



UNITED NATIONS  
Office for Outer Space Affairs

# Generating data for the **C-2Fo** indicator of the Sendai Monitor Framework

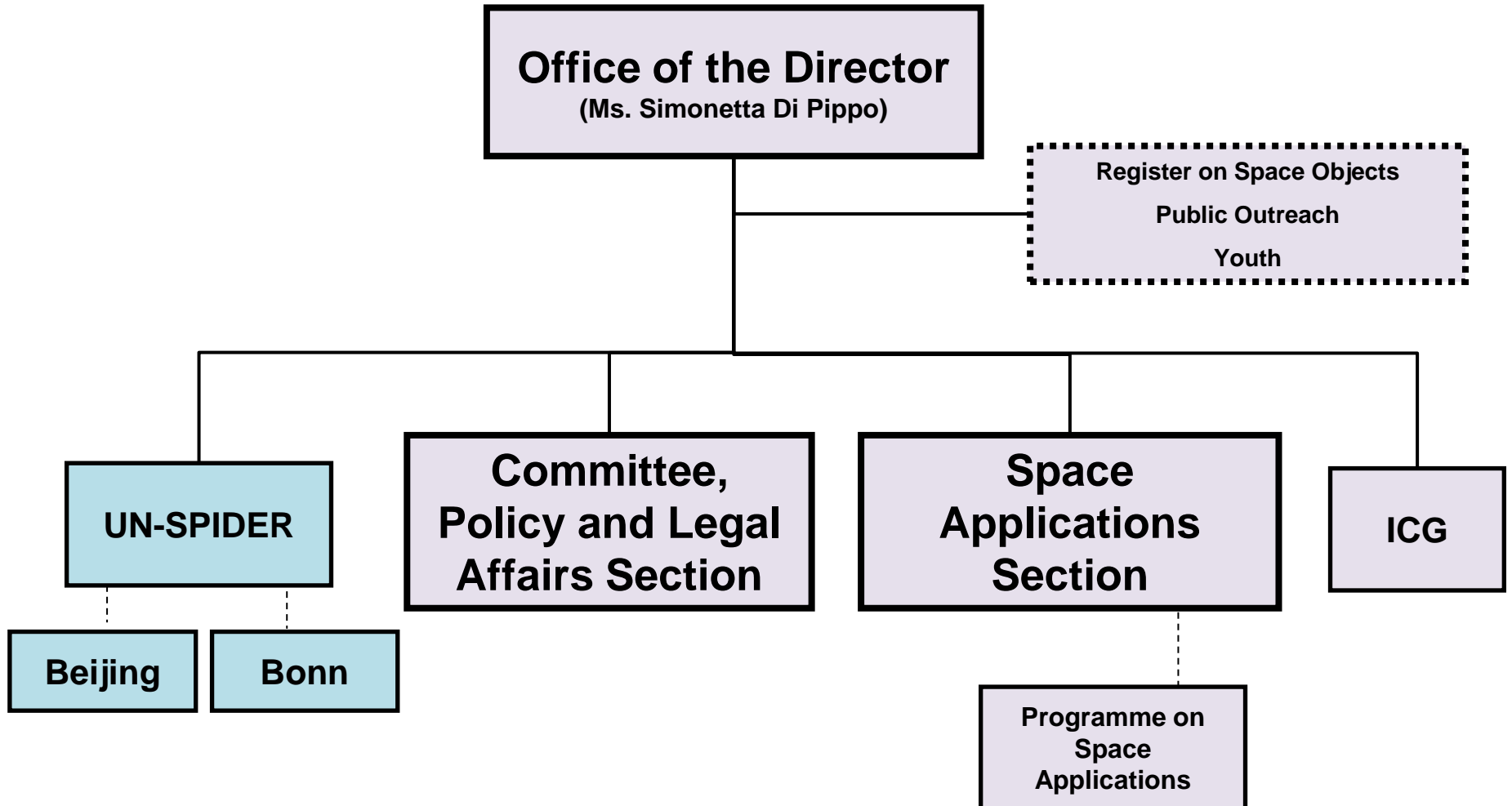
A contribution from UN-SPIDER using the  
Global Wildfire Information System (GWIS)

United Nations Office for Outer Space Affairs  
United Nations Office at Vienna  
[www.unoosa.org](http://www.unoosa.org)





