MEP March 2022 Report

MEP rangers from the "Echo" ranger unit.

GENERAL

We are excited to announce the addition of a brand-new ranger unit dedicated to protecting the Forest of the Lost Child (Naminina Enkiyio) or Loita Forest. We currently have two ranger teams operating in the Loita Forest, and due to increased security concerns, we've decided to launch a third in the Isokon portion of Loita. Recruitment was held on March 8 and 34 men and women showed up to the recruitment overseen by MEP's Assistant Senior Warden Jackson Maitai, the MEP "Echo" ranger unit (stationed in the Loita) and CEO Marc Goss. The recruitment started with a 3 km timed run and the first runner came in at a brisk pace of 14 minutes and most did this barefoot. After this, they were interviewed by Marc. The field has been narrowed down to five candidates that will join MEP at headquarters for training. We can't wait to introduce you to the new rangers once training has been completed. We are so grateful to our supporters for joining MEP to protect the Loita Forest.

The beautiful, ancient and sacred Loita Forest is worth protecting.

SECURITY, ANTI-POACHING & CONFLICT

The "Charlie" MEP / Sheldrick Wildlife Trust (SWT) Mau De-Snaring Unit was very busy in March removing snares and busting illegal logging operations in the Mau Forest.

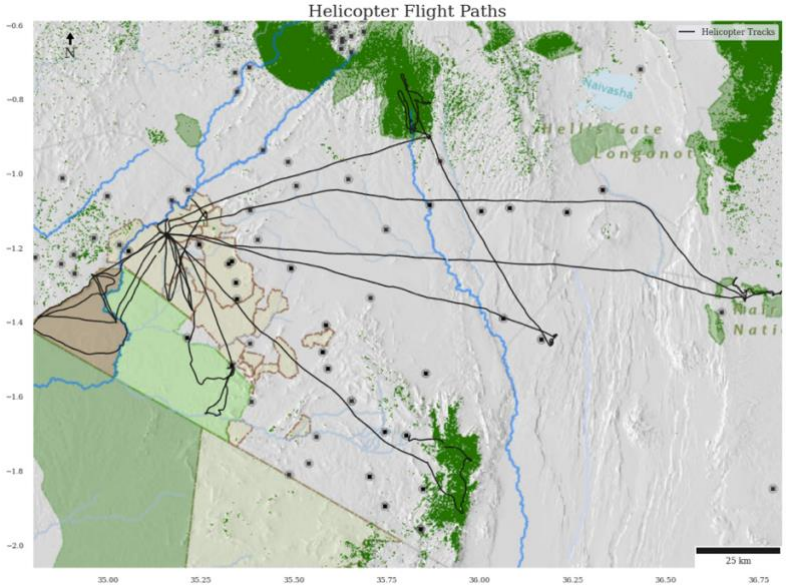
The "Alpha" MEP / SWT Mau De-Snaring Unit was equally as busy in their patrol area of the Mau Forest.

MEP has a vast intelligence network that collects information used to ambush illegal operations and arrest suspects responsible. Our rangers are ambassadors within their communities, and since they are all local to the Mara, they are a trusted source to receive information regarding illegal activities. On March 19, the "Foxtrot" ranger team received intelligence that a lorry was parked in the Nyakweri Forest being loaded with 70 bags of charcoal. They set up an ambush alongside partners Kenya Wildlife Service (KWS), Kenya Forest Service and Narok County Government, and successfully arrested two suspects and confiscated the charcoal. Partnership operations like this are critical for increasing protection for critical habitats in the Greater Mara Ecosystem.

On March 8, MEP rangers from the "Foxtrot" team responded to conflict involving collared elephant Fitz and his herd in the Nyakweri Forest. Fitz was collared to allow KWS, WRTI and MEP to monitor his movements in light of increasing deforestation and encroachment on the forest, resulting in increased conflict cases between Fitz and the neighboring community. The "Foxtrot" ranger team is permanently stationed there to protect Fitz and his herd and rapidly respond to conflict, keeping communities safe.

In March, MEP rangers alongside government partners arrested 19 habitat destruction suspects, confiscated 210 posts, 160 timbers and destroyed 82 charcoal sacks and 18 kilns. They also removed 18 snares, and patrolled 1,043.8 km on foot, 9,583.5 km by car and 3,955 km on motorbike. In March, MES rangers in Shimba Hills covered a distance 56.4 km on foot. They also mitigated four conflict incidents.

