WORLD METEOROLOGICAL ORGANIZATION

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

Demonstrating the full-value chain of climate services in Southern Africa: The FOCUS-Africa project

FOCUS-Africa 4th Stakeholder Workshop, Mozambique

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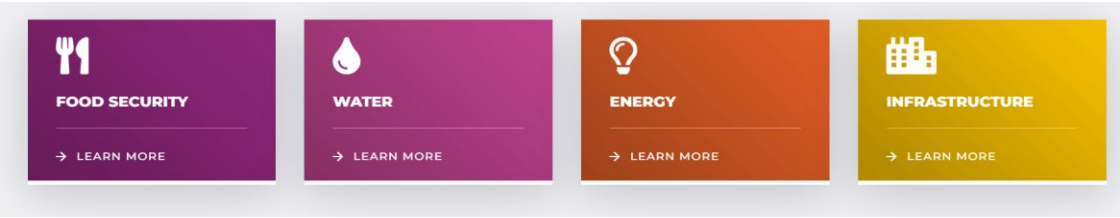
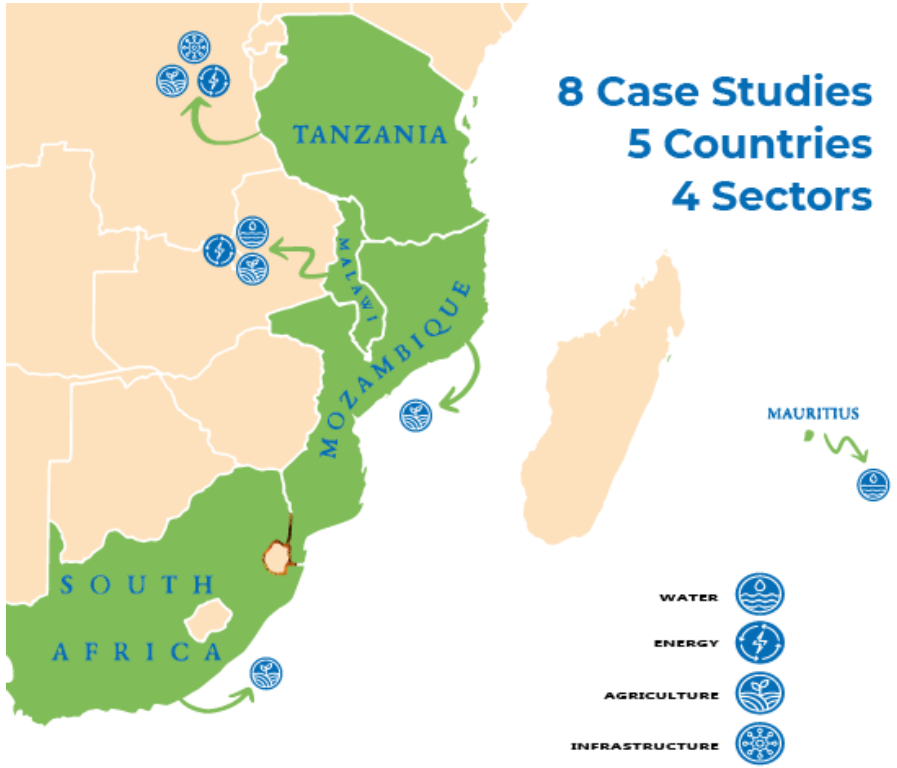
Full value-chain Optimized Climate User-centric Services for Southern Africa (FOCUS-Africa)

Objective: Develop sustainable, tailored climate services demonstrating the **full value chain climate services** in the SADC region, by targeting specific sectors industry relevant case studies, while strengthening the underpinning climate prediction and projection science and assessment of associated socio-economic benefits.

