ireland
HERMES*	Hotspot ecosystem research on the margins of European seas	UK
IASON	International Action for Sustainability of the Mediterranean and Black Sea Environment	Greece
IPY-CARE	Climate of the Artic and its Role for Europe (CARE) - a European component of the International Polar Year	Norway
MARINE GENOMICS EUROPE	Implementation of high-throughput genomic approaches to investigate the functioning of marine ecosystems and the biology of marine organisms	France
MAP*	Secondary Marine Aerosol Production from Natural Sources	Ireland
MARBEF*	Marine biodiversity and ecosystem functioning	Netherlands
MILLENNIUM	European climate of the last Millennium	UK
MODELKEY	Models for assessing and forecasting the impact of environmental key pollutants on marine and freshwater ecosystems and biodiversity	Germany
MONRUK*	Monitoring the marine environment in Russia, Ukraine and Kazakhstan using Synthetic Aperture Radar	Norway
OOMPH	Organics over the Ocean Modifying Particles in both Hemispheres	Germany
QUANTIFY	Quantifying the Climate Impact of Global and European Transport Systems	Germany
Search for DAMOCLES	Study for Environmental Arctic Change - Developing Arctic Modelling and Observing Capabilities for Long-term Environmental Studies	USA
SEED*	Life history transformations among harmful algal blooms species and the environmental and physiological factors that regulate them	Spain
SEPRISE	Sustained, Efficient Production of Required Information and Services within Europe is our only justification	Sweden
SIMORC	System of industry metocean data for the offshore and research communities	Netherlands
SPICOSA*	Science and Policy for Coastal System Assessment	France
TENATSO	Tropical Eastern North Atlantic Time-Series Observatory	Germany
THRESHOLDS	Thresholds of environmental sustainability	Spain
3HAZ-CORINTH*	Earthquakes, tsunamis and landslides in the Corinth rift, Greece:	France
Information Society Technologies (Priority 2)		
ELOGMAR-M	Web-based and mobile solutions for collaborative work environment with logistics and maritime applications	Germany
EURITRACK	European illicit trafficking countermeasures kit	France
WIN	Wide information network for risk management integrated project	France
Joint Research Centre Activities		
(No Acronym)	Monitoring the variability of marine ecosystems	Italy
(No Acronym)	Monitoring and assessment of the ecological quality of inland and marine waters	Italy
(No Acronym)	Integrated water quality information system	Italy
FISHREG	Monitoring compliance with EU fisheries regulations	Italy
MIDIV	Monitoring illicit discharges from vessel	Italy
WATCON	Impacts of contaminants in EU inland, coastal and drinking waters	Italy
WATERCRM	Support of standardisation and harmonisation of water pollution monitoring	Italy

