D1.7 Validation Test reports v1

WP1 – Wildlife scenarios

Deliverable Lead: BirdLife International

Dissemination Level: Public

Deliverable due date: 30/06/2017

Actual submission date: 28/09/2017

Version 1.0

Document Control Page	
Title	D1.7 Validation Test reports v1
Creator	Ana Carneiro (BirdLife)
Description	This document describes the validation tests, and their results, performed on the platform v2
Publisher	EO4wildlife Consortium
Contributors	Alan Rees (Exeter), Jean-Michel Zigna (CLS), Daniel Rodera (ATOS ES), Marion Sutton (CLS), Gianluca Correndo (IT Innovation)
Creation date	21/09/2017
Type	Text
Language	en-GB
Rights	copyright "EO4wildlife Consortium"
Audience	☒ Public ☐ Confidential ☐ Classified
Status	☐ In Progress ☐ For Review ☐ For Approval ☒ Approved

Disclaimer

This deliverable is subject to final acceptance by the European Commission.

The results of this deliverable reflect only the author's view and the Commission is not responsible for any use that may be made of the information it contains.

Statement for open documents

(c) 2017 EO4wildlife Consortium

The EO4wildlife Consortium (http://eo4wildlife.eu) grants third parties the right to use and distribute all or parts of this document, provided that the EO4wildlife project and the document are properly referenced.

Table of Contents

EO4wildlife Project Overview

EO4wildlife main objective is to bring large number of multidisciplinary scientists such as biologists, ecologists and ornithologists around the world to collaborate closely together while using European Sentinel Copernicus Earth Observation more heavily and efficiently.

In order to reach such important objective, an open service platform and interoperable toolbox will be designed and developed. It will offer high level services that can be accessed by scientists to perform their respective research. The platform front end will be easy-to-use, access and offer dedicated services that will enable them process their geospatial environmental stimulations using Sentinel Earth Observation data that are intelligently combined with other observation sources.

Specifically, the EO4wildlife platform will enable the integration of Sentinel data, ARGOS archive databases and real time thematic databank portals, including Wildlifetracking.org, Seabirdtracking.org, and other Earth Observation and MetOcean databases; locally or remotely, and simultaneously.

EO4wildlife research specialises in the intelligent management big data, processing, advanced analytics and a Knowledge Base for wildlife migratory behaviour and trends forecast. The research will lead to the development of web-enabled open services using OGC standards for sensor observation and measurements and data processing of heterogeneous geospatial observation data and uncertainties.

EO4wildlife will design, implement and validate various scenarios based on real operational use case requirements in the field of wildlife migrations, habitats and behaviour. These include:

- Management tools for regulatory authorities to achieve real-time advanced decision-making on the protection of protect seabird species;
- Enhancing scientific knowledge of pelagic fish migrations routes, reproduction and feeding behaviours for better species management;
- Enable researchers better understand the movement behaviour of sea turtle populations; and
- Setting up tools to assist marine protected areas and management.

Abbreviations and Glossary

A common glossary of terms for all EO4wildlife deliverables, as well as a list of abbreviations, can be found in the public document "EO4wildlife Glossary" available at EO4wildlife.eu.

Executive Summary

This document reports on the tests performed during the validation campaign of the platform EO4wildlife v2 (actually on releases v2.1 and v2.2). It covers the tests described in D1.3 Validation & Evaluation Plan v1 [1]. Test Cases were updated to include new data analytic services as described in D3.5 Data Mining and High Level Data Fusion Services v1 [2] for fulfilling the scenario requirements outlined in D1.1 Use Case scenarios v1 [3] and D3.7 Thematic Analytic Services v1 [4].

Test Cases were executed according to a Test Plan campaign edited through a specific open source test management tool named "TesLink" [5]. They were evaluated as a black box during the validation phase, and issues associated with each test were reported into a dedicated issue report using the JIRA software [6].

1   Strategy and Resources

1.1   Test Strategy

The validation test campaign has been performed using TestLink open source tool and JIRA software. The access to these tools was granted on request to CLS project manager. These tools allow a collaborative work on the validation test campaign. Services to be validated were implemented by the development team (IT Innovation) and integrated in the EO4wildlife platform by ATOS France and ATOS Spain.

The aim of this first validation campaign is to validate the version v2.1 of the EO4wildllife platform, which was delivered by ATOS France in June 2017, and subsequent v2.2.

