NET4mPLASTIC PROJECT

WP5 – Act. 5.3 EWS setting and calibration

D 5.3.2

Remote Units and Data Centre Communication Test Procedure and Report

June, 2022 - Version 1.1

Project Acronym	NET4mPLASTIC
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Specific objective	3.3
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Work Package Title	Development of Information and Communication Technology (integrated platform)
Activity Number	5.3
Activity Title	EWS setting and calibration
Partner in Charge	PP4 – Prosoft d.o.o.
Partners involved	LP - University of Ferrara (UNIFE); PP2 – Marche Region; PP3 – Hydra Solutions srl PP8 – University of Split, Faculty of Civil Engineering, Architecture and Geodesy (UNIST – FGAG)
Status	Final
Distribution	Public

CONTRIBUTING PARTNERS	LP, PP2, PP3, PP4, PP8

Data	Version	Prepared by	Responsible	Approved by	Revision	Comment
31.12.2021	1.0	LP PP2 PP3 PP4 PP8	PP4	Nelida Pogacic	First Release	Comments and Approval
30.06.2022	1.1	LP PP2 PP3 PP4 PP8	PP4	Nelida Pogacic	Final	Approved

INDEX

Acronyms / Abbreviations

ACRONYM	DEFINITION
EWS	Early Warning System
MP	Microplastic
OBU	On board Unit
PP	Project Plan
PT	Project team
TC	Technical task coordinator
TGS-ML	Technical Subgroup on Marine litter, European Union expert group On marine litter
TM	Task Manager
UML	Unified Modelling Language
WP	Work package
ACT	Activity
OBU	On-board unit
UAV	Unmanned aerial vehicle
DB	Database
DBMS	Database Management System
APP	Application
HW	Hardware
SW	Software
GIS	Geographic information system
ICT	Information and communications technology
WEB	World Wide Web
WebGIS	Geographic Information Systems available on web platforms
HMI	Human-machine interface

1 INTRODUCTION

1.1 Background of the project

The main goal of the NET4mPLASTIC project is to achieve an efficient monitoring system for plastic and MP distribution along the Croatian and Italian coastal and marine areas in order to improve the environmental coastal and marine sea quality conditions.

According to doc R1, the WP5 deals with the design implementation of the EWS - Early Warning System including:

a control centre, based on system hardware and network (Prosoft), and a EWS application (Hydra Solutions) integrated with the transport model and external systems (such as the oceanographic model - (Marche Region);
Integrated Marine Drone, for collection of MP - microplastic, and geolocalized water indicators on the route (Hydra Solutions);
Integrated Marine OBU, a unit to be installed on board of ships for improved MP collection with geolocalized water indicators on the route (Hydra Solutions).

The design shall be carried out with the modern system engineering approach based on UML - Unified Modelling Language (Hydra Solutions). UNITS and RERA SD will provide data for the first set up of the platform related to MP. Based on this WP, the transport model will be developed in WP4. The development of the EWS platform integrated with the transport model will be done in WP5.

The activities planned for WP5 are the following:

development of the EWS - Early Warning System data centre platform and integration with the transport model (WP4)
development of the UAV/marine drone for real-time data acquisition
testing and calibration
business simulation for testing the solution with real users –
final assessment of the solution, including a CBA–cost benefit analysis and the preparation of the business plan.

The main expected output will be:

- EWS integrated platform, implemented and tested
- Training for the required personnel and users - Assessment of the platform.

The required main software modules of the EWS platform will be:

MP Transport model, providing data with distribution and concentration,
MP WebGIS platform, for: a) Display MP data (historical, actual forecast, 24-72h forecast) b) Early warning provision, based on the transport model c) Data entry, recording & replay
MP DB, the DB for collecting data
A mobile APP, for starting/closing the field activities and for data reporting
Firmware for marine remote units - Integration with external system, for meteorological/other data

The coordinator will be Hydra Solutions. The EWS SW platform will be developed by Hydra Solutions, with the support of Marche Region for the transport model, and Prosoft for localization, the ICT implementation, the integrated testing, training and support for maintenance activities. UNITS will coordinate the assessment of the platform. The other partners involved will give contribution for data entry, as target user, and for preparation of the required documentation. The user target group will be based on the main project partners, institution, regions and councils. They will be involved in the design stage for collecting the main needs, for testing and user training of the solution. The target group will be required to use the system during the business simulation, and provide feedback.

The expected reports within WP5 are the following:

D 5.1.4 –Hardware and Network Integration Report (Report): this deliverable will provide a report with details on integration of the network and other hardware required for the system;

D 5.1.5 –Test procedures and reporting (Report): this deliverable will provide the procedures for testing the data centre and the integrated solution in the test bed environment, and the reporting of the tests done to assure the quality of the solution provided;

D 5.1.6 –Hardware & Network Maintenance Manual (Document); this deliverable will provide the manual for the maintenance of the hardware and the network of the system;

D 5.1.7 –Software User and Maintenance Manual (Document); this deliverable will provide the manual for the maintenance of the software and the User manual for the operators

D 5.2.4 – Marine OBU / Drone Test Procedure and Report (Document): this deliverable will provide the procedures for testing the drones and the OBU, and the reporting of the tests done to assure the quality of the solution provided;

D 5.2.5 –Marine OBU / Drone Maintenance Manual (Document); this deliverable will provide the manual for the maintenance of the Drone and OBU;

D 5.2.6 – Marine OBU / Drone User Manual (Document); this deliverable will provide the User manual for the operators;

D 5.3.1 – Data Centre Hardware and Network Facility implemented (Hardware, report), in this deliverable is relevant to the implementation of the data centre for the integrated solution, hardware and the network facility, and the preparation of the AS BUILT document describing the data centre facility;

D 5.3.2 – Remote Units and Data Centre Communication Test Procedure and Report (Document); this deliverable will provide the procedures for testing the communication integration between remote units and the data centre, and the relevant reporting of the tests done to assure the quality of the solution provided;

D 5.3.3 – Data Centre Test Procedure and Report (Document): this deliverable will provide the procedures for testing the features of the solution provide in the data centre, and the relevant reporting of the tests done to assure the quality of the solution provided, that will be done in cooperation with the main stakeholders;

D 5.3.4 – Integrated System Final Test Procedure and Report (Document): this deliverable will provide the procedures for the integrated test cases testing the integrated solution, and the relevant reporting of the tests done to assure the quality of the solution provided, that will be done in cooperation with the main stakeholders.

D 5.4.1 – Training documentation (document): this deliverable is relevant to the implementation of the required documentation for performing training to the personnel involved in the business simulation (as defined in the WP3.3 and the design of the solution);
D 5.4.2 – Training assessment (report): this deliverable is relevant to the implementation of the training to be done for the personnel involved in the business simulation, with a reporting on evaluation of the training;
D 5.4.4 – Questionnaire for platform assessment (report) this deliverable is relevant to the preparation of a questionnaire for evaluation of the platform from the user point of view involved in the business simulation;
D 5.4.5 –Cost Benefits Analysis – CBA of the platform (Document); this deliverable will provide a final document with lessons learnt during the real use of the platform, an evaluation of the benefits of the platform, and costs for full exploitation of the solution, including the future recommendations on potential improvement, and including a business plan for a full implementation of the platform.

1.2 Purpose of the report

This document describe the **deliverable D.5.3.2 – Remote Units and Data Centre Communication Test Procedure and Report**, following the implementation of the EWS, according to the activity 5.1 - Implementation of the platform (HW, SW) with field and laboratory data , and the activity 5.2, Development of the UAV/marine drone for real-time data acquisition, and will provide the procedures for testing the communication integration between remote units and the data centre, and the relevant reporting of the tests done to assure the quality of the solution provided.

This deliverable is within the activity 5.3 of the Net4mPlastic project - EWS setting and calibration, that is focused on the EWS setting and calibration. The main tasks planned in this activity are the following:

Definition of integrated test cases including functional test, communication tests, performance tests of software applications and communication lines
Tuning of the methods to collected data from sensors and/or laboratory equipment to choose/define optimal input method
Implementation of the Data Centre in the final location; ICT operation and performance parameters will be monitored and adjusted accordingly
Final integrated test will be performed in cooperation with the main stakeholders

The coordinator of this activity is PROSOFT, in cooperation with HYDRA, UNIST-FGAG, UNIFE, UNITS, MARCHE
The purpose of this document is summarized as follows:

Procedure for testing the communication integration between remote units and the data centre, reporting of the tests done to assure the quality of the solution provided

1.3 Reference documentation

No	Title	Rif/Report N.	Published by
[R1]	**APPLICATION FORM - NET4mPLASTIC Project - New Technologies for macro and Microplastic Detection and Analysis in the Adriatic Basin** 2014 - 2020 Interreg V-A Italy - Croatia CBC Programme Call for proposal 2017 Standard - NET4mPLASTIC Priority Axis: Environment and cultural heritage	Application ID: 10046722, dated 30/06/2017	Lead applicant: UNIVERSITY OF FERRARA
[R2]	D 5.1.4 –Hardware and Network Integration Report	HYD514-SPE-001.0	ACT5.1 – Net4Mplastic
[R3]	D 5.1.5 –Test procedures and reporting (Report)	HYD515-SPE-001.0	ACT5.1 – Net4Mplastic
[R4]	D 5.1.6 –Hardware & Network Maintenance Manual	HYD516-SPE-001.0	ACT5.1 – Net4Mplastic
[R5]	D 5.1.7 –Software User and Maintenance Manual	HYD517-SPE-001.0	ACT5.1 – Net4Mplastic
[R6]	D 5.2.4 – Marine OBU / Drone Test Procedure and Report	HYD524-SPE-001.0	ACT5.2 – Net4Mplastic
[R7]	D 5.2.5 –Marine OBU / Drone Maintenance Manual	HYD525-SPE-001.0	ACT5.2 – Net4Mplastic
[R8]	D 5.2.6 – Marine OBU / Drone User Manual	HYD526-SPE-001.0	ACT5.2 – Net4Mplastic
[R9]	D 3.3.1 – EWS Requirements definitions based on the stakeholders and users' needs, through questionnaires and specific meeting	HYD331-SPE-001.0	ACT3.3 – Net4Mplastic
[R10]	D 3.3.2 – EWS Hardware Architecture and network design (central Data Centre Hardware Architecture Client/Server, Data network	HYD332-SPE-001.0	ACT3.3 – Net4Mplastic

	architecture and related communication segments)		
[R11]	D 3.3.3 – EWS Software Architecture design (data modelling software, GIS applications, early warning detection software, etc.), the Relational Database to manage all collected data with related meta data, the communication Front-End for web remote access, the Data Centre Software Interfaces for users	HYD333-SPE-001.0	ACT3.3 – Net4Mplastic
[R12]	D 3.3.4 – EWS Hardware and other software Components Specifications design (Integrated Marine Drone and Marine OBU, with details of required components (hardware and firmware), firmware and other software components (mobile apps for managing the drones and for remote mobile activities).	HYD334-SPE-001.0	ACT3.3 – Net4Mplastic
[R13]	D 3.3.5 - Report and database provision with all the collected data	HYD335-SPE-001.0	ACT3.3 – Net4Mplastic

2 TEST PROCEDURES

2.1 Introduction

The purpose of this chapter is to describe the procedures for testing the communication integration between remote units and the data centre.

