

Benefits from forest information system trainings

PRESENTATION OUTLINE

1. Use of SADC collect app
2. Operation for field data collection
3. RFIS website and its interface
4. Procedures to determine forest change in RFIS website
5. Importance of the RFIS website.
6. Use of google earth engine in determining Forest change.
7. Use of NDVI to determine forest and non forest area.

Use of SADC collect app

we developed our own system by using SADC collect app, a tablet PC and QGIS database to store all data collected from field. A tablet PC is used for field data collection.

What is in the field survey sheet

1. Location-where the information was collected.
2. Name-name of the species assessed e.g. Baobab
3. Tree DBH
4. Tree height
5. GPS coordinates-this gives us the coordinates where the assessment was carried out.
6. Tree damage; whether the damage was because of elephant/wildfire or other damage.
7. Damage intensity(low, moderate, extreme or very extreme)
8. Take a photo of the species you are assessing.

Operation for field data collection

The image displays two screenshots of the SADC Collect 2.0 mobile application. The left screenshot shows the 'Main Menu' with several options: 'Fill Blank Form', 'Edit Saved Form', 'Send Finalized Form', 'View Sent Form', 'Get Blank Form', and 'Delete Saved Form'. A blue callout bubble points to the 'Fill Blank Form' option with the text 'Click here to fill the form on the right'. A red arrow points from the 'Fill Blank Form' option to the right screenshot.

The right screenshot shows the 'Baobab_Field Survey' form with the following data entries:

- Location?** Kachikau
- Name?**
- Measure DBH in centimeters** 50
- Tree Height** 20
- Collect GPS Coordinates** -24.676186666666663 25.933825000000002 986.3 5.0
- Insert Tree Damage** Because of Elephant
- Take a Photo** 1561992326520.jpg

At the bottom of the right screenshot, there are two buttons: 'Go To Start' and 'Go To End'.

RFIS website and its interface Interface

The screenshot displays the SADC Regional Forest Information System (RFIS) website interface. The browser address bar shows the URL `sadc-rfis.appspot.com`. The main content area features a map of Africa with a sidebar on the right containing the following information:

SADC Regional Forest Information System

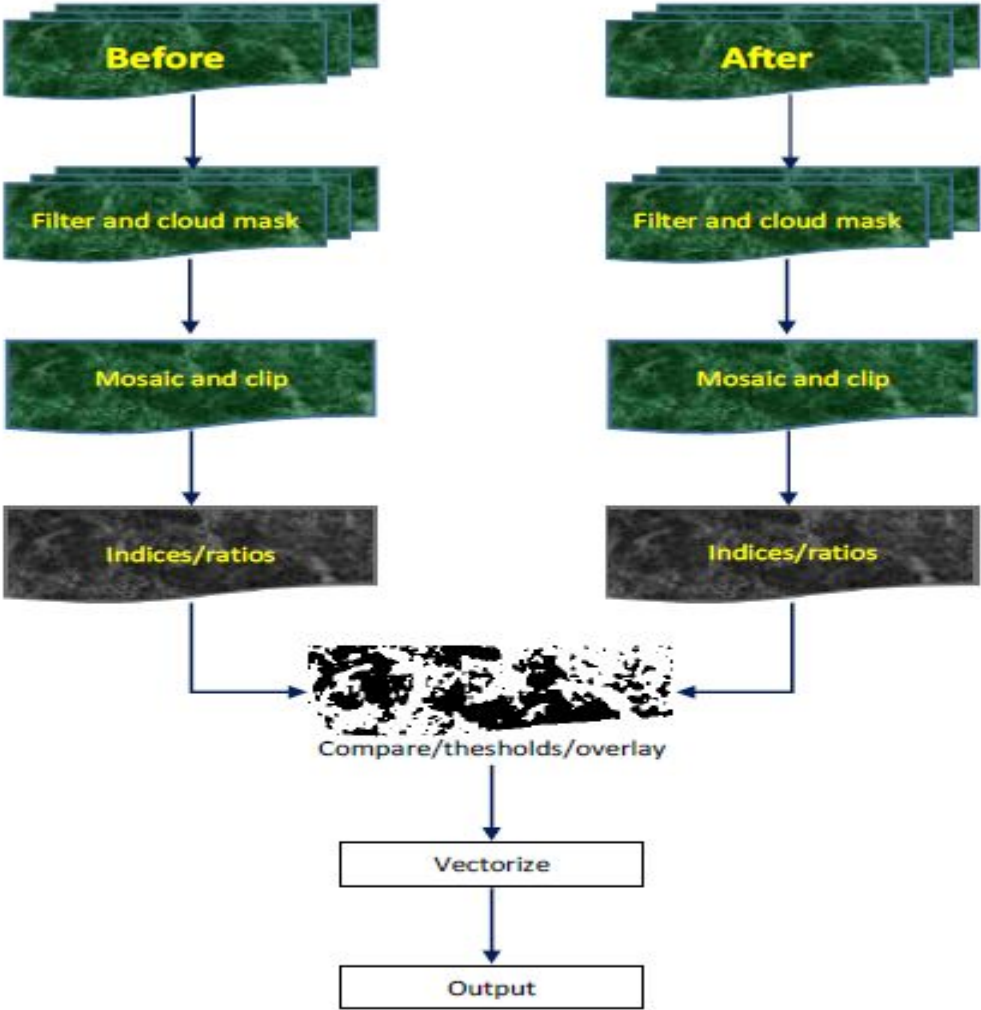
A time-series based methodology to detect forest changes for yearly or every five years (outlook) at country level, sub-country level or for each Eco-region, based on the basemap of SADC Forest Distribution Map 2015.

