



Food and Agriculture
Organization of the
United Nations

Forest and Landscape Water Ecosystem Services (FL-WES) Tool

User Guidance

October 2020

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The background of the slide is a scenic landscape featuring a calm lake in the foreground, reflecting the sky. In the distance, there are several mountain peaks, some of which are covered in dense evergreen forests. The overall color palette is muted, with soft blues, greys, and greens, creating a serene and professional atmosphere.

Introduction to FL-WES

Overview ▪ FL-WES Layout ▪ FL-WES Functions ▪ User Access Options

Overview

The **Forest & Landscape Water Ecosystem Services (FL-WES) Tool** is designed to support the monitoring of forest-water interactions, thereby improving the understanding of these complex issues, as well as informing sustainable forest management policy and management decisions.

- The FL-WES tool is accessible at:
<http://www.fao.org/in-action/forest-water-tool/en/>
- For more information on the forest-water nexus, visit: www.fao.org/2/ForestsAndWater

Forest-Water Monitoring Framework



Status of Water Supply



Status of Water Quality



Water Ecosystem Services



Integrated Management



Enabling Environment



Socio-Economic Benefits

FL-WES Layout

Banner refers to the blue bar located on the top of the screen.

Left hand navigation (LHN) refers to the menu located on the left-hand side of the screen. The following tabs can be found in the LHN:

- (All users) Review & Prioritize Indicators
- (Registered users only) My FL-WES; Manage Project Locations; Enter/Analyse Project Data

The screenshot shows the FL-WES interface. At the top is a blue banner with the FAO logo and text 'Food and Agriculture Organization of the United Nations', and links for 'Home' and 'Log out'. Below the banner is a grey bar with the text 'Forest & Land'. The main content area is divided into a left-hand navigation pane (LHN) and a main window. The LHN contains a 'Monitoring Tools' section with a 'My FL-WES' tab, a 'You are logged in as: Rebecca.MontemagniAlmeida@fao.org' section, and a 'Review & Prioritize Indicators' section with buttons for 'Project Home', 'Update Guidance Survey', 'Review Priority Indicators' (highlighted with a red box), and 'Review All Indicators'. Below these are links for 'Manage Project Locations' and 'Enter/Analyse Project Data'. The main window is titled 'Monitoring Tools' and displays a list of indicators and variables. A text box explains that the main window can be divided into two windows: a 'Left Window' and a 'Right Window'. The 'Left Window' shows a list of indicators and variables, including 'Indicator 1.2: Soil Water Content / Soil Moisture Content', 'Variable #2: Indicator 3, Sub-Indicator 3.1: Flooding Events', 'Variable #3: Indicator 3, Sub-Indicator 3.2: Richness and Abundance of Aquatic Species', and 'Monitoring to Consider' with 'Variable #1: Indicator 3, Sub-Indicator 3.4: Soil Erosion Impacts and Classification' and 'Variable #2: Indicator 1, Sub-Indicator 1.1: Forest Area'. The 'Right Window' shows a detailed view of the 'Guidance Survey' section, which discusses the rationale behind the indicators and sub-indicators.

Food and Agriculture Organization of the United Nations

Home Log out

Forest & Land

Monitoring Tools

My FL-WES

My Profile

My Forest-Water Projects

You are logged in as: Rebecca.MontemagniAlmeida@fao.org

Review & Prioritize Indicators

Project Home

Update Guidance Survey

Review Priority Indicators

Review All Indicators

Manage Project Locations

Enter/Analyse Project Data

Monitoring Tools

Indicator 1.2: Soil Water Content / Soil Moisture Content

Variable #2: Indicator 3, Sub-Indicator 3.1: Flooding Events

Variable #3: Indicator 3, Sub-Indicator 3.2: Richness and Abundance of Aquatic Species

Monitoring to Consider

Variable #1: Indicator 3, Sub-Indicator 3.4: Soil Erosion Impacts and Classification

Variable #2: Indicator 1, Sub-Indicator 1.1: Forest Area

Indicators and sub-indicators are used to monitor forest and water linkages. These interactions may be evaluated through a diverse range of indicators and sub-indicators that could be used with varying degrees of accuracy, often concentrating on a particular set of interactions. For the FL-WES tool, the FAO Forests and Water team developed a set of indicators, sub-indicators and variables in consultation with experts involved in forest-water monitoring. Experts come from a variety of countries, professional backgrounds and organizations.

The result of this consultation process was six overarching quantitative and qualitative indicators, 20 sub-indicators and 69 variables measuring biophysical, political and socio-economic factors. The following section explores the rationale behind each of the indicators and sub-indicators.

Guidance Survey

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FL-WES Functions

My FL-WES is where users can enter personal information (*optional and available only for registered users*) and create/manage Forest-Water Projects.

Manage Project Locations is where users can add georeferenced polygons for each project (*registered users only*)

The screenshot displays the FAO Forest-Water Ecosystem Services (FL-WES) web interface. At the top, the FAO logo and 'Food and Agriculture Organization of the United Nations' are visible, along with 'Home' and 'Log out' links. The main header reads 'Forest-Water Ecosystem Services (FL-WES) Tool'. The left sidebar, titled 'Monitoring Tools', contains several sections: 'My FL-WES' with links to 'My Profile' and 'My Forest-Water Projects'; a login status 'You are logged in as: beca_montemagni@hotmail.com'; a 'Review & Prioritize Indicators' section with buttons for 'Project Home', 'Complete Guidance Survey', 'Review Priority Indicators', and 'Review All Indicators'; and a 'Manage Project Locations' section with links to 'Manage Project Locations' and 'Enter/Analyse Project Data'. The main content area on the right shows a partially visible section titled 'Enter/Analyse Project Data' with a link 'click here.'.