2.2 Test environment

The test environment is based on:

Remote units:

- The drone
- The OBU
- A remote PC or Tablet or Smartphone

Data Centre with related software applications web based.

2.3 Participants

For testing the units, are required at least two people. Prosoft will lead the testing. Other partners can join.

2.4 Test procedures and results

The present section describes the test procedures aimed at verify the correct behaviour of the communication integration between remote units and the data centre. The test procedures shall verify the functionalities according to the following table.

Code	Description	Note
DCC-001	Access to the data centre via web client application of PC, tablet or smartphone	
DCC-002	Visualization of meteo-marine data in plot, table and chart format related to the past years for the 4 sites	
DCC-003	Visualization of coastal MP concentration on chart and table format	
DCC-004	Visualization of drone mission collected data related to MP measured concentration. For each mission information regarding route of the drone, samples of maim pictures of collected microliters are reported.	
DCC-005	Possibility for the user to insert data through the front-end page.	
DCC-006	Possibility for the user to export data in CSV format	
DCC-007	Visualization of the hazard level for a specific season considering the percentiles of MP	

	concentration calculate by the model in the past years.	
DCC-008	Reception of daily model simulation with comparison to the percentiles of the season to detect hazard level	
DCC-009	Generation of daily hazard report	
DCC-010	Possibility for the user to load geo-referenced pictures with macroplastics and to see them on a webGIS repository	

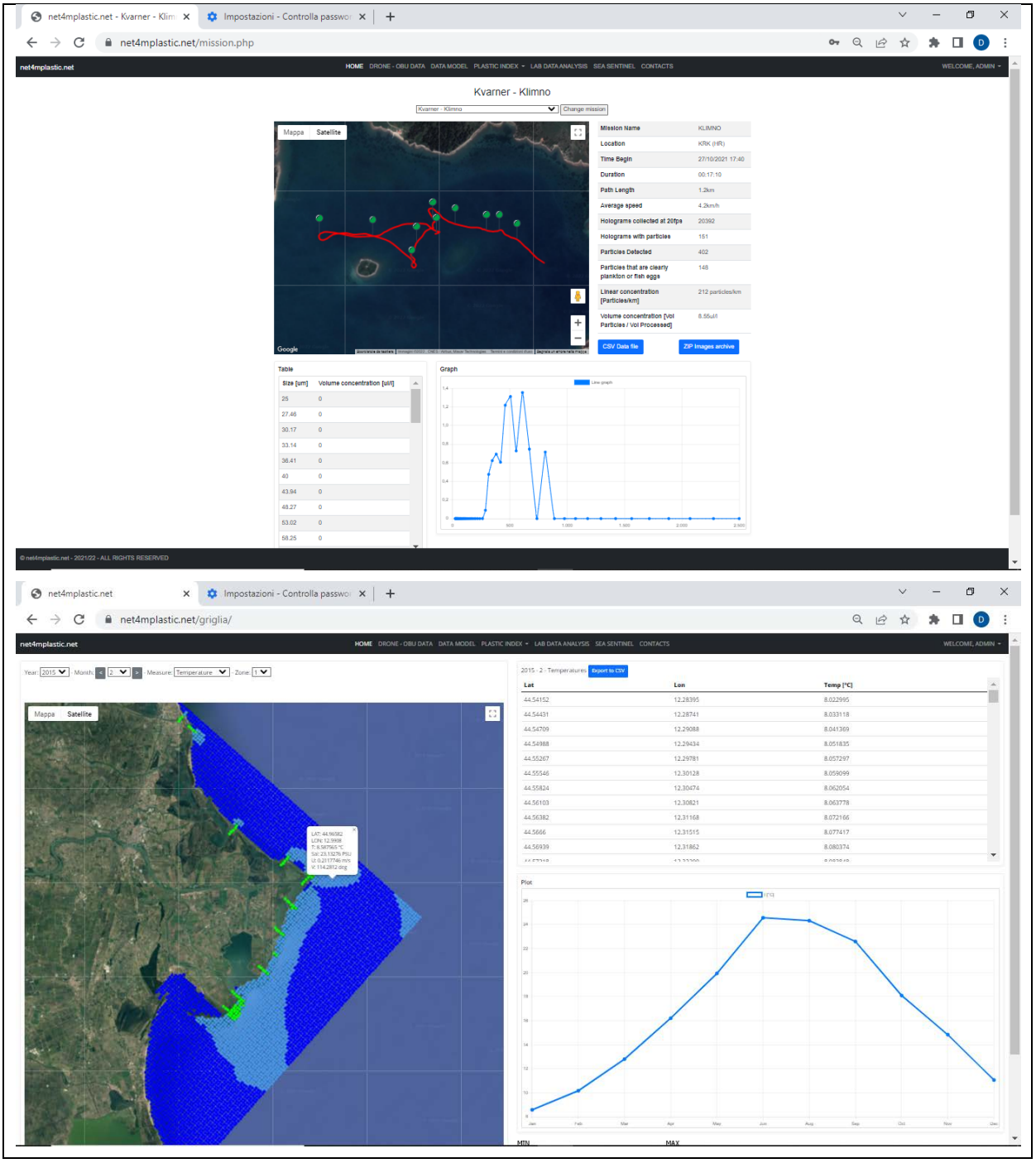
A test case is a well-defined test procedure with:

a ***Code*** to facilitate its identification;
a ***Title*** summarizing the scope of the specific test;
a ***Scope*** describing the scope of the test;
a set of ***Pre-Conditions*** describing the initial conditions of the system and of the test environment and facilities before to execute the test procedure;
a ***Procedure*** describing how the test will be carried out;
the ***Successful Expected Results*** describing the set of results to consider the test successfully passed.

The next pages contain sheets detailing for each requirement to be tested the procedure and the expected successful results. For each sheet there is a section to take note of the real results/data collected during the execution of the test procedure.

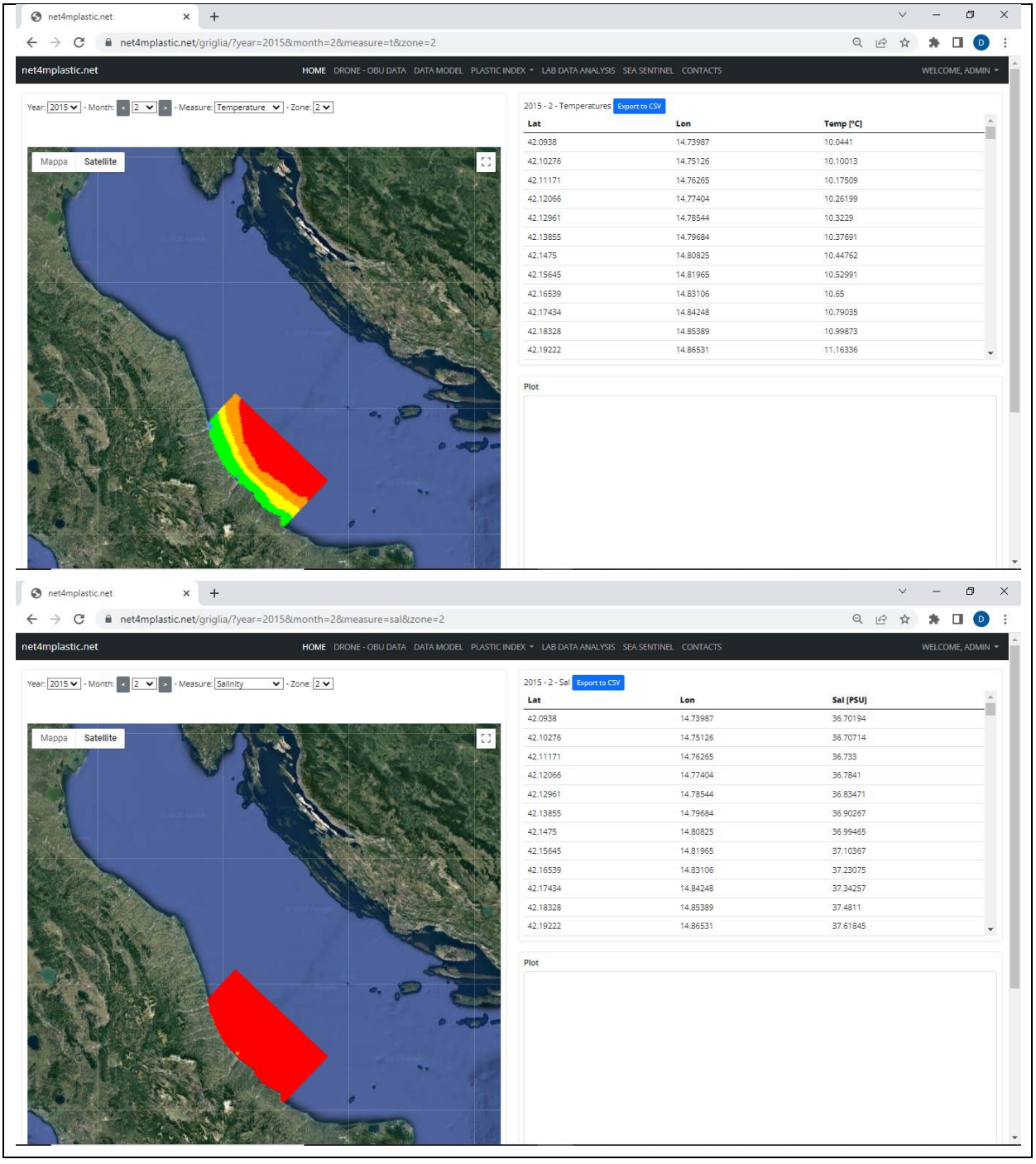
Code	Description
DCC-001	Access to the data centre via web client application of PC, tablet or smartphone
Preconditions	
The EWS drone completed his mission. Data have been collected in the Data Centre from drone and Prediction Model.	
Procedure	
STEP 01	The remote unit (PC, tablet or smartphone) is connected to internet
STEP 02	The user with a web browser opens the page www.Net4mplastic.net and insert its credentials.
STEP 03	The user can get access to the model data and to the collected measurement data to display the date on the map, on plots and on tables.
Successful Results	
All data collected are visible on EWS software from a computer/tablet/smartphone connected to the control centre facility via web interface.	

