



# Reporting application

UNCCD-led Drought toolbox- May 2019, Antalya

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UN Environment-DHI Centre  
on Water and Environment



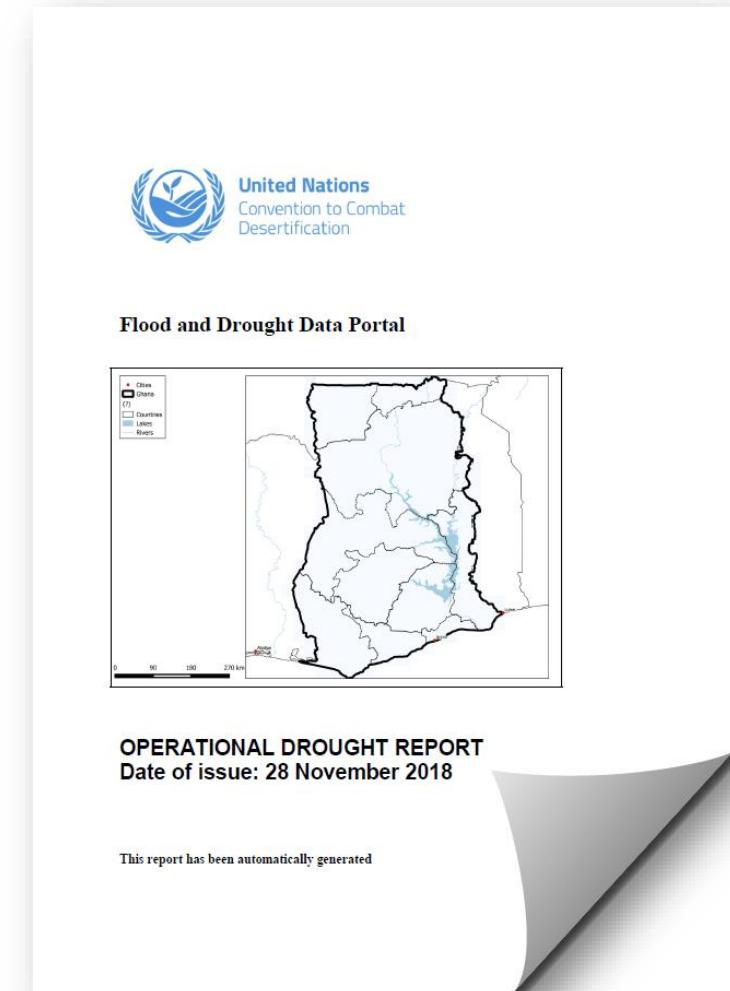
# Reporting application

## Objectives

- **Configure reports** for dissemination of results, warnings or information
- **Flexible system** allowing the user to configure and tailor reports
- Facility for **automation** of reporting task based on schedule or trigger event

## Outputs

- User configured reports
- Automated submitted warnings



# Concept

## Template

### 2 Climate status

#### Rainfall

Monitoring the rainfall in the basin to understand how the rainy season compares with previous year is vital to detect any signs of meteorological drought. The observation of rainfall provides a long-term historical data set since March 2000<sup>3</sup>.

#### Historical rainfall

The historical rainfall dataset as called Climatology is yearly time series of the historical rainfall. The data might be used as rainfall ensembles for forecasted climate.

(Chart: Historical rainfall as ensemble)

Figure 1 Historical rainfall averaged for the entire basin

The historical rainfall is summarised in a table where all monthly rainfall values are reported. The table gives an overview of the variation from month-to-month and year-to-year.

Table 2 Monthly rainfall average for the entire basin

(Table: rainfall historical data)

#### Rainfall deviation

The rainfall deviation indicates how the current seasonal deviates from averaged year. The averaged year is calculated from the long-term mean with observation since 2000.

The following maps indicate the monthly rainfall deviation for the last month.

(Map: Spatial distribution of last month rainfall)

Figure 2 Maps of the rainfall deviation from the long term mean during the last month

#### Rainfall index

The Effective Drought Index (EDI) is used to characterize meteorological drought. Unlike other rainfall-based drought index, EDI does not need to be specified for a specific time range. The EDI can be compared across regions with different climates.

A drought event occurs any time the EDI is continuously negative 1.0 or less. The event ends when the EDI becomes positive. Each a duration defined by its beginning and end, and an intensity for ea continues. The positive sum of the SPI for all the months within a dr the drought's "magnitude".

(Map: EDI - 4 parts)

Figure 3 Maps of the EDI during the last four month



## Report

### 2 Climate status

#### Rainfall

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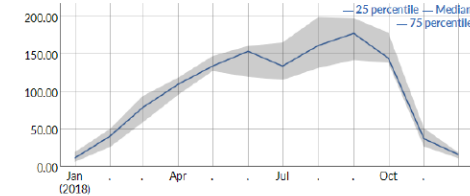


Figure 1 Historical rainfall averaged for the entire basin

The historical rainfall is summarised in a table where all monthly rainfall values are reported. The table gives an overview of the variation from month-to-month and year-to-year.

Table 2 Monthly rainfall average for the entire basin

Time	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Avg.	Min.	Max.
2000		55.7	108.0	141.6	154.4	109.7	183.9	144.7	97.4	22.7	9.0	102.5	9.0	183.0	
2001	8.1	25.9	79.7	112.9	134.8	123.9	84.4	95.9	147.9	58.3	17.1	13.3	75.0	8.1	147.9
2002	15.8	19.0	55.8	118.5	144.3	157.8	154.4	145.8	108.8	138.8	35.0	17.1	95.1	15.8	154.4
2003	18.0	59.8	50.6	135.3	103.9	162.5	93.3	145.8	178.2	138.2	54.8	20.5	98.0	18.0	178.2
2004	26.4	51.3	62.0	113.0	118.5	80.4	141.6	200.8	206.6	140.3	60.2	16.5	101.5	16.5	206.6
2005	20.1	42.9	95.0	124.3	112.2	119.6	114.3	100.2	142.2	157.4	36.1	11.6	89.7	11.6	157.4
2006	54.0	33.7	88.5	96.0	188.7	154.2	112.1	118.4	177.4	183.1	18.8	10.8	59.6	10.8	188.7
2007	5.8	22.3	53.5	143.8	134.4	120.8	194.3	197.2	252.3	178.9	45.7	17.2	111.3	5.8	252.3
2008	5.3	25.9	116.2	73.8	208.8	134.0	137.6	247.2	203.7	167.7	18.7	29.3	117.4	18.7	
2009	5.1	50.1	78.8	110.0	110.9	210.9	175.3	199.2	133.2	11.					
2010	12.8	52.5	67.1	119.1	133.4	181.1	117.8	224.7	205.4	227.					
2011	16.8	59.6	106.3	86.5	132.1	187.1	187.7	205.6	181.7	178.5					
2012	9.5	47.3	47.3	100.8	151.2	156.7	129.4	92.1	188.8	211.9					
2013	7.1	49.1	104.4	87.9	190.3	139.1	122.8	107.8	140.2	144.4					
2014	26.3	28.6	94.5	118.8	123.8	161.8	134.4	157.3	190.2	124.4					

<sup>3</sup> Rainfall observation is based on the Tropical Rainfall Measuring Mission (TRMM) precipitation with a spatial resolution of 0.25 degree and temporal aggregation 2000 to present. Source: <http://trmm.gsfc.nasa.gov>

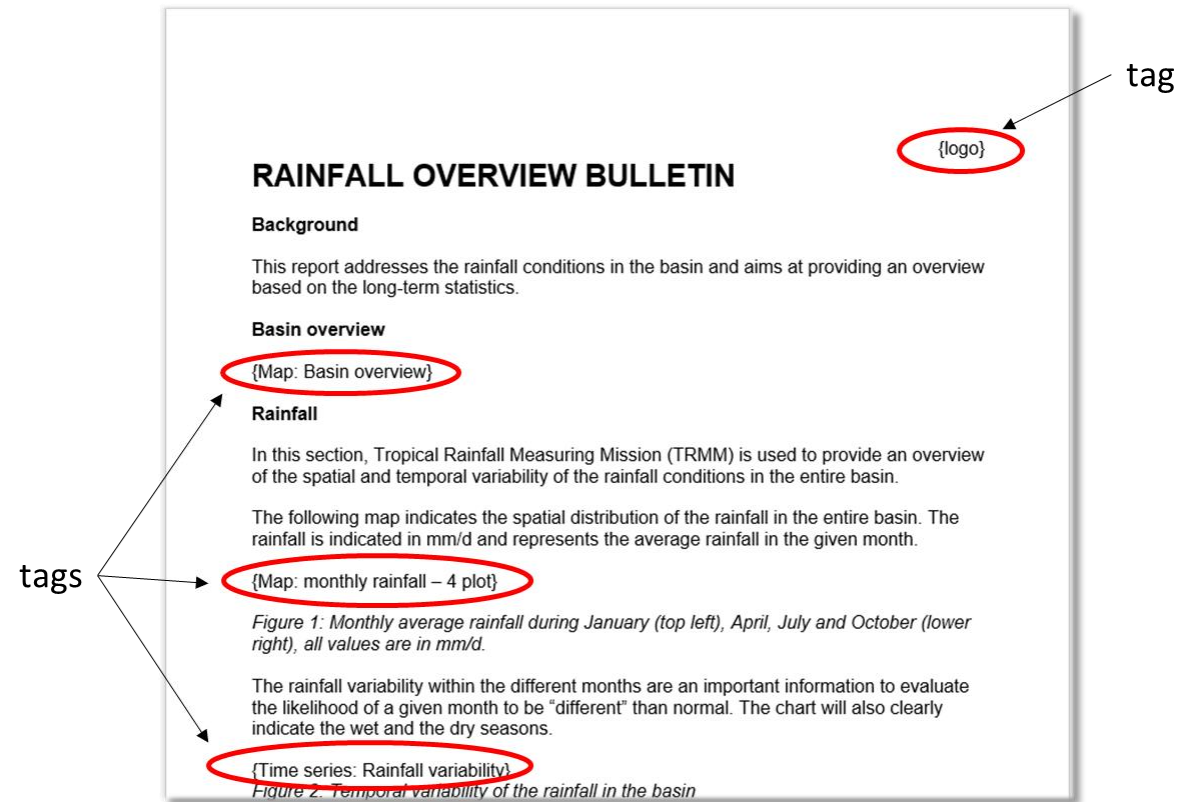
Reports are based on templates (Word document) with tags. The tags can be replaced with different types of objects as charts, tables, images or text.

# Template

Template report is a Word document with tags.

A tag is specified with { } “brackets”.

Any text string could be specified within the brackets.



**RAINFALL OVERVIEW BULLETIN**

**Background**

This report addresses the rainfall conditions in the basin and aims at providing an overview based on the long-term statistics.

**Basin overview**

{Map: Basin overview}

**Rainfall**

In this section, Tropical Rainfall Measuring Mission (TRMM) is used to provide an overview of the spatial and temporal variability of the rainfall conditions in the entire basin.

The following map indicates the spatial distribution of the rainfall in the entire basin. The rainfall is indicated in mm/d and represents the average rainfall in the given month.

{Map: monthly rainfall – 4 plot}

*Figure 1: Monthly average rainfall during January (top left), April, July and October (lower right), all values are in mm/d.*

The rainfall variability within the different months are an important information to evaluate the likelihood of a given month to be “different” than normal. The chart will also clearly indicate the wet and the dry seasons.

{Time series: Rainfall variability}

*Figure 2: Temporal variability of the rainfall in the basin*

{logo}





tags

tag



# Tags

Tags are recognized when loading the template report into the reporting application.

Tag	Source	Type	Item	Setting	
Image: Project logo	Data	Image	General\Project logo	imageWidth: imageHeight:	 
MAP: Overview map	data drought	Image	General\Basin overview	imageWidth: 600 imageHeight:	 

# Items to replace tags

Tags to be replaced with different objects.

**Edit** X

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Tag

Source

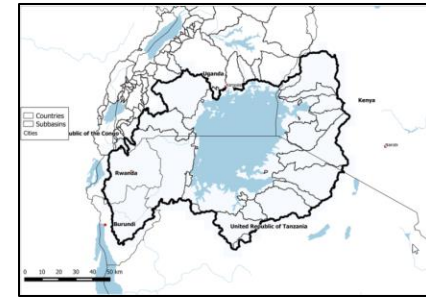
Type

Item

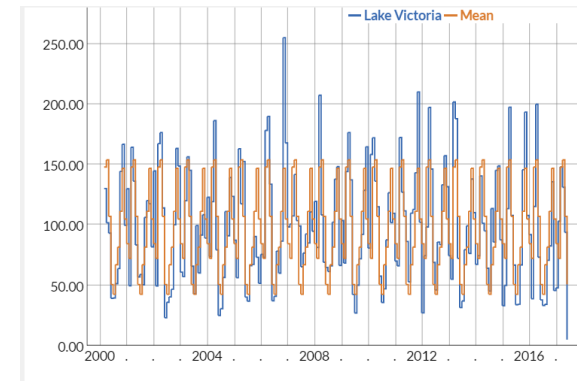
Image width (px)