# UNOOSA





# UN-SPIDER: Mission statement

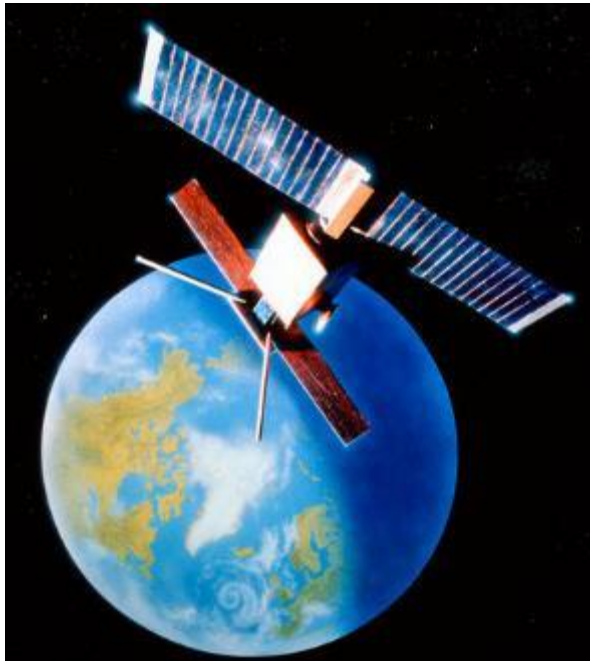


„Ensure that all countries have access to and develop the capacity **to use all types of space-based information** to support the **full disaster management cycle.**“

General Assembly Resolution 61/110 (2006)



# The Sendai framework for DRR (2015 – 2030)



Support from space technologies

## Priorities for Action:

1. Understanding disaster risk;
2. Strengthening [governance / institutional arrangements / organizational, legal and policy frameworks] to manage disaster risk;
3. Investing in disaster risk reduction for resilience;
4. Enhancing disaster preparedness for effective response, and to Build Back Better in recovery, rehabilitation and reconstruction.





## The Sendai framework for DRR (2015 – 2030)

Seven global targets to reduce the risk of disasters and to avoid the increase in the level of existing risks.

The seven targets are assessed through a set of 38 indicators.





## Generating data for indicator C-2Fo of the Sendai Monitor Framework

Target **C** of the SFDRR refers to economic losses related to the agricultural sector, productive assets, housing sector, critical infrastructure, and cultural heritage.

Indicator **C-2** measures the impact of disasters on agricultural production and assets. C-2 is the sum of five sub-indicators.

Sub-indicator **C-2Fo** measures loss in **forests** damaged or destroyed by disasters such as **forest fires**.

A physical damage indicator representing the **number of hectares of forests damaged/destroyed by disasters** (disaggregated by hazard) will be accepted in lieu of the corresponding estimated economic loss.





# Generating data for indicator C-2Fo of the Sendai Monitor Framework using GWIS

The screenshot displays the GWIS website interface. At the top, there is a navigation bar with the email address `jrc-effis@ec.europa.eu` and a link to "Login to access admin area". Below this is a header section featuring logos for the European Union, Copernicus, NASA, and GEO, along with a menu of links: "About", "Publications", "Apps", "Projects", "Partners", and "Contacts". The main content area is dominated by a world map titled "Global Wildfire Information System GWIS", which shows various regions with colored markers indicating wildfire activity. A red box highlights the "Country Profile" link in the top right corner of the page. A red arrow points from this box to a "Country Profile" link in a dropdown menu that appears over the map. To the right of the map, there are three additional links: "Current Situation Viewer", "Long-term fire weather forecast", and "Data and services". At the bottom of the page, there is a "Welcome to GWIS" section with a brief description of the system and a button labeled "Visit the brand-new Country Profile".

