

PROJECT REFERENCE	PROJECT ACRONYM	PROJECT TITLE	KEYWORDS	ABSTRACT	PI SURNAME	PI NAME	PI 2 NAME & SURNAME	RESEARCH INSTITUTION	DEPARTMENT	CENTRE	START DATE	END DATE	FUNDING AGENCY	COUNTRY
PTDC/EMS-CRO/2042/2012		DISTRIBUTED OPTIMIZATION AND CONTROL OF LARGE SCALE WATER DELIVERY SYSTEMS	CONTROL ; DISTRIBUTED OPTIMIZATION ; FAULT TOLERANT SYSTEM	THE ORCHESTRA PROJECT FOCUS ON THE RESEARCH AND DEVELOPMENT OF NEW DISTRIBUTED FAULT TOLERANT COORDINATED OPTIMAL MPC CONTROLLERS BASED ON DISTRIBUTED OPTIMIZATION ALGORITHMS, AIMING AT CONTRIBUTING TO THE IMPROVEMENT OF THE WATER DELIVERY HYDRO AGRICULTURAL INFRASTRUCTURE LOCATED IN THE EXTREME SOUTHEAST OF ALENTEJO, A REGION IN PORTUGAL WHERE THE PROBLEM OF WATER SCARCITY IS KNOWN TO BE MORE SEVERE. THIS INFRASTRUCTURE COVERS A TOTAL OF 12.000 HA MANAGED BY THE "ASSOCIAÇÃO DE BENEFICIÁRIOS DO MIRA". THE MAIN WATER SOURCE IS PROVIDED BY THE SANTA CLARA DAM WITH A TOTAL OF 520 KM2 AND 485 HM3 CAPACITY. THIS HYDROGRAPHIC BASIN FEEDS THE MIRA RIVER AND THE WATER DELIVERY SYSTEM THAT SPREADS THROUGH A SUBSTANTIAL REGION CLOSE TO THE ATLANTIC OCEAN SHORE BETWEEN THE VILLAGES OF VILA NOVA DE MILFONTES AND ROGIL. THE MAIN 38,12 KM WATER CONVEYANCE SYSTEM FROM THE SANTA CLARA DAM FEEDS THE "MILFONTES WATER RESERVOIR" AND THE "ODECEIXE RESERVOIR" WITH A TOTAL CAPACITY OF 33.000 M3 AND 316.000 M3, RESPECTIVELY. FROM THESE TWO RESERVOIRS DEVELOPS THE "MIL FONTES CANAL" WHICH GOES UP NORTH WITH A TOTAL LENGTH OF 24,4 KM, AND THE "ODECEIXE/ROGIL CANAL" THAT FOLLOWS SOUTH WITH A TOTAL LENGTH OF 33,71 KM, RESPECTIVELY. FROM THESE TWO PRIMARY CANALS,	DIAS AYALA BOTTO	MIGUEL AFONSO		INSTITUTO DE ENGENHARIA MECÂNICA (IDMEC)			01-04-13	31-03-15	FCT	PORTUGAL
PTDC/AAG-REC/2139/2012		BIOPLUME OFF-TODAY & TOMORROW	STABLE ISOTOPES ; CLIMATE CHANGE ; FISHERIES MANAGEMENT	(*PUBLICATIONS BY RESEARCH TEAM MEMBERS) ALTHOUGH WE ARE ONLY AT AN EARLY STAGE IN THE PROJECTED TRENDS OF GLOBAL WARMING, ECOLOGICAL RESPONSES TO RECENT CLIMATE CHANGE ARE ALREADY CLEARLY VISIBLE (WALTHER ET AL., 2002, CABRAL ET AL., 2001*, VINAGRE ET AL., 2009*). THUS, QUESTIONS CONCERNING THE PACE AND IMPACTS OF CLIMATE CHANGE ARE TIMELY AND URGENT. ALTHOUGH TEMPERATURE IS THE MOST STUDIED VARIABLE IN CLIMATE CHANGE STUDIES, PRECIPITATION IS ALSO A CRUCIAL FACTOR FOR LIVING ORGANISMS. ALTERATIONS IN PRECIPITATION WILL HAVE IMPORTANT EFFECTS UPON BIODIVERSITY, SPECIES COMPOSITION AND ABUNDANCE. PRECIPITATION IS EXPECTED TO DECREASE IN PORTUGAL (MIRANDA ET AL., 2002), CONSEQUENTLY RIVER INPUT INTO ADJACENT COASTAL AREAS WILL DECREASE. RIVERS EXPORT ORGANIC MATTER TO COASTAL WATERS, WHICH HAS AN IMPORTANT ROLE ON THE PRODUCTIVITY OF THE ECOSYSTEMS AND A CONSEQUENT IMPACT ON FISHERIES (SALEN-PICARD & ARLHAC, 2002, DARNAUDE ET AL 2004, VINAGRE ET AL 2011A*). THUS, IT IS ESSENTIAL TO EVALUATE THE DEPENDENCE OF COASTAL FOOD WEBS ON ORGANIC MATTER OF TERRESTRIAL ORIGIN. IN THIS PROJECT, CARBON AND NITROGEN STABLE ISOTOPES WILL BE ANALYZED IN THE ECOLOGICAL COMPONENTS OF	BATISTA VINAGRE	CATARINA MARIA BATISTA VINAGRE		FUNDAÇÃO DA FACULDADE DE CIÊNCIAS (FFC/FC/UL)			01-05-13	30-04-15	FCT	PORTUGAL
PTDC/AAG-TEC/2685/2012		ADDING VALUE TO MARINE MACRO-ALGAE THROUGH ITS USE IN SEPARATION AND RECOVERY OF TOXIC METAL IONS FROM WATER	MARINE MACRO-CONTAINING WASTEWATERS ; ENVIRONMENTAL FRIENDLY TECHNOLOGY	NOWADAYS, IT IS WELL KNOWN THAT HEAVY METALS ESCAPING INTO THE ENVIRONMENT POSE A SERIOUS THREAT TO HUMAN HEALTH AND OTHER LIVING BEINGS, AS THEY ACCUMULATE IN LIVING TISSUES THROUGHOUT THE FOOD CHAIN (FIG. 1). THE DECISION NO 2455/2001/EC OF THE EUROPEAN PARLIAMENT ESTABLISHED A LIST OF PRIORITY SUBSTANCES IN THE FIELD OF WATER POLICY, WHERE TOXIC METALS ARE INCLUDED. THE CURRENTLY AVAILABLE BEST TREATMENT TECHNOLOGIES FOR TRACE:5 (FEUP), CONFIGURATION AND DESIGN OF WASTEWATER TREATMENT PILOT PLANTS AND TECHNICAL EVALUATION OF THE SYSTEM OPERABILITY AND ECONOMICS (SPIKES & COGS) WILL BE VERY HELPFUL TO FULFIL THE ALGAEVALUE OBJECTIVES. IN ADDITION, THE DEPARTMENT OF BOTANY WILL COLLABORATE IN ALGAE SPECIES IDENTIFICATION.	PAIS VILAR	VÍTOR IORGE		UNIVERSIDADE DO PORTO (FE/UP)	FACULDADE DE ENGENHARIA		01-05-13	30-04-15	FCT	PORTUGAL

REC/AAG-TEC/0400/2012		APPLICATION OF IONIZING RADIATION FOR A SUSTAINABLE ENVIRONMENT	SUSTAINABLE ENVIRONMENT ; WASTEWATER ; RADIATION TECHNOLOGIES	THE RAPID GROWTH OF THE GLOBAL POPULATION IS RAISING A STRINGENT DEMAND ON THE PLANET FOR WATER, FOOD AND HEALTH CARE. THIS IS FORCING THE INTENSIVE DEVELOPMENT OF AGRICULTURE, INDUSTRY, ETC., PRODUCING A HEAVY POLLUTION LOAD THAT ENDANGERS THE ENVIRONMENT SUSTAINABILITY. ACCESS TO CLEAN WATER IS A BASIC NEED. CONTAMINATION OF WATER IS A SERIOUS PROBLEM CAUSED BY POLLUTED EFFLUENTS FROM MUNICIPALITIES AND INDUSTRY. BIOLOGICAL TECHNOLOGIES AND OTHERS FOR WASTEWATER PURIFICATION DO NOT SOLVE ALL EXISTING PROBLEMS. THE DESTRUCTION OF NON-4) AND SERVICES (STERILIZATION OF MEDICAL DEVICES AND PHARMACEUTICALS, DECONTAMINATION OF CORK, PRESERVATION OF ART OBJECTS, ETC) HAVE BEEN DONE AND A VAST EXPERIENCE WAS GAINED. THE COMPETENCES HAVE BEEN RECOGNIZED AS RESEARCHERS ARE REGULARLY INVITED TO INTERNATIONAL CONFERENCES, TO SEAT IN COMMITTEES AS EXPERTS (E.G. AIEA, CEN AND ISO) AND NEW PROJECTS APPROVED. NOW IS THE TIME TO CONSOLIDATE THE COMPETENCES AND RESOURCES DEVELOPED SO FAR. CONSOLIDATION IS NEEDED TO FOCUS IN THE DEVELOPMENT OF: PULSE RADIOLYSIS TECHNIQUE (POS); DECONTAMINATION OF FOOD FOR IMMUNE; CATALYTIC MEMBRANES AND BIOPOLYMERS DERIVED FROM	CAMELO DE BEIRÃO SOARES BOTELHO	MARIA LUISA		ASSOCIAÇÃO DO INSTITUTO SUPERIOR TÉCNICO PARA A INVESTIGAÇÃO E O DESENVOLVIMENTO (IST-ID)		01-06-13	31-05-15	FCT	PORTUGAL
PTDC/AAG-MAA/2891/2012		THE CABEÇO DE VIDE MINERAL WATERS (CENTRAL PORTUGAL): A NATURAL ANALOGUE TO INCREASE UNDERSTANDING OF THE ORIGIN OF LIFE ON EARTH AND POSSIBLY ELSEWHERE.	ORIGIN OF LIFE ON EARTH ;BASIC GEOCHEMICAL ENVIRONMENTS	DUE TO THEIR UNCOMMON CHEMICAL COMPOSITION (HIGH PH, CLOSE TO 11 / NA ₂ CO ₃), BASIC ENVIRONMENT THAT HAS: I) LOW LEVELS OF ORGANIC CARBON FOR HETEROTROPHIC GROWTH; III) AN ENRICHED AS ;BASIC, ANAEROBIC ENVIRONMENTS ARE CLOSE ANALOGS TO THE EARLY EARTH CONDITIONS PRIOR TO PHOTOSYNTHETIC ACTIVITY, THE RESULTS MAY HAVE SIGNIFICANCE REGARDING THE ADAPTATION AND EVOLUTION OF LIFE ON THE EARLY EARTH [MABAKERU08]. WE THUS EXPECT THESE RESULTS TO SIGNIFICANTLY CONTRIBUTE TO A GREATER UNDERSTANDING NOT ONLY OF EXTREMOPHILES (THE DATA MAY PROVIDE A MILESTONE IN TERMS OF UNDERSTANDING A NEW TYPE OF ALKALINE MICROBIAL COMMUNITY), BUT TO MODELS OF EARLY EARTHLY LIFE, AND POSSIBLY OF LIFE IN NON-DRIVEN SYSTEMS [VAHAKIHUMABRO7], [WRMISQSETO09]. THERE IS POWERFUL EVIDENCE THAT LIQUID WATER WAS ONCE ABUNDANT AT SURFACE OF MARS, AND ADDITIONAL EVIDENCE POINTS TO THE CONTEMPORARY PRESENCE OF LIQUID WATER IN ICY SATELLITES SUCH AS EUROPA AND ENCELADUS. WATER CONSTITUTES A KEY TO UNDERSTAND THE POTENTIAL ORIGIN OF LIFE ON MARS AND OTHER PLANETS, IN THE CONTEXT OF THE ORIGIN OF LIFE ON EARTH. THE TEAM FROM NASA / JET PROPULSION LABORATORY (JPL) WILL ACT AS CONSULTANTS UNDER	VAZ VELHO BARBOSA MARQUES	JOSÉ MANUEL		ASSOCIAÇÃO DO INSTITUTO SUPERIOR TÉCNICO PARA A INVESTIGAÇÃO E O DESENVOLVIMENTO (IST-ID)		01-06-13	31-05-15	FCT	PORTUGAL
REC/ECM-HID/0371/2012		RESEARCH NETWORK IN FLUVIAL HYDRAULICS	FLUVIAL HYDRAULICS ; RIVER MORPHOLOGY ; RIVER HAZARDS	FLUVIAL HYDRAULICS MAY BE DEFINED AS THE DISCIPLINE GEARED TOWARD THE JOINT STUDY OF HYDRODYNAMICS AND MECHANICS OF EROSION, DEPOSITION AND TRANSPORT OF SEDIMENT IN OPEN-CHANNEL IN THAT AREA AND SOME OF THE MOST PRODUCTIVE YOUNG SENIOR RESEARCHERS. HOWEVER, AS THE COUNTRY FACES THE NEED FOR INCREASED ACTIVITY IN THE CHARACTERIZATION OF SURFACE WATERS AND FLOOD HAZARDS, THE SOCIETAL IMPACT OF THE PFHAC MUST BE INCREMENTED. HAVING IN MIND THE ISSUES ABOVE, THE CURRENT S ₃ -DRIVEN PRODUCT DEVELOPMENT, PFHAC'S RESEARCH EFFORTS HEAVILY DEPEND ON PUBLIC FUNDING (ANNEX S1, FIG. 2). HENCE, THE CORE OF THE PRESENT PROJECTS' BUDGET CONCERNS HUMAN RESOURCES AND EQUIPMENT FOR WHICH PRIVATE FUNDING WOULD BE IMPOSSIBLE TO OBTAIN. OTHER MAJOR EXPENSES, SUCH AS MISSIONS FOR DIVULGATION, WILL BE COVERED BY OTHER SOURCES OF PRIVATE AND PUBLIC FUNDS.	LAGE FERREIRA	RUI MIGUEL		ASSOCIAÇÃO DO INSTITUTO SUPERIOR TÉCNICO PARA A INVESTIGAÇÃO E O DESENVOLVIMENTO (IST-ID)		25-04-13	24-04-16	FCT	PORTUGAL

PTDC/AAG-TEC/4124/2012	DEMOCON - DECENTRALIZED WASTEWATER TREATMENT MONITORING AND CONTROL	WASTEWATER TREATMENT ; DECENTRALIZED SYSTEMS ; RESOURCE EFFICIENCY	THE QUALITY REQUIREMENTS FOR EFFLUENTS FROM WASTEWATER TREATMENT PLANTS (WWTP) HAVE BECOME STRICTER ALONG THE YEARS, A TREND LIKELY TO CONTINUE. TO MEET THESE STANDARDS, IMPROVED SUPERVISION AND CONTROL OF WWTP IS NEEDED. A CLOSE LOOK AT THE CURRENT OPERATION OF WWTP REVEALS THAT AUTOMATION CAN STILL BE CONSIDERED RATHER LIMITED. FEW PLANTS ARE EQUIPPED WITH MORE THAN SOME ELEMENTARY SENSING ELEMENTS AND CONTROL LOOPS, MOSTLY CONCERNING FLOW METERING AND ITS MANAGEMENT. IMPROVED SUPERVISION AND CONTROL ARE THUS ESSENTIAL AND BEING WORKED ON, BUT ARE GENERALLY OVERLOOKED IN SMALL SIZE, DECENTRALIZED WWTP. THIS IS MOSTLY DUE TO THE DISPROPORTIONATE COSTS OF MONITORING AND AUTOMATION EQUIPMENT AND OF TRAINED PERSONNEL COVERAGE. ALSO, THE ECONOMIC MOTIVATION FOR IMPROVING OPERATION WITH RESPECT TO CHEMICALS AND ENERGY CONSUMPTIONS IS GENERALLY LESS FELT IN SMALL SIZE SYSTEMS. THESE CIRCUMSTANCES LEAD TO A LARGELY UNATTENDED OPERATION OF MANY DECENTRALIZED WWTP, INVOLVING SIGNIFICANT ENVIRONMENTAL RISKS. THUS, A FRAMEWORK FOR THE ADEQUATE APPLICATION TO SMALL, DECENTRALIZED WWTP OF THE RECENT DEVELOPMENTS IN INSTRUMENTATION TECHNOLOGY, COMBINED WITH ADVANCES IN CONTROL THEORY AND	RODRIGUES VASCONCELOS PINHEIRO	HELENA MARIA		ASSOCIAÇÃO DO INSTITUTO SUPERIOR TÉCNICO PARA A INVESTIGAÇÃO E O DESENVOLVIMENTO (IST-ID)		15-05-13	14-05-15	FCT	PORTUGAL
PTDC/AAG-GLO/4176/2012	TOXIC EFFECTS OF WILDFIRES ON AQUATIC SYSTEMS	WILDFIRES ; AQUATIC ECOSYSTEMS ; TOXIC EFFECTS	WILDFIRE IS THE MAJOR DISTURBANCE IN MEDITERRANEAN FORESTS, POSING AN IMPORTANT THREAT TO LIFE, HUMAN GOODS, AND NATURAL RESOURCES IN FIRE; TOXICOLOGY AND ENVIRONMENTAL ORGANIC CHEMISTRY – ARE DULY COVERED BY THE FIREFOX TEAM.	CABAÇOS ABRANTES	NELSON JOSÉ		UNIVERSIDADE DE AVEIRO (UA)		01-06-13	31-05-15	FCT	PORTUGAL
PTDC/ECM/116747/2010	CHLORIDE: TECHNOLOGY FOR THE REAL-TIME MONITORING OF CHLORINE DECAY RATES IN DRINKING WATER SYSTEMS	DRINKING WATER QUALITY AND SAFETY ; NATURAL ORGANIC MATTER ; UV AND FLUORESCENCE SPECTROSCOPY	THE CONTROL OF CHLORINE RESIDUAL (CR) CONCENTRATIONS THROUGHOUT DRINKING WATER DISTRIBUTION SYSTEMS (DWDS) IS A SERIOUS PROBLEM WORLDWIDE, PARTICULARLY IN THE PERIPHERAL ZONES OF LARGER SYSTEMS, OR IN THE LOW; PARAMETERS WHICH ARE INDICATIVE OF NOM; OF; ART KNOWLEDGE AND TECHNOLOGIES IN INNOVATIVELY IMPROVING THE SIMULATION OF CR. THROUGH A NOVEL APPLICATION OF THE EQUIPMENT AVAILABLE FOR PROBING THE WATER NOM SPECTRAL CHARACTERISTICS IN STRATEGICALLY DEFINED POINTS OF THE DISTRIBUTION NETWORK, IMPROVEMENTS IN THE MANAGEMENT OF CR AND, CONCOMITANTLY, IN DWDS WATER SAFETY, INCLUDING THE REDUCTION OF DBP INGESTED BY CONSUMERS, ARE EXPECTED. WITH THIS OBJECTIVE, THE PRESENT PROPOSAL INCLUDES LABORATORY, PILOT AND DWDS SCALE STUDIES, TO INVESTIGATE, VERIFY AND IMPLEMENT THE USE OF UV AND/OR FLUORESCENCE SPECTROSCOPIC PARAMETERS AS SURROGATES OF NOM REACTIVITY TOWARDS CHLORINE AND, THUS, OF CR DECAY RATES AS THEY CHANGE ALONG DWDS. BENCH SCALE STUDIES INCLUDE THE INVESTIGATION OF THE RELATIONSHIPS BETWEEN THE EVOLUTION OF PERTINENT UV AND FLUORESCENCE PARAMETERS, AND THAT OF CR CONSUMPTION RATES, AS INFLUENCED BY THE WATER CR CONCENTRATION, TEMPERATURE AND	GOMES FERREIRA MENAIA	JOSÉ ANTÓNIO		LABORATÓRIO NACIONAL DE ENGENHARIA CIVIL (LNEC)		01-03-12	28-02-15	FCT	PORTUGAL
PTDC/AAC-CL/118555/2010	COASTAL DUNE FORESTS UNDER SCENARIOS OF GROUNDWATER LIMITATION: FROM TROPICS TO MEDITERRANEAN (GWTROPIMED)	GROUNDWATER LIMITATION ; MEDITERRANEAN ; FUNCTIONAL GROUPS	GROUNDWATER (GW) DRAWDOWN IS OF OBVIOUS IMPORTANCE TO VEGETATION AS REDUCTION OF THIS IMPORTANT SOURCE OF WATER MAY SEVER THE PLANTS FROM ONE OF THEIR KEY WATER SOURCES. GW LOWERING AND SURFACE WATER DIVERSIONS CAN PRODUCE DRAMATIC CHANGES IN STAND STRUCTURE AND SPECIES COMPOSITION, PLANT COMMUNITIES AND ON THE SURVIVAL OF PLANT SPECIES, INEVITABLY AFFECTING GW; UP AND GW MODEL, WE WILL EXTEND THE LOCAL INFORMATION IN SPACE AND TIME. SUCH AN APPROACH WILL BE DATA DRIVEN IN ORDER TO HAVE CONFIDENCE IN FUTURE CLIMATE CHANGE PROJECTIONS. IT WILL BE PRODUCED FOR THE FIRST TIME, AN INTEGRATIVE SPATIAL APPROACH OF COASTAL SAND DUNE FORESTS' GW USE AND GW STRESS INDICATORS. THIS MODEL WILL ALLOW THE EVALUATION OF COMMUNITY WATER USE UNDER FUTURE GROUNDWATER CHANGE SCENARIOS THROUGH ECOPHYSIOLOGICAL PARAMETERS. THIS OUT OF THE BOX APPROACH COULD CONTRIBUTE TO THE INTRODUCTION OF A NEW CONCEPT: THE USE OF A SPATIALLY EXPLICIT MODEL TO TRACE GW STRESS IN VEGETATION.	FILIFE MAGUAS SILVA HANSON	CRISTINA MARIA		FUNDAÇÃO DA FACULDADE DE CIÊNCIAS (FFC/FC/UL)		20-03-12	19-03-15	FCT	PORTUGAL

