ECOPOTENTIAL

IMPROVING FUTURE ECOSYSTEM BENEFITS THROUGH EARTH OBSERVATIONS

Coordination

Coordinator: A. Provenzale,
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Project Manager, CNR

Timing

Start: 1 June 2015
Duration: 48 months

Consortium

47 partners
17 countries
2 International Organisation

Budget

Estimated Project Cost:
€15,993,931.25
EU Contribution:
€14,874,340.00

ECOPOTENTIAL Partners

CONSIGLIO NAZIONALE DELLE RICERCHE (CNR)	IT	UNIVERSITAT AUTÒNOMA DE BARCELONA (UAB)	ES
UNIVERSITÀ DEL SALENTO (UNILE)	IT	UNIVERSIDAD DE GRANADA (UGR)	ES
ACCADEMIA EUROPEA PER LA RICERCA APPLICATA ED IL PERFEZIONAMENTO PROFESSIONALE BOLZANO (EURAC)	IT	UMWELTBUNDESAMT GMBH (EAA)	AT
AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS (CSIC)	ES	UNIVERSITAET POTSDAM (UP)	DE
HELMOLTZ - ZENTRUM FÜR UMWELTFORSCHUNG GMBH (UFZ)	DE	MUSEUM FUR NATURKUNDE-LEIBNIZ-INSTITUT FUR EVOLUTIONS UND BIODIVERSITATSFORSCHUNG AN DER HUMBOLDT-UNIVERSITAT ZU BERLIN (MfN)	DE
KARLSRUHER INSTITUT FÜR TECHNOLOGIE (KIT)	DE	FONDATION TOUR DU VALAT (TdV)	FR
UNIVERSITAET BAYREUTH (UBT)	DE	STICHTING DELTARES (DELTARES)	NL
DEUTSCHES ZENTRUM FÜR LUFT – UND RAUMFAHRT EV (DLR)	DE	ARATOS TECHNOLOGIES S.A. (ARATOS)	EL
CENTRE NATIONALE DE LA RECHERCHE SCIENTIFIQUE (CNRS)	FR	STARLAB BARCELONA SL (STARLAB)	ES
UNIVERSITY OF LEEDS (UNIVLEEDS)	UK	MARTIN-LUTHER-UNIVERSITAET HALLE-WITTENBERG (MLU)	DE
ENVIRONMENT SYSTEMS LIMITED (ESL)	UK	STICHTING KONINKLIJK NEDERLANDS INSTITUUT VOOR ZEEONDERZOEK (NIOZ)	NL
UNIVERSITATEA DIN BUCURESTI (UB)	RO	KLAIPEDOS UNIVERSITETAS (KU)	LT
ICETA – INSTITUTO DE CIÊNCIAS E TECNOLOGIAS AGRÁRIAS E AGRO-ALIMENTARES (ICETA)	PT	UNIVERSITÈ PAUL SABATIER TOULOSE III (UPS)	FR
INSTITUTO SUPERIOR TÉCNICO (IST)	PT	UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANIZATION (UNESCO)	FR
CENTRE FOR RESEARCH AND TECHNOLOGY HELLAS (CERTH)	EL	LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE (LSE)	UK
FOUNDATION FOR RESEARCH AND TECHNOLOGY – HELLAS (FORTH)	EL	UNIVERSITETET I BERGEN (UiB)	NO
ECOLE POLYTECHNIQUE FÉDÉRALE DE LAUSANNE (EPFL)	CH	TERRADUE UK LTD (UKT2)	UK
BEN-GURION UNIVERSITY OF THE NEGEV (BGU)	IL	UNITED NATIONS ENVIRONMENT PROGRAMME (UNEP)	KE
ISRAEL NATURE AND NATIONAL PARKS PROTECTION AUTHORITY (INPA)	IL	UNIVERSITY OF NEW SOUTH WALES (UNSW)	AU
PSI HYDROBIOLOGICAL INSTITUTE ORHID (HIO)	MK	EIDGENOESSISCHE TECHNISCHE HOCHSCHULE ZUERICH (ETH)	CH
COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH (CSIR)	ZA	AGENCIA DE MEDIO AMBIENTE Y AGUA DE ANDALUCIA (REDIAM)	ES
ISTITUTO SUPERIORE PER LA PROTEZIONE E LA RICERCA AMBIENTALE (ISPRA)	IT	UNIVERSITÈ DE BRETAGNE OCCIDENTALE (UBO)	FR
POLITECNICO DI MILANO (POLIMI)	IT	UNIVERSITÈ DE GENEVE	
CENTRO DE INVESTIGACION ECOLOGICA Y APLICACIONES FORESTALES (CREAF)	ES		

CALL SC5-16-2014: Making Earth Observation and Monitoring Data usable for ecosystem modelling and services

Specific challenge: **Maximum benefit should be made of the investments made in Earth Observation data and information when developing terrestrial and marine ecosystem models and sustainable ecosystem services, in order to deliver major benefits to citizens, businesses and governments.**