Current Situation Viewer

Country Profile

Long-term fire weather forecast

Data and services

Current Situation Viewer

Country Profile

Data and services

Welcome to GWIS

The Global Wildfire Information System (GWIS) is a joint initiative of the GEO and the Copernicus Work Programs. In







Visit the brand-new Country Profile



# Acquiring the data from the Country Profiles

**GWIS** Global Wildfire Information System (GWIS) > COUNTRY PROFILE

## COUNTRY PROFILE

<p><b>North America</b></p>  <p>-- Please select a country --</p>	<p><b>Europe</b></p>  <p>-- Please select a country --</p>	<p><b>Asia</b></p>  <p>-- Please select a country --</p>
<p><b>South America</b></p>  <p>-- Please select a country --</p>	<p><b>Africa</b></p>  <p>-- Please select a country --</p>	<p><b>Oceania</b></p>  <p>-- Please select a country --</p>

**MENU**

- Home
- Continent overview
- Country overview
- Country maps
- Country charts
- Data downloads
- Documents

[Ver. 0.200.1]





# Acquiring the data for Uganda

**GWIS** Global Wildfire Information System (GWIS) > COUNTRY PROFILE

## [UGA] - UGANDA

**Population, total**  
44,269,594

**Cropland area (km<sup>2</sup>)**  
118,732

**Forest area (km<sup>2</sup>)**  
52,160

**Grass/shrubland area (km<sup>2</sup>)**  
29,998

**Other (km<sup>2</sup>)**  
41,600

**Surface area (km<sup>2</sup>)**  
242,493

**Landcover Overview**

Landcover Type	Percentage
Cropland area (%)	49.0%
Forest area (%)	21.5%
Grass/shrubland area (%)	12.4%
Other (%)	17.2%

**CCI Landcover**

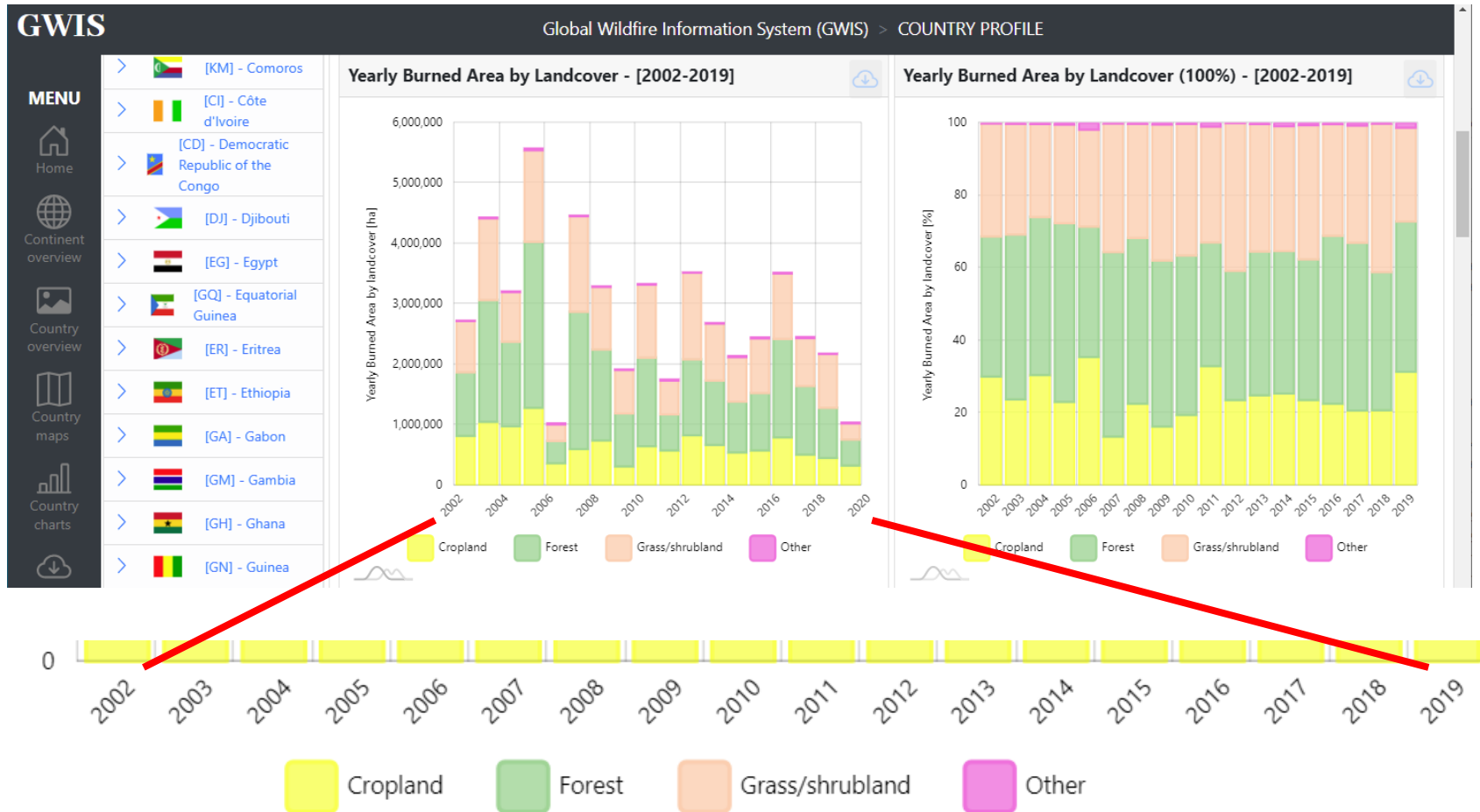
[Ver. 0.200.1]







