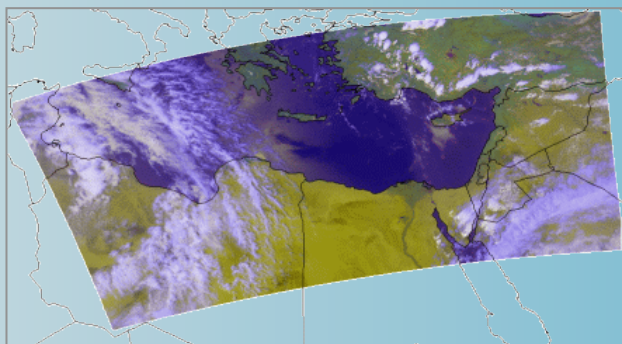
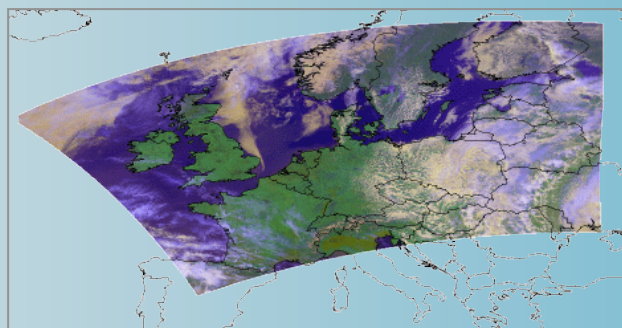


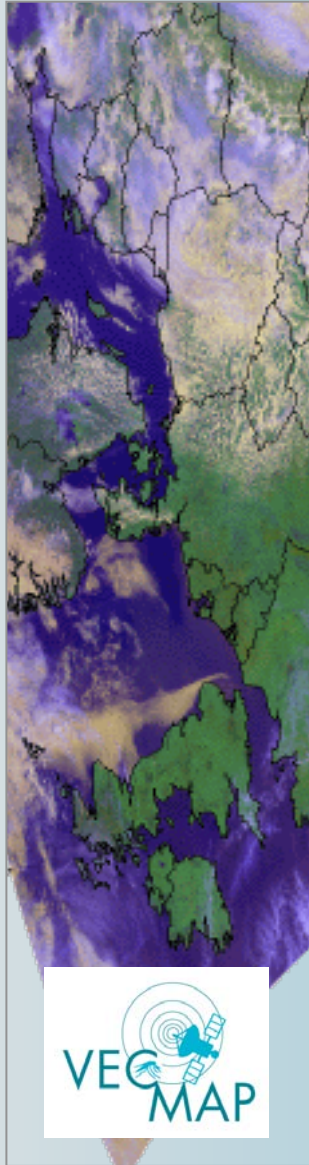


The VECMAP project

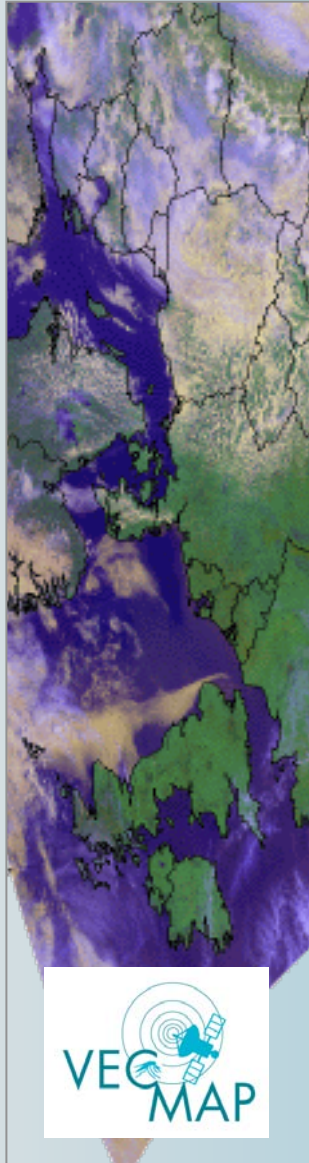
Avia-GIS (BE), ERGO/TALA (UK), MEDES (FR)

VITO (BE), EARS (NL), RIVM (NL)