The testing strategy is to first validate each component as a white box during the development phase in an integration environment, and then to use it as a black box during the integration/validation phase in a dedicated validation environment.

In this version of the EO4wildlife platform, a first version of the thematic services is deployed for the end-users. These services expect the animal tracking data to be input as a CSV file extracted from thematic platforms (http://seabirdtracking.org and http://www.seaturtle.org). The validation effort consisted mainly in the scientific conformance of the services implementation compared to the algorithms business. For the next version of the platform, all the services will use input tracking data in an xml format, to be more compliant with data standards, implementing the required interoperability to make the EO4wildlife platform more opened to the scientific community. XML converters will be deployed or integrated in services on the platform to allow the Use Case leaders of the project to convert their cvs tracking data into the xml standard format. This XML standard will facilitate the use of services to process and display data in the platform, whatever the animal species is.

The mammal scenario is not implemented in this version.

1.2   Basic Terminology

- *Test Case* describes a testing task via steps. Each Test Case includes the overall test description, the testing preconditions, the test steps with the associated expected results, attached documents if necessary, and the associated requirements coverage. Preconditions include previous steps to be passed before running the tests.

- *Test Suite* organises Test Cases into units. For the EO4wildlife, tests were decomposed into five major families: General, Administration, Product, Service, and Tools.

- *Test Plan* is created in order to execute Test Cases.

- *Test Report* is the result of the execution of the Test Plan. All performed tests are logged with associated issues if any. Issues are linked into a dedicated JIRA project (https://jira-ext.cls.fr/). The Test Case result can be "blocked", "passed", "failed", or "not run".

- *Test Project* refers to the the EO4wildlife validation process. A Test Project can undergo many different versions throughout its lifetime.

The nomenclature of each Test Case is defined as follows:

- mmm: family of the test.

- xxx: number in three figures.

- Label: to provide a brief description of the tested function

- version: when a test is executed, a new version should be created to enrich its description.

Examples: EO4-GEN-010-Connection to the EO4wildlife system, EO4-Service-900-Speed filter service, EO4-Service-900-Speed filter service.

2   Test Plan

The Test Plan includes a series of Test Cases which were described and executed in TestLink by thematic users in order to identify if the implementation of the product requirements were successful and acceptable according to end-user expectations. Throughout the validation test campaign, associated issues with each Test Case were identified and linked into a dedicated JIRA ticket. After the issues were fixed, tests were evaluated a second time or until they reached an acceptable level.

3   Test Reports

Test Report includes the collection of the test forms filled in during the tests execution.

When the platform does not allow the validation of a function in the tested version by the thematic experts in charge of the validation, the associated test case is set to "blocked".

All along the execution of a test, the validation team can detail at each step any relevant information in execution notes and justifies why the test case or a step of the test is passed or failed.

3.1   Test Suite: General

Test Case EO4WF-1: EO4-GEN-010-Connection to the EO4wildlife system [Version : 1]			
Summary: This test case describes how to connect to the EO4wildlife system			
#:	**Step actions:**	**Expected Results:**	**Execution Status:**
1	Load the URL of EO4wildlife application Enter the user credentials, but with an incorrect password	The user is not logged to the application	Passed
2	Enter the good user credentials	The user is connected to the application Top of the banner on the right, it appears the user credentials	Passed
3	Load the URL of EO4wildlife application Click on "Forget your password?"	The user is directed to an email address to request for a new password	Failed
4	Click on Disconnect (sign out)	The user is disconnected from the application	Passed
Execution type:	Manual		
Estimated exec. duration (min):			
Execution Details			
Build	validation V1		
Tester	acarneiro		
Execution Result:	**Failed**		
Execution Mode:	**Manual**		
Execution duration (min):			
Execution notes	Step 3 needs more information		
Related Bugs	**EOW-16 :** [Open] : Reinit the password could be more friendly		

Test Case EO4WF-2: EO4-GEN-020-Access authorization [Version : 1]

Summary:

This test case describes the different access authorization for the profiles: user, product provider, service provider and administrator. An account can also have several profiles. Each profile will be tested first before any combination.

- an account with the profile "administrator", which can access to all functionalities

- an account with the profile "product provider", which has access to the user rights, plus specific rights for product provider

- an account with the profile "service provider", has access to the user rights, plus specific rights for service provider

- an account combining the product provider" and the "service provider" profiles

- an account with the "user" profile, which can discover product and services, and run services.