# Acquiring the data for Uganda





## Acquiring the data for Uganda

Year	Cropland [ha]	Forest [ha]	Grass/ shrubland [ha]	Wetlands [ha]	Settlement [ha]	Other [ha]
2002	815762	<b>1052104</b>	848906	6522	21	0
2003	1048087	<b>2015209</b>	1352644	14549	171	0
2004	974437	<b>1398239</b>	822951	12102	384	0
<b>2005</b>	1279512	<b>2747798</b>	1516043	29402	128	0
<b>2006</b>	362274	<b>368605</b>	274307	19700	106	0
<b>2007</b>	597346	<b>2271104</b>	1582780	10878	85	0
<b>2008</b>	739430	<b>1505395</b>	1036345	10835	106	0
<b>2009</b>	309789	<b>877624</b>	719166	9589	191	0
<b>2010</b>	644851	<b>1464738</b>	1209253	10964	211	21
<b>2011</b>	574314	<b>596981</b>	559267	18883	233	0
<b>2012</b>	826108	<b>1255276</b>	1435460	4610	364	0
<b>2013</b>	665244	<b>1064508</b>	944429	10342	171	0
<b>2014</b>	541085	<b>840898</b>	736723	20474	384	0
2015	574164	<b>949387</b>	906026	16803	276	0
2016	790238	<b>1629404</b>	1083655	14528	213	0
2017	505472	<b>1135218</b>	793265	19680	234	0
2018	450090	<b>829521</b>	891771	6027	212	0
2019	324323	<b>429871</b>	268252	14334	127	0