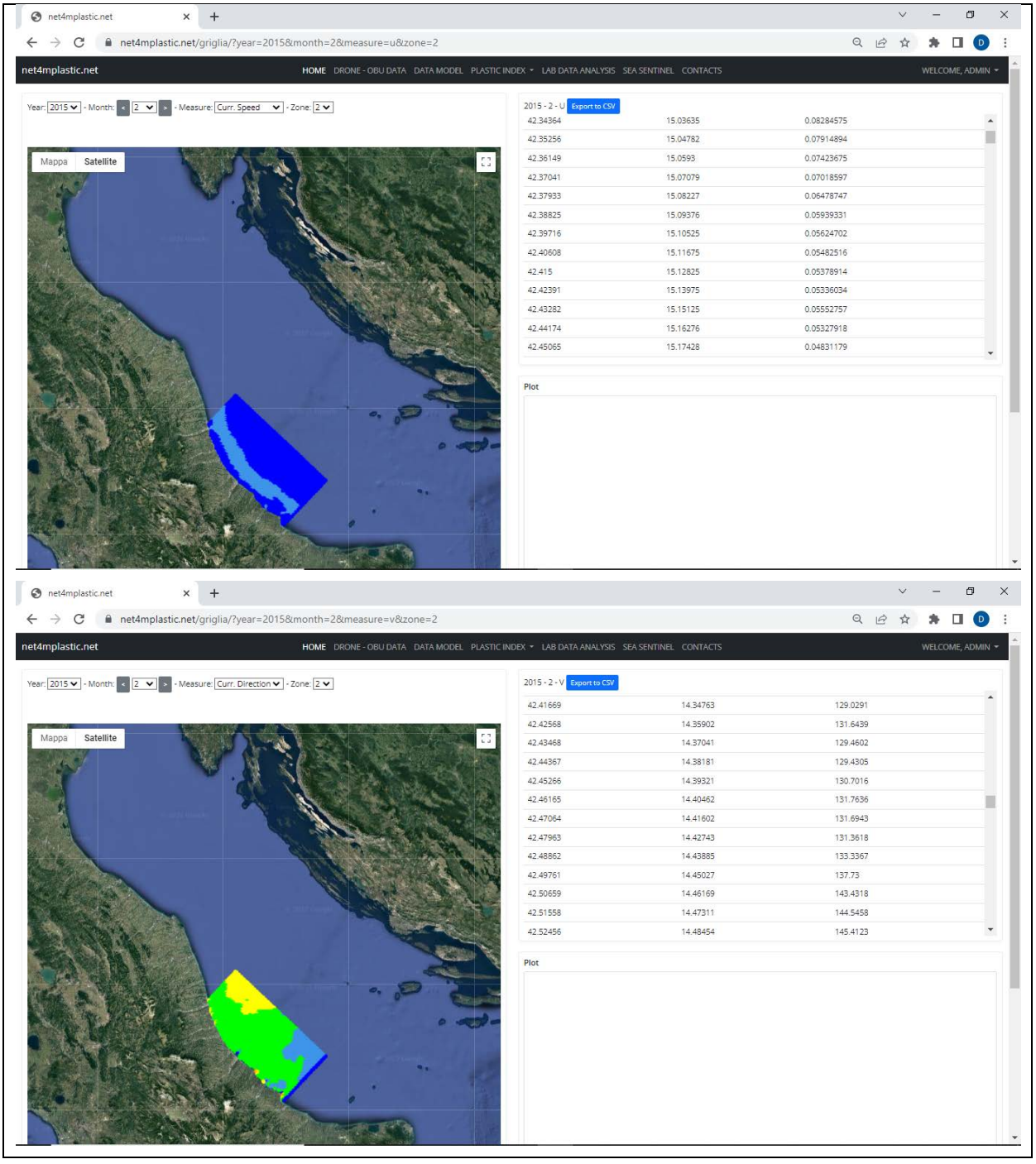
DCC-001 Test Report Section	**Date 10/06/22**
All data transfer processes work properly and data are finally visible on the EWS software platform as shown hereinafter	


net4mplastic.net - Kvarner - Klim
Impostazioni - Controlla passwor
net4mplastic.net/mission.php
net4mplastic.net
HOME
DRONE - OBU DATA
DATA MODEL
PLASTIC INDEX
LAB DATA ANALYSIS
SEA SENTINEL
CONTACTS
WELCOME, ADMIN
Kvarner - Klimno
Change mission
Mappa
Satellite
Mission Name
KLIMNO
Location
KRK (HR)
Time Begin
27/10/2021 17:40
Duration
00:17:10
Path Length
1.2km
Average speed
4.2km/h
Holograms collected at 20fps
20392
Holograms with particles
151
Particles Detected
402
Particles that are clearly plankton or fish eggs
148
Linear concentration [Particles/km]
212 particles/km
Volume concentration [Vol Particles / Vol Processed]
8.55ul/l
CSV Data file
ZIP Images archive
Table
Size [um]
Volume concentration [ul/l]
Graph
© net4mplastic.net - 2021/22 - ALL RIGHTS RESERVED
net4mplastic.net
Impostazioni - Controlla passwor
net4mplastic.net/griglia/
Year:
Month:
Measure:
Temperature
Zone:
Mappa
Satellite
Export to CSV
Lat
Lon
Temp [°C]
Plot
MIN
MAX

Code	Description
DCC-002	Visualization of meteo-marine data in plot, table and chart format related to the past years for the 4 sites
Preconditions	
The user is already connected to the EWS Platform.	
Procedure	
STEP 01	The user get access to the menu item DATA MODEL
STEP 02	It can select the variable TEMPERATURE, SALINITY, CURRENT SPEED, CURRENT DIRECTION related to a specific site and time
Successful Results	
Selected Data are visible on map, plot and table	

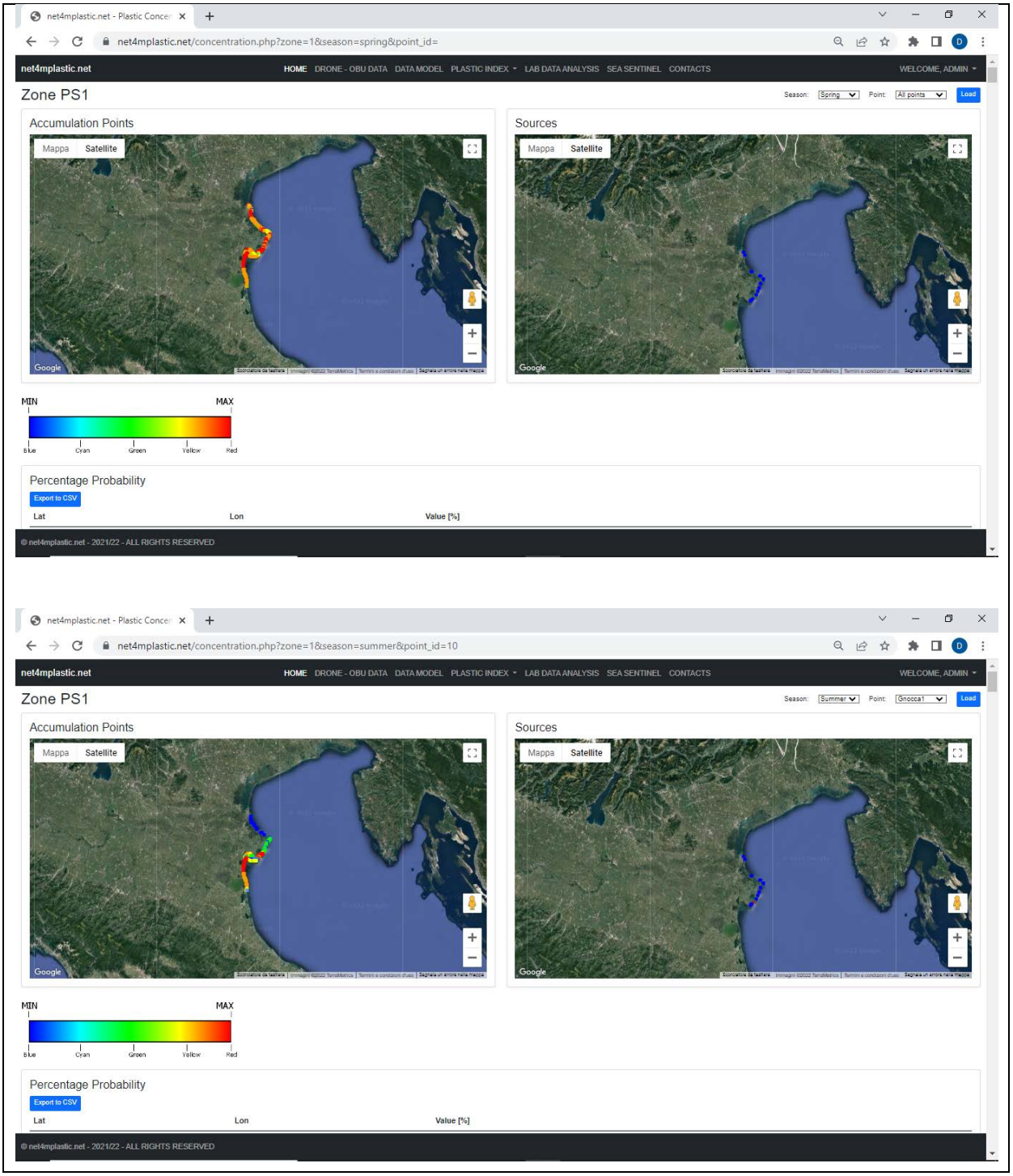
DCC-002 Test Report Section	**Date 10/06/22**
This section logs the result as shown hereinafter	


net4mplastic.net
net4mplastic.net/griglia/?year=2015&month=2&measure=t&zone=2
net4mplastic.net
HOME DRONE - OBU DATA DATA MODEL PLASTIC INDEX LAB DATA ANALYSIS SEA SENTINEL CONTACTS
WELCOME, ADMIN
Year: 2015 - Month: 2 - Measure: Temperature - Zone: 2
Mappa Satellite
2015 - 2 - Temperatures Export to CSV
Lat Lon Temp [°C]
42.0938 14.73987 10.0441
42.10276 14.75126 10.10013
42.11171 14.76265 10.17509
42.12066 14.77404 10.26199
42.12961 14.78544 10.3229
42.13855 14.79684 10.37691
42.1475 14.80825 10.44762
42.15645 14.81965 10.52991
42.16539 14.83106 10.65
42.17434 14.84248 10.79035
42.18328 14.85389 10.99873
42.19222 14.86531 11.16336
Plot
net4mplastic.net
net4mplastic.net/griglia/?year=2015&month=2&measure=sal&zone=2
net4mplastic.net
HOME DRONE - OBU DATA DATA MODEL PLASTIC INDEX LAB DATA ANALYSIS SEA SENTINEL CONTACTS
WELCOME, ADMIN
Year: 2015 - Month: 2 - Measure: Salinity - Zone: 2
Mappa Satellite
2015 - 2 - Sal Export to CSV
Lat Lon Sal [PSU]
42.0938 14.73987 36.70194
42.10276 14.75126 36.70714
42.11171 14.76265 36.733
42.12066 14.77404 36.7841
42.12961 14.78544 36.83471
42.13855 14.79684 36.90267
42.1475 14.80825 36.99465
42.15645 14.81965 37.10367
42.16539 14.83106 37.23075
42.17434 14.84248 37.34257
42.18328 14.85389 37.4811
42.19222 14.86531 37.61845
Plot