SIXTH FRAMEWORK PROGRAMME

Listing of all FP6 Marine Projects

Acronym	Title	Country
Marie Curie Actions - Human Resources & Mobility		
AQUALABS*	Advanced laboratory training courses in Aquaculture for early-stage researchers	Ireland
AUVI	Autonomous vehicle for underwater inspections	Argentina
AWARE: ECO-HEALTH	Raising awareness amongst (young) people on the importance fo research on aquatic ecosystems and pollution and the impact on food and health	Belgium
BIFF*	Bivalves from Farm to Fork	Ireland
BIOECOTOX	Biomarkers: the early warning sentinel of chemical pollution risk assessment	Italy
BIO-ENGINEERS	Influence of biological and physical processes on intertidal sediment dynamics and on the release of pollutants trapped in sediments and the toxicity of these pollutants	UK
BIOWARM	Marine sponges as models for assessing biological effects of the Mediterranean Sea warming	Spain
CAESAR	Capillary electrophoretic separation of dissolved carbohydrates of the aquatic realm	Netherlands
CD-PALEO	Development of Cadmium isotopic measurements by MC-ICP-MS using a double spike approach: Application to marine sediments and paleoceanography	Germany
CHARMAD	Chemical characterisation and cycling of marine dissolved organic matter	France
CLOWNFISH EVOLUTION	Molecular phylogeny and evolution of specialization in anemone fishes and in their host sea anemones	Italy
DIFMET	Diffusive trace metals in Arctic Ocean surface waters	UK
DINO-CULT	Calcareous dinoflagellate culturing experiments: understanding the life cycle of oceanic species	UK
DOCREG	DEVELOPMENT OF OCEANOGRAPHIC RESEARCH IN GREECE	Greece
ECCRE	Biodiversity and Vulnerability of European Cold-Water Coral Reef Ecosystems	UK
ECO-IMAGINE*	European Conferences and Forum for Integrated Coastal Management and Geo-Information Research	Italy
ESTEAM	Moving into the Genomics of Marine Biodiversity	France
FISH CONDITION	Effects of environmental and habitat characteristics on condition and reproduction of exploited marine fish populations	Spain
FISHACE	Fisheries-induced Adaptive Changes in Exploited Stocks	Austria
HYDRAMED	Geological Assessment of Gas Hydrates in the Mediterranean Sea	Italy
ISOCLIV	Exploring the influence of intraseasonal oscillations on the climate variability in the Indo-Pacific sector during boreal summer	UK
LIST	Larvae in situ tracking: detection and identification of early-life-stages of marine organisms using in situ hybridisation with oligonucleotide probes	Germany
LOTUS	Long time-series undersea surveillance	UK
MACRO-MSAA	Synthesis of Marine Macrolides and Hybrid Structures as Novel Microtubule Stabilising Anticancer Agents	UK
MARCYAN2	Ecological control of nitrogen fixation in marine Cyanobacteria	Netherlands
MIDIA	Molecular indicators of DNA damage in aquatic organisms	UK
MOMARNET	Monitoring deep seafloor hydrothermal environments on the Mid-Atlantic Ridge	France
MOSEVEM	Modelling sedimentation and vegetation patterns in tidal marshes	Netherlands
MT GENOME G.SALARIS	The mitochondrial genome of the fish parasite Gyrodactylus salaris - characterization and utility	UK
PARAQUAM	Parasite pathogens in new species of Mediterranean aquaculture: an experimental approach	Spain
PHYTODEATH	Effect of ultraviolet radiation on programmed cell death in phytoplankton: impact on biomass cycling and biodiversity	Spain
PLAICELIFELINE	Determination of Plaice lifetime movements in the North Sea by linking natural and electronic data records	UK
RISICO	Risk assessment of surfactants in coastal environments	Belgium
S.ATLANTIC PLUME	The characterisation and temporal evolution of the South Atlantic Plume	UK
SEAPAID	Seagrass production and isotopic discrimination	Spain
TRAMWAYS*	Transfer of Knowledge in Microbial Signal Transduction Pathways and Metagenomics	Ireland
VENTSULFURMICDIV	Biodiversity of microbial communities involved in sulphur cycling at a shallow water hydrothermal vent	Austria
WAVETRAIN*	Research training network towards competitive ocean wave energy	Portugal