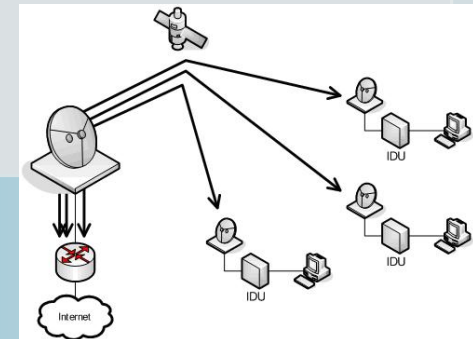


VECMAP FRAMEWORK

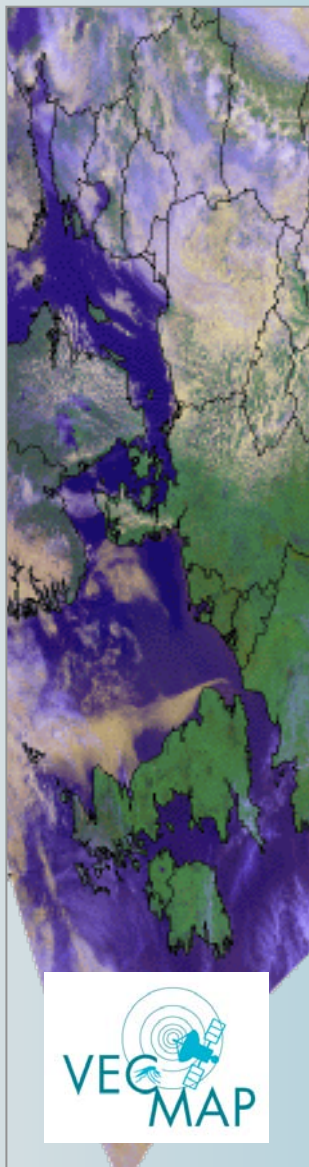
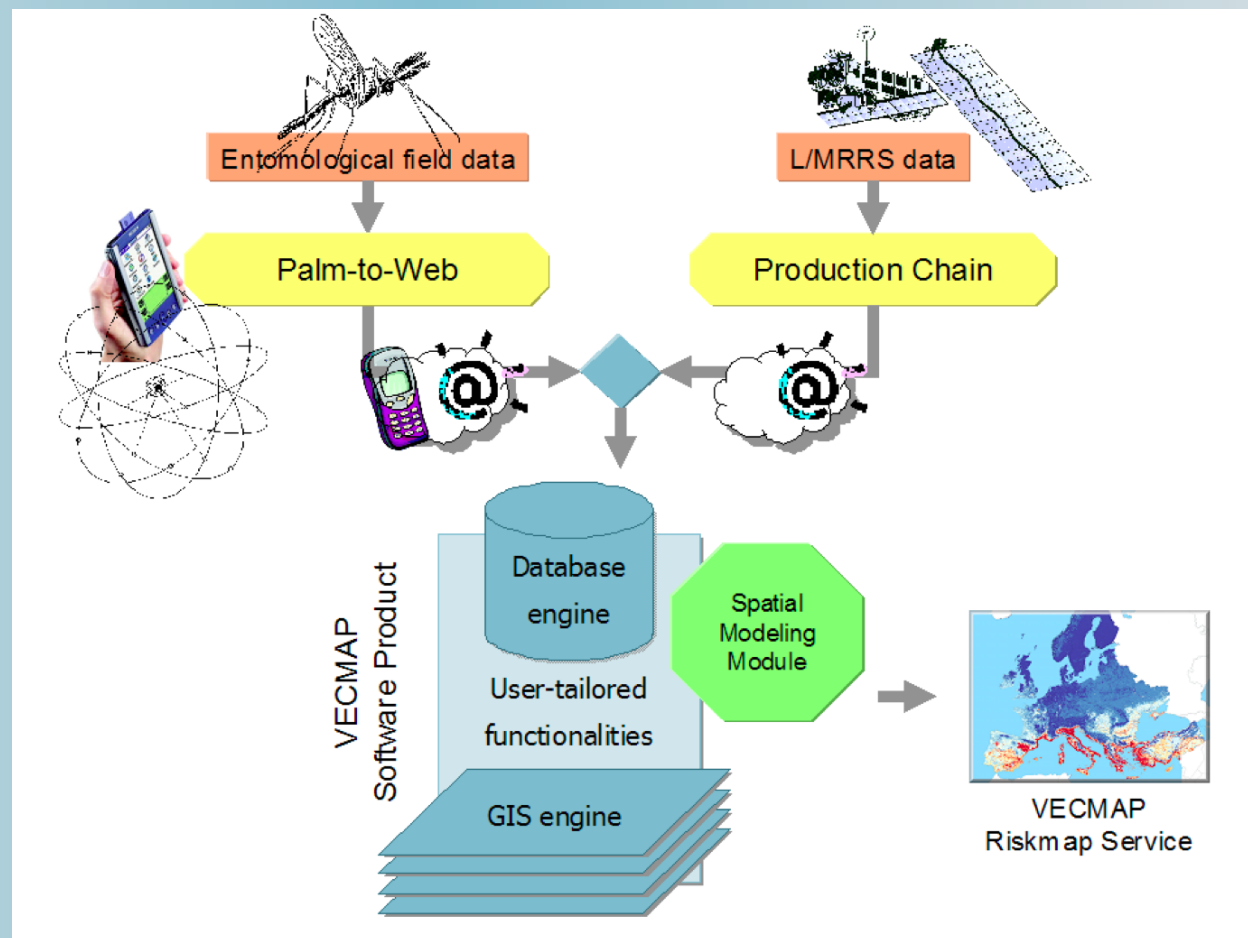


ESA IAP

- ESA launched call for Integrated Application Projects for SMEs
- Integration = min. 2 'space assets'
 - Earth Observation
 - Satellite Navigation
 - Satellite Communication



VECMAP concept



VECMAP schedule

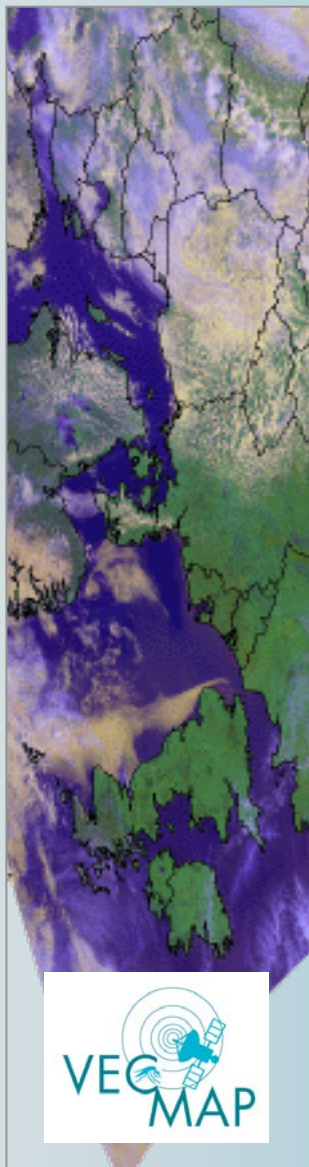
Feasibility study
15 months

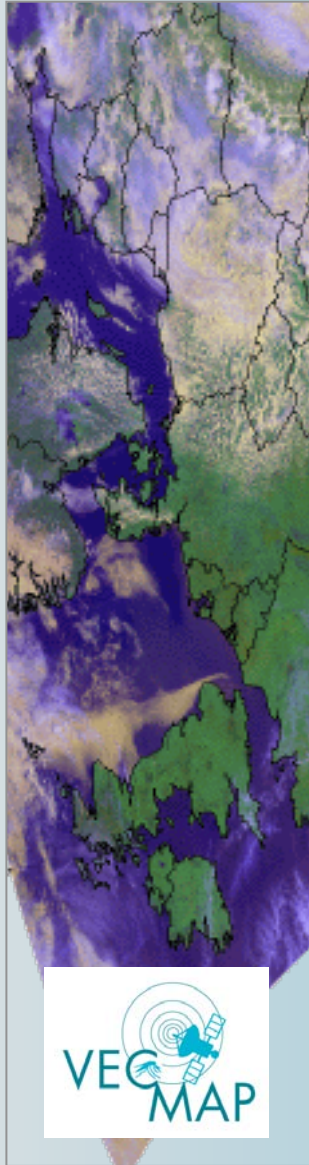
Demonstration project
24 months

Phase 1 · Phase 2



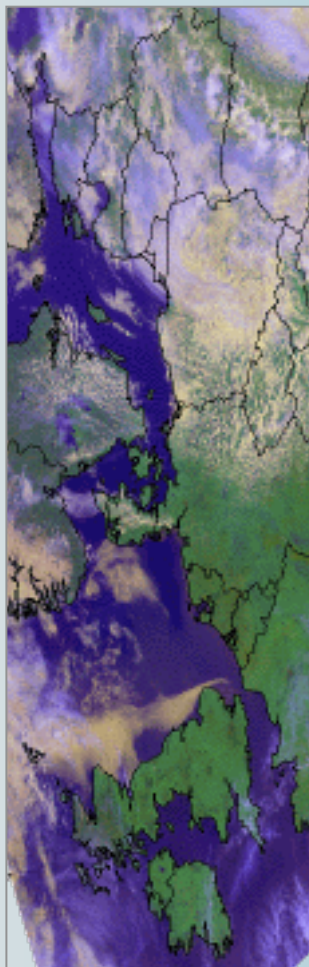
June 2010





VECMAP PHASE 1

What are the real needs



2. VECMAP Key User Groups

Based on the VECMAP Consortium experience with complex multi-partner projects such as EDEN (FP6), V-borne (ECDC), TigerMaps (ECDC) and VBORNET (ECDC) we know that data-sharing is the most complex problem to solve which should not be ignored in a project such as VECMAP. Therefore two major user groups have been identified:

- Users which collect their own data and want to keep control over data analysis and outputs. These 'VECMAP software users' need access to regularly updated standardized state of the art tools. Such users may be encouraged to operate in networks and develop their own services, eventually with assistance from the VECMAP consortium.
- Users which are interested in mapped/ modelled outputs, e.g. a service providing ready to use mosquito risk maps tailored to their needs. Such 'VECMAP service users' may or may not have access to mosquito data.

Making this distinction between two types of user groups is an essential part of the proposed VECMAP approach.

3. Proposed VECMAP System Lay-out

Based on the above VECMAP proposes to develop an integrated software tool, termed VECMAP System, which can be acquired as such by advanced users and/or used as basis for a primary or secondary VECMAP Service.

3.1 Schematic Overview

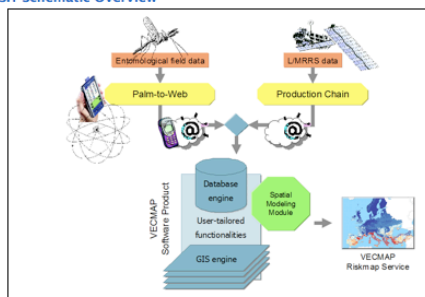


Fig.1 - VECMAP System Components

A schematic overview of the various components of the proposed VECMAP System is given in Figure 1. It includes (a) input data (orange), (b) primary data processing tools (yellow), (c) a central spatial information system (blue) which includes a data base, a GIS engine and user-tailored functionalities for spatial analysis, and (d) an advanced spatial modelling module (green).

3.2 System Functionalities

The functionalities of each of the system components (Fig.1) are briefly described below.

3.2.1 Spatial Information System

The spatial Information System (Blue) provides the link between the different VECMAP components. It includes user tailored integrated data management and spatial analysis functionalities such as: spatial sample design to plan field activities and prepare for spatial modelling, data base query and viewing, change analysis, biodiversity mapping.

3.2.2 Palm-to-Web Tool

The Palm-to-Web Tool (Yellow) with GPS/ EGNOS router and access to Google Maps, enables the field teams to assess accessibility of field sites, plan best routes to reach field sites, locate trap positions, complete field data forms and transfer field data to the central database using GSM/GPRS or an Internet connection.

3.2.3 L/MRRS Production Chain

L/MRRS Production Chain (Yellow) provides the quality-controlled pre-processing and processing of L/MRRS time series to be included as predictor variables in statistical distribution models.

3.2.4 Spatial Modelling Module

Spatial Modelling Module (Green): uses state of the art spatial modelling techniques to produce and validate mosquito habitat risk maps.

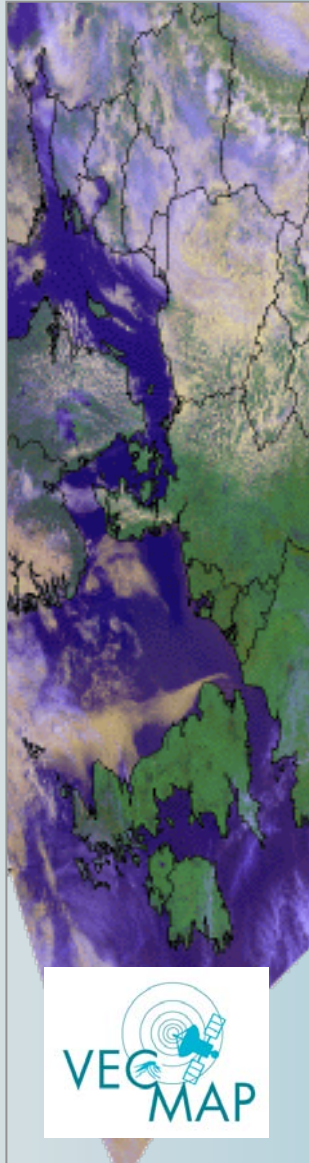
3.3 Integration of System Components

The techniques needed for each of these components have been developed independently by the different consortium partners (Table 1) and have currently reached various operational stages.

Major technical challenges of this study will be to:

- (1) Investigate the feasibility of integrating these independent components into a modular, user-friendly software package which fits the agreed user requirements. This includes investigating the software development needs to enable the modular integration of these different components;
- (2) Assess the added value and continued availability of EGNOS as part of an enhanced GPS Satellite Navigation System;
- (3) Assess the added value and continued availability of a wide range of L/MRRS products.