Preview & Prioritize Indicators is where users can complete the FL-WES guidance survey; review priority indicators based on survey results; and view all the indicators of the forest-water framework

Enter/Analyse Project Data is where users can enter information on context variables and conduct geospatial analysis for FL-WES project locations via Earth Map (*registered users only*)

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User Access Options

Features	REGISTERED USER	GUEST USER
Free access	✓	✓
Survey results	✓	✓
Data sheets	✓	✓
Save results	✓	
Include context information	✓	
Geo-spatial mapping and analysis	✓	



Create a FL-WES Account

Register & Sign-in ▫ Complete Your User Profile

Register

Step 1 Click the “Log in” link in the banner.

Step 2 A pop-up window will appear. Click the “Sign up” link.

Step 3a (SSO) If you have a FAO or Google account, you can register using the single-sign-on option.

Step 3b Provide required details to create an account. An email will be sent to your registered address to complete the registration process.

i Once a new account is created, check your inbox (or spam folder) for a confirmation email and follow the instructions to finalize your registration.

The screenshot illustrates the registration process for the Forest Waters Tool (FL-WES) on the FAO website. The process is guided by four numbered steps:

- Step 1:** A green box labeled '1' highlights the 'Log in' link in the top right banner.
- Step 2:** A green box labeled '2' highlights the 'Sign up' link in a pop-up window that appears after clicking 'Log in'.
- Step 3a:** A green box labeled '3a' highlights the 'Sign up' link in the 'Need an account? Sign up' section of the pop-up window.
- Step 3b:** A green box labeled '3b' highlights the registration form on the right side of the page. The form includes fields for Username, Name, Email, and Password, along with a 'Sign up' button. Below the password field, there are four green checkmarks indicating password requirements: 'Password must contain a lower case letter', 'Password must contain an upper case letter', 'Password must contain a special character', and 'Password must contain a number'. A 'Sign in' button is also visible at the bottom of the form.

The background shows the FAO logo and the 'Forest Waters Tool (FL-WES) Tool' header. The main content area is divided into two columns. The left column contains a 'Sign in' section with options for corporate ID (FAO-ADFS), social account (Continue with Google), and a 'Sign up' link. The right column contains a 'Sign up with a new account' section with the same options and a 'Sign up' button. A 'Project Home' button is visible in the bottom left corner of the main content area.

Sign-in

Step 1 Click the “Log in” link in the banner.

Step 2a (SSO) A pop-up window will appear. If you have a FAO or Google account, you can sign-in using the single-sign-on option.

Step 2b Sign in using your registered login details.

Food and Agriculture Organization of the United Nations

Log out

Forest & Landscape Water-based Ecosystem Services (FL-WES) Tool

Monitoring Tools

▼ My FL-WES

► My Profile

▼ My Forest-Water Projects

Create new...

Create Project

You are logged in as:
'beca_montemagni@hotmail.com'

▼ Review & Prioritize Indicators

Project Home

Update Guidance Survey

Review Priority Indicators

Review All Indicators

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Sign in with your corporate ID

FAO-ADFS

Sign in with your social account

Continue with Google

We won't post to any of your accounts without asking first

Sign in with your username and password

Username

Username

Password

Password

Forgot your password?

Sign in

Need an account? Sign up

Complete Your User Profile (*registered users only*)

Step 1 Click on the “My Profile” tab. under **My FL-WES** in the LHN.

Step 2 Complete the information in the LHN fields, selecting the most appropriate response(s).

Food and Agriculture Organization of the United Nations

Home Log out

Forest & Landscape Water-based Ecosystem Services (FL-WES) Tool

Monitoring Tools

▼ My FL-WES

▼ My Profile

Country of residence:
BS - Bahamas ▼

Gender:
Female ▼

Type of institution:
Agency of the United Nations ▼

Countries where project(s) located:
2 selected ▼

▼ My Forest-Water Projects

My FL-WES ▼

Created: 2020-08-27
Last revised: 8/28/2020

Complete Forest-Water Monitoring Framework

- ▶ **Indicator 1:** Status of Water Supply
- ▶ **Indicator 2:** Status of Water Quality
- ▶ **Indicator 3:** Water-Related Ecosystem Services
- ▶ **Indicator 4:** Integrated Management
- ▶ **Indicator 5:** Enabling Environment
- ▶ **Indicator 6:** Socio-Economic Benefits

Overview

Forest-Water Monitoring Framework

Indicators are essential to evaluate and monitor forest and water linkages. These interactions may be evaluated through a diverse range of indicators and sub-indicators that could be used with varying degrees of accuracy, often concentrating on a particular set of interactions. For the FL-WES tool, the FAO Forest-Water team developed a set of indicators, sub-indicators and variables in consultation with experts involved in forest-water monitoring. Experts come from a variety of countries, professional backgrounds and organizations.

The result of this consultation process was six overarching quantitative and qualitative indicators, 20 indicators and 69 variables measuring biophysical, political and socio-economic factors. The following section explores the rationale behind each of the indicators and sub-indicators.

Guidance Survey

i Completing the user profile information is not mandatory. Its purpose is to better understand the needs of FL-WES users and to allow FAO to continuously improve the FL-WES tool.



Discover Forest-Water Indicators & Methodologies

*[Complete the Guidance Survey](#) ▪ [Review Priority Indicators](#)
[Review All Indicators](#) ▪ [Download Data Collection Templates](#)*

Complete the Guidance Survey (1/2)

Step 1 Click the “Complete Guidance Survey” button.

Step 2 Complete the survey. For each question, select appropriate response(s).

Step 3 Click “Next Question” button to advance to the next survey question.

