United Nations
Framework Convention on
Climate Change

EXPERT MEETING TO ASSESS PROGRESS MADE IN THE PROCESS TO FORMULATE AND IMPLEMENT ANATIONAL ADAPTATION PANS (NAPs)

LESOTHO'S EXPERIENCE

MOKOENA FRANCE

MINISTRY OF ENERGY AND METEOROLOGY

OUTLINE

- Key Risks and Vulnerabilities
- Timelines
- Other ongoing activities to inform NAP formulation
- Lessons Learned and Experiences
- Road Map

RISKS AND VULNERABILITY

Lesotho is

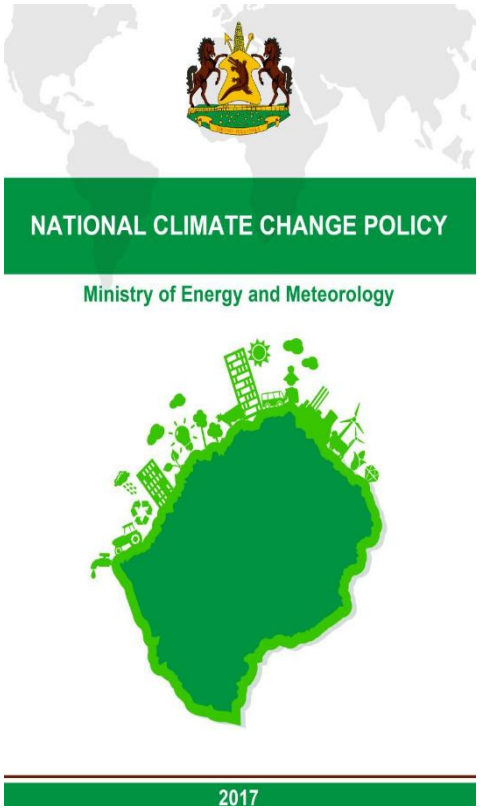
- semi-arid country
- prone to natural disasters and extreme climate and weather events;
- liable to drought and desertification;
- A countries with areas with fragile ecosystems, including mountainous ecosystems;
- Land-locked country.
- Water scarcity (2015/2016 people killed each other over water, Lesotho sells water to RSA and for Botswana negotiations in progress)
- Snow occur in summer (Nov 2015, Nov 2017 x 2, Jan 2018) – crops and animals died
- Breakout of tropical diseases (Armyworm – 2015, bloodworm 2017)

TIMELINE

Timeline	Milestone
Oct 2015	NAP process launching and stakeholder consultation
Oct 2016	Request support from GCF to formulate NAP – ***we used NAP guidelines in developing the proposal***
Jun 2017	UN Environment recruited a consulting firm to assist Lesotho develop the proposal
10 Oct 2017	First Submission of NAP proposal to GCF
8 Feb 2018	GCF has not responded

OTHER ONGOING ACTIVITIES

Activity	Status
National CC Policy (2017 – 20270)	Adopted by Cabinet in Dec 2017
CCPIS	Drafted
CB and M&E Frameworks	Drafted
NSDPII	Drafting stage, engaged consultant to integrate CC
Development of CC Scenarios	TNC CCS report is being is undergoing validation
GCF Readiness Proposal	Technically cleared, maybe approved this month



Climate Change Scenarios Generation
CLIMATE MODELS USED

GCM	MODELING CENTRE/INSTITUTION
CCCma-CanESM2	Canadian Centre for Climate Modelling and Analysi, CANADA
CNRM-CERFACS-CNRM-CM5	Centre National de Recherches Meteorologiques / Centre Europeen de Recherche et Formation Avancees en Calcul Scientifique, FRANCE
MIROC-MIROC5	Atmosphere and Ocean Research Institute (The University of Tokyo), National Institute for Environmental Studies, and Japan Agency for Marine-Earth Science and Technology, JAPAN
MOHC-HadGEM2-ES	Met Office Hadley Centre, UNITED KINGDOM
MPI-M-MPI-ESM-LR	Max Planck Institute for Meteorology (MPI-M), GERMANY
NCC-NorESM1-M	Norwegian Climate Centre, NORWAY
NOAA GFDL-GFDL-ESM2M	Geophysical Fluid Dynamics Laboratory, USA