#:	Step actions:	Expected Results:	Execution Status:
1	Connect to the application with a user profile	The user has access only to the following functions : - Discover product - Discover service - Run service - Display and on-line tools	Passed
2	Connect to the application with a product provider profile	The product provider has access only to the following functions : - Discover product - Discover service - Run service - Display and on-line tools - Describe product	Blocked
3	Connect to the application with a service provider profile	The service provider has access only to the following functions : - Discover product - Discover service	Blocked

		- Run service	
		- Display and on-line tools	
		- Describe service	
		- Upload service	
4	Connect to the application with an administrator profile	The administrator has access to all functions : - Discover product - Discover service - Run service - Display and on-line tools - Describe product - Describe service - Upload service - Validate product or service metadata - Invalidate product or service metadata - Test of the upload service - Invalidate a service - Manage the users	Blocked
Execution type:	Manual		
Estimated exec. duration (min):			

Execution Details	
Build	validation V1
Tester	jzigna
Execution Result:	**Passed**
Execution Mode:	**Manual**
Execution duration (min):	
Execution notes	Currently, no authorization are implemented. Only common users are managed.

Test Case EO4WF-49: EO4-GEN-030-Platform data management [Version : 1]

Summary:

This test describes the data management in the platform.

Once products, auxiliary data and outputs are stored in the platform, they can be managed by a cache mechanism or not, and have a specific retention duration.

#:	Step actions:	Expected Results:	Execution Status:
1	Management of data in cache: An auxiliary data is loaded in the cache during the processing of a service.	At the end of the retention period, the data is no more in the cache	
2	Management of data on disk: An input product is stored in the private space of a user.	At the end of the retention period, the data is no more on the file system.	
Execution type:	Manual		
Estimated exec. duration (min):			
Execution Details			
Execution Result	**Not Run**		

3.2 Test Suite: Administration

3.2.1 Test Suite: Management of users

Test Case EO4WF-3: EO4-Administration-010-Create a user [Version : 1]

Summary:

This test case describes how to create a user.

A user has:

- An identifier and a name
- An organization : company, or association
- At least a profile : user or service provider or product provider or administrator
- A unique login/password : The login doesn't contains illegal characters except of: '-'
- An email address

#:	Step actions:	Expected Results:	Execution Status:
1	Connect to the application with an administrator profile	The following fields are displayed : an identifier, a name, an organization, a profile, a login and a mail address	

	Click on the function 'Manage the users' Click on Create a user		
2	Do not complete fields Validate	An error message is displayed The forget fields are marked in red	
3	Complete the fields: Identifier, Name, Organization, Profile, email address. For the login, complete with an illegal character	An error message is displayed The unique character authorized are: ' -	
4	Complete the Login. Save the modifications	The user is created and the system initializes the password and sends it to the user by mail.	
5	Connect with this user	The user is connected to the application	

Execution type:	Manual
Estimated exec. duration (min):	

Execution Details	
Execution Result	**Not Run**

Test Case EO4WF-4: EO4-Administration-020-Modify the attributes of a user [Version : 1]

Summary:

The purpose of this test case is to show that it is possible to modify a user

All attributes can be modified

#:	Step actions:	Expected Results:	Execution Status:
1	Connect to the application with an administrator profile Click on the function 'Manage the users' Select one user and modify all attributes	All attributes are updateable	
2	Modify all fields Save the modifications	All modifications are saved	
3	Modify the profile of the user by a product provider Save the modifications, and connect to the application with the modified user	The user has now the access granted of a product provider	

Execution type:	Manual
Estimated exec. duration (min):	
Execution Details	
Execution Result	**Not Run**

Test Case EO4WF-5: EO4-Administration-030-Delete a user [Version : 1]

Summary:

The purpose of this test case is to show that it is possible to delete a user :

- A delete confirmation request message is displayed

#:	Step actions:	Expected Results:	Execution Status:
1	Connect to the application with an administrator profile Click on the function 'Manage the users' Select a user and click on delete	The system asks the administrator if he really wants to remove the user	
2	Do not validate the message	The user is not deleted	
3	Click again on delete Validate the message	The user is deleted	
4	Connect to the application with this user	It is not possible to connect to the application because the user does not exist	
Execution type:	Manual		
Estimated exec. duration (min):			
Execution Details			
Execution Result	**Not Run**		

3.2.2 Test Suite: Test of service

Test Case EO4WF-22: EO4-Administration-080-Test the uploaded service [Version : 1]

Summary:

The purpose of the test case is to describe how to test an uploaded service. The administrator tests the service to guarantee to users the operationally of the service.

