MEP August 2022 Report

Taken from the field by MEP Conservation Officer Wilson Sairowua.

GENERAL

Our general elections took place on the 9th of August, and we look forward to supporting our new president and county government. All of the Mara Elephant Project staff got August 8-10 off to vote. Mara Elephant Project recruited four new staff members in August to build our organizational capacity in several departments. We thank everyone who applied for these positions, and we are excited to welcome new members to our team.

In August, MEP was honored to host a Passing Out Parade (similar to a graduation) for our newly launched Loita ranger team, and for the Enarau Conservancy rangers that graduated alongside our team. We were humbled by the turnout, which included distinguished guests the Honorable Najib Balala, Cabinet Secretary, Ministry of Tourism and Wildlife and Regional Coordinator West Daniel Muli from the Maasai Mara Wildlife Conservancies Association. MEP's Honorary Trustee Brian Heath was also in attendance and CEO Marc Goss spoke at the ceremony. The rangers performed a parade and received warm wishes and congratulations from everyone in attendance. This ranger team has been deployed in the Loita Hills to increase protection for wildlife, their habitats and the communities they call neighbors. Congratulations to the graduates!

In August, MEP joined our partners to save an elephant mother from a horrible snare wound. MEP rangers from the "Golf" team joined with Mara Triangle rangers to search for the wounded mother, and her calf, after a local guide from Governor's Camp spotted the injury. It was easier said than done, but after a day of searching, they were spotted inside an area that wasn't easily accessible for treatment. The MEP leased helicopter piloted by CEO Marc Goss was called in to push her out, and the Sheldrick Wildlife Trust Mara Mobile Vet Unit did what they do best, treat the wound. The snare had caused a very deep cut into this mom's leg and KWS Vet Dr. Ephantus Ndambiri removed the snare and treated the wound. After treatment, the mother elephant was up on her feet with her breastfeeding baby by her side. Wire snares are not only harmful to the wildlife meant to be trapped and used for bushmeat, but also for wildlife like elephants, as they cause life threatening injuries like the one you see here. MEP rangers have removed over 1,450 snares in their areas of operation in order to increase protection for the wildlife that call it home.

SECURITY, ANTI-POACHING & CONFLICT

In August, MEP's "Foxtrot" ranger team responded to a medical emergency when a motorbike accident occurred nearby their area of patrol. Two men were injured and needed transportation to a nearby clinic. The MEP rangers are all trained in first aid, and a core group including some members of the "Foxtrot" team have patrol medic training. The rangers responded by administering first aid to the men that were injured and transporting them to a nearby clinic where they received medical attention. MEP's rangers are all local community members tasked with not only protecting wildlife, but also people. We are proud to be able to respond to incidents like this and wish everyone involved a quick recovery.

In terms of habitat destruction in August, MEP's rangers alongside government partners arrested 14 habitat destruction suspects, confiscated two power saws, 79 posts, 38 timbers and six trees that were logged. They also destroyed 32 kilns, nine sacks of charcoal and removed 9 snares.

In August, the MEP "Golf" ranger team was called by the community to respond to conflict involving elephants inside their yards. Once the team arrived, the elephants had departed, but their footprints were left behind, both literally and figuratively. There were two homes with major damage, as this Maasai homeowner is showing you. These are family homes that now need extensive repairs to provide the shelter needed. Luckily no one was injured during this encounter; however, that's not always the case. Elephants are the largest land mammals, and when they come into contact with communities, they can cause major damage to infrastructure, crops and even large vehicles. Earlier in the week, while responding to a conflict incident with our partners,

Kenya Wildlife Service, their vehicle was rammed by an elephant, and the results, as you can see, totaled the vehicle. Everyone walked away with minor injuries.

There were 24 conflict incidents in August where MEP's community rangers responded, many at night, and the most in 2022 to date. Crops were ripe and it kept our rangers busy. In the photos, you can see damage left behind and rangers responding to remove elephants from community land.

In August, MEP rangers covered a distance of 940.8 km on foot, 10,506 km by car and 1,777 km on motorbike in the GME. In August, MES rangers in Shimba Hills covered a distance of 54 km on foot. MEP rangers were monitoring elephants in the GME in August and documented multiple sightings.

While Mara Elephant Project's "Foxtrot" ranger team was patrolling in their area of operation, they came across a group of eight bull elephants in Ol Kinyei Conservancy. The members of this bachelor herd were all noted to be healthy and were enjoying browsing for food. One even came quite close to the ranger's vehicle.

HELICOPTER

Collared elephant Audrey was monitored from the air using the MEP leased helicopter earlier tin August. Audrey was collared to allow Kenya Wildlife Service, the Wildlife Research and Training Institute and MEP to track her movements to prevent conflict and build a data driven case for support to better protect the landscape for wildlife. During the aerial monitoring, it was noted that Audrey's herd was healthy, her collar was fully functioning without much wear-and-tear, and that her baby is growing fast.

On August 14, KWS reported crop raiding elephants deep inside a farming area on the slopes of the Mau Forest on the Naivasha side. This situation quickly became an emergency as large numbers of community members had gathered to protect their farms from further damage. The KWS ground team mobilized rapidly to prevent the community from attacking the elephants, but they were not able to chase the herd out of the large-scale maize plantations. That's when KWS called in MEP's leased helicopter to move the elephants toward Mt. Suswa. We moved the elephants southeast 24 kilometers (15 miles) toward Mt. Suswa where they would be safe, but

not without navigating a few obstacles. There were a number of very steep ravines that elephants weren't able to cross, which meant we needed to push them along the edges of farms. As you can see from this video, when the elephants got to the Standard Gauge Railway the engineers had luckily made large underpasses for wildlife and so they easily went through. When we reached the main tarmac road from Nairobi to Narok town KWS officers on the ground were able to stop the vehicle traffic each way to let the six bulls cross safely.

Elephants make extreme movements when they are searching for mates, food resources or are following historical corridors. We are not certain where the elephants came from to reach this area, maybe the Rift Valley or Mau Forest? That's why collecting movement data using satellite collars is a critical component to KWS and MEP's approach to promote co-existence. If there had been a collared elephant in this herd, we would know for certain where they came from and get an early warning if they tried to reach these farms again. As if on cue, this point was made the very next week, when collared elephant Hannibal and his herd made the same movements and we were alerted to intervene with the helicopter before they were able to reach the farms. Captured from the helicopter's GoPro 360 camera, you can see the herd crossing over the main tarmacked road between Nairobi and Narok, which created a lot of excitement locally. MEP partners with KWS and the Wildlife Research and Training Institute to collar and track key elephants to provide early intervention for conflict and monitor how elephant movements changes within an ever-changing landscape.

COMMUNICATIONS & FUNDRAISING

We were just amazed by everyone's support in August. You joined us to Go Gray for World Elephant Day and showed your love on social media and by supporting our mission. Our long-time supporter, Elephanatics, raised money to re-green the Mara, partnering with Seedballs Kenya to fund 125 kg of indigenous seedballs for MEP to distribute in areas of the Mara destroyed by kilns or logging.

We had many visitors to our campus in the Mara, and it's great to see tourists coming to the Mara again to see the Great Migration. Thank you to our tourism partners for including MEP in their travel itineraries. We had the core staff members from a key donor join us for a few days to see firsthand the work we're doing on the ground. Overall, in August, the Sidekick Foundation, Inc. dba Mara Elephant Project USA raised $252,929.42 and MEP Trust in Kenya raised $620.

Thank you to Mary Love for her continued loyal support. We'd also like to thank a long-time donor Sue Anschutz-Rodgers for her donation in August. Additional thanks to Rex Chamberlain, Karen Kehoe from the F Patrick Kehoe Trust, Nataalia Rey, Rosalie Miranda, Kenneth Kipp &

Terrie Ray, The Hitchcock Hoagland Foundation, The Marcia & Kenneth Dam Family Charitable Fund, Sharon Miles, Warren Agard, Barbara Aster, Barbara Campbell, Carmen Cappadona, Donna Chandler, Lawrence Corry, William Curran, Mary Durant, Jeanine Eklund, Anthony Gramer, Margaret Hogan, Priscilla Martin, Nancy Munn, Caryl Rine, Sandra Shannon, Peter Silverman, Frederick Voccola, Marian Weaver and Andromeda Williams. We received many great entries for August in the Greatest Maasai Mara photo competition. Thank you to all of the photographers for supporting MEP.

An August entry from Vanessa Beadling.

Thanksgiving Coffee Company continues to sell their Protect the Elephants coffee, which benefits MEP. We also received great items from our Amazon Wish List and Explorers Against Extinction are working toward their goal of raising money for the MEP Experimental Farm.

RESEARCH & CONSERVATION

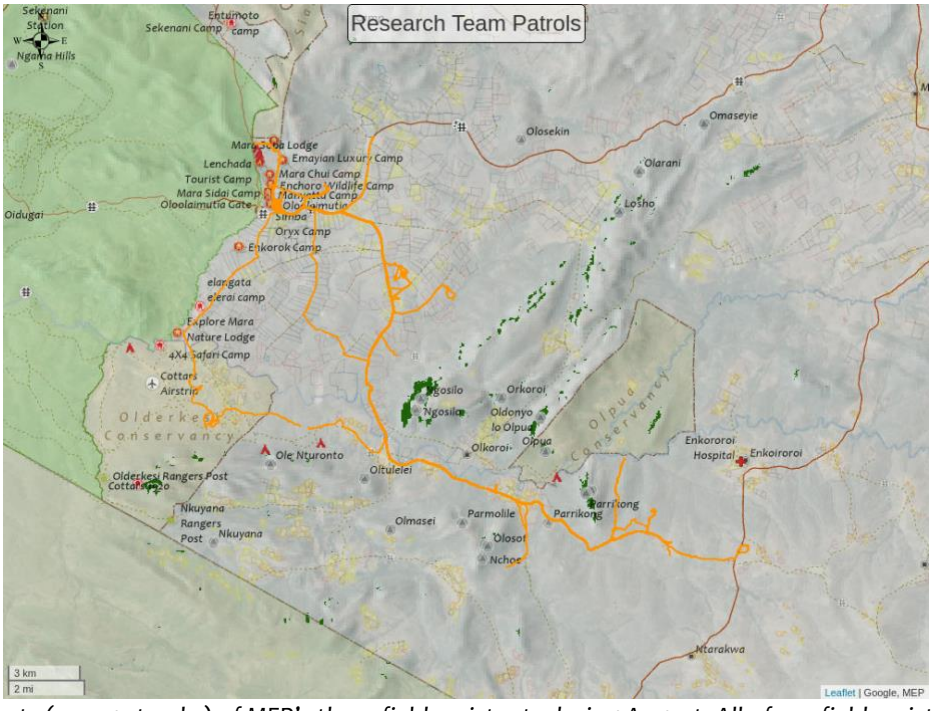
Director's Update

We are excited to launch a partnership with Purdue University's The Data Mine in August. There are eight students total that are lending their skills to MEP by spending the next year working on building out Ecoscope Server. It's a great opportunity for MEP to fulfill our education mandate and give students applicable learning experience, all while advancing our objectives for these technology tools.

The EarthRanger Conservation Tech Awards closed in August, and I'll be serving on the selection panel in September. I look forward to learning more about everyone who entered.

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
2022	July	0.8	10			10.8
2022	August		3.5			3.5
	Total (kms)	1,420.4	526.5	3,877.3	113.78	5,962.6



Movements (orange tracks) of MEP's three field assistants during August. All of our field assistants are working on mapping fences, roads and landcover ground-truthing points using motorbikes and our TerraChart app. They recorded km of 3.5 km of fences and 0 LCC points in August.

MEP Experimental Farm

General Update

The dry weather continued through August, where the grassland turned yellow making our farm the only green spot, which attracted more wildlife like giraffe crossed the Mara River to the Transmara side. We have also observed a great shift of crop predation where crops like African night shade (Managu) and peppermint that were never predated before turned into a delicacy to wildlife, especially the hippos. We also welcomed visitors to the Experimental Farm. We hosted staff members from a key supporter of the program and CEO Marc Goss stopped by with other supporters. We are always happy to showcase the research we are undertaking at the experimental farm.

Figure 1&2: Our heirloom seeds growing in a new kitchen garden that's being tested on the farm. An aerial picture of the experimental farm.

Experimental Farm SITREP: *August 2022:*

Date Time	Plot Id	Type of Crop	Details
2022_08_04	11-13.1	Sweet Potato	All the crops were eaten by elephants
2022_08_04	11-11.2	Eggplant	Elephants ate the plants by cutting the branches and destroying the plot
2022_08_04	11-10.1	Managu	Elephants ate the tips of the Managu crop
2022_08_04	11-6.1	Tomatoes	The elephants ate all the tomatoes leaving the plot clean
2022_08_04	10-1.1	Lemon Grass	The baby elephant ate the lemon grass in this plot
2022_08_04	3-1.2	Eggplant	Elephants uprooted the eggplant crop; the plots were left almost clean
2022_08_04	9-8.1	Cucumber	Elephants passed through the plot, they only stepped on it because the crop were still small
2022_08_04	7-9.1	Coriander	Elephants uprooted the crop but did not eat it
2022_08_04	8-16.1	Spinach	Elephant uprooted and ate the spinach crops; the severity of destruction was a three which is very high
2022_08_04	6-12.1	Managu	The crops were eaten by elephant and hippos
2022_08_04	5-13.1	Tomatoes	All the tomatoes were eaten by elephants
2022_08_04	1-2.1	Lemon Grass	Elephant ate the lemon grass
2022_08_04	8-15.1	Managu	Hippos ate the leaves of the crop leaving mostly stalks
2022_08_04	7-13.1	Lemon Grass	Hippos ate two stalks of lemon grass on this plot
2022_08_04	2-10.1	Coriander	half of the plot was eaten by hippo
2022_08_04	2-1.1	Peppermint	Hippos ate almost everything in this plot
2022_08_04	3-3.1	Tea tree	Two tea tree crops were cut but hippos but left the branches on the ground without eating
2022_08_04	3-4.1	Managu	All the Managu crop from this plot was predated by hippo
2022_08_04	3-6.1	Lemon Grass	Several pieces of lemon grass were eaten by hippos

	10-1.1		
2022_08_12	7-12.1	Potatoes	8kgs of potatoes were harvested from this plot, though they were small in size
2022_08_12	8-8.1 10-4.1	Onion	A total of 23.5kgs of onions were harvested from the two plots and most of them were taken to the HQ while the rest was used at the experimental farm kitchen as well as shared with farm workers
2022_08_12	10-11.1	Chili	A total of 7kgs of red chili was harvested from the three plots, all the chili is drying from the experimental farm
2022_08_12	8-7.1	Chili	
2022_08_12	7-3.1	Chili	
2022_08_17	6-3.1	Potatoes	The potato vines were eaten by hippos
2022_08_17	2-4.1 3-9.1 4-7.1 6-13.1 10-6.1	Beans	They were all replanted some for the 5th and others for the 6th time, after they did not germinate due to the heat and the dry period even after water was supplied through irrigation
2022_08_17	1-9.1 4-6.1 5-2.1 9-10.1 11-3.1	Peas	They were all replanted, for the fourth time after they did not germinate due to the heat and the dry period even after water was supplied through irrigation
2022_08_17	4-10.1 5-11.1 6-7.1 9-1.1 11-4.1	Butternut	They were all replanted for the fourth time, after they did not germinate due to the heat and the dry period even after water was supplied through irrigation
2022_08_17	2-5.1 5-3.1 5-9.1 7-6.1 8-13.1	Carrot	All the carrots plots were replanted after harvesting and high predation from vervet monkey
2022_08_18	2-10.1 6-14.1 7-9.1 8-4.1 10-2.1	Corriander	They were replanted for the fourth time after they were harvested
2022_08_18	6-15.1 8-11.1	Cabbage	They were replanted for the third time after they took long from the nursery
2022_08_18	7-1.1	Sukuma	They were replanted from the nursery, after they were eaten by vervet monkeys a while ago
2022_08_18	2-7.1 3-10.1 7-2.1 10-3.1 11-12.1	Sunflower	They were all replanted, for the fourth time after they did not germinate due to the heat and the dry period even after water was supplied through irrigation

2022_08_18	2-3.1 5-7.1 8-14.1 9-8.1 10-12.1	Cucumber	They were replanted after elephants trembled on the plot destroying the growing crops
2022_08_18	1-2.1	Lemon Grass	This plot was replanted after they were predated on by elephants and hippos
2022_08_18	1-4.1 5-1.1 6-6.1 10-8.1 11-13.1	Sweet Potato	All the sweet potatoes vines were eaten by elephants and had to replant them a new
2022_08_18	2-9.1 4-1.1 4-5.1 8-12.1 11-8.1	Ginger	The crop had had poor germination after a few successful plots were harvested, new seeds were purchased, and all the plots replanted for the third time
2022_08_18	6-5.1 9-9.1	Okra	Replanted after it was harvested, this is the 4th repetition
2022_08_18	2-8.1	Potatoes	They were replanted, after predation and some after they were harvested
2022_08_18	6-3.1		
2022_08_18	7-12.1		
2022_08_18	9-6.1		
2022_08_18	9-13.1		
2022_08_18	S2-1-1.1	Maize/hives	Maize was replanted, after they did not germinate due to monkeys uprooting and the long sunny period
2022_08_18	S2-1-2.1	Maize/Chili/Cover crop	Maize was replanted, after they did not germinate due to monkeys uprooting and the long sunny period
2022_08_18	S2-1-3.1	Maize/Sunflower/Cover crop	Maize and sunflowers were replanted, vervet monkeys have been uprooting maize and the drought made the sunflower to take long before germinating
2022_08_18	S2-1-4.1	Maize/Ditch	Replanted maize after the long drought
2022_08_18	S2-1-5.1	Maize/Chili/intercrop	Maize was replanted, after they did not germinate due to monkeys uprooting and the long sunny period
2022_08_18	S2-1-6.1	Maize/Sunflower/intercrop	Maize and sunflowers were replanted, vervet monkeys have been uprooting maize and the drought made the sunflower to take long before germinating
2022_08_19	7-8.1	Spinach	They were replanted after elephants eat and destroyed the whole plot
2022_08_20	4-8.1	Managu	Hippos ate most of the crops from this plot
2022_08_20	5-10.1	Lemon Grass	A few pieces of lemon grass were eaten by hippos
2022_08_20	6-4.1 9-7.1 10-13.1	Tree tomato	The ripe fruits are being eaten by vervet monkeys not allowing us to harvest any fruits despite most of them being ready
2022_08_20	8-15.1 6-12.1 11-10.1	Managu	The hippos have been eating the Managu crops
2022_08_27	3-9.1 4-7.1	Beans	Vervet monkeys uprooted the germinated

	6-13.1 10-6.1		
2022_08_27	3-1.2	Eggplant	Hippos ate the few eggplants remaining in this plot
2022_08_27	3-8.1 5-12.1	Peppermint	Hippos have eaten the two plots extensively
2022_08_27	4-8.1 6-12.1 8-15.1 11-10.1	Managu Managu Managu Managu	Hippos have been eating Managu crops as they are the leafy green crops remaining in the farm during the long drought period
2022_08_27	5-5.1	Goose Berry	Hippos have eaten the leaves of the growing gooseberries, leaving a stalk
2022_08_27	5-10.1	Lemon Grass	A few lemongrasses have been uprooted and eaten by vervet monkeys
2022_08_27	6-4.1	Tree tomato	The ripen fruits have never been harvested since the vervet monkeys are predating them just before they are ready

Figure 4,5,6,7 &8: Managu, spinach, lemon grass, coriander and tomato plots that were predated by elephants and hippos.

Figure 9 & 10: Lavender, garlic, rosemary, tree tomato, chili and citriodora are some of the plots that had fewer predation as well as sprouted despite the low rainfall.

Figure 11 & 12: Hippos, elephants, monkeys, cows and giraffes a few of the predators captured by our camera traps in the farm.

Climate Report

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

Date Time	Precipitation (ml) Rain gauge 1	Precipitation (ml) Rain gauge 2 (200m^2)
2022_08_15	3.2	2.4
2022_08_16	11.2	9.8
2022_08_17	34	24.4

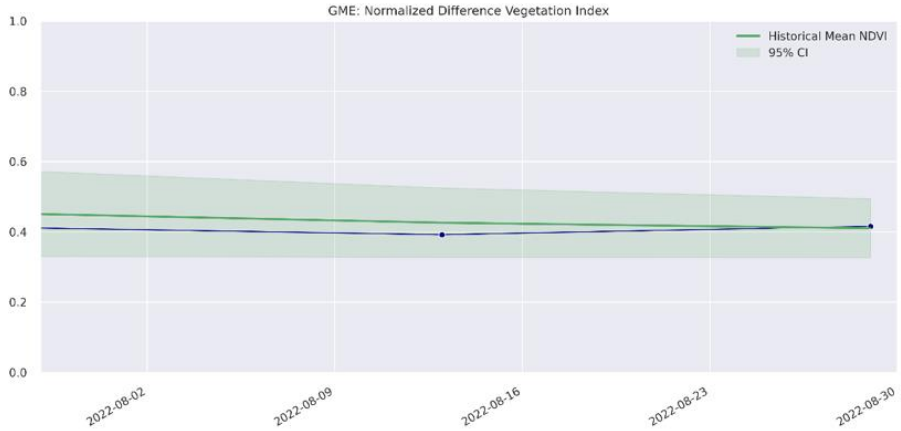
Tracking Manager Report

Collared elephant Fitz, sponsored by Angama Foundation, and his herd were closely monitored by MEP's "Golf" ranger team in the Nyakweri Forest.

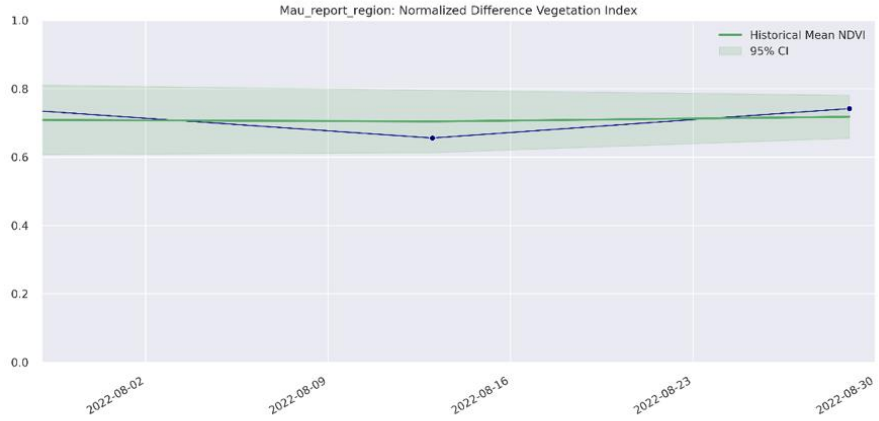
ENVIRONMENT: NDVI

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.

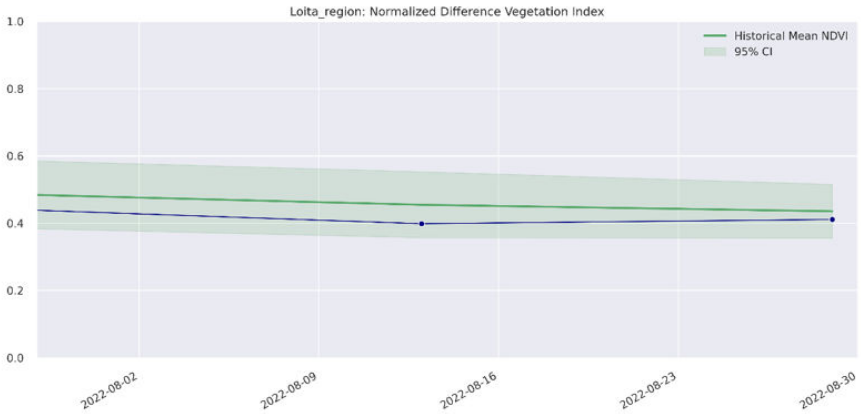
Greater Mara Ecosystem (GME)



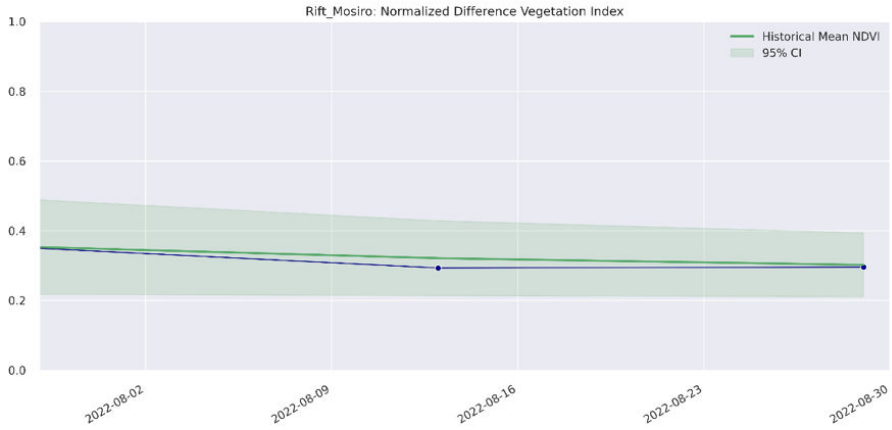
Mau Forest

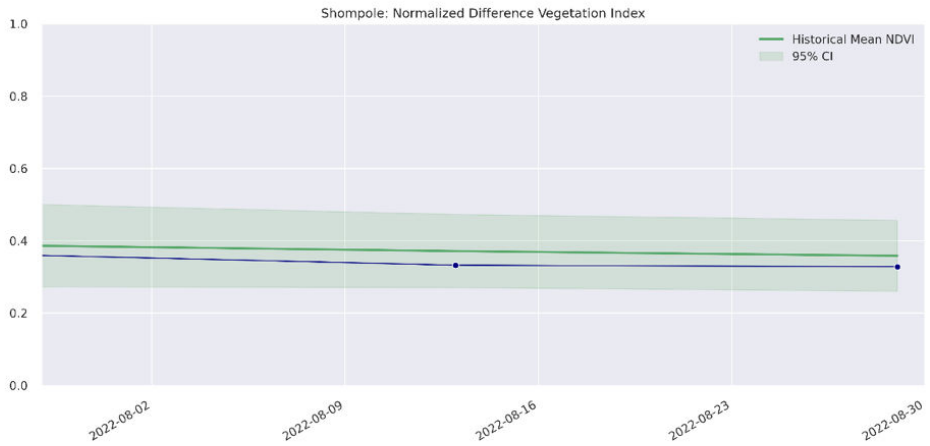


Loita

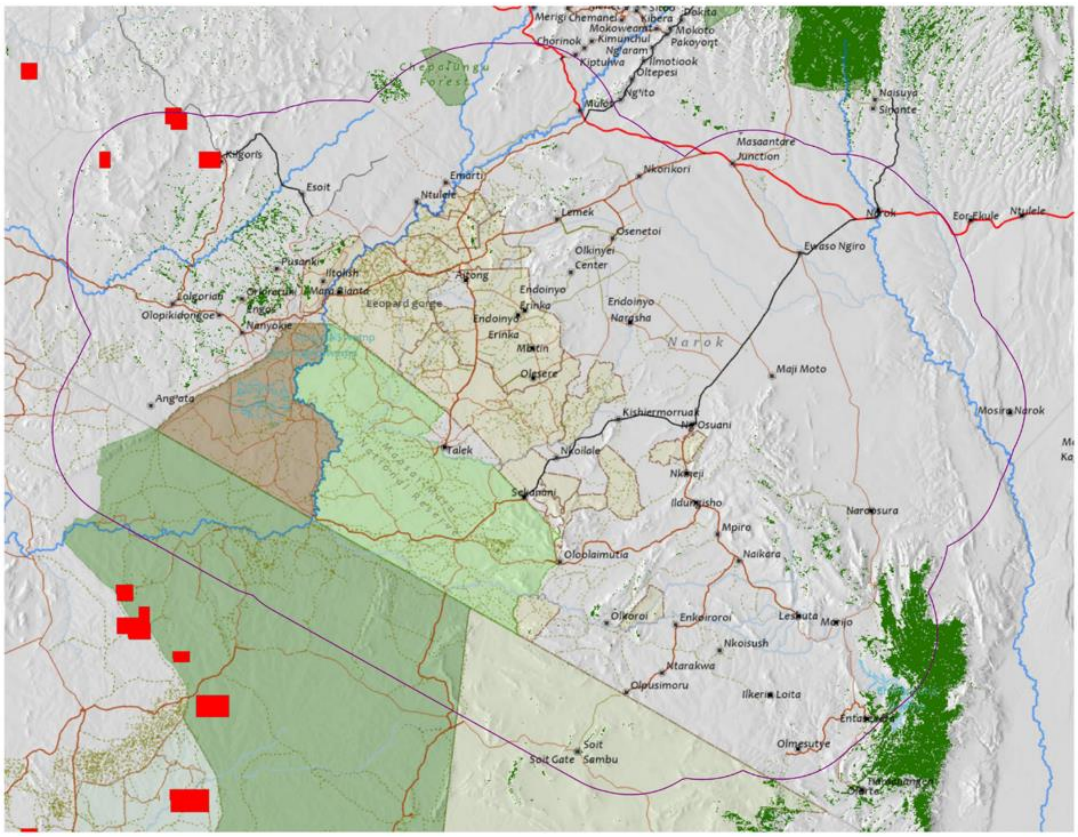


Rift Valley





ENVIRONMENT: Burn/Fire Areas



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