PTDC/ECM/118775/2010		MORPHODYNAMICS OF RIVER CONFLUENCES	CONFLUENCES MORPHODYNAMICS ; EXPERIMENTAL INVESTIGATION ; 3D NUMERICAL MODELLING	SINCE THE BEGINNING OF THE INDUSTRIAL ERA, RIVER REGULATION WAS APPLIED IN INDUSTRIALIZED COUNTRIES TO IMPROVE FLOOD PROTECTION OF URBAN AND CULTIVATED AREAS. ALONG THIS PROCESS, RIVER ECOSYSTEMS WERE STRONGLY IMPACTED AND THEIR NATURAL DYNAMIC PROCESSES CONSIDERABLY AFFECTED, SINCE MOST INTERVENTIONS UNDERESTIMATED OR DID NOT FORESEE ECOLOGICAL IMPACTS. SINCE THE 1980S, THE CONCEPT OF RIVER REHABILITATION HAS MADE PROGRESSES AMONG AUTHORITIES AND PROFESSIONALS. RIVER REHABILITATION IS APPLIED WORLDWIDE WITH THE OBJECTIVE OF RECOVERING VITAL SPACE REQUIRED FOR RIVERS PREVIOUSLY REGULATED OR DEGRADED. VITAL SPACE IS NECESSARY TO MAINTAIN THE QUANTITY AND QUALITY OF THE WATER IN NATURAL WATER SYSTEMS IN ORDER TO SAFEGUARD ITS ROLE OVER TIME AS AN ECOSYSTEM AND ALSO AS A SOURCE OF QUALITY WATER FOR HUMAN CONSUMPTION. VITAL SPACE REFERS TO THE REQUIRED CONDITIONS NECESSARY TO PRESERVE MORPHOLOGICAL DYNAMICS AND HETEROGENEITY AND NATURAL INTERFACES FOR RIVER FLORA AND FAUNA. REHABILITATION PROJECTS ARE RATHER COMPLEX ACTIONS SINCE INTRICATE RELATIONS BETWEEN FLUVIAL DYNAMICS, ENVIRONMENT REQUIREMENTS AND FLOOD PROTECTION OBJECTIVES EXIST. THE INSUFFICIENT	HELENO CARDOSO	ANTÓNIO		ASSOCIAÇÃO DO INSTITUTO SUPERIOR TÉCNICO PARA A INVESTIGAÇÃO E O DESENVOLVIMENTO (IST-ID)		01-02-12	31-01-15	FCT	PORTUGAL
PTDC/AAC-AMB/120197/2010		OASIS: HOW TO RUN REGULATED RIVERS IN SEMI-ARID REGIONS?	ENVIRONMENTAL FLOWS ; HYDROLOGIC ALTERATIONS	PRESENTATION: OASIS PROPOSES A HYBRID MODEL FRAMEWORK TO QUANTIFY ENVIRONMENTAL FLOWS (EFS) FOR THE CONSERVATION AND RESTORATION OF FLUVIAL CORRIDORS IMPACTED BY REGULATION IN SEMI-STAGE RESEARCHERS IN THE TEAM, BY THEIR POTENTIAL CONTRIBUTION WITH NEW METHODS AND BRINGING INNOVATION TO THE ORIGINAL PROPOSAL.	FRUTUOSO DE AGUIAR	FRANCISCA CONSTANÇA		INSTITUTO SUPERIOR DE AGRONOMIA (ISA/UTL)		01-03-12	28-02-15	FCT	PORTUGAL
PTDC/AAC-AMB/120702/2010		HIDRALERTA - FLOOD FORECAST AND ALERT SYSTEM IN COASTAL AND PORT AREAS	FORECAST AND ALERT SYSTEM ; NUMERICAL AND PHYSICAL MODELLING ; COASTAL AND PORT AREAS	OVERTOPPING EVALUATION FOR MARITIME STRUCTURES IN COASTAL ZONES AND PORTS IS VERY IMPORTANT TO ASSESS THE RISK RELATED WITH EITHER THE FAILURE OF THOSE STRUCTURES OR THE FLOODING OF THE REGIONS PROTECTED BY THEM. THIS IS ALSO AN URGENT MATTER TO PORTUGAL, DUE TO THE COASTLINE LENGTH, THE CONCENTRATION OF POPULATION AND ECONOMIC ACTIVITIES CLOSE TO THE SEA, ITS SEVERE SEA-INTegrated SYSTEMS WAVE PROPAGATION MODELLING.	ESPINOSA MORAIS FORTES	CONCEIÇÃO JUANA		LABORATÓRIO NACIONAL DE ENGENHARIA CIVIL (LNEC)		21-03-12	20-03-15	FCT	PORTUGAL
PTDC/EBB-EBI/120624/2010		BIOTEXTILE - SEQUENCING BATCH REACTOR BIOTECHNOLOGY TOWARD EFFECTIVE TEXTILE WASTEWATER TREATMENT	TEXTILE WASTEWATER ; AEROBIC GRANULAR SLUDGE ; ONLINE BIOREACTOR MONITORING	THE WASTEWATERS GENERATED BY THE TEXTILE INDUSTRY PRESENT HIGH VARIABILITY, HIGH ORGANIC LOAD AND STRONG COLOR ISSUES. TEXTILE DYES ARE DESIGNED FOR COLOR STABILITY AND OFTEN FOR HIGH WATER SOLUBILITY, RENDERING COLOR REMOVAL DIFFICULT IN CONVENTIONAL AEROBIC BIOTREATMENT UNITS. THE USE OF STAGED ANAEROBIC/AEROBIC REGIMES HAS BEEN USED TO OVERCOME THIS DIFFICULTY, WITH NOTABLE SUCCESS IN THE DECOLORIZATION OF AZO DYES. HOWEVER, THE MECHANISMS OF BACTERIAL AZO DYE REDUCTION REMAIN TO BE CLARIFIED IN TERMS OF THE ROLE OF ENZYMES, THE REACTION KINETICS AND ITS LOCATION. AEROBIC GRANULAR SLUDGE (AGS) IS A NOVEL BIOTECHNOLOGICAL PROCESS WITH REPORTED APPLICATIONS IN THE TREATMENT OF BOTH MUNICIPAL AND INDUSTRIAL WASTEWATERS. FOR THE LATTER, ITS POTENTIAL ADVANTAGES ARE MULTIPLE BUT STILL LACK PRACTICAL DEMONSTRATION IN MANY SECTORS, PARTICULARLY THOSE PRODUCING WASTEWATERS WITH RECALCITRANT ORGANICS LIKE THE TEXTILE INDUSTRY. AGS IN ITS SEQUENCING;AMPLIFIED 16S RDNA GENES. METAPROTEOMICS WILL BE USED IN THE SEARCH OF ENZYMES RELATED TO AZO DYE BIODEGRADATION. OTHER BIOMASS PARAMETERS WILL BE EVALUATED, INCLUDING SETTLING VELOCITY, SLUDGE VOLUME INDEX,	MARIANO LOURENÇO DE ALMEIDA	NÍDIA DANA		ASSOCIAÇÃO DO INSTITUTO SUPERIOR TÉCNICO PARA A INVESTIGAÇÃO E O DESENVOLVIMENTO (IST-ID)		01-02-12	31-01-15	FCT	PORTUGAL
PTDC/AAC-AMB/120197/2010		OASIS: HOW TO RUN REGULATED RIVERS IN SEMI-ARID REGIONS?	ENVIRONMENTAL FLOWS ; HYDROLOGIC ALTERATIONS	PRESENTATION: OASIS PROPOSES A HYBRID MODEL FRAMEWORK TO QUANTIFY ENVIRONMENTAL FLOWS (EFS) FOR THE CONSERVATION AND RESTORATION OF FLUVIAL CORRIDORS IMPACTED BY REGULATION IN SEMI-STAGE RESEARCHERS IN THE TEAM, BY THEIR POTENTIAL CONTRIBUTION WITH NEW METHODS AND BRINGING INNOVATION TO THE ORIGINAL PROPOSAL.	FRUTUOSO DE AGUIAR	FRANCISCA CONSTANÇA		INSTITUTO SUPERIOR DE AGRONOMIA (ISA/UTL)		01-03-12	28-02-15	FCT	PORTUGAL

PTDC/AAC-AMB/120581/2010		CONTROLLING GREENHOUSE GAS EMISSIONS FROM BIOLOGICAL WASTEWATER TREATMENT SYSTEMS	WASTEWATER TREATMENT ; MICROBIAL COMMUNITY ANALYSIS ; METABOLIC MODELLING	NITROUS OXIDE (N2O) IS A GREENHOUSE GAS 310 TIMES STRONGER THAN CO2, AND ITS RELEASE INTO THE ATMOSPHERE REPRESENTS A LARGE ENVIRONMENTAL PROBLEM. BIOLOGICAL NUTRIENT REMOVAL (BNR) PROCESSES ARE COMMONLY EMPLOYED IN WASTEWATER TREATMENT PLANTS (WWTPS) TO MINIMISE NITROGENOUS (E.G. NH4, NOX) AND PHOSPHORUS RELEASES INTO AQUATIC SYSTEMS, PREVENTING EUTROPHICATION. ALTHOUGH NOT YET SUBJECT TO REGULATION, THE AVERAGE AMOUNT OF N2O PRODUCED PER YEAR FROM WWTPS WOULD COST PORTUGAL ALONE APPROXIMATELY 2.2 MILLION € / YEAR ACCORDING TO THE EU EMISSIONS TRADING SCHEME, A FIGURE THAT WILL RISE TO 3.6 MILLION € / YEAR BY 2020. NEVERTHELESS, THE PRIMARY MECHANISM(S) RESPONSIBLE FOR THIS GREENHOUSE GAS PRODUCTION REMAINS UNCLER. THIS KNOWLEDGE IS CRITICAL IN ORDER TO DEVELOP MITIGATION STRATEGIES TO PREVENT UNDESIRABLE N2O RELEASES, WHICH CAN BE A SIGNIFICANT CONTRIBUTOR TO THE GREENHOUSE EFFECT. ESTABLISHING HOW WASTEWATER TREATMENT SYSTEMS CAN ACHIEVE MINIMAL N2O RELEASES AND THE DEVELOPMENT OF INDUSTRIALLY-RELATING HOW AND WHY N2O IS PRODUCED FROM WWTPS. PROCESS CONTROL STRATEGIES THAT PROVIDE SUBSTANTIAL ADVANCES BEYOND THE CURRENT STATE OF THE ART	OEHMEN	ADRIAN MICHAEL		FUNDAÇÃO DA FACULDADE DE CIÊNCIAS E TECNOLOGIA (FFCT/FCT/U/L)		01-02-12	31-01-15	FCT	PORTUGAL
PTDC/AUR-URB/123089/2010		FRURB - MANAGING FLOOD RISK IN URBAN AREAS IN A GLOBAL CHANGE CONTEXT	URBAN PLANNING ; FLOOD RISK ; POLLUTANTS	FRURB OFFERS A COMPREHENSIVE APPROACH TO MANAGE URBAN FLOOD RISK. INCREASING URBAN SPRAWL AND INADEQUATE PLANNING ACCENTUATES THE PROBLEM WITH FLASH FLOODS, WHICH STEAMS FROM CHANGES ON EXTREME EVENTS PATTERNS, DUE TO PROFOUND CHANGES ON HYDROLOGICAL PROCESSES. URBAN AREAS ARE PARTICULARLY VULNERABLE TO FLASH FLOODS DUE TO THE HIGH CONCENTRATION OF ASSETS, INFRASTRUCTURES AND PEOPLE. IT IS IMPORTANT TO UNDERSTAND THE RELATIONSHIP BETWEEN URBAN CHARACTERISTICS (INTENSITY AND LOCATION IN THE CATCHMENT, DRAINAGE SYSTEM) AND HYDROLOGICAL PROCESSES LINKED TO URBAN FLASH FLOODS, WHERE STRATEGIES AND TOOLS NEED TO BE DEVELOPED TO PREVENT THESE OCCURRENCES. THIS MAY BE ACHIEVED BY IMPROVING URBAN PLANNING TO INCLUDE NEW HYDROLOGY CONCEPTS IN DISTURBED AREAS. DUE TO THE ASSETS VALUES IN URBAN AREAS, THE ADAPTATION MEASURES AND RESILIENCE CAPACITY WILL BE MORE EFFECTIVE IF WE PREDICT THE LOCATION, FREQUENCY AND MAGNITUDE OF FLASH FLOODS. THE PROJECT PRESENTS A MORE EFFICIENT MANAGEMENT APPROACH OF FLASH FLOODS BY DEVELOPING NEW PLANNING STRATEGIES AND IDENTIFYING BEFOREHAND THE AREAS IN GREATER DANGER, BY USING STATE OF THE ART PHYSICALLY BASED SPATIAL DISTRIBUTION MODELS. TO	DINIS FERREIRA	ANTÓNIO JOSÉ		INSTITUTO POLITÉCNICO DO COIMBRA (IPC)		01-03-12	28-02-15	FCT	PORTUGAL
PTDC/MAR/114217/2009		NUTRIENTS AND PARTICULATE MATTER DYNAMICS; COALA	COASTAL LAGOONS ; PARTICULATE MATTER ; TIDAL INLET EXCHANGES	THE RIA FORMOSA IS A LAGOON SYSTEM IN THE SOUTH COAST OF PORTUGAL, HAVING SEVERAL PERMANENT CONNECTIONS TO THE OCEAN (FIGURE. PDF ATTACHMENT). IT IS A HIGHLY PRODUCTIVE ECOSYSTEM, OF GREAT ECOLOGICAL DIVERSITY AND DUE TO THAT IT HAS BEEN RECOGNISED VERY IMPORTANT AT BOTH A EUROPEAN AND AN INTERNATIONAL LEVEL BY ITS ACCEPTANCE AS PART OF THE NATURA 2000 EUROPEAN NETWORK FOR NATURE CONSERVATION AND A RAMSAR WETLAND, INCLUDED IN THE SPECIAL BIRD PROTECTION AREA. IN ORDER TO DEEPEN THE KNOWLEDGE ABOUT THE GLOBAL PRODUCTIVITY OF THE RIA FORMOSA SYSTEM IT IS IMPERATIVE UNDERSTAND THE DYNAMICS OF NUTRIENTS, CHLOROPHYLL A (AS A PROXY OF PHYTOPLANKTON) AND PARTICULATE MATTER (ORGANIC AND INORGANIC) AND PREDICT THEIR SPATIAL-DIURNAL TO SEASONAL VARIABILITY WILL PROVIDE A GREAT CONTRIBUTION TO THE COMPREHENSION OF THE PRIMARY PRODUCTION AS WELL AS THE GLOBAL BIOLOGICAL PRODUCTIVITY OF THIS IMPORTANT ECOSYSTEM IN THE SOUTH OF PORTUGAL.	QUINTELA DE BRITO JACOB	JOSÉ MANUEL		UNIVERSIDADE DO ALGARVE (UALG)		01-03-11	28-02-14	FCT	PORTUGAL

PTDC/AAC-AMB/115587/2009		DEVELOPMENT OF A METHODOLOGY TO INTEGRATE CC EFFECTS IN WATER RESOURCES MANAGEMENT ON A PORTUGUESE RIVER BASIN	WATER RESOURCES MANAGEMENT ; SCENARIOS ; STAKEHOLDERS' INVOLVEMENT	CLIMATE CHANGE (CC) IS RAISING SOCIAL CONCERNS NOT ONLY REGARDING THE CURRENT COLLECTIVE RESPONSIBILITY (CO2 EMISSIONS), BUT ESPECIALLY ON IMPACTS THAT CAN BE EXPECTED. HOWEVER, THERE IS A LARGE RANGE OF POSSIBLE SCENARIOS AND ASSOCIATED UNCERTAINTIES AFFECTING THE ADOPTION OF PREVENTIVE APPROACHES ON WATER MANAGERS' DECISIONS. THE PI'S WORK IN DIFFERENT WATER RESOURCES MANAGEMENT (WRM) SUBJECTS, NAMELY UNDER LARGE SCALE EU INTERNATIONAL PROJECTS, COULD CONFIRM THAT COLLECTING CLEAR EXISTENT INFORMATION ON CC EFFECTS IN AN ADEQUATE FRAME FOR CURRENT WRM IS VERY DIFFICULT. IN PORTUGUESE TERMS, THE INTEGRATION OF CC SCENARIOS HAS ALWAYS BEEN STRICT TO GLOBAL AND SIMPLIFIED APPROACHES WITH REDUCED ADDED VALUE TO CURRENT WRM PRACTICES. A REAL DEVELOPMENT ON BRIDGING THAT GAP IS ENVISAGED IN THIS PROJECT BY INVOLVING NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA), WITH A RESEARCH TEAM ALSO INVOLVING SCIENTISTS FROM US BUREAU OF RECLAMATION (USBR) (L. BREKKE) AND NATIONAL DROUGHT MITIGATION CENTER (NDMC) (M. SVOBODA) (SEE ANNEXED LETTERS OF INTENT). THE PI RESEARCH TEAM'S WORK ON WATER SCARCITY AND DROUGHTS - RUNOFF MODELS. ANOTHER TASK WILL BE DEDICATED TO	FONSECA DE OLIVEIRA MAIA	RODRIGO JORGE		FACULDADE DE ENGENHARIA DA UNIVERSIDADE DO PORTO (FE/UP)		01-04-11	30-09-13	FCT	PORTUGAL
PTDC/AAC-AMB/113624/2009		AQUAMONITOR - OPTICAL FIBER SENSORS FOR WATER QUALITY MONITORING APPLIED TO THE DETERMINATION OF DISSOLVED CARBON DIOXIDE IN AQUACULTURE	CHEMICAL SENSORS ; WATER QUALITY ; AQUACULTURE	WATER QUALITY MONITORING IS ESSENTIAL IN THE ASSESSMENT AND MANAGEMENT OF ECOSYSTEMS HEALTH AND HUMAN SAFETY. STILL, DETERMINATION OF CHEMICAL AND BIOLOGICAL PARAMETERS IS ASSOCIATED WITH EXPENSIVE TIME CONSUMING METHODS, AND FEW SOLUTIONS FOR ON;CT; RATE EXCELLENT) ; RATE EXCELLENT) WITH LONG EXPERIENCE IN THE STUDY OF SUCH SYSTEMS [5, 12]. THE COMPANY FIBERSENSING WILL ALSO BE INVOLVED IN THE PROJECT THROUGH ITS COLLABORATION AGREEMENT WITH INESC PORTO, CONTRIBUTING WITH KNOW; ENABLING MULTIPPOINT MULTIPARAMETER SENSING OF CHEMICAL PARAMETERS FOR WATER QUALITY CONTROL, A VALUABLE TOOL TO ENABLE HYPERINTENSIVE AQUACULTURE AND WITH VERY HIGH POTENTIAL FOR A DIVERSITY OF ENVIRONMENTAL AND INDUSTRIAL APPLICATIONS.	DA SILVA JORGE	PEDRO ALBERTO		INSTITUTO DE ENGENHARIA DE SISTEMAS E COMPUTADORES DO PORTO (INESC PORTO/FE/UP)		03-01-11	02-08-13	FCT	PORTUGAL
PTDC/AAC-AMB/113639/2009		EVALUATION OF CLIMATE CHANGES IMPACTS ON IRRIGATED SYSTEMS AND DEFINITION OF ADAPTATION MEASURES	CLIMATE CHANGES ; SIMULATION MODELS ; INFORMATION SYSTEMS	THE AIM OF THIS PROJECT IS TO DEVELOP SOFTWARE TOOLS AND ANALYSIS METHODOLOGIES TO ASSES THE IMPACT OF CLIMATE CHANGE SCENARIOS ON IRRIGATED AGRICULTURE AND ON IRRIGATION SYSTEMS, AND ASSESS THE CONSEQUENCES OF THOSE IMPACTS ON WATER RESOURCES CONSERVATION AND MANAGEMENT. THESE TOOLS AND METHODOLOGIES SHOULD ALLOW A DEFINITION OF A SET OF ADAPTATION MEASURES WITH THE GOAL OF INCREASING THE SUSTAINABILITY OF THE IRRIGATED SYSTEMS. THE AIM OF THIS PROJECT IS TO CONTRIBUTE TO THE ADAPTATION OF AGRICULTURE TO A WARMER CLIMATE WITH LESS WATER AVAILABILITY OR TO A DIFFERENT DISTRIBUTION OF RAINFALL ALONG THE YEAR, ACCORDING TO THE FORECASTS CURRENTLY AVAILABLE (MIRANDA ET AL., 2006;LIMON AND RIESGO (2002). IN SPAIN, INDICATE THAT THE IRRIGATED AREAS ARE OFTEN CATALYSTS FOR ECONOMIC AND SOCIAL DEVELOPMENT AND SHOW THAT THE WATER PRICE POLICY MAY NOT ACHIEVE THE DESIRED EFFECTS IN TERMS OF THE EFFICIENT USE OF WATER, WITHOUT PENALIZING STRONGLY THE FARM INCOMES AND THE USE OF IRRIGATION INFRASTRUCTURES, DUE TO THE LOW ELASTICITY OF WATER DEMAND FOR AGRICULTURAL PURPOSES. THE SIMULATION RESULTS OF THE SOIL WATER BALANCE SIMULATION MODELS ISAREG (TEIXEIRA AND PEREIRA, 1992) AND IRRIGROTATION (ROUIM AND	MONTEIRO TEIXEIRA	JOSÉ LUIS		INSTITUTO SUPERIOR DE AGRONOMIA (ISA/UTL)		01-02-11	31-01-14	FCT	PORTUGAL
PTDC/MAR/111901/2009		BIOCHANGED - IMPACT OF BIODIVERSITY EVENNESS CHANGES IN THE ECOSYSTEM FUNCTIONING OF ESTUARIES	BIODIVERSITY EVENNESS ; GLOBAL ECOLOGICAL CHANGES ; ESTUARY	ESTUARIES ARE AMONG THE WORLD'S MOST PRODUCTIVE ECOSYSTEMS [1,2], BEING SUBJECTED TO INTENSE HUMAN PRESSURES. THESE ANTHROPOGENIC ACTIVITIES ARE EXPECTED TO INDUCE BIODIVERSITY CHANGES, WHICH CAN IMPAIR THE ECOSYSTEM FUNCTIONING EFFICIENCY [1]. THE DEBATE ON BIODIVERSITY AND ECOSYSTEM FUNCTIONING (BEF) HAS BECOME INTENSIFIED AMONG SCIENTISTS [2;ECONOMIC AND ENVIRONMENTAL AIMS.	DOLBETH HENRIQUES DA SILVA	MARINA PAULA		UNIVERSIDADE DE COIMBRA (UC)		01-03-11	28-02-14	FCT	PORTUGAL