net4mplastic.net
net4mplastic.net/griglia/?year=2015&month=2&measure=u&zone=2
net4mplastic.net
HOME DRONE - OBU DATA DATA MODEL PLASTIC INDEX LAB DATA ANALYSIS SEA SENTINEL CONTACTS
WELCOME, ADMIN
Year: 2015 - Month: 2 - Measure: Curr. Speed - Zone: 2
Mappa Satellite
2015 - 2 - U
Export to CSV
42.34364 15.03635 0.08284575
42.35256 15.04782 0.07914894
42.36149 15.0593 0.07423675
42.37041 15.07079 0.07018597
42.37933 15.08227 0.06478747
42.38825 15.09376 0.05939331
42.39716 15.10525 0.05624702
42.40608 15.11675 0.05482516
42.415 15.12825 0.05378914
42.42391 15.13975 0.05336034
42.43282 15.15125 0.05552757
42.44174 15.16276 0.05327918
42.45065 15.17428 0.04831179
Plot
net4mplastic.net
net4mplastic.net/griglia/?year=2015&month=2&measure=v&zone=2
net4mplastic.net
HOME DRONE - OBU DATA DATA MODEL PLASTIC INDEX LAB DATA ANALYSIS SEA SENTINEL CONTACTS
WELCOME, ADMIN
Year: 2015 - Month: 2 - Measure: Curr. Direction - Zone: 2
Mappa Satellite
2015 - 2 - V
Export to CSV
42.41669 14.34763 129.0291
42.42568 14.35902 131.6439
42.43468 14.37041 129.4602
42.44367 14.38181 129.4305
42.45266 14.39321 130.7016
42.46165 14.40462 131.7636
42.47064 14.41602 131.6943
42.47963 14.42743 131.3618
42.48862 14.43885 133.3367
42.49761 14.45027 137.73
42.50659 14.46169 143.4318
42.51558 14.47311 144.5458
42.52456 14.48454 145.4123
Plot

Code	Description
DCC-003	Visualization of coastal MP concentration on chart and table format
Preconditions	
The user is already connected to the EWS Platform.	
Procedure	
STEP 01	The user get access to the menu item PLASTIC INDEX and select a zone
STEP 02	The user can select the season and the sources to display related contributions on map and table data indicating Lat, Lon, Plastic Index.
Successful Results	
The user can successfully get access to PLASTIC INDEX data	

DCC-003 Test Report Section	**Date 10/06/22**
Here below some screenshots of PLASTIC INDEX data	


net4mplastic.net - Plastic Concer
net4mplastic.net/concentration.php?zone=1&season=spring&point_id=
net4mplastic.net
HOME DRONE - OBU DATA DATA MODEL PLASTIC INDEX LAB DATA ANALYSIS SEA SENTINEL CONTACTS
WELCOME, ADMIN
Zone PS1
Season: Spring
Point: All points
Load
Accumulation Points
Sources
Mappa Satellite
Google
MIN
MAX
Blue Cyan Green Yellow Red
Percentage Probability
Export to CSV
Lat
Lon
Value [%]
© net4mplastic.net - 2021/22 - ALL RIGHTS RESERVED
net4mplastic.net - Plastic Concer
net4mplastic.net/concentration.php?zone=1&season=summer&point_id=10
net4mplastic.net
HOME DRONE - OBU DATA DATA MODEL PLASTIC INDEX LAB DATA ANALYSIS SEA SENTINEL CONTACTS
WELCOME, ADMIN
Zone PS1
Season: Summer
Point: Grocca1
Load
Accumulation Points
Sources
Mappa Satellite
Google
MIN
MAX
Blue Cyan Green Yellow Red
Percentage Probability
Export to CSV
Lat
Lon
Value [%]
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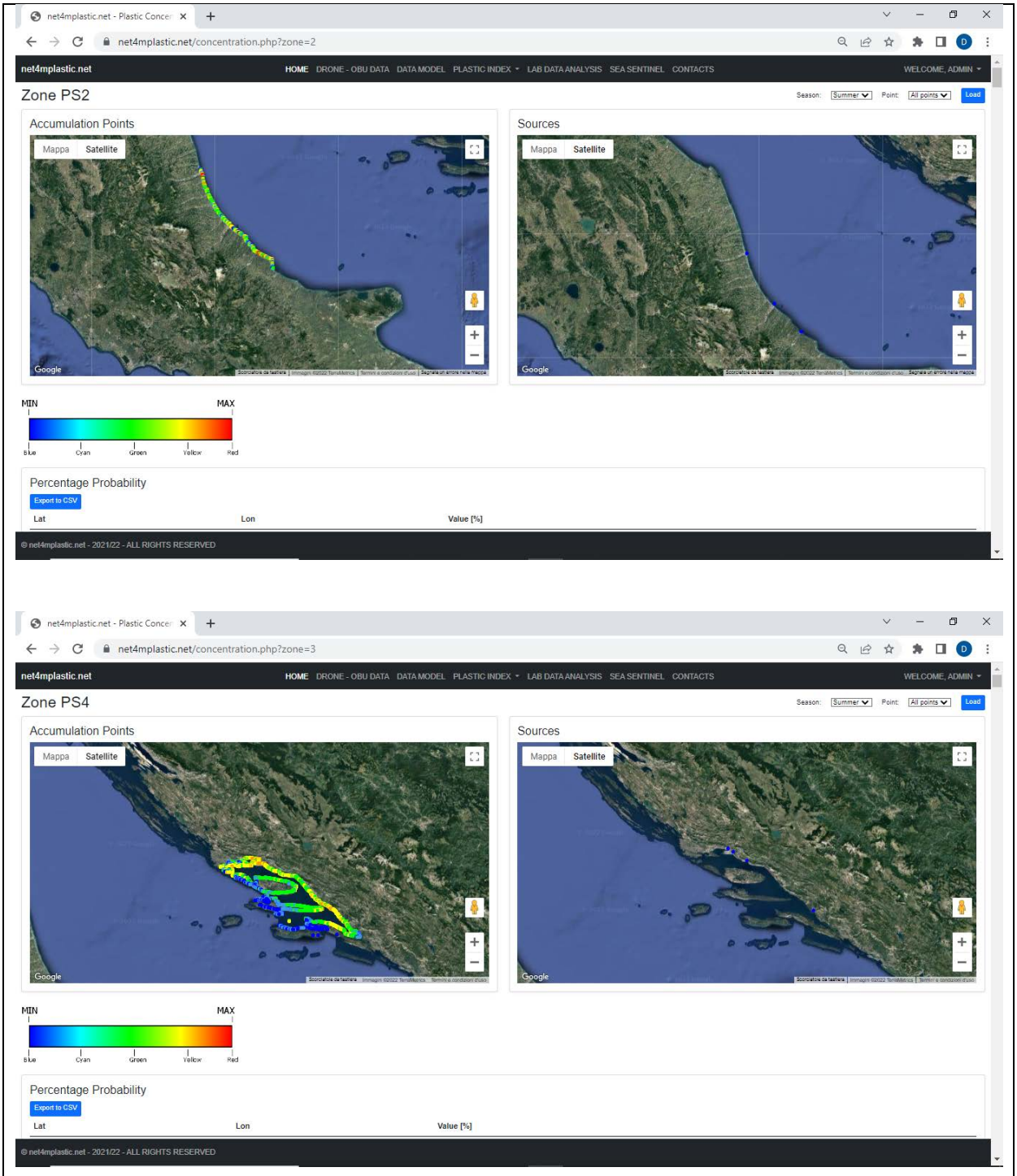
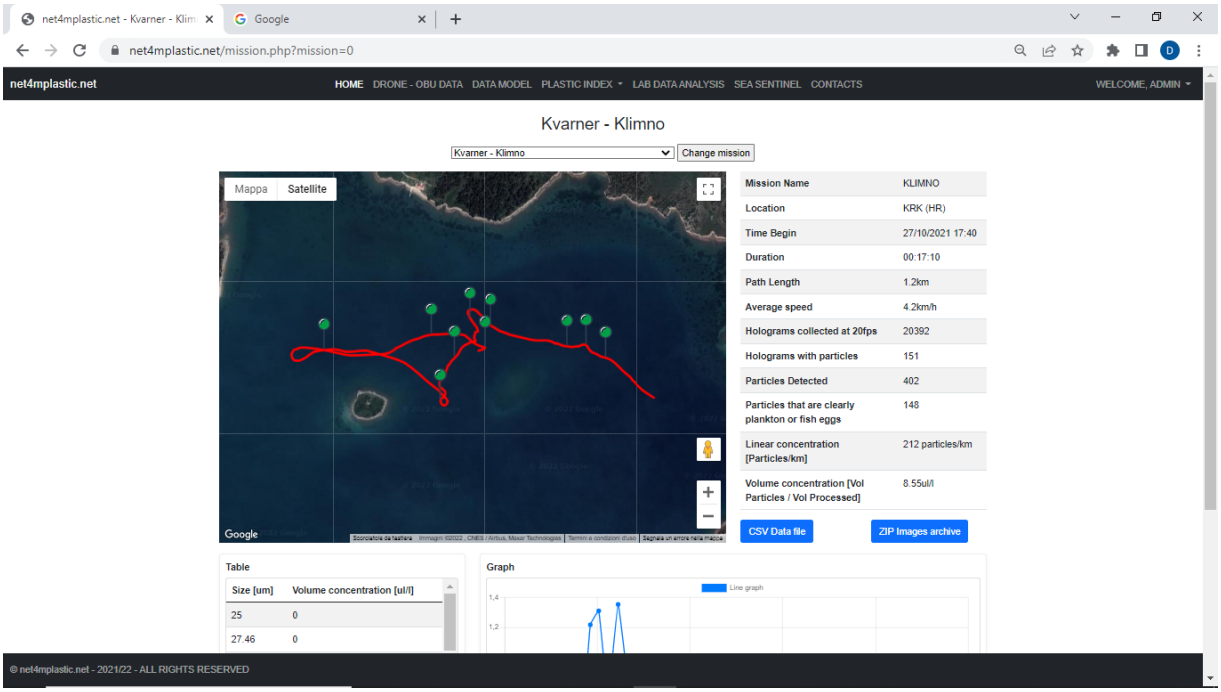