Starting Date/ Duration : 1st September 2020/ 48 months
Target Countries: South Africa, Tanzania, Mozambique, Malawi, Mauritius
Funding: European Union H2020 Programme

16 consortium members





Project Partners

WORLD METEOROLOGICAL ORGANIZATION

Sant'Anna School of Advanced Studies – Pisa

PLAN INTERNATIONAL

European Commission

ACMAD

eDF

LGi sustainable innovation

GLOBAL CHANGE Institute link · learn · enable · change

BSC Barcelona Supercomputing Center Centro Nacional de Supercomputación

Amigo

University of Cape Town · iYunivesithi yaseKapa · Universiteit van Kaapstad

CSIR Touching lives through innovation

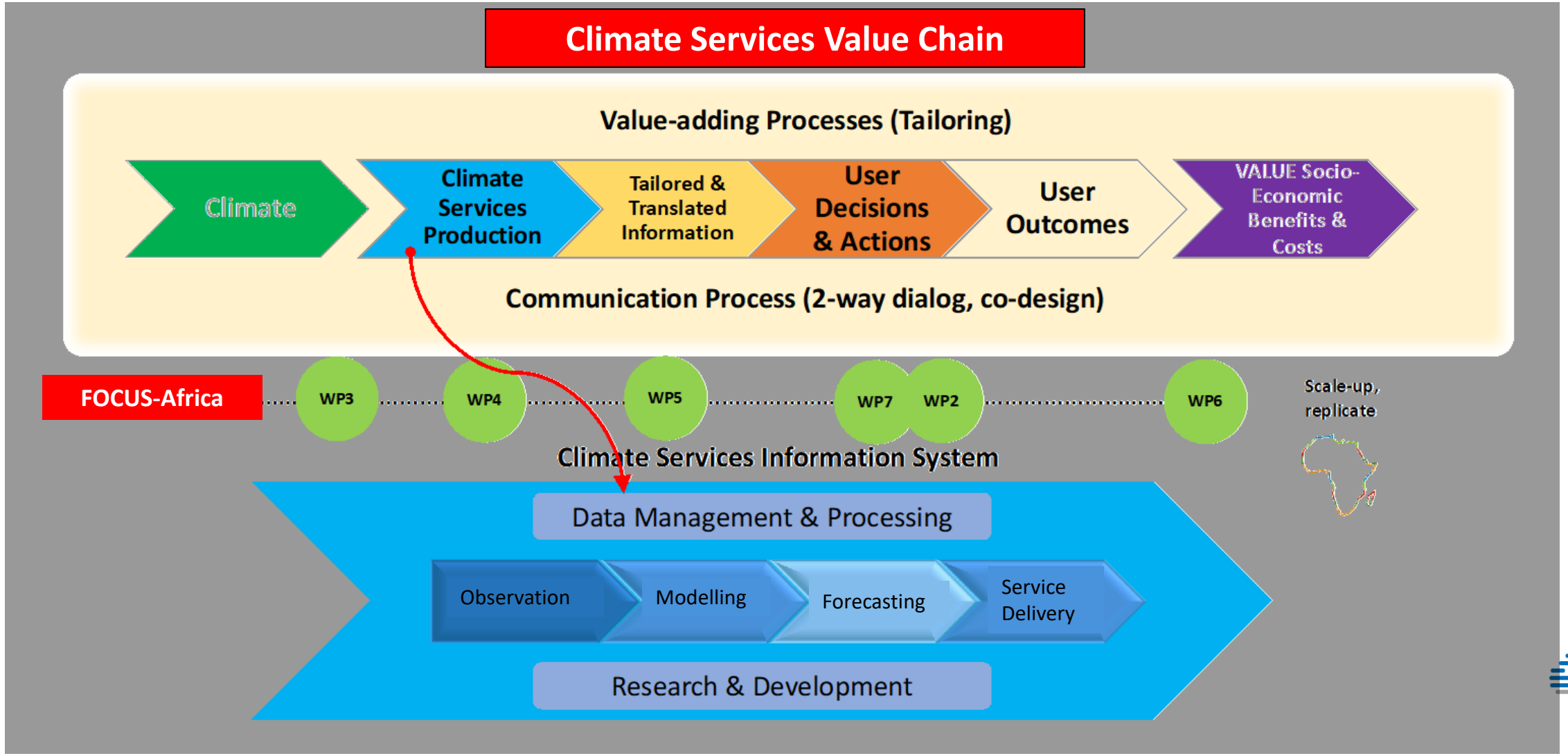
Met Office

WEMC World Energy & Meteorology Council

UNITY AND FREEDOM

IIAM Instituto de Investigação Agrária de Moçambique

Structure of the project: Value chain approach



Overview & structure of the project

Case Studies

Case Study	Country	Sector	Research / Timescale
CS1	South Africa	Food Security/Insurance	High-res Projections
CS2	Malawi	Food Security	Calibrated/Bias-corrected Seasonal Forecast
CS3	**Mozambique**	**Food security / genetics**	**Seasonal Forecast/ projections**
CS4	Tanzania	Food security	Seasonal Forecast / Projections
CS5	Tanzania	Infrastructure	Calibrated climate Projections
CS6	Tanzania	Renewable Energy	Seasonal Forecast / projections
CS7	Malawi	Energy/Water	Projections