RCM	MODELING CENTRE/INSTITUTION
SMHI-RCA4	Swedish Meteorological and Hydrological Institute, Rossby Centre, SWEDEN

ELEMENTS CONSIDERED

- Annual and seasonal (DJF,MAM,JJA,SON) means temps and precipitation
- New: 27 WMO Climate Extremes Indices based on temperature and precipitation http://www.climdex.org/indices.html

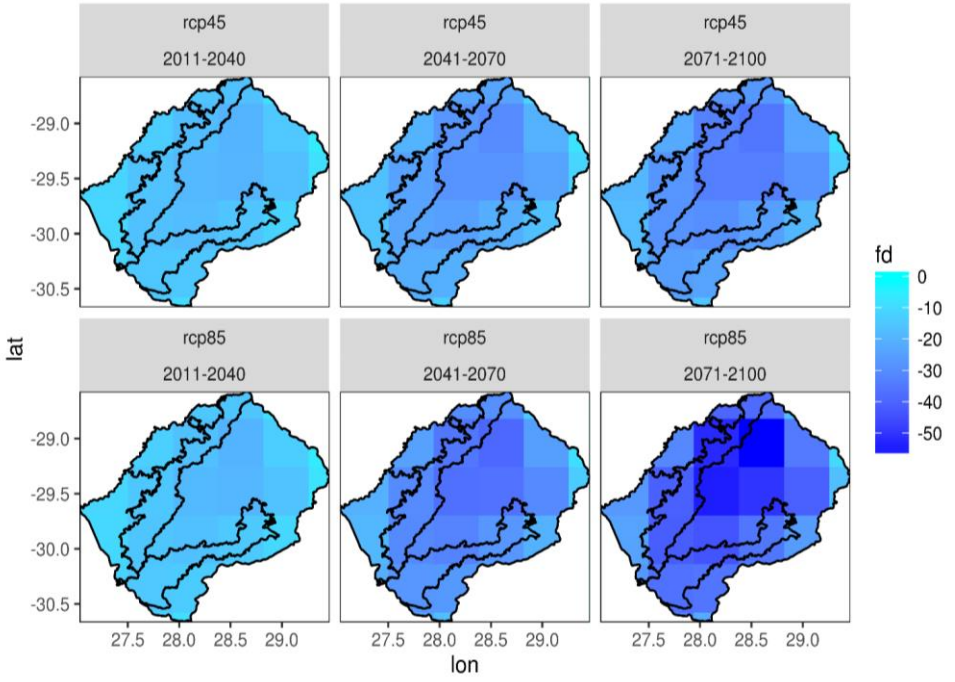
PERIODS

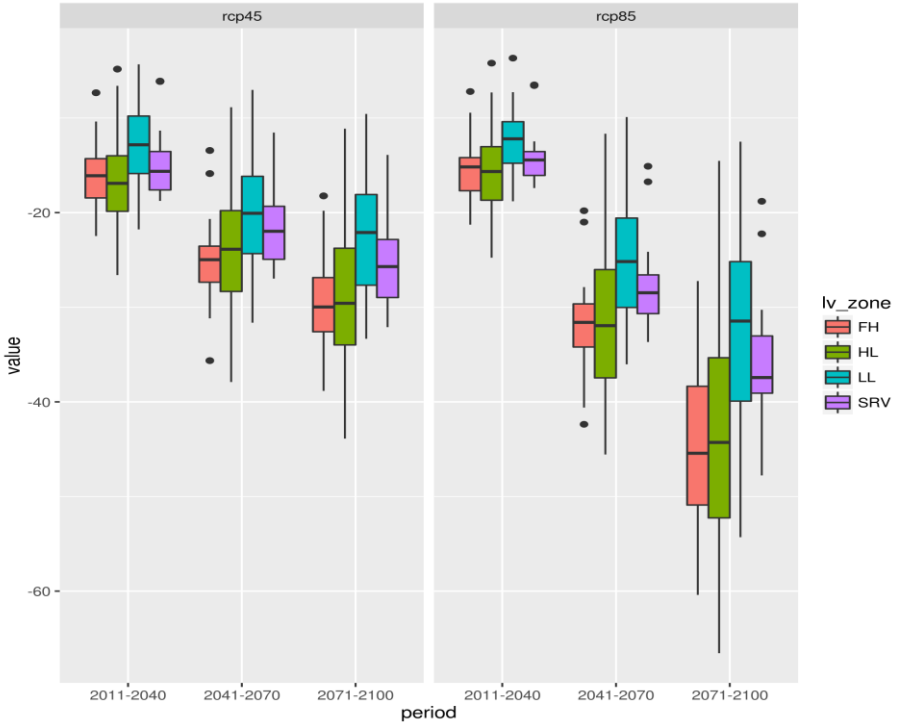
REFERENCE/BASELINE: 1971-2000

FUTURE PERIODS:

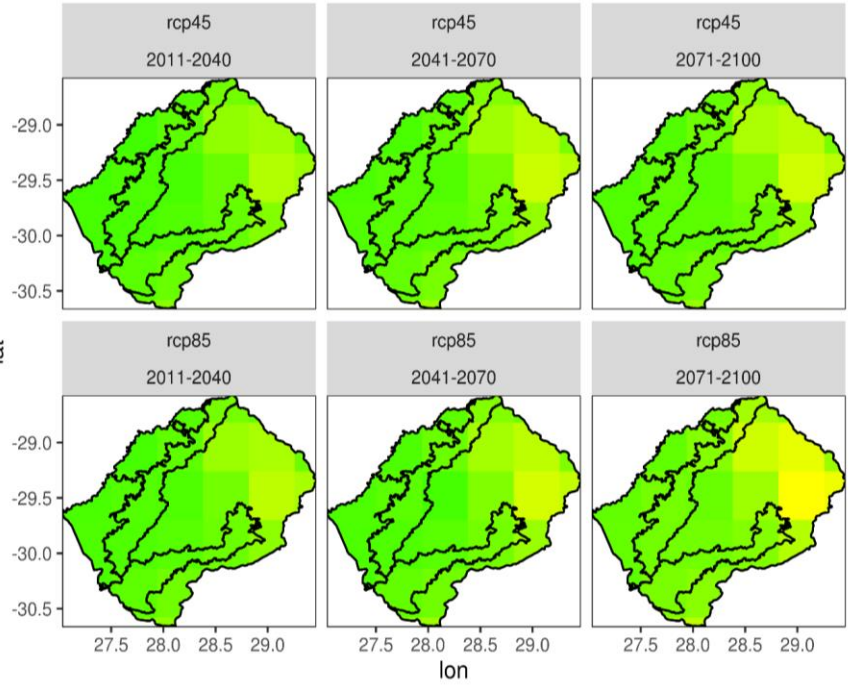
PERIOD1:	2011 - 2040	NEAR TERM
PERIOD2:	2041 - 2070	MEDIUM TERM
PERIOD3:	2071 - 2100	LONG TERM