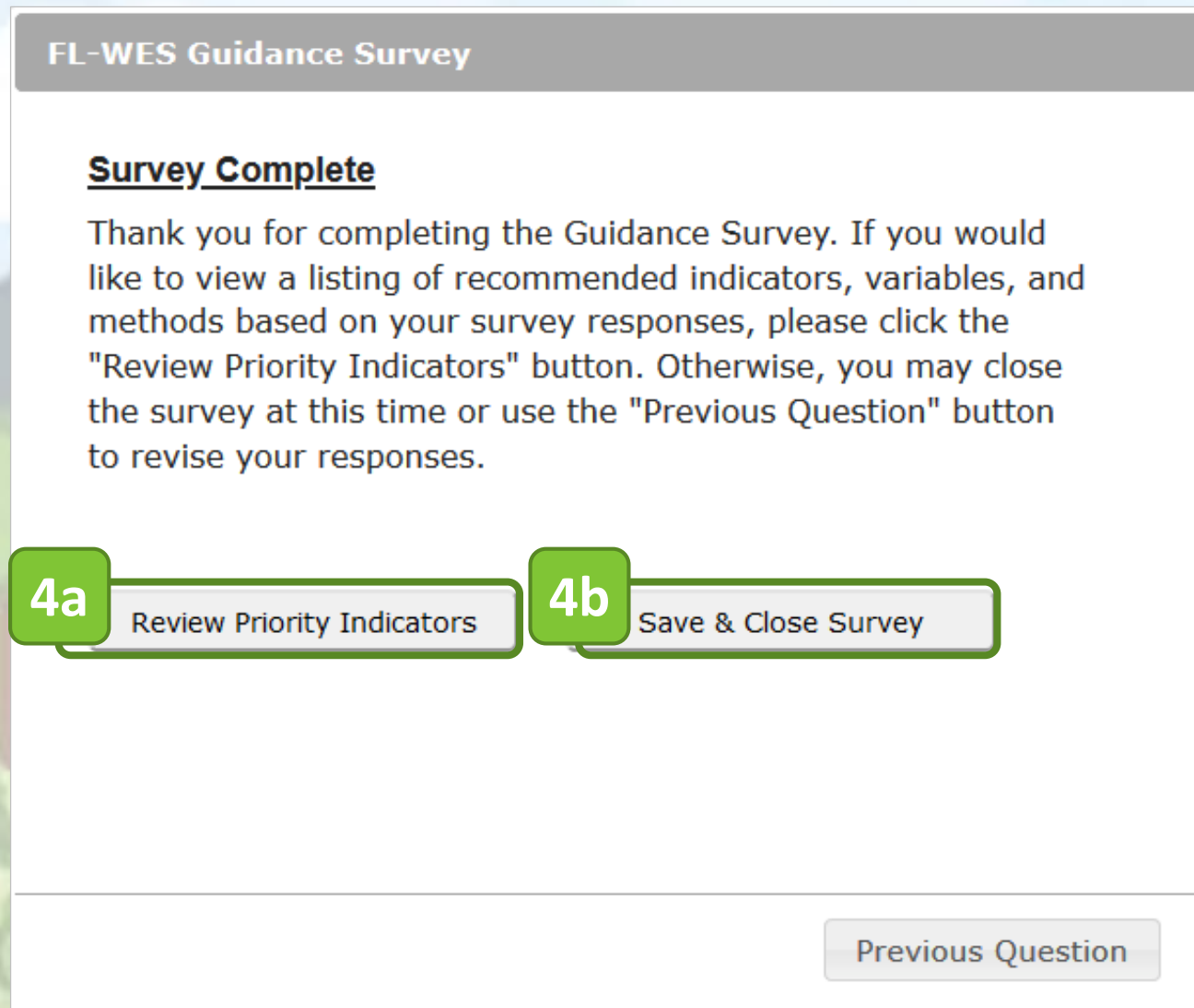
The screenshot shows the 'Forest & Landscape Water-based Ecosystem Services (FL-WES) Tool' interface. At the top, the FAO logo and 'Food and Agriculture Organization of the United Nations' are displayed, along with 'Home' and 'Log out' links. The main header is 'Forest & Landscape Water-based Ecosystem Services (FL-WES) Tool'. The left sidebar, titled 'Monitoring Tools', contains a 'My FL-WES' section with 'My Profile' and 'My Forest-Water Projects' buttons, and a 'Review & Prioritize Indicators' section with 'Project Home', 'Complete Guidance Survey' (highlighted with a green box and a green circle with the number 1), 'Review Priority Indicators', and 'Review All Indicators' buttons. Below these are 'Manage Project Location' and 'Enter/Analyse Project Data' buttons. The main content area is titled 'FL-WES Guidance Survey' and includes an 'Introduction' section. A green box with the number 2 highlights the 'FL-WES Guidance Survey' title. The survey questions are listed under the heading 'Ecosystem/Land-Use'. The first question is 'What ecosystem(s) and/or land-use(s) exist in your area of interest?' with the instruction 'Check all that apply. (You must select at least one option.)'. The options are: 'Forest - Low altitude plains', 'Forest - Low montane conifer', 'Forest - Littoral', 'Forest - Swamp' (which is selected with a checked box), 'Forest - Mangrove', 'Forest - Low altitude upland', and 'Forest - Montane'. At the bottom of the survey area, there are 'Close Survey', 'Previous Question', and 'Next' buttons. A blue box with the text 'Exit the survey by clicking the “Cancel Survey” button.' has an arrow pointing to the 'Cancel Survey' button. A green box with the number 3 highlights the 'Next Question' button at the bottom right of the survey area. The footer of the page shows '© FAO - 2020'.

i All questions must be answered in order to obtain the priority indicators, variables, and methods. Any survey responses entered will be temporarily stored but will not be saved to a FL-WES project until the survey is completed in full and properly saved (*registered users only*).