CS8	Mauritius	Water	Seasonal forecast / drought indices

Work Packages

Work Packages	Topic	Responsible Entity
WP1	Stakeholder engagement, communication and dissemination	WMO
WP2	End-users' requirements and climate risks assessment	CSIR
WP3	Understand Climate Processes	MO
WP4	Methods and tools development	BSC
WP5	Prototypes of end-user tailored climate services development	WEMC
WP6	Socio-economic value assessment and Exploitation of climate services	LGI
WP7	Capacities Development	ACMAD
WP8	Project management	WMO & LGI

WP1 – Stakeholder engagement

Objective: Ensure that the project results are shared with the wider stakeholder community to maximize the impacts in the SADC region & beyond

Stakeholder Workshops

High level advocacy & sharing of results

COP 27, November 2022

Missions

Mozambique October 2021	Mauritius April 2022	Tanzania May 2022	Malawi October 2022	Tanzania April 2023
CS3 on food security in Mozambique	CS8 on climate services for food security and water	CS4 food security & CS6 energy	CS2 agriculture and CS7 energy (hydropower)	CS5 infrastructure
12 days visit to assess socio economic baseline	Stakeholder engagement and requirements	Stakeholder engagement and requirements	Stakeholder engagement and requirements	Stakeholder engagement and requirements

Video on energy and water case study in Malawi: https://www.youtube.com/watch?v=yoVQG6VnOv0