ERA-IWRM/0001/2009	UTILIZING THE ECOSYSTEM SERVICES APPROACH FOR WATER FRAMEWORK DIRECTIVE IMPLEMENTATION	ECOSYSTEM SERVICES ; WATER FRAMEWORK DIRECTIVE ; DECISION MAKING	THE ESAWADI PROJECT PROPOSAL FOCUSES ON THE THEME 1 "ECONOMICS AND SOCIAL VALUES FOR INTEGRATED WATER MANAGEMENT" OF IWRM;ART" REGARDING VALUATION OF ECOSYSTEM SERVICES. ITS MAIN ACADEMIC INNOVATION WILL BE ON ASSESSING THE POTENTIAL "ADDED VALUE" OF USING ESA APPROACH AND RESULTS IN WFD DECISION PROCESS, FOCUSING ON THE RELATED COMMUNICATION AND STAKEHOLDERS' PARTICIPATION (ART 14). THE TEAM COMPOSITION OFFERS BOTH A HIGH ACADEMIC QUALITY AND CLOSE CONTACTS AND INTERACTIONS TO THE PRACTICAL WFD IMPLEMENTATION. THUS, IT OFFERS A GOOD OPPORTUNITY FOR APPLIED RESEARCH ON A TOPIC THAT HAS BEEN IDENTIFIED AS A GAP FROM THE EUROPEAN RESEARCH AND POLICY COMMUNITIES. THE MAIN WORK STEPS OF THE PROJECT ARE: 1. INCEPTION AND WORK ON A COMMON UNDERSTANDING, METHODOLOGY AND ANALYTICAL FRAMEWORK;STUDIES WILL DEAL WITH DIFFERENT ECOSYSTEMS AS WELL AS COMPLEMENTARY ISSUES: • IN FRANCE, IN COLLABORATION WITH EPIDOR (THE RIVER BASIN PUBLIC BOARD) THE MIDDLE STREAM OF THE DORDOGNE RIVER CASE;MONETARY EVALUATION OF ENVIRONMENTAL AND RESOURCE COSTS/BENEFITS" LAUNCHED BY THE MINISTRY OF THE ENVIRONMENT AND CONSERVATION, AGRICULTURE AND CONSUMER PROTECTION OF THE GERMAN STATE OF NORTH RHINE,2012, ON TIME FOR	MORAIS DE OLIVEIRA CUNHA	MARIA DA CONCEIÇÃO		IMAR - INSTITUTO DO MAR (IMAR)		01-03-11	28-02-14	FCT	PORTUGAL
PTDC/AAC-AMB/114781/2009	KARSTRISK - IMPACTS OF CONTAMINATION ON KARSTIC GROUNDWATER ECOSYSTEMS	KARST AQUIFERS ; GROUNDWATER BIODIVERSITY ; ECOTOXICOLOGY	IN SPITE OF THE KNOWN RELEVANCE OF GROUNDWATER AS THE LARGEST RESERVOIR OF FRESHWATER IN THE WORLD, IT HAS BEEN INCREASINGLY OBVIOUS THAT THIS COMPARTMENT SHOULD ALSO BE VIEWED AS CRITICAL AQUATIC ECOSYSTEMS. ALTHOUGH CURRENT DIRECTIVES, AS WATER FRAMEWORK DIRECTIVE (WFD), EMPHASIZE THE NEED TO ACHIEVE A GOOD PHYSICAL AND CHEMICAL STATUS FOR GROUNDWATER, ITS BIODIVERSITY IS STILL NEGLECTED. THE SUBTERRANEAN KARSTIC AREAS ARE ONE OF THE MOST UNKNOWN TERRITORIES OF NATIONAL HERITAGE, AND ALSO ONE OF THE MOST FANTASTIC ECOSYSTEMS FULL OF ENDEMIC LIVING CREATURES. CONSIDERABLE EFFORTS AMONGST SCIENTISTS IN THE SECOND HALF OF THE 20TH CENTURY HAVE REVEALED THE UNEXPECTEDLY HIGH DIVERSITY OF LIVING FORMS IN GROUNDWATER AND THOUSANDS OF SPECIES HAVE BEEN DESCRIBED FROM THESE HABITATS. AQUIFERS SUPPORT INTERSTITIAL ASSEMBLAGES OF BACTERIA AND ASSOCIATED BIOFILMS AS WELL AS SPECIALIZED OBLIGATE GROUNDWATER FAUNA TERMED "STYGOFAUNA". THEREFORE, THE FULL ASSESSMENT OF AQUIFER CONDITION SHOULD INCLUDE NOT ONLY TRADITIONAL SAMPLING OF PHYSICAL AND CHEMICAL VARIABLES BUT IT ALSO SHOULD CONSIDER THE BIOTA. THE KARSTIC AREAS OCCUPY A GREAT AREA IN THE PORTUGUESE TERRITORY, IN WHICH ARE KNOWN MORE	CABAÇOS ABRANTES	NELSON JOSÉ		UNIVERSIDADE DE AVEIRO (UA)		01-06-11	31-05-14	FCT	PORTUGAL
PTDC/AAC-AMB/112438/2009	VITAQUA - CLIMATE CHANGE: AN ADDITIONAL THREAT TO AQUATIC SYSTEMS UNDER INTENSIVE PRESSURE FROM AGRICULTURAL DIFFUSE POLLUTION	CLIMATE CHANGE ; DIFFUSE POLLUTION ; MODELING	THE IMPLEMENTATION OF THE WATER FRAMEWORK DIRECTIVE WITHIN THE EUROPEAN MEMBER STATES IMPLIES THE INTENSIFICATION OF THE MONITORING OF CONTAMINANTS, THE IDENTIFICATION OF THE CAUSES OF DEGRADATION, INCLUDING POINT AND DIFFUSE SOURCES OF POLLUTION, AND THE IMPLEMENTATION OF CORRECTIVE ACTIONS TO OBTAIN A GOOD CHEMICAL AND ECOLOGICAL STATUS. ALTHOUGH, AN IMPORTANT SHORTCOMING OF THE WFD IS ITS FAILURE TO TAKE EXPLICIT ACCOUNT OF THE RISKS POSED BY CLIMATE CHANGE TO THE ACHIEVEMENT OF ITS ENVIRONMENTAL OBJECTIVES. IN PARTICULAR, THERE IS A LACK OF FUNDAMENTAL UNDERSTANDING ABOUT HOW CLIMATE CHANGE INDUCED CHANGES IN RIVER FLOWS, CHEMISTRY, SEDIMENT TRANSPORT AND HYDROMORPHOLOGY WILL INTERACT WITH ECOLOGY (WILBY ET AL 2006). THE RELATIONSHIPS BETWEEN CLIMATE CHANGE AND DIFFUSE POLLUTION FROM AGRICULTURE CONSTITUTE A COMPLEX ISSUE THAT IS IN ITS INFANCY AND THEREFORE IS POORLY STUDIED (E. G. BLOOMFIELD ET AL., 2006). INCREASED FLOODING, FOR INSTANCE, COULD MOBILIZE ENHANCED SEDIMENT LOADS AND ASSOCIATED NUTRIENTS (E. G. NITROGEN AND PHOSPHOROUS) AND PESTICIDES, POTENTIALLY EXACERBATING IMPACTS UPON AQUATIC ECOSYSTEMS. ALTERNATIVELY, MORE SEVERE DROUGHTS COULD REDUCE POLLUTANT DILUTION, THEREBY INCREASING	CABAÇOS ABRANTES	NELSON JOSÉ		UNIVERSIDADE DE AVEIRO (UA)		01-04-11	31-03-14	FCT	PORTUGAL

PTDC/EGE-ECO/114477/2009		PRICING AND BEHAVIOURAL RESPONSES IN THE WATER SECTOR	BLOCK PRICING ; LOSS AVERSION AND INFORMATION ; TRANSFER PRICING AND FINANCIAL ANALYSIS	THE WATER FRAMEWORK DIRECTIVE AND PORTUGUESE WATER LAW REQUIRE THAT WATER PRICES PROVIDE AN APPROPRIATE INCENTIVE FOR EFFICIENT RESOURCE USE AS WELL AS RECOVER COSTS, INCLUDING ENVIRONMENTAL AND SCARCITY COSTS. NONETHELESS, RECENT EVALUATIONS (ECO7) SHOW THAT ECONOMIC INSTRUMENTS STILL PLAY A LIMITED ROLE IN WATER MANAGEMENT, WHILE SIGNIFICANT PROBLEMS PERSIST IN ECOLOGICAL WATER STATUS. THE EUROPEAN COMMISSION HAS THUS IDENTIFIED THE PROMOTION OF ECONOMIC INSTRUMENTS, AND PRICING IN PARTICULAR, AS A PRIORITY ACTION. IN THIS PROJECT WE WILL DEVELOP A THOROUGH AND INNOVATIVE ANALYSIS OF PRICES IN THE WATER SECTOR, INCLUDING BEHAVIOURAL RESPONSES AND CONSIDERING THE RELEVANT FEATURES OF COSTS, IN ORDER TO IDENTIFY POLICIES THAT ALLOW A BALANCE BETWEEN WELFARE MAXIMIZATION, INCLUDING ENVIRONMENTAL CONSTRAINTS, AND OTHER TRADITIONAL CRITERIA FOR UTILITY PRICING, SUCH AS COST RECOVERY, EQUITY AND SIMPLICITY. THE PROJECT WILL BUILD ON PREVIOUS CONTRIBUTIONS OF THE RESEARCH TEAM IN THE AREAS OF NONLINEAR PRICING, WATER DEMAND AND COST ESTIMATION, WHILE APPLYING NEW THEORETICAL METHODS AND DEVELOPING ADDITIONAL EMPIRICAL DIMENSIONS, AS DESCRIBED BELOW. THERE IS A SIGNIFICANT AMOUNT OF LITERATURE ON PRICING STRUCTURES IN REGULATED	ROSETA PALMA	MARIA CATARINA		ISCTE (JUL)		01-01-11	31-12-13	FCT	PORTUGAL
PTDC/AAC-AMB/113746/2009		DEVELOPMENT OF MOLECULAR TOOLS FOR ASSESSING FUNGAL DIVERSITY AND ACTIVITY IN FRESHWATERS - FUNDIVER	FRESHWATERS ; PHYLOGEOGRAPHY ; MOLECULAR TOOLS	HUMAN ACTIVITIES ARE THREATENING BIODIVERSITY IN FRESHWATERS LEADING TO IRREVERSIBLE ALTERATIONS IN ECOSYSTEM PROCESSES. ONE OF THE MOST IMPORTANT PROCESSES FOR THE FUNCTIONING OF SMALL-RFLP AND THE CONSTRUCTION OF CLONE LIBRARIES, APPLIED TO RRNA GENES, PROVED AS GOOD TECHNIQUES TO DETECT TEMPORAL AND SPATIAL PATTERNS AND THE IMPACT OF ANTHROPOGENIC STRESS ON AQUATIC FUNGAL COMMUNITIES IN FRESHWATER ECOSYSTEMS. EVEN THOUGH THAT THE SEQUENCING OF BANDS OF INTEREST ON DGGE AND ENVIRONMENTAL CLONES FROM THE CONSTRUCTED LIBRARIES COULD PROVIDE THE IDENTITY AT SPECIES LEVEL, THE LACK OF REFERENCE SEQUENCES ON GENE DATABASES MIGHT LIMIT ITS FURTHER USE. ADDITIONALLY BY USING RRNA GENES, SINCE THEY DETECT BOTH ACTIVE AND INACTIVE POPULATIONS, THIS DEFINITELY LIMITS THE USEFULNESS OF THE APPROACH WHEN INVESTIGATING THE RESPONSE OF COMMUNITIES TO ENVIRONMENTAL PERTURBATIONS. THE PRESENT PROPOSAL AIMS TO DEVELOP MOLECULAR TOOLS FOR ASSESSING THE DIVERSITY AND ACTIVITY OF FUNGI ON PLANT DECOMPOSING ON FRESHWATER ECOSYSTEMS. AQUATIC FUNGAL SPECIES WILL BE ISOLATED FROM SEVERAL SUBSTRATES DECOMPOSING IN STREAMS, UNDER DIFFERENT ENVIRONMENTAL SCENARIOS, IN DIFFERENT GEOGRAPHIC AREAS (WITH	FERREIRA DUARTE	SOFIA ALEXANDRA		UNIVERSIDADE DO MINHO (UM)		01-03-11	28-02-14	FCT	PORTUGAL
ERA-IWRM/0004/2009		IWRM FOR CLIMATE CHANGE ADAPTATION IN RURAL SOCIAL ECOSYSTEMS IN SOUTHERN EUROPE	WATER RESOURCES ; INTEGRATED MANAGEMENT ; ADAPTATION	THE MAIN AIM OF THE PROJECT IWRM FOR CLIMATE CHANGE ADAPTATION IN RURAL SOCIAL ECOSYSTEMS IN SOUTHERN EUROPE (ICARUS) IS TO INCREASE, IN SELECTED AREAS OF ITALY, PORTUGAL AND SPAIN, THE EFFICIENCY OF WATER USE IN AGRICULTURE BY ANALYSING AND UNDERSTANDING THE BIOPHYSICAL, SOCIO,MAKERS AND STAKEHOLDERS SINCE THE BEGINNING OF THE RESEARCH, TO GUARANTEE THEIR RECOGNITION AND ACCEPTANCE OF THE ACTIONS AND PROCEDURES THAT WILL BRING TO THE IDENTIFICATION OF ADAPTATION STRATEGIES IN THE AGRICULTURAL SYSTEMS OF SOUTHERN EUROPE.	DE OLIVEIRA LOURENÇO	NELSON MANUEL		EIA - ENSINO, INVESTIGAÇÃO E ADMINISTRAÇÃO, SA (EIA)		01-09-10	31-12-12	FCT	PORTUGAL
ERA-IWRM/0003/2009		IMPACT - DEVELOPING AN INTEGRATED MODEL TO PREDICT ABIOTIC HABITAT CONDITIONS AND BIOTA OF RIVERS FOR APPLICATION IN CLIMATE CHANGE RESEARCH AND WATER MANAGEMENT	COUPLED MODELS ; ECOHYDROLOGY ; RIVER CATCHMENT	OBJECTIVE: THE RESEARCH PROJECT OUTLINED HEREIN AIMS AT DEVELOPING AN INTEGRATED MODEL WHICH PREDICTS THE ABIOTIC HABITAT CONDITIONS AND BIOTA OF NATURAL (REFERENCE), SEMI;COMMERCIAL PRODUCTS AND EASY TO USE WILL BE MADE FREELY AVAILABLE FOR WATER MANAGERS AND OTHER STAKEHOLDERS. FURTHERMORE, RESULTS WILL BE DISSEMINATED BY ACTIVELY CONTACTING WATER MANAGERS, BY STAKEHOLDER WORKSHOPS, AND VIA THE EXISTING FORECASTER WEBSITE TO MAKE FULL USE OF SYNERGIES BETWEEN IWRM.NET PROJECTS.	ZAMBUJAL CHICHARO	LUIS MANUEL		UNIVERSIDADE DO ALGARVE (UALG)		12-09-11	11-09-14	FCT	PORTUGAL

ERA-IWRM/002/2009		WATER2ADAPT - RESILIENCE ENHANCEMENT AND WATER DEMAND MANAGEMENT FOR CLIMATE CHANGE ADAPTATION			BAPTISTA COSTA ANTUNES	MARIA PAULA		FUNDAÇÃO DA FACULDADE DE CIÊNCIAS (FFC/FC/UL)			01-10-10	30-09-12	FCT	PORTUGAL
URBAN/0001/2009		POTENTIAL IMPACT OF CLIMATE TRENDS AND WEATHER EXTREMES ON OUTDOOR THERMAL COMFORT IN EUROPEAN CITIES - IMPLICATIONS FOR SUSTAINABLE URBAN DESIGN	CLIMATE CHANGE ; OUTDOOR URBAN THERMAL COMFORT ; SUSTAINABLE URBAN DESIGN	REGIONAL CLIMATE MODELS PREDICT THAT THE MEAN AIR TEMPERATURE IN EUROPE WILL RISE 2 TO 6°C BY 2100. THIS MEANS THAT WINTERS WILL BE Milder AND SUMMERS HOTTER, WITH AN INTENSIFICATION OF EXTREME HEAT WAVES IN SUMMER. THE WHO ACKNOWLEDGES THAT THE FUTURE INCREASE IN TEMPERATURE WILL HAVE PROFOUND EFFECTS ON THE HEALTH AND WELL-BEING AND ADDRESSES THE GAPS OF KNOWLEDGE, RESEARCH NEEDS AND COMMON RESEARCH INTERESTS THAT WERE IDENTIFIED AT AN EUROPEAN WORKSHOP ORGANIZED WITH THE PROJECT. THE MAIN OBJECTIVE OF THIS INTERDISCIPLINARY AND TRANSNATIONAL RESEARCH PROJECT IS TO STUDY THE EFFECTS OF ANTHROPOGENIC CLIMATE CHANGE ON OUTDOOR THERMAL COMFORT IN URBAN AREAS AS WELL AS DEVELOP A SET OF DESIGN GUIDELINES AND POLICIES ON HOW MAINTAIN HEALTH AND THERMAL COMFORT UNDER CHANGED CLIMATE CONDITIONS AND EXTREME WEATHER EVENTS IN EUROPEAN CITIES. THE CITIES OF GÖTEBORG IN SWEDEN, KASSEL IN GERMANY AND PORTO IN PORTUGAL, REPRESENTING A NORTHERN, MID AND SOUTHERN EUROPEAN CITY, WITH DIFFERENT PREREQUISITES WILL BE SELECTED FOR CASE STUDIES. METHODS WILL INCLUDE STATISTICAL DOWNSCALING OF DATA FROM GCMs, SPATIAL MODELLING OF THERMAL COMFORT IN DIFFERENT URBAN SETTINGS, THERMAL	RODRIGUES MONTEIRO DE SOUSA	ANA MARIA		UNIVERSIDADE DO PORTO (ISPUP/UP)	INSTITUTO DE SAÚDE PÚBLICA		01-10-10	30-09-14	FCT	PORTUGAL
PTDC/AAC-AMB/116036/2009		ASSESSING BIOLOGICAL DEGRADATION OF STREAM ECOSYSTEMS RESULTING FROM ABSTRACTION: THE IMPACT FOR BIODIVERSITY AND ECOLOGICAL FUNCTION (ABSTRACTION)	HABITAT FRAGMENTATION ; WATER REMOVAL	ALTERATIONS TO THE NATURAL FLOW REGIME REPRESENT A MAJOR THREAT TO THE ENVIRONMENTAL QUALITY OF RIVER ECOSYSTEMS [1,2]. WHILST THE DAMMING OF UPLAND STREAMS HAS RECEIVED CONSIDERABLE ATTENTION, THE VISUALLY LESS CONSPICUOUS ALTERATIONS CAUSED BY ABSTRACTION IS OFTEN OVERLOOKED [3]. UNFORTUNATELY THIS DISCREET LANDSCAPE CONTEXT BELIES ITS ENVIRONMENTAL IMPACT: ABSTRACTED WATERS OFTEN REPRESENT A MAJOR PROPORTION OF HEADSTREAM DISCHARGE, TRANSFORMING LOTIC HABITATS WITH POTENTIALLY DEVASTATING CONSEQUENCES FOR ECOSYSTEM FUNCTION AND BIODIVERSITY [4,5]. OVERWHELMING USED FOR IRRIGATION, ABSTRACTED WATERS ARE TYPICALLY DIVERTED TO AGRICULTURAL CROPS, WITH REJOINING EXCESS WATER OFTEN ACCOMPANIED BY INCREASED LEVELS OF SUSPENDED SEDIMENTS, NUTRIENTS AND PESTICIDES. DICTATED BY THE AGRICULTURAL GROWING SEASON, ABSTRACTION PEAKS DURING SUMMER, COINCIDING WITH A NATURALLY LOW HYDROGRAPH AND EXACERBATING LOW;TEST WILL REPRESENT A MAJOR INNOVATION FOR MEDITERRANEAN RISK ASSESSMENT, WHILST TOOLS TO ASSESS THE ENVIRONMENTAL QUALITY OF IRRIGATION CHANNELS WILL BRING ACKNOWLEDGEMENT TO THE IMPORTANT CONTRIBUTION THAT AGRICULTURAL MAKES TO LOTIC	MORTAGUA VELHO DA MAIA SOARES	AMADEU		UNIVERSIDADE DE AVEIRO (UA)			13-09-11	12-09-14	FCT	PORTUGAL

PTDC/BIA-ECS/114859/2009		RIVER BIOMONITORING: AN INTEGRATIVE APPROACH	BIOMARKERS ; FUNCTIONAL INDICATORS ; RIVER SYSTEMS	WATER MANAGEMENT BODIES HAVE AN URGENT NEED TO ACCESS SCIENTIFIC INFORMATION ON AQUATIC ECOSYSTEMS IN ORDER TO DEVELOP AND IMPLEMENT MANAGEMENT TOOLS FOR SUSTAINABLE CATCHMENT POLICIES, SUCH AS THE WATER FRAMEWORK DIRECTIVE (WFD). THESE DEMANDS CLEARLY CALL FOR THE INTEGRATION OF BIOLOGICAL, BIOMARKERS AND FUNCTIONAL INDICATORS (ALL USED IN RUNNING WATER ASSESSMENT) INTO PRACTICAL BIOASSESSMENT PROCEDURES. WE BELIEVE THAT THE SENSITIVITY IN THE DETECTION AND THE PRECISION IN QUANTIFYING THE IMPACT OF MULTIPLE STRESSORS IN LOTIC SYSTEMS INCREASES SIGNIFICANTLY BY INTEGRATING MONITORING TECHNIQUES THAT EMBRACE A SPECTRUM OF BIOLOGICAL ORGANIZATION, STARTING FROM SUB; THEY SHOULD BE OF A RELATIVELY PERMANENT CHARACTER. THIS "DESIDERATUM" REQUIRES MULTIDISCIPLINARY COLLABORATION BETWEEN ESTABLISHED EXPERTISE BIOINDICATORS OR BIOMARKERS AND DIFFERENT ORGANISM BASED APPROACHES, SUCH AS GENOMIC AND HISTOLOGICAL TECHNIQUES, OR COMMUNITIES RANGING FROM MICROORGANISMS TO VERTEBRATES. FIELD STUDIES WILL BE CONDUCTED IN ALONG FIXED REACHES IN CLOSE PARTICIPATION BETWEEN THE TEAM MEMBERS. THIS WILL PROVIDE THE OPPORTUNITY TO ESTABLISH MULTI; THIS WILL ALLOW US TO DEFINE THE MOST APPROPRIATE ATTRIBUTES FOR	VITOR CORTES	RUI MANUEL		UNIVERSIDADE DE TRÁS;MONTES E ALTO DURO		01-04-11	31-03-14	FCT	PORTUGAL
PTDC/ECM/112868/2009		FRICITION AND MECHANICAL ENERGY DISSIPATION IN PRESSURIZED TRANSIENT FLOWS: CONCEPTUAL AND EXPERIMENTAL ANALYSIS	PRESSURE SURGES ; VISCOELASTICITY ; COMPUTATIONAL FLUID DYNAMICS	WATER PIPELINE SYSTEMS ARE VITAL INFRASTRUCTURES THAT PROVIDE AN INDISPENSABLE PUBLIC SERVICE TO THE SOCIETY: THE PROVISION OF SAFE DRINKING WATER AND SANITATION. THESE SERVICES ARE CRUCIAL TO ENSURE THE HEALTH AND WELLBEING OF THE POPULATIONS. HOWEVER, THESE SYSTEMS ARE SUBJECTED TO PRESSURE SURGES AS A RESULT OF PUMPS' START;ELECTRIC POWER STATION IN 17TH AUGUST 2009);08). SURGE;DIMENSIONAL (1;E MODELS. TRANSIENT DATA (PRESSURE, STRAIN, SHEAR AND VELOCITY PROFILE) WILL BE COLLECTED IN LABORATORY CONDITIONS. LABORATORY DATA WILL AIM AT THE BETTER UNDERSTANDING OF THE PHENOMENA AND THE DEVELOPMENT OF NOVEL FORMULATIONS OR MODELS FOR UNSTEADY SKIN FRICTION CALCULATION, AS WELL AS THE VALIDATION OF DEVELOPMENTS AND CONCLUSIONS. EXPERIMENTAL RESEARCH WILL USE MEASUREMENT EQUIPMENT AND EXPERIMENTAL FACILITIES PURCHASED IN SCOPE OF PREVIOUS PROJECTS: A POLYETHYLENE PIPELINE ASSEMBLED IN THE SCOPE OF THE 4TH EU FRAMEWORK PROGRAMME;IRON PIPE RIG WILL BE ASSEMBLED, CO;ATMOSPHERIC PRESSURES OCCUR THAT ALLOW CONTAMINANT INTRUSION INTO THE DRINKING WATER SYSTEM PUTTING AT RISK PUBLIC HEALTH. THE BENEFICIARIES OF THIS PROJECT WILL BE 'ENGINEERS' WITH ENHANCED TOOLS AND DESIGN GUIDELINES,	CAMEIRA COVAS	DÍDIA ISABEL		INSTITUTO SUPERIOR TÉCNICO (IST/UTL)		01-04-11	31-03-14	FCT	PORTUGAL
LTER/BIA-BEC/0063/2009		LTER; LONG TERM MONITORING IN THE RIA DE AVEIRO: TOWARDS A DEEPER UNDERSTANDING OF ECOLOGICAL, ENVIRONMENTAL AND ECONOMIC PROCESSES	ENVIRONMENTAL CHANGE ; MONITORING ; MODELLING	ESTUARINE ECOSYSTEMS ARE EXTREMELY PRODUCTIVE AND PROVIDE CRUCIAL ECOSYSTEM SERVICES THAT INFLUENCE CLIMATE, NUTRIENT CYCLES AND PRIMARY PRODUCTIVITY ON A GLOBAL SCALE. HUMAN;BORNE POLLUTANTS FROM LAND;TERM SCENARIOS OF CLIMATE CHANGE AND THEIR IMPACT ON GLOBAL ECOSYSTEM DYNAMICS. THE VARIOUS SCENARIOS WILL CONSIDER CHANGES IN THE SEA LEVEL, CLIMATE, BIOGEOCHEMICAL CYCLES, AND HYDROLOGICAL, PHYSICOHEMICAL AND BIOLOGICAL VARIABLES.VNS.QUANTIFY THE ECOLOGICAL AND ECONOMIC SERVICES PROVIDED BY THE RIA DE AVEIRO AND HOW HUMAN ACTIVITIES WITHIN AND IN THE VICINITY OF THE ESTUARY ARE AFFECTING THESE SERVICES.	CLEARY	DANIEL F. R.		UNIVERSIDADE DE AVEIRO (UA)		05-09-11	04-09-14	FCT	PORTUGAL