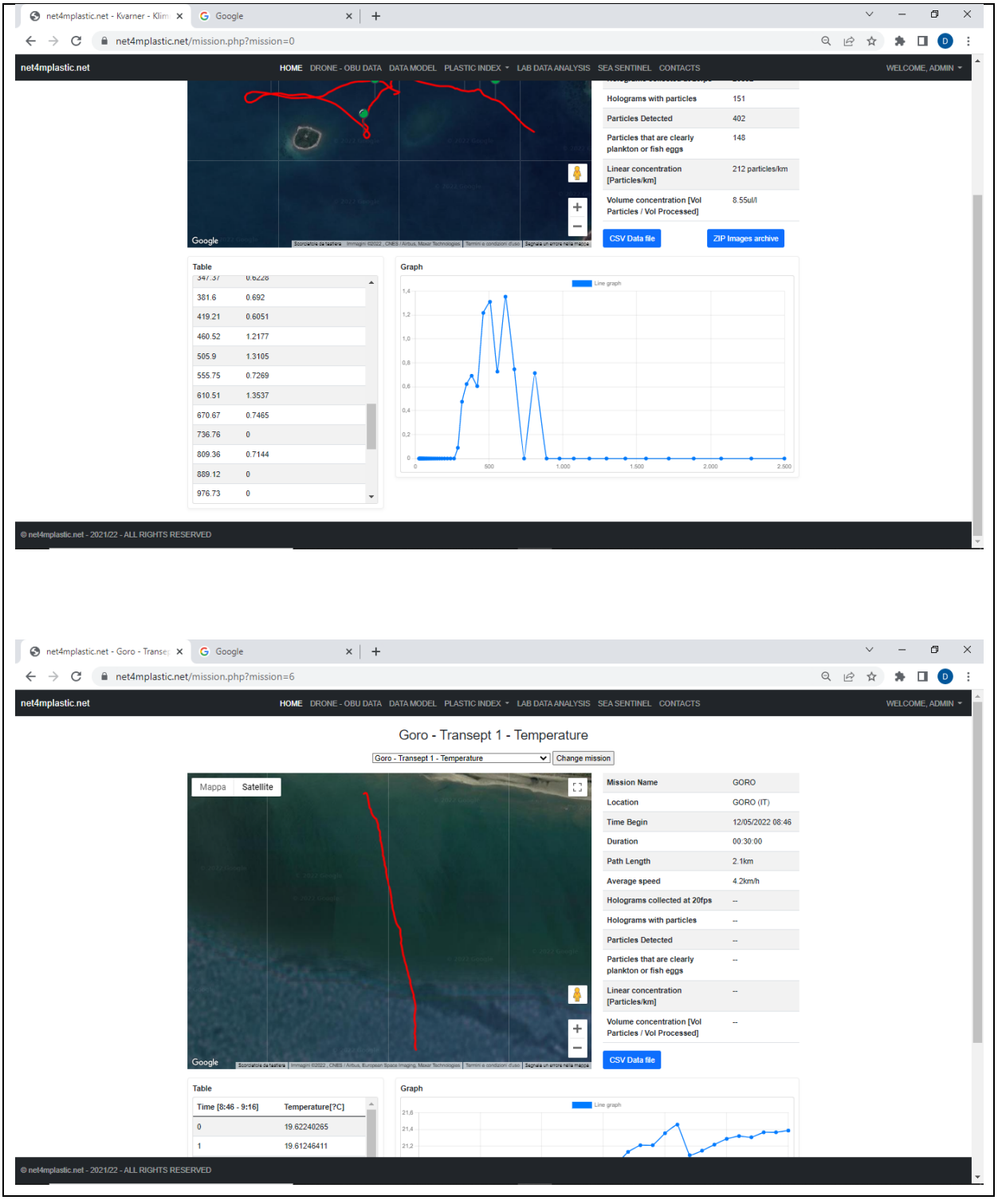
Code	Description

DCC-004	Visualization of drone mission collected data related to MP measured concentration. For each mission information regarding route of the drone, samples of maim pictures of collected microliters are reported.
Preconditions	
The user is already connected to the EWS Platform. Drone missions collected data have been loaded in the EWS platform.	
Procedure	
STEP 01	The user can select the menu item DRONE-OBU DATA.
STEP 02	A list of missions is available and the user can select one of them.
STEP 03	The user can select different types of parameters
Successful Results	
The user can select a mission and to display related data collected / post processed.	

DCC-004 Test Report Section	Date 10/06/22

Here below some screenshots of DRONE and OBU data




net4mplastic.net - Kvarner - Klim
Google
net4mplastic.net/mission.php?mission=0
net4mplastic.net
HOME
DRONE - OBU DATA
DATA MODEL
PLASTIC INDEX
LAB DATA ANALYSIS
SEA SENTINEL
CONTACTS
WELCOME, ADMIN
Holograms with particles 151
Particles Detected 402
Particles that are clearly plankton or fish eggs 148
Linear concentration [Particles/km] 212 particles/km
Volume concentration [Vol Particles / Vol Processed] 8.55ul/l
CSV Data file
ZIP Images archive
Table
Graph
© net4mplastic.net - 2021/22 - ALL RIGHTS RESERVED
net4mplastic.net - Goro - Transe
net4mplastic.net/mission.php?mission=6
Goro - Transept 1 - Temperature
Change mission
Mappa
Satellite
Mission Name GORO
Location GORO (IT)
Time Begin 12/05/2022 08:46
Duration 00:30:00
Path Length 2.1km
Average speed 4.2km/h
Holograms collected at 20fps --
Holograms with particles --
Particles Detected --
Particles that are clearly plankton or fish eggs --
Linear concentration [Particles/km] --
Volume concentration [Vol Particles / Vol Processed] --
CSV Data file
Time [8:46 - 9:16]
Temperature[?C]
0 19.62240265
1 19.61246411
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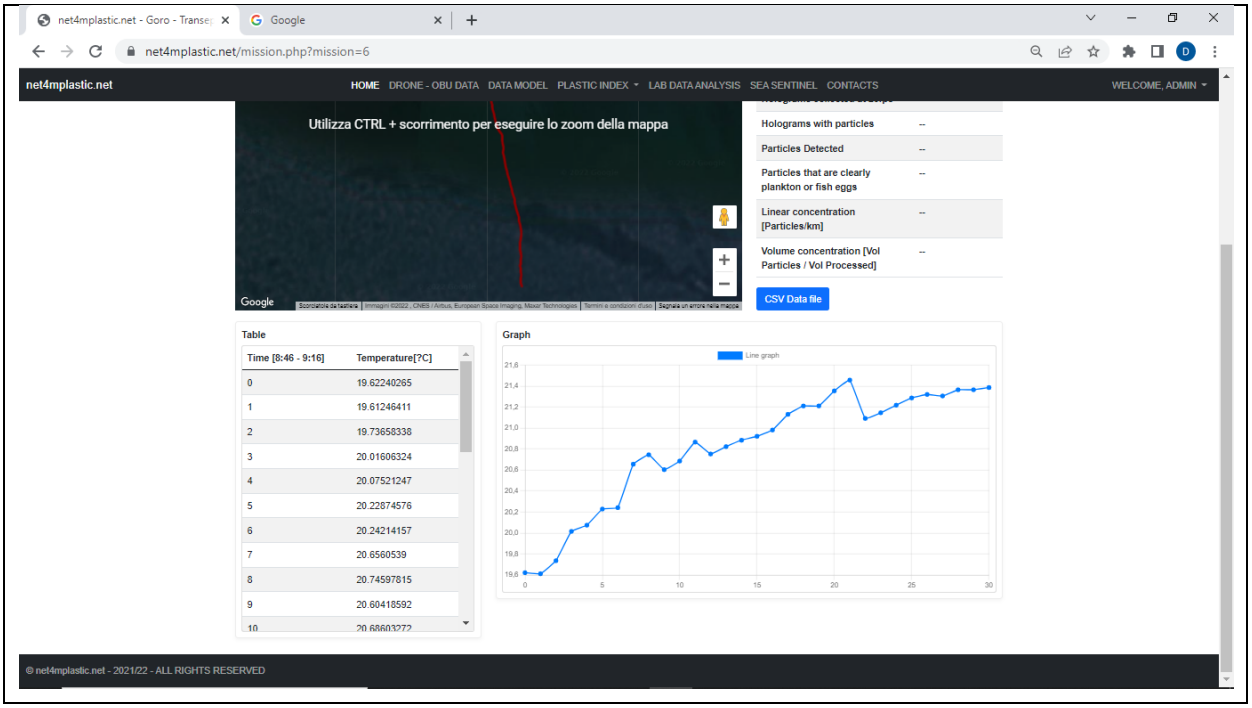
net4mplastic.net - Goro - Transe
Google
net4mplastic.net/mission.php?mission=6
net4mplastic.net
HOME
DRONE - OBU DATA
DATA MODEL
PLASTIC INDEX
LAB DATA ANALYSIS
SEA SENTINEL
CONTACTS
WELCOME, ADMIN
Utilizza CTRL + scorrimento per eseguire lo zoom della mappa
Google
Holograms with particles --
Particles Detected --
Particles that are clearly plankton or fish eggs --
Linear concentration [Particles/km] --
Volume concentration [Vol Particles / Vol Processed] --
CSV Data file
Table
Time [8:46 - 9:16]
Temperature[?C]
0 19.62240265
1 19.61246411
2 19.73658338
3 20.01606324
4 20.07521247
5 20.22874576
6 20.24214157
7 20.6560539
8 20.74597815
9 20.60418592
10 20.66603272
Graph
Line graph
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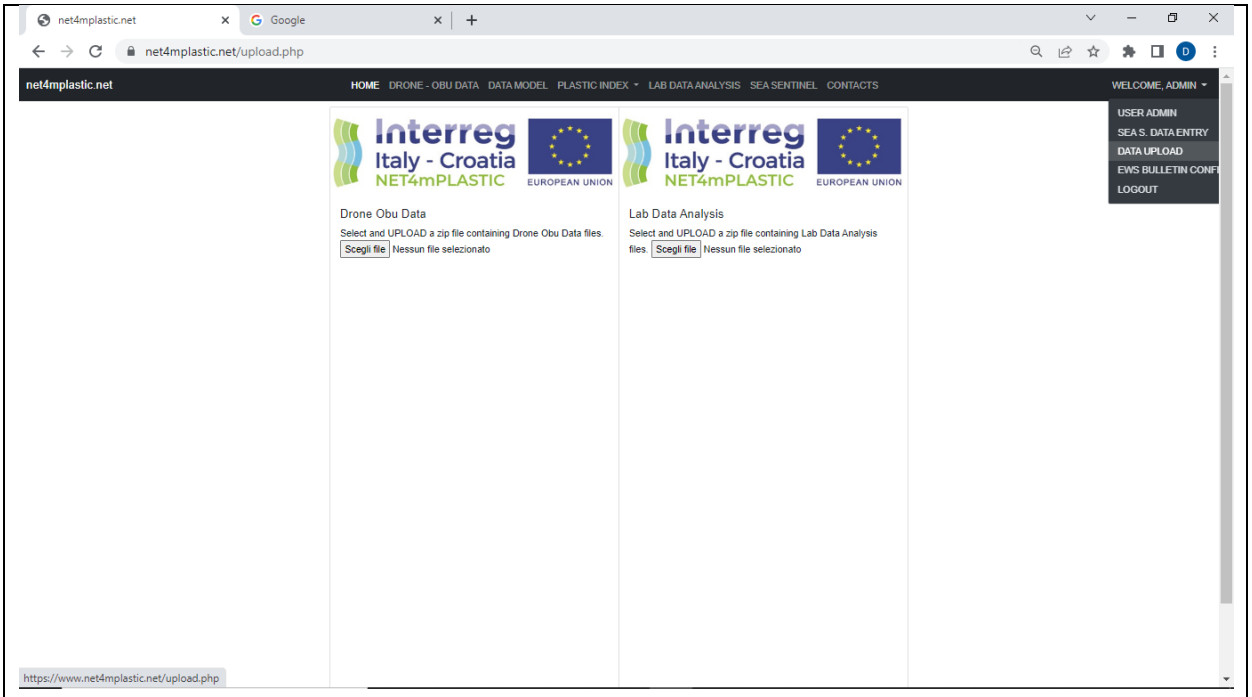
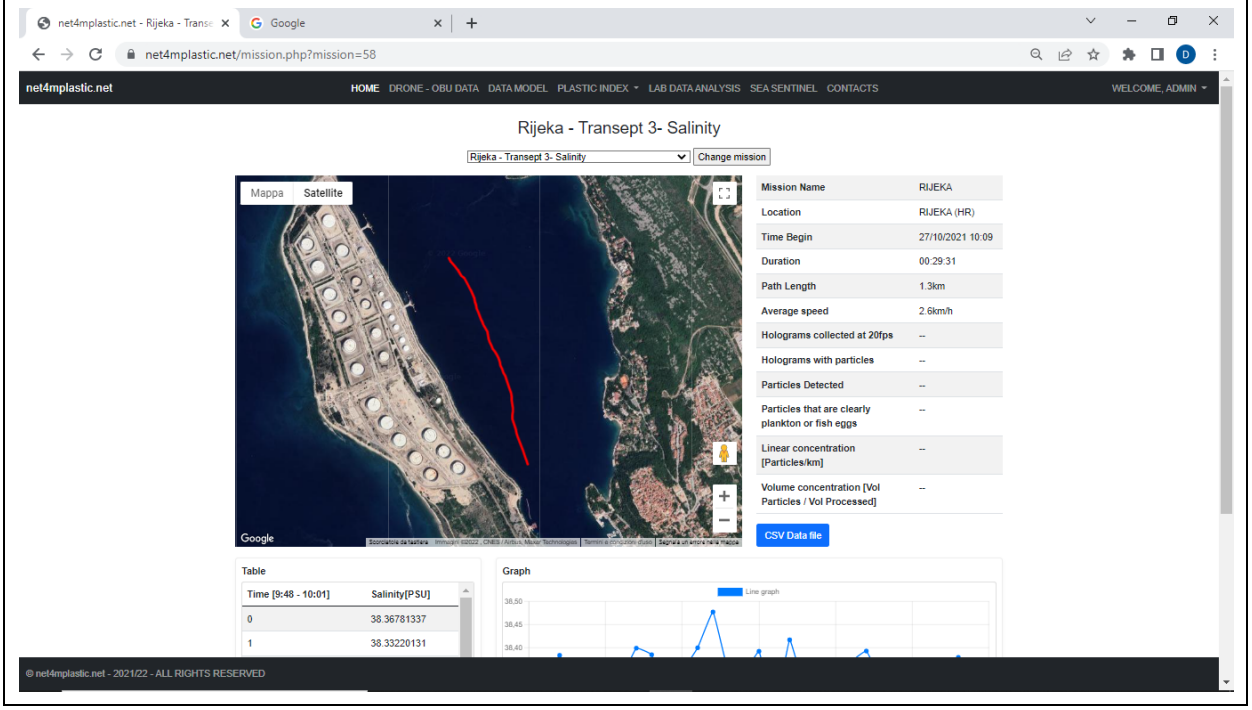
Code	Description
DCC-005	Possibility for the user to insert data through the front-end page.
Preconditions	
User data are formatted properly in EXCEL format. User is logged in like administrator	
Procedure	
STEP 01	The user get access to the lateral menu item DATA UPLOAD
STEP 02	It is possible to upload DRONE-OBU Data or LAB ANALYSIS Data
STEP 03	The data will be verified by the EWS platform administrator for completeness, integrity and format to be correctly uploaded.
Successful Results	
The user can upload the data that after check of the EWS administrator are correctly uploaded and can be displayed.	