User categories:
Mosquito Distribution Mapping
Mosquito Control



Translating User Needs

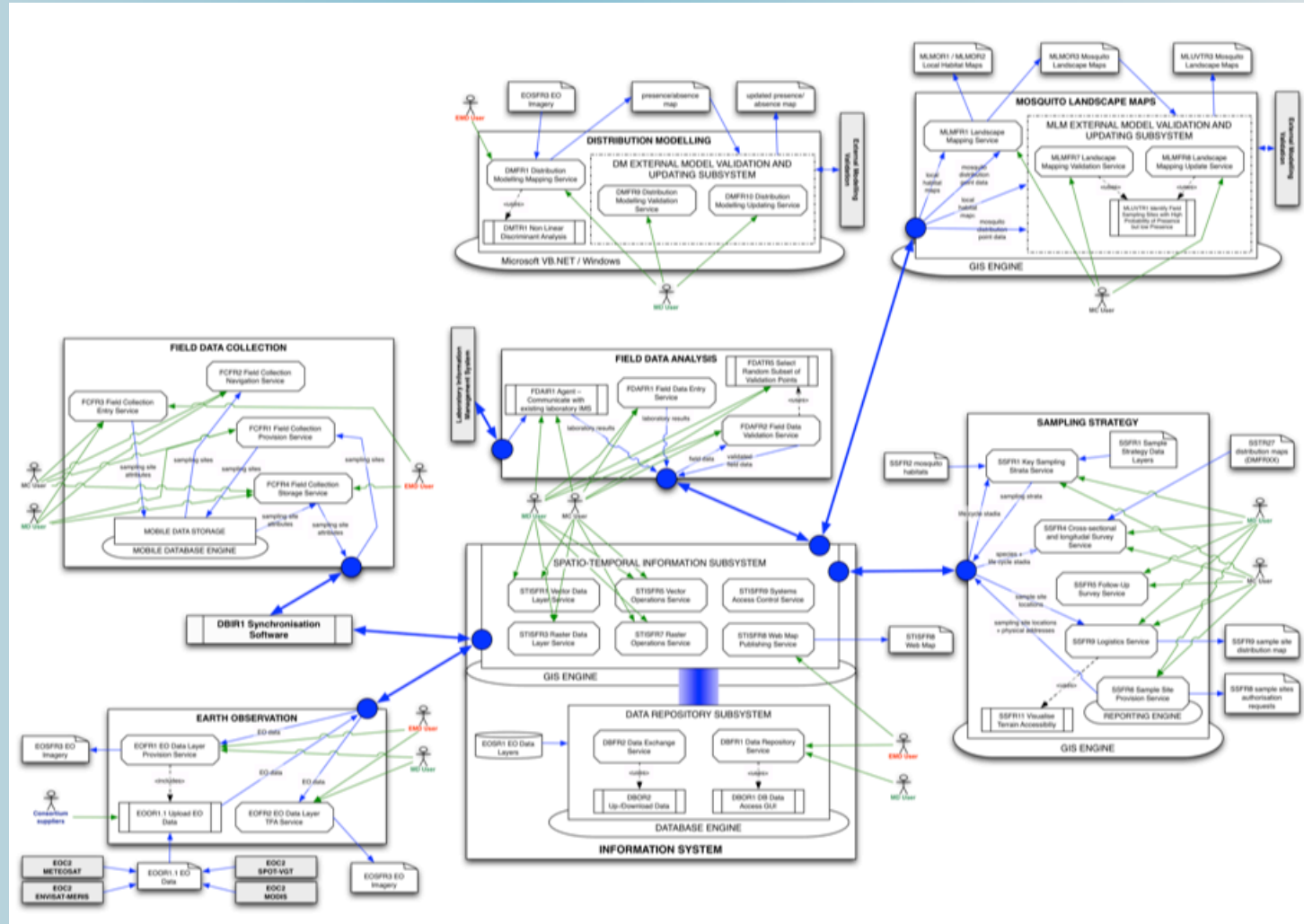
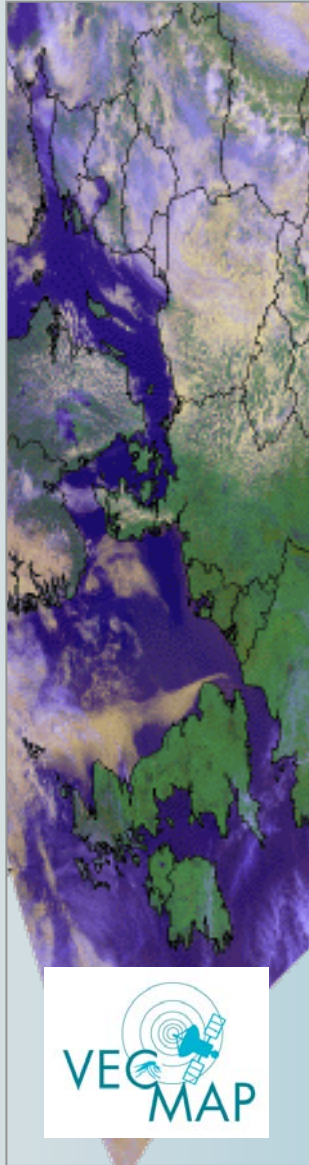
Workshop > User Needs

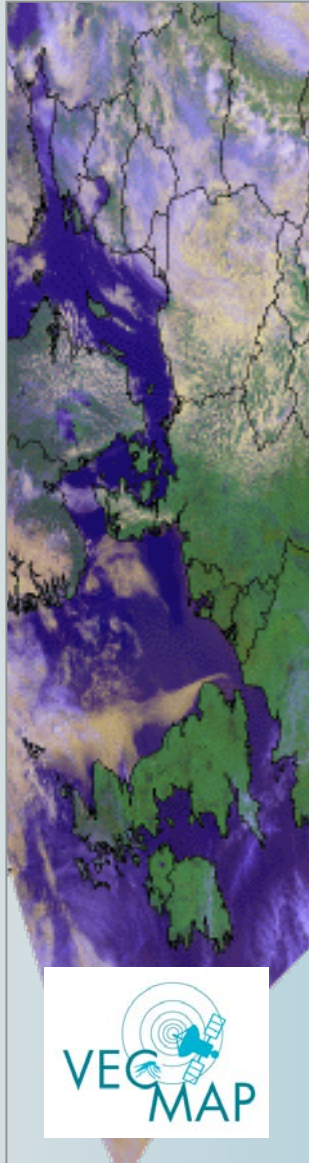
Per need listing User Requirements -
traceable

