Please check our wiki for help on navigating the form.

Horizon 2020

Call: H2020-LC-CLA-2018-2019-2020

(Building a low-carbon, climate resilient future: climate action in support of the Paris Agreement)

Topic: LC-CLA-05-2019

Type of action: RIA

Proposal number: SEP-210564139

Proposal acronym: FOCUS-Africa

Deadline Id: H2020-LC-CLA-2019-2

Table of contents

How to fill in the forms

The administrative forms must be filled in for each proposal using the templates available in the submission system. Some data fields in the administrative forms are pre-filled based on the steps in the submission wizard.

1 - General information

Topic	LC-CLA-05-2019	Type of Action	RIA
Call Identifier	H2020-LC-CLA-2018-2019-2020	Deadline Id	H2020-LC-CLA-2019-2

Acronym	FOCUS-Africa
Proposal title	Full-value chain Optimised Climate User-centric Services for Southern Africa: FOCUS-Africa

Note that for technical reasons, the following characters are not accepted in the Proposal Title and will be removed: < > " &

Duration in months	*48*
Fixed keyword 1	Climate services for Africa
Free keywords	*tailored climate information, water-energy-food nexus, climate adaptation strategies for Africa, seasonal forecasts, climate projections, climate resilience, European added-value*

Abstract

Main Goal: Close the existing gaps as well as strengthen the weaker links in the value chain of operational climate prediction in support of risk management and adaptation decision-making in Africa.

Outcome: Agricultural, water resources and energy stakeholders including farmers, reservoir managers and hydropower operators as well as the associated governmental agencies/decision makers are able to manage risks associated with climate variability and extremes based on science-based, operationalised and actionable climate prediction products, and to implement strategies for adaptation to climate variability and change.

Objectives:

1) Assess climate risks for water, energy and food security by engaging with sectoral users;

2) Understand climate processes driving regional climate variability and identifying the sources of predictability at sub-seasonal, seasonal and decadal timescales;

3) Develop methods and tools for predictability skills assessment, downscaling, calibration and bias adjustment of the forecasts (from WMO GPCs-LRF and C3S) as well as regionally optimized multi-model forecast combination and verification (through regional institutions mandated to serve as WMO Regional Climate Centres);

4) Develop capacities at National Meteorological and Hydrological Services (NMHSs) and concerned RCCs to generate tailored climate information and products;

5) Develop prototypes of end-user tailored climate forecasts at sub-seasonal to multi-annual timescales, and other products, for decision making applications in hydropower generation, water management and agriculture, along with the associated communication aspects including estimates of uncertainty;

6) Demonstrate the economic value of the prototypes, to ensure that they meet the users' needs and result in tangible benefits within the respective sectors. Evaluate the outcomes and propose improvement of services and ways to implement;

7) Produce a blueprint for sustaining and upscaling on a global scale the

Remaining characters 0

Has this proposal (or a very similar one) been submitted in the past 2 years in response to a call for proposals under Horizon 2020 or any other EU programme(s)? ○ Yes ◉ No

Please give the proposal reference or contract number.	
xxxxxx-x	

Declarations

1) The coordinator declares to have the explicit consent of all applicants on their participation and on the content of this proposal.	☒
2) The information contained in this proposal is correct and complete.	☒
3) This proposal complies with ethical principles (including the highest standards of research integrity — as set out, for instance, in the European Code of Conduct for Research Integrity — and including, in particular, avoiding fabrication, falsification, plagiarism or other research misconduct).	☒

4) The coordinator confirms:

- to have carried out the self-check of the financial capacity of the organisation on http://ec.europa.eu/research/participants/portal/desktop/en/organisations/lfv.html or to be covered by a financial viability check in an EU project for the last closed financial year. Where the result was "weak" or "insufficient", the coordinator confirms being aware of the measures that may be imposed in accordance with the H2020 Grants Manual (Chapter on Financial capacity check); or	○
- is exempt from the financial capacity check being a public body including international organisations, higher or secondary education establishment or a legal entity, whose viability is guaranteed by a Member State or associated country, as defined in the H2020 Grants Manual (Chapter on Financial capacity check); or	◉
- as sole participant in the proposal is exempt from the financial capacity check.	○

5) The coordinator hereby declares that each applicant has confirmed:

- they are fully eligible in accordance with the criteria set out in the specific call for proposals; and	☒
- they have the financial and operational capacity to carry out the proposed action.	☒

The coordinator is only responsible for the correctness of the information relating to his/her own organisation. Each applicant remains responsible for the correctness of the information related to him and declared above. Where the proposal to be retained for EU funding, the coordinator and each beneficiary applicant will be required to present a formal declaration in this respect.

According to Article 131 of the Financial Regulation of 25 October 2012 on the financial rules applicable to the general budget of the Union (Official Journal L 298 of 26.10.2012, p. 1) and Article 145 of its Rules of Application (Official Journal L 362, 31.12.2012, p.1) applicants found guilty of misrepresentation may be subject to administrative and financial penalties under certain conditions.

Personal data protection

The assessment of your grant application will involve the collection and processing of personal data (such as your name, address and CV), which will be performed pursuant to Regulation (EC) No 45/2001 on the protection of individuals with regard to the processing of personal data by the Community institutions and bodies and on the free movement of such data. Unless indicated otherwise, your replies to the questions in this form and any personal data requested are required to assess your grant application in accordance with the specifications of the call for proposals and will be processed solely for that purpose. Details concerning the purposes and means of the processing of your personal data as well as information on how to exercise your rights are available in the privacy statement. Applicants may lodge a complaint about the processing of their personal data with the European Data Protection Supervisor at any time.

Your personal data may be registered in the Early Detection and Exclusion system of the European Commission (EDES), the new system established by the Commission to reinforce the protection of the Union's financial interests and to ensure sound financial management, in accordance with the provisions of articles 105a and 108 of the revised EU Financial Regulation (FR) (Regulation (EU, EURATOM) 2015/1929 of the European Parliament and of the Council of 28 October 2015 amending Regulation (EU, EURATOM) No 966/2012) and articles 143 - 144 of the corresponding Rules of Application (RAP) (COMMISSION DELEGATED REGULATION (EU) 2015/2462 of 30 October 2015 amending Delegated Regulation (EU) No 1268/2012) for more information see the Privacy statement for the EDES Database.

2 - Participants & contacts

#	Participant Legal Name	Country	Action
1	ORGANISATION METEOROLOGIQUE MONDIALE	CH	
2	BARCELONA SUPERCOMPUTING CENTER - CENTRO NACIONAL DE SUPERCOMPUTACION	ES	
3	MET OFFICE	UK	
4	WORLD ENERGY & METEOROLOGY COUNCIL	UK	
5	SADC Secretariat	BW	
6	ELECTRICITE DE FRANCE	FR	
7	AFRICAN CENTRE OF METEOROLOGICAL APPLICATION DEVELOPMENT	NE	
8	COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH	ZA	
9	LGI CONSULTING	FR	
10	UNIVERSITY OF THE WITWATERSRAND JOHANNESBURG	ZA	
11	UNIVERSITY OF CAPE TOWN	ZA	
12	AMIGO SRL	IT	
13	Meteorological Services	MU	
14	Tanzania Meteorological Agency	TZ	
15	JRC -JOINT RESEARCH CENTRE- EUROPEAN COMMISSION	BE	
16	SCUOLA SUPERIORE DI STUDI UNIVERSITARI E DI PERFEZIONAMENTO SANT'ANNA	IT	
17	Plan Italia Onlus	IT	
18	COWI AS	DK	
19	Department of Climate Change and Meteorological Services	MW	
20	Land and Agricultural Bank of South Africa	South Africa	

2 - Administrative data of participating organisations

PIC	***Legal name***
999544940	*ORGANISATION METEOROLOGIQUE MONDIALE*

Short name: ORGANISATION METEOROLOGIQUE MONDIALEOMM WMO

Address of the organisation

Street AVENUE DE LA PAIX 7 BIS

Town GENEVA 2

Postcode 1211

Country Switzerland

Webpage

Legal Status of your organisation

Research and Innovation legal statuses

Public body .....yes

Non-profit .....yes

International organisation .....yes

International organisation of European interest .....no

Secondary or Higher education establishment .....no

Research organisation .....no

Legal person .....yes

Industry (private for profit).....no

Enterprise Data

SME self-declared status..... unknown

SME self-assessment ..... unknown

SME validation sme..... unknown

Based on the above details of the Beneficiary Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

Department(s) carrying out the proposed work

Department 1

Department name: Climate Prediction and Adaptation/Climate and Water ☐ not applicable

☒ Same as proposing organisation's address

Street: AVENUE DE LA PAIX 7 BIS

Town: GENEVA 2

Postcode: 1211

Country: Switzerland

Dependencies with other proposal participants

Character of dependence	***Participant***	

Person in charge of the proposal

The name and e-mail of contact persons are read-only in the administrative form, only additional details can be edited here. To give access rights and basic contact details of contact persons, please go back to Step 4 of the submission wizard and save the changes.

Title: Dr.

Sex: (•) Male ( ) Female

First name: **Maxx**

Last name: **Dilley**

E-Mail: **mdilley@wmo.int**

Position in org.: Director of Climate Prediction and Adaptation Branch

Department: ORGANISATION METEOROLOGIQUE MONDIALE ☒ Same as organisation name

☒ Same as proposing organisation's address

Street: AVENUE DE LA PAIX 7 BIS

Town: GENEVA 2 Post code: 1211

Country: Switzerland

Website:

Phone: *+xxx xxxxxxxxx* Phone 2: *+xxx xxxxxxxxx* Fax: *+xxx xxxxxxxxx*

Other contact persons

First Name	***Last Name***	***E-mail***	***Phone***
Roberta	BOSCOLO	rboscolo@wmo.int	*+41(0)227308055*

PIC	***Legal name***
999655520	*BARCELONA SUPERCOMPUTING CENTER - CENTRO NACIONAL DE SUPERCOMPUTACION*

Short name: BSC

Address of the organisation

Street Calle Jordi Girona 31

Town BARCELONA

Postcode 08034

Country Spain

Webpage www.bsc.es

Legal Status of your organisation

Research and Innovation legal statuses

Public body .....yes

Non-profit .....yes

International organisation .....no

International organisation of European interest .....no

Secondary or Higher education establishment .....no

Research organisation .....yes

Legal person .....yes

Industry (private for profit).....no

Enterprise Data

SME self-declared status.....01/03/2005 - no

SME self-assessment ..... unknown

SME validation sme..... unknown

Based on the above details of the Beneficiary Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

Department(s) carrying out the proposed work

Department 1

Department name: Earth Science Department ☐ not applicable

☐ Same as proposing organisation's address

Street: NEXUS II building, Jordi Girona 29

Town: Barcelona

Postcode: 08034

Country: Spain

Dependencies with other proposal participants

Character of dependence	***Participant***	

Person in charge of the proposal

The name and e-mail of contact persons are read-only in the administrative form, only additional details can be edited here. To give access rights and basic contact details of contact persons, please go back to Step 4 of the submission wizard and save the changes.