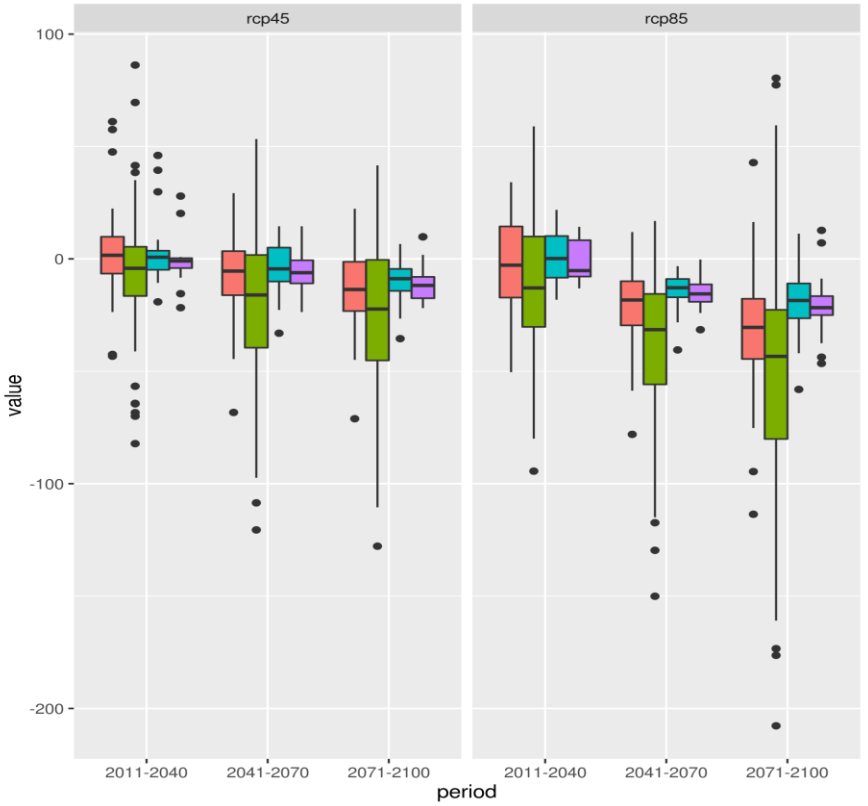
EXAMPLES: Number of Frost Days (FD)