User feedback on needs and
requirements

Blueprint definition of VECMAP
system and related services

Prototype Blueprint



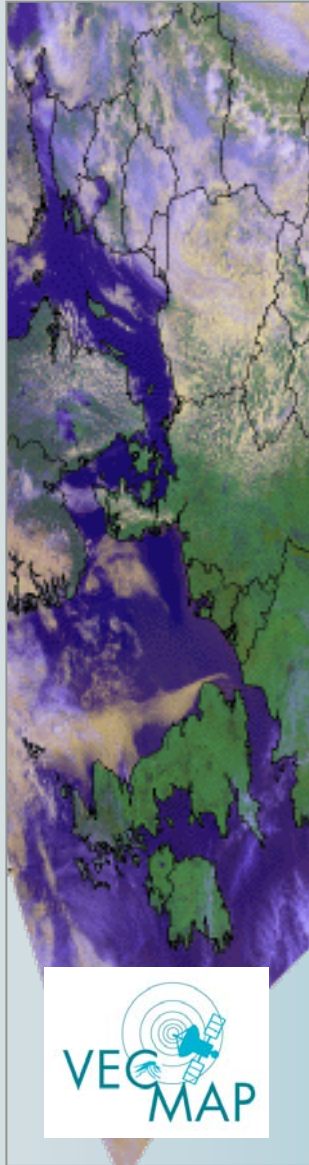


VECMAP system and services

VECMAP Software Do-it-Yourself

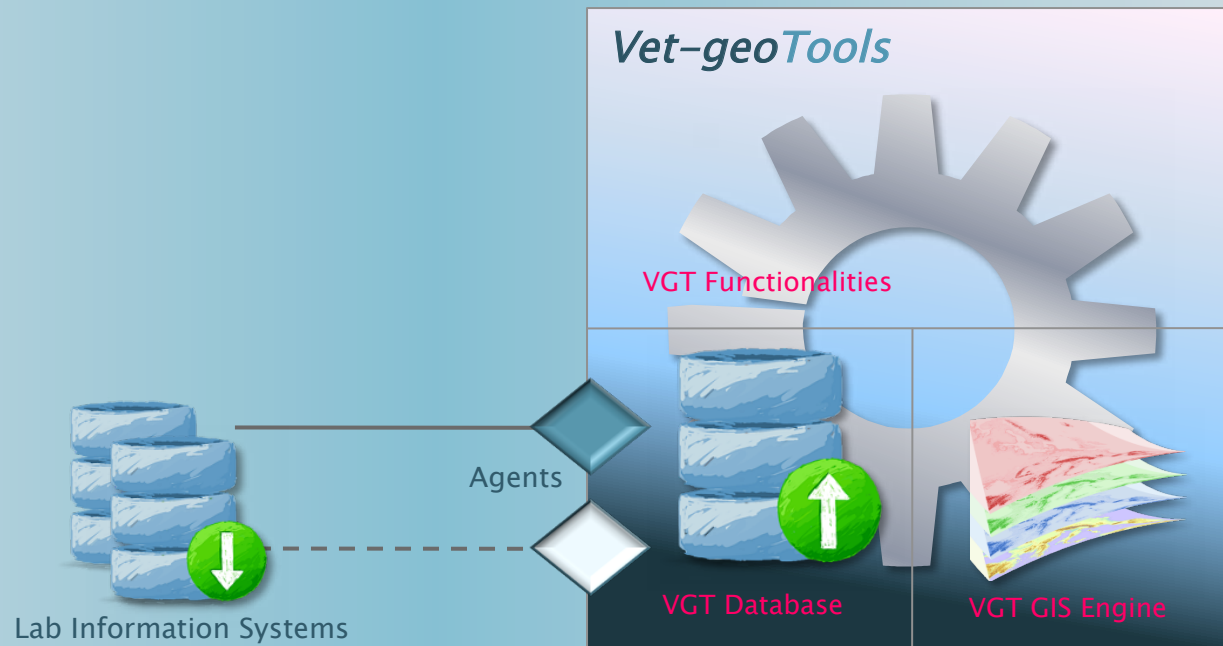
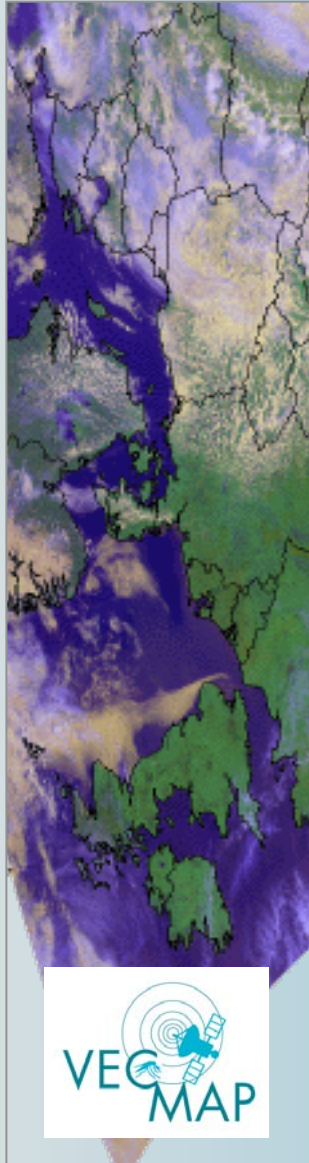
Services with central DB at VECMAP consortium e.g.

- Full service: from sampling to map
- Mapping service: VECMAP consortium uses data to produce necessary maps



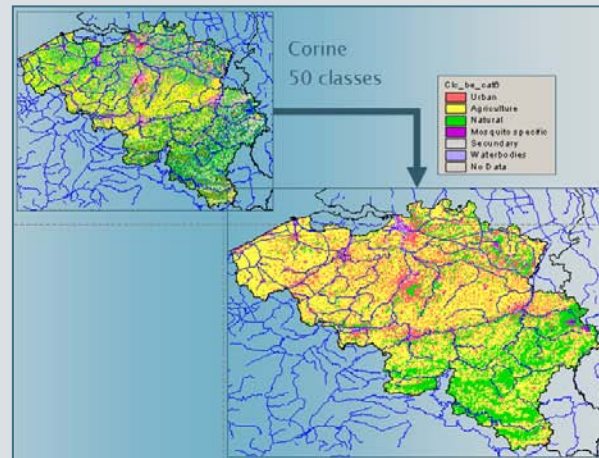
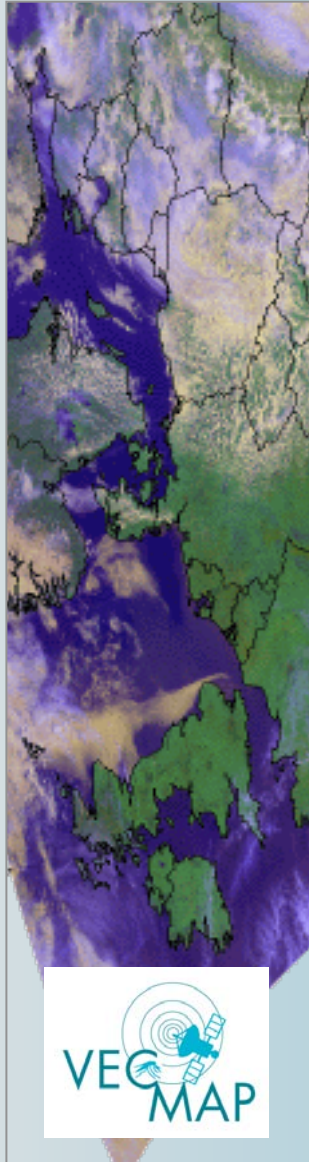
VECMAP COMPONENTS