Complete the Guidance Survey (2/2)

Step 4a Click the “Review Priority Indicators” button to display monitoring priorities based on survey responses (*see next section*).

Step 4b Click the “Save & Close Survey” button will close the survey and return to the main tool view.



FL-WES Guidance Survey

Survey Complete

Thank you for completing the Guidance Survey. If you would like to view a listing of recommended indicators, variables, and methods based on your survey responses, please click the "Review Priority Indicators" button. Otherwise, you may close the survey at this time or use the "Previous Question" button to revise your responses.

4a Review Priority Indicators

4b Save & Close Survey

Previous Question

i Only one version of the survey may be completed per project (*for registered users*) or per session (*for guest users*). The Guidance Survey can be updated by amending the responses to the saved survey (*for registered users only*).

Review Priority Indicators

Step 1 Select the desired variable.

Step 2 Navigate through the tabs, which display overview information, priority methods and other (lower priority) methods associated with a variable.

The screenshot shows the FAO Forest & Landscape Water-based Ecosystem Services (FL-WES) Tool interface. The top navigation bar includes the FAO logo and the text 'Food and Agriculture Organization of the United Nations', along with 'Home' and 'Log out' links. The main header is 'Forest & Landscape Water-based Ecosystem Services (FL-WES) Tool'. The interface is divided into a sidebar and a main content area.

Sidebar:

- Monitoring Tools:**
 - My FL-WES
 - My Profile
 - My Forest-Water Projects
 - You are logged in as: 'beca_montemagni@hotmail.com'
 - Review & Prioritize Indicators:**
 - Project Home
 - Update Guidance Survey
 - Review Priority Indicators** (highlighted with a red box)
 - Review All Indicators
 - Manage Project Locations
 - Enter/Analyse Project Data

Main Content Area:

- My FL-WES:**
 - Prioritized Forest-Water Monitoring
 - Monitoring to Prioritize
 - Variable #1: Indicator 2, Sub-Indicator 2.2: Water body morphological status
 - Variable #2: Indicator 2, Sub-Indicator 2.1: Status of Indicator Species** (highlighted with a green box labeled '1')

Variable Details (Right Panel):

- Variable:** Status of Indicator Species
- Units:** Varies depending on index or method used
- Description:** Presence and abundance of an indicator species, which can be used as a proxy for the health of surface water bodies and thereby water quality.
- Source(s) of Data:** Direct Measurements / Desk Study
- Monitoring Frequency:** Monthly/ seasonally

Navigation Tabs: Overview, Priority Methods (highlighted with a green box labeled '2'), Other Methods

Callout Box: You can also access the priority indicators by clicking "Review Priority Indicators"

Footer: © FAO - 2020

i The "tree" view allows for easy selection of indicators and variables under each of the three prioritization categories

Review All Indicators

Step 1 Click the “Review All Indicators” button to display all the forest-water framework components.

Step 2 Navigate through the tabs, which display overview information and measurement procedures associated with a variable.

Food and Agriculture Organization of the United Nations

Home Log out

Forest & Landscape Water-based Ecosystem Services (FL-WES) Tool

Monitoring Tools

- ▼ My FL-WES
 - My Profile
 - My Forest-Water Projects
- You are logged in as: 'beca_montemagni@hotmail.com'
- ▼ Review & Prioritize Indicators
 - Project Home
 - Update Guidance Survey
 - Review Priority Indicators
 - Review All Indicators**
- Manage Project Locations
- Enter/Analyse Project Data

Complete Forest-Water Monitoring Framework

- ▾ **Indicator 1:** Status of Water Supply
 - ▾ **Sub-Indicator 1.1:** Change in Surface Flows
 - ▾ **Sub-Indicator 1.2:** Change in Groundwater Recharge and Soil Water Storage
 - Variable:** Soil Water Content / Soil Moisture Content
 - Variable:** Groundwater Recharge / Infiltration Capacity
 - Sub-Indicator 1.3:** Change in Evapotranspiration
 - ▾ **Sub-Indicator 1.3.1:** Change in Catchment Evapotranspiration
 - ▾ **Sub-indicator 1.3.2:** Local Cloud Cover and Precipitation
 - ▾ **Indicator 2:** Status of Water Quality
 - ▾ **Indicator 3:** Water-Related Ecosystem Services

Overview Measurement Procedures

1 - Direct Measurements

[Gravimetric And Volumetric Method](#)

Definition: Information collected based on the removal of soil samples, which are first weighed before to determine the moist weight as well as after drying them in the oven to determine the dry weight

Data Sheet Download: You can use this template to record your data: [Data Collection Template \(Gravimetric And Volumetric Method\)](#)

Recommended Use: All types of areas

Advantages: Accurate and reliable measure of soil water content

Limitations: Cannot be used to monitor the area in a long time, time consuming, inconvenient, costly, and is often destructive of a field study area

Scale: Local

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i The framework is expressed as a “tree” of indicators, sub-indicators, variables, and methods. Additional information for the selected item is displayed in the right-hand pane.

Download Data Collection Templates (1/2)

Step 1 Click on the “Review Priority Indicators” or “Review all Indicators” button.

Step 2 Select the desired variable.

Step 3 Click on “Measurements Procedures”.

Step 4 Download a Data Collection Template (if available) by clicking the highlighted link.

The screenshot displays the 'Forest & Landscape Water-based Ecosystem Services (FL-WES) Tool' interface. The top header includes the FAO logo and 'Food and Agriculture Organization of the United Nations', along with 'Home' and 'Log out' links. The main title is 'Forest & Landscape Water-based Ecosystem Services (FL-WES) Tool'.