Demonstration version of JAFTA.

- 1) Select type of data: Custom Possible Ch
- 2) Select Area of Interest:
Select country: -- Please select --
Select Eco-region: --Please select one--
- 3) Select Time of Interest:
Year: --Please select a year--

A "Show data" button is located below the selection options. The interface also includes a "Toggle UI" button on the map and a "Paused" status indicator in the top right corner.

PROCEDURES TO DETERMINE FOREST CHANGE IN RFIS WEBSITE



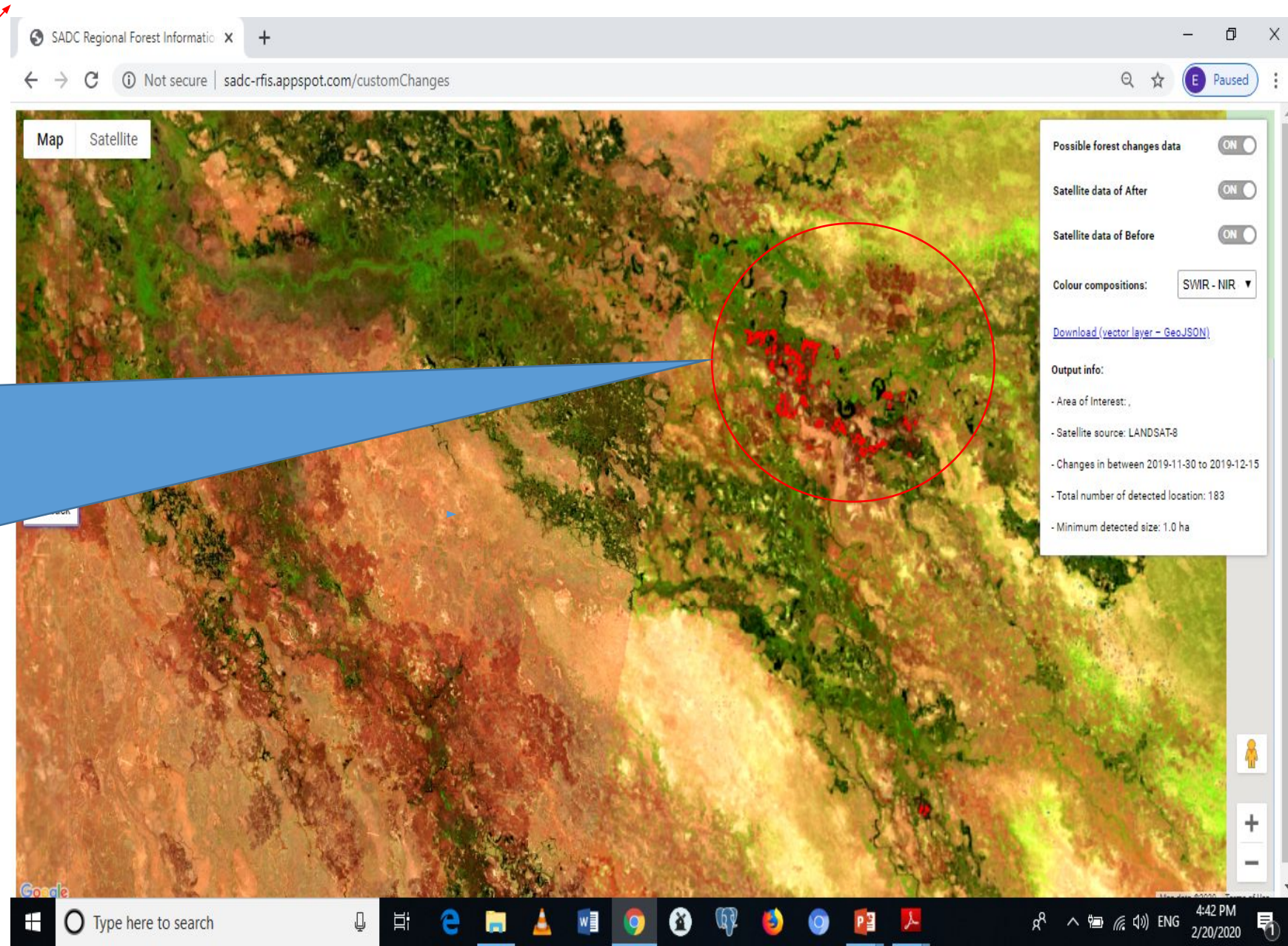
<http://sadc-rfis.appspot.com/customChange>

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IMPORTANCE OF THE WEBSITE

The website is used to show forest distribute

It can also be used in determining possible forest change. This will be helpful to the department determining degraded areas.



The screenshot displays the SADC Regional Forest Information System (RFIS) website. The browser address bar shows the URL <http://sadc-rfis.appspot.com/customChange>. The main content area features a satellite map of a forested region. A red circle highlights a specific area of interest on the map. The interface includes a search bar, map controls (Map/Satellite), and a sidebar with various settings and information. The sidebar contains the following information:

- Possible forest changes data: ON
- Satellite data of After: ON
- Satellite data of Before: ON
- Colour compositions: SWIR - NIR
- Download (vector layer - GeoJSON)
- Output info:
 - Area of Interest: ,
 - Satellite source: LANDSAT-8
 - Changes in between 2019-11-30 to 2019-12-15
 - Total number of detected location: 183
 - Minimum detected size: 1.0 ha

Use of Google earth engine can also be used to determine possible forest change

The screenshot displays the Google Earth Engine web interface. The browser tabs and address bar show the URL `code.earthengine.google.com/?accept_repo=users/fissadc/templates`. The interface includes a search bar, a script editor with the following code:

```
13 // #####  
14 var sadc_states = ee.FeatureCollection("users/fissadc/sadc_countries");
```

The map shows a region with labels for Kongola, Seronga, Ikoga, Chinchimane, Linyanti, Sangwali, Gumare, Tubu, Vumbura, Xakanaxa, and Moremi. A large red area on the map indicates forest change. A blue callout bubble points to this area with the text "Possible forest change in Seronga area". The Layers panel on the right shows:

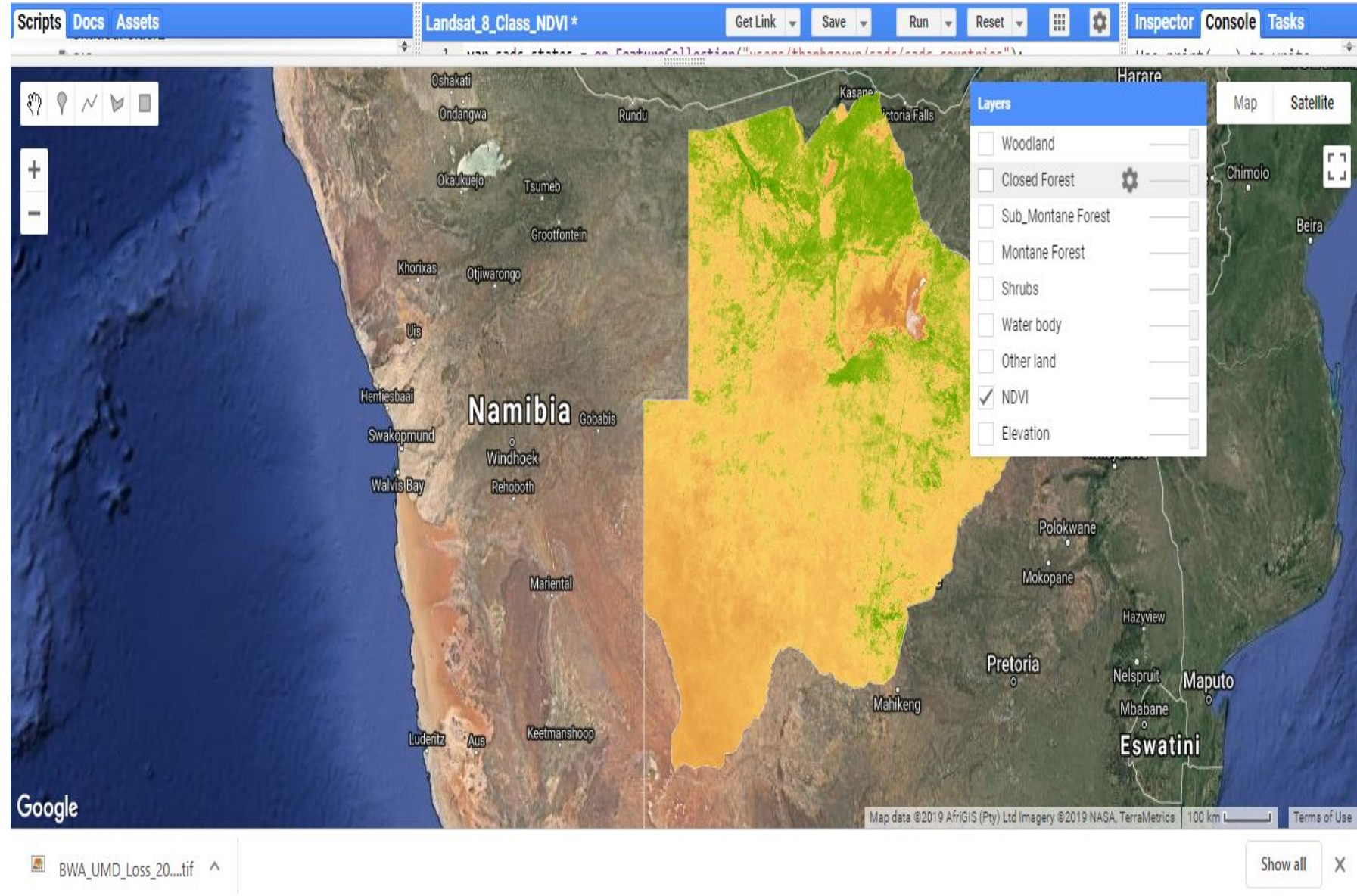
- BWA Reforestation 2018 - 2019
- BWA Deforestation 2018 - 2019
- BWA FDM_2015

The bottom of the image shows a Windows taskbar with various application icons and a system tray displaying the date and time as 14:35 on 12/12/2019.

Use of google earth engine to create NVDI map

NDVI (Normalized Difference Vegetation Index) is considered as the best index to demarcate forest/non-forest area.

In the department this would be used in vegetation monitoring e.g. healthy vegetation and stressed vegetation.



Thank you