HELICOPTER



COMMUNICATIONS & FUNDRAISING

We celebrated World Wildlife Day on March 3, and the 2022 World Wildlife Day Film Showcase: Recovering Species includes films spreading the message that the restoration of a key species is a key element of the planet's environmental health and biological diversity. *MABINGWA*, a film featuring some of the work of MEP, was given an honorable mention in the contest. In addition, LifeStraw, mentioned MEP in their World Wildlife Day post and donated 50 straws for MEP rangers. We are so grateful for their support.

We celebrated International Women's Day in March by introducing Abigael, a Kenyan working mother leading the MEP Experimental Farm exploring alternative crop scenarios that might help reduce the elephant crop-raiding pressure and diversify financial income for local farmers. Since starting the farm, Abigael and her team have had many visitors from the nearby community and beyond who are excited and curious about their work. People in this area of high conflict seem optimistic that we can work together to find a solution.

We had 15 entries in the March Greatest Maasai Mara photo competition sponsored by Angama Foundation. Thank you to all of the photographers for supporting MEP.

An entry from photographer Rodney Bursiel.

To celebrate Women's History Month, we shined a spotlight on a very important woman in conservation, our very own Beatrice Karanja. Beatrice, through her foundation Nature's Pitch, recently supported the Mara Elephant Project Experimental Farm managed by Abigael Pertet. "The future of Africa lies in its women. Being part of a concerted effort that supports this is thrilling. We face many challenges, but we are many and we are smart." Read more about how MEP Chairwoman Beatrice Karanja supports the acceleration of Kenyan women in science and natural capital growth here.

MEP has many options for you to support our operations. AmazonSmile Wish List is great for purchasing physical items that will go directly to our rangers and researchers in the field. Thank you to the donors for sending the most recent essentials that included tactical hoods/masks and Swiss Army multi-tools. Find more items here.

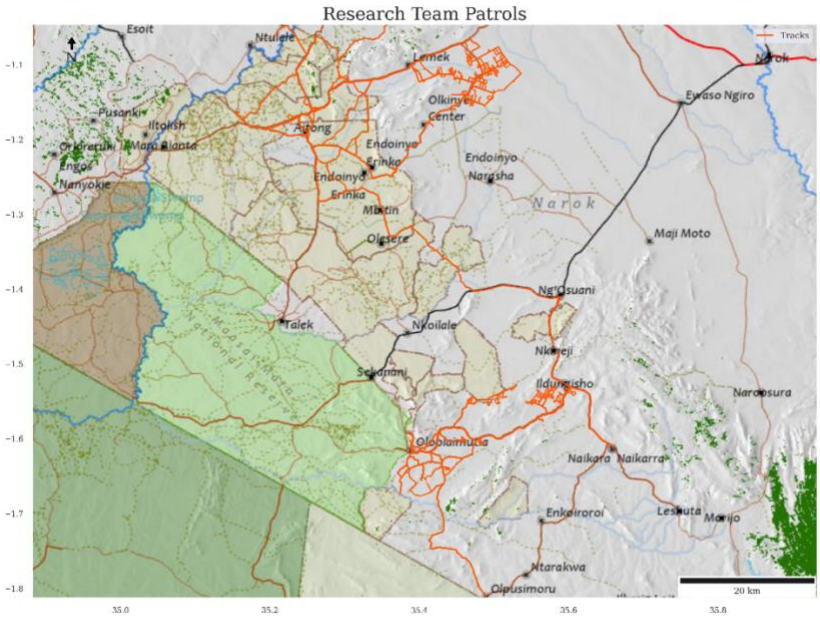
Thank you to all of the MEP donors in March for both the Sidekick Foundation, Inc. dba Mara Elephant Project USA which raised $189,685.67 and MEP Kenya Trust which raised $180. We'd like to thank the Leslie L. Alexander Foundation for their continued loyal support of our organization, we received a first quarter donation of $30,000 in March. Additional thanks to Linda Morse, Jeffrey & Katerina Fadiman, SerVaas Charitable Fund (it was so lovely to host Peter) and Nancy Meyer for their very generous support in March. Additionally, we received our 2022 installment from the Indianapolis Zoological Society for their grant and another $7,500 grant from the JE Fehsenfeld Family Foundation, which has loyally supported MEP over the years. Kaila Fusco Designs supported MEP through sales of her jewelry, thank you! Additional thanks to donors Margy and Mike McCormick, Rex Chamberlain, Moran Family Foundation, Karen Kehoe from the F Patrick Kehoe Trust, Barbara Podowski, Susan Wachter, Margaretta Taylor, Jack & Lorraine Walker Fund, Miki Leeper, Glynis Burgdorff Family Charitable Fund, Deanne Wilson Charitable Fund, Daniel Labar, Donna Barlow, Jack Bishop, Sally Davidson, Marcia Donley, Richard Friedberg, Betty Gentry, Mary Kagarise, Marcy Mackinnon, William Matthews, Grace Pacheco, M Virginia Procter, James Simpson, Mary Fuller and Mary Vero.