The interface is divided into two main sections. The left section, titled 'Monitoring Tools', contains a sidebar with the following elements:

- My FL-WES**
 - My Profile
 - My Forest-Water Projects
 - You are logged in as: 'beca_montemagni@hotmail.com'
- Review & Prioritize Indicators**
 - Project Home
 - Update Guidance Survey
 - Review Priority Indicators (highlighted with a green box and labeled '1')
 - Review All Indicators
- Manage Project Locations
- Enter/Analyse Project Data

The right section, titled 'Complete Forest-Water Monitoring Framework', lists various indicators and variables:

- Indicator 1: Status of Water Supply**
 - Sub-Indicator 1.1: Change in Surface Flows**
 - Sub-Indicator 1.2: Change in Groundwater Recharge and Soil Water Storage**
 - Variable: Soil Water Content / Soil Moisture Content** (highlighted with a green box and labeled '2')
 - Variable: Groundwater Recharge / Infiltration Capacity**
 - Sub-Indicator 1.3: Change in Evapotranspiration**
 - Sub-Indicator 1.3.1: Change in Catchment Evapotranspiration**
 - Sub-indicator 1.3.2: Local Cloud Cover and Precipitation**
- Indicator 2: Status of Water Quality**
- Indicator 3: Water-Related Ecosystem Services**

The rightmost section, titled 'Measurement Procedures', contains the following information:

- 3** Measurement Procedures (highlighted with a green box)
- 1 - Direct Measurements**
 - Gravimetric And Volumetric Method** (highlighted with a green box)
 - Definition:** Information collected based on the removal of soil samples, which are first weighed before to determine the moist weight as well as after drying them in the oven to determine the dry weight
 - 4** **Data Sheet Download:** You can use this template to record your data: [Data Collection Template \(Gravimetric And Volumetric Method\)](#) (highlighted with a green box and labeled '4')
 - Recommended Use:** All types of areas
 - Advantages:** Accurate and reliable measure of soil water content
 - Limitations:** Cannot be used to monitor the area in a long time, time consuming, inconvenient, costly, and is often destructive of a field study area
 - Scale:** Local

The footer of the interface shows '© FAO - 2020'.

Download Data Collection Templates (2/2)

Step 5 To complete the Data Collection Template, follow the instructions provided.

This is an example of the Data Collection Templates

i For questions or assistance with the Data Collection Templates, you may contact us at Forest-and-water@fao.org.

Create & Analyze Projects and Data in FL-WES

(Only available to registered users)

*Create a Project ▪ Enter Project Location ▪ Enter Project Context Variables
Analyze Project Locations via Earth Map*

Create a Project

Step 1 Click “Create Project”.

Step 2 Specify a project short name and description.

Step 3 Click the “Submit” button to create the project.

The screenshot displays the FAO Forest & Landscape Water-based Ecosystem Services (FL-WES) Tool interface. The top navigation bar includes the FAO logo and the text 'Food and Agriculture Organization of the United Nations', along with 'Home' and 'Log out' links. The main header is 'Forest & Landscape Water-based Ecosystem Services (FL-WES) Tool'. The left sidebar, titled 'Monitoring Tools', contains sections for 'My FL-WES' (with 'My Profile' and 'My Forest-Water Projects' sub-sections), a 'Create new...' dropdown, a 'Create Project' button (highlighted with a green box and a green circle with the number 1), and a 'Review & Prioritize Indicators' section with buttons for 'Project Home', 'Update Guidance Survey', 'Review Priority Indicators', and 'Review All Indicators'. The main content area shows a message: 'This project has a completed survey. Please [click here](#) to view your priority indicators. For more information...'. A modal dialog box titled 'Create New Forest-Water Monitoring Project' is open, featuring a green box with a green circle containing the number 2. The dialog has two input fields: 'Specify a short name for your FWT project:' (containing 'My Forest-Water Project') and 'Provide a description for this project:' (containing 'New Project'). At the bottom of the dialog, there is a 'Submit' button (highlighted with a green box and a green circle with the number 3) and a 'Cancel' button. The footer of the page reads '© FAO - 2020'.

Enter Project Location (Part 1/2)

Step 1 Click the “Display Project Map” button to access the mapping tools.

Step 2 Click the “Sketch Polygon” button to create a new project location on the map.

Step 3 Sketch the polygon on the map by tracing the outline of the project area. Double-click the last vertex to create the polygon and display the confirmation dialogue. (Note: Click “Cancel Polygon” to cancel the creation of a new project area).

Food and Agriculture Organization of the United Nations

Home Log out

Forest & Landscape Water-based Ecosystem Services (FL-WES) Tool

Created: 2020-08-27
Last revised: 2020-08-27

Edit Project Info
Delete Project

You are logged in as:
'beca_montemagni@hotmail.com'

Review & Prioritize Indicators

Manage Project Locations

1 Display Project Map

2 Sketch Polygon

Delete a location:

Enter/Analyse Project Data

Mapping Tools

Map Navigation

Zoom Full Extent
Zoom to Project

Map Layers

☒ Base map
☒ Project locations

3

1000 km

© FAO - 2020

Enter Project Location (Part 2/2)

Step 4 Once the project location (polygon) has been sketched, specify a name and description.

Step 5 Click on the “Submit” button.

Step 6 A confirmation message that the location was successfully added will pop-up. Click on the “Close” button.

The screenshot displays the FAO Forest & Landscape Water-based Ecosystem Services (FL-WES) Tool interface. The top navigation bar includes the FAO logo, the text "Food and Agriculture Organization of the United Nations", and links for "Home" and "Log out". The main header is "Forest & Landscape Water-based Ecosystem Services (FL-WES) Tool".