STIS platform and DB



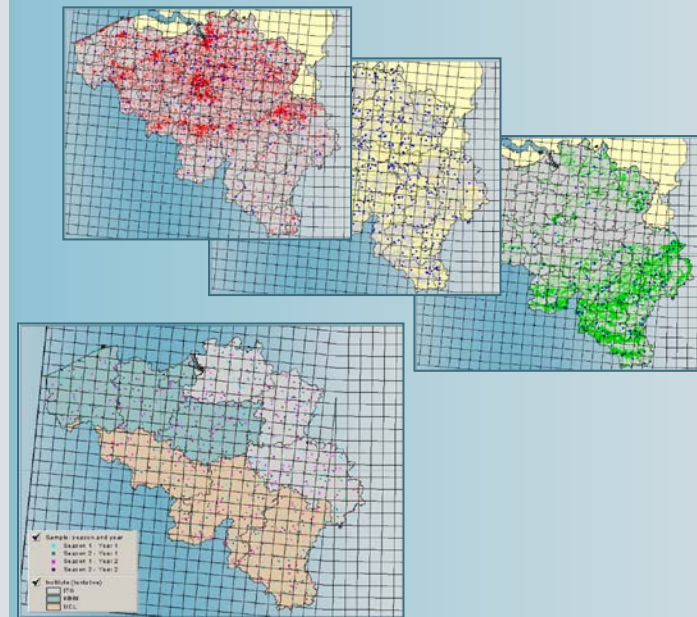
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genusid	name	name	genusid
1	Aedes	albopictus	1
2	Anopheles	cinereus/geminus	1
3	Coquillettidia	vexans	1
4	Culiseta	atroparvus	2
5	Culex	claviger	2
6	Ochlerotatus	maculipennis s.s.	2
*	NULL	messae	2
		plumbeus	2
		richiardii	3
		annulata	4
		fumipennis	4

Sampling Strategy Module



Class	Pixels	Percentage	Samples
Urban	769,723	17.7%	173
Agriculture	2,514,104	57.7%	564
Natural	888,272	20.4%	199
Specific	56,479	1.3%	13
Secondary	103,411	2.4%	23
Water bodies	28,285	0.6%	6
TOTAL	4,360,274	100.0%	978

In **blue** = automated random assignment
 In **red** = manual attribution in selected areas



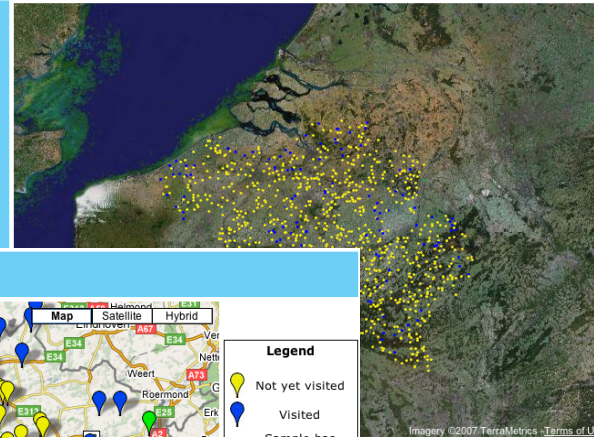
Congalton and Green (2008)

Logistic Planning Module

Modirisk - Progress Overview

Links

Usefull links here to other parts of this site or external sites



Legend

- Not yet visited
- Visited
- Sample has been processed in the lab

Modirisk - Locate Points

Links

[Main Menu](#)



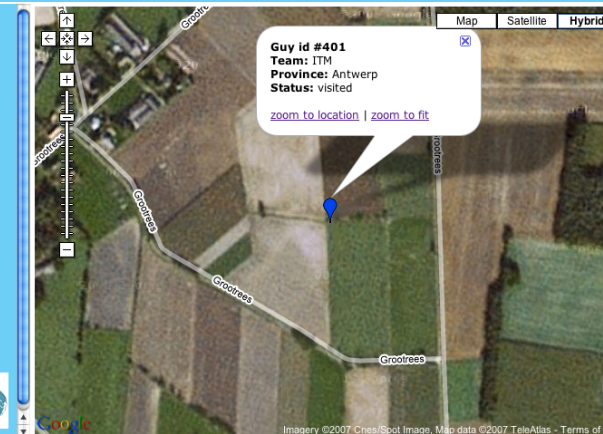
Legend

- Not yet visited
- Visited

Modirisk - Locate Points

Links

[Main Menu](#)



Legend

- Not yet visited
- Visited
- Sample has been processed in the lab

Navigation

[All Years](#)
[Year 1 - Season 1](#)
[Year 1 - Season 2](#)
[Year 2 - Season 1](#)
[Year 2 - Season 2](#)

Jump to province:
Antwerp

Go

Find (guy id):

401

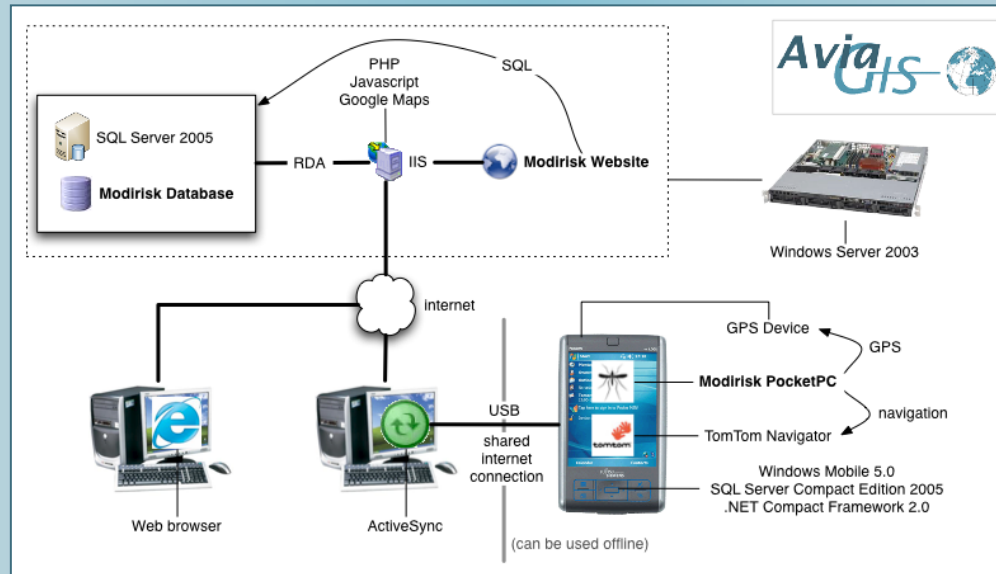
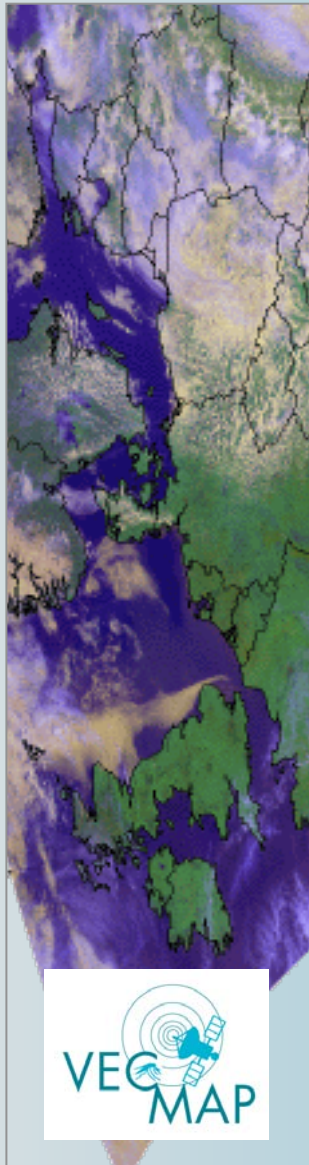