DCC-005 Test Report Section	**Date 13/06/22**
The data are successfully uploaded for DRONE-OBU mission and for LAB ANALISYS as indicated in the screenshots hereinafter	


net4mplastic.net
Google
net4mplastic.net/upload.php
net4mplastic.net
HOME
DRONE - OBU DATA
DATA MODEL
PLASTIC INDEX
LAB DATA ANALYSIS
SEA SENTINEL
CONTACTS
WELCOME, ADMIN
USER ADMIN
SEA S. DATA ENTRY
DATA UPLOAD
EWS BULLETIN CONFI
LOGOUT
Interreg
Italy - Croatia
NET4mPLASTIC
EUROPEAN UNION
Drone Obu Data
Select and UPLOAD a zip file containing Drone Obu Data files.
Scegli file
Nessun file selezionato
Lab Data Analysis
Select and UPLOAD a zip file containing Lab Data Analysis files.
Scegli file
Nessun file selezionato
https://www.net4mplastic.net/upload.php


net4mplastic.net - Rijeka - Transe
Google
net4mplastic.net/mission.php?mission=58
net4mplastic.net
HOME
DRONE - OBU DATA
DATA MODEL
PLASTIC INDEX
LAB DATA ANALYSIS
SEA SENTINEL
CONTACTS
WELCOME, ADMIN
Rijeka - Transept 3- Salinity
Rijeka - Transept 3- Salinity
Change mission
Mappa
Satellite
Google
Mission Name
RIJEKA
Location
RIJEKA (HR)
Time Begin
27/10/2021 10:09
Duration
00:29:31
Path Length
1.3km
Average speed
2.6km/h
Holograms collected at 20fps
--
Holograms with particles
--
Particles Detected
--
Particles that are clearly plankton or fish eggs
--
Linear concentration [Particles/km]
--
Volume concentration [Vol Particles / Vol Processed]
--
CSV Data file
Table
Time [9:48 - 10:01]
Salinity[PSU]
0
38.36781337
1
38.33220131
Graph
Line graph
38,50
38,45
38,40
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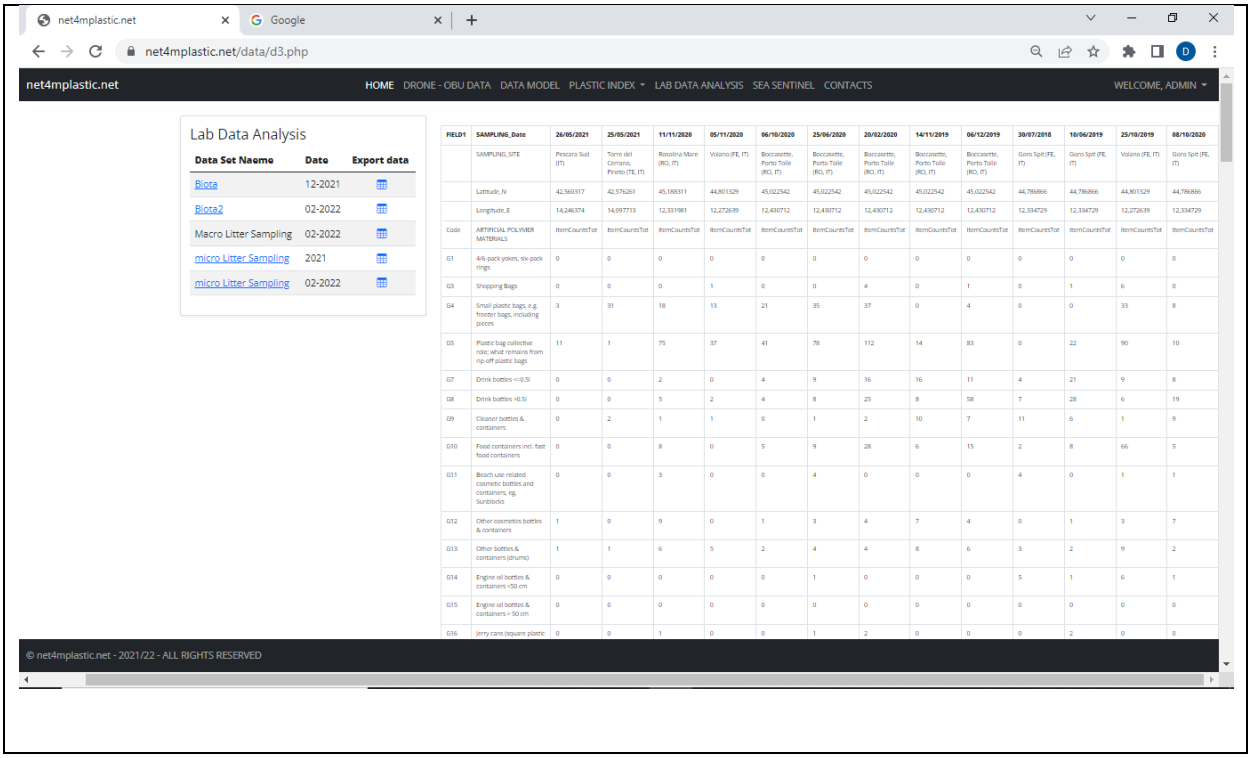
net4mplastic.net
Google
net4mplastic.net/data/d3.php
net4mplastic.net
HOME
DRONE - OBU DATA
DATA MODEL
PLASTIC INDEX
LAB DATA ANALYSIS
SEA SENTINEL
CONTACTS
WELCOME, ADMIN
Lab Data Analysis
Data Set Name
Date
Export data
Biota
12-2021
Biota2
02-2022
Macro Litter Sampling
02-2022
micro Litter Sampling
2021
micro Litter Sampling
02-2022
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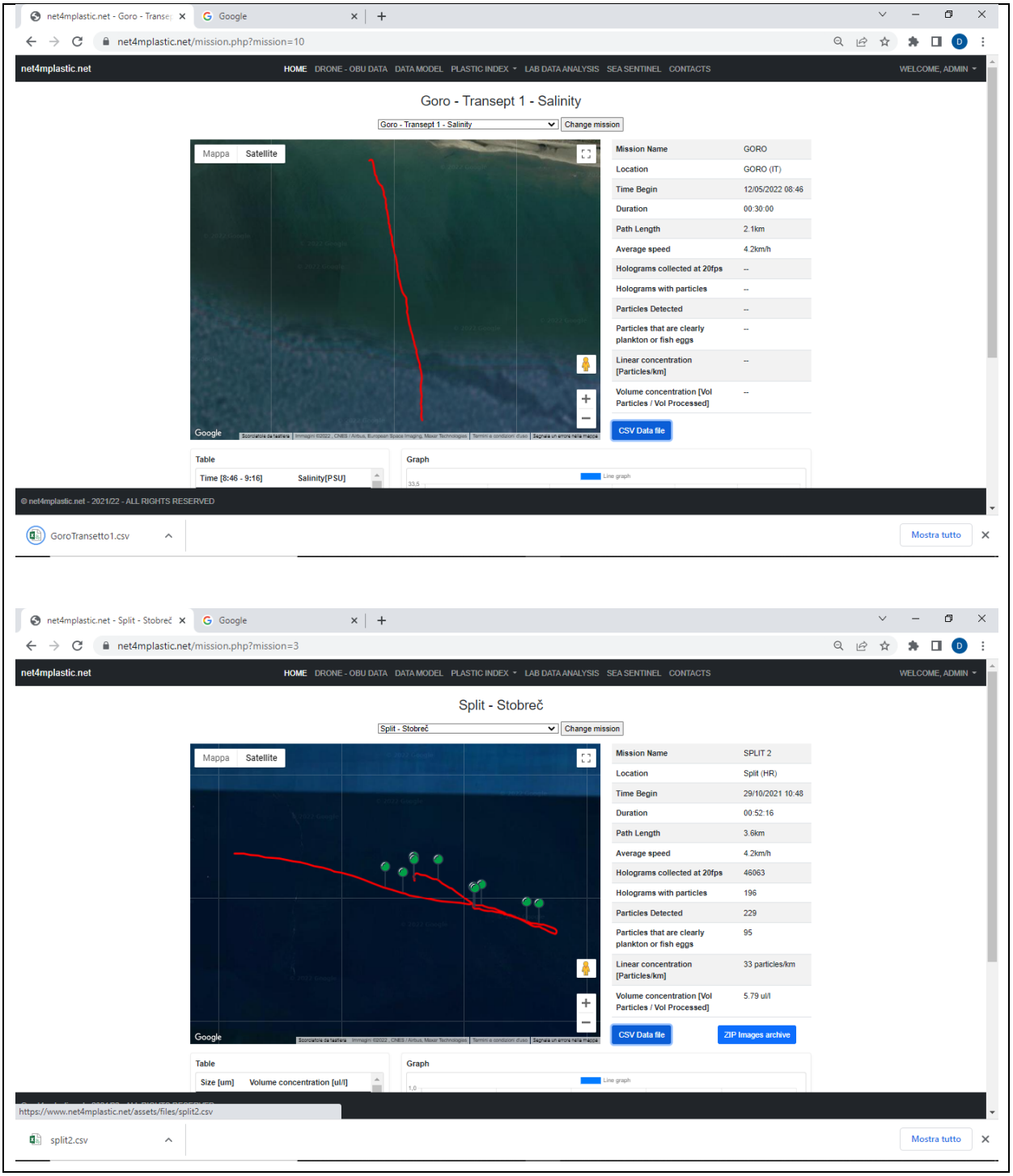
Code	Description
DCC-006	Possibility for the user to export data in CSV format
Preconditions	
User is logged in to the EWS platform	
Procedure	
STEP 01	With the main menu the user can get access to MODEL DATA, PLASTIC INDEX DATA, DRONE-OBU DATA, LAB ANALYSIS DATA.
STEP 02	For each type of data selected there is the possibility with a specific button to download them in CSV format.
Successful Results	
The user can download in CSV format the selected data.	