Image height (px)

Images



Charts



Tables

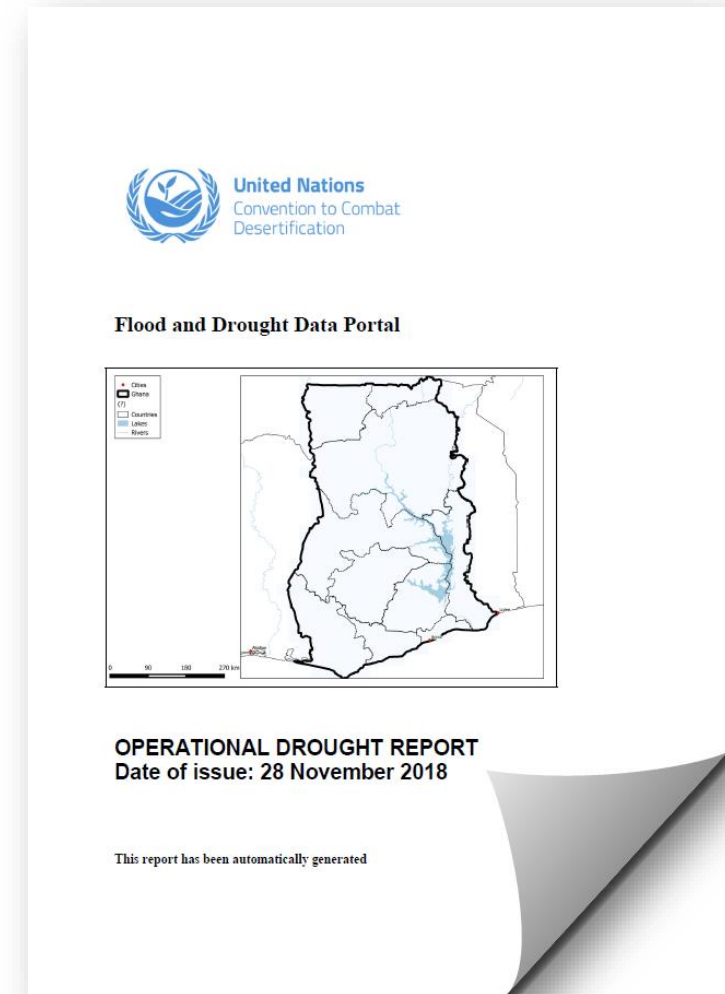
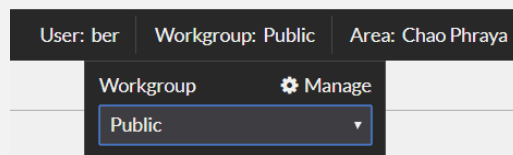
Text

# Items to replace tags

Report generated as a PDF and Word doc files.

- Report to be downloaded
- Public link to report available

Access is based on **workgroup** access:



# Items to replace tags

UN Environment-DHI Centre on Water and Environment

## Drought Toolbox

Last Update: 2018-11-26 ● User: ber\_unccd **Workgroup: Private** Area: Ghana ↔ ?

Report Upload

Open New Clone Edit Delete Preview Generate Download as Word Download as PDF Copy PDF link

Report: UNCCD Report example User: ber\_unccd Last change: 2018-11-28 17:05:47 Description:

Template: [UNCCD drought report.docx](#)

Update frequency (weeks): 2

Alert email:

Tag	Source	Type	Item	Setting	
MAP: Overview map	Data	Image	General\Overview	imageWidth: 500 imageHeight:	<span style="border: 1px solid red; padding: 2px;">🗨️ ✎️</span>
Chart: Historical rainfall as ensemble	Data	Chart	Rainfall Climate\Envelope TRMM	analysisArea: allArea chartWidth: 250 chartHeight: 250 chartFormat: envelope chartColour: #396AB1	<span>🗨️ ✎️</span>
Table: rainfall historical data	Data	Table	Rainfall\TRMM	analysisArea: allArea tableFontSize: 8	<span>🗨️ ✎️</span>
Map: Spatial distribution of last month rainfall	Data	Image	Rainfall\TRMM\Rainfall deviation (30 days)	imageWidth: 600 imageHeight:	<span>🗨️ ✎️</span>
Map: EDI - 4 parts	Data	Image	Rainfall\TRMM\EDI	imageWidth: 600 imageHeight:	<span>🗨️ ✎️</span>
MAP: SWI percentile - 4 parts	Data	Image	SWI\SWI percentile (season)	imageWidth: 600 imageHeight:	<span>🗨️ ✎️</span>
Map: NDVI VCI map - 4 parts	Data	Image	NDVI\NDVI VCI (season)	imageWidth: 600 imageHeight:	<span>🗨️ ✎️</span>

Manage reports

Preview or edit a tag



# Items to replace tags

UN Environment-DHI Centre on Water and Environment

## Drought Toolbox

Last Update: 2018-11-26 ● User: ber\_unccd Workgroup: Private Area: Ghana

REPORTING

Report Upload

Open New Clone Edit Delete Preview Generate Download as Word Download as PDF Copy PDF link

Report: UNCCD Report example User: ber\_unccd Last change: 2018-11-28 17:05:47 Description:

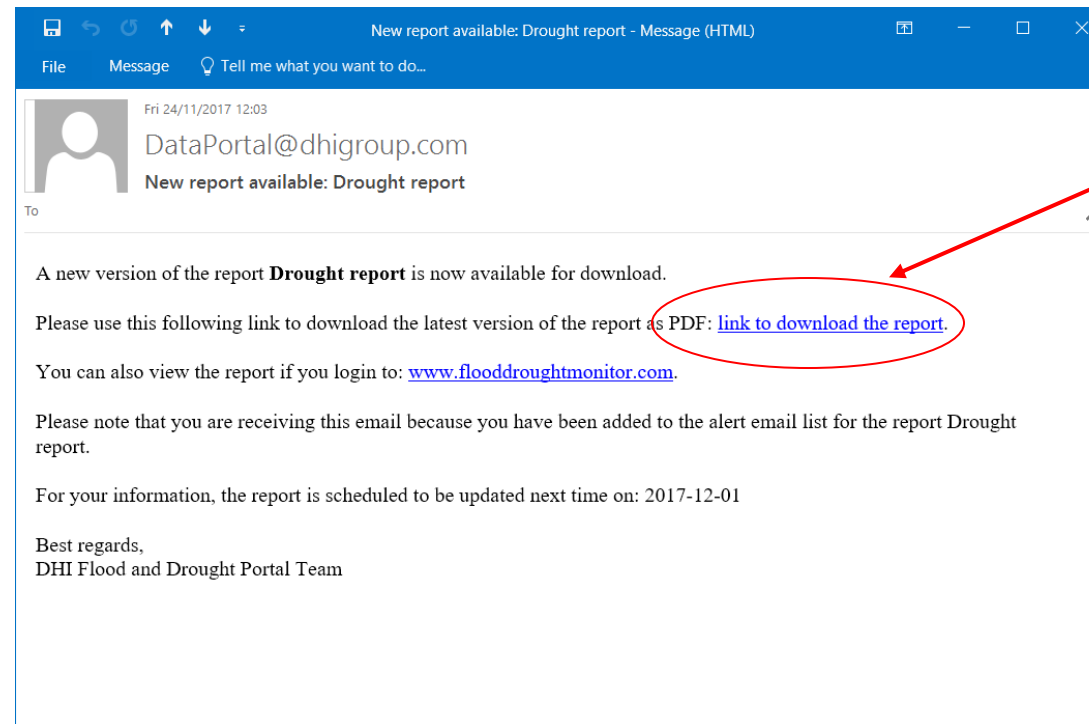
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Tag	Source	Type	Item	Setting
MAP: Overview map	Data	Image	General\Overview	imageWidth: 500 imageHeight:
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Map: EDI - 4 parts	Data	Image	Rainfall\TRMM\EDI	imageWidth: 600 imageHeight:
MAP: SWI percentile - 4 parts	Data	Image	SWI\SWI percentile (season)	imageWidth: 600 imageHeight:
Map: NDVI VCI map - 4 parts	Data	Image	NDVI\NDVI VCI (season)	imageWidth: 600 imageHeight:

Option to automate reporting

# Notification by email

Email is sent out to all recipients with a link to access the latest report



Link to  
download  
the report