Title: Dr. Sex: ○ Male ◉ Female

First name: **Isadora** Last name: **Jimenez**

E-Mail: **isadora.jimenez@bsc.es**

Position in org.: Communication Earth System Services Group

Department: Earth Science Department ☐ Same as organisation name

☐ Same as proposing organisation's address

Street: NEXUS II building, Jordi Girona 29

Town: Barcelona Post code: 08034

Country: Spain

Website: www.bsc.es

Phone: +34934134076 Phone 2: *+xxx xxxxxxxxx* Fax: *+xxx xxxxxxxxx*

Other contact persons

First Name	***Last Name***	***E-mail***	***Phone***
Mar	Rodriguez	mar.rodriguez@bsc.es	*+34934137566*

PIC	***Legal name***
999892685	*MET OFFICE*

Short name: MET OFFICE

Address of the organisation

Street FitzRoy Road

Town EXETER

Postcode EX1 3PB

Country United Kingdom

Webpage www.metoffice.gov.uk

Legal Status of your organisation

Research and Innovation legal statuses

Public body .....yes

Non-profit .....no

International organisation .....unknown

International organisation of European interest .....unknown

Secondary or Higher education establishment .....unknown

Research organisation .....no

Legal person .....yes

Industry (private for profit).....no

Enterprise Data

SME self-declared status..... unknown

SME self-assessment ..... unknown

SME validation sme..... unknown

Based on the above details of the Beneficiary Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

Department(s) carrying out the proposed work

Department 1

Department name: Earth Science Department ☐ not applicable

☐ Same as proposing organisation's address

Street: NEXUS II building, Jordi Girona 29

Town: Barcelona

Postcode: 08034

Country: Spain

Dependencies with other proposal participants

Character of dependence	***Participant***	

Person in charge of the proposal

The name and e-mail of contact persons are read-only in the administrative form, only additional details can be edited here. To give access rights and basic contact details of contact persons, please go back to Step 4 of the submission wizard and save the changes.

Title | Sex ○ Male ◉ Female

First name **Kathrin** | Last name **Hall**

E-Mail **kathrin.hall@metoffice.gov.uk**

Position in org. International Development

Department MET OFFICE ☒ Same as organisation name

☒ Same as proposing organisation's address

Street FitzRoy Road

Town EXETER | Post code EX1 3PB

Country United Kingdom

Website

Phone +xxx xxxxxxxxx | Phone 2 +xxx xxxxxxxxx | Fax +xxx xxxxxxxxx

PIC	***Legal name***
923034153	*WORLD ENERGY & METEOROLOGY COUNCIL*

Short name: WEMC

Address of the organisation

Street SCHOOL OF ENVIRONMENTAL SCIENCES U

Town NORWICH

Postcode NR4 7TJ

Country United Kingdom

Webpage www.wemcouncil.org

Legal Status of your organisation

Research and Innovation legal statuses

Public body .....no

Non-profit .....yes

International organisation .....no

International organisation of European interest .....no

Secondary or Higher education establishment .....no

Research organisation .....no

Legal person .....yes

Industry (private for profit).....no

Enterprise Data

SME self-declared status.....25/11/2015 - yes

SME self-assessment ..... unknown

SME validation sme..... unknown

Based on the above details of the Beneficiary Registry the organisation is an SME (small- and medium-sized enterprise) for the call.

Department(s) carrying out the proposed work

No department involved

Department name: *Name of the department/institute carrying out the work.* ☒ not applicable

☐ Same as proposing organisation's address

Street: *Please enter street name and number.*

Town: *Please enter the name of the town.*

Postcode: *Area code.*

Country: *Please select a country*

Dependencies with other proposal participants

Character of dependence	***Participant***	

Person in charge of the proposal

The name and e-mail of contact persons are read-only in the administrative form, only additional details can be edited here. To give access rights and basic contact details of contact persons, please go back to Step 4 of the submission wizard and save the changes.

Title: Prof. Sex: (•) Male ( ) Female

First name: **Alberto** Last name: **Troccoli**

E-Mail: **alberto.troccoli@wemcouncil.org**

Position in org.: Managing Director

Department: WORLD ENERGY & METEOROLOGY COUNCIL ☒ Same as organisation name

☐ Same as proposing organisation's address

Street: University of East Anglia

Town: Norwich Post code: NR4 7TJ

Country: United Kingdom

Website:

Phone: +xxx xxxxxxxxx Phone 2: +xxx xxxxxxxxx Fax: +xxx xxxxxxxxx

PIC	***Legal name***
997536749	*SADC Secretariat*

Short name: SADC Secretariat

Address of the organisation

Street P Bag 0095

Town Gaborone

Postcode N/A

Country Botswana

Webpage www.sadc.int

Legal Status of your organisation

Research and Innovation legal statuses

Public body .....yes

Non-profit .....unknown

International organisation .....yes

International organisation of European interest .....no

Secondary or Higher education establishment .....unknown

Research organisation .....unknown

Legal person .....yes

Industry (private for profit).....unknown

Enterprise Data

SME self-declared status..... unknown

SME self-assessment ..... unknown

SME validation sme..... unknown

Based on the above details of the Beneficiary Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

Department(s) carrying out the proposed work

No department involved

Department name: *Name of the department/institute carrying out the work.* ☒ not applicable

☐ Same as proposing organisation's address

Street: *Please enter street name and number.*

Town: *Please enter the name of the town.*

Postcode: *Area code.*

Country: *Please select a country*

Dependencies with other proposal participants

Character of dependence	***Participant***	

Person in charge of the proposal

The name and e-mail of contact persons are read-only in the administrative form, only additional details can be edited here. To give access rights and basic contact details of contact persons, please go back to Step 4 of the submission wizard and save the changes.

Title: Dr.

Sex: (•) Male ( ) Female

First name: **Prithiviraj**

Last name: **Booneeady**

E-Mail: **pbooneeady@sadc.int**

Position in org.: Senior Programme Officer- Meteorology

Department: SADC Secretariat

☒ Same as organisation name

☒ Same as proposing organisation's address

Street: P Bag 0095

Town: Gaborone

Post code: N/A

Country: Botswana

Website:

Phone: *+xxx xxxxxxxxx*

Phone 2: *+xxx xxxxxxxxx*

Fax: *+xxx xxxxxxxxx*

PIC	***Legal name***
999926829	*ELECTRICITE DE FRANCE*

Short name: EDF

Address of the organisation

Street AVENUE DE WAGRAM 22

Town PARIS 08

Postcode 75008

Country France

Webpage www.edf.fr

Legal Status of your organisation

Research and Innovation legal statuses

Public body .....no

Non-profit .....no

International organisation .....no

International organisation of European interest .....no

Secondary or Higher education establishment .....no

Research organisation .....no

Legal person .....yes

Industry (private for profit).....yes

Enterprise Data

SME self-declared status.....12/08/2008 - no

SME self-assessment ..... unknown

SME validation sme.....12/08/2008 - no

Based on the above details of the Beneficiary Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

Department(s) carrying out the proposed work

No department involved

Department name: *Name of the department/institute carrying out the work.* ☒ not applicable

☐ Same as proposing organisation's address

Street: *Please enter street name and number.*

Town: *Please enter the name of the town.*

Postcode: *Area code.*

Country: *Please select a country*

Dependencies with other proposal participants

Character of dependence	***Participant***	

Person in charge of the proposal

The name and e-mail of contact persons are read-only in the administrative form, only additional details can be edited here. To give access rights and basic contact details of contact persons, please go back to Step 4 of the submission wizard and save the changes.

Title: Dr.

Sex: (•) Male ( ) Female

First name: **Laurent**

Last name: **Dubus**

E-Mail: **laurent.dubus@edf.fr**

Position in org.: Expert Researcher

Department: ELECTRICITE DE FRANCE ☒ Same as organisation name

☒ Same as proposing organisation's address

Street: AVENUE DE WAGRAM 22

Town: PARIS 08 Post code: 75008

Country: France

Website:

Phone: +xxx xxxxxxxxx Phone 2: +xxx xxxxxxxxx Fax: +xxx xxxxxxxxx

PIC	***Legal name***
998883012	*AFRICAN CENTRE OF METEOROLOGICAL APPLICATION DEVELOPMENT*

Short name: ACMAD CAAM

Address of the organisation

Street AVENUE DES MINISTERES 85

Town NIAMEY

Postcode 13184

Country Niger

Webpage http://www.acmad.ne

Legal Status of your organisation

Research and Innovation legal statuses

Public body .....yes

Non-profit .....yes

International organisation .....yes

International organisation of European interest .....no

Secondary or Higher education establishment .....no

Research organisation .....yes

Legal person .....yes

Industry (private for profit).....no

Enterprise Data

SME self-declared status.....02/06/2008 - yes

SME self-assessment ..... unknown

SME validation sme.....02/06/2008 - no

Based on the above details of the Beneficiary Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

Department(s) carrying out the proposed work

No department involved

Department name: *Name of the department/institute carrying out the work.* ☒ not applicable

☐ Same as proposing organisation's address

Street: *Please enter street name and number.*

Town: *Please enter the name of the town.*

Postcode: *Area code.*

Country: *Please select a country*

Dependencies with other proposal participants

Character of dependence	***Participant***	

Person in charge of the proposal

The name and e-mail of contact persons are read-only in the administrative form, only additional details can be edited here. To give access rights and basic contact details of contact persons, please go back to Step 4 of the submission wizard and save the changes.

Title | Sex ◉ Male ○ Female

First name **Andre** | Last name **Kamga Foamouhoue**

E-Mail **akamgaf@yahoo.com**

Position in org.: General Director

Department: AFRICAN CENTRE OF METEOROLOGICAL APPLICATION DEVELOPMEN ☒ Same as organisation name

☒ Same as proposing organisation's address

Street: AVENUE DES MINISTERES 85

Town: NIAMEY | Post code: 13184

Country: Niger

Website:

Phone: +xxx xxxxxxxxx | Phone 2: +xxx xxxxxxxxx | Fax: +xxx xxxxxxxxx

PIC	***Legal name***
999646693	*COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH*

Short name: CSIR

Address of the organisation

Street Meiring Naude Road, Brummeria 46

Town PRETORIA

Postcode 0001

Country South Africa

Webpage www.csir.co.za

Legal Status of your organisation

Research and Innovation legal statuses

Public body .....yes

Non-profit .....yes

International organisation .....no

International organisation of European interest .....no

Secondary or Higher education establishment .....no

Research organisation .....yes

Legal person .....yes

Industry (private for profit).....no

Enterprise Data

SME self-declared status.....11/11/2008 - no

SME self-assessment ..... unknown

SME validation sme.....11/11/2008 - no

Based on the above details of the Beneficiary Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

Department(s) carrying out the proposed work

No department involved

Department name: *Name of the department/institute carrying out the work.* ☒ not applicable

☐ Same as proposing organisation's address

Street: *Please enter street name and number.*

Town: *Please enter the name of the town.*

Postcode: *Area code.*

Country: *Please select a country*

Dependencies with other proposal participants

Character of dependence	***Participant***	

Person in charge of the proposal

The name and e-mail of contact persons are read-only in the administrative form, only additional details can be edited here. To give access rights and basic contact details of contact persons, please go back to Step 4 of the submission wizard and save the changes.