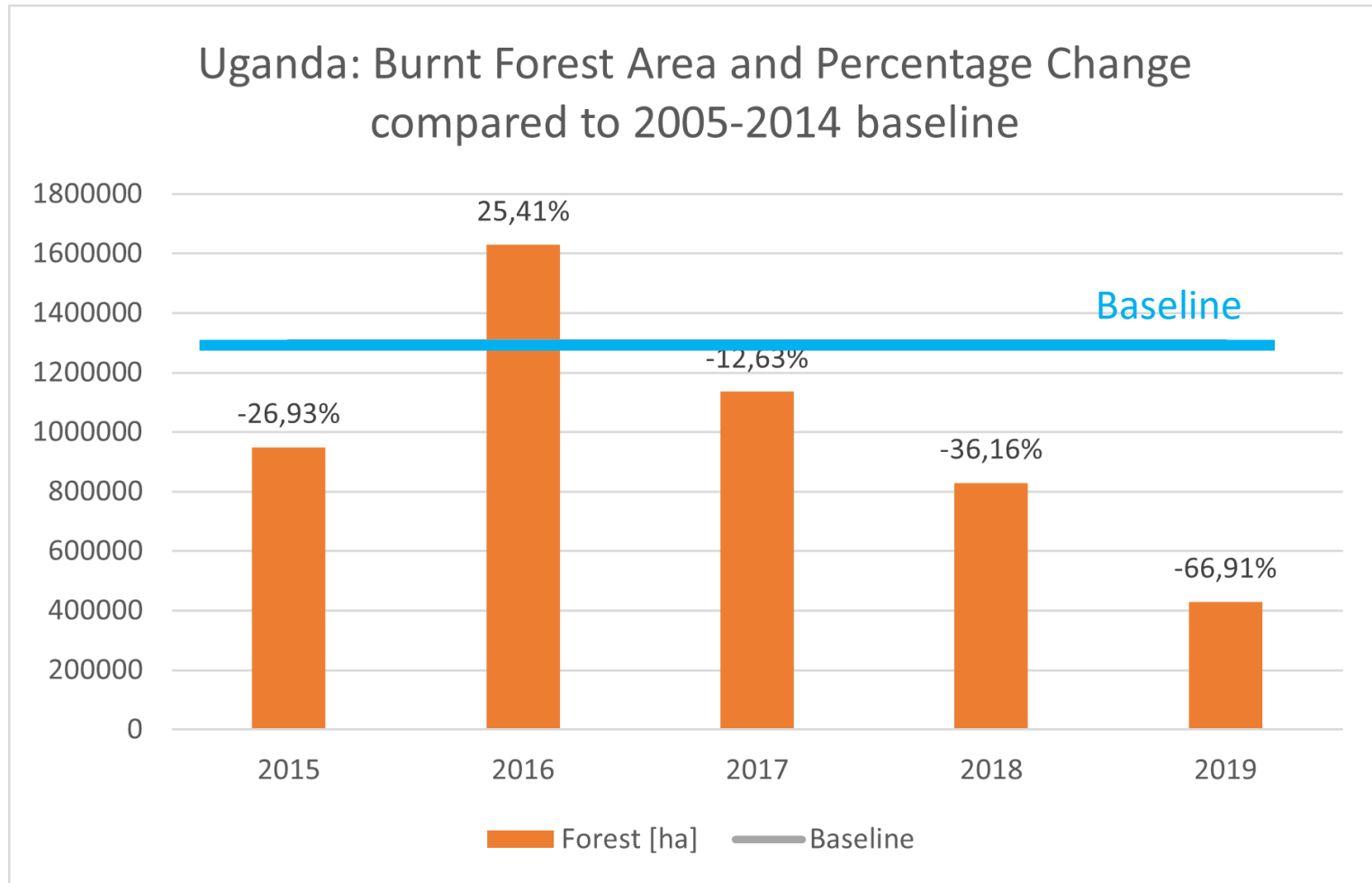


Baseline



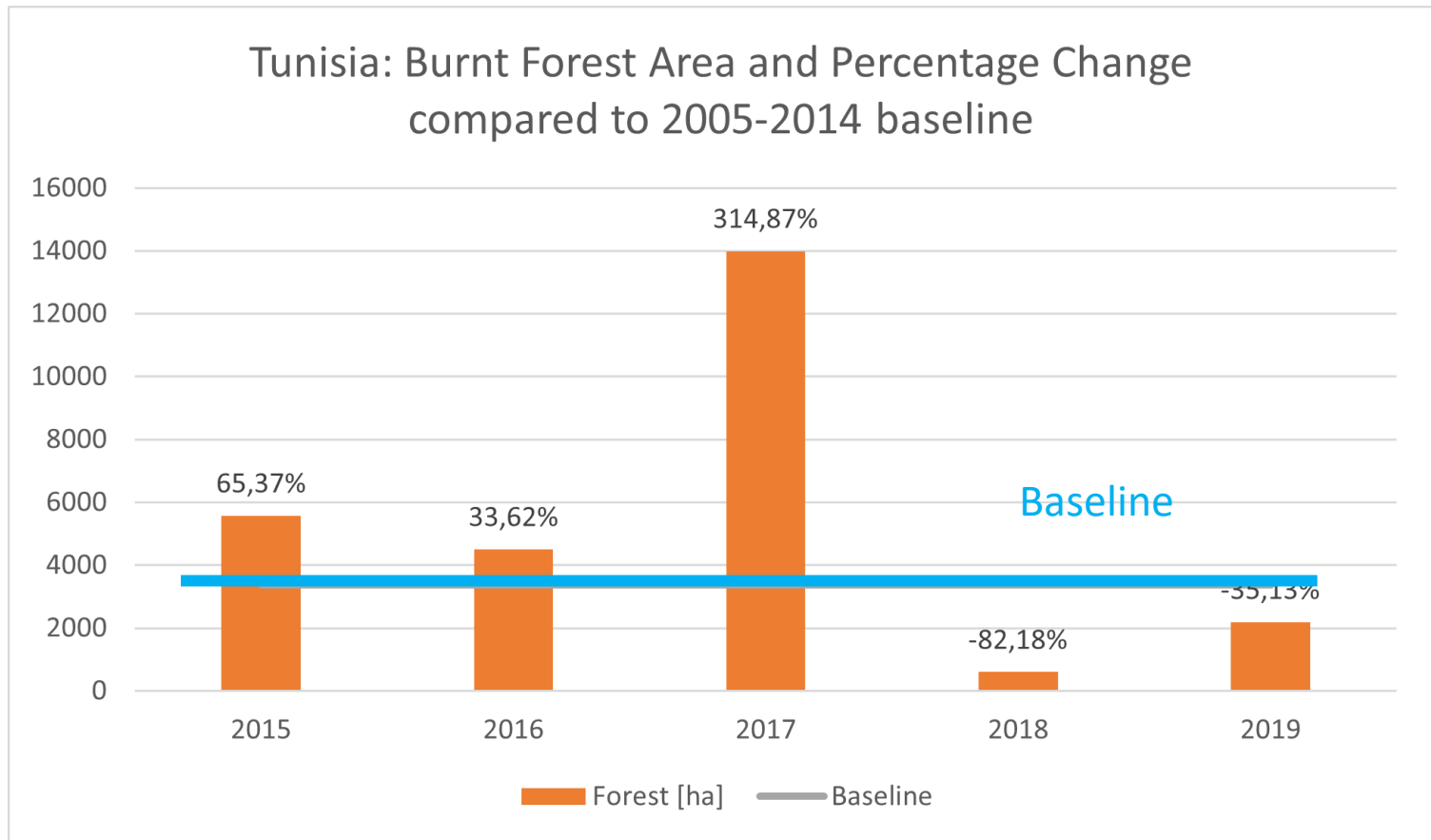


## Acquiring the data for Uganda





## Acquiring the data for Tunisia







# The procedure is available in the UN-SPIDER Knowledge Portal

The screenshot displays the UN-SPIDER Knowledge Portal interface. At the top, there is a navigation bar with the United Nations logo and the text "United Nations Office for Outer Space Affairs UN-SPIDER Knowledge Portal". A search bar is located on the right. Below the navigation bar, a dark blue menu contains various categories: Home, About Us, Space Application, Links & Resources, Risks & Disasters, Advisory Support, Network, Projects, News & Events, and Admin. The main content area shows the breadcrumb path: Home / Advisory Support / Practical Uses / Sendai Framework Ad hoc indicator C 2Fo Intro. On the left, a "Flowchart" section contains a vertical sequence of five yellow buttons: "Log on to GWIS Country Profiles page", "Select country", "Download data", "Use excel to perform calculation", and "Extract data for C-2Fo indicator". The central part of the page features the title "Sendai Framework Ad hoc indicator C 2Fo Intro" with a sub-menu containing "View", "Edit", "Publish", "Outline", "Delete", "Revisions", and "Translate". Below this is a screenshot of the "Global Wildfire Information System (GWIS)" website, which includes a world map and the text "Welcome to GWIS". On the right side, a "Recommended by:" section displays logos for the European Union, NASA, Copernicus, and GEO. Below that is the UN-SPIDER logo. A "Related Content" section lists "Data Application of the Month: Forest Fires". At the bottom, a "Related data" section is partially visible.

<https://un-spider.org/advisory-support/practical-uses/Sendai-Framework-Ad-hoc-indicator-C-2Fo-Intro>



# The procedure is available in the UN-SPIDER Knowledge Portal

The screenshot shows the UN-SPIDER Knowledge Portal website. The main navigation bar includes 'Home', 'About Us', 'Space Application', 'Links & Resources', 'Risks & Disasters', 'Advisory Support', 'Network', 'Projects', and 'News & Events'. The 'Advisory Support' menu is expanded, showing options: 'Advisory Missions', 'Emergency Support', 'Remote Advisory Support', 'Recommended Practices', 'Training Activities', and 'Practical Uses'. The 'Practical Uses' page is displayed, featuring a section titled 'Practical Uses' with an image of people working at a computer. Below the image, there is text describing the use of satellite imagery for disaster risk management. A search bar is visible at the top right. A red box highlights the 'Advisory Support' menu item, and another red box highlights the 'Practical Uses' menu item. A third red box highlights the 'Practical Uses' page content.

