

**Horn of Africa** has been suffering from a drought since 2020:

- 31.9 million people affected
- 2.17 million internally displaced
- 1.43 million children with acute malnutrition**
- Armed conflicts spark within a tense atmosphere of deprivation.

*Previous work has focused on the human side of the catastrophe, Copernicus data permits us to study the environmental, physical and ecological processes that lie behind the human outcomes at a fine grain. As these factors are the root cause, there are lessons to be learned.*

## Reference:

<https://data.humdata.org/visualization/horn-of-africa-humanitarian-operations/?layer=chirps-rainfall-marmay>

We focus on the NDVI (**vegetation**) and NDWI (**water**) indices obtained from two small areas around cities in Somalia (Jamaame, Kismaayo) and for comparison a small city in Estonia (Poltsamaa).

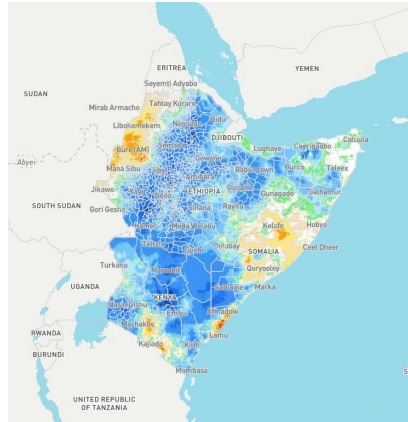


Figure. Seasonal rain accumulation anomaly (reference)

## Insights from statistical analysis (next slide):

- Copernicus data shows that the drought probably started before the official acknowledged date
- Areas hit hardest by the drought are not necessarily the ones with the most humanitarian crisis impact
- There is tight statistical relationship between NDVI and NDWI, but this relationship is perturbed in drought stricken areas

**CONCLUSION:** *Copernicus data permits analyses of climate induced humanitarian disasters at unprecedented level of detail!*

# Copernicus data permits fine-grained analytics of environmental factors behind humanitarian catastrophes