Listing of all FP6 Marine Projects

Acronym	Title	Country
Structuring the ERA (Infrastructures & Mobility)		
Infrastructures		
Black Sea SCENE	Black Sea Scientific Environmental Information Network	Netherlands
CeMaCE	Centre for Marine Chemical Ecology	Sweden
DesignACT	Designing the European Aquaculture Centre of Technology	Norway
HYDRALAB-III	Integrated Infrastructure Initiative HYDRALAB III	Netherlands
KM3NET	Design Study for a Deep Sea Facility in the Mediterranean for Neutrino Astronomy and Associated Sciences	Germany
METRI 2	Marine environment tests and research infrastructure - 2	France
PLANKTON-NET	An open-access framework for developing and supporting distributed knowledge centres for taxonomic data - a pilot study targeting EU phytoplankton	Germany
SALVADORE	Seismic analysis of the lithosphere via advanced processing techniques and access to deep ocean recorders during exploration	Germany
SEADATANET*	Pan-European infrastructure for Ocean & Marine Data Management	France
New and Emerging Science and Technologies (NEST)		
PHARMAPOX	Chemisty, pharmacoloty and bioactivity of a novel apoptotic compound - a sex regulator in decapod crustaceans with proming environmental and medical applications	Italy
Research & Innovation		
FISH	Facilitating innovation for sustainable fisheries and marine resources	Norway
Science Supporting Policy (Priority 8)		
AQUAFIRST*	Combined genetic and functional genomic approaches for stress and disease resistance marker-assisted selection in fish and shellfish?	France
AQUAFUNC	Integrated knowledge on functional genomics in sustainable aquaculture	Sweden
BECAUSE	Critical interactions between species and their implications for a precautionary fisheries management in a variable environment ? a modelling approach	Germany
CAFE	Capacity, F and Effort	UK
CEDER	Catch, Effort and Discard Estimates in Real time	Belgium
CEVIS	Comparative Evaluations of Innovative Solutions in European fisheries management	Denmark
COMMIT	Creation of multi-annual management plans for commitment	UK
CONSCIENCE*	Concepts and Science for Coastal Erosion Management	Netherlands
DEGREE*	Development of fishing gears with reduced effects on the environment	Netherlands
DIPNET	Disease interactions and pathogen exchange network	France
ECASA	Ecosystem approach for sustainable aquaculture	UK
EFIMAS*	Operational evaluation tools for fisheries management options	Denmark
EMPAFISH	European marine protected areas as tools for fisheries management and conservation	Spain
ENVIEFH	Environmental Approach to Essential Fish Habitat Designation	Greece
EUROCARP	Disease and Stress Resistant Common Carp: Combining Quantitative, Genomic and Proteomic and Immunological marker technologies to identify high performance strains, families and individuals.	Hungary
FASTFISH	On farm assessment of stress level in fish	Norway
FISBOAT	Fisheries independent survey based operational assessment tools	France
GENIMPACT*	Evaluation of genetic impact of aquaculture activities on native populations - a European network	Norway
ICES-FISHMAP	Update and revision of the ICES Atlas of North Sea fishes: a web-based application	Netherlands
IMPACT FISH	Impact assessment of the FP4 and FP5 research	Belgium
IN EX FISH	Incorporating extrinsic drivers into fisheries management	UK
INDECO	Development of indicators of environmental performance of the common fisheries policy	UK
ISTAM	Improve Scientific and Technical Advice for fisheries Management	France

SIXTH FRAMEWORK PROGRAMME

Listing of all FP6 Marine Projects

Acronym	Title	Country
NECESSITY*	Nephrops and cetacean species selection information and technology	Netherlands
OATP*	Offshore Aquaculture Technology Platform SSP100% funded?	Ireland
PANDA*	Permanent network to strengthen expertise on infectious diseases of aquaculture species and scientific advice to EU policy	UK
PROFET POLICY*	Fish Policy Flow	Belgium
POORFISH	Probabilistic assessment, management and advice model for fishery management in the case of poor data availability	UK
PROTECT*	Marine protected areas as a tool for ecosystem conservation and fisheries management	Denmark
PRONE	Precautionary risk methodology in fisheries	Finland
RANA	Risk assessment of new and emerging systemic iridoviral diseases for European fish and aquatic ecosystems	Denmark
SAMI	Synthesis of Aquaculture and Marine Ecosystem Interactions	Denmark
SHEEL	Secure and harmonised European electronic logbook	Portugal
SLIME*	Restoration of the European eel population; pilot studies for a scientific framework in support of sustainable management	Netherland
UNCOVER	Understanding the Mechanisms of Stock Recovery	Germany
VIROBATHE	Methods for the concentration and detection of adenoviruses and noroviruses in European bathing waters with reference to the revision of the Bathing Water Directive 76/160/EEC	UK
WEALTH	Welfare and health in sustainable aquaculture	Norway
Specific International Co-operation Activities (Priority 8.2)		
ASEM aquaculture pl*	ASEM aquaculture platform	Belgium
CENSOR	Climate variability and El Ni?o Southern oscillation: implications for natural coastal resources and management	Germany
CLEAN BLACK SEA	Clean Black Sea Working Group	Bulgaria
COMSHELFRISKS	Promoting a combined approach to investigating risks of earthquakes, landslides, and tsunamis in coastal, shelf, and continental slope areas	Russia
ECOMANAGE	Integrated ecological coastal zone management system	Portugal
ECOMON	The current state of the Russian Marine Ecosystem Monitoring for the White Sea and its relevance to the EU Directive on Water Policy and UN Agenda 21	Russia
ECOST	Ecosystems, Societies, Consilience, Precautionary principle: Development of an assessment method of the societal cost for best fishing practices and efficient public policies	UK
GEWAMED	Mainstreaming gender dimensions into water resources development and management in the Mediterranean region	Italy
INCOFISH	Integrating multiple demands on Coastal Zones with emphasis on aquatic ecosystems and fisheries	Germany
MANGROVE	Mangrove ecosystems, communities and conflict: developing knowledge-based approaches to reconcile multiple demands	UK
PASARELAS	Discovery Modelling Mediation Deliberation: Interface Tools for Multi-stakeholder Knowledge Partnerships for the Sustainable Management of Marine Resources and Coastal Zones	France
PUMPSEA	Peri-urban mangroves forests as filters and potential phyoremediators of domestic sewage in East Africa	Portugal
REEFRES	Developing ubiquitous restoration practices for Indo-Pacific reefs	Israel
SPEAR	Sustainable options for people, catchment and aquatic resources	Portugal
TBTIMPACTS	Assessing Impacts of TBT on Multiple Coastal Uses	Italy
TRANSMAP	Transboundary networks of marine protected areas for integrated conservation and sustainable development: biophysical, socioeconomic and governance assessment in East Africa	Portugal
Specific Research Activities for Small and Medium-sized Enterprises (SMEs) (Priority 8.1)		
ALFA	Development of an automated innovative system for continuous live feed production in aquaculture hatchery units	Norway
AQUAETREAT	Improvement and innovation of aquaculture effluent treatment technology	Italy
BLUESEED*	Technology development for a reliable supply of high-quality seed in blue mussel farming	Netherlands