Title: Dr.

Sex: (•) Male ( ) Female

First name: **Johan**

Last name: **Malherbe**

E-Mail: **jmalherbe@csir.co.za**

Position in org.: Climate Change and Agriculture

Department: COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH ☒ Same as organisation name

☒ Same as proposing organisation's address

Street: Meiring Naude Road, Brummeria 46

Town: PRETORIA Post code: 0001

Country: South Africa

Website:

Phone: +xxx xxxxxxxxx Phone 2: +xxx xxxxxxxxx Fax: +xxx xxxxxxxxx

PIC	***Legal name***
999677733	*LGI CONSULTING*

Short name: LGI

Address of the organisation

Street 6 CITE DE L'AMEUBLEMENT

Town PARIS

Postcode 75011

Country France

Webpage www.lgi-consulting.com

Legal Status of your organisation

Research and Innovation legal statuses

Public body .....no

Non-profit .....no

International organisation .....no

International organisation of European interest .....no

Secondary or Higher education establishment .....no

Research organisation .....no

Legal person .....yes

Industry (private for profit).....yes

Enterprise Data

SME self-declared status.....31/12/2013 - yes

SME self-assessment .....31/12/2013 - yes

SME validation sme.....17/06/2008 - yes

Based on the above details of the Beneficiary Registry the organisation is an SME (small- and medium-sized enterprise) for the call.

Department(s) carrying out the proposed work

No department involved

Department name: *Name of the department/institute carrying out the work.* ☒ not applicable

☐ Same as proposing organisation's address

Street: *Please enter street name and number.*

Town: *Please enter the name of the town.*

Postcode: *Area code.*

Country: *Please select a country*

Dependencies with other proposal participants

Character of dependence	***Participant***	

Person in charge of the proposal

The name and e-mail of contact persons are read-only in the administrative form, only additional details can be edited here. To give access rights and basic contact details of contact persons, please go back to Step 4 of the submission wizard and save the changes.

Title | Sex ◉ Male ○ Female

First name **Mathieu** | Last name **Salel**

E-Mail **mathieu.salel@lgi-consulting.com**

Position in org. Innovation Strategist

Department LGI CONSULTING ☒ Same as organisation name

☒ Same as proposing organisation's address

Street 6 CITE DE L'AMEUBLEMENT

Town PARIS | Post code 75011

Country France

Website

Phone +xxx xxxxxxxxx | Phone 2 +xxx xxxxxxxxx | Fax +xxx xxxxxxxxx

PIC	***Legal name***
998014086	*UNIVERSITY OF THE WITWATERSRAND JOHANNESBURG*

Short name: UNIVERSITY OF THE WITWATERSRAND JOHANNESBURG

Address of the organisation

Street JAN SMUTS AVENUE 1

Town JOHANNESBURG

Postcode 2001

Country South Africa

Webpage www.wits.ac.za

Legal Status of your organisation

Research and Innovation legal statuses

Public body .....yes

Non-profit .....yes

International organisation .....no

International organisation of European interest .....no

Secondary or Higher education establishment .....yes

Research organisation .....no

Legal person .....yes

Industry (private for profit).....no

Enterprise Data

SME self-declared status.....14/05/2004 - no

SME self-assessment ..... unknown

SME validation sme..... unknown

Based on the above details of the Beneficiary Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

Department(s) carrying out the proposed work

No department involved

Department name: *Name of the department/institute carrying out the work.* ☒ not applicable

☐ Same as proposing organisation's address

Street: *Please enter street name and number.*

Town: *Please enter the name of the town.*

Postcode: *Area code.*

Country: *Please select a country*

Dependencies with other proposal participants

Character of dependence	***Participant***	

Person in charge of the proposal

The name and e-mail of contact persons are read-only in the administrative form, only additional details can be edited here. To give access rights and basic contact details of contact persons, please go back to Step 4 of the submission wizard and save the changes.

Title: Prof.

Sex: (•) Male ( ) Female

First name: **Francois**

Last name: **Engelbrecht**

E-Mail: **francois.engelbrecht@wits.ac.za**

Position in org.: Chief Researcher

Department: UNIVERSITY OF THE WITWATERSRAND JOHANNESBURG ☒ Same as organisation name

☒ Same as proposing organisation's address

Street: JAN SMUTS AVENUE 1

Town: JOHANNESBURG

Post code: 2001

Country: South Africa

Website:

Phone: +xxx xxxxxxxxx

Phone 2: +xxx xxxxxxxxx

Fax: +xxx xxxxxxxxx

PIC	***Legal name***
999849229	*UNIVERSITY OF CAPE TOWN*

Short name: UCT

Address of the organisation

Street PRIVATE BAG X3

Town RONDEBOSCH

Postcode 7701

Country South Africa

Webpage www.uct.ac.za

Legal Status of your organisation

Research and Innovation legal statuses

Public body .....yes

Non-profit .....yes

International organisation .....no

International organisation of European interest .....no

Secondary or Higher education establishment .....yes

Research organisation .....yes

Legal person .....yes

Industry (private for profit).....no

Enterprise Data

SME self-declared status.....19/12/1997 - no

SME self-assessment ..... unknown

SME validation sme..... unknown

Based on the above details of the Beneficiary Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

Department(s) carrying out the proposed work

No department involved

Department name: *Name of the department/institute carrying out the work.* ☒ not applicable

☐ Same as proposing organisation's address

Street: *Please enter street name and number.*

Town: *Please enter the name of the town.*

Postcode: *Area code.*

Country: *Please select a country*

Dependencies with other proposal participants

Character of dependence	***Participant***	

Person in charge of the proposal

The name and e-mail of contact persons are read-only in the administrative form, only additional details can be edited here. To give access rights and basic contact details of contact persons, please go back to Step 4 of the submission wizard and save the changes.

Title | Sex ◉ Male ○ Female

First name **Christopher** Last name **Jack**

E-Mail **cjack@csag.uct.ac.za**

Position in org. Environmental and Geographical Science

Department UNIVERSITY OF CAPE TOWN ☒ Same as organisation name

☐ Same as proposing organisation's address

Street Private Bag X3 Rondebosch

Town Cape Town Post code 7701

Country South Africa

Website

Phone *+xxx xxxxxxxxx* Phone 2 *+xxx xxxxxxxxx* Fax *+xxx xxxxxxxxx*

PIC	***Legal name***
949718562	*AMIGO SRL*

Short name: AMIGO SRL

Address of the organisation

Street VIA FLAMINIA 48

Town ROMA

Postcode 00196

Country Italy

Webpage www.amigoclimate.com

Legal Status of your organisation

Research and Innovation legal statuses

Public body .....no

Non-profit .....no

International organisation .....no

International organisation of European interest .....no

Secondary or Higher education establishment .....no

Research organisation .....no

Legal person .....yes

Industry (private for profit).....yes

Enterprise Data

SME self-declared status.....31/12/2017 - yes

SME self-assessment .....31/12/2017 - yes

SME validation sme..... unknown

Based on the above details of the Beneficiary Registry the organisation is an SME (small- and medium-sized enterprise) for the call.

Department(s) carrying out the proposed work

No department involved

Department name: *Name of the department/institute carrying out the work.* ☒ not applicable

☐ Same as proposing organisation's address

Street: *Please enter street name and number.*

Town: *Please enter the name of the town.*

Postcode: *Area code.*

Country: *Please select a country*

Dependencies with other proposal participants

Character of dependence	***Participant***	

Person in charge of the proposal

The name and e-mail of contact persons are read-only in the administrative form, only additional details can be edited here. To give access rights and basic contact details of contact persons, please go back to Step 4 of the submission wizard and save the changes.

Title: Dr.

Sex: (•) Male ( ) Female

First name: **Marcello**

Last name: **Petitta**

E-Mail: **marcello.petitta@gmail.com**

Position in org.: Scientific Director

Department: AMIGO SRL

☒ Same as organisation name

☒ Same as proposing organisation's address

Street: VIA FLAMINIA 48

Town: ROMA

Post code: 00196

Country: Italy

Website: www.amigoclimate.com

Phone: *+xxx xxxxxxxxx*

Phone 2: *+xxx xxxxxxxxx*

Fax: *+xxx xxxxxxxxx*

PIC	***Legal name***
901042701	*Meteorological Services*

Short name: Meteorological Services

Address of the organisation

Street St Paul Road

Town Vacoas

Postcode

Country Mauritius

Webpage http://metservice.intnet.mu

Legal Status of your organisation

Research and Innovation legal statuses

Public body .....unknown

Non-profit .....unknown

International organisation .....unknown

International organisation of European interest .....unknown

Secondary or Higher education establishment .....unknown

Research organisation .....unknown

Legal person .....yes

Industry (private for profit).....unknown

Enterprise Data

SME self-declared status..... unknown

SME self-assessment ..... unknown

SME validation sme..... unknown

Based on the above details of the Beneficiary Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

Department(s) carrying out the proposed work

No department involved

Department name: *Name of the department/institute carrying out the work.* ☒ not applicable

☐ Same as proposing organisation's address

Street: *Please enter street name and number.*

Town: *Please enter the name of the town.*

Postcode: *Area code.*

Country: *Please select a country*

Dependencies with other proposal participants

Character of dependence	***Participant***	

Person in charge of the proposal

The name and e-mail of contact persons are read-only in the administrative form, only additional details can be edited here. To give access rights and basic contact details of contact persons, please go back to Step 4 of the submission wizard and save the changes.

Title | Sex ◉ Male ○ Female

First name **Premchand** Last name **Goolaup**

E-Mail **prem.goolaup@gmail.com**

Position in org. Director General

Department Meteorological Services ☒ Same as organisation name

☒ Same as proposing organisation's address

Street St Paul Road

Town Vacoas Post code

Country Mauritius

Website

Phone +xxx xxxxxxxxx Phone 2 +xxx xxxxxxxxx Fax +xxx xxxxxxxxx

PIC	***Legal name***
901091977	*Tanzania Meteorological Agency*

Short name: Tanzania Meteorological Agency

Address of the organisation

Street Ubungo Plaza

Town Dar es Salaam

Postcode +255

Country Tanzania (United Republic of)

Webpage www.meteo.go.tz

Legal Status of your organisation

Research and Innovation legal statuses

Public body .....unknown

Non-profit .....unknown

International organisation .....unknown

International organisation of European interest .....unknown

Secondary or Higher education establishment .....unknown

Research organisation .....unknown

Legal person .....yes

Industry (private for profit).....unknown

Enterprise Data

SME self-declared status..... unknown

SME self-assessment ..... unknown

SME validation sme..... unknown

Based on the above details of the Beneficiary Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

Department(s) carrying out the proposed work

No department involved

Department name: *Name of the department/institute carrying out the work.* ☒ not applicable

☐ Same as proposing organisation's address

Street: *Please enter street name and number.*

Town: *Please enter the name of the town.*

Postcode: *Area code.*

Country: *Please select a country*

Dependencies with other proposal participants

Character of dependence	***Participant***	

Person in charge of the proposal

The name and e-mail of contact persons are read-only in the administrative form, only additional details can be edited here. To give access rights and basic contact details of contact persons, please go back to Step 4 of the submission wizard and save the changes.