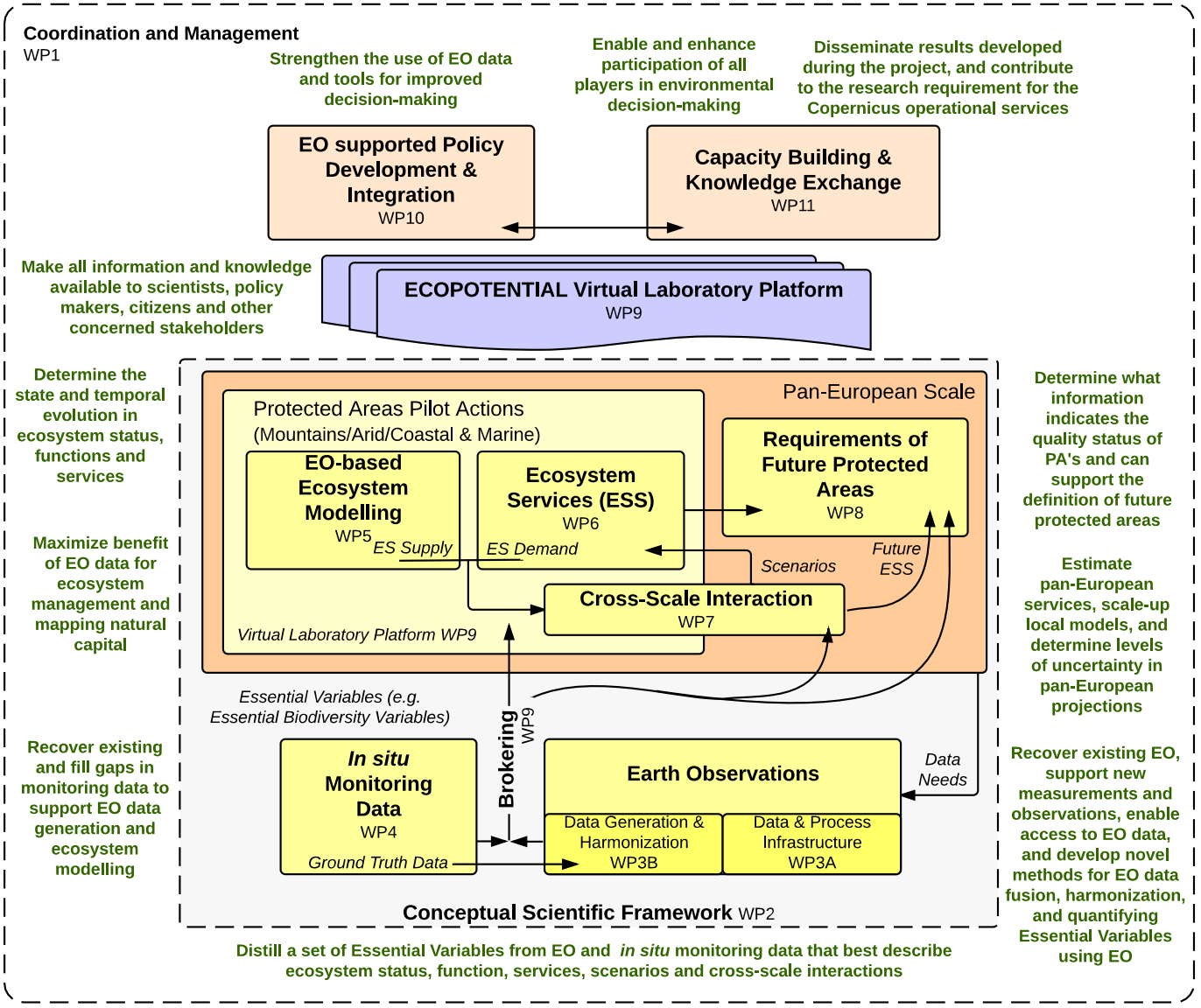
Scope: Proposals should focus on **recovering existing data, supporting new measurements and observations, synthesis and interpretation of data for making all information and knowledge available to scientists, policy makers, citizens and other concerned stakeholders** to provide a full picture of the **state and temporal evolution of ecosystems in existing internationally recognised protected areas.**