Listing of all FP6 Marine Projects

Acronym	Title	Country
COMPETUS	Genetic improvement of farmed sea bass, Dicentrarchus labrax: Strain testing and response to selection	France
CORALZOO	The development of an SME-friendly European breeding program for hard corals	Netherlands
CRAB*	Collective Research on Aquaculture Biofouling	Netherlands
DOLFIN	Development of innovative plastic structures for Aquiculture using a new composite with crop waste as reinforcing filler	Spain
FASTER	Fostering alliances for sustainable transport in European research	Belgium
FINE FISH	Reduction of malformations in farmed fish species	Belgium
FISHTANKRECIRC*	Electro-coagulation technique of water treatment	Norway
FPSO-INSPECT	Non-intrusive in-service inspection robotic system for condition monitoring of welds inside floating production storage and offloading (FPSO) vessels	UK
HELICAS	Innovative utilization strategies for sunflower biomass	Germany
HULL INSPECTOR	Development of an autonomous mobile inspection vehicle for detecting structural defects in ship's hulls	UK
IntelFishTank	Development of an intelligent fish tank for cost effective aquaculture through control of water quality in each different fish tank	Norway
KEYZONES*	To investigate sustainable biological carrying capacities of key European coastal zones	Keyzones
MAPO	Enhancing Research and Development Projects to Find Solutions to Struggle against various Marine Pollutions	France
MusselHarvest	Development of a cost effective technique for mussel harvesting combined with product control and retubing	Norway
OCEANSAVER	Dramatically reducing spreading of invasive, non-native exotic species into new ecosystems through n efficient and high volume capacity Ballast Water Cleaning System	Norway
RACEWAYS	A hyperintensive fish farming concept for lasting competitiveness and superior production	Norway
SPIINES 2*	Sea urchin production in integrated systems, their nutrition and roe enhancement	UK
SPONGES	Sustainable production, Physiology, Oceanography, Natural products, Genetics and Economics of Sponges	Germany
SUBFISHCAGE	Development of a cost effective submersible fish cage system	Norway
SWIRL-JET STUDY*	Commercial exploitation or scientific curiosity in swirling fluid jets	Ireland
TURPRO	Biological optimisation and development of processing methods for turbot farming	Norway
Sustainable Energy (Priority 6.1)		
ALDA*	Demonstration Plant of a tunnelled Wave Energy Converter	Faro Islands
BEATRICE WINDENERGY	Beatrice Offshore Deepwater Wind Farm Project	UK
BREAKWAVE*	Oscillating water column breakwater in Douro, Portugal	Ireland
CA-OE*	Co-ordinated action on ocean energy	Denmark
DOWNVIND	Distant offshore windfarms with no visual impact in deepwater	UK
LOWEC	Low offshore wind energy cost	Sweden
POWWOW	Prediction Of Waves, Wakes and Offshore Wind	Denmark
SEEWEC	Sustainable Economically Efficient Wave Energy Converter	Belgium
STANDICE	Standardization of Ice Forces on Offshore Structures Design	Germany
WAVE DRAGON MW *	Development and validation of technical and economic feasibility of a multi MW Wave Dragon offshore wave energy converter	Denmark
WAVESSG	Full-scale demonstration of robust and high-efficiency wave energy converter	Norway
Sustainable Transport (Priority 6.2)		
ACMARE	Co-ordination action to implement an advisory council for maritime transport research in Europe	Belgium
ADOPT	Advanced decision support system for ship design, operation and training	Germany
BaWaPla	Ballast Water Treatment Plant	Germany
CAREMAR	Coordinated academic rtd and education supporting innovation in marine industries	UK
CAS	Cost effective inspection and structural maintenance for ship safety and environmental protection throughout its life cycle	France
CREATING	Concepts to reduce environmental impact and attain optimal transport performance by inland navigation	Netherlands
CRONET-DAYS	Promoting and facilitating ERA-networking between European Contract Research Organisations (C.R.O)	France
DE-LIGHT Transport	Developing lightweight modules for transport systems featuring efficient production and lifecycle benefits at structural and functional integrity using risk based design	Germany

