BLACK SEA ERA.NET - Pilot Joint Call

CLEAR WATER

GEOPHYSICAL BASED HYDROGEOLOGICAL MODELING TO PREVENT POLLUTION FROM SEA WATER INTRUSION AT COASTAL AREAS

Project Coordinator: **TECHNICAL UNIVERSITY OF CRETE**

Partner 1: **ANKARA UNIVERSITY**

Partner 2: **GREIFSWALD UNIVERSITY**

Thematic Focus 1.2: Water pollution prevention options for coastal zones and tourist areas

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CLEAR WATER

TECHNICAL UNIVERSITY OF CRETE

Prof. VAFIDIS ANTONIS — **Project Coordinator**

ANKARA UNIVERSITY

Assoc.Prof. M. EMIN CANDANSAYAR — **Team Leader**

GREIFSWALD UNIVERSITY

Prof. SCHAFMEISTER MARIA-THERESIA — **Team Leader**

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PROJECT SUMMARY

BUDGET

UNIVERSITY	LABOUR COSTS	EQUIPMENT	CONSUMABLES	TRAVEL AND SUBSISTENCE	OTHER COSTS	TOTAL
TUC	138,500	2,500	1,100	18,000	19,900	180,000
AU	25,565	0	4,348	10,000	5,651	45,564
GU	43,833	1000	0	5,250	1,000	51,083
TOTAL	207,898	3,500	5,448	33,250	26,551	276,647

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PROJECT SUMMARY

OBJECTIVES

Development of a comprehensive systematic methodology for the prediction and the prevention of sea water intrusion.

INNOVATION

Development of a comprehensive geophysical data processing tool, based on prototype algorithms for joint/simultaneous inversion of geophysical data, to guide the water modeling and management process.

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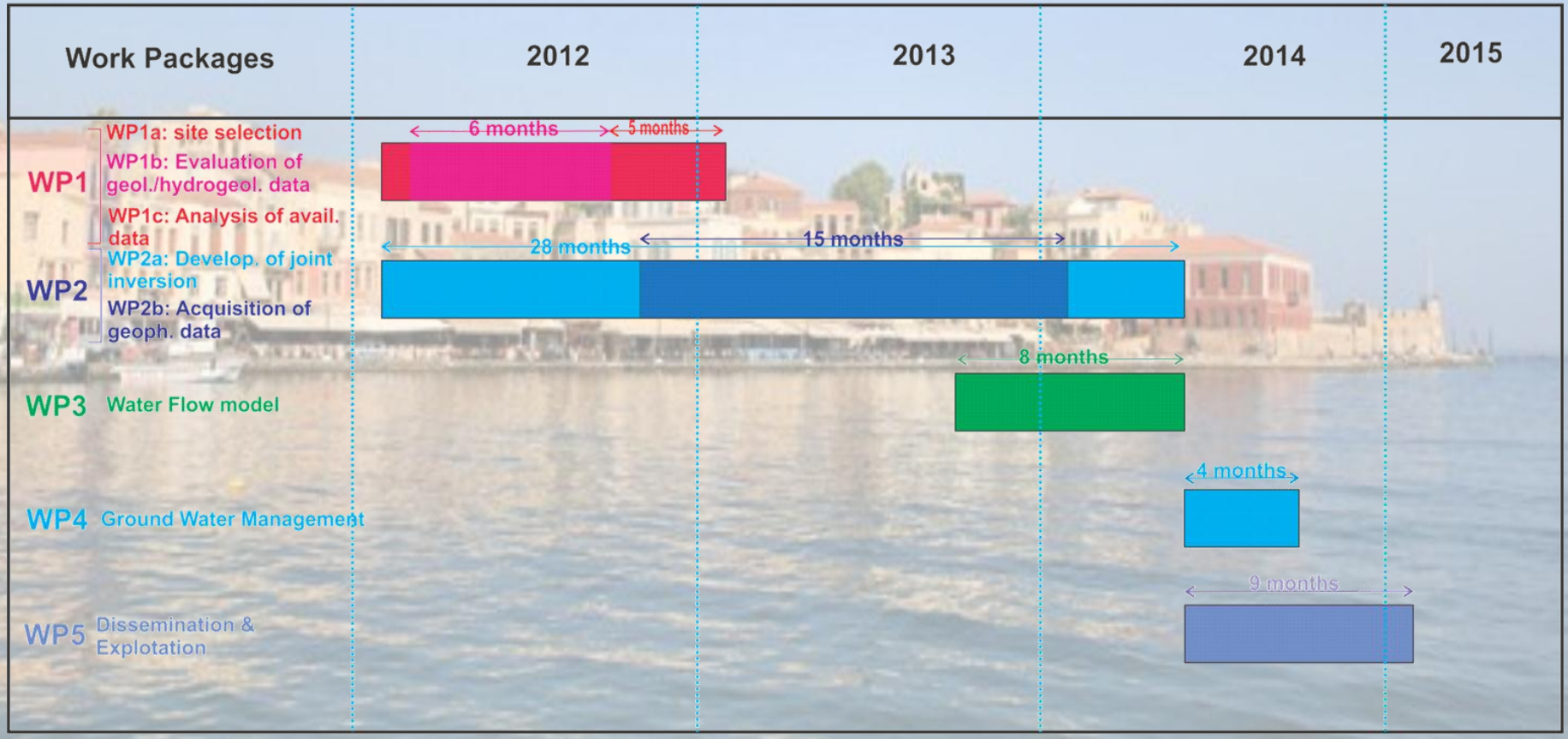
PROJECT SUMMARY

Project start: 1/2/2012



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PROJECT SUMMARY

EXPECTED RESULTS

The implementation of an integrated systematic sea water intrusion prediction methodology, used to plan effective prevention measures in complex coastal areas.

Four major outcomes will be delivered

- An algorithm for 2D seismic refraction, electromagnetic and electric data joint inversion.
- Dynamic GIS database with all available geological, hydrogeological and geophysical data for the selected areas.
- Water flow model of the areas under investigation.
- Groundwater management plan for the areas under investigation.

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PROJECT SUMMARY

ACHIEVED RESULTS

WP1a SITE SELECTION

- **A report of the proposed sites**
- **Two sites were selected according to a developed evaluation system**

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PROJECT SUMMARY

SITE(S) SELECTION CRITERIA

The site must face sea water intrusion at early stages

The site must have agricultural, tourist or any other economical or social activity

Must be located in the Black sea region or in other region facing similar sea water intrusion problems

Access to geological, hydrogelogical geophysical data and boreholes

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PROJECT SUMMARY

ACHIEVED RESULTS

WP1b+c AVAILABLE GEOLOGICAL AND HYDROGEOLOGICAL DATA

- **A comprehensive GIS data base has been developed with all available geological, hydrological, hydrogeological and geophysical data for the selected sites.**
- **All available geological and hydrogeological data have been evaluated for the first site**

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PROJECT SUMMARY

ACHIEVED RESULTS

WP2 DEVELOPMENT OF JOINT INVESRION ALGORITHM

- **In situ Vertical electrical soundings have been accomplished in one of the proposed sites**
- **Existing resistivity and seismic refraction joint inversion algorithm has been optimized**