RESEARCH & CONSERVATION
Director's Update

In late March I attended a 2-day meeting organized by the Greater Serengeti Conservation Society at Lobo Lodge in the Serengeti, Tanzania. The meeting provided an update of current science and evaluation of threats to the Greater Serengeti ecosystem to policy makers and stakeholders.

The Allen Institute for AI (AI2) is supporting an internship program at MEP that is designed to engage top students in STEM related fields to work on applying Artificial Intelligence (AI) and related technologies to solve conservation problems. A student from Canada, Catherine Villeneuve, was selected and paired with two Kenyan students from the Wildlife Research and Training Institute (WRTI) to spend time based at MEP's HQ in Kenya to gain essential insight and field experience.

Another exciting internship announcement that took place in March is The Fran Duthie African Elephant Conservation Scholarship. Fran Duthie and her husband Lorne are loyal supporters of Mara Elephant Project and Fran has served alongside Dr. Jake Wall as the co-founder of Elephanatics, a Canadian elephant advocacy organization. MEP with support from Fran is passionate about building local capacity to foster the next generation of Kenyan conservation heroes. This scholarship is intended for students pursuing conservation or a related field. The goal of this scholarship is to provide financial support to Kenyan nationals acquiring a technical certificate, undergraduate or postgraduate (Masters or PhD) degree in an area related to conservation and the protection of wildlife. Alongside the financial support, this scholarship will provide practical experience to the scholar during the course of their studies by undertaking an internship with the Mara Elephant Project for at least one month during the scholarship period. The scholarship must be used at an accredited college or university in a subject area related to conservation and the protection of wildlife and their habitats. The scholarship may be used to cover academic tuition fees and associated living costs. We had over 70 applications come in during March and we'll be selecting the recipient by May 1.



Movements (orange tracks) of MEP's three field assistants during March. All of our field assistants are working on mapping fences, roads and landcover ground-truthing points using motorbikes and our Njia app. They recorded 212km of fences and LCC points in March.

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	May	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	May	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
	Total (kms)	1,388.90	457.4	3,660.2	113.78	5,630

MEP Experimental Farm

General

March started very dry, but we experienced precipation on the last few days of the month. Most of the crops were harvested and then re-planted and predation was also less compared to other months due to availability of grass for wild animals. This month was marked with visits by different friends of the Mara Elephant Project. Jake Wall and his family visited the farm and John Dillow, a long-time MEP supporter, spent an afternoon at the farm. We are always happy to receive visitors because the farm acts as an educational and agrotouristic site to show MEP's research in action. We are excited to have our first intern in March. Ismael Okwomi had heard of MEP and is looking forward to learning more about elephant protection. He comes highly recommended by Uvumbizi Africa where he was a volunteer. He is integrating well with our team, and we are both learning from each other.