The interface is divided into several sections:

- Left Panel:** Contains project information (Created: 2020-08-27, Last revised: 2020-08-27), buttons for "Edit Project Info" and "Delete Project", a login status message ("You are logged in as: 'beca_montemagni@hotmail.com'"), a "Review & Prioritize Indicators" button, and a "Manage Project Locations" section. The "Manage Project Locations" section includes a "Display Project Map" button (highlighted with a red box), a radio button for "Add a location to project (maximum of 5 polygons)" with a "Sketch Polygon" button, and a radio button for "Delete a location:". At the bottom is a button for "Enter/Analyse Project Data".
- Center Panel:** Titled "Mapping Tools", it includes a "Map Navigation" section with "Zoom Full Extent" and "Zoom to Project" buttons, and a "Map Layers" section with checkboxes for "Base map" and "Project locations" (the latter is checked and highlighted with a red square).
- Right Panel:** A satellite map showing a red polygon outline. A green line with a green box containing the number "4" points to the "Confirm Project Location" dialog box.

The "Confirm Project Location" dialog box is open, showing two input fields: "Specify a name for this location:" with the text "Location 1" and "Specify a description for this location:" with the text "New Location". A green line with a green box containing the number "5" points to the "Submit" button in this dialog. Below the dialog, a green box with the number "6" points to the "Close" button in the "FL-WES Tool" notification box. The notification box contains the text: "The location was successfully added to the current project."

The bottom of the interface shows a scale bar for "1000 km" and a copyright notice "© FAO - 2020".

Enter Project Context Variables

Step 1 Select the saved project from the dropdown menu.

Step 2 Click the “Context Variables” button to enter and edit variables in the main display.

Step 3 Complete the fields with appropriate information.

Step 4 Click the “Close” button to exit the window.

The screenshot displays the 'Forest & Landscape Water-based Ecosystem Services' (FL-WES) web interface. The top navigation bar includes the FAO logo and the text 'Food and Agriculture Organization of the United Nations', along with 'Home' and 'Log out' links. The main content area is titled 'My FL-WES' and contains a sidebar with navigation options: 'My Profile', 'My Forest-Water Projects', 'Review & Prioritize Indicators', 'Manage Project Locations', and 'Enter/Analyse Project Data'. The 'Enter/Analyse Project Data' section is active, showing a dropdown menu with 'My FL-WES' selected (Step 1). Below the dropdown are buttons for 'Edit Project Info' and 'Delete Project'. A status message indicates the user is logged in as 'beca_montemagni@hotmail.com'. The main form area is titled 'Project Context Variables' (Step 3) and contains several input fields: 'Project Location' (Latitude: -23.10828, Longitude: -48.755837), 'Project Context' (Climate zone: A: Tropical, Management scale: Catchment), and 'Type of forest management / intervention practiced' (Example, Intervention type). Each field has an 'information' button (Step 4). A tooltip for the 'Latitude' field is visible, showing the 'Context Variable: Latitude' with a description: 'Latitude representative of managed forest location(s)', units: 'decimal degrees', and typical data source: 'Direct measurements'. At the bottom of the form is a 'Context Variables' button (Step 2) and a 'Close' button (Step 4). The footer shows '© FAO - 2020'.

i Variable data entered are associated with the current project and immediately stored in the FL-WES database

Analyze Project Locations via Earth Map (Part 1/3)

Step 1 Click the “Context Variables” button.

Step 2 Select one or more locations and specify whether they should be analyzed separately or together.

Step 3 Click on the “Configure Earth Map” button.

The screenshot shows the FAO Forest & Landscape Water-based Ecosystem Services (FL-WES) Tool interface. The header includes the FAO logo and the text "Food and Agriculture Organization of the United Nations", along with "Home" and "Log out" links. The main title is "Forest & Landscape Water-based Ecosystem Services (FL-WES) Tool".

The interface is divided into several sections:

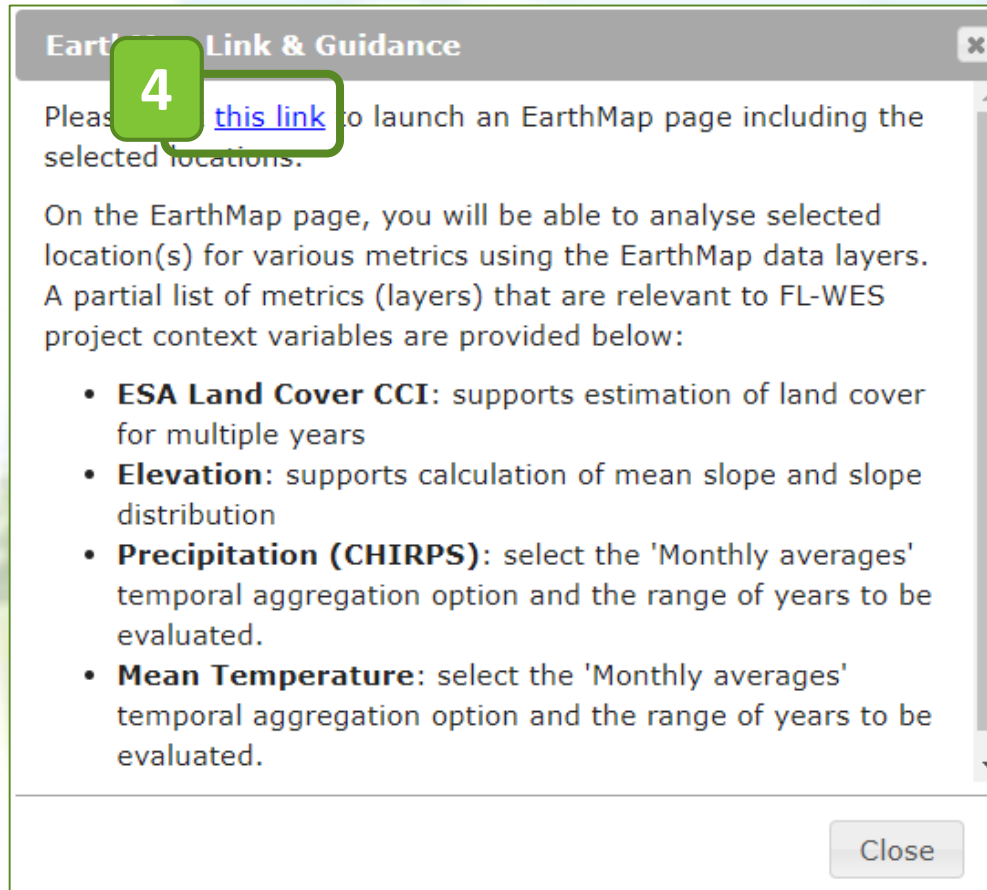
- Review & Prioritize Indicators:** Contains buttons for "Update Guidance Survey", "Review Priority Indicators", and "Review All Indicators".
- Manage Project Locations:** Contains a "Display Project Map" button and a section for "Add a location to project (maximum of 5 polygons)" with a "Sketch Polygon" button. Below this is a "Delete a location:" section.
- Enter/Analyse Project Data:** Contains a "Context Variables" button (highlighted with a green box and a green circle with the number 1).
- Project Context Variables:** A section (highlighted with a green box and a green circle with the number 2) containing fields for "Project Location" (Latitude: -23.10828, Longitude: -48.755837) and "Project Context" (Climate zone: A: Tropical, Management scale: Catchment, Catchment(s): Example, Type of forest management / intervention practiced: Intervention type).
- 1. Select Project Locations:** A section containing checkboxes for "Location 1", "Location 2", and "Location 3", and buttons for "Select All" and "Clear All". Below these are radio buttons for "Analyse selected locations separately" and "Analyse selected locations together".
- 2. Launch EarthMap:** A section containing a "Configure EarthMap" button (highlighted with a green box and a green circle with the number 3).