Title: Dr.

Sex: (•) Male ( ) Female

First name: **Ladislaus**

Last name: **Changa**

E-Mail: **ladislaus.changa@meteo.go.tz**

Position in org.: Sub-Director climate change

Department: Tanzania Meteorological Agency ☒ Same as organisation name

☒ Same as proposing organisation's address

Street: Ubungo Plaza

Town: Dar es Salaam

Post code: +255

Country: Tanzania (United Republic of)

Website:

Phone: *+xxx xxxxxxxxx*

Phone 2: *+xxx xxxxxxxxx*

Fax: *+xxx xxxxxxxxx*

PIC	***Legal name***
999992304	*JRC -JOINT RESEARCH CENTRE- EUROPEAN COMMISSION*

Short name: JRC

Address of the organisation

Street Rue de la Loi 200

Town BRUSSELS

Postcode 1049

Country Belgium

Webpage https://ec.europa.eu/jrc

Legal Status of your organisation

Research and Innovation legal statuses

Public body .....yes
Non-profit .....yes
International organisation .....no
International organisation of European interest .....no
Secondary or Higher education establishment .....no
Research organisation .....yes
Legal person .....yes
Industry (private for profit).....no

Enterprise Data

SME self-declared status.....21/08/2008 - no
SME self-assessment ..... unknown
SME validation sme.....21/08/2008 - no

Based on the above details of the Beneficiary Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

Department(s) carrying out the proposed work

No department involved

Department name: *Name of the department/institute carrying out the work.* ☒ not applicable

☐ Same as proposing organisation's address

Street: *Please enter street name and number.*

Town: *Please enter the name of the town.*

Postcode: *Area code.*

Country: *Please select a country*

Dependencies with other proposal participants

Character of dependence	***Participant***	

Person in charge of the proposal

The name and e-mail of contact persons are read-only in the administrative form, only additional details can be edited here. To give access rights and basic contact details of contact persons, please go back to Step 4 of the submission wizard and save the changes.

Title | Sex ◉ Male ○ Female

First name **Andrea** Last name **Toreti**

E-Mail **andrea.toreti@ec.europa.eu**

Position in org. Sustainable Resources

Department JRC -JOINT RESEARCH CENTRE- EUROPEAN COMMISSION ☒ Same as organisation name

☐ Same as proposing organisation's address

Street Via Fermi 2749 (TP272)

Town Ispra (VA) Post code 21027

Country Italy

Website

Phone +xxx xxxxxxxxx Phone 2 +xxx xxxxxxxxx Fax +xxx xxxxxxxxx

PIC	***Legal name***
999884731	*SCUOLA SUPERIORE DI STUDI UNIVERSITARI E DI PERFEZIONAMENTO SANT'ANNA*

Short name: SSSA

Address of the organisation

Street PIAZZA MARTIRI DELLA LIBERTA 33

Town PISA

Postcode 56127

Country Italy

Webpage www.santannapisa.it

Legal Status of your organisation

Research and Innovation legal statuses

Public body .....yes

Non-profit .....yes

International organisation .....no

International organisation of European interest .....no

Secondary or Higher education establishment .....yes

Research organisation .....yes

Legal person .....yes

Industry (private for profit).....no

Enterprise Data

SME self-declared status.....13/08/2014 - no

SME self-assessment ..... unknown

SME validation sme.....18/09/1989 - no

Based on the above details of the Beneficiary Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

Department(s) carrying out the proposed work

No department involved

Department name: *Name of the department/institute carrying out the work.* ☒ not applicable

☐ Same as proposing organisation's address

Street: *Please enter street name and number.*

Town: *Please enter the name of the town.*

Postcode: *Area code.*

Country: *Please select a country*

Dependencies with other proposal participants

Character of dependence	***Participant***	

Person in charge of the proposal

The name and e-mail of contact persons are read-only in the administrative form, only additional details can be edited here. To give access rights and basic contact details of contact persons, please go back to Step 4 of the submission wizard and save the changes.

Title: Prof.

Sex: (•) Male ( ) Female

First name: **Roberto**

Last name: **Buizza**

E-Mail: **r.buizza@santannapisa.it**

Position in org.: Faculty

Department: SCUOLA SUPERIORE DI STUDI UNIVERSITARI E DI PERFEZIONAMENTO ☒ Same as organisation name

☒ Same as proposing organisation's address

Street: PIAZZA MARTIRI DELLA LIBERTA 33

Town: PISA

Post code: 56127

Country: Italy

Website:

Phone: +xxx xxxxxxxxx

Phone 2: +xxx xxxxxxxxx

Fax: +xxx xxxxxxxxx

PIC	***Legal name***
902604401	*Plan Italia Onlus*

Short name: Plan International Italia

Address of the organisation

Street Via J.F. Kennedy 19 interno C2

Town VIMERCATE

Postcode 20871

Country Italy

Webpage www.plan-international.it

Legal Status of your organisation

Research and Innovation legal statuses

Public body .....unknown

Non-profit .....unknown

International organisation .....unknown

International organisation of European interest .....unknown

Secondary or Higher education establishment .....unknown

Research organisation .....unknown

Legal person .....yes

Industry (private for profit).....unknown

Enterprise Data

SME self-declared status..... unknown

SME self-assessment ..... unknown

SME validation sme..... unknown

Based on the above details of the Beneficiary Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

Department(s) carrying out the proposed work

No department involved

Department name: *Name of the department/institute carrying out the work.* ☒ not applicable

☐ Same as proposing organisation's address

Street: *Please enter street name and number.*

Town: *Please enter the name of the town.*

Postcode: *Area code.*

Country: *Please select a country*

Dependencies with other proposal participants

Character of dependence	***Participant***	

Person in charge of the proposal

The name and e-mail of contact persons are read-only in the administrative form, only additional details can be edited here. To give access rights and basic contact details of contact persons, please go back to Step 4 of the submission wizard and save the changes.

Title | Sex ○ Male ◉ Female

First name **Giulia** | Last name **Bianchini**

E-Mail **giulia.bianchini@plan-international.org**

Position in org. project manager

Department Plan Italia Onlus ☒ Same as organisation name

☒ Same as proposing organisation's address

Street Via J.F. Kennedy 19 interno C2

Town VIMERCATE | Post code 20871

Country Italy

Website

Phone +xxx xxxxxxxxx | Phone 2 +xxx xxxxxxxxx | Fax +xxx xxxxxxxxx

PIC	***Legal name***
998780677	*COWI AS*

Short name: KAMPSAX GEODAN GEOPLUS KAMPSAX DATA GEOPLAN GEOMASTERS GEODATAAGRINOVA INTERNATIONAL KAMPSAX INTERNATIONAL KAMPSAX TEKNIK

Street PARALLELVEJ 2

Town KONGENS LYNGBY

Postcode 2800

Country Denmark

Webpage www.cowi.com

Legal Status of your organisation

Research and Innovation legal statuses

Public body .....no

Non-profit .....no

International organisation .....no

International organisation of European interest .....no

Secondary or Higher education establishment .....no

Research organisation .....no

Legal person .....yes

Industry (private for profit).....yes

Enterprise Data

SME self-declared status.....28/01/2009 - no

SME self-assessment ..... unknown

SME validation sme.....28/01/2009 - no

Based on the above details of the Beneficiary Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

Department(s) carrying out the proposed work

No department involved

Department name: *Name of the department/institute carrying out the work.* ☒ not applicable

☐ Same as proposing organisation's address

Street: *Please enter street name and number.*

Town: *Please enter the name of the town.*

Postcode: *Area code.*

Country: *Please select a country*

Dependencies with other proposal participants

Character of dependence	***Participant***	

Person in charge of the proposal

The name and e-mail of contact persons are read-only in the administrative form, only additional details can be edited here. To give access rights and basic contact details of contact persons, please go back to Step 4 of the submission wizard and save the changes.

Title | Sex ○ Male ◉ Female

First name **Anne Mette** | Last name **von Benzon**

E-Mail **anb@cowi.com**

Position in org. innovation manager

Department COWI AS ☒ Same as organisation name

☒ Same as proposing organisation's address

Street PARALLELVEJ 2

Town KONGENS LYNGBY | Post code 2800

Country Denmark

Website

Phone *+xxx xxxxxxxxx* | Phone 2 *+xxx xxxxxxxxx* | Fax *+xxx xxxxxxxxx*

PIC	***Legal name***
937644002	*Department of Climate Change and Meteorological Services*

Short name: DCCMS

Address of the organisation

Street Regional Government Offices

Town Blantyre

Postcode

Country Malawi

Webpage www.metmalawi.com

Legal Status of your organisation

Research and Innovation legal statuses

Public body .....unknown

Non-profit .....unknown

International organisation .....unknown

International organisation of European interest .....unknown

Secondary or Higher education establishment .....unknown

Research organisation .....unknown

Legal person .....yes

Industry (private for profit).....unknown

Enterprise Data

SME self-declared status..... unknown

SME self-assessment ..... unknown

SME validation sme..... unknown

Based on the above details of the Beneficiary Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

Department(s) carrying out the proposed work

No department involved

Department name: *Name of the department/institute carrying out the work.* ☒ not applicable

☐ Same as proposing organisation's address

Street: *Please enter street name and number.*

Town: *Please enter the name of the town.*

Postcode: *Area code.*

Country: *Please select a country*

Dependencies with other proposal participants

Character of dependence	***Participant***	

Person in charge of the proposal

The name and e-mail of contact persons are read-only in the administrative form, only additional details can be edited here. To give access rights and basic contact details of contact persons, please go back to Step 4 of the submission wizard and save the changes.

Title | Sex ◉ Male ○ Female

First name **Jolamu** Last name **Nkhokwe**

E-Mail **jnkhokwe@metmalawi.com**

Position in org. Director General

Department Department of Climate Change and Meteorological Services ☒ Same as organisation name

☒ Same as proposing organisation's address

Street Regional Government Offices

Town Blantyre Post code

Country Malawi

Website

Phone +xxx xxxxxxxxx Phone 2 +xxx xxxxxxxxx Fax +xxx xxxxxxxxx

PIC	***Legal name***
900776048	*Land and Agricultural Bank of South Africa*

Short name: Land and Agricultural Bank of South Africa

Address of the organisation

Street 420 Witch Hazel Avenue,, Block D Eco Glades,

Town Centurion

Postcode 0157

Country South Africa

Webpage www.landbank.co.za

Legal Status of your organisation

Research and Innovation legal statuses

Public body .....unknown

Non-profit .....unknown

International organisation .....unknown

International organisation of European interest .....unknown

Secondary or Higher education establishment .....unknown

Research organisation .....unknown

Legal person .....yes

Industry (private for profit).....unknown

Enterprise Data

SME self-declared status..... unknown

SME self-assessment ..... unknown

SME validation sme..... unknown

Based on the above details of the Beneficiary Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

Department(s) carrying out the proposed work

No department involved

Department name: *Name of the department/institute carrying out the work.* ☒ not applicable

☐ Same as proposing organisation's address

Street: *Please enter street name and number.*

Town: *Please enter the name of the town.*

Postcode: *Area code.*

Country: *Please select a country*

Dependencies with other proposal participants

Character of dependence	***Participant***	

Person in charge of the proposal

The name and e-mail of contact persons are read-only in the administrative form, only additional details can be edited here. To give access rights and basic contact details of contact persons, please go back to Step 4 of the submission wizard and save the changes.