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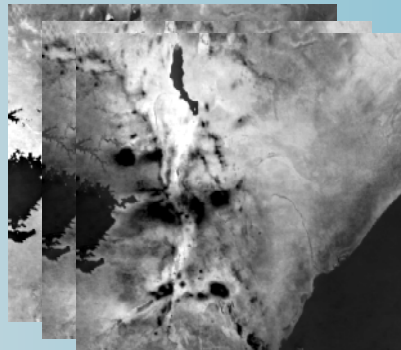
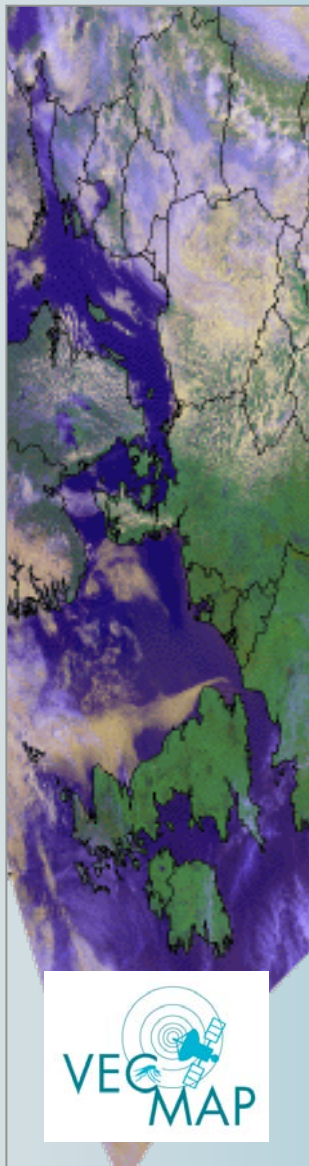
Palm-to-Web Module



Windows Mobile OS
Android OS



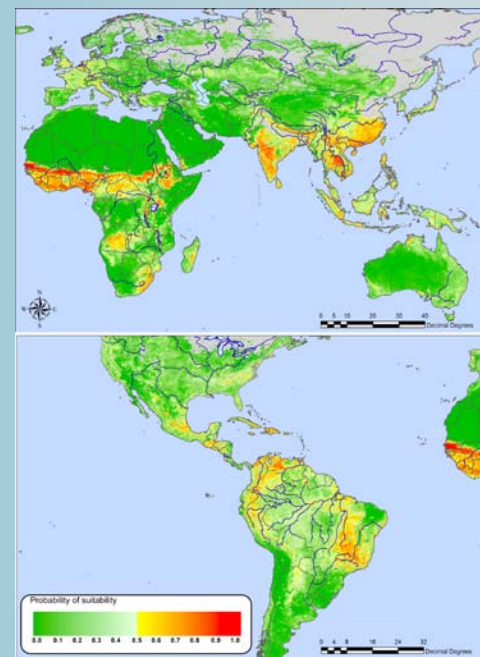
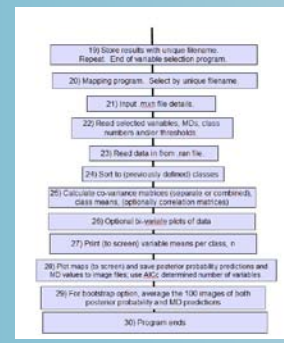
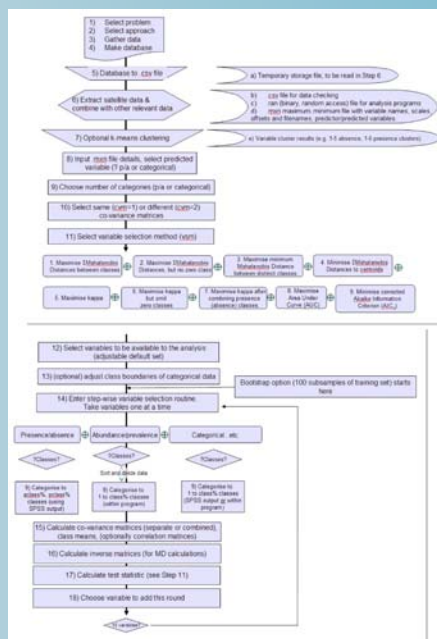
Distribution Mapping Module

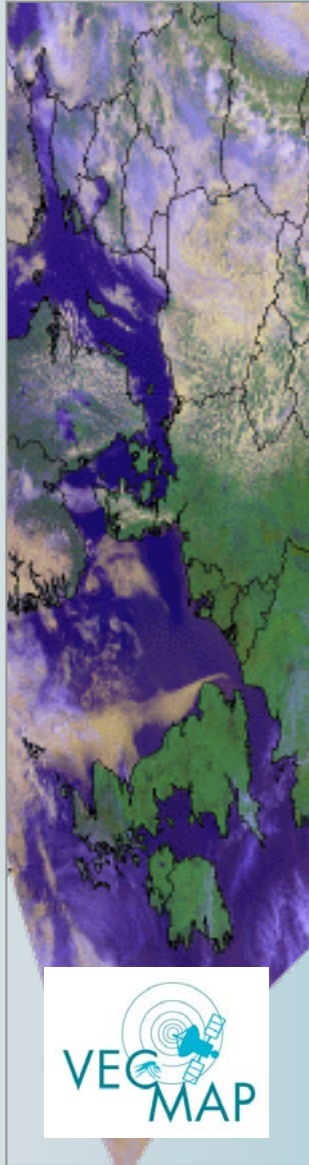


MODIS Terra/Aqua: LST, NDVI, EVI, MIR (ERGO/TALA)
 Meteosat: Evapotranspiration, Precipitation and related (EARS)
 Spot VEGETATION, Envisat MERIS, MetOp AVHRR: NDVI, fAPAR (VITO)