The footer of the interface shows "© FAO - 2020".

Analyze Project Locations via Earth Map (Part 2/3)

Step 4 Click the highlighted link to launch Earth Map.

Step 5 Sign-in with a Google account.



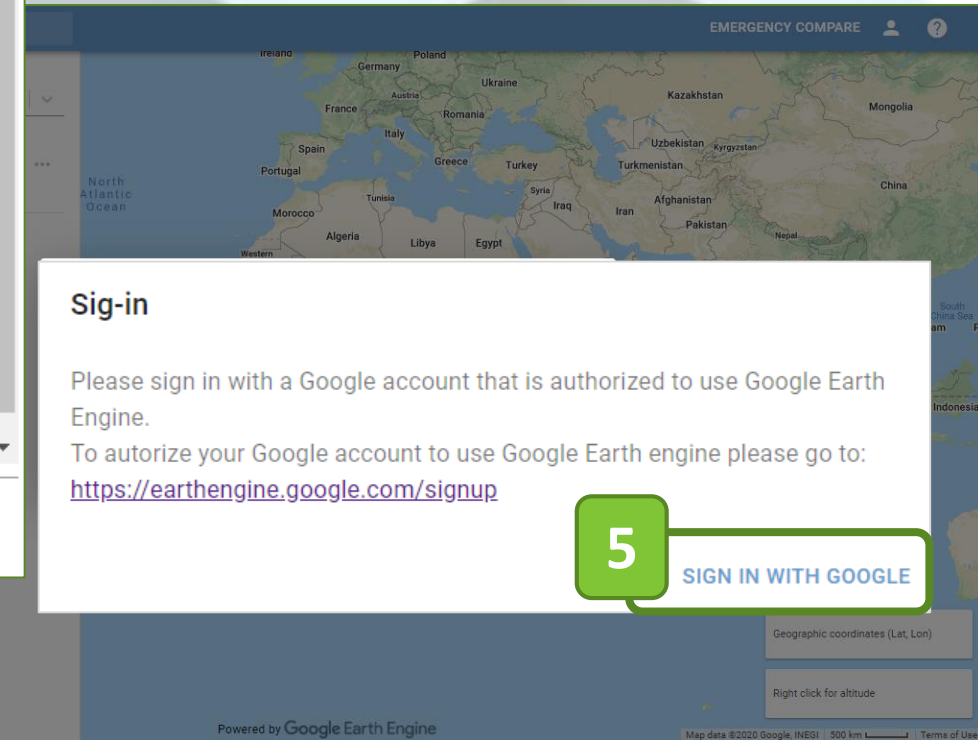
EarthLink & Guidance

Please click [this link](#) to launch an EarthMap page including the selected locations.

On the EarthMap page, you will be able to analyse selected location(s) for various metrics using the EarthMap data layers. A partial list of metrics (layers) that are relevant to FL-WES project context variables are provided below:

- **ESA Land Cover CCI:** supports estimation of land cover for multiple years
- **Elevation:** supports calculation of mean slope and slope distribution
- **Precipitation (CHIRPS):** select the 'Monthly averages' temporal aggregation option and the range of years to be evaluated.
- **Mean Temperature:** select the 'Monthly averages' temporal aggregation option and the range of years to be evaluated.

Close



Sig-in

Please sign in with a Google account that is authorized to use Google Earth Engine.

To authorize your Google account to use Google Earth engine please go to:
<https://earthengine.google.com/signup>

5 SIGN IN WITH GOOGLE

Geographic coordinates (Lat, Lon)
Right click for altitude

Powered by Google Earth Engine
Map data ©2020 Google, INEGI 500 km Terms of Use

i Signing in: In order to use Earth Map, FL-WES users must be logged into a Google account that has been approved for use with Google Earth Engine.

Analyze Project Locations via Earth Map (Part 3/3)

Step 6 Select the area of interest (location) to be analyzed.