Title | Sex ○ Male ◉ Female

First name **Lesego** | Last name **Rammusi**

E-Mail **lrammusi@landbank.co.za**

Position in org. Environmental and Social strategy and Communication

Department Land and Agricultural Bank of South Africa ☒ Same as organisation name

☒ Same as proposing organisation's address

Street 420 Witch Hazel Avenue,, Block D Eco Glades, Eco Park

Town Centurion | Post code 0157

Country South Africa

Website

Phone +xxx xxxxxxxxx | Phone 2 +xxx xxxxxxxxx | Fax +xxx xxxxxxxxx

3 - Budget

Total requested EU contribution for the proposal/ €	7 000 000

Full-value chain Optimised Climate User-centric Services for Southern Africa: *FOCUS-Africa*

Background

The landmark Paris Agreement at COP21, which called for enhancement to adaptive capacity, strengthening of resilience and reduction of vulnerability to climate change, with a view to contributing to the sustainable development goals (SDGs), has reinvigorated the global response to climate change. To act on these adaptation priorities, as identified in Nationally Determined Contributions (NDCs), climate-sensitive sectors require high quality climate services reflecting the best available science. A **full climate services value chain** encompasses both hydrometeorological data and processes as well as user actions and outcomes. The full value chain is required in order to achieve favourable socio-economic outcomes, and to ensure the exploitation and sustainability of climate services: this **is the leitmotif of** this proposed four-year project**, *FOCUS-Africa*.**

Southern Africa, the target of ***FOCUS-Africa***, is marked by economic regional imbalances with small and little-diversified economies, pronounced inequalities and poverty. According to the Southern African Development Community[1] (SADC) Regional Indicative Strategic Development Plan (2010), the region is among the poorest in the world, with nearly 45% of the total population in the region living on less than one US dollar per day[2]. The SADC region has a combined area of 986,246,000 ha, of which only 6.11% is cultivated. Agriculture is mainly rainfed, sustaining the livelihoods of over 60% of the population. The region is endowed with vast but unexploited energy resources. The resource rich 15 transboundary river basins of the region present opportunities for regional integration and coordinated and sustained growth through the water-energy-food nexus.

Southern Africa is susceptible to extreme weather and climate events – particularly floods, droughts, fires and large storms, which have cost an estimated USD 10 billion in damages between 1980 and 2015, based on data from EM-DAT[2]. The recent hot summers and sporadic rainfall in South Africa in 2015, 2016 and 2018 are already posing a threat to sustainability of agricultural activities that result in compounding losses to farmers and bankruptcy. For instance, the 2015/16 drought caused over 40 million people to be food insecure, and dam water levels to be reduced, causing intermittent power outages in most countries in the region. SADC has also been identified as being vulnerable to future climate change and with a low adaptive capacity (FCFA, 2017[3]).

1. Excellence

Given the current and projected climate changes, it is essential to improve strategic adaptation response in Southern Africa. Integrating both climate change adaptation and disaster risk reduction through a risk-management approach is paramount to help reduce future losses from climate extremes. The development of improved forecasts of decision-relevant parameters, for example for rainfall onset and cessation, a regular request from our engagements with users, along with the associated skill information, is central to ***FOCUS-Africa*.** Indeed, such long-range forecasts allow ***FOCUS-Africa***'s end users like farmers, asset and power plant managers, to better manage potential risks and improve efficiency in their operations.

The World Meteorological Organization (WMO), through collaboration platforms such as Regional Climate Outlook Forum (RCOF), has greatly helped promote and advance the development of climate services in Africa. However, in a recent WMO Global Review of RCOFs conducted in 2017, the assessment of Southern African RCOF (SARCOF) revealed that: i) climate services are a new area for several countries and there is lack of general awareness about the role of such services; ii) there is lack of adequate funding from government, in spite of the support Ministers responsible for Meteorology in SADC member countries; iii) there is limited infrastructure, tools and expertise in some SADC countries relevant to the development of climate services, and; iv) there is lack of coordination with users at all levels.

FOCUS-Africa presents a carefully conceived plan of research to advance the underpinning science required to provide robust climate services and development of climate-integrated applications for the energy, water, infrastructure and food security sectors. Critically, both the science and the applications (or tools) are targeted at specific requirements, captured through close and effective engagement with end-users, via on-going projects and consultations. Such a dialogue provides a strong basis for a successful project implementation. Specifically, these end users are either based or have operations in Africa and will therefore provide strong guidance to the implementation and value assessment of the case studies, and the ensuing delivery of the ***FOCUS-Africa*** climate

[1] SADC is a regional organisation consisting of 16 member countries: Angola, Botswana, Comoros, D.R. Congo, Eswatini, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Tanzania, Zambia and Zimbabwe.
[2] Davis-Reddy CL and Vincent K (2017) Climate Risk and Vulnerability: A Handbook for Southern Africa (2nd Ed), CSIR.
[3] Future climate for Africa (FCFA) (2017): http://www.futureclimateafrica.org/map-of-projects/

services. Moreover, the co-production amongst end-users, climate scientists and sectoral service providers will ensure a full value chain for the delivery of climate services is effectively realized. As a result, not only will the climate services developed by ***FOCUS-Africa*** benefit SADC-based research organisations and users, from businesses to policy makers, but also the European consortium partners will also greatly enhance their knowledge in both the science and the climate services provision.

The ***FOCUS-Africa*** team includes 20 strong partners, evenly split across Europe (10) and Africa (10) and with an excellent mix of research institutions, national/regional/international organisations, service providers (including SMEs) and industry companies. As the leader of the consortium, WMO has a long experience in climate services and is currently actively supporting the planned implementation of the SADC Climate Services Centre (CSC). Overall, WMO provides the critical elements for regional cooperation through formal inter-governmental mechanisms as well as technical standards and protocols. WMO leadership will be fundamental to the success of ***FOCUS-Africa***.

1.1 Objectives

FOCUS-Africa will develop full value chain climate services in the SADC region, by targeting eight case studies in four key sectors, through strengthening the underpinning climate science and the assessment of socio-economic benefits, by 2024.

FOCUS-Africa*'s* climate services will be developed by ensuring the full value chain is implemented, from close involvement of end-users, to the tailoring of climate information by service providers, to the best use of observations and model data by research organisations. Having all relevant actors involved in the creation and use of climate services will ensure they are credible, relevant, robust, effective and long-lasting (**Figure 1**). ***FOCUS-Africa*** will achieve this goal by helping close the existing gaps as well as strengthening the weaker links in the value chain of climate services in support of risk management and adaptation decision-making in some countries in the SADC region. This is with a view to upscaling the findings to the wider SADC region, and possibly to other parts of Africa, through WMO's involvement in the EU-funded Intra-ACP climate services project, as well as other projects implemented by WMO and partners, and through WMO's Global Framework for Climate Services (GFCS) and its Climate Services Information System operation. More specifically, ***FOCUS-Africa*** will:

- Advance the way in which climate information (from historical records to seasonal forecasts and projections, also exploring decadal forecasts) is processed and used in decision making, including policy making, by adopting and/or replicating the approaches and methodologies developed in ***FOCUS-Africa***; regular engagement with stakeholders by a variety of means will ensure that lessons learned by ***FOCUS-Africa*** can be upscaled to other countries in Africa, but also Europe, and measured via standard analytics;
- Contribute to the advancement of the scientific knowledge via publications and reports such as those relevant for the IPCC, through the innovative science developed by ***FOCUS-Africa*** in support of improved ways to use climate information such as better identification and characterisation of extremes for the historical period and calibrated multi-variable climate projection indices;
- Demonstrate the effectiveness of climate information in strengthening the adaptive capacity of the ***FOCUS-Africa*** countries' industry and policy end-users by estimating the socio-economic value of the climate services developed, for each case study.

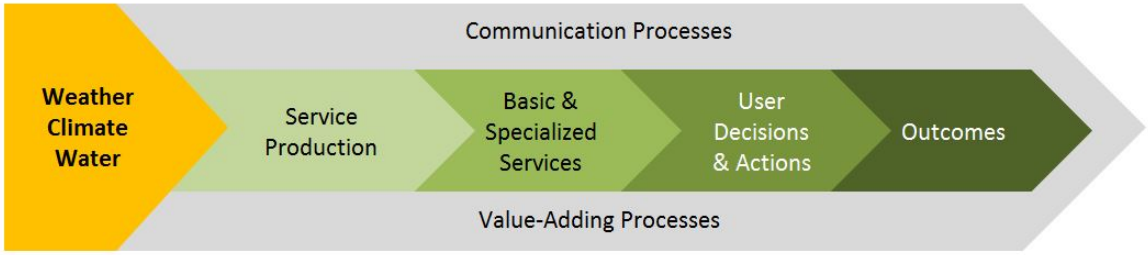

Figure 1 – Concept of the ***FOCUS-Africa*** climate service value chain.

1.2 Relation to the work programme

FOCUS-Africa responds to the call *Human Dynamics of Climate Change* (LC-CLA-05-2019), sub-topic 'Climate Services for Africa', and it addresses the specific challenges and scope of the call as follows:

Challenge/Scope	***FOCUS-Africa*** approach
Exploit new, relevant climate data made available by Copernicus and	The ***FOCUS-Africa*** team has strong experience working with the full range of Copernicus Climate Change Service (C3S) products (e.g. ERA5, Seasonal forecasts from the five contributing models). These data, including climate projection (e.g. CMIP5), also retrievable via C3S, will form the backbone of the ***FOCUS-Africa*** work. We will also use recent and higher resolution climate data over Africa from projects ***FOCUS-Africa*** partners contribute

other relevant sources (such as GEOSS)	to or lead such as H2020 PRIMAVERA[4] and HELIX, and FCFA IMPALA[5], and explore use of bias adjustment approaches (as in C3S Energy), given the large biases in some of the climate data particularly in the areas of the SADC region where observations are sparse, including comparison with station data, and satellite data.
Demonstrate clear end-user engagement, consultation and participation	Close stakeholder engagement is an integral part of ***FOCUS-Africa***. In addition to productive consultations with end-users already performed in previous projects (e.g. WMO's MHEWS, DFID's CAROT), ***FOCUS-Africa*** will have a strong programme of stakeholder engagement using a variety of methods which will be tailored to the sectors considered, level of knowledge of the end-user, gender and cultural context, among other things. These would include surveys, focus groups, e-participation, citizens' juries, deliberative conferences, world cafés, town hall meetings. Stakeholder engagement will continue from the first stage (assessing climate risks) to the final stage (producing a blueprint) of the project and co-production will form part of the climate service design process.
Create dedicated climate services for Africa for at least two identified sectors	***FOCUS-Africa*** has identified eight case studies in the energy, food security, water and infrastructure sectors in the SADC region, in order to provide a range of examples where climate service delivery can be successfully implemented. The case studies, designed on formulated end-user requirements, aim to improve adaptation and resilience of end-user activities. An example of case studies is the adaptation of hydropower plant design based on climate projections. The resulting tailored, bespoke climate services are designed to include the full value-chain, whereby each case study is contributed by a research partner, a service provider partner and an end-user. This approach will ensure an easier exploitation of these ***FOCUS-Africa*** delivered climate services, through suitable market channels. Lessons learnt, including climate service design and implementation, can be upscaled through ***FOCUS-Africa***'s wide-ranging stakeholder engagement programme within the SADC region.
Enhance planning and implementation of climate adaptation strategies in Africa	***FOCUS-Africa*** will make use of seasonal forecasting systems, particularly the C3S products, and high-resolution climate projections at the global level, but also downscaled using e.g. existing CSIR technology over the SADC region. These will thus provide a refined assessment of (i) the future climate conditions expected in the region relevant for all sectors of activities and (ii) national energy and climate policies, such as the NDCs. Use of new seasonal forecast products will also allow developing and adopting soft adaptation measures through better resource and assets management decisions. In each specific sector, ***FOCUS-Africa*** climate services are expected to become a fundamental part of sectorial adaptation strategies at different levels (from local to national to regional). For instance in the food security sector, ***FOCUS-Africa*** will contribute to the enhancement of warning systems for production hot-spots as well as medium-to-long term agro-management planning and risk reduction strategies through dedicated crop modelling. In energy, the new climate data will be used for example to aid expansion of renewable energy's power production and for long-term plans development of infrastructures for both national energy and private companies (e.g. Total, TANESCO, EDF, COWI).
Provide added value to activities addressed by other initiatives (GFCS, Copernicus, etc.)	***FOCUS-Africa*** will stretch beyond past and on-going GFCS, C3S and also World Bank, UK DFID, Global Challenges Research Fund and Newton Fund and WMO projects such as APA, C3S Clim4energy, ECEM and Energy, DFID's CAROT, WISER (HIGHWAY, ASPIRE, W2-SIP), AFRICAP and SWIFT, FCFA's (IMPALA, FRACTAL and UMFULA), WCSSP. A strength of this consortium is to have been involved in all of these projects. ***FOCUS-Africa*** will thus be able to capitalize on them and build on their outcomes. This will allow the testing and assessment of climate services, which are fit-for-purpose for integration within the decision-making processes and tools of ***FOCUS-Africa***'s end-users from different sectors. Some recent climate data analysis tools and post-processing methods have also been developed by consortium members (e.g. BSC, WEMC, MO, JRC) working together on other EU projects such as H2020 SECLI-FIRM, S2S4E, Plan4Res, C3S Energy. ***FOCUS-Africa*** will allow extending and adapting this output to the SADC region, including through, but not limited to, the EC-funded Intra-ACP project.

[4] Haarsma et al. (2016) CMIP6 High Resolution Model Intercomparison Project, https://doi.org/10.5194/gmd-9-4185-2016.
[5] Stratton et al. (2018) A Pan-African Convection-Permitting Regional Climate Simulation with the Met Office Unified Model: CP4-Africa. *J. Climate,* 31, 3485–3508, https://doi.org/10.1175/JCLI-D-17-0503.1

Relate to the EU-Africa Research and Innovation Partnership on Climate Change and Sustainable Energy	***FOCUS-Africa*** strongly contributes to the EU-Africa partnership on Climate Change and Sustainable Energy, and including SDG 7 on Energy, in the area of both climate adaptation and renewable energy uptake. The climate services developed and implemented, using the best available climate data and meteorological observations, in the two SADC countries, Zambia and Tanzania, will provide prime examples for approaches: • to *increase the renewable energy share* by using reanalyses and climate projections to improve estimation of RE resources in Tanzania and • to *enhance adaptation strategies*, both through 'hard' measures (use of reanalysis and climate projections for improved hydropower planning in Zambia), and 'soft' measures (use of seasonal forecasts for management of RE production and electricity demand, from one to a few months ahead in Tanzania).

1.3 Concept and methodology

(a) Concept

FOCUS-Africa is built around end-user formulated case studies, or pillars (see **Figure 2**), conceived so that:

1) Each case study will encompass end-to-end articulation of the climate services value chain from climate information system operations to co-development of products with end users, application, communication and dissemination of those products, and evaluation of associated costs and benefits
2) Each case study will also include an assessment of how such value chains can be operationalized through WMO operational infrastructure (e.g. ECMWF and other GPCLRFs, Regional Climate Centres and National Meteorological and Hydrological Services [NMHSs]) in support of sustained country level service delivery.

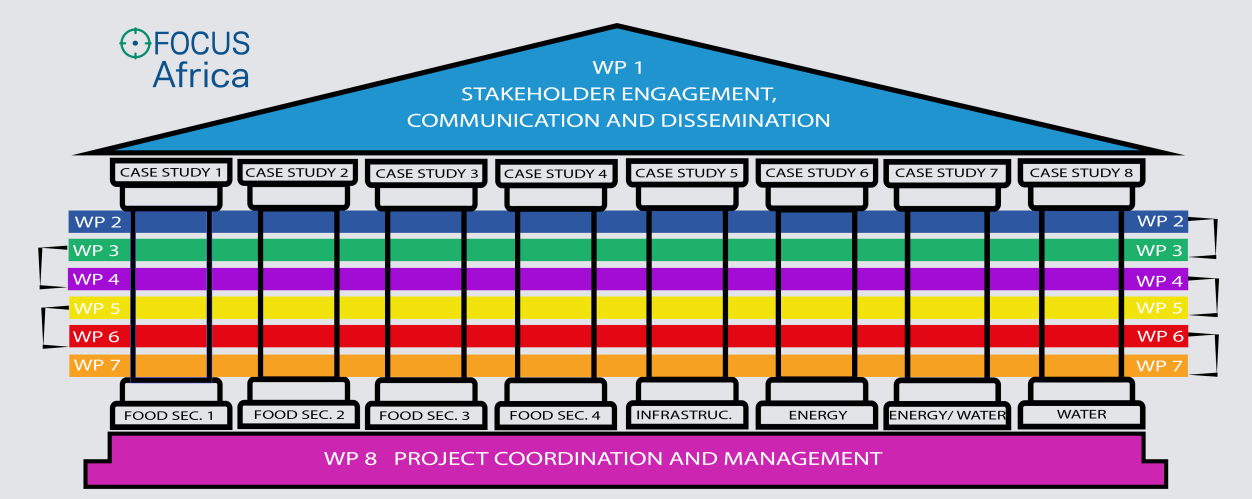

Figure 2 – Schematic of the ***FOCUS-Africa*** structure. The eight case studies constitute its pillars. Each of them is involved in each WP. These are generally executed in a sequential way (see connectors). Crucially, WP1 encompasses all WPs and case studies to ensure regular and effective communication across WPs, case studies, and external stakeholders.

The co-design, development, delivery and communication of these case studies will be served by a series of eight Work Packages (WPs) which will focus on assessing the users' climate-related challenges (WP2), understanding climate processes (WP3), developing methods and tools (WP4), creating prototypes of end-user tailored climate services (WP5), assessing their economic value and exploiting results (WP6) and capacity building (WP7). These six WPs are strongly complemented by a cross-cutting and critical WP on stakeholder engagement, communication and dissemination (WP1) and one on project management (WP8). In ***FOCUS-Africa*** each WP is contributed to by as many partners as possible in the climate service full value chain in order to guarantee that feedback is considered as early as possible in the development stage, therefore leading to more robust climate services.

One key aspect in the design of concept and implementation of ***FOCUS-Africa*** is the formation of small co-production teams for each case study to reflect the value chain of climate services. This means that ***FOCUS-Africa*** will ensure that for each case study there will be at least three partners, a scientific one who provides credible climate information, a service delivery one who is effective at 'translating' the climate information into usable and actionable applications or tools, and naturally, the end-user. The latter, through the guiding of the requirements for the climate service, will provide feedback, advice, and ultimately make use of the developed climate services. Additional cross-cutting partners, mainly with social science expertise, will assist in the stakeholder engagement, socio-economic assessment, and communication, dissemination and exploitation activities.

The climate services developed by ***FOCUS-Africa*** will exploit as many of the latest climate products and output from recent or current European projects, such as EU H2020 projects SECLI-FIRM, S2S4E, PRIMAVERA, JPI ERA4CS's projects CLIM2POWER and CIREG, and C3S Energy and Water operational services. The underlying data will cover a wide spectrum of products from seasonal forecast predictions (typically from C3S and other Global Producing Centres [GPCs]), to climate projections (typically from CMIP5 and 6, CORDEX-Africa, EU HELIX and H2020 PRIMAVERA and FCFA IMPALA), as well as climate reanalyses (typically ERA5) and our latest promising capability for near-term climate predictions out to a few years ahead. Each of these streams will have a different purpose in the developed climate services. Hence seasonal forecasts will be used for operational and maintenance purposes as in the food security case study for Malawi, and climate projections will support planning and investment decisions such as for the hydro-power case study in Zambia. Climate reanalyses will provide an important reference for both streams. In all, ***FOCUS-Africa*** will demonstrate the power of the latest and best climate information in different case study contexts, therefore providing an array of situations from which more general lessons learnt can be drawn. Importantly, ***FOCUS-Africa***'s case studies will be complemented by socio-economic evaluations of the delivered climate services using approaches being refined by EU projects such as CLARA, SECLI-FIRM and S2S4E, including objective assessments of the effectiveness and usability of the climate services based on the experience of the end-users involved in ***FOCUS-Africa***.

As a whole, climate services in most SADC countries are in their infancy. As such, in the first phase of ***FOCUS-Africa*** the Technology Readiness Level (TRL) of the tools and applications which form the building blocks of the climate services to be developed can be classified at the low-end of the TLR spectrum, and mostly at level three (*experimental proof of concept*), although in some instances level four (*technology validated in lab*), or more rarely five (*technology validated in relevant environment*), can also be available (e.g. in the case of CSIR or JRC[6] tools). Detail about case studies' TRL is discussed in the Ambition section (1.4).

Through the cumulative wealth of knowledge and expertise brought to bear by the ***FOCUS-Africa*** partners, the project will leverage a wide range of other relevant projects and activities. Several of the ***FOCUS-Africa*** partners have been and/or are already involved in climate service projects, many of which are administered by the EU as mentioned above. This will be a fantastic asset for ***FOCUS-Africa*** as it will ensure that lessons learnt in other geographic domains, industries and climate contexts, will be transferred to the work of ***FOCUS-Africa***.