- A preliminary deploy and run is performed by the service provider in a test environment to check the compliance of the service with the EO4wildlife platform constraints. When successful, the administrator replays

the test in the test environment.

- A second deployment and run is performed by the administrator in the operational environment to check if the service is runnable before its availability to users.

- The service is then available in the catalogue service to be run by users

- The administrator can also validate a service which has been invalidated previously

#:	Step actions:	Expected Results:	Execution Status:
1	Connect to the application as an administrator in the test environment. Click on 'Test services', and search the service S1	The administrator has access to the service and input products	
2	The administrator executes the service	If the results/outputs are not in line with the expected results/outputs delivered by the service provider, the service is considered as invalid.	
3	Search the service S1 in the operational environment.	The service S1 is loaded and the administrator has access to the service and input products.	
4	Run the service	The results/outputs are in line with the expected results/outputs.	
5	Change the state of the service to 'ready'	The service is with state 'ready'	
6	Select the S2 service in the test environment	The service S2 is loaded and the administrator has access to the input products.	
7	Run the service S2	The results are not the same than the one delivered by the service provider	
8	Change the state of the service to 'invalid'	The service is to 'invalid' state The service has to be updated by the service provider and tested again.	
9	Search the service S3 and run it in the operational environment (associated metadata is invalid)	The execution of the service is OK. The results are the same as the results provided by the service provider. A warning windows displays a message to alert the administrator that the associated metadata is invalid.	
10	Check the service metadata	The service metadata is still invalid	
11	Change the state of the service to 'ready'	The service is ready The service is not available in the catalogue service since its associated metadata is invalid.	

14	Disconnect the session, and connect with a user profile Search for the services S1, S2,S3	Only service S1 is available in the catalogue service It is possible to run it.	
Execution type:	Manual		
Estimated exec. duration (min):			
Execution Details			
Execution Result	**Not Run**		

Test Case EO4WF-23: EO4-Administration-090-Invalidate a service [Version : 1]

Summary:

The purpose of the test case is to show that :

- The administrator can invalid a service

- The invalid service is not visible by the users except the administrator

#:	Step actions:	Expected Results:	Execution Status:
1	Connect to the application as an administrator Click on 'Test services', and search a service in state 'ready' Change the status to 'invalid'	The administrator can invalid the service	
2	Search again the service Modify the service	The service is available for the administrator He can modify it	
3	Disconnect the session, and connect as a user Search the invalid service	The invalid service is not accessible to others users except for the administrator	
Execution type:	Manual		
Estimated exec. duration (min):			
Execution Details			
Execution Result	**Not Run**		

3.3 Test Suite: Discovery, service run and display

3.3.1 Test Suite: Discover a product

Test Case EO4WF-14: EO4-Product-050-Discover a product [Version : 1]

Summary:

The purpose of this test case is to show how to discover a product:

- Any user has access to 'Discover product'

- The search criteria are:

    . The search criteria are:

        Categories

        Keywords

        Contact for resource

        Begin and end dates

        Product type

        Provider

        Years

        Update frequencies

        Geographical coverage

  - Once the user fills all inputs and press 'search' button, the application shows the number of matching products and the search criteria

- Only the validated products are displayed in the result

- For each matching product we have:

    . The product name

    . A brief description of the product

    . The time coverage

    . A 'quick look' option of the product if available

    . The 'display' option

. The 'download' option

. A 'more info' option

- It is possible to sort the result of the research by time coverage or by product name

#:	Step actions:	Expected Results:	Execution Status:
1	Connect to the application with any user Click on 'Products' section	The screen will show the EO4wildlife catalog	Passed
2	Go to the bloc Search product	The search criteria are: Categories Keywords Contact for resource Begin and end dates Product type Provider Years Update frequencies Geographical coverage	Passed
3	Open the list of values of Product type	The list of values contains the values : ocean, atmosphere, sea ice	Blocked
4	Enter several criteria in the bloc search product Press on Search button	The number of matching products is displayed The search criteria are shown, and it is possible to clean and to refresh the criteria Only validated products are displayed in the result	Passed
5	Sort the search result by name	It is possible to sort by name	Passed
6	Sort the search result by time coverage	It is possible to sort by time coverage	Blocked
7	Go to the result	For each matching product we have: product name, brief description of the product, time coverage, 'quick look' option of the product if available, 'display' option, 'download' option, 'more info' option	Blocked
8	Press on 'more	The product detailed information are displayed	Passed

	info' option			
9	Press on 'display' option	The product is displayed		Passed
10	Press on 'quick look' (if available)	The product is displayed if available		Passed

Execution type:	Manual
Estimated exec. duration (min):	

Execution Details	
Build	validation V1
Tester	daniel.rodera
Execution Result:	**Passed**
Execution Mode:	**Manual**
Execution duration (min):	
Execution notes	Currently the download functionality is not implemented. Some values such as ocean, atmosphere or sea ice are not available as search criteria in the catalog.

Test Case EO4WF-15: EO4-Product-060- Extract a product [Version : 1]

Summary:

The purpose of the test case is to show that :

- The user can extract part of the data product, and save it locally or in the platform with a retention duration

- The extracted data should be less than 1 Gb

#:	Step actions:	Expected Results:	Execution Status:
1	Connect to the application with any user Click on 'Discover product' function Enter one or several criteria and press on 'search'	The result of the research is displayed	
2	Select one product for which the data capacity is more than 1 Gb Click on 'download' option	An error message is displayed The extracted data should be less than 1 Gb	
3	Select one product for which the data capacity is less than 1 Gb Click on 'download' option	The user can extract part of the data product and display it	
4	Save the extraction	There is two possibilities to	

		save the extraction - locally - in the platform	
5	Save the extracted product locally.	The extracted product is saved locally	
6	Repeat the previous two steps for the case where the extraction is saved in the platform	The extracted product is saved in the platform	

Execution type:	Manual
Estimated exec. duration (min):	
Execution Details	
Execution Result	**Not Run**

3.3.2   Discover a service

Test Case EO4WF-16: EO4-Service-060-Discover a service [Version : 1]

Summary:

The purpose of this test case is to show how to discover a service:

- Any user has access to 'Discover service' function

- Only the validated services are available to the users

- The search criteria are :

   . Category : turtle, marine mammals, fish, protected marine area

   . Service type : track processing, filter, behavior monitoring, thematic

   . Service provider

   . Output protocol/formats : wms, wfs, ftp, netcdf, pdf

- The results are displayed in a list with the search criteria and the number of matching services

- For each matching service we have :

   . The service ID and the name

   . The description of the service

   . The target to access the service: EO4wildlife platform or server URL

   . A 'More info' button to access to the detailed description of the service

#:	Step actions:	Expected Results:	Execution Status:
1	Connect to the application with any user Click on 'Discover service' function	The screen shows EO4wildlife services catalog.	Passed
2	Go to the bloc Search service	The search criteria are: Category, Service type, Service provider and Output protocol/formats	Blocked
3	Open the list of values of Category	The list of values contains : turtle, birds, marine mammals, fish, protected marine area	Blocked
4	Open the list of values of Service type	The list of values contains : track processing, filter, behavior monitoring, thematic	Blocked
5	Open the list of values of Output Protocol/Formats	The list of values contains : wms, wfs, ftp, netcdf, pdf	Blocked
6	Press on the button 'Search'	The result is displayed in a list The number of matching services is displayed Only the validated services are available	Blocked
7	Go to the bloc result	For each service, are displayed : - The service ID and name - The description of the service - The target to access the service: EO4wildlife platform or server URL - A 'More Info' button to access to the detailed description of the service	Passed
8	Select one service and click on 'More info'	The detailed description of the service is displayed	Blocked
9	Search again a service but with one or more criteria	The number of matching services is displayed The search criteria are shown, and it is possible to clean and to refresh the criteria	Blocked
Execution type:	Manual		
Estimated exec. duration (min):			
Execution Details			
Build	validation V1		
Tester	daniel.rodera		
Execution Result:	**Passed**		
Execution Mode:	**Manual**		

Execution duration (min):	
Execution notes	The service metadata is not complete so the search engine and the 'More Info' functionality cannot be implemented.