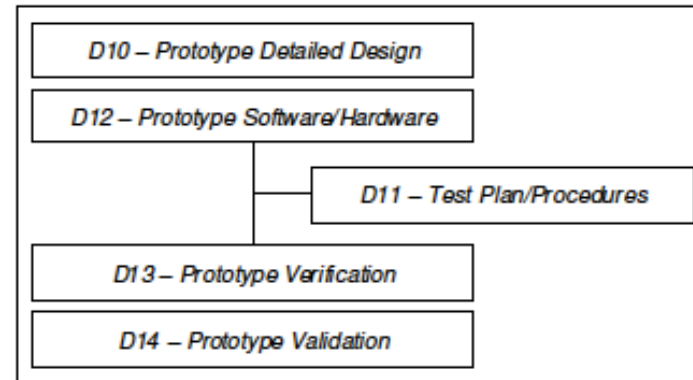
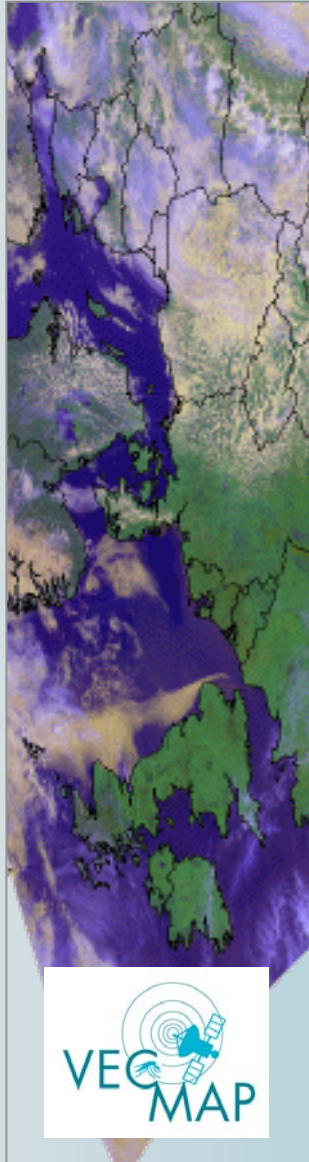
Non-Linear Discriminant Analysis (ERGO/TALA)





VECMAP PHASE 2 AND BEYOND

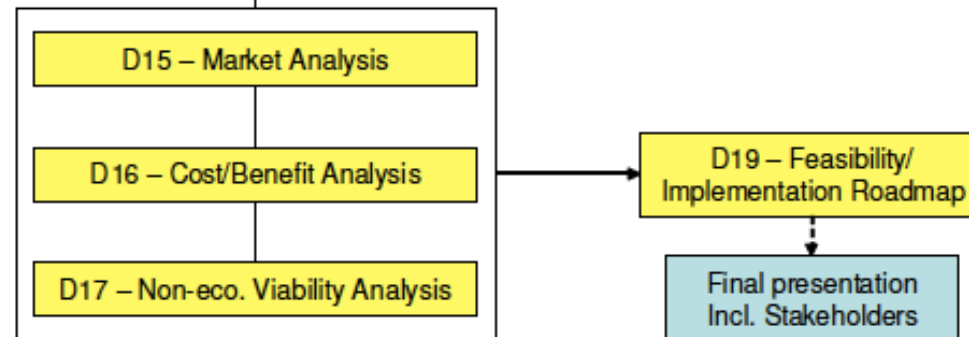
Proof-of-Concept

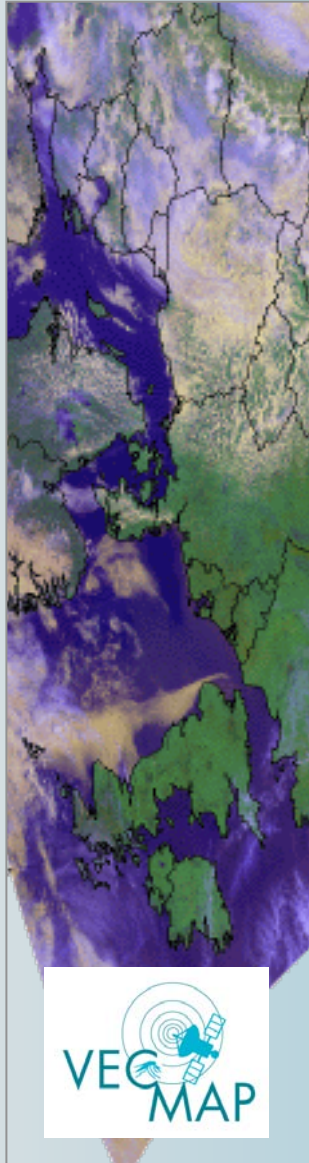


Part 4

Task 5 – Viability analysis

Task 6 – Roadmap and recommendations



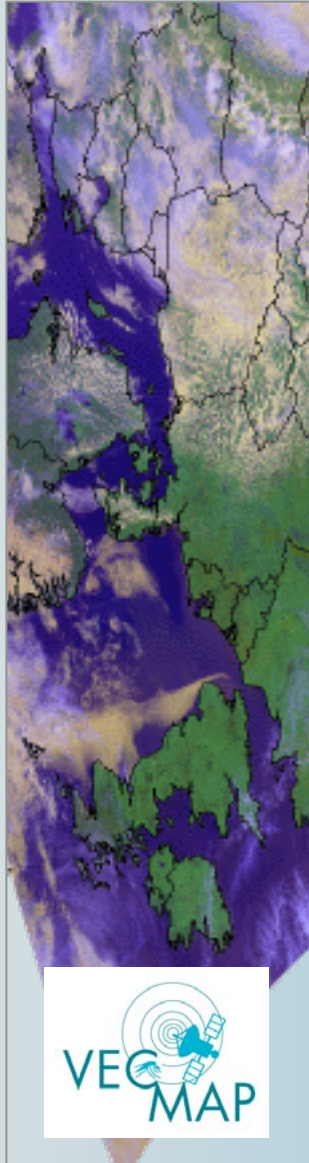


A plea for test cases

During PoC and demonstration active user involvement necessary

PoC : prototype testing, does it actually work in the field

Demonstration phase: continued testing of the system and services



What's in it for you

Playing around with the VECMAP software

Obtaining access to EO data during project development

Use of mobile units in the field

Phrasing additional needs + specify extra requirements for future versions