Experimental Farm Sit Rep

Date Time	Plot Id	Type of Crop	Details
2022_03_04	3-3.1 6-10.1 9-5.1 9-16.1 11-7.1	Tea tree	A new crop planted for the first time; each plot got 25 trees
2022_03_04	5-15.1	Wheat	It was replanted for the 5th time since the experimental farm was started
2022_03_04	9-1.1 11-4.1	Butternut	Butternut was replanted, this is its third round after the second replant had zero germination on both plots
2022_03_07	7-2.1	Sunflower	Sunflower heads are eaten by birds
2022_03_07	6-2.1	Maize	One hippo passed through and eat few maize crops
2022_03_07	11-3.1	Peas	One hippo stepped on some of the crops in this plot but not adversely affected
2022_03_14	5-9.1	Carrot	Harvested a total of 45kgs of produce from this plot
2022_03_14	7-9.1	Coriander	A total of 7kgs was harvested in this plot, all was taken to the HQ and the research Centre
2022_03_15	3-11.1	Sukuma	The high temperatures in this month affected the output of this crop, most of the leaves are drying hence low yield, a total of 0.5kgs was harvested in the whole plot
2022_03_15	5-14.1	Capsicum	A total of 3kgs was harvested
2022_03_15	6-3.1	Potatoes	A total of 22kgs was harvested
2022_03_15	7-1.1 9-4.1 11-9.1	Sukuma	One plot has a different variety of Sukuma which has a lower production, the three plots produced 2kgs for each of the first two and 4.5kgs for the last one respectively
2022_03_15	7-4.1 8-10.1	Capsicum	A total of 10kgs of produce has been harvested in two plots
2022_03_15	8-16.1 9-11.1	Spinach	A total of 18.5kgs was harvested from the four plots

	8-16.1		
	9-11.1		
2022_03_19	1-7.1	Maize	Half of the plot was eaten by cows
2022_03_23	1-7.1	Maize	Crop replanted for the 6th round after it was eaten by cows
2022_03_23	1-13.1	Okra	The crop was harvested, and it was planted for the second time
	4-2.1		
	6-5.1		
	9-9.1		
	10-14.1		
2022_03_23	2-6.1	Wheat	The first three plots were replanted for the fifth time and the last one was replanted for the 6th time; all the replant was due to predation by birds that uproots the seeds immediately after planting them.
	5-15.1		
	7-7.1		
	9-14.1		
2022_03_23	8-11.1	Cabbage	They have been replanted for the second and third time respectively
	11-14.1		
2022_03_23	9-12.1	Maize	This plot of maize has been replanted for the third round since the experiments were started
2022_03_23	10-8.1	Sweet Potato	They were planted immediately after they were harvested, these plots were planted for the second time
	11-13.1		
2022_03_24	2-2.1	Spinach	Replanted for the fourth round, after they were eaten by cows
2022_03_24	5-9.1	Carrot	They were harvested and replanted for the third time
2022_03_24	6-3.1	Potatoes	Replanting occurred after harvesting for the second time
2022_03_24	6-6.1	Sweet Potato	The second replant after harvesting was done
2022_03_24	6-7.1	Butternut	The crop was uprooted after a long time waiting for it to fruit, monkey had previously eaten on them hence was replanted for the second time
2022_03_24	6-14.1	Coriander	A very fast-growing crop that the plots have to be planted at intervals of time, the two plots were planted for the second time
2022_03_24	8-4.1		
2022_03_26	2-13.1	Rosemary	2kgs was harvested and taken to HQ
2022_03_26	5-3.1	Carrot	The plot with the highest yield of 52kgs total harvest, having first grade of 40kgs and 12kgs of second grade
2022_03_26	7-6.1	Carrot	A total of 30kgs was harvested, most of which were second grade with 10kgs first grade
2022_03_26	7-8.1	Spinach	5kgs harvested and taken to MEP's HQ
2022_03_26	8-10.1	Capsicum	A total of 12kgs was harvested were some were taken to the HQ and rest eaten at the farm
2022_03_26	11-9.1	Sukuma	Two plots yielded a total of 7.5kgs of Sukuma that was taken to the HQ and the research Centre
	1-3.1		
2022_03_26	4-11.1	Chili	Four plots are ready, with a continuous harvest after every two days, with two harvest from each plot, a total of 37.5kgs of red hot chili has been harvested, most of which is left drying at the farm premises, other send to the Research Centre for value addition and to HQ for consumption
	7-3.1		
	8-7.1		
	10-11.1		
2022_03_26	5-1.1	Sweet Potato	One plot was previously eaten by hippos that forced us to replant. A total of 330kgs was harvested in four plots, two plots that have never been eaten by hippos had a production of over 100kgs of yield each and the rest that have consistently had their vines and leaves eaten by hippos had a production over below 50kgs of yield, despite the leaves regrown very fast the production is affected once they are eaten by hippos.
	6-6.1		
	10-8.1		
	11-13.1		
2022_03_26	5-2.1	Peas	