EXAMPLES: Projected winter **pr** change





EXAMPLES: Projections – Super table

LV_ZONE	INDEX		HISTORICAL/ HINTCAST (1971-2000)			PROJECTIONS																
						RCP45									RCP85							
						2011-2040			2041-2070			2071-2100			2011-2040			2041-2070			2071-2100		
	NAME	SEAS	MIN	MAX	MEAN	MIN	MAX	MEAN	MIN	MAX	MEAN	MIN	MAX	MEAN	MIN	MAX	MEAN	MIN	MAX	MEAN	MIN	MAX	MEAN
HL	cdd	ann	18.33	76.47	32.42	-7.7	8.93	1.59	-4.47	14.9	3.9	-2.94	17.07	6.61	-5.3	11.4	2.21	-4.9	16.5	5.83	-3.07	28.99	9.54
HL	csdi	ann	0.67	5.23	2.37	-3.23	2.14	-0.47	-4.43	1.1	-1.26	-4.55	1.07	-1.6	-3.47	1.86	-0.25	-4.56	0.2	-1.68	-5.23	-0.67	-2.33
HL	cwd	ann	10.1	34.2	18.22	-5.57	3.64	-0.46	-10.47	3.34	-0.86	-8.9	3.16	-1.47	-8.6	4.2	-1.29	-9.47	1.5	-1.45	-11.27	3.21	-1.57
HL	dtr	ann	1.44	10.88	8.35	-0.3	8	1.11	-0.2	8.42	1.33	-0.04	8.45	1.38	-0.23	8.15	1.14	-0.01	8.42	1.38	0.33	8.77	1.75
HL	fd	ann	19.33	116.77	62.55	-26.6	-4.83	-16.54	-37.9	-8.86	-24.11	-43.88	-11.13	-28.48	-24.76	-4.2	-15.71	-45.56	-11.66	-31.22	-66.56	-14.53	-43.45
HL	gsl	ann	245.53	341.47	298.89	9.07	39.64	24.66	16	57.84	36.6	16.27	65.67	41.97	12.5	44.76	25.07	20.1	72.5	45.46	22.6	89.61	57.05
HL	id	ann	0.1	9.87	2.11	-9.77	0	-1.76	-9.84	-0.06	-1.93	-9.87	-0.1	-1.98	-9.84	0.03	-1.76	-9.87	-0.07	-1.98	-9.87	-0.1	-2.09
HL	pr	ann	673.44	4557.5	2153.7	-537.12	128.35	-83.19	-627.18	146.59	-128.86	-655.95	239.46	-137.06	-671.9	175.77	-107.21	-678.9	168.39	-136.89	-940.76	138.49	-237.59
HL	pr	DJF	330.73	2007	922.95	-222.5	86.55	-14.99	-237.19	107.63	-26.11	-254.15	100.56	-31.3	-315.61	174.16	-23.09	-271.27	135.07	-30.32	-308.08	62.69	-54.42
HL	pr	JJA	28.37	390.48	158.59	-82.19	86.22	-5.91	-120.58	53.32	-19.88	-127.82	41.61	-25.01	-94.43	58.94	-12.88	-150.09	16.87	-38.5	-207.73	80.4	-50.93
HL	pr	MAM	169.61	1220.7	572.46	-206.11	27.4	-38.12	-212.8	38.95	-57.36	-229.56	38.09	-50.3	-241.97	36.92	-51.18	-246.84	61.25	-54.67	-328.59	64.95	-83.14
HL	pr	SON	136.5	1175.6	497.56	-165.11	90.33	-22.66	-222.49	132.2	-24.29	-162.58	102.89	-26.33	-226.97	73.03	-18.99	-222.81	141.08	-9.15	-374.14	112.55	-47.85
HL	prcptot	ann	657.23	4542	2134.9	-539.41	129.21	-83.25	-628.7	148.28	-128.61	-657.64	240.01	-134.48	-674.35	176.06	-107.13	-679.96	169.7	-136.36	-942.09	140.83	-236.94
HL	r10mm	ann	17.13	143.1	72.53	-17	4.8	-2.81	-21.67	6.4	-4.52	-25.1	5.03	-5.03	-20.6	4.23	-3.5	-23.04	4.87	-4.92	-32.74	2.84	-9.02
HL	r20mm	ann	4.23	88.63	33.58	-9.96	3.44	-1	-11.36	4.8	-1.58	-13.03	6.9	-1.51	-13.14	5.24	-1.38	-12.5	4.5	-1.71	-17.86	3.67	-3.26
HL	r95ptot	ann	143.81	856.2	418.79	-147.5	34.73	-17.32	-186.23	66.69	-16.2	-256.8	114.79	-11.38	-174.27	35.85	-25.59	-153.4	147.31	-9.82	-231.24	144.26	-13.61
HL	r99ptot	ann	48.47	249.75	122.26	-56.96	14.38	-5.88	-60.5	68.44	-1.84	-69.64	61.43	7.42	-65.02	10.87	-7.93	-48.22	63	5.78	-71.99	78.57	7.19
HL	rnnmm	ann	101.43	225.03	166.92	-20.2	8.6	-5.35	-32.03	5.36	-11.12	-30.14	4.6	-12.26	-26.26	5.43	-7.41	-28.64	2.2	-11.73	-45.83	5	-20.04
HL	rx1day	ann	40.03	119.12	70.57	-20.55	11.03	-0.35	-12.73	10.3	0.41	-15.74	15.53	1.46	-24.24	8.66	-1.24	-13.21	17.98	1.88	-18.35	13.55	1.78
HL	rx5day	ann	81.97	309.43	168.32	-41.62	43.23	1.46	-38.6	40.11	2.5	-35.9	36.62	2.07	-48.68	28.24	-1.54	-32.97	55.37	2.16	-41.76	43.6	1.42

LESSONS LEARNED

- ✓ It takes long time to prepare GCF proposal to meet the requirements due to changing of templates - before the proposal could be registered by the GCF
- ✓ NAP guideline are useful in the development of the proposal itself
- ✓ Climate Changes Scenarios data is available for free but needs technical skills to download and manipulate. There is need to prepare a guide on how do access CCS data and which tools to use to develop products
- ✓ The resolution of the available data (50kmx50km) may not be enough for smaller countries and countries with complex topography like Lesotho
- ✓ It is good to have a NAP as a strategic document on adaptation

ROAD MAP

Timeline	Milestone
2018	Start formulation of NAP
Now – March 2018	Continue to fight for integration of adaptation in NSDPII considered ad cross-cutting issue
March 2018	Publish CCS
Feb – Mar 2018	Translation of CCP into Sesotho, Training journalists of CCP, CCP dissemination throughout the country
Mar 2018	Finalise CB and M&E Frames
2023	Review CCP and CCPIS

THANK YOU

Mokoena FRANCE

Lesotho Meteorological Services

Email:mokoenaf@gmail.com

Phone:+266 2232 4376 / +266 5907 0225