Currently the services only can be searched by their identifier. |

3.3.3 Run service

Test Case EO4WF-62: EO4-Service-904-Redundancy filter [Version : 3]
Summary:

This service takes in input an animal track data set and for each animal and for all relocations filter out all the positions which, within the same day, are nearer then the input distance. The 'distance' input is expressed in meters. |

#:	Step actions:	Expected Results:	Execution Status:
1	Please select the workspace button	The platform displays your workspace content	
2	Upload the input data in your private workspace (typically 4413a.csv, sea turtle dataset).	The file is uploaded successfully	
3	Select the Services button	The list of services is displayed	
5	Select the chosen service:

Enter the parameters value:

- Tracking data=4413a.csv
- Minimal distance=1000
- Time format=%d/%m/%Y %H:%M
- Latitude=lat1
- Longitude=lon1
- Time header=/
- Input CRS=/
- Tag ID=tag_id

Then execute | Follow the go to execution results

The service is running.

After 1 minute, refresh the execution page and wait for a successful/failed status | |
Execution type:	Manual		
Estimated exec. duration (min):			
Execution Details			
Execution Result	**Not Run**		

Test Case EO4WF-63: EO4-Service-802-Discard locations on land and near land [Version : 2]
Summary:

This service takes in input an animal track data set and an optional buffer radius. It creates a buffer region surrounding the coast and delete from the track data set the point falling inside the reference buffer region. Initial implementation takes the coast shape from (http://www.naturalearthdata.com/http//www.naturalearthdata.com/download/10m/physical/)

#:	Step actions:	Expected Results:	Execution Status:
1	Please select the workspace button	The platform displays your workspace content	Passed
2	Upload the input data in your private workspace (typically 4413a.csv, sea turtle dataset).	The file is uploaded successfully	Passed
3	Select the Services button	The list of Services is displayed	Passed
5	Select the chosen Service: Discard Enter the parameters value: • Tracking data=4413a.csv • Distance threshold (m)=50 • Time format = %d/%m/%Y %H:%M • Latitude=lat1 • Longitude=lon1 • Time header=/ • Input CRS=/ Then execute	Follow the go to execution results The service is running. After 1 minute, refresh the execution page and wait for a successful/failed status	Passed
Execution type:	Manual		
Estimated exec. duration (min):			
Execution Details			
Build	validation V1		
Tester	Acarneiro		
Execution Result:	**Passed**		
Execution Mode:	**Manual**		
Execution duration (min):			

Test Case EO4WF-54: EO4-Service-800-Track reprojection service [Version : 4]

Summary:

This service translates the coordinate used in an animal track dataset into a different CRS. The identifiers used to represent different coordinate reference systems is the EPSG code. The service shall use the function **spTransform** from the **rgdal** R package.

#:	Step actions:	Expected Results:	Execution Status:
1	Please select the workspace button	The platform displays your workspace content	Passed

2	Upload the input data in your private workspace (typically 4413a.csv, sea turtle dataset).	The file is uploaded successfully	Passed
3	Select the Services button	The list of Services is displayed	Passed
4	Select the chosen service: Execute TrackReprojection service

Enter the parameters value:

Output CRS= +proj=utm +zone=27 +datum=WGS84

Time format= %d/%m/%Y %H:%M

Latitude= lat1

Longitude= lon1

Time header= utc

Input CRS= /

Track file= 4413a.csv

Then execute | The execution form for the TrackReprojection service is displayed

Follow the go to execution results

The service is running.

After 1 minute, refresh the execution page and wait for a successful/failed status | Passed |

Execution type:	Manual	
Estimated exec. duration (min):		
Execution Details		
Build	validation V1	
Tester	acarneiro	
Execution Result:	**Passed**	
Execution Mode:	**Manual**	
Execution duration (min):		

Test Case EO4WF-55: EO4-Service-801-Track gridding service (count animals in grid cell) [Version : 2]

Summary:

This service takes as input an animal (or animals) tracking data set and produces a raster grid counting the animal presences in the grid cell. The animal presence is computed as the number of seconds spent by animals in the cell. The raster grid includes the whole bounding box covered by the input tracking data set, and it uses the same coordinate reference system of the input tracking data. The horizontal and vertical granularity of the raster will be the one provided the by user (information to input).