(b) Methodology

With the overarching aim to deliver full value-chain, effective and impactful climate services, ***FOCUS-Africa*** is built around eight case studies in the SADC region. In most cases, these case studies have been formulated in close consultation with key sectoral end-users (also referred to as stakeholders), with a keen interest to develop climate services. For instance, an extensive feasibility study has already been carried out by some ***FOCUS-Africa*** partners in 2018-19 for the energy sector in Tanzania, including a stakeholder workshop. To demonstrate their commitment, these stakeholders are, in many cases, also full partners in the ***FOCUS-Africa*** proposal, engaging their time and effort to ensure the effectiveness of the developed climate services. In some other cases, as with the food security in Malawi, while the specific end-user will be identified during the project, the ASAP climate service prototype has already received wide support by diverse stakeholders[6]. Also, ***FOCUS-Africa*** will take full advantage of the multiple sectors being considered by all case studies and will ensure cross-fertilisation, exploiting common features in terms of climate data analysis and methods development. Indeed, an aspirational goal of ***FOCUS-Africa*** is to facilitate the transfer of the learnings to both other users and countries within the SADC region.

While keeping the case study as the ultimate target, ***FOCUS-Africa*** will also produce, through execution of well-defined WPs:

i. Credible, reliable and robust climate data analysis and methods to feed the climate services which support these case studies;
ii. Socio-economic benefit (SEB) analyses to demonstrate the value of the developed climate services, including plans for transferring lessons to other countries and sectors.

Case Studies – The eight ***FOCUS-Africa*** case studies are all within the geographical area encompassed by SADC (see tables below). The initial geographical target is a subset of the sixteen SADC countries: namely South Africa, Tanzania, Zambia, Malawi, Mozambique and Mauritius. The choice of these countries is based on expressed user-requirements and their high-priority targets. This starting point will allow the project to produce some relatively short-term wins, particularly amongst the case studies which prove to advance the faster, and this will help the ***FOCUS-Africa*** project team and, especially the end-users, to gain a much-needed confidence in climate services. However, and critically, the choice of case studies and countries is also based on established and effective relationships with the organisations involved in ***FOCUS-Africa***, which are responsible for developing climate services in the selected countries.

[6] Rembold et al. (2019) ASAP: A new global early warning system to detect anomaly hot spots of agricultural production for food security analysis. Agricultural Systems, Vol. 168, 247-257.

1	South Africa	Food security	Projections

The Problem

Sustainability of agricultural activities is threatened by occurrences of multi-year droughts (e.g. 2015, 2016 and 2018) that result in compounding losses to farmers and bankruptcy with associated losses to investors. Land Bank invests in farming operations and seek to improve their crop yield simulation and credit models.

The Methodology

- Use of high-resolution climate projections (downscaled CORDEX-Africa, HELIX, PRIMAVERA)
- Application of the DSSAT crop modelling tool using calibrated high-resolution climate projections to assess crop production versus livestock farming

The Climate Service

Present	*FOCUS-Africa* development
CORDEX-Africa	Improved high-resolution climate projections
Standard DSSAT crop model	Tailored DSSAT crop model using improved projections

The Team

Research: WITS – **Service Provider:** CSIR – **End-User**: Land Bank

2	Malawi	Food security	Seasonal

The Problem

Climatic shocks such as floods and droughts are significantly affecting rain-fed agricultural production of smallholder farmers including their exports and food security. Farmers could increase their crop yield and reduce postharvest cereal loss by improving early warning systems informed by seasonal forecasts.

The Methodology

- Verification and optimization (calibration, downscaling, multi model) of seasonal forecasts
- Detection and assessment of drought using the ASAP warning system and optimized seasonal forecasts
- Seasonal climate information integration within the APHLIS postharvest management system

The Climate Service

Present	*FOCUS-Africa* development
Uncalibrated seasonal forecast	Bias adjusted, calibrated seasonal forecast
Standard ASAP and APHLIS tools	Tailored ASAP and APHLIS using calibrated seasonal forecasts

The Team

Research: JRC, BSC – **Service Provider:** DCCMS, Amigo – **End-User**: Local farmers' association

3	Mozambique	Food security	Seasonal

The Problem

Traditional knowledge of smallholder farming communities drives the selection of landraces with adaptive potential to local climatic conditions. Smallholder farmers seek ways to improve their cropping capacity and income by selecting appropriate genes and allele that confer adaptation through the use of climate forecasts.

The Methodology

- Strengthen engagement with smallholder farming communities via focus group discussions and surveys
- Collect local crop landraces, characterize molecular and climatic diversities, and identify genomic loci
- Test effectiveness of improved seasonal forecasts on decision processes of local communities

The Climate Service

Present	*FOCUS-Africa* development
No-use or use of uncalibrated seasonal climate forecasts	Proof-of-concept use of bias adjusted, calibrated seasonal forecast for smallholder farming systems

The Team

Research: SSA – **Service Provider:** PLAN – **End-User**: Smallholder farmers

4	Tanzania	Food security	Seasonal/Projections

The Problem

Over the last few decades, shifts in rainfall seasonality and prolonged dry spells, accompanied by outbreaks of pests and diseases, have caused significant impacts on agricultural productivity. Farmers look to improve detection and assessment of drought over the next season as well as future crop selection and production.

The Methodology
• Produce and calibrate statistically downscaled seasonal forecast, feeding the ASAP warning system • Improved characterization of the future climate patterns and the associated extremes in the region for better planning of crop types and consequent enhanced crop production using the WOFOST crop model
The Climate Service

Present	***FOCUS-Africa* development**
Uncalibrated climate data	Calibrated seasonal forecast and climate projections
Standard ASAP and WOFOST tools	Tailored ASAP and WOFOST using calibrated climate data

The Team
Research: JRC, BSC – **Service Provider:** TMA – **End-User**: Tanzania Agricultural Research Institute

5		Tanzania	Infrastructure	Projections

The Problem
The infrastructure sector is vulnerable to climate variations, especially flooding. COWI seeks to better characterize their impacts to support the design of the Tanzania Standard Gauge Railway (SGR). Specifically, it needs to accurately evaluate design criteria such as 100-year rainfall, floods, and heat waves.
The Methodology
• Analysis of extreme values using high-resolution climate projections (e.g. CORDEX-Africa, IMPALA) • Derivation of design values using an advanced non-stationary Extreme Value Analysis (EVA) based on a recently optimized approach and independently verified for the UK nuclear sector.
The Climate Service

Present	***FOCUS-Africa* development**
Uncalibrated climate projections	Calibrated climate projections
EVA standard approach	Tailored non-stationary EVA method and improved design values

The Team
Research: UCT, MO – **Service Provider:** TMA, Amigo – **End-User**: COWI

6		Tanzania	Energy	Seasonal/Projections

The Problem
While hydropower is currently the largest source of renewable electricity, solar and wind power are projected to provide significant generation capacity. With the large climate changes projected, TANESCO and TOTAL seek to characterize how climate variability and change will affect energy production and demand.
The Methodology
• Assess and calibrate recent seasonal forecasts (C3S) and projections (e.g. CORDEX-Africa, IMPALA) • Collect and assess power data for the calibration of power models as developed by e.g. CLIM2POWER • Evaluate the climate-related energy production and demand, possibly including CO_2 emissions.
The Climate Service

Present	***FOCUS-Africa* development**
Uncalibrated seasonal and projections	Calibrated seasonal climate forecast and climate projections
Standard power generation models	Tailored power generation models using calibrated climate data

The Team
Research: MO – **Service Provider:** TMA – **End-User**: TANESCO and TOTAL

7		Zambia	Energy/Water	Projections

The Problem
Zambia heavily relies on hydropower, which is projected to be increasingly exposed to large climate fluctuations. Électricité de France (EDF) seeks to better characterise the impacts of climate variability and future change (2030-60) on hydropower generation in the Zambezi river basin.
The Methodology
• Assess interannual/decadal climate variability for hydropower generation on the Zambezi river basin, using observations, reanalysis data (e.g. ERA5) and climate projections (e.g. CORDEX-Africa) • Develop simple statistical downscaling methods to reproduce climate for Ngonye hydropower plant
The Climate Service

Present	***FOCUS-Africa* development**
Uncalibrated climate projections	Calibrated climate projections
Standard statistical downscaling	Tailored statistical downscaling for the Ngonye hydropower plant

The Team
Research: UCT, WITS – **Service Provider:** Amigo, WEMC – **End-User**: EDF

8	Mauritius	Water	Seasonal

The Problem

Over the past decades the pattern of rainfall has changed over Mauritius. Short duration heavy rainfall as well as month to month variability have been increasing. These changes are making the managing of water resources for all domestic, industrial and agricultural use challenging for the Water Resource Unit.

The Methodology

- Establish framework for ongoing collaborations between water authority and meteorological services
- Investigate use of seasonal forecasts at sub-seasonal timescales; develop related drought indices
- Improve statistical downscaling of seasonal forecasts, using observed temperature and rainfall data

The Climate Service

Present	*FOCUS-Africa* development
3 and 6-month seasonal forecast with a simple downscaling analogue model	Develop tool for monitoring and forecasting drought indices Develop mobile phone platform for dissemination of forecasts

The Team

Research: CSIR – **Service Provider:** Mauritius Meteorological Services – **End-User**: Water Resource Unit

FOCUS-Africa, to be executed over four years, is structured around these eight inter-linked WPs:

WP1 **Stakeholder engagement, communication and dissemination (lead WMO)**. This cross-cutting WP will ensure **a full engagement** of a wide range of stakeholders all along the development process of the bespoke services and their successful market penetration require a close relation with local communities. **Responsible Research and Innovation** principles and tools will be used to better align the services with the expectations of society. Stakeholders will be involved in the decision-making process thanks to open innovation methods, from the need definition (Value Proposition Design) to the climate service design (Design Thinking and Flourishing Business Canvas). **Consultations** will also be organised with stakeholders outside the project to extend the scope of user participation. WMO will also ensure the application of regional approaches and concepts, which are key to mainstreaming the outcomes into ongoing and sustainable operational mechanisms.

WP2 **Assess end-users' challenges and climate services requirements (lead CSIR)** for infrastructure, energy, food security and water by engaging with sectoral users. Our proposed framework is based on an extensive amount of research in the last few years in developing and applying risk and vulnerability assessments in the context of climate change. This WP will specifically focus on participatory multi-stressor and participatory approaches, including as part of the SARCOFs. We will use methods such as interviews, surveys, vulnerability and risk matrices, stakeholder engagement workshops and expert-based inputs.

WP3 **Understand climate processes (lead MO)** driving regional climate variability and identifying the sources of predictability at seasonal and decadal timescales. The aim is to extract valuable and 'actionable' signals from predictions and projections on the seasonal time scale and beyond. These cannot be used directly, because they are often affected by quite large biases, and/or are un-reliable, if not properly calibrated. This WP will take advantage of new diagnostic approaches to evaluate the simulation of fundamental processes in the climate system, such as the El Niño Southern Oscillation, Madden-Julian Oscillation and Subtropical Indian Ocean Dipole. The assessment will be applied on individual climate components, as typically done, but in addition, metrics assessing the fidelity of coupling processes between components and related feedbacks will be implemented, paving the way for more physically-based model evaluation.

