MEP June 2022 Report

A gorgeous shot of elephants in the Mara in June taken by MEP Conservation Officer Wilson Sairowua.

GENERAL

Over two weeks in June, MEP's Conservation Officer Wilson Sairowua participated in the Smithsonian's Earth Optimism initiative at the Folklife Festival in Washington, DC. He interacted with thousands of visitors alongside our conservation partners from the Maasai Mara on the National Mall to present about elephant movement ecology and MEP's work promoting co-existence. Wilson had a great time meeting everyone and being a tourist in DC since it's his first time in America. Wilson was using EarthRanger to show how we track elephants using collars.

In early June, Mara Elephant Project was alerted when an elephant calf with an arrowhead injury was spotted. We quickly dispatched our long-term monitoring (LTM) team and MEP's assistant senior warden to monitor the baby according to the location given in Mara North Conservancy (MNC). Luckily, they quickly found him and confirmed that he had an arrowhead sticking out of

his back and needed immediate vet intervention. Kenya Wildlife Service (KWS) Vet Dr. Titus Kaitho from the Sheldrick Wildlife Trust (SWT) Mobile Vet Unit was called in to treat the baby and the arrowhead was successfully removed and the wound was treated. During treatments like these, it's safer for the personnel on the ground to also tranquilize the mother, who otherwise would become very aggressive while treating the baby. They both woke up and were back with their herd and are being closely monitored by MEP rangers on the ground. That very same day, a bull elephant required treatment for an infected wound on his rear left leg. The same team got together to treat this bull who was located nearby the first operation.

On June 16, the MEP "Foxtrot" ranger team spotted a bull elephant with an injury on his left side, near a rib. The KWS Vet Dr. Ephantus Ndambiri from the SWT Mara Mobile Vet Unit attended to the elephant, and successfully treated the spear wound. This bull was part of a pair that MEP rangers has responded to push out of community's farms and remained to keep a close eye on him after treatment.

Finally, on June 29, we once again collaborated with KWS Vet Dr. Ephantus Ndambiri from the SWT Mara Mobile Vet Unit to treat a bull elephant in MNC for an arrow wound on his head right next to his ear. Working closely with partners like KWS, SWT and local conservancies is critical to protecting elephants in the Mara.

SECURITY, ANTI-POACHING & CONFLICT

June was another impactful month for Mara Elephant Project rangers in their areas of operation.

The MEP intelligence unit was involved in a bust that resulted in 21 kg of ivory (five pieces of tusk) and the arrest of three suspects by Kenya Wildlife Service.

The two MEP / Sheldrick Wildlife Trust Mau De-Snaring Units operating in the Mau Forest, the "Charlie" and "Alpha" teams, were extremely successfully busting illegal logging operations and rooting out bushmeat poachers.

In the Nyakweri Forest, the MEP "Golf" ranger team continued their protection of collared elephant Fitz and his herd, sponsored by Angama Foundation, and combatting habitat destruction inside the forest.

In the Loita Forest, the "Echo" ranger team had several large illegal logging busts and arrests alongside government partners.

MEP's "Foxtrot" ranger team was busy assisting partners with elephant treatments, as mentioned previously, and responding to conflict.

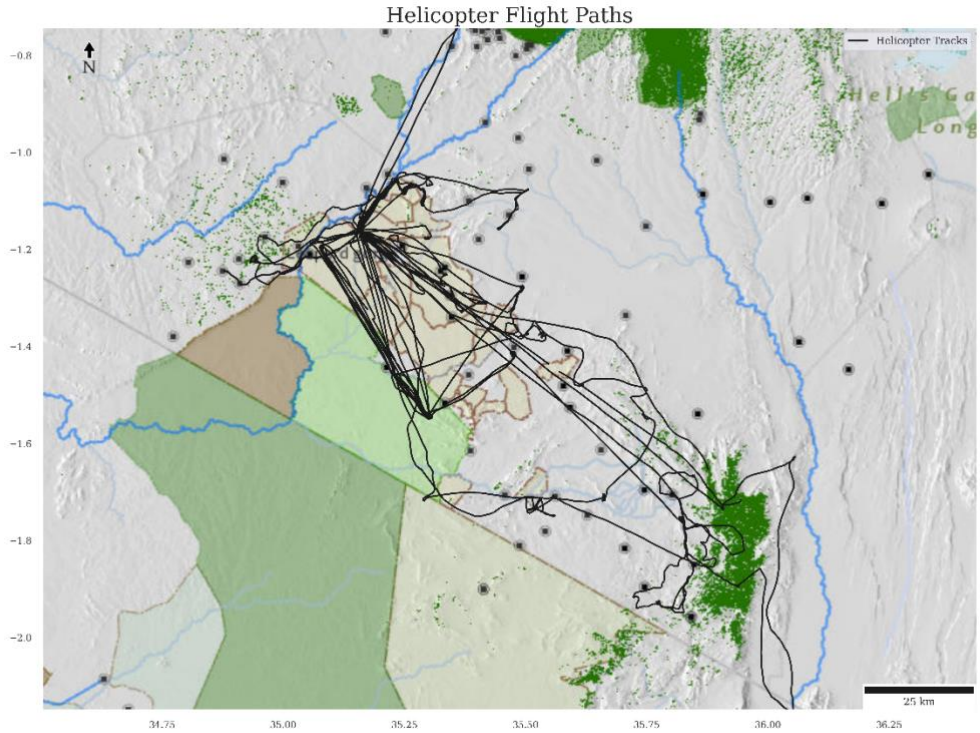
Overall, in June, MEP rangers alongside government partners arrested 29 habitat destruction suspects, confiscated 124 posts, 724 pieces of timber and 40 trees, recovered two power saws, and destroyed 53 kilns and 10 sacks of charcoal. They also arrested five bushmeat poaching suspects, recovered 1.5 kg of bushmeat and removed 17 snares. They also mitigated a total of eight conflict incidents. In June, MEP rangers covered a distance of 1,173 km on foot in the GME

and MES rangers in Shimba Hills covered a distance of 70 km on foot. Additionally, MEP rangers patrolled 15,517 km by car in GME and 1,539 km on motorbike.

HELICOPTER

Reports were coming into MEP about a very aggressive female elephant attacking motorbikes in an area nearby our headquarters. This type of aggressive behavior was uncommon for an elephant, and this female was a candidate for a collar so that Kenya Wildlife Service (KWS) and MEP could track her movements in real time and respond accordingly. The cause of her aggressive behavior was revealed during the collaring operation on June 15. The MEP leased helicopter was there to help gently push her out into the open where KWS Vet Dr. Ephantus Ndambiri was able to successfully dart her, and we were able to collar her. Upon inspection, we discovered she was missing the footpad on her front left foot which must have hurt her immensely while walking. Dr. Ndambiri treated the abscess and we're hoping this might help relieve her pain. Elephant collaring and monitoring is done in collaboration with KWS and the Wildlife Research and Training Institute (WRTI) to more effectively respond to conflict when both elephants and people are in danger. The helicopter was a critical tool during this mission.

Polaris was originally collared in June 2013 by KWS, WRTI and MEP to better understand how he was navigating between conservancies through increasing infrastructure development. Polaris is also a large bull elephant estimated to be over 50 years old, with large tusks, making him a potential target for poachers. On June 16, while CEO Marc Goss was conducting a routine aerial patrol in the MEP leased helicopter, he spotted Polaris and together with KWS Vet Dr. Ephantus Ndambiri re-collared him in order to track his movements between safe areas, and the land use changes occurring around Pardamat and Ol Kinyei conservancies.



COMMUNICATIONS & FUNDRAISING

We launched a brand-new partnership in June with Thanksgiving Coffee Company. The Protect the Elephants coffee is now available, and every bag sold directly benefits Mara Elephant Project.

In June, we were excited to join How Many Elephants to celebrate World Female Ranger Week. We spent a week highlighting all of MEP's amazing female rangers and their work. Thank you to everyone who joined us to donate. We also celebrated Madaraka Day, Father's Day and World Environment Day with you all in June.

Photographer Harry Blakey partnered with MEP and 10% of all elephant print sales supported our efforts. Additionally, Virtual Safari NFT is donating 40% of their net profits from their elephant collection back to MEP. We've already received a $90 donation in June and the support continues. We received support from James Lewin Photography from prints sold in June, thank you. We also received donations of a medical kit, several books for research and operations staff, flashlights and Swiss Army knives all from MEP's Amazon Wish List. Thank you very much for everyone who sent items.

We had many great visitors to our operational headquarters in the Mara in June as tourist season is in full swing. It was great to welcome people back to the Mara to see the work we're doing in action. Thank you to all of the local camps who recommend us. In June, Mara Elephant Project Trust in Kenya received $11,426 in donations, thank you to Foreningen Forsvara Elefanterna for their continued loyal support, Angama Foundation as well for their 2022 grant payment to support MEP's core operations and Endeavours Far Beyond for continuing to support MEP's helicopter. The Sidekick Foundation, Inc. dba Mara Elephant Project USA received $206,594.98. Thank you to the Fehsenfeld Charitable Fund for supporting the protection of an elephant for three years. Additional thanks to Borås Djurpark for their continued support of MEP with a grant in 2022. Thank you to The Tom Fund, Ginni Keith, Geoffrey Peters, Pamela Lunny, Frederick Voccola, Elephanatics, The Wilson Sexton Foundation, Sally Davidson, Joseph Davison, Catherine Balton, Dorothy Barnes-Butler, Richard Litkenhaus, Richard Lolatte, Janice Lunn, Gregory Moore, Carol Olwell, Marion Pyle Stone, Nancy Simerly and Frederick Voccola for their support in June. Also, thank you to the photographers who supported MEP in the June Greatest Maasai Mara photo competition.

An entry by Chags Photography in the June GMM.

RESEARCH & CONSERVATION

Director's Update

I joined Mara Elephant Project's LTM team in Samburu to see our partner Save the Elephants (STE) field monitoring work firsthand. We were able to show STE the latest technology MEP has developed to identify elephants and learn more from their LTM team on individual elephant identification. Collaborative efforts like these are key opportunities to share knowledge and expand MEP's ability to produce impactful outcomes with our research.

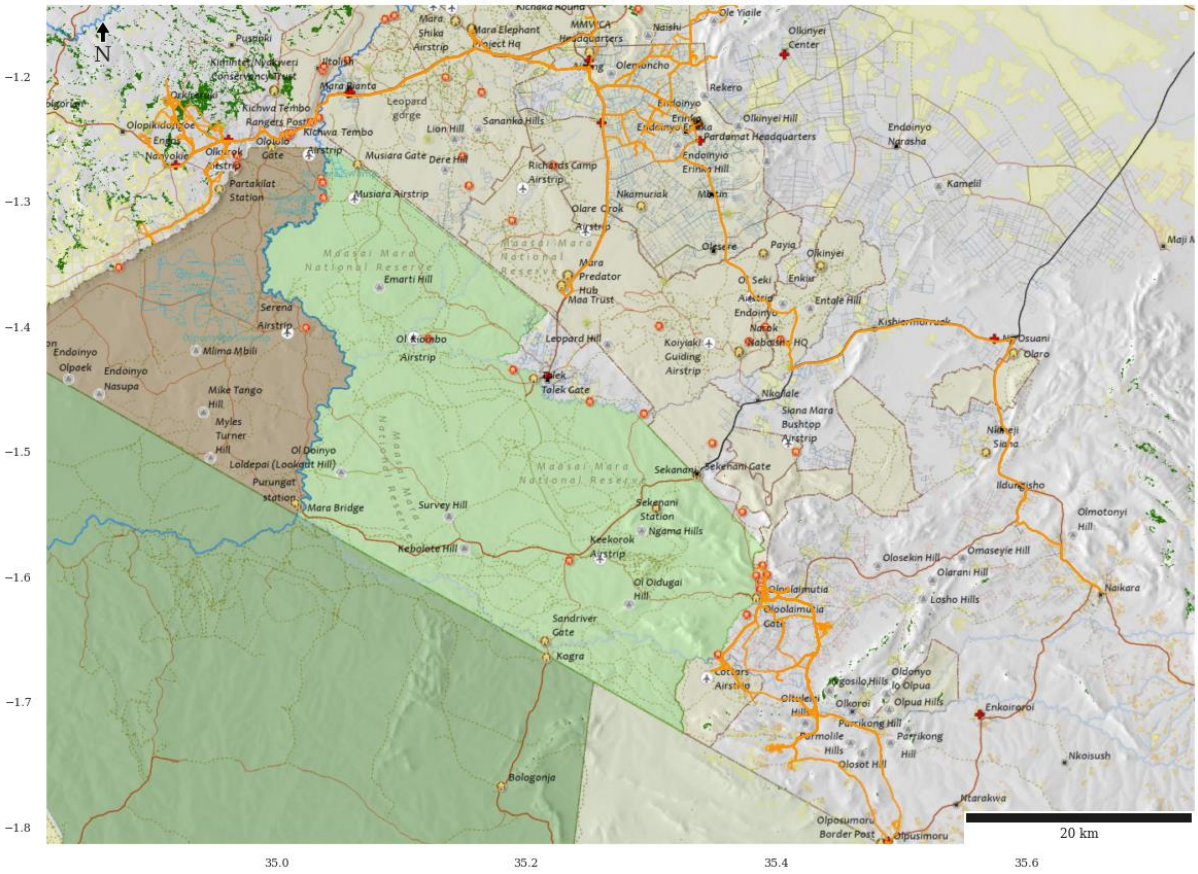
© Gilbert Sabinga/Save the Elephants

MEP's key partner EarthRanger announced their Conservation Technology Award for 2022 in June. They are accepting applications through August 31 for innovators working to safeguard wildlife and their habitats through the advancement of technology. They are giving two $15,000 grants, and I will once again be sitting on the selection committee and look forward to learning more about the worthwhile candidates who enter.

Year	Month	Electric	Other	Wire	De-fenced	Total (kms)
2019	November	48.27	-	18.35		66.62
2019	December	81	-	59		140
2020	January	111.16	4.64	124.71		240.51
2020	February	101.62	1.17	33.99		136.78
2020	March	48.59	0.14	59.76		108.49
2020	April	19.78	0	10.38		30.16
2020	June	24.75	1.88	41.18		67.81
2020	June	15.19	1.48	107.88		124.55
2020	July	37	-	52.76		89.76
2020	August	60.12	7.52	40.08		107.72
2020	September	126.95	7.15	221.44	15.18	370.72

2020	October	109.05	10.57	218.99	1.78	340.39
2020	November	101.2	24.52	153.12	13.88	292.72
2020	December	62.99	9	190		261.99
2021	January	87.9	19.4	121.09	5.2	233.59
2021	February	79.2	22.9	175	-	277.1
2021	March	20.3	7.4	147.92	8.6	184.22
2021	April	80.2	31.05	96.4	2.3	209.95
2021	June	40.3	23.6	296.5		360.4
2021	June	37	44.8	214.2	2.7	298.7
2021	July	21	33.6	138	63.6	256.2
2021	August	14.03	48.7	159.8	0.44	222.9
2021	September	19.2	34.8	218.1	0.1	272.2
2021	October	21.7	17.9	109.5		149.1
2021	November	5.6	7.9	169.9		183.4
2021	December	-	0.6	86.4	-	87
2022	January	13.3	28.9	182.6		224.8
2022	February	1.8	24.5	54		80.3
2022	March		43.3	168.7		212
2022	April	7.3	21.5	133.6		162.3
2022	May	0.1	46.6	65.5		112
2022	June	23.4	12.6	8.3		44
	Total (kms)	1,419.6	513	3,877.3	113.78	5,948.3

Research Team Patrols



Movements (orange tracks) of MEP's three field assistants during June. All of our field assistants are working on mapping fences, roads and landcover ground-truthing points using motorbikes and our TerraChart app. They recorded 44 km of fences and 4 LCC points in June.

MEP Experimental Farm

General Update

The month of June had the lowest rainfall received compared to the past few months, with only three days, which has required more irrigation to all crops to ensure they are growing under the right condition.

It has been an eventful month with many different activities taking place at the farm. We were very delighted to receive Fred Fehsenfeld who had an opportunity to see our work firsthand. Fred and Suzie Fehsenfeld, co-founder of MEP, visited EARTH University in Costa Rica early this year (my almae mater) and will facilitate an internship for two EARTH students at our experimental farm in 2023. We also had two BBC Wildlife journalist who visited the farm and spent a day filming our work. The nearby community members were part of the team interviewed and we're excited about that coming out later this year.

At MEP, partnership plays a big role to bringing solutions to the community, which is why we recently received Bishop John Kisotu and Reverend Peter Kaaika from the Orderkesi AGC Development Project, a community project with a farm and other facilities in the Orderkesi area. They are looking to partner with MEP to run their farm to empower the local community and MEP is interested in expanding our research to further reduce human-elephant conflict in the area. I had the chance to visit the project in Orderkesi to learn more.

We also had a meeting with The Maa Trust to discuss a partnership involving their youth enterprise training department. The MEP Experimental Farm has raw material crops that could be used for essential oil production, while The Maa Trust has a market for essential oils that they train their youth to use for soap making.

Experimental Farm SITREP*: June* 2022

Date Time	Plot Id	Type of Crop	Details
2022_06_06	1-4.1	Sweet Potato	Leaves eaten by cows with a grade 2 severity
2022_06_06	2-4.1	Beans	With a grade one severity monkeys have uprooted beans before they have all germinated
2022_06_06	2-6.1	Wheat	Cows cleared the whole plot of wheat
2022_06_06	2-7.1	Sunflower	Cows fed on the leaves on the stalks minimal damage observed
2022_06_06	3-6.1	Lemon Grass	A few plants eaten by cows
2022_06_06	4-3.1	Garlic	A few are being uprooted by vervet monkeys since they look like maize when small
2022_06_06	5-1.1	Sweet Potato	A few pieces eaten by hippos
2022_06_06	6-3.1	Potatoes	A mole has recently identified that there are potatoes in the farm and its feeding on them hugely
2022_06_06	6-6.1	Sweet Potato	The leaves was completely eaten by cows
2022_06_06	7-7.1	Wheat	A few pieces at the edge eaten by hippos
2022_06_06	9-1.1	Butternut	Cows passed through the plot eat a few leaves
2022_06_06	9-4.1	Sukuma	Sukuma leaves has been eaten by cows

2022_06_06	9-12.1	Maize	All the maize crop has been eaten by cows leaving the plot bare
2022_06_06	9-14.1	Wheat	Partly eaten by cows
2022_06_06	10-10.1	Wheat	Partly eaten by cows even though still very small
2022_06_06	11-12.1	Sunflower	Birds has eaten all the sunflower seeds from this plot
2022_06_06	S2-1-1.1	Maize/hives	Helmeted Guinea Fowl uprooted a few maize from this plot
2022_06_06	S2-1-2.1	Maize/Chili/Cover crop	Helmeted Guinea Fowl uprooted a few maize from this plot
2022_06_06	S2-1-3.1	Maize/Sunflower/Cover crop	Helmeted Guinea Fowl uprooted all the maize replanted
2022_06_06	4-4.1	Spinach	A total of 4.5kgs was harvested from the two plots and taken to HQ
	7-8.1		
2022_06_06	8-4.1	Coriander	14.5kgs of fresh yield was harvested and taken to HQ
2022_06_06	11-9.1	Sukuma	One kilogram of Sukuma was harvested from this plot
2022_06_12	7-9.1	Corriander	Replanted after it was harvested last moth
2022_06_12	2-7.1	Sunflower	All plots were replanted for the third time after reaching maturity, but all have been predated by birds and hence zero yield
	7-2.1		
	10-3.1		
	11-12.1		
2022_06_12	1-2.1	Lemon Grass	Slightly eaten by hippos
2022_06_12	1-4.1	Sweet Potato	Cows eats most of the vines under grade two of severity
2022_06_12	10-10.1	Wheat	Hippos eat the wheat moderately that will require replanting
	7-7.1	Wheat	
2022_06_12	8-16.1	Spinach	Insects affecting the spinach, causing their leaves to curl
2022_06_12	1-10.1	Tomatoes	Hippos passed through the plot though they have not eaten
2022_06_12	10-6.1	Beans	Insects and the cold has affected all the beans in the farm, making them to have low yield, they were uprooted and replanted
	2-4.1		
2022_06_12	2-13.1	Rosemary	The whole plot was harvested for the first time and a total of 4.5kgs was harvested from the two plots and taken to HQ
2022_06_12	5-12.1	Peppermint	For the first time it was harvested, the leaves were the only part picked and a total of 2kgs was harvested
2022_06_12	7-3.1	Chili	2kgs was harvested as most of it was flowering
	8-7.1		
2022_06_12	4-4.1	Spinach	A total of 3kgs was harvested from the two plots
	7-8.1		
2022_06_12	8-10.1	Capsicum	4kgs of yield was harvested since the plant is going to senescence
2022_06_12	8-11.1	Cabbage	They have been eaten by vervet monkeys and insects
2022_06_12	9-9.1	Okra	2kgs of the small sized okra was harvested and taken to HQ
2022_06_12	11-9.1	Sukuma	A total of 4kgs was harvested
2022_06_26	6-3.1	Potatoes	The crops are being eaten by mole
	9-6.1		
2022_06_26	2-6.1	Wheat	They were replanted and all have been eaten helmeted guinea fowl
	7-7.1		

2022_06_26	5-8.1	Cabbage	The fruits were being eaten by monkeys
2022_06_26	5-2.1	Peas	One kilo gram of yield was harvested
2022_06_26	8-12.1	Ginger	After a long while since they were planted we harvested a total of 2kgs of this plot
2022_06_26	9-9.1	Okra	2 kilograms of produce was harvested
2022_06_26	9-11.1	Spinach	One kilogram of yield was harvested
2022_06_26	11-9.1	Sukuma	A total of 3kgs was harvested from this plot
2022_06_26	11-10.1	Managu	A total of 3kgs was harvested from this plot
2022_06_26	2-4.1	Beans	They were uprooted due to aphid infestation and cold that led most of them to die, and zero yield, they were later replanted
	3-9.1		
	4-7.1		
	6-13.1		
	10-6.1		
2022_06_26	3-5.1	Cabbage	These two plots were replanted
	8-11.1		
2022_06_26	4-10.1	Butternut	All uprooted due to no production, their fruits are affected when young by a diseases impending maturity and replanted
	5-11.1		
	6-7.1		
	9-1.1		
	11-4.1		
2022_06_26	5-5.1	Gooseberry	They dried up, so they were uprooted and replanted
	8-2.1		
2022_06_26	9-8.2	Cucumber	The two plots were replanted after harvesting the last period
	10-12.1		

Figures

Figure 1, 2, 3, 4& 5: cows, hippos and goats some of the predators captured by our camera traps.

Figure 6, 7, 8 & 9: wheat, sweet potatoes, lemongrass and carrots after being predated by hippos and cows.

Climate Report

Table 2: 1 MEP's Experimental Farm Rainfall Recording June 2022

Date Time	Precipitation (ml) Rain gauge 1	Precipitation (ml) Rain gauge 2 (200m^2)
2022_06_09	3.2	2.8
2022_06_10	13	9.2
2022_06_20	21	14.2

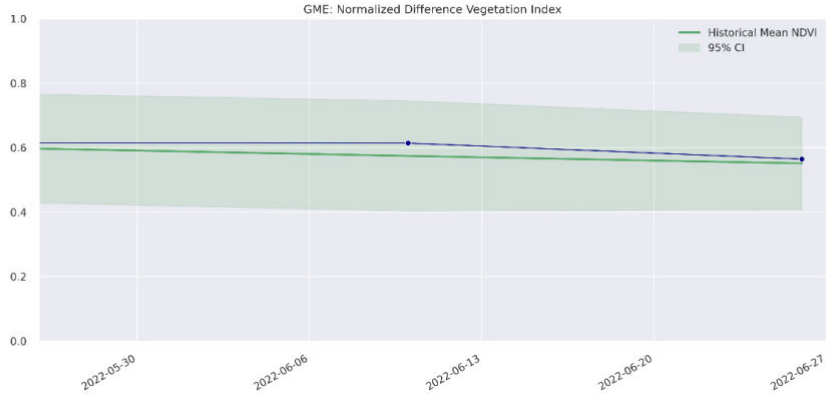
Tracking Manager Report

Collared elephants Chelsea and Fred were monitored by MEP rangers on the ground in June.

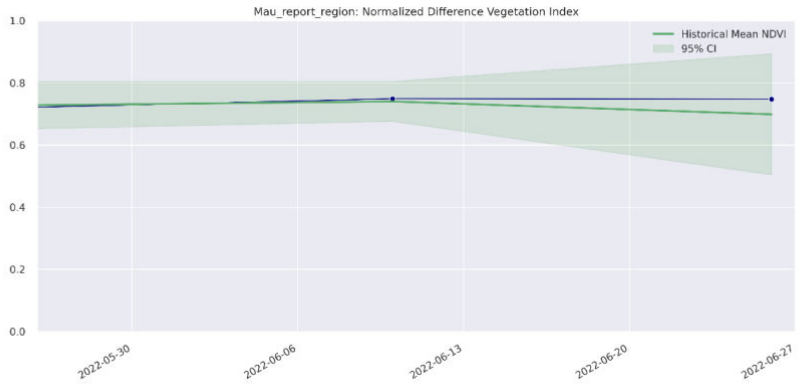
ENVIRONMENT: NDVI

Normalized Difference Vegetation Index (NDVI) is a measure of plant photosynthetic activity. Higher NDVI indicates the plant is greener. The blue trend line shows the current value while the green area shows the 95% distribution of values centered around the green trend line from values measured back to February 2000.

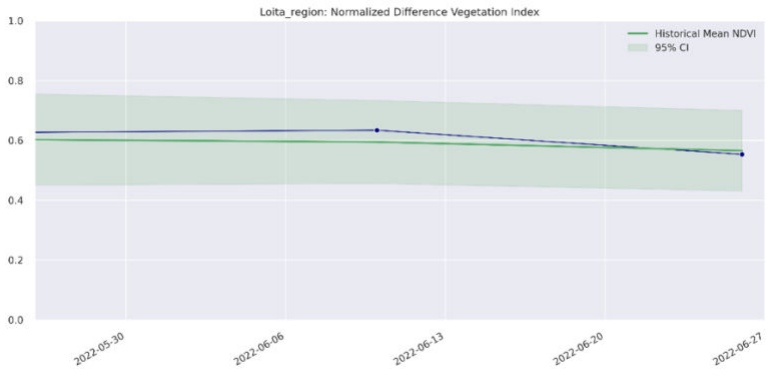
Greater Mara Ecosystem (GME)