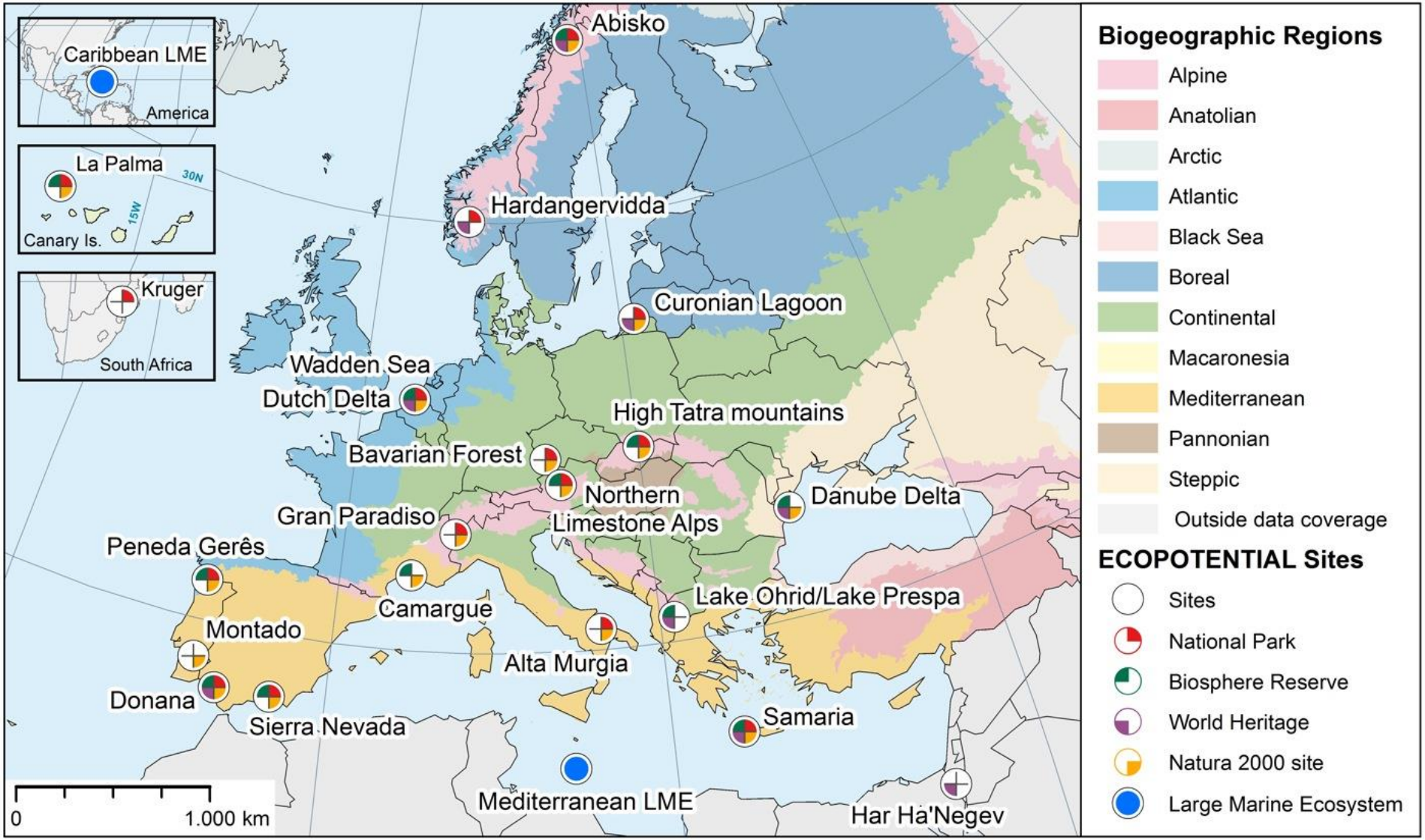
Expected Impact: By 2015 **strong European support and leadership within the GEO Ecosystem tasks. Documented monitoring methodology to define ecological status of future protected areas.**

ECOPOTENTIAL will

- Make **extensive use of Earth Observation data** (existing and new, i.e. Sentinel, VENmS) **in combination with *in situ* monitoring** (LTER, GEO BON, GBIF, OBIS)
- Create an **Ecosystem Data Service related to the Copernicus space component (ECOPERNICUS)**
- Create a corpus of **innovative, field-tested, peer reviewed and documented monitoring methodology**
- Develop a conceptual framework guiding the integration of data, models and scenarios towards a new vision of ecosystem structure, change and services. Refine the concept of **Essential Variables** (EBV, EOV, ECV, EWV, EGV,ESEVs).
- Develop **new ecosystem models able to make best use of EO and monitoring data**, enhancing our knowledge on ecosystem nonlinearity, complexity and uncertainties and predicting ecosystem changes in key PAs.
- Address the issues related to **cross-scale interactions and landscape-ecosystem dynamics**, including biological, geomorphological, climatic, social and economic connections and emergent properties across scales and using concepts and approaches from the fields of **Macrosystem Ecology**.
- **Quantify ecosystem services, taking into account social demand**
- Develop **a list of requirements of future Pas**
- **Improve evidence-based environmental policy making**,
- Develop efficient **capacity building at all levels**,

Structure of the ECOPOTENTIAL Project





ECOPOTENTIAL focuses on 22 protected areas of international relevance, covering most biogeographical regions of Europe. Upscaling to larger areas is a goal of the project.

Because of their specific sensitivity to environmental change and important role in terms of ecosystem services, biodiversity and biogeodynamical processes, ECOPOTENTIAL focuses on four ecosystem (ES) types: