## Annex to 'Data-sharing rationale for climate services'

The overarching goal of the EU-funded Intra-ACP Climate Services and Related Applications Programme (ClimSA) is to improve wide access and use of climate information by the ACP (African, Caribbean, and Pacific) group of countries, and to enable and encourage the generation and use of climate services and applications for decision making.

The purpose of this document is to clarify the measures which are taken to protect data holdings against unwanted distribution of data. This document should be viewed as a further extension of the 'Data-sharing rationale for climate services' document which has been produced for ClimSA earlier.

There are several WMO resolutions on data sharing regulations. While these resolutions, plus the proposed new WMO Unified Data Policy (that will be discussed at Cg-Ext 2021) do not settle all data-related issues as they all leave room for specifics of national data-policies to be implemented. However, they represent a commitment to broadening and enhancing the free and unrestricted international exchange of data which is imperative for providing effective weather and climate services to society.

The ICA&D website ensures that observational data from National Meteorological and Hydrological Services (NMHSs) that want to maintain restricted access cannot be accessed by the public, however, derived indices important to for example monitor climate change are available from this data for the public. With this document, the aim is to clarify how the balance is maintained on the ICA&D website between the WMO desire to enhance free and unrestricted international exchange of data and the need for NMHSs (and the RCC) to restrict access to data.

The starting point is the web portal for the ClimSA-funded ICA&D website which satisfies the mandatory Climate Data tasks of the RCC: <u>https://west-africa.icad-wmo.org/</u>



From the home page, metadata is found under the 'Meta data' tile first. Visit the meta data webpage through the link provided by the button (in the blue circle).

Afterward, visit the link in the button 'Stations' (https://west-africa.icad-wmo.org/stations). This will give you a map with all available stations.

These stations are part of a 'starting set' of over 660 stations, mostly from the archives of NGCD and rescued data received through the ACRE project (UK Met Office/Hadley Centre). The stations received from the NGCD and Hadley Centre are flagged as 'downloadable' within the internal database, as the data providers have given permission to make these data freely available. In contrast, there are also some data which are flagged 'non-downloadable'. While meta data of the non-downloadable data are shown on this map, it is not possible to download these data. Two examples are given: one from Nigeria (data from Benin City) and one from The Gambia (data from Georgetown).

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Zoom in onto Gambia When you click with the mouse on the stations, the name of the station appears. Click on station Georgetown and an information panel is shown.

The information display shows the position of the stations and the series that are provided by this station, with start and end point. We see that there is precipitation data from 1948 until 2010. It also shows the owner of the data who provided this series. In this case: Ministry of Fisheries and Water Resources.

There are several other stations in Gambia with data in the database. For example, station Bathurst with precipitation data from 1869 until 1948. The data are provided through the Hadley Centre Met Office. Close to Bathurst is another station with data provided by the Hadley Centre Met Office named. named Banjul Intl.

We will now show that the data which are provided through the Gambia Ministry of Fisheries and Water Resources are *NOT* available through the data portal, while the data provided through the Hadley Centre Met Office can be accessed. To visit the data portal, move back to home page, and click on the button 'Observational data'.

For this demonstration, we will focus on precipitation and from the 'Observational data' page, the 'precipitation' button is selected.



There are several ways to get access to data – one is the download of pre-defined zip files (https://west-africa.icad-wmo.org/download-derived-data). Another is access through the Custom Query. In this demonstration we will start with the latter. Fill in the form by selecting 'non-blend' (for an explanation between the distinction between 'blend' and 'non-blend', click on the question mark), and select 'Gambia''. The options under 'Stations' are ONLY 'Bathurst' and 'Banjul Intl'. These data are provided by Hadley Centre Met Office and are available for download. The other stations, like Georgetown, for which the data is provided by Ministry of Fisheries and Water Resources are not visible here, meaning that the daily time series cannot be downloaded from this website.



When you click on 'Next' you go to the Summary of selection page. When you click on 'More details about the series in your selection', you can clearly see only the available data from Banjul Int. and Bathurst:

## Summary of selection

This page summarizes your query from the ICA dataset. Click the button to download the data. More details gives access to details about the series in your selection.

The exact source of each observation in the blended series can be traced back from the first figure of the source ID (SOUID). A source ID starting with 9 indicates synoptical data, whereas 1 indicates participant data.

No changes have been made to the source data from the participants. Only quality codes have been added. More details on the source data are available upon request from ICA&D Project Team.