DCC-006 Test Report Section	**Date 13/06/22**
The data are successfully uploaded for DRONE-OBU mission and for LAB ANALISYS as indicated in the screenshots hereinafter	


net4mplastic.net - Goro - Transe
Google
net4mplastic.net/mission.php?mission=10
net4mplastic.net
HOME DRONE - OBU DATA DATA MODEL PLASTIC INDEX LAB DATA ANALYSIS SEA SENTINEL CONTACTS
WELCOME, ADMIN
Goro - Transept 1 - Salinity
Goro - Transept 1 - Salinity
Change mission
Mappa
Satellite
Mission Name GORO
Location GORO (IT)
Time Begin 12/05/2022 08:46
Duration 00:30:00
Path Length 2.1km
Average speed 4.2km/h
Holograms collected at 20fps --
Holograms with particles --
Particles Detected --
Particles that are clearly plankton or fish eggs --
Linear concentration [Particles/km] --
Volume concentration [Vol Particles / Vol Processed] --
CSV Data file
Table
Time [8:46 - 9:16]
Salinity[PSU]
Graph
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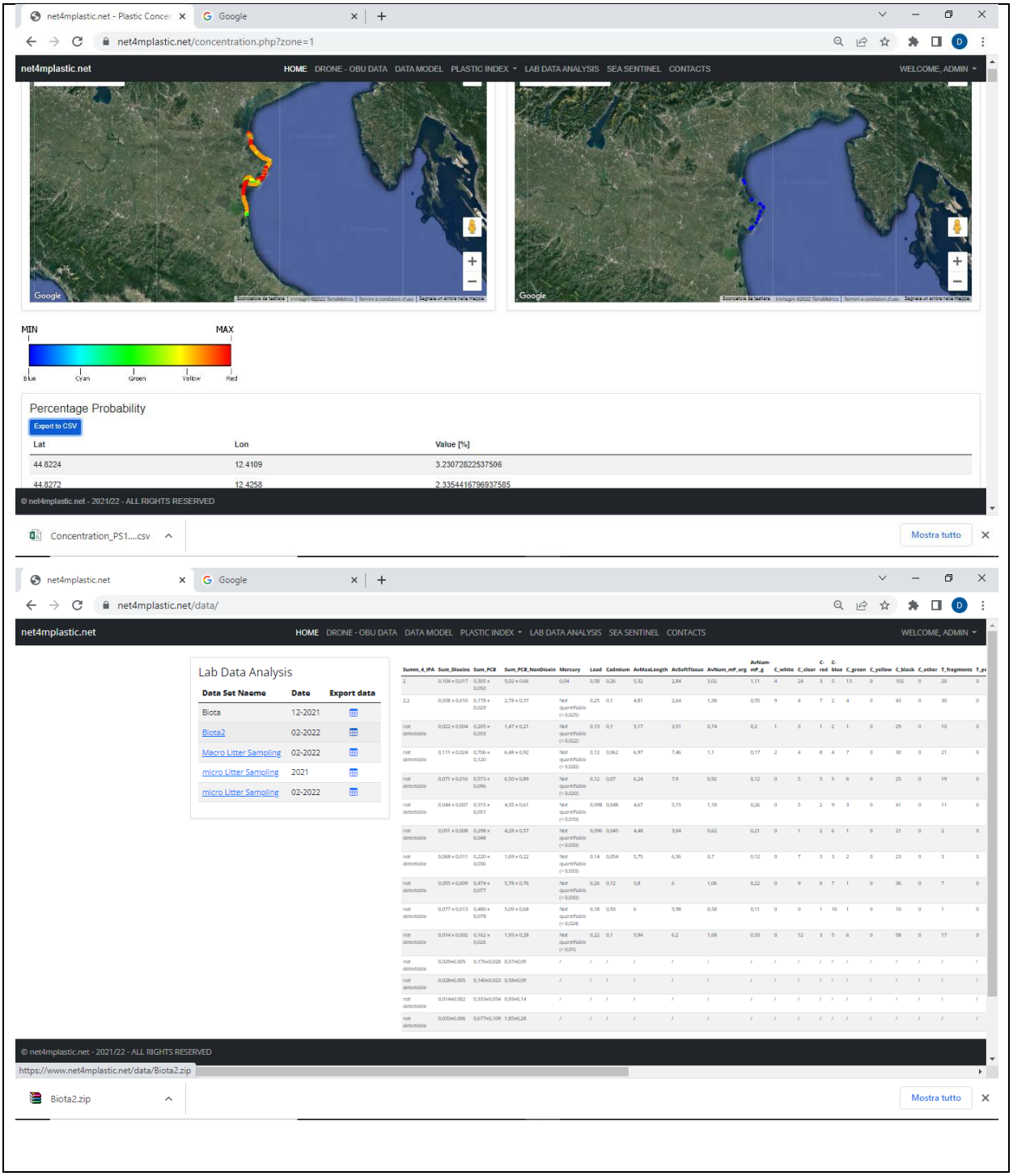
GoroTransetto1.csv
Mostra tutto
net4mplastic.net - Split - Stobreč
Google
net4mplastic.net/mission.php?mission=3
net4mplastic.net
HOME DRONE - OBU DATA DATA MODEL PLASTIC INDEX LAB DATA ANALYSIS SEA SENTINEL CONTACTS
WELCOME, ADMIN
Split - Stobreč
Split - Stobreč
Change mission
Mappa
Satellite
Mission Name SPLIT 2
Location Split (HR)
Time Begin 29/10/2021 10:48
Duration 00:52:16
Path Length 3.6km
Average speed 4.2km/h
Holograms collected at 20fps 46063
Holograms with particles 196
Particles Detected 229
Particles that are clearly plankton or fish eggs 95
Linear concentration [Particles/km] 33 particles/km
Volume concentration [Vol Particles / Vol Processed] 5.79 ul/l
CSV Data file
ZIP Images archive
Table
Size [um]
Volume concentration [ul/l]
Graph
https://www.net4mplastic.net/assets/files/split2.csv
split2.csv
Mostra tutto