LTBR/BIA-BEC/0019/2009		MINHO, MONDEGO, AND MIRA ESTUARIES OBSERVATORY: LONG TERM VARIATION OF ECOLOGICAL STATUS AS A RESPONSE TO NATURAL AND HUMAN INDUCED CHANGES. IMPLICATIONS FOR MANAGEMENT AND RESTORATION - 3M_RECITAL	ESTUARIES ; CLIMATE CHANGE ; ECOLOGICAL RESILIANCE	IN ESTUARIES, HYDROMORPHOLOGICAL CHANGES, PHYSICO-CHEMICAL PARAMETERS AND BIOLOGICAL COMMUNITIES REFLECT THE SYSTEMS' LONG; HAVE BEEN SELECTED AS TARGETS FOR THIS LTER PROJECT BECAUSE THEY HAVE ALREADY BEEN MONITORED FOR ALMOST TWO DECADES, BEING EVENTUALLY THE MOST COMPREHENSIVELY STUDIED PORTUGUESE TRANSITIONAL WATERS ECOSYSTEMS. THE RATIONALE OF PROPOSING AN L,ORGANIZATION FOLLOWING DISTURBANCE THAN AS SYSTEM'S RECOVERY. ESTABLISHING THE RELATION BETWEEN CRITICAL NATURAL CAPITAL AND ECOLOGICAL RESILIENCE REQUIRES INFORMATION ON ECOSYSTEM'S FUNCTION TO ESTIMATE ENVIRONMENTAL CRITICALITY, I.E. THE STATE IN WHICH THE SYSTEM'S CARRYING CAPACITY IS EXCEEDED.\NLINKING THESE ECOLOGICAL CONCEPTS AND THE MANAGEMENT FRAMEWORK IS ESSENTIAL TO UNDERSTAND, MANIPULATE AND MANAGE ESTUARINE SYSTEMS, AND THE DATA TO APPROACH SUCH PROBLEMATICS CAN ONLY BE PROVIDED BY L;\N2. CHARACTERIZATION OF LONG;\N4. DATA COMPARISON AND INTEGRATION TO PROVIDE A BASIS FOR BUILDING POSSIBLE EVOLUTIVE AND MANAGEMENT SCENARIOS AND PROVIDE MANAGEMENT RECOMMENDATIONS FOR THE SUSTAINABLE USE OF THE SELECTED SYSTEMS.\NDESPITE ITS LIMITED BUDGET AND DURATION, THE PRESENT PROJECT WILL ALLOW	SOUSA MARQUES	JOÃO CARLOS		UNIVERSIDADE DE COIMBRA (UC)		01-09-11	31-08-14	FCT	PORTUGAL
ERA-IWRM/0002/2009		WATER2ADAPT - RESILIENCE ENHANCEMENT AND WATER DEMAND MANAGEMENT FOR CLIMATE CHANGE ADAPTATION	RESILIENCE ; WATER MANAGEMENT ; CLIMATE CHANGE	THE ALTERATION OF RAINFALL PATTERNS (FORM, INTENSITY AND TIMING OF RAINFALL) WILL HAVE SIGNIFICANT EFFECTS ON WATER AVAILABILITY AND FREQUENCY OF EXTREME EVENTS SUCH AS FLOODS AND DROUGHTS. THE KNOCK-OUT CASE STUDIES RELATED AND ADDRESS THREE OVERARCHING THEMES: ECONOMIC COSTS AND RESILIENCE, SOCIAL COSTS AND COMMUNITY RESILIENCE, AND WATER DEMAND POLICIES AND MEASURES. THE TWO REMAINING WPS ADDRESS RESPECTIVELY THE PRACTICAL UPTAKE OF THE RESEARCH RESULTS (WPS) AND A SOUND MANAGEMENT AND COORDINATION OF THE PROJECT (WP1).	BAPTISTA COSTA ANTUNES	MARIA PAULA		FUNDAÇÃO DA FACULDADE DE CIÊNCIAS (FFC/FC/UL)		01-10-10	30-09-12	FCT	PORTUGAL
PTDC/AGR-AAM/098100/2008		PHOSPHOROUS DIFFUSE SOURCE MANAGEMENT AND EUTROPHICATION CONTROL (EUTROPHOS)	EUTROPHICATION ; WATERSHEDS ; PHOSPHORUS	EUTROPHICATION OF SURFACE WATERS WAS IDENTIFIED ABOUT 2 CENTURIES AGO BUT WAS ENHANCED IN 1950'S WITH AGRICULTURE AUTOMATION, THE INCREASED USE OF NITROGEN (N) AND PHOSPHORUS (P) FERTILIZERS, AND POPULATION CONCENTRATION IN LARGE URBAN AREAS. PARTICULARLY VULNERABLE TO THIS PROCESS ARE LAKES AND ARTIFICIAL RESERVOIRS, WHERE SEDIMENTS AND ORGANIC MATTER ARE ACCUMULATED, CAUSING OXYGEN DEPLETION IN THE DEEPER LAYERS, OR EVEN IN THE ENTIRE WATER COLUMN, LEADING TO LARGE PERIODS OF POOR WATER QUALITY, AND TO FISH KILLINGS. THE SEVERITY OF THE PROBLEM INCREASES WHEN EUTROPHICATION IS RELATED TO CYANOBACTERIA BLOOMS AND SUBSEQUENT DEVELOPMENT OF TOXICITY EVENTS. CYANOBACTERIA BLOOM IS INFLUENCED MAINLY BY THE PRESENCE OF N AND P. CYANOBACTERIA CAN FIX ATMOSPHERIC N AND BECOME THE DOMINANT SPECIES DURING PERIODS OF N DEPLETION IN WATER. SINCE ATMOSPHERIC N IS ALWAYS AVAILABLE TO CYANOBACTERIA, THEIR GROWTH CONTROL IS ONLY ACHIEVED BY CONTROLLING P LEVELS. THE ENXÓE CATCHMENT AND RESERVOIR ARE INCLUDED IN A LIST OF PORTUGUESE RESERVOIRS WHERE STRONG CYANOBACTERIA BLOOMS HAVE BEEN IDENTIFIED AND ARE SUITABLE FOR STUDYING THIS PROBLEM.\NIP IS GENERATED BY AGRICULTURE AND BY DOMESTIC AND	PINTO BAPTISTA GONÇALVES	MARIA CONCEIÇÃO		INSTITUTO NACIONAL DE INVESTIGAÇÃO AGRÁRIA E VETERINÁRIA, I.P. (INIAV)		01-03-10	31-12-13	FCT	PORTUGAL

PTDC/CTE-GIX/099085/2008		RIVERSAR - EXPLOITING SAR IMAGERY TO IMPROVE FLOODPLAIN INUNDATION MODELS IN THE TAGUS RIVER	SYNTHETIC APERTURE RADAR ; FLOOD ; MODELING	FLOODS ARE ONE OF THE MOST DEADLY NATURAL HAZARDS WORLDWIDE, AND BY FAR THE DEADLIEST IN PORTUGAL IN THE LAST 100 YEARS. THE LOWER TAGUS (LT) RIVER IS THE PLACE WHERE THE LARGEST FLOODS OCCUR IN PORTUGAL, IN TERMS OF INUNDATED AREA. FLOODS ARE EXTREMELY FREQUENT IN THIS REGION, COVERING MOST OF THE FLOODPLAIN EVERY 2.5 YEARS IN AVERAGE [AZEVEDO_ETAL_04]. IN THE LAST 40 YEARS, 4 FLOODS IN THE TAGUS RESULTED IN HUMAN DEATHS. FLOOD HYDRAULIC MODELS PLAY A CENTRAL ROLE IN URBAN PLANNING, DAM ENGINEERING DESIGN, FLOODPLAIN MANAGEMENT, AND HAZARD EVALUATION STUDIES. CONSEQUENTLY, THE FULL GRASP OF THE UNCERTAINTY IN THE MODELING PROCESS IS OF PARAMOUNT IMPORTANCE. RIVERSAR WILL FOCUS ON FLOODPLAIN INUNDATION MODELS IN AREAS PERTAINING TO THE LT RIVER (FIG.1), AND ADDRESSES THE PROBLEM OF ASSESSING AND REDUCING THEIR INEVITABLE UNCERTAINTY. \NFLOODPLAIN FLOW IS USUALLY TACKLED WITH 2D OR 1D MODELS, BUT GIVEN THAT FOR FLOOD RISK MANAGEMENT COMPUTATIONAL EFFICIENCY IS CRUCIAL, 1D MODELS ARE THE BASIS OF MOST COMMERCIAL HYDRAULIC MODELING SOFTWARE. ACTUALLY, IT HAS BEEN SHOWN [HORRITT_BATES_02] THAT GIVEN THE UNCERTAINTIES AFFECTING THE SIMULATION PROCESS, MORE COMPLEX MODELS DON'T	DAS NEVES HELENO DA SILVA	SANDRA ISABEL		INSTITUTO SUPERIOR TÉCNICO (IST/UTL)		03-04-10	02-10-13	FCT	PORTUGAL
PTDC/AUR-URB/100309/2008		URBANIZED ESTUARIES AND DELTAS. IN SEARCH FOR A COMPREHENSIVE PLANNING AND GOVERNANCE. THE LISBON CASE.	DELTA ; RIVERFRONT ; LISBON	URBANIZED ESTUARIES AND DELTAS CONSTITUTE VERY SENSIBLE AREAS IN POST: (3) AGRICULTURE; (5) ENERGY; (7) WATER AND SOIL MANAGEMENT. \NBEING SYSTEMS UNDER A HIGH PRESSURE, CONTEMPORARY POLICIES, PLANNING AND MANAGEMENT OF ESTUARIES AND DELTAS REFLECT THIS COMPLEXITY, AS THEY ARE: \N(1) ATTRACTIVE AREAS FOR URBAN (RE)DEVELOPMENT (MENDES, 2005); \N(3) PERMANENT TRANSFORMATION AREAS IN THE ECONOMIC SYSTEM, WITH CHANGES IN THE PORT PARADIGMS (FIGUEIRA SOUSA, 2003), THE DECAY IN THE HEAVY USE OF LAND BY THE INDUSTRIALIZATION (COSTA, 2007C) AND THE GROWTH OF NEW ACTIVITIES (FIGUEIRA SOUSA, 2009); ORIENTATED PRACTICE, ESTUARIES AND DELTAS VERIFY A STRONG SEPARATION OF POLICIES AND PLANNING APPROACHES, WITHIN AND BETWEEN THESE SECTORS. \NINSTEAD, NEW TYPES OF COMPREHENSIVE APPROACHES NEED TO BE IMPLEMENTED, ANSWERING TO THE URGENT ENVIRONMENTAL PROBLEMS AND TO THE ONGOING PROCESSES OF ECONOMIC DEVELOPMENT AND (RE)URBANIZATION (COHEN, RUSTING, 2008). IN ADDITION, A NEW PROBLEM HAS ENTERED THE SCENE, OBLIGING TO THE IMPLEMENTATION OF A COMPREHENSIVE APPROACH AND GOVERNANCE. \NSTILL SEEN BY SOME SECTORS AS A QUESTION ONLY ASSOCIATED TO THE ENVIRONMENT PERSPECTIVE, CLIMATE CHANGE, RESULTING INTO SEA; TO ELABORATE	TEIXEIRA DE ABREU COSTA	JOÃO PEDRO		UNIVERSIDADE TÉCNICA DE LISBOA (FA/UTL)	FACULDADE DE ARQUITECTURA	01-04-10	30-09-13	FCT	PORTUGAL
PTDC/CS-GEO/103231/2008		DISASTER ; GEOMORPHOLOGIC DISASTERS IN PORTUGAL: A TOOL FOR ENVIRONMENTAL MANAGEMENT AND EMERGENCY PLANNING	NATURAL DISASTERS ; LANDSLIDES ; GIS DATABASE	THE RECORD AND ANALYSE OF STATISTICAL INFORMATION ON DISASTER OCCURRENCE, IMPACTS AND LOSSES WAS BEEN MADE WORLDWIDE IN RECENT YEARS. THE DEVELOPMENT OF NATURAL DISASTERS DATABASES IS CRUCIAL FOR RISK MANAGEMENT PURPOSES, BECAUSE IT ALLOWS IMPROVING SYSTEMS OF INDICATORS ON DISASTER RISK AND VULNERABILITY AT NATIONAL AND SUB-BASED SCIENCES AND SOCIAL SCIENCES, AND THE RESEARCH TEAM WAS ASSEMBLED TO ASSURE THE PROJECT WILL BE SUCCESSFUL. THE TEAM IS COMPOSED BY 20 RESEARCHERS (14 PHD) EXPERTS IN EARTH SCIENCES, ATMOSPHERIC SCIENCES AND SOCIAL SCIENCES, COMING FROM FOUR SCIENTIFIC INSTITUTIONS THAT BELONG TO THREE MAJOR PORTUGUESE UNIVERSITIES: LISBON, OPORTO AND COIMBRA. IN ADDITION, INVOLVEMENT OF YOUNG RESEARCHERS IS ASSUMED AS A PRIORITY FOR THE TEAM, AND FOUR FELLOWSHIPS WILL PARTICIPATE IN THE PROJECT ACTIVITIES. \NTHE PROJECT WILL LAST 36 MONTHS AND IS ORGANIZED IN THREE DISCRETE WORK PACKAGES (WP) CONTAINING EIGHT TASKS (T). THE PROJECT COORDINATOR (PC) WILL BE SUPPORTED, FOR SCIENTIFIC AND MANAGEMENT PURPOSES, BY THE PROJECT STEERING COMMITTEE (PSC) THAT INCLUDES THE TASK LEADERS. THE PSC IS COMPOUND BY SIX SENIOR RESEARCHERS THAT HAVE BEEN WORKING TOGETHER	GONÇALVES MOREIRA DA SILVA ZÉZERE	JOSÉ LUÍS		UNIVERSIDADE DE LISBOA (IGOT)	INSTITUTO DE GEOGRAFIA E ORDENAMENTO DO TERRITÓRIO	01-03-10	31-08-13	FCT	PORTUGAL

PTDC/AGR- AAM/104379/2008		DEGRADATION OF LOTIC ECOSYSTEMS ASSOCIATED WITH PLANTATION FORESTRY: AN EVALUATION OF PLANTATION FOREST FOOD-WEB COMMUNITIES (DOMINO EFFECT)	PLANTATION FORESTS ; WATER QUALITY ; ENERGY TRANSFER	WHILST DEFORESTATION OF NATURAL FORESTS REPRESENTS ONE OF THE MAJOR CAUSES OF BIODIVERSITY LOSS [LAURANCE07], THE EXTENT OF PLANTATION FORESTS INCREASED BY 42% BETWEEN 1990 AND 2005 WITH THE LARGEST EUROPEAN INCREASES OCCURRING IN MEDITERRANEAN COUNTRIES [FA006]. REPRESENTED BY VAST AREAS OF MONOCULTURE THIS TREND IN AFFORESTATION HAS RAISED CONCERN FOR BIODIVERSITY CONSERVATION. ALTHOUGH NEW EVIDENCE HAS HIGHLIGHTED SOME OF THE CONSERVATION OPPORTUNITIES ASSOCIATED WITH PLANTATION FORESTS, RECENT SYNTHESIS HAVE NEGLECTED TO CONSIDER THE CONSEQUENCES FOR RIVER ECOSYSTEMS [BROCKERHOFF_ETAL08]. THIS IS UNFORTUNATE GIVEN THE INEXORABLE LINKS BETWEEN RIVER SYSTEMS AND THE LAND THEY DRAIN AND THE FACT THAT, IN SOME REGIONS, RIVERS ARE CONSIDERED TO HOST THE KEYSTONE SPECIES OF FOREST ECOSYSTEMS AND THUS UNDERPIN FOREST BIODIVERSITY [WILLSON_ETAL98]. MORE FUNDAMENTALLY, RIVER ECOSYSTEMS THEMSELVES REPRESENT A MAJOR NEXUS OF BIODIVERSITY, OFTEN SUPPORTING SPECIES OF HIGH ECONOMIC AND CONSERVATION VALUE. \NREPRESENTING A RADICAL CHANGE TO CATCHMENT LANDSCAPES, PLANTATION FORESTS RESULT IN MAJOR TRANSFORMATIONS TO THE ENERGY BASE AND HABITAT QUALITY OF LOTIC ECOSYSTEMS. AFFORESTATION OF PINE	SOARES CRAVEIRO ALVES MONTEIRO DOS SANTOS	MARTA SOFIA		UNIVERSIDADE DE AVEIRO (UA)		01-05-10	31-10-13	FCT	PORTUGAL
PTDC/AAC- AMB/105297/2008		AQUAWEB - ASSESSMENT OF RIVERS BIOLOGICAL QUALITY THROUGH A WEB PLATFORM	BIOASSESSMENT ; SOFTWARE ; PREDICTIVE MODELS	THE PRESENT PROJECT CONSISTS IN THE DEVELOPMENT OF A WEB PLATFORM (THE AQUAWEB) FOR THE ECOLOGICAL ASSESSMENT OF STREAMS. THE CENTRAL OBJECT OF AQUAWEB IS THE PREDICTIVE MODELLING, A STATISTICAL APPROACH FOR THE ANALYSIS OF AQUATIC COMMUNITIES CONDITION. AQUAWEB WILL ALSO CONTAIN ADDITIONAL TOOLS SUCH AS A GLOBAL DATABASE ON PORTUGUESE STREAMS OR ELECTRONIC TAXONOMIC KEYS WHICH CAN BE USED BY RESEARCHERS, TECHNICIANS AND ENVIRONMENTAL AUTHORITIES. \NTHE AQUAWEB WILL BE THE RESULT OF THE INTEGRATED WORK OF THE FRESHWATERS IMAR TEAM (UNIVERSITY OF COIMBRA), THE GEOBIOTEC TEAM (U. AVEIRO), THE BIOINFORMATICS TEAM OF IEETA (U. AVEIRO) AND WITH THE COLLABORATION OF THE INSTITUTO DA ÁGUA, I.P (GOVERNMENTAL INSTITUTION RESPONSIBLE FOR THE WATER MANAGEMENT). ADDITIONALLY, THE PROJECT WILL HAVE THE SUPPORT OF ONE INTERNATIONAL AND TWO NATIONAL CONSULTANTS (PROF. RICHARD NORRIS, UNIVERSITY OF CANBERRA, AUSTRALIA; AND PROF. RUI CORTES, U. TRÁS; CHEMICAL INFORMATION ON PORTUGUESE RIVERS WILL BE CONSTRUCTED BY IEETA'S TEAM WITH CLOSE COOPERATION OF IMAR AND THE INSTITUTO DA ÁGUA, I.P. (HOLDER OF THE LARGEST NATIONAL BIOLOGICAL AND ENVIRONMENTAL STREAMS DATA; 40 REFERENCE	DE MEDEIROS BRAZÃO LOPES FEIO	MARIA JOÃO		IMAR - INSTITUTO DO MAR (IMAR)		01-05-10	31-12-13	FCT	PORTUGAL
PTDC/AAC- AMB/104301/2008		IBERIAN TRANS;TWM); EXPERIENCES FROM THE PAST AND APPROACHES FOR THE FUTURE	TRANS;*-ENVIRONMENTAL ECONOMICS	AQUATIC, COASTAL AND MARINE ECOSYSTEMS ARE INCREASINGLY AFFECTED BY POINT AND DIFFUSE SOURCE WATER POLLUTION ORIGINATING FROM RURAL, URBAN AND INDUSTRIAL LAND USES IN RIVER BASINS, EVEN THOUGH THESE ECOSYSTEMS ARE OF VITAL IMPORTANCE FROM AN ENVIRONMENTAL, SOCIAL AS WELL AS AN ECONOMIC PERSPECTIVE. SUSTAINABLE DEVELOPMENT OF COASTAL REGIONS REQUIRES INTEGRATED CATCHMENT AND COASTAL ZONE MANAGEMENT (ICZM). THIS SPECIFICALLY ACKNOWLEDGING THE INHERENT RELATIONSHIP BETWEEN RIVER CATCHMENT LAND USE, WATER POLLUTION, ECOSYSTEM STATE AND ASSOCIATED ENVIRONMENTAL VALUES. \NIN THE DEVELOPMENT AND IMPLEMENTATION OF CATCHMENT MANAGEMENT PLANS FOR SUSTAINABLE DEVELOPMENT THROUGH WATER QUALITY IMPROVEMENT, WE NEED TO DIFFERENTIATE BETWEEN INTRA AND TRANS;OVERS FROM WATER QUALITY IMPROVEMENT SUCH THAT MARKET BEHAVIOUR COULD LEAD TO SUSTAINABLE, SOCIAL WELFARE MAXIMIZING OUTCOMES. \NIN THIS PROJECT WE PROPOSE TO DEVELOP AND APPLY AN INTEGRATED APPROACH THAT SUPPORTS DECISION MAKERS IN THE EXPLORATION OF SOCIAL WELFARE MAXIMIZING WATER QUALITY TARGETS AS WELL AS IN THE (COST-BOUNDARY RIVER BASINS IN LINKED CATCHMENT AND COASTAL ECOSYSTEMS. \NTHIS PROJECT SPECIFICALLY FOCUSES ON INTRA AND TRANS;BOUNDARY	CORNELIS ROEBELING	PETER		UNIVERSIDADE DE AVEIRO (UA)		01-05-10	31-10-13	FCT	PORTUGAL