Country	GAMBIA	
Station	All available stations	Estimated filesize: 2 Mb
Element	All available elements	
Period	All available years	🛨 Download
Blending	no	

## More details about the series in your selection

If you click on a station, available meta data information is shown for that station. Finally, clicking on a series provides detailed information about the series.

Country	Station	Element	Begin	End	
GAMBIA					
	127 BANJUL INTL				
		TG: Mean temperature series	1973-01-01	2019-02-19	
		TX: Maximum temperature series	1973-01-05	2018-10-28	
		TN: Minimum temperature series	1973-01-13	2019-02-07	
		RR: Precipitation amount series	1973-06-07	2018-10-02	
	672 BATHURST				
		TG: Mean temperature series	1868-12-31	1919-12-30	
		TN: Minimum temperature series	1869-01-01	1948-11-30	
		RR: Precipitation amount series	1869-05-31	1948-06-30	

We proceed by demonstrating that the data which are provided for Georgetown, Gambia, by the Ministry of Fisheries and Water Resources is not available in these files. Go back two pages and select 'Download predefined zip-file daily precipitation (non-blend)' (https://west-africa.icad-wmo.org/node/356)



For an explanation on the difference between 'blend' and 'non-blend', please visit the FAQ page which can be reached through the 'Guidance' button at the top of the webpage.

A click on the link to the zip files will download the zip file. When opening the zip file, you will see something like the following:

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Favourites	Name		Size		Kind	Date Added	~
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Locations	RR_SOUID102968.txt	Authors, 2022.					
Network	RR_SOUID102941.txt	TBD					
	RR_SOUID102935.txt	Data and metadata available at https://west	t-africa.icad-wmo.org				
Tags	RR_SOUID102923.txt	FILE FORMAT (MISSING VALUE CODE IS -9999):					
Red	RR_SOUID102869.txt	01- 06 SOUID : Source identifier					
	RR_SOUID102866.txt	08- 47 SOUNAME: Source name					
<ul> <li>Orange</li> </ul>	RR_SOUID102857.txt	49- 50 CN : Country code (ISO3116 cour 52- 60 LAT : Latitude in degrees:minute	ntrycoges) es:seconds (positive: North, r	negative:	South)		
Yellow	RR_SOUID102854.txt	62- 71 LON : Longitude in degrees:minut	tes:seconds (positive: East, r	negative:	West)		
Creen	RR_SOUID102851.txt	78- 81 ELEID : Element identifier	rs				
Green	RR_SOUID102839.txt	83- 90 START : Begin date YYYYMMDD					
Blue	RR_SOUID102833.txt	101-105 PARID : Participant identifier					
Purnle	RR_SOUID102767.txt	107-156 PARNAME: Participant name					
e i dipio	RR_SOUID102716.txt	SOUID, SOUNAME	, CN, LAT , LON	HGHT,ELEI	D, START, S	STOP, PARID, PARNAME	
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O All Tags	RR_SOUID102710.txt	100058,WAKU KUNGU (CELA)	,A0,-08:51:00,+015:13:58, ,A0,-11:25:00,+015:07:00	1304, RR1	,19620301,19811	1031, 50,GHCND	
	RR_SOUID102668.txt	100062,LUBANGO (SA DA BAND	,A0,-14:55:58,+013:34:00,	1761, RR1	,19730605,20180	0416, 50,GHCND	
	RR_SOUID102659.txt	100070, MOCAMEDES	,A0,-15:12:00,+012:09:00	45, RR1	,19550128,19810	927, 50,GHCND	
	RR_SOUID102656.txt	100074, MAVINGA	,A0,-15:49:58,+020:21:00, B1 +11:07:48 +002:55:48	1088, RR1	,19570702,19740	0830, 50,GHCND	
	RR_SOUID102653.txt	100082,NATITINGOU	,BJ,+10:19:12,+001:28:48	460, RR1	,19450101,20181	1016, 50,GHCND	
	RR_SOUID102650.txt	100086, TCHAOUROU 100000 SAVE	,BJ,+08:52:10,+002:36:00, B1 +07:58:48 +002:25:48	325, RR1	,19450101,19781	L231, 50,GHCND	
	RR_SOUID102647.txt	100094, COTONOU	,BJ,+06:21:00,+002:22:48	4, RR1	,19410102,20190	203, 50,GHCND	
	RR_SOUID102641.txt	100098,KANDI 100102.SAVE	,BJ,+11:07:58,+002:55:58, B1.+08:01:54.+002:28:00	292, RR1	,19730601,20181	1030, 50,GHCND	
	RR_SOUID102638.txt	100106, PARAKOU	,BJ,+09:21:00,+002:37:00	393, RR1	,19730603,20190	126, 50,GHCND	
	RR_SOUID102635.txt	100110, BOHICON 100114, NDJAMENA	,BJ,+0/:10:00,+002:04:00, TD,+12:07:48,+015:01:48	167, RR1	,19/30602,20190	0131, 50,GHCND 1015, 50,GHCND	
	RR_SOUID102632.txt	100118, MAO	,TD,+14:07:12,+015:19:12	336, RR1	,19500501,19780	331, 50,GHCND	
	RR_SOUID102629.txt	100122, BOUSSO 100126, PALA	, D, +10:28:48, +016:43:10, , TD, +09:22:12, +014:52:12.	, 336, KR1 716, RR1	,19520/01,19781 ,19521001,19781	L231, 50,GHCND L231, 50,GHCND	
	RR_SOUID102626.txt	100130, SARH	,TD,+09:09:00,+018:22:48	0, RR1	,19500101,20181	1004, 50,GHCND	
	RR_SOUID102623.txt	100134,A11 100138,FAYA	TD.+13:13:12,+018:19:48,	234, RR1	,19500301,19781	1231, 50,GHCND	
	RR_SOUID102617.txt	100142, AM-TIMAN	,TD,+11:01:48,+020:16:48	436, RR1	,19500501,19781	1231, 50,GHCND	
	RR_SOUID102614.txt	100150, MONGO	, TD, +12:10:59, +018:40:59	427, RR1	,19500101,20181	1929, 50,GHCND	
	RR_SOUID102611.txt	100154, MOUNDOU	,TD,+08:34:00,+016:04:00	429, RR1	,19500801,20181	105, 50,GHCND	
	RR_SOUID102608.txt	100162, FAYA	,TD,+18:00:00,+019:10:00	234, RR1	,19730303,20180	9831, 50,GHCND	
	RR_SOUID102605.txt	100166, AM-TIMAN 100170 DOINTE NOIDE	,TD,+11:01:59,+020:16:59	365, RR1	,19730606,20180	9909, 50,GHCND	
	RR_SOUID102602.txt	100174,DOLISIE	,CG,-04:10:46,+012:40:12	330, RR1	,19490101,20190	124, 50,GHCND	
	RR_SOUID102599.txt	100178,MOUYONDZI 100182 SIBITI	,CG,-04:00:00,+013:57:00	509, RR1	,19540401,20181	1004, 50,GHCND	
	RR_SOUID102596.txt	100186, BRAZZAVILLE	,CG,-04:15:00,+015:15:00	314, RR1	,19470301,20190	202, 50,GHCND	
	RR SOUID102593.txt	100190 M' PIINYA	CG -07.37.17 +016.13.10	312 RR1	19500314 20190	1116 50 GHOND	

The zipfiles contains a large number of precipitation data files and two metadata files. In the screendump, the metadata file 'sources.txt' is opened and it shows an overview of the stations that are in this zip file.

When going through this zip file, you can ascertain yourself that the station GEORGETOWN is not included in the list and therefore not made available through this zip file. You can also see that the stations BATHURST (#102590) and BANJUL INTL (#100386) are included.

This demonstrates that daily data which are flagged as 'non-downloadable' are indeed not accessible through the ICA&D website.

In contrast, derived data, which is data aggregated to longer temporal scales (like annual means) are made available. This is demonstrated by the following:

Visit, from the top of the webpage page, the link to 'Derived Data' via the tab 'Data' (https://westafrica.icad-wmo.org/Derived-Data). This page gives access to all Derived data. We will now show that the data from Georgetown, Gambia, are available as derived data.

Visit the link 'Time series' and complete the form on the next page (https://west-africa.icadwmo.org/indicesextremes/customquerytimeseriesplots.php).

When you search on all station for Gambia, again all 12 stations appear, including the stations provided by Ministry of Fisheries and Water Resources:

Time series plot	× +			$\sim$	-	×
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Select, for instance, from Georgetown the index RX1day (Maximum 1-day precipitation amount). The form look like the following: A click on 'Next' will give you the plot



Just above the plot are the links to download the plot or to download the data which is used to make this plot.

## Query results