net4mplastic.net - Plastic Conce
Google
net4mplastic.net/concentration.php?zone=1
net4mplastic.net
HOME
DRONE - OBU DATA
DATA MODEL
PLASTIC INDEX
LAB DATA ANALYSIS
SEA SENTINEL
CONTACTS
WELCOME, ADMIN
MIN
MAX
Blue
Cyan
Green
Yellow
Red
Percentage Probability
Export to CSV
Lat
Lon
Value [%]
44.8224
12.4109
3.23072822537506
44.8272
12.4258
2.3354416796937585
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Concentration_PS1....csv
Mostra tutto
net4mplastic.net
Google
net4mplastic.net/data/
net4mplastic.net
HOME
DRONE - OBU DATA
DATA MODEL
PLASTIC INDEX
LAB DATA ANALYSIS
SEA SENTINEL
CONTACTS
WELCOME, ADMIN
Lab Data Analysis
Data Set Name
Data
Export data
Biota
12-2021
Biota2
02-2022
Macro Litter Sampling
02-2022
micro Litter Sampling
2021
micro Litter Sampling
02-2022
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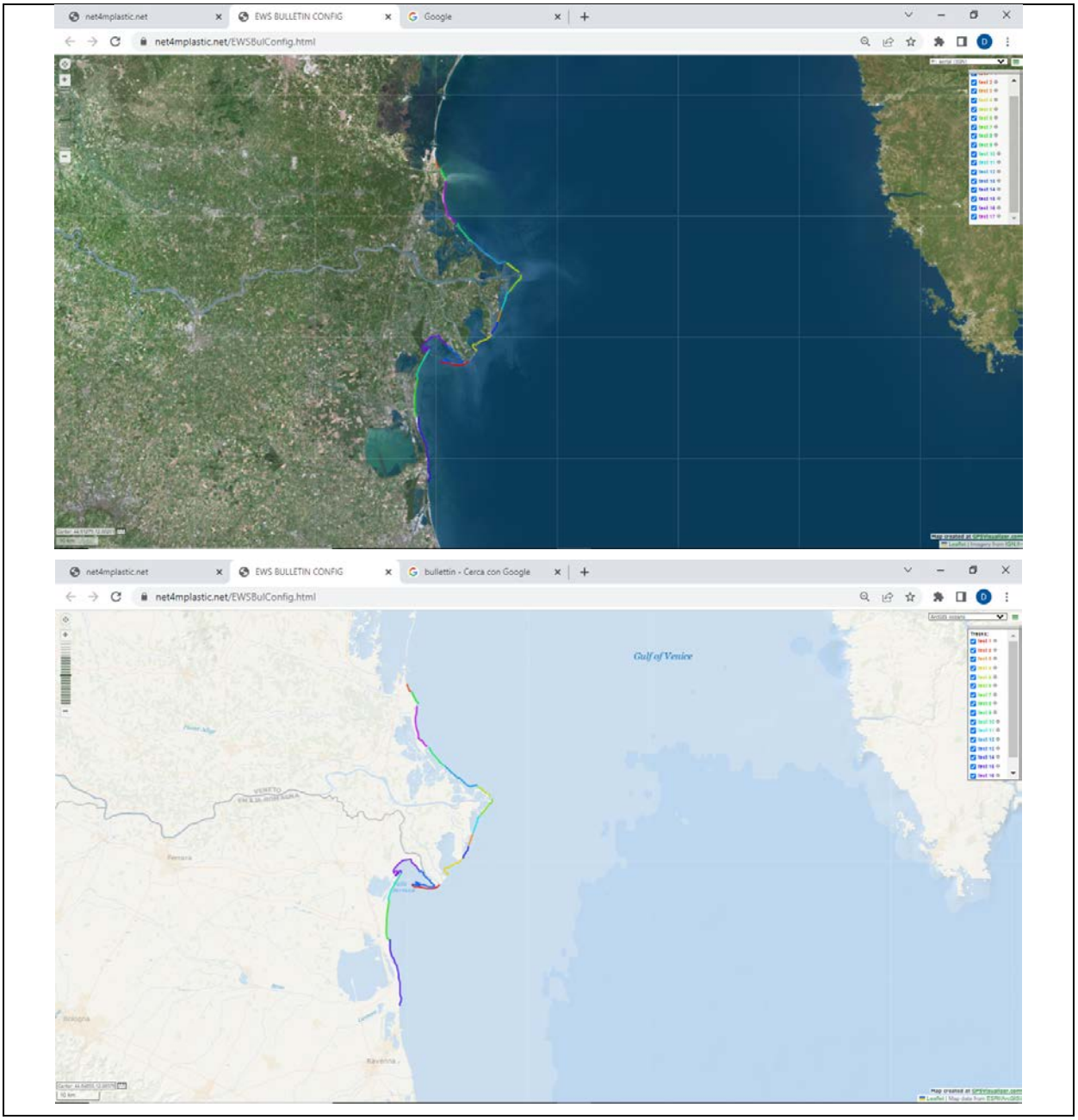
https://www.net4mplastic.net/data/Biota2.zip
Biota2.zip
Mostra tutto

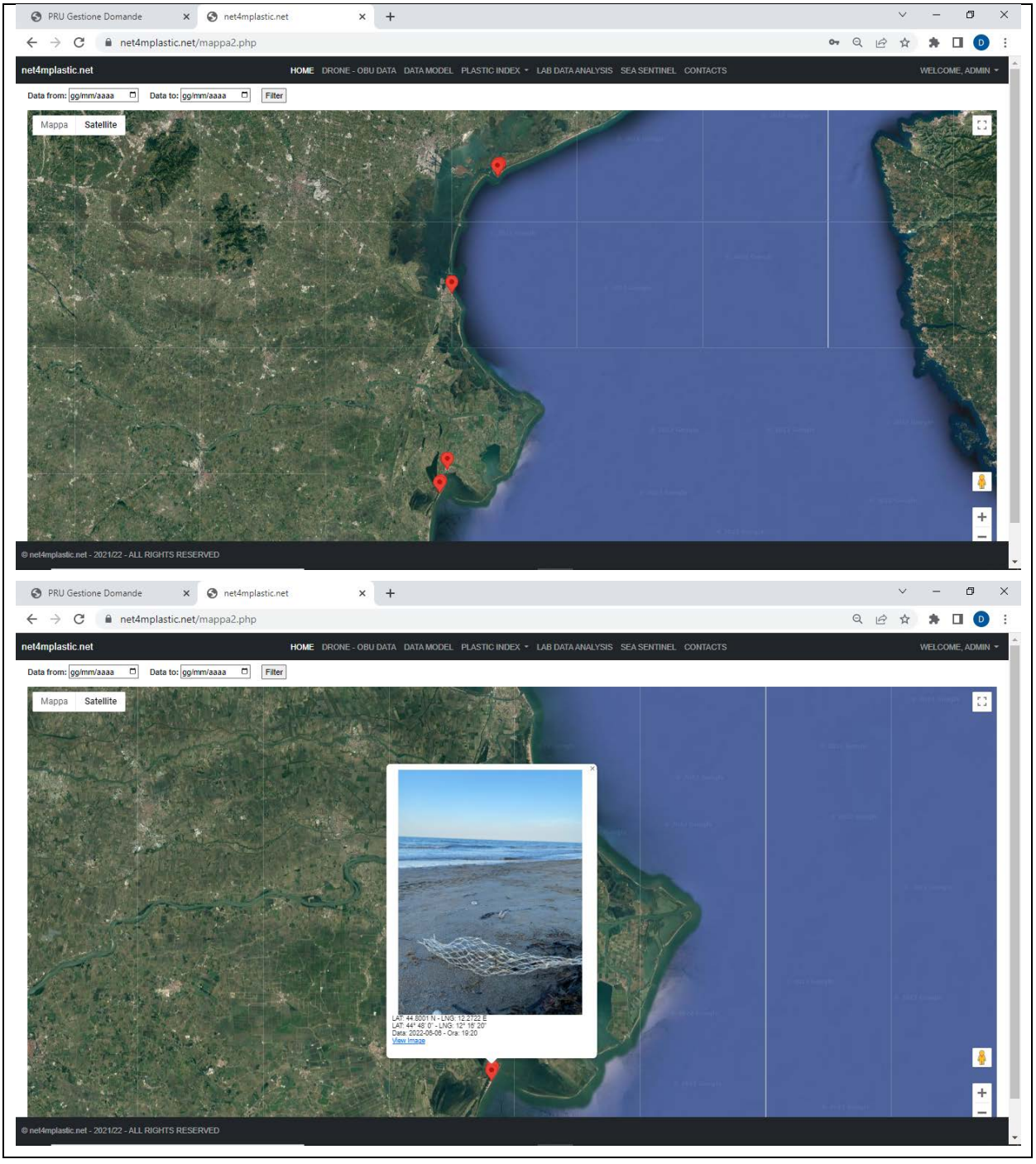
Code	Description
DCC-007	Visualization of the hazard level for a specific season considering the percentiles of MP concentration calculate by the model in the past years.
DCC-008	Reception of daily model simulation with comparison to the percentiles of the season to detect hazard level
DCC-009	Generation of daily hazard report
Preconditions	
User is logged in to the EWS platform as administrator	
Procedure	
STEP 01	The user gets access to the hazard panel through the lateral menu item EWS BULLETIN CONFIG.
STEP 02	The system receives a daily file with the zones and related percentiles index of hazard condition.
STEP 03	A daily report is generated with a map showing the different area characterized by different hazard index with different colours (from green to red with increasing level of hazard)
Successful Results	
The user can get access to the EWS BULLETIN page and to see the bulletin.	

DCC-007, DCC-008, DCC-009 Test Report Section	**Date 15/06/22**
The bulletins are generated as shown in the following screenshots	


net4mplastic.net
EWS BULLETIN CONFIG
Google
net4mplastic.net/EWSBulConfig.html
net4mplastic.net
EWS BULLETIN CONFIG
bullettin - Cerca con Google
net4mplastic.net/EWSBulConfig.html
Gulf of Venice

Code	Description
DCC-010	Possibility for the user to load geo-referenced pictures with macroplastics and to see them on a webGIS repository
Preconditions	
The users have installed a dedicated APP in their smartphones or tablets and signed a specific form to declare they available to take geo-referenced pictures to be shared	
Procedure	
STEP 01	The users get pictures of macroplastics in coastal and marine areas with specific APP.
STEP 02	The users transfer the picture to the EWS Platform using the specific APP
STEP 03	The EWS Platform administrator verify periodically the contents of the pictures and if compliant with the requirements (mainly appropriate content and respect for privacy) load the picture in the WebGIS panel.
STEP 4	The users get connection to the EWS Platform with internet browser and select the menu item SEA SENTINEL. They select range of date. Pictures are displayed with related position on the map
Successful Results	
All pictures collected and loaded on the EWS Platform are displayed on dedicated WebGIS panel	

DCC-010 Test Report Section	**Date 15/06/22**
The pictures are correctly displayed	


PRU Gestione Domande
net4mplastic.net
net4mplastic.net/mappa2.php
net4mplastic.net
HOME
DRONE - OBU DATA
DATA MODEL
PLASTIC INDEX
LAB DATA ANALYSIS
SEA SENTINEL
CONTACTS
WELCOME, ADMIN
Data from: gg/mm/aaaa
Data to: gg/mm/aaaa
Filter
Mappa
Satellite
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