PTDC/MAR/102030/2008		FREEZE - SUBMARINE FRESHWATER DISCHARGES: CHARACTERIZATION AND EVALUATION STUDY ON THEIR IMPACT ON THE ALGARVE COASTAL ECOSYSTEM	SUBMARINE GROUNDWATER DISCHARGE ; REMOTE SENSING ; COASTAL ECOLOGY	GROUNDWATER SUPPLIES ABOUT 70% OF THE FRESH WATER NEEDS IN PORTUGAL AND MOST OF THE AQUIFERS ARE HOSTED IN SANDSTONES AND LIMESTONES ALONG THE PORTUGUESE COASTLINE WHERE MORE THAN 60% OF THE WHOLE POPULATION DWELLS. IT IS ASSUMED IN VARIOUS CASES THAT THE AQUIFERS DISCHARGE TO THE SEA BASED ON THE HYDRAULIC HEADS, GEOLOGY AND GEOMETRY OF THE AQUIFERS, AND ON THE RESULTS OF NUMERICAL MODELS. HOWEVER, THE DIRECT QUANTIFICATION OF THIS DISCHARGE HAS NEVER BEEN CARRIED OUT OR MAPPED NOR THE EVALUATION OF ITS IMPACT ON COASTAL ECOSYSTEMS HAS BEEN ASSESSED.\NTHE IDENTIFICATION AND QUANTIFICATION OF GROUNDWATER SUBMARINE DISCHARGE IS CRUCIAL FOR WATER AND ECOSYSTEM MANAGEMENT. AT PRESENT, THE OVEREXPLOITATION OBSERVED IN THE MAIN DEEP AQUIFERS LOCATED IN THE BEIRA;RIBEIRA DE QUARTEIRA AQUIFER SYSTEM (FIG. 1). AS A MATTER OF FACT, THE EXISTENT HYDROLOGICAL DATA RELATIVE TO THIS AQUIFER SYSTEM LET US PRESUME THE EXISTENCE OF ADDITIONAL SGDS FURTHER OFFSHORE.\NONSHORE AND OFFSHORE GEOLOGICAL, GEOPHYSICAL, HYDROGEOLOGICAL AND OCEANOGRAPHIC STUDIES WILL BE PERFORMED PERMITTING TO IDENTIFY, DEFINE AND CONSTRAIN THE AQUIFER 3;PARAMETRIC	CARRARA	GABRIELA		INSTITUTO PORTUGUÊS DO MAR E DA ATMOSFERA, I. P. (IPMA)		01-01-10	30-06-13	FCT	PORTUGAL
PTDC/AGR-AAM/105432/2008		WEB-BASED IRRIGATION MODELS AND SERVICES. MODELS INTEGRATION	IRRIGATION MODELLING ; INFORMATION AND COMMUNICATION TECHNOLOGIES	INFORMATION AND COMMUNICATION TECHNOLOGIES (ICT) ARE NOW A PRIORITY IN VARIOUS AREAS OF PRODUCTION AND WATER USE. FOLLOWING THIS TREND, ICT IN THE IRRIGATION DOMAIN SHOULD FAVOR EFFICIENT WATER USE BY FARMERS AND WEB;ALONE VERSION OF A DSS SYSTEM FOR DESIGN OF SURFACE IRRIGATION SYSTEMS (SADREG), WELL PROVEN IN VARIOUS APPLICATIONS, TO DEVELOP A WEB;YIELD IMPACTS, WATER COSTS, AS WELL AS ON THE SYSTEM PERFORMANCE RELATED COSTS AND BENEFITS.\N4. THE DEVELOPED WEBSADREG WILL BE TESTED FOR BOTH DESIGN AND MANAGEMENT TOGETHER WITH WEBIM RELATIVE TO IRRIGATION SCHEDULING. TESTS WILL BE PERFORMED WITH NEARBY USERS IN BAIXO MONDEGO AND BY REMOTE USERS IN NORTHEAST SYRIA AND EGYPT. THE STAND;BASED SOFTWARE IS NOT ENOUGH FOR SUCCESSFUL USE BY FARMERS AND OTHER END;BASED MODELS PRESENTED AS WEB; (4) WHEN USERS APPLY THE DESCRIBED DECISION MAKING TOOLS, THEY MAY ACHIEVE BETTER FARMING PRACTICES WITH FAVORABLE IMPACTS ON INCOMES AND THE ENVIRONMENT. HOWEVER, DESPITE TESTING IN FARMERS FIELDS, THE LATTER REQUIRES FURTHER DEVELOPMENTS IN FARMERS ADVISING WHICH ARE NOT CONSIDERED IN THIS STUDY.	MONTEIRO GONÇALVES	JOSÉ MANUEL		INSTITUTO SUPERIOR DE AGRONOMIA (ISA/UTL)		01-01-10	30-06-13	FCT	PORTUGAL
PTDC/CTE-GIX/104035/2008		ENVIRONMENTAL CHANGES: FLUVIO; FMI 5000	ESTUARIES ; HOLOCENE ; GIS MODELLING	THE ESTUARINE ENVIRONMENTS ARE ONE OF THE MOST SENSITIVE AREAS IN THE CLIMATIC CHANGE FRAMEWORK AND SEA LIVE RISE SCENARIOS AS THEY ARE AN INTERFACE BETWEEN FLUVIAL AND MARINE INFLUENCES AND THEY SUPPORT NOT ONLY IMPORTANT WETLANDS BIODIVERSITY BUT ALSO STRATEGIC ECONOMIC ACTIVITIES. THESE ENVIRONMENTS RECORD MARINE SEA LEVEL CHANGES AS WELL AS HYDROGEOMORPHOLOGICAL AND LAND COVER CHANGES OF THE DRAINAGE BASINS, NATURAL AND MAN INDUCED.\NTHE GOAL OF THE PROJECT IS TO EVALUATE, IN DIFFERENT ESTUARINE ENVIRONMENTAL CONDITIONS, THE BALANCE BETWEEN FLUVIAL AND MARINE INFLUENCES, THE RESPONSES TO CLIMATIC EVENTS AND THE IMPACT OF LAND USE CHANGES. THE TEMPORAL WINDOW CHOSEN (5000YR) CONTAINS DIFFERENT TRENDS OF THE SEA LEVEL (RISE, STABILIZATION AND A RISING TREND OF 1.5MM/YR IN THE LAST CENTURY IN THE PORTUGUESE COAST;POLLEN;PALINOMORPHS AND THE FORAMINIFEROUS CONTENT. THE CHANGES IN THE SEDIMENTARY RECORD WILL ALLOW EVALUATE THE FLOOD EPISODES AND ESTABLISH THE SEQUENCE OF WET AND DRY PERIODS OVER THE MIDDLE AND UPPER HOLOCENE. THE IDENTIFICATION OF THE POLLEN AND NON;13C) IN MUDDY DEPOSIT SEDIMENTS WILL BE USED TO IDENTIFY SOURCES OF FINE;PENETRATING RADAR)	RIBEIRO RAMOS PEREIRA	ANA PAULA		DA UNIVERSIDADE DE LISBOA (IGOT)	INSTITUTO DE GEOGRAFIA E ORDENAMENTO DO TERRITÓRIO	01-02-10	31-07-13	FCT	PORTUGAL

PTDC/AAC-AMB/105061/2008		WATER, AQUATIC ECOSYSTEMS AND HUMAN ACTIVITY. AN INTEGRATED AND PARTICIPATORY FRAMEWORK TO DEFINE INNOVATIVE PROSPECTIVE STRATEGIES FOR WATER RESOURCES MANAGEMENT IN SOUTH PORTUGAL - PROWATERMAN	INTEGRATED MANAGEMENT OF WATER RESOURCES ; WATER QUALITY AND VULNERABILITY ; SUSTAINABILITY	THE SOUTH OF PORTUGAL IS A WATER-MAKING PROCESSES, AND GOVERNANCE OF NATURAL RESOURCES.	DE CÁRCOMO LOBO FERREIRA	JOÃO PAULO		LABORATÓRIO NACIONAL DE ENGENHARIA CIVIL (LNEC)		01-01-10	31-03-13	FCT	PORTUGAL
PTDC/AAC-AMB/102541/2008		CLIMATE CHANGE & FISH COMMUNITIES OF MEDITERRANEAN; INTEGRITY AND IMPLICATIONS ON THE ECOLOGICAL STATUS ASSESSMENT	FISH BIO; HYDROLOGICAL VARIATIONS	CLIMATE CHANGE IS EXPECTED TO MODIFY SIGNIFICANTLY THE AQUATIC ENVIRONMENTS IN THE SOUTH OF PORTUGAL. MORE CONCENTRATED AND VARIABLE PRECIPITATION IS EXPECTED AS WELL AS HIGHER SUMMER TEMPERATURES. THE TYPICAL HARSH CONDITIONS DURING THE SUMMER PERIOD WILL AGGRAVATE AND BECOME MORE STRESSFUL TO THE BIOTA. THE FISH FAUNA, WHICH PRESENT A HIGH PROPORTION OF ENDEMISMS AND HIGH SCIENTIFIC AND CONSERVATION VALUE, WILL HAVE TO ENDURE THESE ENVIRONMENTAL CONDITIONS. REPRODUCTION, RECRUITMENT, SURVIVAL OF THE DIFFERENT POPULATIONS WILL BE AFFECTED AND FISH COMMUNITIES ARE EXPECTED TO CHANGE, DECREASING THEIR INTEGRITY LEVEL. INFLOW CONDITIONS ARE AN EXTREMELY RELEVANT ISSUE TO THE LOTIC ECOSYSTEM STRUCTURE AND FUNCTION. AND THIS IS PARTICULARLY TRUE FOR THE MEDITERRANEAN; FISH MODEL FOR THE SOUTH OF PORTUGAL WHICH WILL MAKE POSSIBLE (I) PREDICT THE CONSEQUENCES OF THE CLIMATE CHANGES, AND PROPOSE MITIGATION MEASURES, (II) PREDICT THE CONSEQUENCES OF EACH FLOW-RUNOFF MODEL FOR ALENTEJO RIVER BASINS; FISH ASSEMBLAGE'S RESPONSE TO FLOW IN DIFFERENT LEVELS OF STREAM IMPAIRMENT; IMPROVEMENT OF THE FISH INDEX BY INCREASING THE INDEX ACCURACY IN EACH FLOW; PROPOSAL OF ACTIONS	PACHECO ILHÉU	MARIA ANTÓNIA		UNIVERSIDADE DE ÉVORA (UE)		03-05-10	02-12-13	FCT	PORTUGAL
PTDC/ECM/108128/2008		EXPERIMENTAL AND NUMERICAL MODELING OF AIR-WATER FLOWS IN HYDRAULIC STRUCTURES	AIR; HYDRAULIC STRUCTURES	IN A BROAD RANGE OF HYDRAULIC STRUCTURES, IN WASTEWATER DRAINAGE SYSTEMS OR IN TURBOFLOW TURBINES, THE AIR ENTRAINMENT AFFECTS THE VELOCITY FIELD, AND HENCE, THE TURBINE EFFICIENCY. DUE TO THE COMPLEXITY INHERENT TO THE ANALYTICAL AND NUMERICAL STUDY OF HIGHLY TURBULENT AIR; FLUSHING PITOT TUBES ALONG WITH ELECTRICAL CONDUCTIVITY PROBES (CHANSON ET AL 1997, 2004, MATOS ET AL, 2002). HOWEVER, RECENT BREAKTHROUGHS ON SOFTWARE AND HARDWARE CAPABILITIES ARE OPENING A PATH FOR NUMERICAL RESEARCH COMPLEMENTARY TO THE TRADITIONAL EXPERIMENTAL APPROACH, PROVIDING ADDITIONAL OPTIONS AND POTENTIALITIES TO THE SCIENTIFIC AND TECHNICAL COMMUNITY IN THE DESIGN OF THESE STRUCTURES (BOMBARDELLI ET AL., 2003, 2007). RESEARCH IN THIS FIELD HAS BEEN SUPERVISED OR CARRIED OUT BY VARIOUS MEMBERS OF THIS PROJECT PROPOSAL SINCE THE 90S, IN THE FRAMEWORK OF RESEARCH PROJECTS FUNDED BY FCT OR BY INAG (NATIONAL WATER INSTITUTION). THE INVESTIGATIONS UNDERTAKEN SO FAR, MOSTLY EXPERIMENTAL, HAVE EMBRACED THE STUDY OF THE SKIMMING FLOW IN STEPPED AND LABYRINTH SPILLWAYS IN FACILITIES ASSEMBLED AT THE LABORATÓRIO NACIONAL DE ENGENHARIA CIVIL (LNEC) (MATOS, 1999, MEIRELES,	GONÇALVES MATOS	JORGE		INSTITUTO SUPERIOR TÉCNICO (IST/UTL)		01-02-10	31-07-13	FCT	PORTUGAL

PTDC/MAR/101906/2008	MERCOAST; ECONOMICS IMPLICATIONS	MERCURY CONTAMINATION ;ECONOMICS IMPLICATIONS	ESTUARIES ARE A REPOSITORY FOR CONTAMINANTS THAT ARE EITHER DISCHARGED DIRECTLY INTO THESE SINGLE ENVIRONMENTS OR DELIVERED BY THE RIVERS AND STREAMS THAT FEED THEM. THE CONTAMINATION OF ESTUARINE AND COASTAL WATERS, SOME OF THE MOST PRODUCTIVE AND ECONOMICALLY IMPORTANT ECOSYSTEMS, BY METALS AND ORGANOMETALS DERIVED FROM ANTHROPOGENIC ACTIVITIES HAS LONG BEEN A CONCERN FOR RESEARCHERS, MANAGERS AND POLICY MAKERS [1]. \NTHE ACCUMULATION PROCESSES OF THESE CONTAMINANTS IN AQUATIC ORGANISMS WILL DETERMINE, IN PART, THE ENHANCEMENT OF THEIR ADVERSE EFFECTS ON THE BIOTA [2]. MERCURY CONSTITUTES ONE OF THE MOST HAZARDOUS CONTAMINANTS THAT MAY BE PRESENT IN AQUATIC ENVIRONMENTS, BEING WIDELY CONSIDERED TO BE AMONG THE HIGHEST PRIORITY ENVIRONMENTAL POLLUTANTS IN THE SCOPE OF THE EUROPEAN WATER FRAMEWORK DIRECTIVE (WFD) AND ON THE GLOBAL SCALE. ALTHOUGH, THE RESTRICTIONS ON ANTHROPOGENIC SOURCES OF MERCURY, HISTORICALLY CONTAMINATED SEDIMENTS MAY STILL CONSTITUTE A SOURCE OF MERCURY TO THE AQUATIC ENVIRONMENT, BECOMING AVAILABLE TO AQUATIC ORGANISMS [3]. MERCURY IS ACCUMULATED BY MANY AQUATIC ORGANISMS, TRANSFERRED AND BIOMAGNIFIED ALONG THE TROPHIC CHAIN, EVENTUALLY FINDING ITS WAY TO	GONÇALVES MARQUES CARDOSO TEIXEIRA	PATRICIA		IMAR - INSTITUTO DO MAR (IMAR)		01-05-10	31-10-13	FCT	PORTUGAL
PTDC/MAR/102748/2008	PROFLUX - PROCESSES AND FLUXES OF MERCURY AND METHYLMERCURY IN A CONTAMINATED COASTAL ECOSYSTEM (TAGUS ESTUARY, PORTUGAL)	MERCURY ; ESTUARINE BIOGEOCHEMISTRY ; TAGUS ESTUARY	MERCURY (HG) IS A GLOBAL POLLUTANT. ALTHOUGH ANTHROPOGENIC HG EMISSIONS HAVE BEEN REDUCED BY HALF IN THE LAST DECADES, ONGOING CONTAMINATION IS STILL A WORLDWIDE PROBLEM AND ELEVATED HG CONCENTRATIONS OCCUR IN MANY PARTS OF THE WORLD. AS A TRANS;USE EQUIPMENT WILL BE USED TO MEASURE HG SPECIES IN AIR AND THAT COUPLED WITH MEASUREMENTS OF CO ₂ , CO, CH ₄ , O ₃ WILL PERMIT TO RELATE HG SPECIATION WITH GREENHOUSE GASES. ANOTHER IMPORTANT INNOVATIVE TASK OF THE PROJECT IS THE QUANTIFICATION OF HG WET AND DRY DEPOSITION IN THE TAGUS ESTUARY AND SURROUNDING AREAS. IDENTIFICATION OF DEMETHYLATION PROCESSES IN SEDIMENTS AND OF THE RESISTANT BACTERIA MAY PROVIDE IMPORTANT SOLUTIONS TO FUTURE REMEDIATION PROCESSES OF HOTSPOT AREAS. OVERALL, RESULTS OBTAINED IN THE PROJECT WILL CONTRIBUTE TO A BETTER UNDERSTANDING OF REGIONAL HG CYCLING AND WILL ELUCIDATE ITS CONTRIBUTION TO THE GLOBAL HG CYCLE.	VIEIRA CANÁRIO	JOÃO ALFREDO		INSTITUTO PORTUGUÊS DO MAR E DA ATMOSFERA, I. P. (IPMA)		01-03-10	27-08-13	FCT	PORTUGAL
PTDC/AAC-AMB/100635/2008	WUSSIAAME- WATER USE, SURVIVAL STRATEGIES AND IMPACT OF AGROCHEMICALS ON WATER RESOURCES IN AGRICULTURAL MEDITERRANEAN ECOSYSTEMS	WATER USE ; AGROCHEMICALS CONTAMINATION ; WATER STRESS	PORTUGAL IS ONE OF THE EUROPEAN COUNTRIES WITH HIGHER CONTRASTS BETWEEN WATER AVAILABILITY IN WET/COLD AND DRY/WARM SEASONS. DEEP ROOTING, NECESSARY FOR PLANT SURVIVAL DURING SUMMER, OCCURS BECAUSE OF THE HIGH AMOUNTS OF WATER STORED IN DEEP SOIL LAYERS DURING WINTER. HYDRAULIC REDISTRIBUTION – IN THIS CONTEXT, MOSTLY HYDRAULIC LIFT – HELPS PLANTS TO BECOME RELATIVELY INDEPENDENT FROM RAINY EVENTS [25]. AS A RESULT, THE PLANTS KEEP THEIR SUPERFICIAL ROOT SYSTEM ALIVE AND THE UPTAKE OF NUTRIENTS FROM UPPER DRY SOIL LAYERS CONTINUES. HYDRAULIC LIFT IN LATE SUMMER, FROM DEEP TO SUPERFICIAL ROOTS, HAS BEEN IDENTIFIED IN CENTRE AND SOUTH PORTUGAL FOR QUERCUS SUBER, BY THIS TEAM [21] AND OTHERS [17]. OTHER MECHANISMS MAY CONTRIBUTE TO PLANT SURVIVAL IN WATER SCARCITY CONDITIONS [25] [10], SUCH AS THOSE REDUCING TRANSPIRATION . COMBINED STRATEGIES, INCLUDING THE ABILITY TO INCREASE ROOT WATER UPTAKE (OFFER), TO REDUCE WATER LOSSES (DEMAND) (OR TO HANDLE DEHYDRATION), REQUIRE AN INTEGRATED ANALYSIS.\NTHE MEDITERRANEAN ECOSYSTEMS WITH NATURAL VEGETATION, EVERGREEN OAK AND AGRICULTURAL WOODY STANDS TRADITIONALLY NON IRRIGATED, IMPORTANT FOR THE ECOLOGICAL AND ECONOMIC SUSTAINABILITY, DESERVE	FREIRE RIBEIRO FERREIRA	MARIA ISABEL		INSTITUTO SUPERIOR DE AGRONOMIA (ISA/UTL)		01-02-10	30-10-13	FCT	PORTUGAL

PTDC/AAC-AMB/102634/2008		MONITORING AND WARNING SYSTEMS IN URBAN DRAINAGE SEWER INFRASTRUCTURES - SIMAI PROJECT	MONITORING ; MODELLING ; URBAN WASTEWATER SYSTEMS	THE RECENT DEVELOPMENT OF URBAN CENTRES LED TO THE INCREMENT OF IMPERVIOUS AREAS AND TO THE INTENSIFICATION OF WATER UTILIZATION THUS CONTRIBUTING TO LARGER WASTE AND STORM WATER VOLUMES FLOWING INTO URBAN DRAINAGE SYSTEMS. ADDITIONALLY, IN MANY CASES THE RECENT PERIPHERAL URBAN AREAS DRAIN TO OLD SEWER SYSTEMS, WHICH CAPACITY IS OFTEN NOT ENOUGH TO DEAL WITH THESE NEW SOLICITATIONS. THEREFORE, RISKS OF FLOODING ARE MORE SEVERE AND THE FREQUENCY AND MAGNITUDE OF COMBINED SEWER OVERFLOWS DIRECTLY DISCHARGING INTO RECEIVING WATER IS ALSO ENLARGED, WITH REPERCUSSIONS IN TERMS OF SAFETY, PUBLIC HEALTH AND RECEIVING WATERS QUALITY. THESE PROBLEMS ARE PARTICULARLY IMPORTANT IN PORTUGAL SINCE TOURISM PLAYS AN IMPORTANT ROLE ON THE COUNTRY'S ECONOMY. RECENT EXAMPLES ARE THE IMPACTS OF RECENT FLOODINGS (FEBRUARY AND SEPTEMBER 2008) IN ALCÂNTARA BUILDINGS (LISBON) AND ALBUFEIRA DOWNTOWN WITH MILLION EUROS DAMAGES AND RISKS OF HUMAN LOSSES. \NIN THE EUROPEAN UNION, THE PROTECTION OF RECEIVING WATERS IS A MAJOR CONCERN ALREADY REFLECTED IN RECENT LEGISLATION BASED ON ENVIRONMENTAL RISK CONTROL. IN PARTICULAR, THE NEW BATHING WATER DIRECTIVE PROMOTES THE USE OF RECENT TECHNOLOGY THAT ALLOWS THE PUBLIC TO BE EFFICIENTLY INFORMED	SANTOS FERREIRA	FILIPA MARIA		INSTITUTO SUPERIOR TÉCNICO (IST/UTL)		01-02-10	30-11-13	FCT	PORTUGAL
PTDC/EEA-CRO/102102/2008		AQUANET - DECENTRALISED AND RECONFIGURABLE CONTROL FOR WATER DELIVERY MULTIPURPOSE CANAL SYSTEMS	CONTROL ; INTELLIGENT AGENTS ; FAULT TOLERANT AND HYBRID SYSTEMS	THE SCARCITY OF FRESH WATER IS BECOMING ONE OF THE MOST IMPORTANT ENVIRONMENT CONSTRAINTS WITH A MAJOR IMPACT ON ECONOMIC DEVELOPMENT AND THE QUALITY OF LIFE IN THE SOUTH OF EUROPE, INCLUDING PORTUGAL. THE AQUANET PROJECT AIMS AT CONTRIBUTING TO MITIGATE THESE PROBLEMS BY THE DEVELOPMENT OF ADVANCED CONTROL METHODOLOGIES FOR OPTIMIZING THE MANAGEMENT OF WATER CONVEYANCE AND DELIVERY IN MULTIPURPOSE OPEN;OPTIMUM SOLUTION WITH FAULT TOLERANT CAPABILITY.\NTHE SYSTEMS ARE LARGE, SPATIALLY DISTRIBUTED DYNAMIC PLANTS. USUALLY, THEY FORM BRANCHED NETWORKS WHERE THE BASIS FOR MODELLING EACH BRANCH ARE THE SAINT;ID AND UNINOVA), FAULT DETECTION AND ISOLATION AS WELL AS FAULT TOLERANT CONTROL. TECHNIQUES USING NEURO;COORDINATION CONTROL ALGORITHMS FOR DISTRIBUTED SYSTEMS.	LAGE DE MIRANDA LEMOS	JOÃO MANUEL		INSTITUTO DE ENGENHARIA DE SISTEMAS E COMPUTADORE S, INVESTIGAÇÃO E DESENVOLVIMENTO EM LISBOA (INESC ID/INESC/IST/UTL)		01-01-10	31-12-12	FCT	PORTUGAL
PTDC/AAC-CLI/100953/2008		ADAPTARIA: CLIMATE CHANGE MODELLING ON RIA DE AVEIRO LITTORAL - ADAPTATION STRATEGY FOR COASTAL AND FLUVIAL FLOODING	COASTAL AND FLUVIAL FLOODING ; ADAPTATION STRATEGIES ; NUMERICAL MODELLING	FLOODING IN COASTAL AREAS (RIVERS, ESTUARIES AND THE SEA) IS THE MOST WIDELY DISTRIBUTED OF ALL NATURAL HAZARDS ACROSS EUROPE, THREATENING MANY MILLIONS OF PEOPLE. IN RECENT YEARS EUROPE HAS SUFFERED OVER 100 MAJOR DAMAGING FLOODS. SINCE 1998 THEY HAVE CAUSED OVER 700 FATALITIES, THE DISPLACEMENT OF AN ESTIMATED HALF A MILLION PEOPLE AND AT LEAST 25 BILLION EURO IN INSURED ECONOMIC LOSSES (EUROPEAN ENVIRONMENT AGENCY). ON 2007 THE EUROPEAN UNION RECOGNIZED THE IMPORTANCE OF THIS HAZARD AND A NEW EUROPEAN DIRECTIVE (2007/60/EC, EC/EUROPA.EU/ENVIRONMENT/WATER/FLOOD_RISK/) ON THE ASSESSMENT AND MANAGEMENT OF FLOOD RISK WAS INTRODUCED AND SETS OUT HOW MEMBER STATES MUST PLAN FOR THE MANAGEMENT OF FLOOD RISK.\NTHE RIA DE AVEIRO LITTORAL IS CONSIDERED A FLOOD;2100 PERIODS WILL BE PREPARED AND ANALYZED, WITH SPECIAL EMPHASIS ON THE IPCC A2 SRES SCENARIO. THE WIND DATA WILL BE USED TO FORCE THE WAVE GENERATION AND PROPAGATION MODELS WAVEWATCH3 AND SIWAN, WHICH WILL PRODUCE WAVE CLIMATOLOGY FOR THE AVEIRO LITTORAL. FRESHWATER DISCHARGE SCENARIOS WILL BE DETERMINED FOR THE VOUGA RIVER FROM THE RAINFALL. ALL THESE SPECIFIC RESULTS AND THE IPCC PREDICTIONS FOR THE MEAN SEA LEVEL EVOLUTION WILL BE USED TO FORCE THE	SEQUEIRA SILVA DIAS	JOÃO MIGUEL		UNIVERSIDADE DE AVEIRO (UA)		01-06-10	30-11-13	FCT	PORTUGAL