#:	Step actions:	Expected Results:	Execution Status:
1	Please select the workspace button	the platform displays the workspace content	Passed

2	Upload the input data in your private workspace (typically 4413a.csv, sea turtle dataset).	The file is uploaded successfully	Passed
3	Select the Services button	The list of Services is displayed	Passed
4	Select the chosen service: TrackGridding service Enter the parameters value: • Lat. resolution= 1 • Lon. resolution= 1 • Tag ID= tag_id • Time format= %d/%m/%Y %H:%M • Latitude= lat1 • Longitude= lon1 • Time header= / • Input CRS= / • track file= 4413a.csv Then execute	Follow the go to execution results The service is running. After 1 minute, refresh the execution page and wait for a successful/failed status	Failed

Execution type:	Manual
Estimated exec. duration (min):	

Execution Details	
Build	validation V1
Tester	Acarneiro
Execution Result:	**Failed**
Execution Mode:	**Manual**
Execution duration (min):	
Execution notes	The output does not have the input resolution. In this case, the provided resolution was 1 (for both lat and lon), and the output has a resolution of 0.1. The service does not work when a "Lat. resolution" and a "Lon. resolution" different than 1 is entered as input. Also, I don't understand results. Count data is not reflecting the number of locations when plotting one on top of the other. The library used translated degrees in kilometers when a flag was not set. This means that a bug fix can be provided and also that it is possible to discuss if expressing resolution in kilometers is more sensible.
Related Bugs	**EOW-24 :** [In Progress] : Track gridding service not passed

---

Test Case EO4WF-56: EO4-Service-900-Speed filter service [Version : 3]

Summary:

This service takes as input an animal tracking dataset and a maximum velocity expressed in km/h. It compares the successive positions two by two, computes the average velocity for the animal and drops a point if the velocity is greater than the threshold given. If an animal id column name is not provided the file is assumed to contain tracks of a single animal. This service uses the following R packages: sp https://cran.r-project.org/web/packages/sp/sp.pdf, rgeos https://cran.r-project.org/web/packages/rgeos/rgeos.pdf, trip https://cran.r-project.org/web/packages/trip/trip.pdf.

#:	Step actions:	Expected Results:	Execution Status:
1	Please select the workspace button	the platform displays your workspace content	Passed
2	Upload the input data in your private workspace (typically 4413a.csv, sea turtle dataset).	The file is uploaded successfully	Passed
3	Select the Services button	The list of Services is displayed	Passed
4	Select the chosen service: Enter the parameters value: • Tracking data=4413a.csv • Speed (km/h)=5 • Time format = %d/%m/%Y %H:%M • Latitude=lat1 • Longitude=lon1 • Time header=/ • Input CRS=/ • Tag ID=tag_id Then execute	Follow the go to execution results The service is running. After 1 minute, refresh the execution page and wait for a successful/failed status	Passed

Execution type:	Manual
Estimated exec. duration (min):	

Execution Details	
Build	validation V1	
Tester	acarneiro
Execution Result:	**Passed**
Execution Mode:	**Manual**
Execution duration (min):	

Test Case EO4WF-57: EO4-Service-901-Turning filter service [Version : 4]

Summary:

This service takes as input an animal tracking data set, a range of turning angles expressed in degrees, a range of turning distances, and compare the successive positions three by three, computes the turning angle for the change of direction of the animal and drops a point if the angle is greater than the threshold given.

#:	Step actions:	Expected Results:	Execution Status:

1	Please select the workspace button	The platform displays your workspace content	Passed
2	Upload the input data in your private workspace (typically 4413a.csv, sea turtle dataset).	The file is uploaded successfully	Passed
3	Select the Services button	The list of Services is displayed	Passed
4	Select the chosen service: Enter the parameters value: • Tracking data=4413a.csv • Minimum angle (°)=15 • Maximum angle (°)=25 • Minimum distance (m)=2500 • Maximum distance (m)=5000 • Time format = %d/%m/%Y %H:%M • Latitude=lat1 • Longitude=lon1 • Time header=/ • Input CRS=/ • Tag ID=tag_id Then execute	Follow the go to execution results The service is running. After 1 minute, refresh the execution page and wait for a successful/failed status	Failed

Execution type:	Manual
Estimated exec. duration (min):	

Execution Details	
Build	validation V1
Tester	acarneiro
Execution Result:	**Failed**
Execution Mode:	**Manual**
Execution duration (min):	
Related Bugs	**EOW-32 :** [In Progress] : Turning filter After email exchange with Ana it seems that this test lacks of criteria for validation. Alan (expert for the marine turtles scenario, relevant for this service) has been contacted for criteria to fix this.