SIXTH FRAMEWORK PROGRAMME

Listing of all FP6 Marine Projects

Acronym	Title	Country
DIFIS	Double inverted funnel for intervention on ship wrecks	Netherlands
DSS-DC	Decision support system for ships in degraded condition	Norway
ECODOCK	Environmentally friendly coatings for shipbuilding and ships in operation	Germany
ENCOMAR-TRANSPORT	Enhanced co-operation between EU member states and associated candidate states in maritime research on transport	Germany
EU-MOP	Elimination units for marine oil pollution	Greece
EUROMAR-BRIDGES	Building Bridges Between EU Member and Candidate States in Maritime Research on Transport Within the Frames of European Research Area	Poland
GIFT	Gas import floating terminal	France
HERCULES	High effficiency engine R&D on combustion with ultra low emissions for ships	Germany
HISMAR	Hull identification system for marine autonomous robotics	UK
ICOMOB	Icebreaker cooperation on the motorway of the Baltic Sea	Finland
IMPROVE	Design of Improved and Competitive Products Using an Integrated Decision Support Systems for Ship Production and Operation	Belgium
INMARE	Technologies and Methodologies for Safe, Environmental-friendly and Efficient Shipping Operations of the future	Italy
INTERMODE-TRANS	Specific Support Action for pan-European stakeholders and users sustaining integrated pilot technologies for increasing the efficiency of intermodal transport	France
INTERSHIP	Integrated collaborative design and production of cruise vessels, passenger ships and ropax	Norway
LOGBASED*	Logistics-based design	Norway
MARNIS*	Maritime Navigation and Information Services	Netherlands
MARSTRUCT	Network of excellence in marine structures	Portugal
MC-WAP	Molten Carbonate Fuel Cells	Italy
MTCP	Maritime transport co-ordination platform	UK
NEW-H-SHIP	Assimilation of Fuel Cells in maritime applications	Iceland
NG²SHIP I/F	New Generation Natural Gas Ship Interfaces	France
OFIENGINE	Development of the New Thermal Spraying Equipment and Technology for Production of Components for Marine Transport Engines	Spain
OSH	OIL SEA HARVESTER	France
POP&C	Pollution prevention and control - safe transportation of hazardous goods by tankers	Norway
ROTIS II	Remotely operated tanker inspection system II	Italy
SAFE OFFLOAD	Safe offloading from floating LNG platforms	Netherlands
SAFECRAFTS	Safe abandoning of ships, improvement of current life saving appliances systems	Netherlands
SAFEDOR	Design, operation and regulation for safety	Germany
SAFEICE	Increasing the safety of icebound shipping	Finland
SAFETOW	Strategic aid for escort and salvage tugs at work	UK
SAND.CORE	Coordination Action on Advanced Sandwich Structures in the Transportation Industry	Germany
SECURCRANE	Design of an innovative system for the drive and control of port cranes for safe remote operation	Italy
SHIPDISMANTL	Cost effective and environmentally sound dismantling of obsolete vessels	Greece
SHIPMATES	Ship repair to maintain transport which is environmentally sustainable	UK
SPREEX	Spill response experience	Spain
SUPERPROP	Superior life-time operation economy of ship propellers	Spain
VIRTUE	The virtual tank utility in Europe	Germany
VISIONS	Visionary concepts for vessels and floating structures	Belgium

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