PTDC/ECM/108261/2008		MECHANISMS OF LOOSE DEPOSITS MICROBIOTA EFFECTS ON THE QUALITY OF CHLORINATED DISTRIBUTION SYSTEMS WATER	LOOSE DEPOSITS ; MICROORGANISMS ; WATER QUALITY AND SAFETY	UNWANTED LOOSE DEPOSITS (LD) OCCUR IN DRINKING WATER DISTRIBUTION SYSTEMS (DWDS) AT AMOUNTS THAT DIFFER FROM NETWORK TO NETWORK AND AMONG DWDS SITES, ACCORDINGLY TO THEIR ORIGIN (E.G., SOURCE WATER, TREATMENT PLANT, NETWORK WATER, PIPE MATERIAL AND BIOFILM), GENESIS (E.G., DEPOSITION, PRECIPITATION, CORROSION, EROSION, AGGREGATION), AND NETWORK FLOW REGIMES, PLUS MAINTENANCE, CLEANING PRACTICES AND WATER CHARACTERISTICS. \NLIKE DWDS PIPE INNER, DESTRUCTIVE METHODS WILL BE USED TO MONITOR BIOFILM DEVELOPMENT.	GOMES FERREIRA MENAIA	JOSÉ ANTÓNIO		LABORATÓRIO NACIONAL DE ENGENHARIA CIVIL (LNEC)			01-03-10	31-05-13	FCT	PORTUGAL
PTDC/ECM/105446/2008		EXPERIMENTAL AND NUMERICAL SET; DRAINAGE (SEWER/SURFACE) CONCEPT IN AN URBAN FLOODING FRAMEWORK	URBAN FLOODING ; EXPERIMENTAL WORK	URBAN DRAINAGE IS THE MOST EXPENSIVE TYPE OF INFRASTRUCTURE IN CITIES. A FREQUENTLY ASKED QUESTION IS HOW TO INCORPORATE CLIMATE CHANGE IMPACTS INTO THE DESIGN AND ANALYSIS OF URBAN DRAINAGE. THE ANTICIPATED CHANGES IN DESIGN RAIN INTENSITIES IN PORTUGAL MAY BE SIGNIFICANT AND SHOULD BE TAKEN INTO ACCOUNT. THE IPCC REPORT ACKNOWLEDGES THAT THE FREQUENCY OF THE FLOOD EVENTS IS INCREASING, IN RESPONSE, THE EU DIRECTIVE 2007/60 SETS THE PRODUCTION OF FLOOD RISK MAPS A PRIORITY TO EU MEMBERS. WITH THE INCREASE OF SEVERE STORM EVENTS, THE FRAGILITY OF OUR CURRENT DESIGN METHODS OF "SUSTAINABLE URBAN DRAINAGE SYSTEMS; "DUAL DRAINAGE VALIDATION". \NIT IS OUR BELIEF THAT THE PROJECT OUTPUTS ARE OF INTEREST TO THE SCIENTIFIC COMMUNITY AND WILL BE DISSEMINATED IN UPCOMING INTERNATIONAL CONFERENCES SUCH AS: NOVATECH 2010, ICUD 2011 AND PS 2012 (HELD IN PORTUGAL). THE PUBLICATION OF AT LEAST 3 ARTICLES IN SCIENTIFIC JOURNALS IS EXPECTED.	MENDES PEDROSO DE LIMA	JOÃO LUÍS		UNIVERSIDADE DE COIMBRA (UC)			01-05-10	30-10-13	FCT	PORTUGAL
PTDC/AAC-AMB/105411/2008		FRAMEFFECTIVE ;EFFECTIVELY INTEGRATED IN A PREDICTIVE MODEL APPROACH FOR RIVERS IN COMPLIANCE WITH THE WATER FRAMEWORK DIRECTIVE?	WATER FRAMEWORK DIRECTIVE ; BIOASSAYS ; LOTIC SYSTEMS	THE WATER FRAMEWORK DIRECTIVE (WFD) IS LIKELY TO BE THE MOST IMPORTANT PIECE OF WATER LEGISLATION IN EUROPE FOR MANY YEARS TO COME. TO ACHIEVE AND ASSESS THE "GOOD ECOLOGICAL STATUS" OF EU WATERS, THE WFD SUGGESTS A MULTIDISCIPLINARY AND HOLISTIC APPROACH TO WATER MANAGEMENT AND REQUIRES THE ESTABLISHMENT OF CHEMICAL, HYDROMORPHOLOGICAL AND BIOLOGICAL QUALITY OBJECTIVES FOR SURFACE WATERS AS WELL AS THE IMPLEMENTATION OF ASSESSMENT METHODS TO FULFIL THE GOALS OF EFFECTIVE MONITORING OF ALL QUALITY ELEMENTS [1,2]. THE WFD SUCCESSFUL IMPLEMENTATION POSES NEW CHALLENGES FOR THE SCIENTIFIC COMMUNITY IN PROVIDING A SET OF LOW;24].	MOREIRA DOS SANTOS	MATILDE		IMAR - INSTITUTO DO MAR (IMAR)			01-06-10	31-12-13	FCT	PORTUGAL
PTDC/AAC-AMB/104639/2008		MODELLING SCENARIOS FOR AQUIFER EXPLOITATION IN COASTAL AREAS: EFFECTS ON BIODIVERSITY OF LAGOONS AND RESPECTIVE STREAM SYSTEMS AS GROUNDWATER; GROUNDSCENE	GROUNDWATER ; BIODIVERSITY ; COASTAL AREAS	THE PROBLEM: GROUNDWATER (GW) EXPLOITATION MAY THREAT WATER RESOURCES IN COASTAL AREAS [1]. THE EUROPEAN CLIMATE HAS BECOME WARMER AND CHARACTERIZED BY A HIGHER FREQUENCY OF EXTREME WEATHER EVENTS IN THE LAST 40 YEARS AND THE REVERSION OF THIS TREND IS NOT EXPECTED IN THE NEAR FUTURE [2]. EXTREME EVENTS AFFECT WATER MASS BALANCES AND CONSEQUENTLY HAVE IMPACTS ON BIODIVERSITY [3]. ADDITIONALLY, GW MAY BE INCREASINGLY USED IN AREAS AFFECTED BY THE INTENSIFICATION OF DROUGHTS, THREATENING THE SUSTAINABILITY OF GROUNDWATER DEPENDENT ECOSYSTEMS (GDES) AND ECOSYSTEM USES. THE WATER FRAMEWORK DIRECTIVE (WFD) ESTABLISHED PRINCIPLES OF SUSTAINABLE WATER USE AND ONE OF THE MAIN CONCERNS IS THE NEED TO CONSIDER THE VULNERABILITY OF COASTAL AQUATIC ECOSYSTEMS AND TO CHARACTERIZE THEIR ECOLOGICAL STATUS. MOREOVER, THE WFD EMPHASIZES THAT THE ECOLOGICAL QUALITY OF AQUATIC SURFACE ECOSYSTEMS MIGHT BE DEPENDENT ON GROUNDWATER. IN GW DEPENDENT COASTAL LAGOONS THE ASSESSMENT OF ECOLOGICAL STATUS IS EVEN MORE COMPLEX BECAUSE OF GW;ALENTEJO AND ICNB, RESPECTIVELY). \NINNOVATION: NEW CONTRIBUTIONS OF THIS PROPOSAL ARE (I) THE UNDERSTANDING OF THE ROLE OF GW DEPENDENT STREAMS AS BIODIVERSITY DONOR	QUINTAIS CANCELA DA FONSECA	LUÍS MANUEL		FUNDAÇÃO DA FACULDADE DE CIÊNCIAS (FFC/FC/UL)			04-04-10	03-10-13	FCT	PORTUGAL

PTDC/AGR-AAM/102042/2008		INTEGRATED TREATMENT OF CORK PROCESSING WASTEWATERS FOR POTENTIAL REUSE	CORK PROCESSING WASTEWATER ; OZONATION ; CONSTRUCTED WETLAND	CORK OAK FOREST IS LOCATED IN WESTERN EUROPE AND NORTH AFRICA REGION;UP OF THE CW SYSTEM: SELECTION OF PLANTS SPECIES, FILLING SUBSTRATE, ETC. (TASK 2),\NTHE LITERATURE REVIEW IDENTIFIED VERY LIMITED DATA INVOLVING CORK WASTEWATER TREATMENT INTEGRATED SOLUTIONS, NONE OF THEM INCLUDES THE CW POSSIBILITY, AND UNTIL NOW ANY STUDY TESTED THE POTENTIAL FOR WATER REUSED. THE PROJECT IS RESUMED IN ATTACHED FILE "PROJECT_RESUME.PDF".	CANIÇO GOMES	ARLINDO		UNIVERSIDADE DA BEIRA INTERIOR (UBI)		01-05-10	31-10-13	FCT	PORTUGAL
PTDC/AAC-AMB/100092/2008		MORFEED - MORPHODYNAMIC FEEDBACK OF ESTUARINE MARGINS TO CLIMATE CHANGE	CLIMATE CHANGE ; INTEGRATED ANALYSIS ; ANTHROPOGENIC INTERVENTION	ESTUARINE MARGINS CONSTITUTE THE INTERFACE BETWEEN UPLAND AND THE DEEPER PORTIONS OF THE ESTUARY. THEIR MORPHOLOGY RESULTS FROM THE INTERACTION OF SEVERAL PHYSICAL PROCESSES WITH DIFFERENT SEDIMENT SUPPORTS. WITH A VARIETY OF FORMS (BEACHES, DUNES, MUDDY TIDAL FLATS AND SALT MARSHES), THESE ENVIRONMENTS PRESERVE THE INLAND FROM EXTREME STORM EVENTS, ARE VALUABLE ECOLOGICAL AREAS AND CAN ACT AS WATER QUALITY NATURAL FILTERS[1]. DUE TO THEIR NATURAL RESOURCES AND SHELTERED CONDITIONS FROM OFFSHORE WAVE ENERGY, ESTUARINE MARGINS HAVE LONG ATTRACTED HUMAN OCCUPATION, BEING FREQUENTLY DENSELY POPULATED AREAS. PROJECTIONS PRESENTED BY THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (IPCC), INDICATE THAT COASTAL WETLANDS (E.G., SALT MARSHES) ARE AMONG THE SYSTEMS MOST LIKELY TO BE AFFECTED BY FUTURE CLIMATE CHANGE[2]. THE POSSIBLE IMPACTS IN THE CONTROLLING ENVIRONMENTAL FACTORS OF ESTUARINE MARGINS (ACCELERATION IN SEA LEVEL RISE, INCREASING STORMINESS, ALTERATIONS IN WIND AND PRECIPITATION REGIMES) AND IN SEDIMENT BUDGET WILL AFFECT DIFFERENTLY EACH MORPHO;ECONOMIC SCENARIOS FOR ESTUARINE MARGINS DEVELOPMENT. THE IMPACT OF THESE SCENARIOS IN THE HYDRODYNAMIC CONTROLLING FACTORS, SEDIMENT BUDGET AND, ULTIMATELY, IN THE	DE SANTOS FREIRE	PAULA MARIA		LABORATÓRIO NACIONAL DE ENGENHARIA CIVIL (LNEC)		01-04-10	30-09-13	FCT	PORTUGAL
ERA-CIRCLE/0003/2007		INTEGRATED WATER MANAGEMENT IN COASTAL DRAINAGE BASINS	NOT AVAILABLE.	OUR RESEARCH PROJECT IS FOCUSED ON GROUNDWATER AND SURFACE WATER MODELLING AND ON INTEGRATED MANAGEMENT OF WATER RESOURCES WITH METHODOLOGIES THAT CONSIDER: THE EFFECTS OF LANDUSE CHANGE AND CROPS ON THE PARAMETERS OF THE WATER BUDGET; CHANGE OF COASTAL ECOSYSTEMS; INTEGRATED MANAGEMENT WITH STAKEHOLDERSINVOLVEMENT AND THE DEVELOPMENT OF DECISION SUPPORT SYSTEMS (DSS) BASED ON GIS DATABASES AND MAKING USE OF DATA MINING TECHNIQUES. THE RESULTS OF THIS PROJECT CAN BE APPLIED BY LOCAL ADMINISTRATOR IN MEDITERRANEAN COUNTRIES TO ADAPT WATER MANAGEMENT STRATEGIES IN COASTAL ZONES TO INCREASING DROUGHT AND DESERTIFICATION CLIMATE CONDITIONS.	LOPES CAVALHEIRO PONCE DENTINHO	TOMAZ		UNIVERSIDADE DOS AÇORES (UA)		01-12-08	31-07-11	FCT	PORTUGAL
ERA-CIRCLE/0002/2007		CLIMWAT - ASSESSING AND MANAGING THE IMPACT OF CLIMATE CHANGE ON COASTAL GROUNDWATER RESSOURCES AND DEPENDENT ECOSYSTEMS	NOT AVAILABLE.		TAVARES RIBEIRO	LUÍS FILIPE		INSTITUTO SUPERIOR TÉCNICO (IST/UTL)		01-03-09	30-09-11	FCT	PORTUGAL
ERA-CIRCLE/0001/2007		AQUIMED - PARTICIPATORY DESIGN OF ADAPTATIVE GROUNDWATER MANAGEMENT STRATEGIES IN INSTRUMENTS IN MEDITERRANEAN COASTAL WATER SCARCE AREAS AS A RESPONSE TO CLIMETE CHANGE	NOT AVAILABLE.		BENTO	SOFIA		CENTRO DE INVESTIGAÇÃO EM SOCIOLOGIA ECONÓMICA E DAS ORGANIZAÇÕES (SOCIOUS/ISEG/UTL)		15-10-08	30-06-11	FCT	PORTUGAL

PTDC/AMB/64441/2006	AQUASENSE-DEVELOPMENT OF MINIATURISED FLOW TECHNIQUES FOR INVESTIGATING DYNAMIC ENVIRONMENTAL SYSTEMS: RIVER, ESTUARINE AND COASTAL WATERS	AUTOMATED FLOW TECHNIQUES ; DYNAMIC ENVIRONMENTAL SYSTEMS ; RIVER, ESTUARINE AND COASTAL WATERS	IN-PUMPING FLOW ANALYSIS, ASSOCIATED WITH FIBER OPTICS SPECTROMETRIC DEVICES, WILL BE EXPLORED TO ACHIEVE MINIATURISED SYSTEMS WITH MICRO/NANO AMOUNTS OF CONSUMED REAGENTS AND PRODUCED EFFLUENTS. MONITORING CAPABILITIES FOR ON: 2) DEVELOPMENT OF A NUTRIENT SENSOR FOR SURFACE WATERS: INORGANIC CARBON MONITOR; 5) DEVELOPMENT OF AN AUTOMATED METHOD FOR QUANTIFICATION OF CHLOROPHYLL PIGMENTS IN MARINE AND FRESHWATER ALGAE FOR THE ASSESSMENT OF PRIMARY ACTIVITY OF SURFACE WATERS; 7) USE OF THE SENSORS IN THE FIELD (DOURO RIVER ESTUARY).	SANTOS SILVA RANGEL	ANTÓNIO OSMARO		UNIVERSIDADE CATÓLICA PORTUGUESA (UCP)			01-01-08	31-12-10	FCT	PORTUGAL
PTDC/MAR/64627/2006	SYSTEM DYNAMIC RESPONSE TO AN AMPLE ARTIFICIAL RE-ESTABLISHMENT OF THE UPSTREAM CONNECTION BETWEEN THE TWO ARMS OF THE MONDEGO ESTUARY (PORTUGAL): IMPLICATIONS FOR RECOVERY, ECOLOGICAL QUALITY STATUS, AND MANAGEMENT (RECONNECT)	EUTROPHIC ESTUARY ; RECOVERY/RESILIENCE ; ECOLOGICAL QUALITY STATUS	SINCE THE 1960S, THE MONDEGO CATCHMENT AREA UNDERWENT A LARGE SCALE ARTIFICIAL MORPHOLOGICAL MODIFICATION AIMING AT: A) CONTROL FLOODS, B) IMPROVE THE USES OF WATER RESOURCES, NAMELY REGARDING POPULATIONS, INDUSTRIES, AND AGRICULTURE, AND C) PRODUCE ELECTRIC POWER. THIS CAUSED A STRONG ANTHROPOGENIC IMPACT IN TO THE SYSTEM, MODIFYING THE RIVERBED TOPOGRAPHY AND CHANGING THE SYSTEM HYDRODYNAMICS. \NDRAINAGE FROM THE ENTIRE CATCHMENT AREA CONVERGES IN THE ESTUARY, REPRESENTING A HIGH ANTHROPOGENIC LOADING OF NUTRIENTS. BESIDES, THE ESTUARY SUPPORTS INDUSTRIAL ACTIVITIES, SALT; B) THE COMMUNICATION BETWEEN THE NORTH AND SOUTH ARMS WAS RE;ECONOMIC REPERCUSSIONS FOR THE CENTRAL REGION OF PORTUGAL.	SOUSA MARQUES	JOÃO CARLOS		IMAR - INSTITUTO DO MAR (IMAR)			01-09-08	31-03-12	FCT	PORTUGAL
PTDC/ECM/64821/2006	INTEGRATED RISK MANAGEMENT OF PUBLIC INFRASTRUCTURES: THE WATER SUPPLY SYSTEMS	INTEGRATED MANAGEMENT ;AID MODELS	WATER SUPPLY SYSTEMS ARE MAJOR ASSETS AND ESSENTIAL INFRASTRUCTURES IN EVERY MODERN SOCIETY. THESE INFRASTRUCTURES ARE EXPOSED TO DIFFERENT KINDS OF NATURAL RISKS LIKE STORMS, EARTHQUAKES, FLOOD, WINDS, DROUGHTS, LANDSLIDES AND VOLCANIC ACTIVITY, AS WELL AS ACCIDENTS DUE TO UNEXPECTED TECHNOLOGICAL FAILURES OF SOME KEY ELEMENTS OR PROVOKED BY TERRORIST ATTACKS ACTS. THEREFORE THEY MUST BE CONSIDERED CRITICAL INFRASTRUCTURES WHICH VULNERABILITY SHOULD BE A MATTER OF CONCERN. \NTHE DISRUPTION OF SUCH SYSTEMS, BESIDES THE EFFECTS THROUGH THE DIRECT CONSUMERS, CAN PERTURB THE PERFORMANCE OF OTHER INFRASTRUCTURES, AS VITAL AS HOSPITALS OR OTHER EMERGENCY SYSTEMS, AND CAN INDUCE ECONOMIC LOSSES IN SYSTEMS LIKE INDUSTRIAL FACILITIES OR GENERATION AND DISTRIBUTION OF ELECTRIC POWER. DECISION;AID SYSTEM WILL BE EVALUATED THROUGH THE APPLICATION TO CASE STUDIES PROVIDED BY THE "PORTUGUESE WATER ADMINISTRATION".	MORAIS DE OLIVEIRA CUNHA	MARIA DA CONCEIÇÃO		IMAR - INSTITUTO DO MAR (IMAR)			01-01-08	30-09-11	FCT	PORTUGAL
PTDC/AMB/65702/2006	BIOLOGICAL REMOVAL OF XENOBIOTICS FROM WASTEWATER TREATMENT SYSTEMS	XENOBIOTIC COMPOUNDS ; PHARMACEUTICALS AND PERSONAL CARE PRODUCTS	XENOBIOTICS ARE MAN;PRODUCTS ARE POTENTIALLY MORE HARMFUL THAN THE ORIGINAL COMPOUND, THUS IT IS VERY IMPORTANT THAT COMPLETE POLLUTANT REMOVAL IS ACHIEVED.\NTHE OXIDATION PROCESSES TO BE TESTED IN THIS TASK OF THE PROJECT INCLUDE: OZONE, ULTRAVIOLET (UV) RADIATION AND ADVANCED OXIDATION PROCESSES, WHICH INVOLVE THE GENERATION OF HYDROXYL RADICALS BY COMBINING CLASSICAL OXIDANTS SUCH AS H2O2 OR O3 WITH UV RADIATION OR A CATALYST. THESE PROCESSES WILL BE COMPARED BY THEIR EFFICIENCY IN TRANSFORMING THE RECALCITRANT COMPOUNDS INTO PRODUCTS THAT CAN BE SUBSEQUENTLY REMOVED IN THE BIOREACTOR.\NMATHEMATICAL DYNAMIC MODELS WILL BE DEVELOPED FOR THE PROCESS OF BIODEGRADATION OF THE TARGET COMPOUNDS. THESE MODELS WILL BE USED FOR OPTIMISATION OF THE OPERATIONAL CONDITIONS AND CAN ALSO PROVIDE INFORMATION TO VERIFY THE METABOLIC TRANSFORMATIONS ESTIMATED BASED ON CHEMICAL ANALYSIS.\NMICROBIAL CHARACTERISATION OF THE BIOMASS ENRICHED WITH THE SELECTED COMPOUNDS WILL BE CARRIED OUT USING MOLECULAR BIOLOGY TOOLS. THE IDENTIFICATION OF THE MICROORGANISMS ABLE TO DEGRADE THE TARGET COMPOUNDS WILL AID IN ACHIEVING A DEEPER UNDERSTANDING OF THEIR PHYSIOLOGY, AND CAN POTENTIALLY BE USEFUL FOR BIOAUGMENTATION OF	DE SOUSA CARVALHO OEHMEN	GILDA		INSTITUTO DE BIOLOGIA EXPERIMENTAL E TECNOLÓGICA (IBET)			01-11-07	31-10-11	FCT	PORTUGAL