Test Case EO4WF-58: EO4-Service-902-Position quality filter service [Version : 3]

Summary:

This service provides a filter of the animal tracks leaving only the positions of a given quality class or higher. The classes of location quality described by the ARGOS manual are the following (in order of decreasing quality): G, 3, 2, 1, 0*, A, B, Z.

This service takes as input a tracking dataset and filter out all the locations assigned by the input location quality class.

#:	Step actions:	Expected Results:	Execution

			Status:
1	Please select the workspace button	The platform displays your workspace content	Passed
2	Upload the input data in your private workspace (typically 4413a.csv, sea turtle dataset).	The file is uploaded successfully	Passed
3	Select the Service button	The list of Services is displayed	Passed
5	Select the chosen service: PositionQualityFilter Enter the parameters value: • Tracking data=4413a.csv • ARGOS location qualities=2 • Time format = %d/%m/%Y %H:%M • ARGOS quality=lc • Latitude=lat1 • Longitude=lon1 • Time header=/ • Input CRS=/ Then execute	Follow the go to execution results The service is running. After 1 minute, refresh the execution page and wait for a successful/failed status	Passed

Execution type:	Manual	
Estimated exec. duration (min):		
Execution Details		
Build	validation V1	
Tester	Acarneiro	
Execution Result:	**Passed**	
Execution Mode:	**Manual**	
Execution duration (min):		
Related Bugs	**EOW-27 :** [In Progress] : Position quality filter service not passed	

Test Case EO4WF-59: EO4-Service-903-Regular location filter service [Version : 4]

Summary:

This service takes as input an animal tracking data set, and for each animal it samples the location at the required frequency. If the rate of sampling is higher than the required frequency then the locations are averaged, if the sampling rate is lower than the required frequency, then the locations are interpolated (in this version only linear interpolation is provided).

The 'frequency' input is expressed in minutes and describes the required frequency.

#:	Step actions:	Expected Results:	Execution Status:
1	Please select the workspace button	The platform displays your workspace content	Passed

2	Upload the input data in your private workspace (typically 4413a.csv, sea turtle dataset).	The file is uploaded successfully	Passed
3	Select the Service button	The list of Services is displayed	Passed
4	Select the chosen service: RegularLocations Enter the parameters value: • Tracking data=4413a.csv • Frequency of locations=720 • Time format = %d/%m/%Y %H:%M • Latitude=lat1 • Longitude=lon1 • Time header=/ • Input CRS=/ • Tag ID=tag_id Then execute	Follow the go to execution results The service is running. After 1 minute, refresh the execution page and wait for a successful/failed status	Passed
Execution type:	Manual		
Estimated exec. duration (min):			
Execution Details			
Build	validation V1		
Tester	acarneiro		
Execution Result:	**Passed**		
Execution Mode:	**Manual**		
Execution duration (min):			

4 Conclusion

This validation test campaign describes all Test Cases required to check that the current EO4wildlife platform is compliant with the requirements defined by the use case leaders and their respective scenarios as presented in previous EO4wildlife deliverables. The campaign also reports the results of a series of Test Cases included in the Test Plan but not implemented yet.

The campaign was organised in order to make the validation an interactive process, where issues were being identified and fixed throughout the validation process. The execution of the Test Cases included in the Test Plan were finalised when tests were successful or when they achieved and acceptable level. For the services that still require fixing, new executions will be performed during next validation campaign.

The Test Cases will be refined after the final implementation of the services.

References

[1] E. Lambert and J. Zigna (eds.): D1.3 Validation & Evaluation Plan v1. Deliverable of the EO4wildlife project, 2016

[2] G. Correndo, B. Arbab-Zavar and G. Veres (eds.): D3.5 Data Mining and High Level Data Fusion Services v1. Deliverable of the EO4wildlife project, 2016.

[3] G. Weller, J. Zigna and E. Lambert (eds.): D1.1 Use Cases scenarios v1. Deliverable of the EO4wildlife project, 2016.

[4] A. Carneiro, M. Dias, B. Lascelles, G. Veres and B. Arbab-Zavar (eds.): D3.7 Thematic Analytic Services v1. Deliverable of the EO4wildlife project, 2016.

[5] Teslink Open Source Test Management, http://testlink.org

[6] JIRA Software , https://www.atlassian.com/software/jira