	9-10.1		Since the crop is desired while green, a continuous harvest of about two weeks will happen, the first harvest where three plots were harvested gave a total of 5.7kgs
	11-3.1		
2022_03_26	3-6.1	Lemon Grass	Hippos have eaten few plants but not uprooted, hence it can regrow
2022_03_26	4-4.1	Spinach	Most leaves have holes have caused by warms, some have completely been eaten
2022_03_26	10-1.1	Lemon Grass	A hippo has eaten few plants which can regrow
2022_03_26	11-1.1	Maize	Half of the maize in the plot were eaten by hippo
2022_03_30	4-11.1	Chili	A total of 11.5kgs of chili was harvested in these two plots and are currently being dried at the farm and looking at value addition options
	10-11.1		

Figures

Harvested sweet potato, Capsicum, Carrots, Chili, Peas, Sukuma Coriander and Rosemary.

Footprint of a hippo on the paths and hippo predation on lemongrass.

A maize plot predated by hippos and a sunflower plot completely predated by birds.

A tea tree and tea tree plot, the newest crop at the experimental farm.

Spinach crop infested by worms.

Climate Report

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

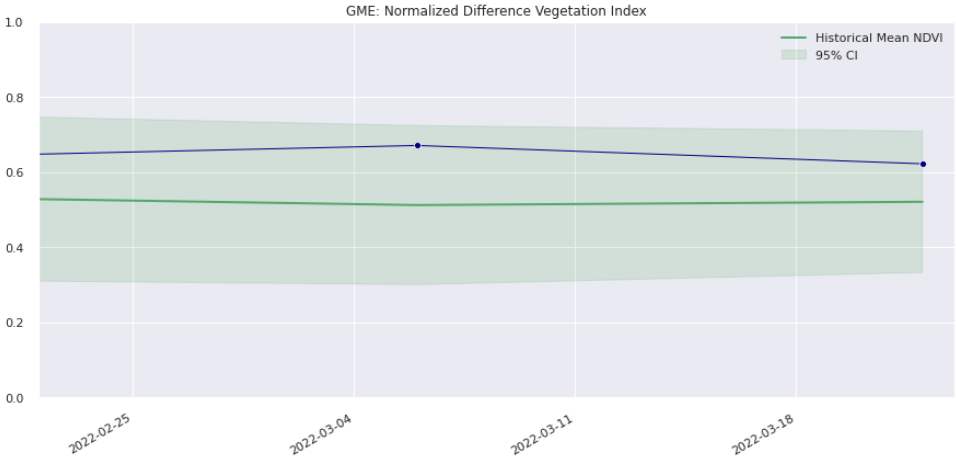
Date Time	Precipitation (ml) Rain gauge 1	Precipitation (ml) Rain gauge 2 (200m^2)
2022_03_23	6	5
2022_03_24	5	3.6
2022_03_30	2	1
2022_03_31	8	6.8

Collared elephant Kegol was monitored by MEP Senior Warden Zakayo on March 3. Collared elephant Ivy was monitored by the LTM team on March 8.

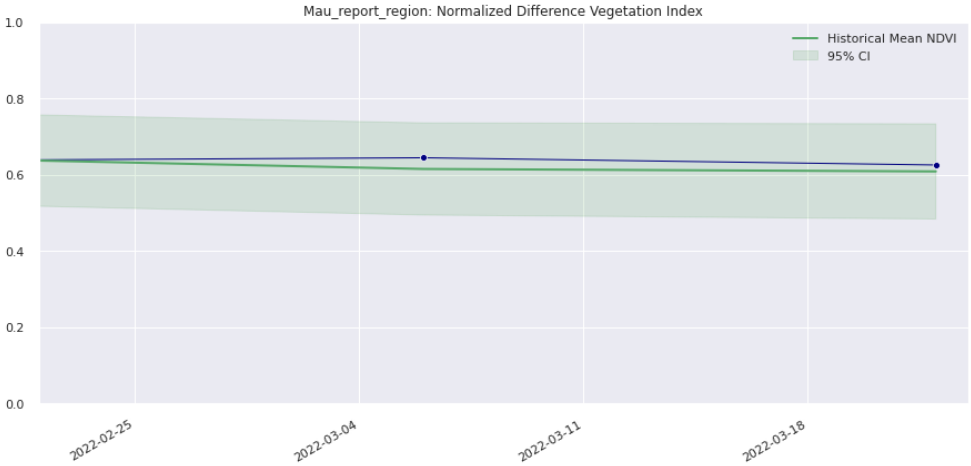
ENVIRONMENT: NDVI

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.

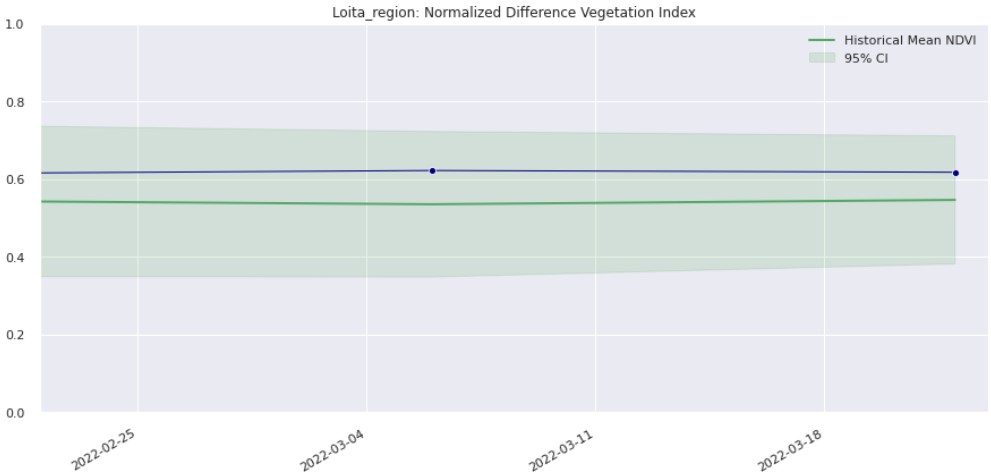
Greater Mara Ecosystem (GME)