Synergies with other Projects

HORIZON 2020

DOWN 2 EARTH
DOWN2EARTH Project

CONFER

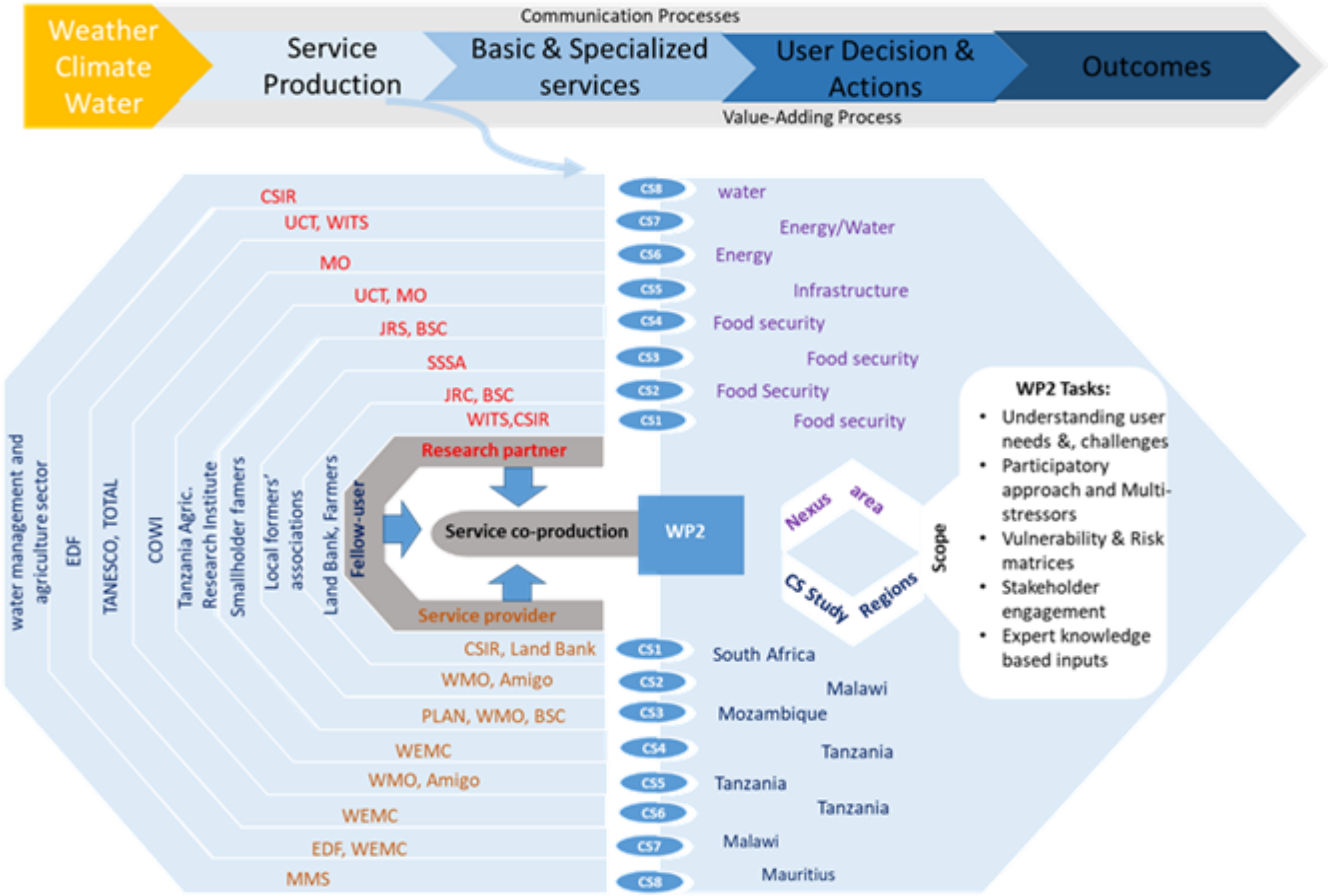
An initiative of the Organisation of African, Caribbean and Pacific States funded by the European Union

ClimSA

EREWS

WP2 - end-users' challenges & CS needs

Objective: ensure users engagement for prioritising development needs and realistic solutions options through innovative methods developed in the last few years in the context of climate variability and change as well as risk exposure and vulnerability



Climate services requirements, co-production and end user's challenges landscape

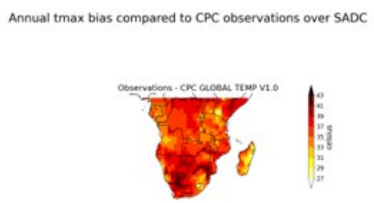
Climate risk and vulnerability assessment

Food Water Energy Nexus

WP3 - Understand climate processes

Objective: to advance fundamental understanding of regional climate dynamics across seasonal, decadal and climate change time scales with a particular focus on supporting the construction of valuable and actionable information with the case study activities and engagements

- Selection and analysis of high-resolution climate projections of the region
- Analysis of the predictability of seasonal and decadal forecasts
- Regional extreme events identification and variability



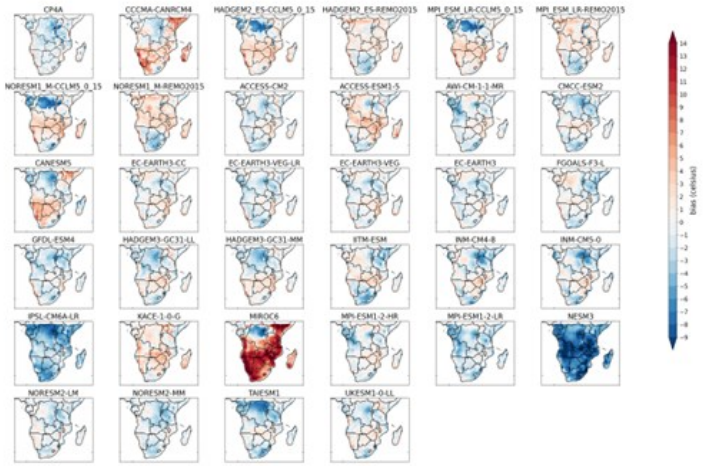


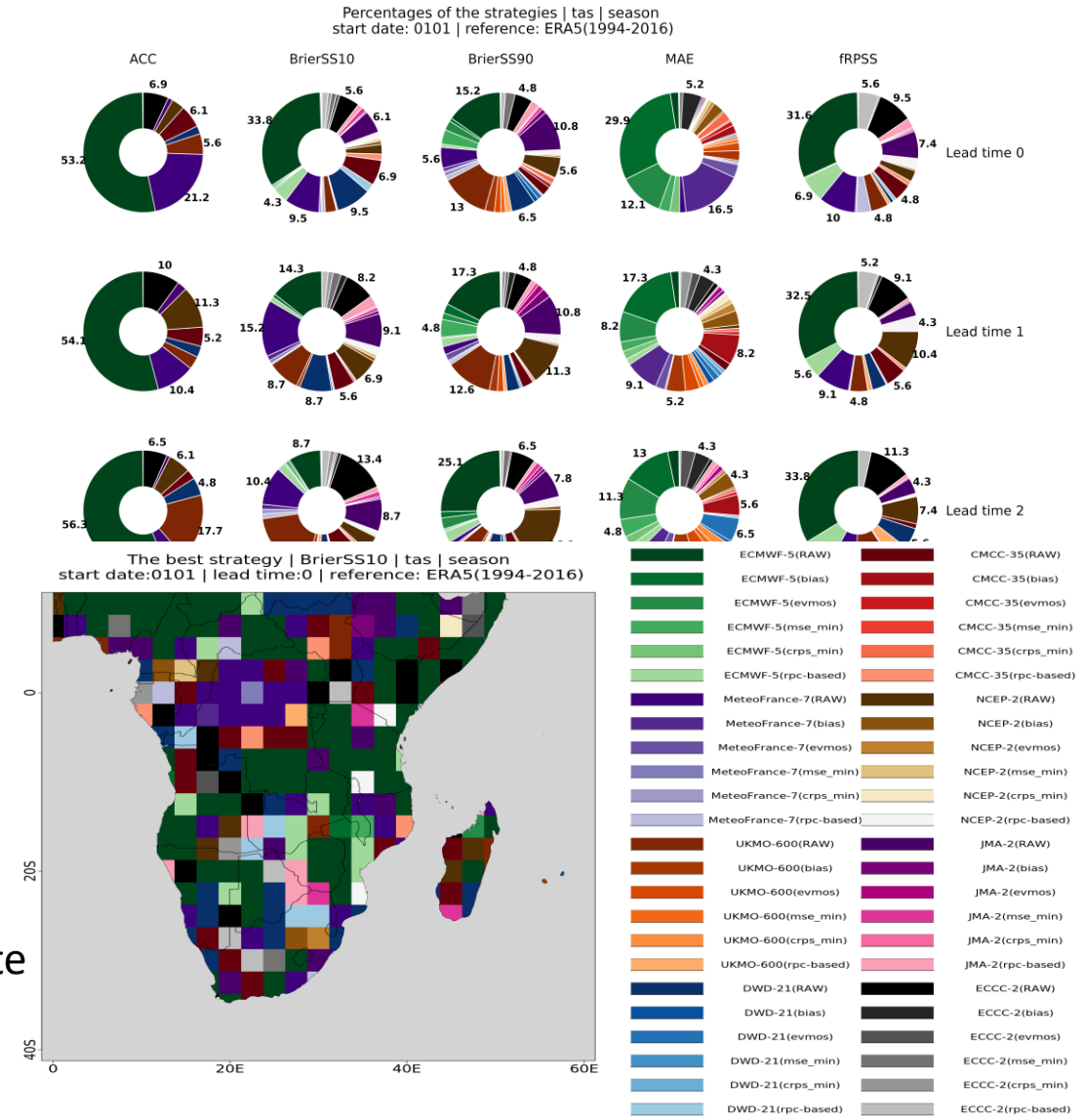
Table 4: Summary of the projected change in precipitation for the end of the century under RCP8.5. The symbol "+" indicates an increase, "-" a decrease and "=" no significant change. The Green columns show areas with significant discrepancies between the models.

Precipitation	LOWER ESAF				LOWER WSAF				UPPER ESAF				SEAF			
MODEL	DJF	MAM	JJA	SON	DJF	MAM	JJA	SON	DJF	MAM	JJA	SON	DJF	MAM	JJA	SON
CMIP5	-	-	-	-	-	-	-	-	+	=	-	-	+	+	=	+
CMIP6	+	-	-	-	-	-	-	-	+	+	-	-	+	+	=	+
CORDEX	-	-	-	-	-	-	-	-	=	-	-	-	+	+	-	+
CCAM	+	+	-	-	-	-	-	-								
CP4A	+	+	-	+	-	-	-	-	+	+	-	-	+	+	-	-

WP4 - Develop methods & tools

Objective: improve understanding of seasonal predictability of ECVs for case studies, apply bias correction approaches (e.g. through machine learning) to improve forecast reliability, identify best downscaling methods for case studies.

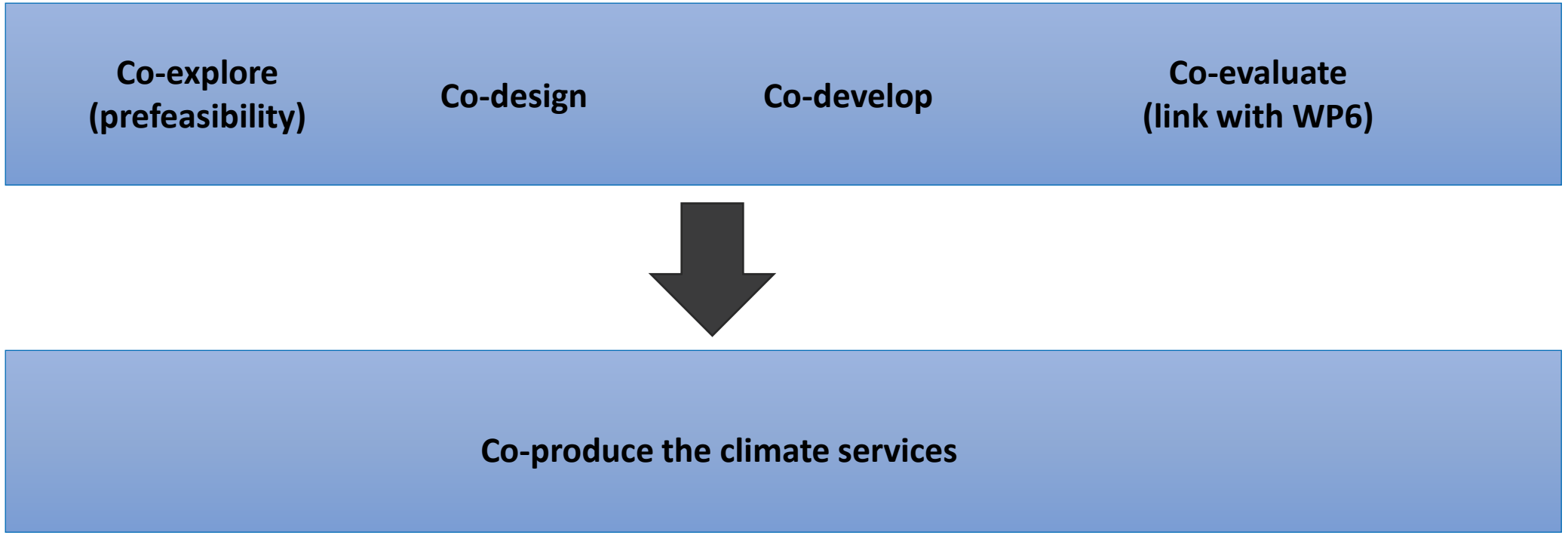
- Seasonal forecast quality assessment - verification of seasonal forecasts & the characterization of climate projections & decadal predictions
- multi-modeling & downscaling for seasonal forecasts, climate projections and decadal predictions
- verification of essential climate variables (ECVs) derived indices
- working version of seasonal forecasts, decadal predictions & climate projections for case studies (including derived products)



WP5 – Develop trial climate services

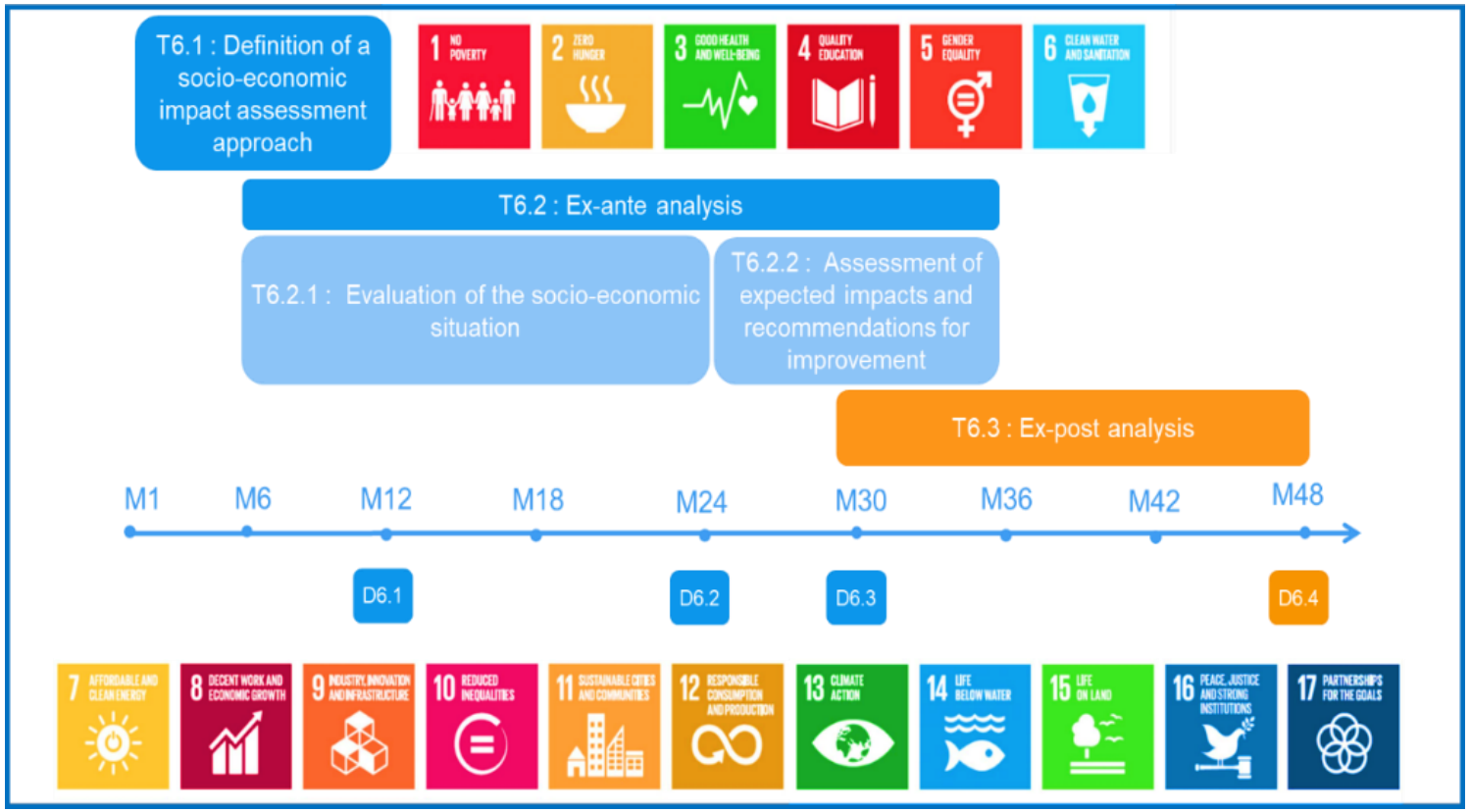
Objective: development of codesigned and codeveloped prototype climate services that bring together the user needs, methods and tools developed and derived products