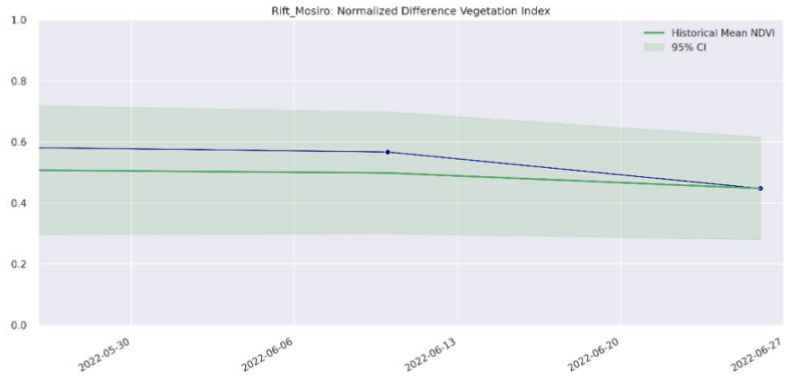
Mau Forest

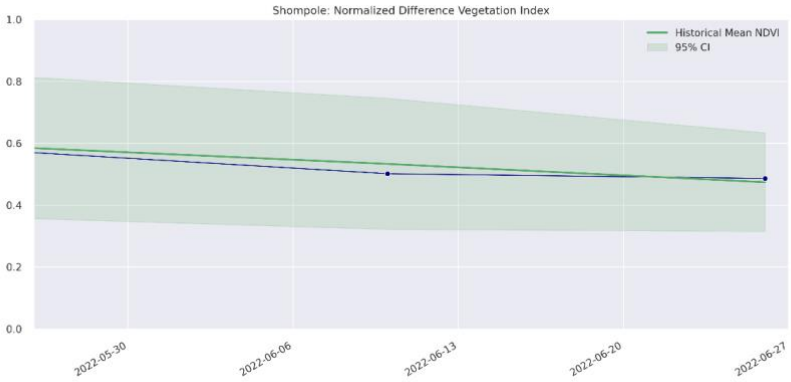


Loita

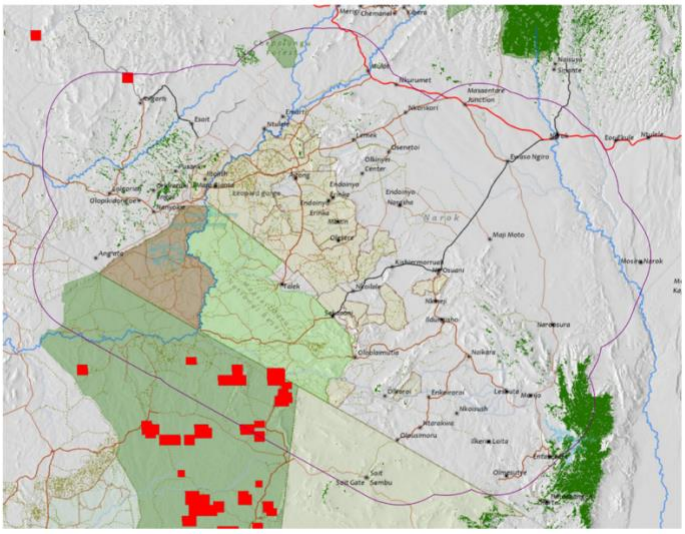


Rift Valley





ENVIRONMENT: Burn/Fire Areas



Red blocks indicate burn areas as measured by NASA's FIRMS dataset during the period June 1 - July 1, 2022. Accessed through Google Earth Engine.