WP4 **Develop methods and tools (lead BSC)** for predictability skills assessment, downscaling, calibration and bias adjustment of the forecasts as well as regionally optimized multi-model forecast combination and verification. This WP will evaluate the existing approaches (debiasing, recalibration by ensemble spread inflation or by quantile-to-quantile mapping) and explore the possibility of using other approaches, including multi-model combinations, which rely for instance on extracting valuable information at the local level from large-scale patterns, including via statistical, machine learning modelling.

WP5 **Develop end-user tailored climate services prototypes (lead WEMC)** at seasonal to multi-decadal timescales, for decision making applications for energy, water, food security and infrastructure sectors, along with the associated communication aspects including estimates of uncertainty. This WP will seek to determine and optimize delivery and processing schedules for each case study. Delivery of pilot products will be tailored to each case study, and they will include a combination of visual web platforms, data delivery and (routine) reporting, as done for instance with the ECEM demonstrator using an Agile-type approach. While not all case study prototypes will be developed at the same level, links amongst case studies will be pursued, to ensure transfer of learnings.

WP6 **Assess the socio-economic value of the prototypes and prepare their exploitation (lead LGI)** to ensure that they meet the users' requirements and result in tangible benefits. In this WP, a nexus approach will be used to achieve a global improvement of water, energy and food security. An ex-ante analysis will be conducted during

the development of the prototypes to better adapt pilot products (WP5) to the local situation and increase socio-economic impacts. An ex-post analysis conducted after the adoption of the services will evaluate their actual benefits, with a special focus on women. End-users and service providers will then be involved in the definition of exploitation strategies using innovative tools (e.g. the Flourishing Business Canvas) to design business models that are socially beneficial, environmentally regenerative and financially viable. Business models will also be design to improve access for women to the services.

WP7 **Develop capacities (lead SADC)** at NMHSs, RCCs, research organisations and other service providers to generate tailored climate information and products, using the output developed in other WPs. The SADC Climate Services Centre will use its training centre to host and deliver a capacity-building programme by bringing together experts from research organisations and service providers. This will be complemented by ACMAD's capacity building function fostering interactions and exchange of information between climate scientists and users of climate information. Implementation of the Next-Generation RCOF processes, as advocated by the WMO Global RCOF review, will be an overarching focus for the capacity development effort in this WP. This will ensure that the projects and its interventions support sustainability, as knowledge will be retained by in regional institutions.

WP8 **Project coordination and management (lead WMO)**. This WP provides a strong management, monitoring and evaluation of the project to ensure the completion of all deliverables to a high standard, in time and within budget.

FOCUS-Africa will carry out the stakeholder's consultations in a gender responsive and gender equal way. This will be achieved by gender-informed participatory methods enabling to tackle the key challenges of underrepresentation of either women or men in consultation throughout the project cycle. Where possible gender-responsive tools will be developed by considering key gender desirable outcomes thus improving gender equality and empowering women and men. For example, activities will be designed to differentiate the gender specific needs, like training for girls and women will be organised in addition to the standard engagement activities to allow women to be visible actors and decision-makers. Such training will be designed by specialist women as "trainer-of-trainers". We will also ensure that women within the project, but also amongst external stakeholders, are fully involved in the design and development of case study prototypes so that there can eventually be a wider uptake by women. The consortium partners fully support the threefold relationship between women and research, as described by the EC. For example, WMO has demonstrated commitment to equality and diversity issues through its successful performance in the UN System-Wide Plan on Gender Equality and Empowerment of Women program and the UK Met Office has a bronze award under the Equality Challenge Unit's Athena Swan Charter.

1.4 Ambition

With ***FOCUS-Africa,*** food security, water resources, energy and infrastructure stakeholders including farmers, reservoir managers and hydropower operators as well as the associated governmental agencies/decision makers will be better equipped to manage risks associated with climate variability and extremes based on science-based, operationalized and actionable climate prediction products, and to implement strategies for adaptation to climate variability and change. Specifically:

Practice Area	State-of-the-Art	How will *FOCUS-Africa* advance current TRL?
Climate model data and analysis	CMIP5, CORDEX using a range of statistical analysis – **TRL 4**	New sets of higher resolution climate model data will be compared and evaluated. These will be used to better characterize uncertainties in climate and sectoral variables for ***FOCUS-Africa*** end-users, and will be used to design climate change adaptation policies in the region – **TRL 6**
Seasonal forecasts	Basic products from GPCs and RCOFs – **TRL 3**	***FOCUS-Africa*** will downscale, calibrate, verify and use multi-model over the case studies regions–**TRL 5-6**
Detection and assessment of drought/ risks of agriculture losses	ASAP system using 10-day ahead global forecast data – **TRL 5**	***FOCUS-Africa*** will develop and upgrade the system to integrate new seasonal forecast and climate projections, and will be deployed via the existing Mars platform at https://mars.jrc.ec.europa.eu/asap/ – **TRL 7**
Crop yield forecast, agro-management and climate change adaptation	WOFOST system using seasonal forecast over Europe – **TRL 5**	***FOCUS-Africa*** will develop and apply the system over SADC integrating new seasonal forecast and climate projections together with users' knowledge and experience to improve and the available modelling tools – **TRL 7**
Post-harvest yield lost management	APHLIS system with no forecast data – **TRL 4**	We will develop, test and upgrade the system to integrate our new seasonal forecast. **TRL 6**

Energy demand and production	TANESCO forecasting and planning tool – **TRL 2-3**	***FOCUS-Africa*** will develop, test and upgrade the system to integrate new seasonal forecast – **TRL 5**
Reservoir level forecast (Mauritius)	SPATSIM tool with no forecast data – **TRL 2**	***FOCUS-Africa*** will develop, test and upgrade the system to integrate new seasonal forecast – **TRL 5**
Infrastructures' future design values	Generalized Extreme Value methods using GCM/RCM data – **TRL 4**	Optimization and application of a new advanced method to reduce conservatism and uncertainties in 2050 100-year design values – **TRL 7**

2. Impact

2.1 Expected impacts

Impact 1: Better policy making for climate adaptation in partner countries and Europe. Climate adaptation policy and private decision-making in the SADC region[7] exist but are generally based on historical data or ad hoc local climate data analysis. They do not integrate a systematic evaluation and use of recent climate predictions through the development of sector-specific tools and climate services[8]. By building on these, ***FOCUS-Africa***'s co-designed, tailored and evaluated climate services (i.e. energy and crop production predictions) will ensure a sustainable integration of climate information into climate change adaptation policies for Mauritius, Mozambique, Malawi, Zambia, Tanzania and South Africa. In addition, ***FOCUS-Africa***'s focus on renewable energy will contribute to mitigate greenhouse gas emissions and hence, to the implementation of the COP21 Paris agreement, in particular SDG 7 and SDG 13 'Take urgent action to combat climate change and its impacts'. Some of the methodologies applied to products such as C3S seasonal forecasts and developed by ***FOCUS-Africa*** will be transferable to the European continent and can thus be used by sectoral end-users in Europe and adopted as adaptation measures. (**WP 1, 5**)

Impact 2: Supporting international scientific assessments such as the IPCC Assessment Reports. ***FOCUS-Africa*** will support science development in Africa through a few publications per case study, also contributing to IPCC AR6 and end-user sector-specific conferences such as the European Climate Change Adaptation, by comparing seasonal and decadal climate data analysis with those from past on-going relevant projects such as H2020 PRIMAVERA. These results, co-produced between researchers, industry and policy experts, will demonstrate the full benefit of the effective interdisciplinary cooperation achieved with ***FOCUS-Africa***. The project will also assist our African partners to actively participate in the next IPCC 6th Assessment Report. (**WP 3, 4**)

Impact 3: Stronger adaptive capacity and climate resilience. ***FOCUS-Africa*** will promote the integration and systematic use of seasonal and decadal climate predictions in management decisions through a demonstration of eight tailored verified climate services, with strategically targeted strong industry and governmental end-users, across a range of four sectors and five countries. This will also include a measurable assessment of the SEBs to allow an easier scaling up to the other major players in the region such as national energy remix and water managers who generally still use decision-making models based on climatology. (**WP 1, 7**)

Impact 4: Ensuring the replicability of the methodological frameworks for value added climate services in potential end-user markets. The eight case studies developed by ***FOCUS-Africa*** are designed to represent a range of sectors and countries with the aim of securing the successful replicability of the applied methodologies. A combination of solid climate expertise, industry insight, SEB analysis and dissemination strategy will ensure the adequate identification of other African and European end-users to promote our new capabilities. (**WP 1, 2, 6, 7**)

Impact 5: Promoting a better informed and connected end-user community. ***FOCUS-Africa***'s concept is clearly user-driven as it involves, through the eight case studies, a close interaction between scientists of seasonal-decadal climate forecasts and projections, the developers of sector-specific tools (i.e. crop production model) using this climate information and engaged national and regional end-users. ***FOCUS-Africa***'s sectors of activity, especially food security, water, and energy are also priority areas of other on-going initiatives such as GFCS, Africa-EU, H2020 AfriCultuReS concerning crop/hydro modelling, warning systems, remote sensing data use and the associated capacity building. ***FOCUS-Africa***'s will also promote the integration of some of the Africa-specific climate and sector-specific indicators (e. g. drought related) within public domain platforms such as C3S or the EU Climate-ADAPT, possibly creating a new regional focus. (**WP 1, 7**)

FOCUS-Africa's proposal was inspired by the environmental commitment of world leader Nelson Mandela, who in 2013 said: "**Our people are bound up with the future of our land. Our national renewal depends upon the way we treat our land, our water, our sources of energy, and the air we breathe. … Let us restore our country in a way that satisfies our descendants as well as ourselves**.

[7] NCCAS (2017) National Climate Change Adaptation Strategy for South Africa

[8] Filho et al. (2018) Strengthening climate change adaptation capacity in Africa. *Environmental Science and Policy* 86, 29–37

Digitally sealed by the European Commission
Date: 2019.02.20 20:15:52 CET
Reason: Acknowledgement of Receipt

This electronic receipt is a digitally signed version of the document submitted by your organisation. Both the content of the document and a set of metadata have been digitally sealed.

This digital signature mechanism, using a public-private key pair mechanism, uniquely binds this eReceipt to the modules of the Participant Portal of the European Commission, to the transaction for which it was generated and ensures its full integrity. Therefore a complete digitally signed trail of the transaction is available both for your organisation and for the issuer of the eReceipt.

Any attempt to modify the content will lead to a break of the integrity of the electronic signature, which can be verified at any time by clicking on the eReceipt validation symbol.

More info about eReceipts can be found in the FAQ page of the Participant Portal. (http://ec.europa.eu/research/participants/portal/page/faq)