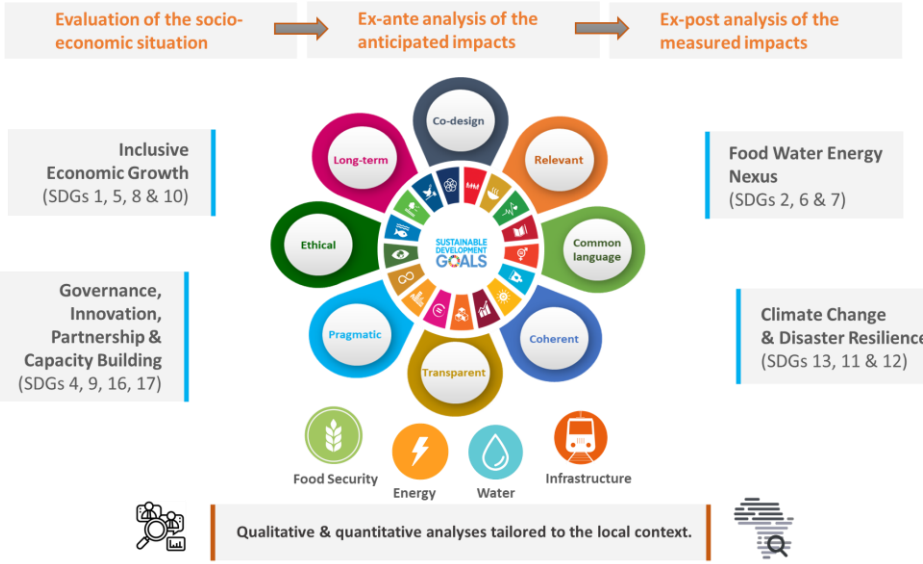
- Collates the output from across the project to develop the case study prototypes. Work will be coordinated amongst all service delivery partners to ensure best practice is adopted, and possible commonalities are exploited.



WP6 - socio-economic value & exploitation

Objective: assess the socio-economic impacts of the FOCUS-Africa climate services and preparing the exploitation of most promising and impactful services





WP7 – Capacity building

- Assess the training needs of climate services providers
- Review and upgrade selected training materials, linking with WPs and case studies
- Develop and test training materials in collaboration with other projects and partners in the region e.g. CLIMSA
- Develop online resources for their inclusion in the existing platforms/portals

Actions to date:

- Capacity building needs identified according to WMO Competency Framework for Climate Services
- Capacity building/ awareness session on seasonal forecasting at 3rd stakeholder workshop
- Two online tools developed – 1) seasonal forecast verification & 2) seasonal onset calculation

Going forward

- Linking WP7 actions to case study actions for sustainability (**mostly CS3 at the moment**)
- Closer linkages with SADC NMHSs – already being done through case studies at national level – can also be enhanced through regional capacity building actions
- Better linkages on capacity building and awareness raising with SADC CSC and SARCOF

This workshop

- Understand and review users' requirements, perspectives, and strategies for Case Study 3 on Climate Services for Food Security in Mozambique, and other food security case studies in the project (i.e., South Africa, Malawi & Tanzania)
- Discussion more about the delivery of the trial climate services
- Expand the stakeholder network in Mozambique
- For those staying for the capacity building session: Conduct a tailored capacity building exercise – to be on seasonal onset calculation methods

THANK YOU

Get in touch for more information!

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Project coordinator – Roberta Boscolo, WMO

All project reports will be available for download on the Focus-Africa website **www.focus-africaproject.eu**

Email the project at **hello@focus-africaproject.eu**

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