United Nations Office for Outer Space Affairs UN-SPIDER Knowledge Portal

Home / Advisory Support / Practical Uses

## Practical Uses

In recent years, the several space agencies have adopted open data policy for satellite imagery processing. With the support of its Regional Support Offices and other partners, UN-SPIDER has processed satellite imagery to generate specific types of maps.

The space and geospatial communities have also developed products and services with the aim of contributing to disaster risk reduction, preparedness, response, and recovery efforts; as well as to address challenges related to climate change. Such contributions are ultimately expected to contribute to efforts worldwide to achieve the sustainable development goals, the targets of the Paris Climate Change agreement and those included in the Sendai Framework for Disaster Risk Reduction 2015-2030.

UN-SPIDER is joining efforts with its network of Regional Support Offices and other partners to present examples of practical uses of space-based products including the maps elaborated with the UN-SPIDER Recommended Practices and those products and services implemented by the Space community.

Each example provides an overview of the practical use of a product or a service in the framework of disaster risk management, as well as in standard operating procedures employed in response and recovery efforts.

If you have questions or wish to share your own experience regarding these Practical Uses, please [contact us](#).

### Browse All Practical Uses

Hazard Type:

Software:

Related dataset:

Title	Software used	Related dataset
<a href="#">Sendai Framework Ad hoc indicator C 2Fo Intro</a>	QGIS	<a href="#">Sentinel 2 - Imagery (ESA)</a>

<https://www.un-spider.org/advisory-support/practical-uses>

<https://un-spider.org/advisory-support/practical-uses/Sendai-Framework-Ad-hoc-indicator-C-2Fo-Intro>





# For details, click here

The screenshot shows the UN-SPIDER Knowledge Portal interface. At the top right, there are language options: English, Español, and Français. The main header includes the United Nations logo and the text 'United Nations Office for Outer Space Affairs UN-SPIDER Knowledge Portal'. A search bar is located on the right side of the header. Below the header is a navigation menu with the following items: Home, About Us, Space Application, Links & Resources, Risks & Disasters, Advisory Support, Network, Projects, News & Events, and Admin. The 'Risks & Disasters' menu item is highlighted with a red arrow pointing to a button labeled 'In Detail'. The main content area displays the following information:

**Objective**  
This procedure is designed to be used by those staff at government agencies in charge of compiling and entering information related to specific Sendai Framework indicators. Specifically, for those who have to enter data on indicator C-2Fo related to the impact of wildfires.

**Disaster Cycle Phase**  
[Preparedness](#)  
[Recovery & Reconstruction](#)

**Context**  
The [Sendai Framework for Disaster Risk Reduction 2015-2030 \(SFDRR\)](#) is the global blueprint for disaster risk reduction (DRR), which recognises that each state each State has the primary responsibility to prevent and reduce disaster risk, including through international, regional, subregional, transboundary and bilateral cooperation. Member states are encouraged to report on their progress towards the seven Sendai Framework global targets using the online [Sendai Framework Monitor \(SFM\)](#).

**Applicability**  
Geographical applicability:  
This Ad-hoc indicator can be applied in most countries of the world, at the national or provincial level.

At the bottom of the page, there is a footer with the United Nations logo, the text 'United Nations', and links for 'Contact', 'Unmasquerade', 'My account', and 'Log out'.



## How are we framing this contribution?

**As a contribution  
to the:**

***Global partnership on Space Technology  
Applications for Risk Reduction (GP-STAR)***

**A voluntary commitment to:**

- **Continue facilitating the dialogue among stakeholders.**
- **Serve as a collective source and repository of information.**
- **Generate policy-relevant advice.**
- **Facilitate the use of EO and related satellite-based technology.**





UNITED NATIONS  
Office for Outer Space Affairs

# Global partnership – Space Technology Applications for Risk Reduction (GP-STAR)



Deutsches Zentrum  
für Luft- und Raumfahrt  
German Aerospace Center



AGENCIA ESPACIAL  
MEXICANA



Disaster Management Centre





UNITED NATIONS  
Office for Outer Space Affairs

# THANK YOU

United Nations Office for Outer Space Affairs  
United Nations Office at Vienna

[www.unoosa.org](http://www.unoosa.org)  
@unoosa

**Juan Carlos Villagran de Leon**  
**UN-SPIDER Bonn Office**  
Juan-carlos.villagran@un.org