lead agency	activity title	О	N	D	J	F	М	Α	М	J	J	Α	S
Core Routine Activities													
multiple	Weekly Weather Hazards												
multiple	Monthly Seasonal Forecast												
multiple	Crop Monitor for Early Warning												
multiple	data production and management												
NOAA CPC	ENSO updates												
NOAA CPC	Intertropical Front (ITF) Monitoring												
110701010	meet dopical Front (FFF) Monteoring												
Special Activities	Sci Team												
multiple	Extended Outlooks												
СНС	CHIRPS 3												
CHC + NOAA PSL	La Nina Fact Sheet												
NASA + NOAA PSL	Reference ET Paper												
USGS	WRSI w/ CHIRPS & Hobbins ET												
NASA	Daily Distribution Rainfall Analysis Paper												
NASA	Update to Central Asia Snow model												
14/13/1	opulate to central 7 sia 3 now model												
	Sci Team + EWT												
multiple	Crop Tours												
multiple	Capacity Building/Trainings												
WA Regional Sci	West Africa Herd Model												
EA Regional Sci	Kenya Livelihood Zone Updates												
Regional Sci	Seasonal Calendar Updates												
EA Regional Sci	WRSI input to GDHI												
UMD	geoGLAM + Markets & Trade												
multiple	Special Reports												
manapie	Special Reports												
Special Activities	Sci Team + Hub												
СНС	data domains for FDW												
CHC + NOAA PSL	La Nina Fact Sheet web content												

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						\Box

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	USGS	NASA	NGAA PSL - Andy	NOAA PSL - Hobbins	NOAA CPC	ucsa	UMD/DM6FW	NOAA Ken Knapp	USDA (C. Reynold	the Hub	Early Warning Team	Regional Scientists (UCSB)	
US65		trainings, compare VIRS/MODIS harmonization	Agroclimatology training & training updates, regional scientis, rearrangement, Seasonal forecast calls. Central Asia	for WRSI, Water Points, publication/documents	of products (ITF), input to/addence of Weather Hazards Call, Thermal IR product support	Agracian training and updates, EWX geof, water points, GWS geof, water points, GWS geof, water points, GWS derived products, regional contamagement, CWSS derived products, CWSS (price), GWSS (price)	regional scientists + hari			website widgets, collab meetings, quarterly report meetings, fewsnet team-	Seasonal Monitors, knowinge base, special request, regional scientizs, bi-weekly meetings, GDH applications, trainings w/ regional sci, Chibapia analysis, improve cop- estimates w/ satellise tools (somalia)	management, ethiopia report, seasonal forecast calls, monthly relecons	
NASA	SM and runoff pro		Extended Outlooks long lead forecast for driving hydrolic models, Seasonal forecast calls, agrocilm trainings, forecast product hosting on FACTSD	Sci data submit paper/documentation/	MANAS pops State from IRA		extended outlooks, sub- contract management			collab meetings, quarterly report meetings, fewanet team- wide annual meetings, FDW yield data, social hub, fewanet branding	bydrologic monitoring and forecast products, special analysis, improve crop estimates w/ satellite tools, weather and forecast profiles, retropective review of forecast	feedback for seasonal soil mointure forecasts and other hydrologic products, contribations to special report	
NOAA PSL (Andy)	Agradinatology tr	: Saternated Outlooks long lead		management/admin, il	forecast calls, agroclim training	La Minu/IDO factsheets, regional scientists, seasonal forecast calls, MAMM quantile matching, precip forecasts related to ag production, extended outlooks, use of RACS whichs, agrociim training, GSPs-reforcast data.	extended outlooks			meetings, fewariet team- wide annual	seasonal forecast review, improve crop estimates w/ satellite tools, weather and forecast profiles, retrospective review of forecast	southern africa paper; daily precip; southern africa paper multiyear droughts, climate mode factohees	
NGAA PSL (Hobbins)	RefST for routine u	RefiT backstop, Nature Sci di	rnanazement/admin. (T		Reference ET w/ NCEP reannalyis for SPEI, documentation, supoprt	Reference ET analysis/latribusion gaper, Nat Sci paper, OHC uses operational RefET for WRSI & SPCI							
NOAA CPC		NAME one (data from RL)				rainfall companisons, GTS data to UCSB, NAMAS png to UCSB, Shiopia reports (review), IR-data, weekly weather hazards input, weather data to suscort locute/differen				website consult, collab meetings, quarterly report meetings, fewanet team- wide annual meetings, Hazards recorts	weekly weather hazands,	climate outlook forums, locust support to Gideon	
ucsa		OHRPS Final, CHRPS goelen,							CHRPS data for USDA webpage	wealle consult, collab meetings, quarterly report meetings, fewaret team- wide annual meetings, FDW	special analysis, regional scientists, mustine products (early analysis), GDMI applications, trainings w/ regional sci, reprove crap estimates w/ statellies tools, weather and forecast profiles, retroopedive review of forecast, MOCIs,	contributions to externally funded proposals (e.g., SENIQ), acedemic intributes (poursal), other publications, extended outcoles, whospia report	
UMD/CM/EW	regional scientists	extended outlooks, sub-contr	r extended outlooks			Subs. CHRPS-GEFS. NAME 3-mg forecasts, climate	l,			crop calendars?	GDHI applications	reporting, and forecast review, special report review, rangeland monitoring & calendars (east africa)	
PILID EWT	webste widgets, o	weekle consult, collab meetin	weste consult, cultab mee			nac, view Peter i wewe yen aktricie, usaate veeke consule, collak meeting, quarterly report m	a cog calendard?			S		present mice agreet for mente copy bor surveys engage in an wildering processes relating to engage in an wildering processes relating to engage in an wildering processes and control of the control of the control of control of the control of the control of with ground survey, Sonsale, more directly involved in developing the defeated processes training. (Ethiopia product wouldown, Ethiopia product and surveys and product surveys and surveys of control of the control of management, formy copacity building for control of product surveys and product surveys and product surveys private actions of product surveys private actions of product surveys private product surveys private product	

Activity	Sector	o N	D	J F	м	АМ	ן נ	А	s	Lead		Dependencies	Users	Notes
Speciment January Speciment Specimen														
Comprehend Secured Former Activity Secure of Former Secure Comprehend Compr														
Comparison of LSM outputs and remotely sensed products (SSEB,			П		Т		Т			CP/KS	KS, JJ, DS, AH			In publications, presentations, and as requested by FEWS NET partners
		\vdash	H	+	+	+	+	+	+	CD/VC				
		H	Н	+	-	+	+	Н	4	CP/KS	KS, JJ, DS, AH			in publications, presentations, and as requested by FEWS NET partners
Commonweal State Author														
Author Service O V O V F N A V V N A V V N A V V N A V V A V V A V A V V														
Activity														
additional inputs			Ш		_		┙			. ,	11		USGS EROS	current model
			Ц		_		_		_	_				
					_				_					
		ш	Ц			\perp	_	Ш	_	CP/KS	KS		USGS EROS	FLDAS central Asia with GDAS-IMERG, testing during FY21
	ıd													PADA# AID EED T-17-00001 Section 2-2
iorecasting					\neg		_		T			CHC CHIRPS and		PAPA# AID-FFF-1-17-00001, Section 5.5
FLDAS global model (MERRA-CHIRPS)										CP/KS	JJ	CHIRPS Prelim	USGS EROS	current model, started FY20
Webs and the second sec					I					coluc	11/101			
water availibility estimates		+	\Box		+		+		-					
NHyFAS NMME-based seasonal forecasts for Africa										CP/KS	AH, KS		UCSB CHC, NOAA	current forecasts, started FY20, NMME from CPC (figures, and data?)
						П	T	П		CP/KS	ns	CHC AgMERG?	LISGS FROS	considering IMERG-GDAS, AgMERG-MERRA (depending on latency and availability);
			ш	_	_	\perp	_		_	C.7.C	55	CHE / GWIENG:	0303 21103	0
		-	Н		_		_		+					
		Н.	Н	_	-		_		-					
		-		_	_	-	_	-	-					PAPA# AID-FFP-T-17-00001, Section 3.6
		ш	ш		_	\perp	_	ш	_	CP/KS	KS			
	FEWS NET													PAPA# AID-FFP-T-17-00001, 2nd Addendum
		П	П		Т	П	Т	П	Т	CP/AM	AG		USGS EROS	Completed FY20
					1					CP/KS	DS/KS		USGS EROS	USGS EROS leads hydrograph generation
			П		T		T	П		CD/VS	AH		LISCS EDOS	Targeted for EV22
		ш	ш		_	\perp	_		_	C.7.C	74.1	GEFS	0303 21103	
·														PAPA# AID-FFP-T-17-00001, 3nd Addendum
				-	_	-	_	-	_				TICED CHC	
Support of pilot activities			Н		- 1					CP/KS	AH			Ad hoc regional pilot activities for critical time periods, as identified by FEWS NET
Pacearch on long lead forcacting of terrestrial variables										CD/VS	DC TRD			Ren Cook currently staffing for EV21 TRD
			ш		_	ш	4	ш		CITIO	50, 155	forecasts		beil cook carrendy, starting for 1722 188
		-		_	-	-	_	-	-					
	-111	ш	ш		_		_		_					to be filled in by UMD
	silient													PAPA# AID-FFP-T-17-00001, BFS Annex
					Т	П	Т	П	Т	CP/KS	MB/SK			Task starts 07/2020
Test and analyze developed methods in specific geographies			П							CP/KS	MB/SK			ROI to be selected in coordination with USAID BFS and SERVIR, Mali proposed
Communications Activities					7									
publication editing			П		Т		Т	П	Т	CP/KS	CP, KS, AH, DS			coordination with UCSB (NHyFAS, precip) & NOAA PSL (RefET)
presentations (AGU, AMS, invited)		П					Т	П	1		CP, KS, AH, DS			coordination with science team co-authors (NHyFAS - Shrad), Afgh streamflow (USGS)
blog posts										CP/KS	KS			
news stories/social media										CP/KS	KS			
Training materials/fact sheets										CP/KS	KS		CHEMONICS,	developed in coordination with USGS & NOAA PSL
Improved Agroclimatology Training Material										CP/KS	KS		USGS EROS, UCSB CHC,	
External outreach			\Box							CP/KS	KS			
			П					П						
					T		T			CP/KS	JJ, AH			
			\Box		\top		T			-			UCSB CHC	
							T		_	. , .			USGS EROS	
			\Box		1		\top							e.g., MERRA for RefET
									_					
					1		T						. ,	
Data transfer to NASA (GES DISC)										,		1		1
TES:														
TES: green = major objective from 5yr SOW							_							

						UN	MD S	Statement of Work			
Activity	Sector	O N D	J F	A A N	, ,	J A	s	Lead	Key Team	Interdepencies	Notes
GEOGLAM Crop Monitor for Early Warning				₩					Members	,	
1.1 maintian current activities				ш							
										FEWSNET	Compiling updates on agricultural conditions throughout the month and relevant reports; updating the interface with crop calendars prior opening the interface with crop calendars prior opening the interface for monthly submissions; opening the interface to monthly submissions and initiating discrepancy discussions prior to the monthly telecon; identifying regions of interest for regional outlook reporting and coordinating inputs with CHC; developing Climate Influences draft text with inputs from CHC covering ENSO climate driver reporting; compiling crop condition disrepancies and sending out discrepancy powerpoint prior to telecon; leading the monthly CM4EW; compiling and sending regional draft text based on updates on agricultural conditions, monthly submissions from
CM4EW Routine				Ш			L		Christina Justice, Brian Barker, Kara Mobely	regional analysts, UCSB CHC	analysts, and discussions on the telecon; leading discrepancy discussions between agencies; compiling graphics and text into the full draft report; editing and finalizing report for publication. Compiling and enhancing core data products including crop calendars based
Crop Monitor Routine Enhancement									Christina Justice, Brian Barker, Kara Mobely	UCSB CHC, NASA, EC JRC, UMD, and NOAA.	on updates from analysts; incorporating updated cropland and type maps where available; and enhancing the web-enabled crop assessment portal and available data products and visualizations. Working with the EW community to discuss and evaluate further expansion/enhancements to the CMAEW.
Special Reports & Conflict Reports									Christina Justice, Brian Barker, Kara Mobely	FEWSNET regional analysts, UCSB CHC	Drafting text for mid month special reports and conflict reports; coordinating with regional analysts and CHC group; editing and compiling report; report publication.
1.2 New Activities				\blacksquare							Expansion of climate forecasts integration into CM4EW reporting covering
Climate Forecasts				+					Christina Justice, Brian Barker Christina Justice,	UCSB CHC	short, medium term and seasonal forecasts and global NMME 30 day SubX forecasts. Incorporation of short term 2 week (10 day) forecasts into CM4EW regional
1.2.1 Short term forecast				+	+		\perp		Brian Barker	UCSB CHC	outlooks across all CM4EW regions Incorporation of 1 month SubX forecast products into CM4EW regional
1.2.2 Medium term forecast				+					Christina Justice, Brian Barker	UCSB CHC	outlooks across all CM4EW Regions and into the Global Outlook of CM4EW and CM4AMIS reporting. Incorporation of 3 month seasonal forecast products from NMME; develop
1.2.3 Seasonal forecast			Ш						Christina Justice, Brian Barker	UCSB CHC	seasonal forecast updates to be published prior to and at key points in the season across all CM4EW regions
1.2.4 Climate Influences									Christina Justice,	UCSB CHC UCSB CHC, Regional	Continue development of Climate Influences reporting including ENSO and SST updates Production of forecast graphics for Regional Outlooks;
1.2.5 Information products									Brian Barker	Analysts UCSB CHC, FEWSNET	continue development of forecast graphics for CM4EW Development of monthly regional outlook text by CRC to interpret forecasts into agricultural outcomes with inputs from FEWSNET regional analysts. Development of Seasonal Outlooks (NMME) before the start of the season
1.2.5 Interpretation of forecast products				+					Christina Justice, Brian Barker Christina Justice, Brian Barker.	Regional Analysts	over areas with high skill. Regional Outlooks for Special Reports
Engage with regional outlook forum and additional forecast groups				Ш					Catherine Nakalembe (East Africa)		Engaging with Regional Climate Outlook Forums IGAD ICPAC/ GHACOF through the Eastern Africa Crop Monitor
Exploring integration of rangeland conditions									Christina Justice, Brian Barker, Kara Mobley	FEWSNET regional analysts	Development of baseline data sets for Rangelands including calendars and best available rangeland mask. Incoporation of rangeland conditions into CMAEW reporting on a experimental basis starting with East Africa as the first target region.
									Christina Justice, Brian Barker, Kara Mobley, Inbal Becker-		Enhancing the content and maps of the monthly bulletin; expanding participation of national and regional organizations; engaging more broadly
Crop Monitor continued development 2. Global Crop Monitor Products									Reshef		with current and prospective end users and stakeholders;
Production of Global products integrating CM4EW and AMIS									Christina Justice, Brian Barker, Kara Mobley, Inbal Becker- Reshef		Development of global products integrating AMIS and Early Warning to present global view of crop conitions and global forecast information using 30 day Subx, Exploring production of a global bulletin
3. NASA HARVEST											
engage with consortium as needed 4. Communications & Admin Activities											
Blog posts									Christina Justice, Brian Barker, Kara Mobley		
News stories/social media									Christina Justice, Brian Barker, Kara Mobley, Mary Mitkish		@GEOCropMonitor Twitter Account; NASA Harvest Website, GEOGLAM Website and blog posts, NASA Earth Observatory articles; contributing to news stories and podcasts.
Traning materials/Fact sheets									Christina Justice, Brian Barker, Kara Mobley Christina Justice,		Continued development of training materials when updates occur to the interface and systems. Publication of CM4EW report on Relief Web and Prevention Web;
Outreach									Brian Barker, Kara Mobley		Publication of CM4EW report on Relief Web and Prevention Web; producing outreach materials in print and online, reaching out to broader EW community
8. Data Management/IT Activities				#							
Website Maintenance and Improvement									Antonio Sanchez, Mike Humber, Brian Barker,		
Interface/database maintenance & improvement									Antonio Sanchez, Mike Humber, Dan O'neill		
				\parallel			İ		Antonio Sanchez, Mike Humber, Dan	UCSB CHC, NASA, EC JRC, UMD, and	
EO Data products updates. 8. Extended Outlook									O'neill	NOAA.	
									Brian Barker, Christina Justice, Inbal Becker-	FEWSNET regional analysts, UCSB CHC, NOAA,	Production of extended outlook crop condition graphics based on FEWSNET
Extended Outlooks NOTES:	\vdash		Н	\perp	Ш		_	l .	Reshef	NASA	regional analyst inputs.
green = major objective from 5yr SOW			<u> </u>								
grey = sub-task in 5yr SOW											

								U	MD	Staten	ment of Work			
Activity	Sector	0	N D	JF	м	AN	ı J	J	A S		Lead	Key Team Members	Interdepencies	Notes
under months 1=high priority, 2=background effort, 0=ongoing		П					Т		Т					

				N	OAA S	itatem	ent of	Work						
Activity	Sector	0 N E	ı ı	F M	A	ı	J A	S Lea	d Key Team Members	Notes				
1. Weekly Weather Hazards						ш		_						
			Т		П									
1.1 Briefing			+	_	\vdash	+	-	_						
routine weekly activities	-		+		-	-		_	_					
			1		П									
2. Monthly seasonal forecast review														
2.1 NMME			T		П	П	T	T						
Postprocessing the NMME for various regions of the world			T											
2.2. SSTS, air temperature, precipitation			Т											
and a second control of the second control o			\perp		Н	\Box		_						
			1		П				1					
			+		Н	+								
3. NCEP GFS/GEFS; CFSv2														
3.1 Temperature and precipitation forecast graphics														
.2 GFS/GEFS data			Т							from NOAA PSL?				
3.3 week2 precipitation forecasts; experimental week3-4		1	I			oxdot				how are these processed?				
1. Satellite Rainfall Producs						Ш								
4.1 RFE2 and ARC			L		\Box	Ш								
improved IR fields										w. UCSB				
5. Analytical Monitoring products														
air temperature and rainfall; extreme events; ENSO updates														
Intertropical Front (ITF)					ш	ш								
SPP			┸		ш	Ш								
SPEI			┸		Ш	Ш				Mike Hobbins/NOAA PSL				
SPI; soil moisture, run off			┸											
	_		┸		ш	\perp	\perp	_						
5. Outreach/Communication/Networking					Ш									
SHACOF			┸	\perp	Ц	Ш	\perp	\bot		w/ WMO, fewsnet, NOAA international				
SERVIR WA	-	\perp	┸	\perp	Н	Ш	\perp	\bot		w/ Shrad Shukla?				
Agroclimatology trainings			1	\perp	ш	\perp	\perp	_		w/ Pillar 1 coordinate w/ USGS, NOAA PSL				
weather data for locuts monitoring	_		┸		ш	\perp	\perp	_		w/ Gideon				
7. PACE fellowships			+		Н									
	-		+		Ш	ш	\perp							
NOTES:			L											
green = major objective from 5yr SOW														
grey = sub-task in 5yr SOW														
under months 1=high priority, 2=background effort, 0=ongoing					П									

											NOAA Statement of V	Vork
Activity	Sector	0 1	ı D	JE	м	А	м ј	J	A S	Lead	Key Team Members	Notes
3. Development of Gridded Atmospheric Forcing Dataset												
Basic development (MERRA-2 coarse)				П		П		П	Т	МН		completed Aug 2019
Downscaling v1 (to MERRA-2 fine)										МН		completed Aug 2019
Basic development (EDDI from MERRA-2 fine)				П		П		П	Т	МН		completed Aug 2019
Routine operations (MERRA-2 coarse and fine)										МН	CS (Cathy Smith, PSL)	move to NOAA server. Across all months, to show ongoing operational support.
Applications support (WRSI, SPEI, EDDI)						П			Т	МН		w/ USGS, UCSB CHC. Across all months, to show ongoing operational support.
Evaluation of MERRA-2 ETo against in-situ ETo (MERRA-2 coarse - Africa)										МН		This refers to v1 downscaled product
Evaluation model intercomparison (MERRA-2 vs. GDAS vs. PGF)				П		П		П	Т	МН	DPS	DPS at NASA GSFC
Publication/data descriptor/documentation				П	П	П		П	Т	МН		w/ NASA, USGS, UCSB, AH; Submission of Nature Scientific Data manuscript on MERRA-2 ETO
Verification of MERRA-2 wrt observations (coarse and fine - global)		П				П		П		МН		
Bias-correction of MERRA-2 wrt observations (coarse - global)										МН		
Downscaling v2 (to new MERRA-2 fine)		П	T	П	Т	П		П		МН		
Assimilate ETo point observations into new MERRA-2 ETo fine - global		П	\top	Т	Т	П				МН		
Enhance global EDDI dataset (from v2 downscaled/assimilated MERRA-2)		П	П	П	П	П		П		МН		
Develop NCEP ETo data for CPC			Т	Т	Т	П		П		МН		CPC - This task could also go across all months, for ongoing opeational support.
Automate NCEP ETo updates			П	П	П	П		П		МН		
Produce global EDDI dataset (NCEP data)		П	Т		Т	П		П		МН		Depending on outcome of discussions with Wassila at CPC, later in August
Construction of ERAST ETo reanalysis, automate updates			П	П	П	П		П		МН		
Evaluation model intercomparison (MERRA-2 vs. NCEP vs. ERAST)		П		Т	Т	П		П		МН	DPS	DPS at NASA GSFC
Downscaling v2 (to NCEP, ERAST fine)		П		П	П	П				МН		
Bias-correction of ERAST and NCEP wrt observations across globe		П		П	Т	П				МН		
Merging/assimilating 3 bias-corrected ETo reanalyses and observations (NCEP/NCAR+MERRA2+ERA5T+observations) - global			\Box							МН		This task should go hand-in-hand with the one above.
Enhance global EDDI dataset (v2, based on v2 downscaled/assimilated MERRA-2+NCEP+ERA5T dataset)		Ш						Ш		МН		
5. capacity building		ш		ш		Ш		Ш				
documentation		Ш	\perp		Ш	Ш		Ш				w/ other science team (NASA, NOAA CPC, USGS, UCSB)
Study: decomposing global drivers of ETo variability and trends		ш	\perp	_		Ш		Ц		МН		this will be the initial analysis period, with complewtiuon and submission to follow in subsequent FY
Study: diagnosing demand drivers of drought in Africa		Ц								МН	LH (Laura Harrison), CF, GH	w/ other science team (NASA, NOAA CPC, USGS, UCSB) - this will be the initial analysis period, with complewtiuon and submission to follow in subsequent FY
consultations w/ other science partners												w/ other science team (NASA, NOAA, CPC, USGS, UCSB) - Q1: Engagement with UCSB on three global RefET streams (MERRA-2, NCEP, and ERRAT) to discuss planning: (i) how to assimilate the three streams into no product; (ii) how to resolve their different resolutions; and (iii) how to update the assimilation for when the latest data from a stream with a longer latency (MERRA2 > ERAST > NCEP; NCEP latency is 2 days) comes online. NOAA-PSL will have to resolve data storage issues before action on (i)-(iii).
6. Management												
budgets										AH		
quarterly reports										AH		
NOTES:												
green = major objective from 5yr SOW												
grey = sub-task in 5yr SOW												
under months 1=high priority, 2=background effort, 0=ongoing												

					NOA	State	ment	of Wo	ork								
Activity	Sector	o N	D.	J F N	ЛА	м ј	ı,	A S	Lead	Key Team Members	Notes						
1. Weather and Climate Diagnotics			_				_			1	1						
Southern Africa - daily precip characteristics			П	П	I		П		AH		Tamuka, Laura, paper submitted to J. Climate						
Southern Africa - mulit-year droughts							П		АН		Tamuka & McNally, paper to be submitted						
Precipitation forecasts related to agricultural production							П		АН		w/ UCSB, early stages of development						
Evaluation of atmospheric models over Afghanistan					П		П		АН		Paper to be submitted to J. Climate						
La Nina Fact Sheet							П		АН	LH	w/ UCSB, in early preparation						
Climate mode fact sheets for IOD, SIOD, etc.							П	Т	АН	LH, TM, GG	w/ UCSB and regional scientists						
FACTS website and datasets				П	Г		П		АН		PSL and UCSB primary users right now						
2. Predictions and Predictability					Т		П	Τ									
Model analog-based predictions up to two years			П	П	Т		П	T	АН		A regular exercise. Focus on SST indices and move on to other variables as needed						
Two weeks to six months predictability research							П		АН		Melissa Breeden will start January 4, 2021. First topic will be precursors and predictability to blocking and low precipitation episodes over Afghanistan.						
Six months to two years predictability research			П	П			П		АН		Jaile Lou scheduled start October 1, 2020. Start date likely to change based on when he gets visa.						
3. Monthly seasonal forecast review																	
Prepare and respond in capacity as Pillar 1 briefer			П		т		П	т	AH		evaluation, application						_
Prepare as principal for Central Asia				П					АН	HJ, JR, MB	training Hari Jayanthi/USGS - is there a transition goal? by the end of the season? maybe not till next year.						
Participation in technical call					т		П		AH								
Lead Pillar 1 brief			Ħ		T		П	T	AH								
4. training/capacity building			Н		T		Н										
Develop agroclimatology training		П	П	П	Т		П	Т	AH		w/ other science team (NASA, NOAA CPC, USGS, UCSB)						
Deliver agroclimatology training to Pillar 1			П	\top	1		П	Т	AH		w/ other science team (NASA, NOAA CPC, USGS, UCSB)						
Consult with other science partners					Т		П		AH		w/ other science team (NASA, NOAA CPC, USGS, UCSB)						
Trainings with regional scientists for network developement/capacity bulding			П	П			П		АН		w/ other science team & regional scientists						
5. Management					T		П										
Staff and new hires					T				AH								
Budget			П		Т		П		AH								
POC for other NOAA PSL fewsnet			T		Т		П		AH								
Reporting					T		П		AH								
NOTES:																	
green = major objective from 5yr SOW		_															
grey = sub-task in 5yr SOW																	
under months 1=high priority, 2=background effort, 0=ongoing					_			_				-					

					Climate	Mara	rde Can	er (CHC	Statem	ent of V	Vork (SO	W)			
Activity	Sector	0 N	D J	F M	AM	Haza	J A S	Lead	Statem	lent or v	VOIK (SU	w,	Key Team Members	Notes	Dependencies
Data Set Improvement, Application and Distribution					ш	Ш	Ш						melibers		
1.1 CHIRPS Improvements & maintenance					П	П								Goal CHIRPS 3.0; dependancies: updates to livestock models (Chemonics) and USGS FEWS NET products	
CHIRPS Geospatial Improvements	1.1					П	П	PP	CF	FD			CF, FD	includes re-examining satellite/rainfall relationship, geostatistical interpolation, calibration to IMERG, extended period of evaluation and	
Validate and test CHIRP3 algorithm	1.1	Ш	ŧ	Ħ	Н	Ħ	ш	CF	SS	LH	GH	WT		potential revisiting Comparison with independent datasets (REGEN)	
Update and improve CHIRPS interpolation algorithm Validate CHIRPS3 and publication	1.1				H	H	+	CF CF	PP SS	LH	GH	wT		Comparison against independent datasets; overlap with CHIRPS2 for extended period	NASA is not planning on helping validation, but may provide some feedback if they notice something
revisiting screening of station data for inclusion	1.1	Ш	Ť	П	Ħ	Ħ		PP	ML	CF	GH	LH	ML, CF, GH, LH	discarding bad values, incorporating high values, keeping continuity with CHIRPS 2.0, but also updating for CHIRPS 3.0	NA-SA IS NOT planning on neighing valuation, but may provide some recuback it diey notice sometting
CHIRP/CHIRPS/CHPClim testing and screening CHIRPS r-checks & production (monthly)	1.1		Ŧ		H	Ħ	\blacksquare	SS		GH WT	ML ML	CF SP	LH, GH, ML, CF LH, WT, ML, SP		USGS/NASA - feedback when there are errors
1.2 CHIRPS applications													, , ,	Uses of CHIRPS in monitoring products (WRSI, SPEI, SPP)	
WRSI estimates with CHIRPS & RefET	1.2				Н	Н	Ш	WT	GH				GH	Operationalizing, with potential transfer to EROS, especially with regards to the projection to end of season Code infrastructure is there, but this is low priority for the moment. if time	NOAA - production of ETo
SPEI to operational product	1.2							GH	PP	ML	CF		PP, ML, CF	allows, or it becomes a priority we can accellerate or give this more attention Could potentially use low-latency Hobbins data	NOAA - production of ETo
Discuss different available RefET products Explore water requirement weighting of CHIRPS	1.2		٠		Н	Н	+	GH		WT	SS	LH		Work with hobbins to identify best products for use in WRSI or SPEI	NOAA - discussions with mike
1.3 Complementary Datasets		Ш	I	П	П	П	П						PP, SP, SS, ML,	30yr climatologies, WRSI, SOS, PET, SPP, SPEI Climate record is complete, through 2016. Plans to bring this up to current	
CHIRTS Production Cropped Area Mask / Field Boundaries (kenya)	1.3	Ш	+	Н	Н	H	+	CF SP	PP GH	SP	ML	SS	FD, LH, GH GH, SS, ML	are dependent on available effort this is likely a 2-3 year project	NOAA - production of IR data (Ken Knapp)
Cropped Area Mask / Field Boundaries (Malawi) recompute SPI using fixed climate window (1981-2010)	1.3	Ш	Ŧ	H	Ħ	Ħ	\blacksquare	SP	GH	ML			GH, SS, ML GH, ML	this is likely a 2-3 year project we have taken initial steps on this, and just need to complete it	USGS will import this to their EWX when complete
1.4 Expanded Webcontent	1.3					П		-	di	IVIL			GH, INIL	SPI in EWX, more stuff in EWX	USGS WIII Import this to their EWX when complete
add recomputed SPI (from 1.3) to EWX Make monitor products available on the web	1.4		Ŧ			H		ML		WT	PP		PP JWH, WT, PP	keep this ongoing, and potentially transfer to USGS	USGS - EROS will do same USGS - potential transfer to EROS
EWX maintenance and upgrades (new viewer)	1.4							ML						maintain our instance of EWX for input of R-checks and visual analysis of other products; also version for testing new EWX features	USGS - working with them to iterate
Website updates and additions collaboration with other webviewing platforms	1.4		ŀ	H		\prod	\blacksquare	GH ML		GH	\vdash		JWH, LH, ML SP, GH	e.g. Al, GEE/Climate Engine, USDA	USDA - ingesting CHIRPS
Seasonal monitoring products for select regions	1.4	Ш	I				П	WT	LL	PP			LH, PP	These have become the "seasonal monitor" under the "Early Estimates" umbrella	
Monitor products with CHIRPS-GEFS forecast Produce blogs highlighting results	1.4	Ш	1					LH JWH		GH	SS		ML	Early Estimates - Moving monitor	
Host NASA FLDAS outputs 2. Climate Trends and Forecasting	1.4		f			H		PP	ML	МС					NASA - they produce and push data to our server
Climate Trends and Forecasting Climate Trends and Food Insecurity			-		-	+								SST relationships (CF, LH), papers	
z.1 Climate Trends and Food Insecurity regional factsheets w/ NOAA ESRL (La Nina)	2.1		-			H		LH	CF	JWH	ss		CF, JWH, SS	evaluation of ENSO impacts on various regions, done in collaboration with	NOAA - collaboration with Andy, item 1.2.4 on UMD WP
Comparison of NMME quantile matched forecasts for different model	2.1	Ш	+	Н	H	Ħ	\pm	SS		LH	-		GH, LH	Andy Hoell/ NOAA ESRL (added October 2019) Are quantile matched forecasts actually matching the CHIRPS?	should this be with NOAA?
2.2 CHIRPS-GEFS		Ш	1	Ш	Ц	Ц	Ш	ML	PP	GH					
Operational CHIRPS-GEFS production More thorough validation, potential publication	2.2		t			Н	+	LH	CF	GH	LH	ML	CF, GH, LH, ML	This will go on into year 2. review quantile mapping, distribution analysis, wet event comparison, etc	NOAA - GEFS input (not sure if that's USAID supported) Also with support from UMD/HARVEST
Development of maps and guidance for when these products are usef Implement Theoretical distribution matching and testing	2.2		ŧ		Ħ	Ħ	\blacksquare	LH	ML SS	SS	GH		ML, SS, GH SS, CF, ML	An atlas and web interface showing detailing these deeper dig into the conversion from GEFS	NOAA - GEFS input
Transition to new GEFS reforecast	2.2							ML	GH		ML		33, Cr, ML	Transitioning from Reforecast2 to next generation of GEFS product	Dependent on production of new product from NOAA
providing LIS formatted data to GSFC 2.3 SOS, PET, WRSI forecasting	2.2		+		H	Н	+	SS						coordinate with GSFC and EROS	NASA/USGS - make sure outputs are meeting their needs
set up WRSI code to compute SOS with CHIRPS-GEFS	2.3								GH				GH		
set up WRSI code to compute WRSI with Seasonal PET forecasts PET forecasts operational	2.3	Н	+		Н	Н		SS					SS, GH PP, CF		
Evaluation and validation of downscaled SubX	2.3	Ш		Ш	Ш	Ш	Ш	SS	GH	LH	_		GH, LH	bias-correction is happening, but there is no spatial downscaling nor variability-matching occurring	
Evaluation of ECMWF forecast model 3. Forecasting Low-Yield Events and Food Security Impacts		Ш	-		Н	Н		SS	GH	LH				skill assessment of historical ECMWF to identify if there is a path forward with that dataset	UMD - coordinating with ECMWF
3.1 Modeling and Forecasting Yield and Food Security - good yield estimates		П	T		П	П									
finalize models for Kenya, Somalia	3.1	Ш				П		FD						Prototype version for Kenya was implemented MAM 2020, refining and incorporating input is needed. Potentially Somalia for OND 2020 season	
make forecasts more routine (JJAS, OND) Support to FEWS NET Price analysis	3.1	Ш	+	Ш	Н	Н	44	FD FD		_				After paper is finalized, discuss how to make these more routine, best avenue for distribution Work with Chemonics on estimating and forecasting prices	EWT/Chemonics
3.2 Modeling Outcomes of Low-yield Events and Food Insecurity	3.2		#		Ħ	Ħ		KG	FD				FD	work with Chemonics of estimating and forecasting prices	EW/Linemonics
relationship between low birthweight and NDVI in Ethiopia 4. Capacity Building and Network Development	3.2		t					KG	UH						
Data Products and Analysis Training						Ш		GH	CF	ss			GG, TM, AA, PM, MR, CS, SS, CF, GH	field scientists	USGS/NDAA/NASA - helping develop material for data products and analysis
GeoTools Training		П	T	П	П	Π	Ħ	GH	ss	CF			GG, TM, AA, PM, MR, CS, SS, CF,	field scientists	USGS - EROS is developing the next
collaboration with USGS re: data portal			\pm	\pm	Н	∄	\pm	GH					GH		version of the suite USGS - EROS is developing the next version of the suite
collaboration with HARVEST/SERVIR/GeoGLAM/USDA technical advisory for World Bank		Н	+	Н	H	H	+	GH FD	SS	CF	FD			Alkhalil, Gideon	UMD (also SERVIRdo we recognize them here?)
technical advisory for Digital Global/Chemonics technical advisory for fews data warehouse		Н	Ŧ	H	H	H	\blacksquare	GH FD							EWT - this had been handled by Chemonics Kimetrica - not sure if this is still part of our workplan
Kenya Ministry of Ag Capacity Building Haiti training and capacity building			I	H	H	Ħ	#	GG MR	cs	GH	FD				
Agroclim training in Jordan, DRC, Mozambique			I					GG	TM		cs	MR			
Support to Crop Tours Advising EWT on GDHI, and use of WRSI and rainfall			1	Ħ			Ħ	GH	CF	GG WT	CS	retK			
Kenya Livelihood Zone updates Pursue MoUs with appropriate partners			t	Н					CS MR					Diego also a major contributor	
 Contributions to Routine Reporting/ Early Warning (same every year) 		Ш		Ц	\coprod	Ц								responding to champening or	
5.1 Seasonal Outlooks contribution for southern africa			1					TM	LH	GH	SB	WT	LH, GH, SB, WT	responding to chemonics, preparing for seasonal forecast calls, preparign for GEOGLAM, weekly weather hazards, special alerts (esp EA) monthly calls	Inputs from NOAA, NASA, USGS - outputs to EWT
contributions for eastern africa			ļ					GG		DK	LH	WT	CF		Inputs from NOAA, NASA, USGS - outputs to EWT
contributions for western africa contribiutions for LAC			1					MR							Inputs from NOAA, NASA, USGS - outputs to EWT Inputs from NOAA, NASA, USGS - outputs to EWT
update seasonal calendars for select regions 5.2 CM4EW Crop Monitoring								AA		CS	TM	MR	PM, DD	w/ UMD HARVEST	
contribution for southern africa contributions for eastern africa			f			H	\mathbf{H}	TM GG					PM CS	condition collection and input to CM4EW interface condition collection and input to CM4EW interface	Outputs to UMD Outputs to UMD
contributions for western africa contribiutions for LAC			Ŧ	H	H	H	Ħ	AA MR						condition collection and input to CM4EW interface condition collection and input to CM4EW interface	Outputs to UMD Outputs to UMD
Climate contributions Production of CHIRPS-GEFS forecast and inclusion in reporting			1			Ħ	Ħ	LH		GH WT	GH		CF	Regional and global climate analysis item 1.2.1 in UMD workplan	Outputs to UMD
Production of SubX forecast and inclusion in reporting Production of NMME seasonal forecast and inclusion in reporting			1					SS	LH	WT	ML ML			Item 1.2.2 in UMD workplan Item 1.2.3 in UMD workplan	
5.3 Special analysis for hazard			ı	Ħ					LH	wi	ML	uH		item 1.2.3 in UMD workplan w/ USGS	
contributing to Weekly Weather Hazards southern Africa SOS analysis & mid-season outlook			1					LH TM			SS		TM, PM, GH, WT		NOAA - input to their process
eastern africa SOS analysis & mid-season outlook western africa SOS analysis & mid-season outlook			f	H	H	H	\mathbb{H}	GG AA	LH	WT	\vdash		LH, GG, CS, WT AA, WT, GH		
LAC SOS analysis & mid-season outlook Ethiopia Special reports			Ŧ	\blacksquare	H	\blacksquare	\blacksquare	MR CF		F			GH	with USGS rowland, diego, diriba	USGS
West Africa herd model Contributions to Map Books and Special Reports			Ī			H		AA TM		GG	2	MR	PM, DD, LH	These activities will be pursued upon request from EWT	
6. Communications Activities									-	F	<u> </u>		, 12, 21	blog posts, interviews, handout materials, social media, documentation of	
publication editing blog posts			1	H	H	H	\mathbb{H}	JWH			-		JWH, LH, WT. SS	biog posts, interviews, nandour materials, social media, documentation of datasets, making public data compliant, Posts with partners	USAID (Agrilinks)
news stories/social media ENSO traning materials/fact sheets			I					JWH		JWH	SS		SS CF, JWH		NOAA - partnership with Andy
sturing materials ract streets								LH.	U.	1 Jack	1 22	-	Cr, JWH	1	p. strang murany

					Clim	rte Ha	zards	Centi	er (CHC	Staten	nent of	Work (S	ow)						
Activity	Sector	0 N	D	J F	мА	М	J	A S	Lead					Key Team Members	Notes	Dependencies			
Improved Agroclimatology Training Material			П						GH					CF, LH, SS, JWH	coordinate w/ other sci partners	USGS/NOAA/NASA			
Outreach															Example: Agrilinks webinar, department talks	USAID (Agrilinks)			
8. Data Management/IT Activities							ш												
8.1 Server maintenance	DATA								MC										
5. Management			П																
Staff and new hires									GH										
Budget									GH										
POC for EWT, Hub and other Science Partners									GH										
Reporting									GH										
NOTES:																			
green = major objective from Syr SOW																			
grey = sub-task in Syr SOW																			
under months 1=high priority, 2=background effort, 0=ongoing																			

The state of the content of the co								c c	nont -C	d (Dese)		
March Marc						USC	S ERC	S Staten	$\overline{}$	Vou Too	1 au	
Marchand	· ·	Sector	ON	D 1	F	1 4	М	JA	S Lead		Other FEWS NET	Notes
Companies Comp	I. Agroclimatology Technical Support		$\overline{}$		П	П	_		_	_	_	
	L.1 Capacity Building		Ш	4	Н	Н		Ш			NOAA PSI	
March Marc	L. Agroclimatology training (@EROS, virtual, or elsewhere)	1.1			Ш	П			Rowla	nd Budde	(UCSB), (NASA),	NOAA: Hoell; UCSB: Husak (UCSB has been involved in the past, especially for CHIRPS rainfall estimation). [On request from EWT Home Office]
1	7 Weekly Weather Hazards								Budd	Pervez,		All staff that present the weekly weather hazards briefing
Company Comp		-	Ш	4	Н	Н	+			Jayanth		, , , , , , , , , , , , , , , , , , , ,
Company	3. Monthly Seasonal Forecast Calls		Ш		Ш	Ш			Budd	e Rowland	NOAA PSL,	
Secretary of the control of the cont					Н	Н	+				NOAA PSL,	NOA DSI - Hoall- HCSB- Hussk- NASA: Slinsky Will depend upon DOC and
Company	Agroclimatology training updates (finite)		Ш						Rowla	nd Budde	NASA, USCB, EWT	
Company			П		П	П						
Part	2. Development of New Methods, Tools and Datasets				Ħ	Ħ						
Commonweigner Commonweigne	.1 eMODIS NDVI		Ш	Ħ	Ħ	Ħ	T	П	1			
Mathematical Continue of Con	Conversion from eMODIS to eVIIRS	2.1			H	Ħ		П	Budd	Young,		Will work to implement (download, test, evaluate, operationalize)
Mary	2.2 CCD-based rainfall estimates		П		П	Ħ				Anthon		procedure developed by/for CONOS group
March Marc								П				
Mile Company			Н	+	Н	Н			Funi		NOAA CPC	If desired by CPC, USGS will provide advisement and support
	.s. EWA, EWA IITE		ш	+	Н	Н		Ш	-			
March Marc	dd FLDAS soil moisture data and time series (Africa and Yemen)				Ш	П					NASA GSFC	NASA: Kim Slinski
Martin M	dd FLDAS runoff data and time series (Africa and Yemen)				П	П			Budd	, Young,	NASA GSFC	NASA: Kim Slinski
March Marc	dd FLDAS runoff per capita land time series) (Africa and Yamna)	\vdash	П	1		H		H	Rowlan	d, Young,	NASA GSEC	NASA: Kim Slinski
Section 1. Control 1.		\longmapsto	ш	\dashv			+	Н	+	Anthon		
A	dd CHIRPS, LST, and ET to South America window	╚		Ц	Ш	Ш	\perp	Ш	Budd	Anthon		
March Marc	add FLDAS soil moisture, runoff, and runoff per capita (all windows)		П			П			Budd	Young, Anthon		
Section Law Supering special processing and Control Co	Ipdate historical mean for anomaly and SPI products		Н						Rowla	Budde,	UCSB	TBD after release of CHIRPS 3.0
Part	,		Н	H	H		H	Н	+	Anthon	1	
March Marc					H	\mathbb{H}	H	Ш		Varie -		
## Commonwers 19 1	onvert WRSI from RFE/GDAS to CHIRPS/ETo	Ш			Ц	Ц	\perp	Ш	Rowla	Anthon	NOAA PSL, UCSB	NOAA for access to ETo, UCSB for access to CHIRPS
Commonwer Comm	onvert WRSI-extended to use ensemble mean from previous years	<u> </u>					\perp	Ш	Rowla	Young, Anthon	UCSB	
Control (Control (C	dd forecast WRSI from CHIRPS-GEFS and ETo (average)		П		П	П			Rowla	Young, Anthon	UCSB	
Application	onvert Africa 30-day rain/dry days from RFE to CHIRPS			T	П	П			Rowla		UCSB	
And services of the product of the p					Н	Н	t	Ш	Rowla	. Young,		NOAA for access to ETo. UCSB for access to CHIRPS: Shrad at UCSB as part
Commonwealth Comm		-	Н	+	Н	Н			_	Budde	+	or services project.
	dd water point forecasts (CHIRPS, PET) to routine processing		Ш		Ц	Ц			Rowla	nd Budde	NOAA PSL, UCSB	of SERVIR AST project.
Second	add 6-month SPI to suite of SPI products		Ш		П	Ш			Rowla	Young,	UCSB	products, and will eliminate the 1-pentad SPI. Or EROS can develop from
Commonweal Com			Ш		Н	Н	-		_	Budde		the python script provided by UCSB
### Commonwers of the Commonwe	.5 Knowelege Base Updates		Ш		Щ	Ш	Ш					
March Marc	HIRPS / CHIRTS		Ш			Ц		Ш	Boik	Budde	UCSB	updated once a year: % anomalies and difference anomalies (based on 30- yr and 15-year means). Update CHIRTS as available
## Annual Processor Company Common Co	IDVI / ET / WRSI					Ш			Boik			update all products annually (annual anomalies)
And the control of th	Add all available products for newly identified countries		П		П	П			Boik	Rowland	USAID	Depends upon request(s) from BHA and/or EWT HO
Comparison			П	T	Ħ	Ħ	T		1			
Mary process	5 Hobbins RefET undates		ш	+	Н	Н						
March Marc			Н	+	H	Н	+		-			
Revision		\vdash	Ш	4	H	\mathbb{H}	+	Ш	+-			
Section May Name y relation with Configuration of May 1	VRSI		Ш	Т	Ц	Ш						cf. 2.4
Section Extractive Control of Machine Control of	pdated WRSI and Water Points with new/improved RefET		Ш		Ш	Ш			Rowla	nd Young,	NOAA PSL	
Anthony Concessing Pupilsters	. Spatial Data management and Infrastructure				Н	Н	H			Boiko		
	.1 USGS Early Warning Website	24				\blacksquare	Ţ		D. de	4-11-1	Horn	CHINDS ACT OFF
And Anthony Services (Angly Special Services)		3.1								Rowland		
Included data processing flyuplates	tandard data processing/updates	igsqcut			П				Budd	Anthon		UCSB: CHIRPS and derivative products
Andered data processing/updates In Processing Applicates In Interest of Version of Applications of Windows Applications of Version of Applications of Windows Applications of Version of Applications of Windows Applications of Version of Applications of Applicati	tandard data processing/updates				П				Budd	Young,	NOAA CPC	NOAA CPC: RFE and derivative products, GFS
Anthony Builde Anthony Peres Builde Anthony Rowland Anthony Peres Builde Anthony Rowland Anthony Rowland Anthony Rowland Anthony Rowland Anthony Rowland Anthony Builde Anthony Rowland Builde Rowlan	and the annual of the			\pm	H	H	H	H	-	Budde,		Curdoubt
sain-level streamflow and runoff (Afghanistan) Anthony asin-level streamflow and runoff (Afghanistan) Anthony Anthon	tandard data processing/updates		Ш		Ц	П		Ш	Kowla	Anthon		SYNE, SHOW depth, SOII MOISTURE, and derivative products
Serie-red transflow and runnoff (Afghanistan) with HyAAAP2 and Jam M Pervez Budde AMTHONY, UCS Budde, AMTHONY, UCS BUDDE AMTHON									Pervi	z Budde,	NASA	still in research w/ nasa: current processing for MAMJ 2021
Bowland Anthony, Boildo Activity Control of the February estimate graphics MX development, maintenance, updates MX development MX d	asin-level streamflow and runoff (Afghanistan)	-							Pervi	Rowland		still in research w/ nasa: operational for MAMJ 2022
Source Consequent Maintenance, updates W. development, maintenance, u	asin-level streamflow and runoff (Afghanistan) with HyMAP2 and	h			Ħ					Budde,		CHIRPS-GEFS graphics: release on USGS web portal in Jun 2021 (with new
Nowland Nowlan	asin-level streamflow and runoff (Afghanistan) with HyMAP2 and oah MP				П			Ш	Kowla	Boiko	_	updated GEFS from NOAA PSL)
Rowland Arthory, Budde Euror Source Sensing products for the Hub Invokance Arthory Budde Euror Source Sensing products for the Hub Invokance Arthory Budde Euror Source Support Sensing Support Invokance Arthory Support Sensing Support Se	asin-level streamflow and runoff (Afghanistan) with HyMAP2 and loah MP								Rowla	Budde		RCMRD?); GeoEngine5 implementation at UCSB in Nov 2020
Custom analysis and Briefing Support Custom analysis and Briefing Support Suppor	asin-level streamflow and runoff (Afghanistan) with HyMAP2 and oah MP osting CHIRPS-GEFS early estimate graphics WX development, maintenance, updates				\vdash	+	-	_		Vouna	FWT	Delegative MIDS and a second and delegative for DATE of A LITTUS and a
Nicola default reports Orothly seasonal forecasts Orothly seasonal forecast	ssin-level streamflow and runoff (Afghanistan) with HyMAP2 and oah MP osting CHIRPS-GEFS early estimate graphics XX development, maintenance, updates RSI for GDHI								Rowla	Budde		
Rowland Specific Activities for BRA Seasonal yield estimation Specific Activities for BRA asin-level streamflow and runoff (Afghanistan) with HyMAP2 and oah MP sosting CHIRPS-GEFS early estimate graphics WX development, maintenance, updates RSI for GDHI emote Sensing products for the Hub								_	Budde Anthony	_	Support to the Hub (Pillar 2) regarding access and display of USGS/FEWS	
onthly telecons with regional scientists In I	sin-level streamflow and runoff (Afghanistan) with HyMAP2 and ash MP string CHIRPS-GETS early estimate graphics XX development, maintenance, updates RSI for GDHI more Sensing products for the Hub Custom analysis and Briefing Support								Rowla	Budde Anthony Budde	Hub	Support to the Hub (Pillar 2) regarding access and display of USGS/FEWS NET agro-climatology monitoring products
Institutional Support and Development Land seasonal yield estimation f the VIII. Land seasonal Representative, Afghanitan Office EVIT EVIT Home Office, RWI FeVIT EVIT EVIT Home Office, RWI FeVIT EVIT EVIT Home Office, RWI FeVIT EVIT EVIT EVIT EVIT EVIT EVIT EVIT E	sin-level streamflow and runoff (Afghanistan) with HyMAP2 and sh MP string CHIRPS-GEFs early estimate graphics VX development, maintenance, updates RSI for GDHI mote Sensing products for the Hub Custom analysis and Briefing Support hiopia dekadal reports								Rowla	Budde Anthony Budde os Rowlan	Hub UCSB NOAA CPC,	Support to the Hub (Pillar 2) regarding access and display of USGS/FEWS NET agro-climatology monitoring products Diriba, Husak, Harrison. Belg and Kiremt seasons
phariatan/Central Asia seasonal monitor Pervex Jayanthia, EVT EWT Home Office, RoW Regional Representative, Afghanistan Office Budde, Boxlo Boxlo	sin-level streamflow and runoff (Afghanistan) with HyMAP2 and ah MP at MP and ah MP sting CHIRPS-GEFS early estimate graphics X development, maintenance, updates RSI for GDHI mote Sensing products for the Hub Custom analysis and Briefing Support sliopia dekadal reports onthly seasonal forecasts								Rowla Pedre Rowla	Budde Anthony Budde os Rowlan Jayanth Budde,	Hub UCSB NOAA CPC, NOAA PSL, UCSB	Support to the Hub (Pillar 2) regarding access and display of USGS/FEWS NET ago-climatology monitoring products Dirlba, Hussias, Harrison. Belg and Kiremt seasons NOAA PSL: Moell; UCSB: regional scientists; USGS: Jayanthi
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Institutional Support and Development Specific Activities for BHA Go-op agreement with UCSB Rowland Funk UCSB, EVT UCSB, Shukla, Husak, Devenport; additional collaboration with EVT. Updates should appear in USS quarterly reports. WCSB, NASA, UCSB, NASA,	ssin-level streamflow and runoff (Alghanistan) with HyMAP2 and oath MP oath MP osting CHIRPS-GEFS early estimate graphics WX development, maintenance, updates RSI for GDHI emote Sensing products for the Hub Custom analysis and Briefing Support hiopia dekadari reports onthly seasonal forecasts onthly telecons with regional scientists onthly telecons with regional scientists								Pedre Rowla Rowla Budd	Budde Anthony Budde sos Rowlan d Jayanth g Jayanthi Jayanthi Jayanthi Jayanthi	Hub UCSB NOAA CPC, NOAA PSL, UCSB UCSB UMD	Seport to the Hub (Fills Z) regarding access and display of USGS/FEWS NET agro-dimatology monitoring products Duriba, Hussik, Harrison. Belg and Kirents seasons NOAA PSt. Hoelf, USB: regional scientists; USGS: Jayanthi USB: Husak, regional scientists crop classification: Jayanthi; report editing: Budde
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