PTDC/AMB/66024/2006	DEVELOPMENT AND VALIDATION OF ENHANCED DRINKING WATER TREATMENT PROCESSES COMBINING TITANIUM DIOXIDE PHOTOCATALYSIS AND MEMBRANE FILTRATION	PHOTOCATALYSIS USING TITANIUM DIOXIDE ; HYBRID DRINKING WATER TREATMENT ; MICROBIAL AND CHEMICAL WATER CONTAMINATION	THE PROBLEM OF WATER AVAILABILITY AND QUALITY IS OFTEN CONSIDERED AS THE FUNDAMENTAL ISSUE THAT WILL DOMINATE THE 21ST CENTURY. THE COST BENEFITS OF PROVIDING SAFE DRINKING WATER, IN TERMS OF ITS MICROBIAL AND CHEMICAL CONTENT, ARE ENORMOUS COMPARED WITH THE HUMAN HEALTH COSTS ASSOCIATED WITH SUPPLYING CONTAMINATED WATER BOTH IN TERMS OF SHORT TERM OUTBREAKS AND LONG TERM DISEASES. SPECIAL ATTENTION SHOULD BE GIVEN TO COMPOUNDS THAT ARE TOXIC, PERSISTENT, AND PRONE TO BIOACCUMULATION SUCH AS THE SUBSTANCES IDENTIFIED AS PRIORITY IN THE EUROPEAN WATER FRAMEWORK DIRECTIVE (2000/60/EC) AND MICROORGANISMS THAT INDICATE FECAL CONTAMINATION. MOREOVER, WATER UTILITIES HAVE BEEN URGED TO COMBINE EFFICIENT DISINFECTION WITH DISINFECTION BY; ABLE TO ADDRESS SPECIFIC ISSUES IN MEMBRANE FILTRATION (JOÃO CRESPO AND FREDERICO FERREIRA), DIRECT PHOTOLYSIS, PHOTOCATALYSIS, AND ANALYSIS OF ORGANIC COMPOUNDS (VANESSA PEREIRA, PAULA PASSARINHO, AND JOÃO MENDES),AND IDENTIFICATION AND QUANTIFICATION OF MICROORGANISMS (MARIA CRESPO, MARIA ROMÃO, AND PAULA ALVES). IN ADDITION, THE PROJECT MEMBERS WILL ALSO COUNT WITH THE COLLABORATION OF INDUSTRY THROUGH AN EXISTING AGREEMENT BETWEEN THE IBET TEAMS AND EMPRESA PORTUGUESA DAS ÁGUAS	RANHADA PINTO JORGE PEREIRA	VANESSA		INSTITUTO DE BIOLOGIA EXPERIMENTAL E TECNOLÓGICA (IBET)		01-10-07	30-06-11	FCT	PORTUGAL
PTDC/AGR-AAM/68359/2006	DETECTION AND QUANTIFICATION OF ANTIMICROBIALS IN FISH AND IN WATERS FROM AQUACULTURE.	AQUACULTURE ; AQUATIC ENVIRONMENT ; ANALYTICAL METHODS	INDUSTRIAL AQUACULTURE REPRESENTS AN IMPORTANT SECTOR OF THE PORTUGUESE ECONOMY, PRODUCING MOSTLY COMMON SEABASS (DICENTRARCHUS LABRAX), GILTHEAD SEABREAM (SPARUS AURATUS) AND RAINBOW TROUT (ONCORHYNCHUS MYKISS) FISH SPECIES. THIS SECTOR IS CONTINUOUSLY GROWING WORLDWIDE DUE TO INCREASING PRODUCTIONS. IN MODERN SYSTEMS OF INTENSIVE ANIMAL PRODUCTION VETERINARY DRUGS ARE EMPLOYED FOR THERAPEUTIC, PROPHYLACTIC AND GROWTH PROMOTION PURPOSES. AMONG PHARMACEUTICALS, ANTIMICROBIAL DRUGS ARE OF PARTICULAR CONCERN DUE TO THEIR INTENSIVE USE. THE ESTIMATED ANNUAL CONSUMPTION OF ANTIMICROBIALS IN THE EU FOR ANIMAL PRODUCTION IS AROUND 5000 METRIC TONS. \NTHE OCCURRENCE OF UNWANTED RESIDUES IN EDIBLE PRODUCTS CAN BE THE RESULT OF ILLEGAL USE, IN THE CASES OF BANNED COMPOUNDS, OR OF FAILURE TO RESPECT THE PROPER WITHDRAWAL TIMES BEFORE BUTCHERING, IN THE CASES OF PERMITTED COMPOUNDS. FOR ANTIMICROBIALS, FOOD CONTAMINATION WITH RESIDUES OF THESE COMPOUNDS OR AT THE AQUATIC ENVIRONMENT IS OF SPECIAL CONCERN BECAUSE THEY CAN INDUCE BACTERIAL RESISTANCE THROUGH CONTINUOUS EXPOSURE, WHICH RESULTS IN UNTREATABLE DISEASES. THIS IS A TREMENDOUS GLOBAL PROBLEM AND THE CONSUMPTION OF FOOD CONTAMINATED WITH	GORRETI FERREIRA SALES	MARIA		INSTITUTO DE CIÊNCIAS E TECNOLOGIAS AGRÁRIAS E AGRO;PORTO/UP)		01-07-07	30-04-11	FCT	PORTUGAL
PTDC/ECM/69610/2006	REMOVAL OF CYANOTOXINS FROM DRINKING WATER BY BIOLOGICAL ACTIVATED CARBON FILTERS	DRINKING WATER TREATMENT ;LR	THE CAPABILITY OF BACTERIA FROM DIVERSE ECOSYSTEMS TO DEGRADE CYANOTOXINS (TOXINS PRODUCED BY SOME SPECIES OF CYANOBACTERIA) HAVE BEEN DESCRIBED AND EVIDENCES FOR THE ENHANCEMENT OF CYANOTOXIN REMOVAL BY GRANULAR ACTIVATED CARBON (GAC) FILTER DUE TO THE ESTABLISHMENT OF BIOLOGICAL ACTIVITY (BAC FILTERS) HAS BEEN PRODUCED. IN FACT, THE BIODEGRADATION OF CYANOTOXINS IN BAC FILTERS IS VIEWED AS HAVING A GREAT POTENTIAL FOR THE TREATMENT OF CYANOTOXIN CONTAMINATED WATERS, PARTICULARLY IF THE OPTIMAL CONDITIONS FOR BIODEGRADATION ARE IDENTIFIED AND APPLIED TO THE FILTER.\NTHIS PROJECT AIMS THE CHARACTERIZATION OF SUCH CONDITIONS, BY USING MICROCYSTIN LR [MC;CHEMICAL PARAMETERS AND OPERATIONAL REGIMES FOR CYANOTOXIN REMOVAL BY BAC FILTERS;SCALE WITH FILTERS DESIGNED TO COMPLY WITH SCALE;LR IN THE FILTERS' INFLUENT AND EFFLUENT WILL BE ANALYSED BY HIGH PERFORMANCE LIQUID CHROMATOGRAPHY COUPLED WITH PHOTODIODE ARRAY DETECTION (PDA);LR REMOVAL WILL BE ALSO ASSESSED.\NEXPECTED RESULTS WILL ALLOW THE IDENTIFICATION AND OPTIMISATION OF PARAMETERS AND OPERATING CONDITIONS FOR AN ENHANCED MICROCYSTIN REMOVAL BY BAC FILTERS. THE PROJECT	GOMES FERREIRA MENAIA	JOSÉ ANTÓNIO		LABORATÓRIO NACIONAL DE ENGENHARIA CIVIL (LNEC)		01-02-08	31-01-11	FCT	PORTUGAL

PTDC/MAR/70247/2006	NITROLINKS ; PATHWAYS, TURNOVER AND LINKS BETWEEN LAND AND SEA IN THE COASTAL ZONE	BIOGEOCHEMISTRY ; NITROGEN ; COASTAL LAGOONS	COASTAL GROUNDWATER DISCHARGE (CGD) IS NOW RECOGNIZED AS A MAJOR TRANSPORT PATHWAY FOR NUTRIENTS, PARTICULARLY NITROGEN, INTO MARINE COASTAL SYSTEMS, LINKING HUMAN ACTIVITIES IN THE COASTAL ZONE AND MARINE ECOSYSTEM HEALTH AT THE LAND;BORNE NO3;USE POLICIES IN THE LITTORAL ZONE? THE STUDY SITE IS AN EXTENSIVE COASTAL LAGOON PART OF A SAND BARRIER ISLAND COMPLEX, LOCATED AT THE RECEIVING END OF THE OFF;WATER FLUXES OF COMPOUNDS PERTINENT TO THE N BUDGET (O2, NH4+, NO3;SITU BENTHIC POREWATER PROFILERS DEVELOPED BY THE PI'S TEAM;BORNE NO3; LOAD DERIVED FROM GROUNDWATER DISCHARGE IS FLOWING INTO THE LOCAL FOODWEB.	BORGES DE CARVALHO DA ROCHA	CARLOS SÉRGIO		UNIVERSIDADE DO ALGARVE (UALG)			01-03-09	31-10-12	FCT	PORTUGAL
PTDC/AMB/70431/2006	BIOTOMETAL ; OTOLITH CHEMICAL ANALYSIS APPROACH IN FISHES	AQUATIC ENVIRONMENT ; BIOMARKERS ; OTOLITHS	THE CONTAMINATION BY METALS IS AN IMPORTANT ISSUE FROM AN ENVIRONMENTAL POINT OF VIEW, SINCE METALS ARE SIMULTANEOUSLY FUNDAMENTAL COMPONENTS OF THE BIOLOGICAL SYSTEMS (ENZYMATIC CO-FACTORS, CONSTITUENTS OF PROTEINS, ETC) AND TOXIC COMPOUNDS, WHICH CAN EXERT THEIR EFFECTS AT VARIED LEVELS AND CONDITIONING THE SURVIVAL OF WILD SPECIES IN POLLUTED SITES. METALS ARE EXCEPTIONAL IN THEIR RELATION TO HUMANS, SINCE THEY ARE NEITHER CREATED NOR DESTROYED BY HUMAN ACTIVITIES. ON THE CONTRARY, THEY ARE DISPERSED AND MADE AVAILABLE BY ANTHROPOGENIC ACTIVITIES, PRODUCING TOXIC EFFECTS OVER EXPOSED ORGANISMS OR EVEN BEING BIOACCUMULATED IN TISSUES AND ORGANS. THE PRESENT PROJECT INTENDS TO PERFORM A MULTIDISCIPLINARY APPROACH, USING BIOMARKERS AND OTOLITH CHEMICAL ANALYSIS, TO THE CONTAMINATION BY METALS, SIMULTANEOUSLY STUDYING WILD POPULATIONS OF DIFFERENT FISH SPECIES. CAPTURE OF ANIMALS WILL TAKE PLACE IN THE DOURO RIVER (CONTAMINATED SITE, ACCORDING TO CONTAMINATION GRADIENT) AND IN THE MIMHO RIVER (REFERENCE SITE, FREE FROM THE INFLUENCE OF CONTAMINATION). THE DOURO RIVER HAS BEEN CHOSEN AS THE STUDY SITE SINCE IT HAS BEEN RECEIVING, FOR DECADES, THE EFFLUENTS FROM THE TEXTILE INDUSTRY, WITH HIGH	FERNANDES DE JESUS DA SILVA NUNES	BRUNO ANDRÉ		UNIVERSIDADE DE AVEIRO (UA)			01-01-08	31-12-11	FCT	PORTUGAL
PTDC/AMB/70825/2006	TRACKING ANTIBIOTIC RESISTANCE BACTERIA IN DRINKING WATER: FROM THE SOURCE TO THE TAP	DRINKING WATER QUALITY ; RAPID METHOD FOR DETECTION OF AR BACTERIA ; IDENTIFICATION OF POINTS OF CONTAMINATION	BACTERIA ARE KNOWN FOR THEIR UBIQUITY AND PLASTICITY. ANTIBIOTIC RESISTANT BACTERIA AND RESISTANCE ENCODING GENES HAVE A WIDESPREAD DISTRIBUTION, BEING DETECTED IN FOOD PRODUCTS, DRINKING WATER, DOMESTIC ENVIRONMENT, PETS AND HEALTHY HUMANS. WATER, THE MOST IMPORTANT BACTERIAL HABITAT, REPRESENTS THE MAJOR VECTOR OF SUCH DISSEMINATION. THIS STUDY IS DESIGNED TO ESTIMATE AND CHARACTERIZE THE LEVELS OF ANTIBIOTIC RESISTANCE ALONG TAP WATER CIRCUIT – FROM THE SOURCE TO THE TAP. WATER SAMPLES WILL BE COLLECTED IN THE WATER SOURCE, AFTER WATER TREATMENT AND DISINFECTION, IN DIFFERENT SITES OF THE DISTRIBUTION SYSTEM, AND FROM THE TAPS OF BUILDINGS WITH DIFFERENT LEVELS OF TAP WATER USAGE, SUCH AS HOTELS, HEALTH CARE UNITS OR HOMES. THE BACTERIAL DIVERSITY ALONG THE WATER CIRCUIT WILL BE CHARACTERIZED THROUGH PCR;2000 ISOLATES OBTAINED THROUGHOUT THE WATER CIRCUIT, FROM THE SOURCE TO THE TAP, WILL BE CHARACTERIZED FOR THEIR TAXONOMY AND ANTIBIOTIC RESISTANCE PATTERNS. THE GENETIC DETERMINANTS RESPONSIBLE FOR THE ANTIBIOTIC RESISTANCE PHENOTYPES OBSERVED IN SELECTED BACTERIAL ISOLATES WILL BE SEQUENCED AND IDENTIFIED. THIS PROCEDURE WILL PERMIT THE TRACKING OF THE GENETIC DETERMINANTS	MANAIA RODRIGUES	CELIA MARIA		UNIVERSIDADE CATÓLICA PORTUGUESA (UCP)			01-01-08	31-03-11	FCT	PORTUGAL

PTDC/AGR-CFL/70968/2006		EROSION II ;SCALE SOIL CONSERVATION MANAGEMENT FOLLOWING FOREST WILDFIRES	FOREST FIRES ; MODELING ; WATERSHED MANAGEMENT	WILDFIRES DEVASTATE, EACH YEAR, AROUND 100 000 HA OF PORTUGUESE RURAL AREAS OR MORE. (PEREIRA ET AL. 2005), MOST OF WHICH ARE FORESTS. THE FREQUENCY OF FOREST FIRES IS EXPECTED TO REMAIN THE SAME OR INCREASE IN THE FUTURE, DUE TO THE NATURE OF PORTUGUESE FORESTRY ACTIVITIES AS WELL AS TO CLIMATE CHANGE WITH FUTURE SCENARIOS FORESEEING AN INCREASED OCCURRENCE OF METEOROLOGICAL CONDITIONS PROPITIOUS FOR FIRES (PEREIRA ET AL. 2006). THESE FACTORS UNDERSCORE THE IMPORTANCE OF EVALUATING AND MITIGATING THE CONSEQUENCES OF WILDFIRES.\NIN WET MEDITERRANEAN REGIONS SUCH AS CENTRAL PORTUGAL, BURNED AREAS EXPERIENCE AN INCREASE IN RUNOFF AND EROSION (SHAKESBY ET AL., 1993) WITH THE ASSOCIATED RISKS FOR ON-TERM EROSION ESTIMATES (MORGAN, 2005)\N2) IT REFERRED TO IMMEDIATE POST-CHANNEL NETWORKS AS WELL AS OFF-TO-SITE EFFECTS OF FOREST FIRES ON SOIL EROSION HAZARDS AND INCORPORATING THEM IN A SPATIALLY;16, ISAPRESS, LISBON.\NPEREIRA J., CORREIA A.V., CORREIA A.C., FERREIRA M., ONOFRE N., FREITAS H. & GODINHO F., 2006. FLORESTAS E BIODIVERSIDADE. IN: SANTOS F. & MIRANDA P. (EDS.), ALTERAÇÕES CLIMÁTICAS EM PORTUGAL – CENÁRIOS, IMPACTOS E MEDIDAS DE ADAPTAÇÃO (PROJECTO SIAM	KEIZER	JAN JACOB		UNIVERSIDADE DE AVEIRO (UA)		01-05-07	31-01-11	FCT	PORTUGAL
PTDC/AMB/71236/2006		MUNICIPAL WASTEWATER TREATMENT AND ANTIBIOTIC RESISTANCE DISSEMINATION	ENVIRONMENTAL CONTAMINATION ; RESISTANCE GENETIC DETERMINANTS ; WASTEWATER TREATMENT QUALITY	THIS IS A MULTIDISCIPLINARY STUDY WHICH INTEGRATES THREE AREAS OF EXPERTISE – MICROBIOLOGY, ANALYTICAL CHEMISTRY AND TECHNOLOGY OF WASTEWATER TREATMENT. ALTHOUGH IT IS CONSENSUAL THAT DISINFECTANTS, HEAVY METALS AND ANTIBIOTICS ARE RELEASED CONTINUOUSLY TO THE MUNICIPAL SEWAGE, IT IS NOT CLEAR WHETHER THE TREATED WASTEWATER IS FREE OF SUCH RESIDUES. MOREOVER, IT IS ALSO NOT CLEAR, IF THE PRESENCE OF SUCH RESIDUES IMPOSES THE SELECTION OF BACTERIA RESISTANT TO ANTIMICROBIAL AGENTS. THROUGH AN INTEGRATED APPROACH, THIS PROJECT AIMS TO BRING SOME INSIGHTS INTO THESE TWO ASPECTS OF THE WASTEWATER TREATMENTS AND WASTEWATER QUALITY. IT IS PROPOSED TO STUDY, TO IDENTIFY AND, WHENEVER POSSIBLE, QUANTIFY THE INFLUENCE OF CHEMICAL, BIOLOGICAL, AND PHYSICAL FACTORS RESPONSIBLE FOR THE SURVIVAL AND/OR PROLIFERATION OF ANTIBIOTIC RESISTANT BACTERIA DURING MUNICIPAL WASTEWATER TREATMENT.\NTHIS PROJECT WAS DESIGNED BASED ON PREVIOUS AND ONGOING STUDIES OF OUR GROUP THAT, CONFIRMING DIVERSE REPORTS OF OTHER AUTHORS, SHOWED THAT A WELL-SPECIFIC GENOTYPE BELONGING TO A RESISTANT ORGANISM IN THE RAW AND IN THE TREATED WASTEWATER. STUDY THE PREVALENCE AND CHARACTERIZATION OF PLASMIDS, INTEGRONS AND	MANAIA RODRIGUES	CELIA MARIA		UNIVERSIDADE CATÓLICA PORTUGUESA (UCP)		01-11-07	31-01-11	FCT	PORTUGAL
PTDC/AGR-AAM/71649/2006		DROUGHTS RISK MANAGEMENT: IDENTIFICATION, MONITORING, CHARACTERISATION, PREDICTION AND MITIGATION	DROUGHT PREPAREDNESS AND MITIGATION ; MATHEMATICAL MODELLING ; INFORMATION TECHNOLOGIES	DROUGHTS RISK MANAGEMENT (FIG.1) COMPRISES DROUGHT IDENTIFICATION, MONITORING, CHARACTERISATION, PREDICTION AND MITIGATION AIMED AT CONTROLLING THE IMPACTS OF DROUGHT HAZARDS. TASKS OF THIS PROJECT REFER TO THESE COMPONENTS AND RELATE TO EACH OTHER AS DESCRIBED IN FIG. 2.\NTASK 1: THERE IS NOT AN UNIVERSALLY ACCEPTED DEFINITION OF DROUGHT NOR COMMON CRITERIA FOR GRADING ITS SEVERITY AS IT COULD BE OBSERVED FOR THE DROUGHT OCCURRING IN PORTUGAL FOR THE LAST YEARS. THUS, THIS TASK IS DEVOTED TO THE IDENTIFICATION OF DROUGHTS THROUGH INDICES APPLIED TO RAINFALL AND WEATHER DATA AND TO THE ADOPTION OF COMMON CRITERIA TO GRADE THE SEVERITY OF DROUGHTS IN RELATION TO THOSE INDICES, WHICH COULD ALSO LEAD TO A COMMON DEFINITION OF DROUGHT. IN ADDITION TO COMPARISONS ON THE SPI AND PDSI, OTHER INDICES MUST BE CONSIDERED/DEVELOPED SUCH AS CROP;3 MONTHS) TENDS TO CLUSTER AROUND CERTAIN WEATHER REGIMES, WHOSE RESIDENT AND RECURRENCE TIMES AS WELL AS THE TRANSITION PROBABILITIES SEEM TO BE WELL CHARACTERIZED BY HIDDEN MARKOV CHAINS. THIS MODELLING APPROACH WILL BE USED. RESULTING PREDICTIONS WILL BE COMBINED WITH MARKOV MODELS APPLIED TO DROUGHT CLASS TRANSITIONS TO IMPROVE THE QUALITY OF DROUGHT	SANTOS PEREIRA	LUIS ALBERTO		INSTITUTO SUPERIOR DE AGRONOMIA (ISA/UTL)		01-05-07	30-11-10	FCT	PORTUGAL

PTDC/CTE-GEX/71651/2006		HIDRIA ;RUNOFF MODELLING FOR SMALL FORESTED CATCHMENTS UPSTREAM OF THE RIA DE AVEIRO	HYDROLOGICAL MODELLING ; MODEL INPUT AND OUTPUT UNCERTAINTIES ; FIELD DATA FOR MODEL INPUT AND MODEL VERIFICATION	DURING THE LAST DECADE OR SO, HYDROLOGICAL AND SOIL EROSION MODELLING HAVE SEEN MAJOR ADVANCES WITH THE APPEARANCE OF INCREASINGLY PROCESS;RUNOFF MODELLING – THE PRIMER. J. WILEY & SONS, CHICHESTER.	KEIZER	JAN JACOB		UNIVERSIDADE DE AVEIRO (UA)		01-04-09	30-11-12	FCT	PORTUGAL
PTDC/CLI/72585/2006		IMPACT OF CLIMATE CHANGE ON GROUNDWATER IN A SEMI-ARID REGION OF PORTUGAL	GROUNDWATER ; WATER AVAILABILITY ; ECOSYSTEMS	DESPITE BEING A FUNDAMENTAL COMPONENT OF THE HYDROLOGICAL CYCLE, THERE HAS BEEN VERY LITTLE RESEARCH ON THE POTENTIAL EFFECTS OF CLIMATE CHANGE ON GROUNDWATER. ACCORDING TO THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE: 'THERE IS A NEED TO INTENSIFY RESEARCH ON MODELLING TECHNIQUES, AQUIFER CHARACTERISTICS, RECHARGE RATES, AND SEAWATER INTRUSION, AS WELL AS MONITORING OF GROUNDWATER ABSTRACTIONS. THIS RESEARCH WILL PROVIDE A SOUND BASIS FOR ASSESSMENT OF THE IMPACTS OF CLIMATE CHANGE AND SEA;BASIN, SEE FIGURE IN ANNEX) TO PREDICT THE IMPACT OF AQUIFER RECHARGE REDUCTION ON PIEZOMETRIC LEVELS, WATER BALANCES, RIVER DISCHARGE AND GROUNDWATER RESOURCES FOR HUMAN SUPPLY.\N A SPECIAL EMPHASIS WILL BE GIVEN TO THE IMPACT OF THE CLIMATE CHANGE SCENARIOS ON GROUNDWATER DEPENDENT ECOSYSTEMS (E.G. RIVER BASEFLOW VARIATION).\N A NEW MATHEMATICAL METHOD, USING THE SO CALLED NAO (NORTH ATLANTIC OSCILLATION) INDEX AND OBSERVED PIEZOMETRIC VALUES, WILL BE DEVELOPED TO PREDICT PIEZOMETRIC TRENDS.\N IN WHAT CONCERNS THE EFFECT OF CLIMATE CHANGES (E.G RISING OF TEMPERATURE) ON GROUNDWATER QUALITY, WE INTEND TO APPLY HYDROGEOCHEMICAL MODELS TO EVALUATE THE	TAVARES RIBEIRO	LUÍS FILIPE		INSTITUTO SUPERIOR TÉCNICO (IST/UTL)		01-06-08	31-05-12	FCT	PORTUGAL
PTDC/BIA-BDE/72841/2006		THE COMBINED USE OF BIOMARKER AND IN SITU CHRIRONOMUS RIPARIUS BIOASSAYS TO MONITOR ENVIRONMENTAL HAZARDS OF CONTAMINANTS IN IBERIAN RIVERS	FRESHWATER QUALITY ; BIOMARKERS ; CHRIRONOMUS RIPARIUS	THE CENTRAL OBJECTIVE OF THE PROJECT IS TO DEVELOP A GENERIC IN SITU SEDIMENT BIOASSAY TO ASSESS THE EFFECTS OF CONTAMINANTS ON BENTHIC COMMUNITIES IN RUNNING WATER ECOSYSTEMS BASED ON MODIFIED VERSIONS OF EXISTING LIMNOLOGICAL AND ECOTOXICOLOGICAL TEST METHODS. BEHAVIORAL (POST FEEDING INGESTION RATES) AND INDIVIDUAL (GROWTH) RESPONSES OF CHRIRONOMUS LARVAE DEPLOYED IN THE FIELD WILL ALLOW THE DETERMINATION OF CHANGES IN ENERGY CONSUMPTION AND ENERGY TRANSFER IN KEY MACROINVERTEBRATE ORGANISMS. BIOCHEMICAL BIOMARKERS WILL ENABLE SPECIFIC EFFECTS OF CONTAMINANTS (BIOCIDES, METALS) TO BE DETECTED. THE PROPOSED IN SITU METHODS WILL BE COMPLEMENTED AND VALIDATED BY MEASURES OF COMMUNITY STRUCTURE AND TOXICITY RESPONSES BASED ON LABORATORY TESTS. TOGETHER, THESE METHODS WILL PROVIDE AN INTEGRATED SET OF TOOLS THAT CAN BE USED TO AID MANAGEMENT-DECISION MAKING BY IMPROVING THE PREDICTIVE CAPABILITY TO GAUGE ENVIRONMENTAL STRESS FOR FRESHWATER COMMUNITIES.	MORTAGUA VELHO DA MAIA SOARES	AMADEU		UNIVERSIDADE DE AVEIRO (UA)		01-04-08	31-03-12	FCT	PORTUGAL