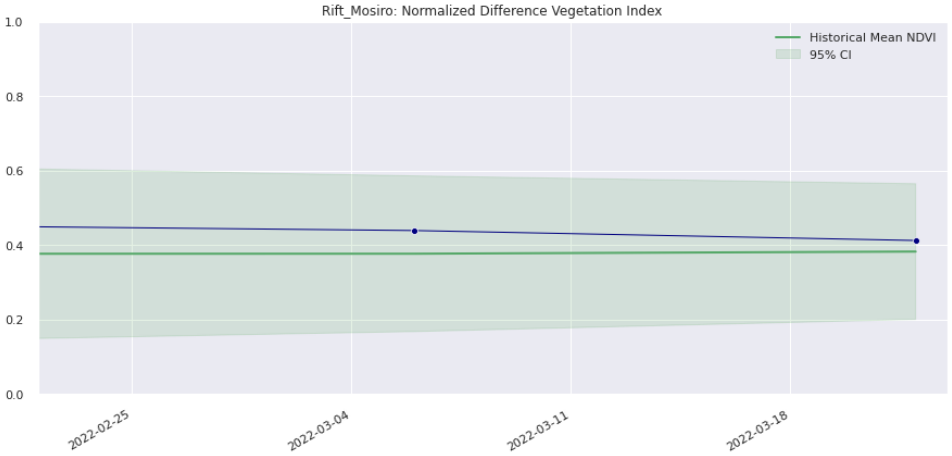
Mau Forest

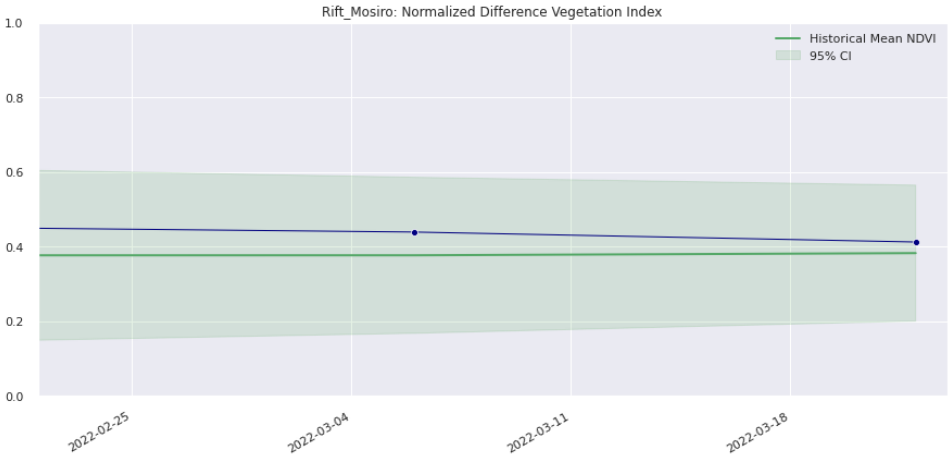


Loita

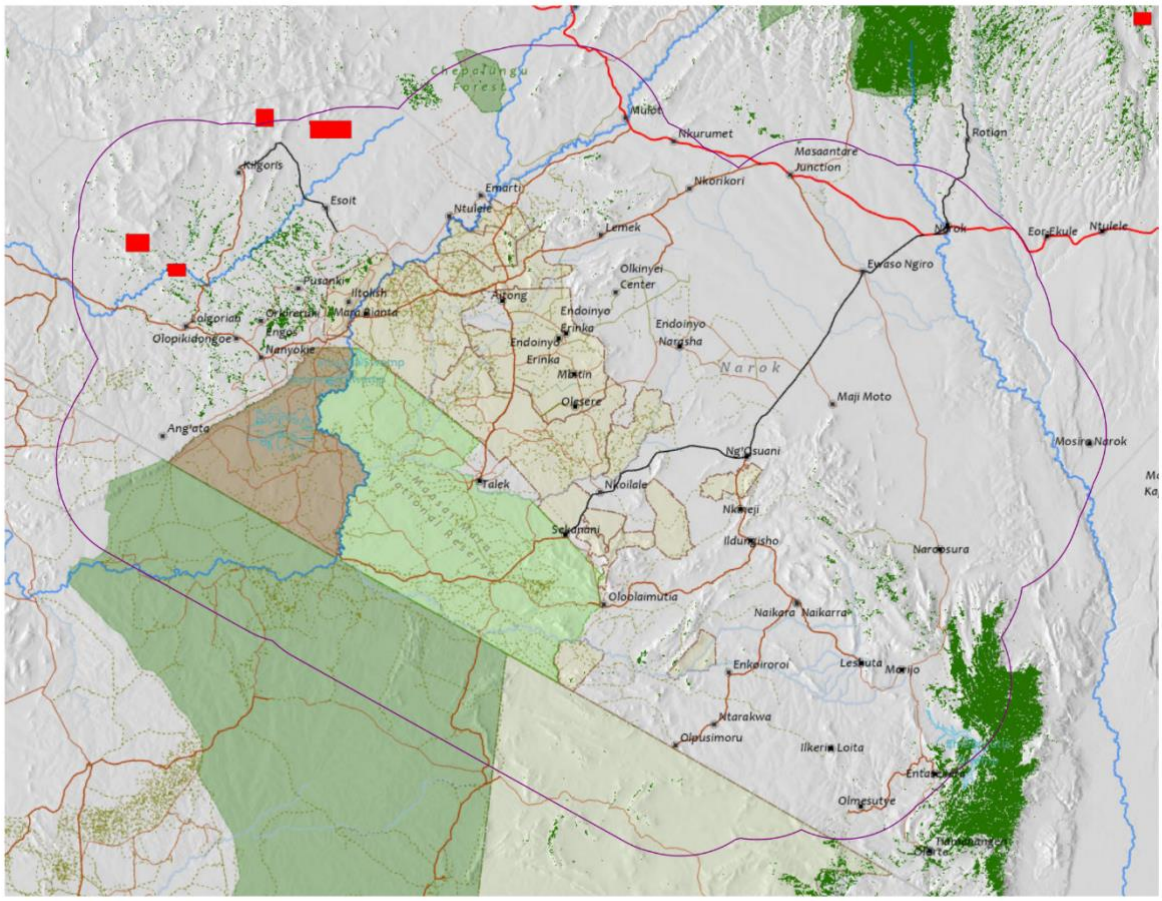


Rift Valley


Rift_Mosiro: Normalized Difference Vegetation Index
Historical Mean NDVI
95% CI
1.0
0.8
0.6
0.4
0.2
0.0
2022-02-25
2022-03-04
2022-03-11
2022-03-18


Rift_Mosiro: Normalized Difference Vegetation Index
Historical Mean NDVI
95% CI
1.0
0.8
0.6
0.4
0.2
0.0
2022-02-25
2022-03-04
2022-03-11
2022-03-18

ENVIRONMENT: Burn/Fire Areas



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