Step 7 Choose the desired layer(s), the temporal aggregation and the range of years to be analyzed.

Step 8 Click on the “Process” button.

The processed data can now be used for the project's context variables and/or refine the information entered in the guidance survey.

The screenshot displays the Earth Map Beta web application. The main map shows North and West Africa, with a green rectangle highlighting a region in Algeria, labeled with a green circle containing the number 6. The interface includes a search bar at the top with the text "Enter a location". On the left, there are two sections: "Select an area of interest" and "Boundaries", each with a dropdown menu. On the right, there is a panel titled "My FL-WES" with a "Metrics" section, a "Select a script" dropdown, a "Temporal aggregation" dropdown, and a "No option available" message. A green circle with the number 7 is placed over the "Select a script" dropdown. A green circle with the number 8 is placed over the "PROCESS" button. The bottom of the map shows "Powered by Google Earth Engine".

i For further information on how to use Earth Map, access the [Earth Map Help Center](#)

Manage Projects in FL-WES

(Only available to registered users)

Edit a Project ▪ Delete a Project ▪ Delete a Location

Edit a FL-WES Project

Step 1 Select a saved project from the dropdown menu.

Step 2 Click “Edit Project Info” to begin editing the project.

Step 3 Edit the project short name and description.

Step 4 Click the “Submit” to save the changes.

The screenshot displays the 'Forest & Landscape Water-based Ecosystem Services (FL-WES) Tool' interface. The top header features the FAO logo and the text 'Food and Agriculture Organization of the United Nations', along with 'Home' and 'Log out' links. The main title is 'Forest & Landscape Water-based Ecosystem Services (FL-WES) Tool'. The left sidebar, titled 'Monitoring Tools', contains a dropdown menu 'My FL-WES' with a sub-menu 'My Forest-Water Projects'. Below this, there is a dropdown menu showing 'My FL-WES' with a downward arrow, a 'Created: 2020-08-27' date, and a 'Last revised: 2020-08-28' date. There are two buttons: 'Edit Project Info' and 'Delete Project'. Below these, it says 'You are logged in as: beca_montemagni@hotmail.com'. At the bottom of the sidebar, there is a 'Project Home' button and an 'Update Guidance Survey' button. The main content area is titled 'Edit Forest-Water Monitoring Project'. It has a close button (X) and a label 'icators.'. The form contains two sections: 'Specify a short name for your FWT project:' with a text input field containing 'My FL-WES', and 'Provide a description for this project:' with a text area containing 'Forest catchment treatment in the Shiwalik Hills, India'. At the bottom of the form, there are two buttons: 'Submit' and 'Cancel'. A green box with the number '4' highlights the 'Submit' button. A green box with the number '3' highlights the 'Edit Forest-Water Monitoring Project' form. A green box with the number '2' highlights the 'Edit Project Info' button. A green box with the number '1' highlights the 'My FL-WES' dropdown menu.

Delete a FL-WES Project

Step 1 Select a project from the dropdown menu.

Step 2 Click “Delete Project”.

Step 3 Confirm deletion of the selected project.

The screenshot displays the 'Forest & Landscape Water-based Ecosystem Services (FL-WES) Tool' interface. At the top, the FAO logo and 'Food and Agriculture Organization of the United Nations' are visible, along with 'Home' and 'Log out' links. The main header is 'Forest & Landscape Water-based Ecosystem Services (FL-WES) Tool'. The left sidebar, titled 'Monitoring Tools', contains a dropdown menu 'My FL-WES' with a sub-menu 'My Forest-Water Projects'. A green box with a white '1' highlights the 'My FL-WES' dropdown. Below it, a green box with a white '2' highlights the 'Delete Project' button. The main content area shows a project card for 'My FL-WES' with a 'Delete Project' button. A green box with a white '3' highlights the 'OK' button in the confirmation dialog. The dialog box is titled 'Confirm FWT Project Deletion' and asks 'Are you sure you want to permanently delete this FWT project?'. It includes 'OK' and 'Cancel' buttons. The footer shows '© FAO - 2020'.

i Warning: All information associated with a project will be permanently lost if the project is deleted.

Delete a Project Location

Step 1 Select the “Delete a location” option.

Step 2 Select the location for deletion. Click the “Delete” button.

Step 3 Confirm deletion of the polygon.

1

2

3

The screenshot displays the FAO Forest & Landscape Water-based Ecosystem Services (FL-WES) Tool interface. The top navigation bar includes the FAO logo, the text "Food and Agriculture Organization of the United Nations", and links for "Home" and "Log out". The main header is "Forest & Landscape Water-based Ecosystem Services (FL-WES) Tool".

The interface is divided into two main sections. The left section, titled "Review & Prioritize Indicators", contains a sidebar with the following options: "Project Home" (highlighted with a red box), "Update Guidance Survey", "Review Priority Indicators", "Review All Indicators", "Display Project Map", and "Add a location to project (maximum of 5 polygons)". The "Add a location to project" section is further divided into "Add a location to project" and "Delete a location:". The "Delete a location:" section is highlighted with a green box and contains a dropdown menu showing "Location 1" and a "Delete" button. A green box with the number "1" points to the "Delete a location:" section, and a green box with the number "2" points to the "Delete" button.

The right section, titled "Manage Project Locations", displays a map of a landscape with a river and trees. A modal dialog box titled "Confirm FWT Project Deletion" is overlaid on the map. The dialog box contains the text "Are you sure you want to permanently delete this FWT project?" and two buttons: "OK" and "Cancel". A green box with the number "3" points to the "OK" button.

The bottom of the interface shows the copyright notice "© FAO - 2020".

i Warning: The location will be permanently removed from the project when confirming the process.



Contact Information

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