PTDC/CTE-GEX/72959/2006		DELINEATING NEW SAMPLING, ANALYSING AND MODELLING STRATEGIES FOR ASSESSING THE CONTAMINATION OF SOIL AND GROUNDWATER BY ORGANIC COMPOUNDS (CRUDE)	CONTAMINATION ;GROUNDWATER ; MODELLING	IN THE PRESERVATION OF GOOD QUALITY WATER RESOURCES IS ONE OF THE MAIN ENVIRONMENTAL CONCERNS NOWADAYS. GROUNDWATER IS A STRATEGIC NATURAL RESOURCE IN PORTUGAL FOR THE PRESENT AND FUTURE GENERATIONS BUT IS FREQUENTLY PUT UNDER PRESSURE OR AT RISK BY MANY HUMAN AND INDUSTRIAL ACTIVITIES. DIFFERENT TYPES OF CONTAMINATION ARE PRODUCING A GENERAL DECLINE IN THE BASELINE QUALITY OF GROUNDWATER SYSTEMS, OFTEN WITHOUT ANY STRONG AND EFFECTIVE LEGAL ACTION TO PROTECT IT. AN INCREASING NUMBER OF FERTILIZERS, AGROCHEMICALS AND OTHER ORGANIC AND INORGANIC CONTAMINANTS ARE NOW FOUND IN GROUNDWATER. FERTILIZERS, PARTICULARLY NITROGEN AND PHOSPHOROUS, SEEM TO BE THE MOST WIDESPREAD CONTAMINATION, BUT GROUNDWATER CONTAMINATION BY HERBICIDES AND SOME OTHER PERSISTENT ORGANIC COMPOUNDS (E.G., PCB, BTEX, MTBE, TCE, MNB) HAVE BEEN DETECTED WORLDWIDE UNDER DIFFERENT HYDROGEOLOGICAL CONDITIONS. ORGANIC COMPOUNDS HAVE LONG TERM TOXIC EFFECTS (SOME ARE KNOWN TO BE A HUMAN CARCINOGEN), AND THEIR PRESENCE IN GROUNDWATER CAN CREATE A HAZARD TO PUBLIC HEALTH AND THE ENVIRONMENT. INORGANIC COMPOUNDS ARE ALSO A MAJOR POLLUTION PROBLEM IN PORTUGAL AND THERE IS NOW AN INCREASING INTEREST AND NECESSITY TO STUDY	CONDESSO MELO	MARIA TERESA		UNIVERSIDADE DE AVEIRO (UA)		01-01-09	31-12-12	FCT	PORTUGAL
PTDC/AMB/73338/2006		CONSERVATION AND REHABILITATION STRATEGIES FOR TEMPORARY MEDITERRANEAN RIVER CORRIDORS: A CASE STUDY ON PARDIELA BASIN, SOUTHERN OF PORTUGAL (GUADIANA BASIN)	TEMPORARY RIVER CORRIDORS ; MATHEMATICAL MODELS IN AN INTEGRATED WATER QUALITY ; CONSERVATION AND REHABILITATION STRATEGIES	TEMPORARY WATERS ARE WIDESPREAD IN THE MEDITERRANEAN, AS WELL AS IN MANY OTHER SEMI-ARID AREAS WITH THE PROVISION OF MORE SUITABLE MANAGEMENT TOOLS.	QUEIROZ MARTINS MANTERO MORAIS	MARIA MANUELA		UNIVERSIDADE DE ÉVORA (UE)		01-10-07	31-03-11	FCT	PORTUGAL
PTDC/CLI/73814/2006		REWRITE - REGIONAL CLOUDS AND WATER BALANCE IN A CHANGING CLIMATE	CLIMATE CHANGE ; EXTREME WEATHER EVENTS ; CLOUD PARAMETERIZATION	PROJECT REWRITE PROPOSES TO USE MESOSCALE MODELLING TECHNIQUES, THAT HAVE BEEN DEVELOPED AND TESTED AT CGUL;THE;IDL, THAT IS THOUGHT TO BE RELEVANT FOR THE REPRESENTATION OF THE COASTAL DYNAMICS. AFTERWARDS, THE HIGH RESOLUTION REGIONAL SIMULATIONS WILL BE PRODUCED FOR FUTURE CLIMATE. THE NEW SET OF HIGH RESOLUTION REGIONAL CLIMATE SIMULATIONS WILL BE USED TO ANALYSE CHANGES IN DIFFERENT ASPECTS OF THE COASTAL AND TOPOGRAPHICALLY FORCED REGIONAL CIRCULATIONS. FREQUENCY, INTENSITY AND EXTENSION OF THE BREEZE SYSTEM, AND ITS IMPACTS ON THE DYNAMICS OF THE IBERIAN HEAT LOW WILL BE STUDIED. CHANGES IN THE WINTER TIME INTERACTIONS BETWEEN SYNOPTIC DISTURBANCES AND COASTAL AND TOPOGRAPHIC FORCINGS WILL ALSO BE ANALYSED. THE HIGH RESOLUTION RESULTS WILL BE USED TO DRIVE HYDROLOGICAL MODELS APPROPRIATE FOR IBERIA. RESULTS OF THE CONTROL AND CLIMATE CHANGE SCENARIO SIMULATIONS WILL BE EVALUATED ON A CATCHMENT BASIS, WITH EMPHASIS ON BOTH CHANGES IN THE MONTHLY MEAN RUNOFF VALUES AND IN THE FREQUENCY AND NATURE OF DAILY WEATHER EXTREMES. THE NEW RESULTS WILL CONTRIBUTE TO A BETTER ASSESSMENT OF THE VULNERABILITY OF IBERIAN	MATOS SOARES	PEDRO MIGUEL		FUNDAÇÃO DA FACULDADE DE CIÊNCIAS (FFC/FC/UL)		01-01-09	30-06-12	FCT	PORTUGAL
PTDC/AMB/76006/2006		INFERNO :FIRE ON RIVER COMMUNITY ORGANISATION	FOREST FIRES ; BIODIVERSITY ; ECOSYSTEM RECOVER	UNTIL RECENTLY THE EFFECTS OF WILD FIRE ON LOTIC FRESHWATER COMMUNITIES HAD SCARCELY BEEN DOCUMENTED. DESPITE IMPORTANT PROGRESS IN RECENT YEARS, PUBLISHED ACCOUNT HAVE OVERWHELMING FOCUSED ON NORTH AMERICA, WHILST DATA FROM EUROPEAN RIVER SYSTEMS REMAINS SCARCE. GIVEN THE FUNDAMENTAL IMPORTANCE OF THE REGIONAL GEOGRAPHIC CONTEXT TO BOTH THE ENVIRONMENTAL MANIFESTATION OF WILDFIRE DISTURBANCE AND THE RESILIENCE OF ECOLOGICAL COMMUNITIES, THIS MAJOR GAP IN BIOGEOGRAPHIC KNOWLEDGE REPRESENTS A FUNDAMENTAL LIMITATION TO THE IMPLEMENTATION OF ENVIRONMENTALLY SENSITIVE MANAGEMENT IN FIRE-30 YEARS TO PROVIDE A CHRONOSEQUENCE OF DATA ON LONG-INDUCED DEGRADATION.	MORTAGUA VELHO DA MAIA SOARES	AMADEU		UNIVERSIDADE DE AVEIRO (UA)		01-01-08	31-10-11	FCT	PORTUGAL

PTDC/AGR-AAM/81271/2006		DEVELOPMENT OF AN ADAPTIVE, AUTONOMOUS AND AUTOMATIC IRRIGATION CONTROLLER	IRRIGATION ; AUTOMATION ; EVAPOTRANSPIRATION	WATER IS BECOMING ONE OF THE MOST PRECIOUS NATURAL RESOURCES. MEETING FUTURE WATER NEEDS REQUIRES AGGRESSIVE CONSERVATION MEASURES INCLUDING NEW IRRIGATION SYSTEMS THAT OPTIMISE WATER APPLICATION BASED ON THE EXACT REQUIREMENTS OF THE PLANTS. MANY IRRIGATION CONTROLLERS HAVE BEEN DEVELOPED FOR AUTOMATIC CONTROL OF WATER APPLICATION TO CROPS AND LANDSCAPES. THESE CONTROLLERS RANGE FROM SIMPLE PROGRAMMERS THAT CONTROL WATERING TIMES BASED ON FIXED SCHEDULES, TO SOPHISTICATED SYSTEMS THAT USE A WEATHER STATION TO CALCULATE THE EVAPOTRANSPIRATION, ETO, AND THUS THE WATER DEPTH TO APPLY. THE GLOBAL CLIMATE CHANGE HAS RESULTED IN GREATER VARIABILITY IN WEATHER CONDITIONS, AND THUS THE TRADITIONAL IRRIGATION PROGRAMMERS ARE RESULTING IN INCREASED WATER WASTE. \N THE PURPOSE OF THIS PROJECT IS TO RESEARCH INTO A SIMPLE AND RELIABLE METHODOLOGY FOR ESTIMATING ETO FROM A REDUCED NUMBER OF WEATHER PARAMETERS AND THEN DEVELOP THE NECESSARY EQUIPMENT FOR AUTOMATIC MANAGEMENT OF IRRIGATION BASED ON ACTUAL CROP WATER NEEDS. THE GREAT ADVANTAGE OF THIS SYSTEM IS THAT IT COMBINES THE COST. HOW AND SPECIFIC NEEDS TO THE DEVELOPMENT AND IMPROVEMENT OF THE	SHAHIDIAN	SHAKIB		UNIVERSIDADE DE ÉVORA (UE)		01-05-07	31-10-10	FCT	PORTUGAL
PTDC/AGR-AAM/69848/2006		BEST MANAGEMENT PRACTICES FOR DEFICIT IRRIGATION STRATEGIES IN VINEYARDS - WATER STRESS INDICATORS AND GRAPE QUALITY	WATER MANAGEMENT ; EVAPOTRANSPIRATION ; GRAPE QUALITY	FOR MOST OF THE PORTUGUESE VITICULTURAL REGIONS, LOW SOIL WATER AVAILABILITY IS ONE OF THE MAIN LIMITATIONS IN VINEYARDS MANAGEMENT, WITH NEGATIVE CONSEQUENCES FOR THE WINE QUALITY AND FARMERS' INCOME. THUS THE IMPROVEMENT OF WINE QUALITY BY IRRIGATION IS THE KEY FACTOR FOR THE REINFORCEMENT OF THE COMPETITIVENESS OF THIS SECTOR. WITH THIS PURPOSE, IT IS CRUCIAL TO ESTABLISH RELATIONSHIPS BETWEEN IRRIGATION STRATEGIES (DEFICIT IRRIGATION REGIMES AND IRRIGATION SCHEDULING) AND GRAPE QUALITY. \N THEREFORE, THE PRESENT RESEARCH WILL BE CONDUCTED TO ENHANCE UNDERSTANDING OF THE RESPONSES OF GRAPEVINES TO WATER USE IN THREE REGIONS (DOURO, SOUTH ALENTEJO AND SETUBAL PENINSULA), WHICH WERE SELECTED FOR ITS REPRESENTATIVE NESS AND EXTREME CLIMATIC CONDITIONS. THE MAIN OBJECTIVES ARE TO (I) QUANTIFY EVAPOTRANSPIRATION (ET) AND CROP WATER REQUIREMENTS ALONG THE VEGETATIVE CYCLE USING EDDY COVARIANCE AND SAP FLOW TECHNIQUES (TASKS 3 AND 4); IRRIGATED PLOTS. STRESS COEFFICIENTS (KS) OBTAINED FROM DIFFERENT DEFICIT IRRIGATION REGIMES WILL BE RELATED WITH GRAPE QUALITY VARIABLES (E. G. AROMA COMPOUNDS, FLAVOUR PRECURSORS AND PHENOLIC COMPOUNDS). ON THE	FREIRE RIBEIRO FERREIRA	MARIA ISABEL		INSTITUTO SUPERIOR DE AGRONOMIA (ISA/UTL)		01-08-07	31-12-10	FCT	PORTUGAL
PTDC/ECM/70456/2006		GROUNDWATER PROTECTION ZONES IN FRACTURED FORMATIONS	GROUNDWATER PROTECTION ZONES ; WATER MANAGEMENT ; HYDROGEOLOGY	THE EXPLOITATION OF NATURAL MINERAL WATERS REQUIRES THE DEFINITION OF GROUNDWATER PROTECTION ZONES (OR WELL FIELD PROTECTION AREAS) HYDROGEOLOGIC AND HYDROLOGIC STUDIES, TO GUARANTY AVAILABILITY AND CHARACTERISTICS OF THE WATER, AS WELL AS CONDITION FOR A SUSTAINABLE EXPLOITATION AND WISE USE. \N CURRENTLY IN PORTUGAL THOSE STUDIES ARE REGULATED BY LAW NUMBER 383/92 FROM 22ND OF SEPTEMBER, WHICH DEFINES THE GROUNDWATER PROTECTION ZONE (GPZ) AS THE AREA NEXT TO THE WELL HEAD WHERE IT IS PROHIBITED OR THERE ARE RESTRICTIONS TO HAVE INSTALLATIONS AND ACTIVITIES SUSCEPTIBLE OF POLLUTING THE GROUNDWATER, WHICH INCLUDES THE FOLLOWING ZONES: \N A) ZONE OF NEAR PROTECTION – AREA OF THE SURFACE NEXT TO THE WELL HEAD WHERE ALL THE ACTIVITIES ARE PROHIBITED; SUPERFICIAL OR HYPODERMIC). IN FRACTURED MEDIA IT IS IMPORTANT, FROM OUR POINT OF VIEW, TO CHARACTERIZE ALSO THE RECHARGE POINTS AND TO ESTIMATE TRAVEL TIMES BETWEEN RECHARGE AND WELL HEADS. RISK ANALYSIS IS ALSO BASED ON ASSUMPTIONS THAT ARE VALID FOR POROUS MEDIA. ALSO IN THIS SUBJECT WE INTEND TO STUDY THE IMPLICATIONS AND WE INTEND TO ADAPT EXISTING METHODOLOGIES SO THAT THEY ARE APPLIED TO AQUIFERS IN FRACTURES FORMATIONS.	VIEGAS RODRIGUES	NELSON EDGAR		UNIVERSIDADE DE COIMBRA (UC)		01-03-08	31-12-11	FCT	PORTUGAL

PTDC/MAR/68932/2006	THE OCEAN RESERVOIR EFFECT IN THE TRANSITION AREAS OF THE WEST-IBERIAN COASTAL UPWELLING (AVEIRO/MOUTH OF THE RIVER MINHO; CAPE SANTA MARIA/ MOUTH OF THE RIVER GUADIANA)	OCEAN RESERVOIR EFFECT ; UPWELLING ; PALAEOCEANOGRAPHY	AS IS WELL KNOWN, THE OCEAN RESERVOIR IS DEFICIENT IN RADIOCARBON COMPARED WITH THE ATMOSPHERE – SO, A RESERVOIR AGE EXISTS FOR THE OCEAN. A PARAMETER, DENOTED AS DELTA R (DR), CAN BE DEFINED AS THE DIFFERENCE BETWEEN THE RESERVOIR AGE OF THE MIXED LAYER OF THE REGIONAL OCEAN AND THE RESERVOIR AGE OF THE MIXED LAYER OF THE AVERAGE WORLD OCEAN IN AD 1950.\NALONG THE WESTERN COASTS OF EUROPE, ACTIVE UPWELLING IS, AT PRESENT, PRACTICALLY RESTRICTED TO THE ATLANTIC COAST OF THE IBERIAN PENINSULA, PARTICULARLY FROM CAPE FINISTERRE TO CAPE SÃO VICENTE AND, ALSO, ALONG THE SOUTH COAST OF PORTUGAL. \NAS UPWELLED WATERS ARE DEPLETED IN 14C RELATIVE TO SURFACE SEA WATER, THE 14C CONTENT OF MARINE SHELLS CAN BE USED AS AN UPWELLING PROXY. SINCE RATES OF REGIONAL UPWELLING CAN VARY IN THE COURSE OF TIME AND THE INTENSITY OF RADIOCARBON DEPLETION IN THE MIXED LAYER DEPENDS UPON THE WIND; (II) SHELLS COLLECTED ALIVE BEFORE 1950 AND (III) CHARCOAL, WOOD OR BONE/MARINE SHELL PAIRS FROM EXCAVATED ARCHAEOLOGICAL SITES, REPRESENTING DIFFERENT PERIODS IN THE HOLOCENE. \NARCHAEOLOGICAL SAMPLES FROM EACH CONTEXT WILL BE COLLECTED FROM THE SAME LEVEL IN A	MONGE SOARES	ANTÓNIO MANUEL		INSTITUTO SUPERIOR TÉCNICO (IST/UTL)		01-10-08	30-09-11	FCT	PORTUGAL
PTDC/CL/67180/2006	PREDICTING THE EFFECT OF GLOBAL WARMING ON STREAM ECOSYSTEMS	GLOBAL WARMING ; DECOMPOSITION ; METABOLISM	IT IS NOWADAYS ACCEPTED BY THE SCIENTIFIC COMMUNITY THAT WE ARE ENTERING IN A GLOBAL WARMING PERIOD AND SEVERAL SCIENTISTS ARE TRYING TO PREDICT THE EFFECTS OF A GLOBAL; AND INDIRECTLY THROUGH CHANGES IN THE HYDROLOGICAL REGIME, OXYGEN SOLUBILITY, STANDING STOCK OF ORGANIC MATTER, INTENSITY OF ANTHROPOGENIC STRESS, ETC. IN TEMPERATE WATERSHEDS, THE STRUCTURE AND FUNCTIONING OF THE ABUNDANT SMALL FOREST STREAMS ARE CLOSELY LINKED WITH AND DEPENDENT ON THE IMPORT OF ORGANIC MATTER FROM TERRESTRIAL ORIGIN. RIPARIAN LEAF LITTER MAY CONSTITUTE UP TO 99% OF TOTAL CARBON SOURCE USED BY THE STREAM BIOTA. THROUGH LITTER DECOMPOSITION, DETRITUS ARE INCORPORATED INTO THE FOOD WEBS. SEVERAL ENVIRONMENTAL FACTORS CAN AFFECT THIS ECOSYSTEM; TEMPERATURE WILL BE INCREASED IN HALF STREAM, BY 3°C, ABOVE AMBIENT WATER TEMPERATURE WITH THE HELP OF A SYSTEM OF ELECTRIC WATER HEATERS. EXPERIMENTS WILL BE PERFORMED IN BOTH SIDES OF THE WATERCOURSE FOR 1 YEAR OF NATURAL WATER TEMPERATURE CONDITIONS AND SIMILAR WARMING PERIOD (BACI DESIGN); (B) STREAM METABOLISM; ANNEX II) TO PARTICIPATE WITH OTHER SCIENTIFIC EXPERIMENTS. THIS WORK IS ORIGINAL IN EUROPE; AND PRIVATE INSTITUTIONS, EDP	MOREIRA MONTEIRO LEAL CANNHOTO	CRISTINA MARIA		IMAR - INSTITUTO DO MAR (IMAR)		01-06-08	29-02-12	FCT	PORTUGAL
PTDC/ECM/65442/2006	CHARACTERISATION OF GRAVEL-BED RIVER HABITATS; HYDRODYNAMICS AND SEDIMENT TRANSPORT	RIVER HABITATS ; FIELD AND LABORATORY STUDIES ; MATHEMATICAL MODELLING	THE DIVERSE MORPHOLOGICAL FEATURES OF GRAVEL BED RIVERS PROVIDE VALUABLE HABITATS FOR WILDLIFE. FOR INSTANCE, BOULDERS AND OTHER FLOW OBSTRUCTIONS CAN INCREASE HABITAT COMPLEXITY AND HENCE THE POTENTIAL TO SUPPORT LIFE. SEDIMENT TRANSPORT PHENOMENA AND FLOW FIELD HYDRODYNAMICS ASSOCIATED TO EACH SPECIFIC MORPHOLOGICAL FEATURE ARE KEY ELEMENTS FOR THE UNDERSTANDING OF HABITAT DYNAMICS. SEDIMENT MOBILITY IS ESSENTIAL TO THE ECOLOGICAL HEALTH OF GRAVEL BED STREAMS SINCE IT PROMOTES THE RENEWAL OF RIVER MORPHOLOGICAL FEATURES. FLOW TURBULENCE IS SHOWN TO AFFECT SPAWNING HABITS, DENSITY OF POPULATIONS AND PREDATOR/PREY DYNAMICS. \NBECAUSE OF THE PARAMOUNT IMPORTANCE OF THESE SUBJECTS, THE PURPOSE OF THIS RESEARCH PROJECT IS TO STUDY THE HYDRODYNAMICS OF TURBULENT FLOWS OVER GRAVEL BEDS AND THE DYNAMICS OF SEDIMENT TRANSPORT ASSOCIATED TO GRAVEL BED RIVER HABITATS. THE PARTICIPATION OF PARQUE NACIONAL DA PENEDA;EQUIPMENT PROGRAMME (REEQ/688/ECM/2005), IST AND UBI ACQUIRED LDV, PIV AND HIGH SPEED VIDEO SYSTEMS. FURTHERMORE, A NEW FULLY EQUIPPED 12 M LONG, 41 CM WIDE, RECIRCULATING TILTING FLUME WAS INSTALLED AT IST. THIS PROPOSED PROJECT IS ONE OF THE RESEARCH ACTIONS THAT JUSTIFIED THE	LAGE FERREIRA	RUI MIGUEL		INSTITUTO SUPERIOR TÉCNICO (IST/UTL)		15-01-08	14-07-11	FCT	PORTUGAL