VIEWS – our Proof of Concept grant
Presentation to webinar on ERC Proof of Concept, Forskningsrådet

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Background for the VIEWS Proof of Concept

VIEWS – an ERC AdG 2017–2022

- At Uppsala University
- Researching the foundations for forecasting political violence
- Including a pilot live early-warning system
  - Monthly updates published since July 2018
  - For countries and geographical 'grid cells'
  - Aiming for uniform coverage across Africa
  - And for maximal transparency

VIEWS PoC:

- 1 September 2022–28 February 2024
- at PRIO (Peace Research Institute Oslo)

The research in VIEWS: How to forecast armed conflict

- Identifying predictors and models based on domain knowledge
- Research and apply machine-learning methodology
- Carefully consider how to optimize the system
    - How to organize data into training and evaluation partitions
    - Identify metrics that measure alignment with goals that are useful to practitioners
- Follow-up projects:
    - Research on the impacts of armed conflict
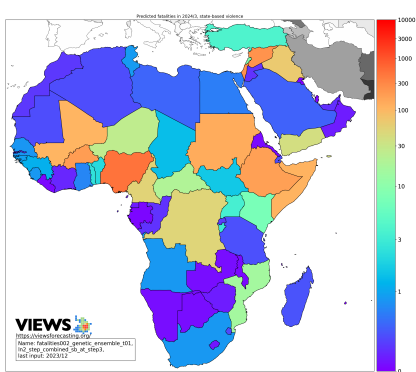   - Modeling the uncertainty of the forecasts

The outcome: Coding of state-based armed conflict by Uppsala Conflict Data Program (UCDP)

- Data spanning 1989–2023
- Monthly and annual update schedule
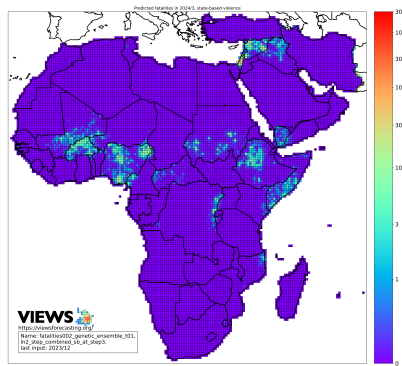- Uniform coverage over time and space

Fatalities in state-based conflict, November (left) and December 2023 (right)
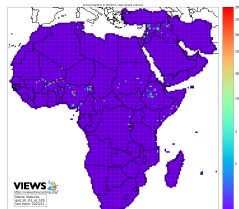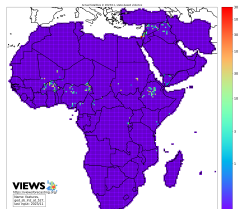
Forecasting at two levels of analysis

Country-level

PRIO-GRID level

Forecasts for state-based armed conflict for March 2024 based on December 2023, generated at two distinct but related levels of analysis

The PoC: How to fund continued monthly updates

The 'demand side':

- Armed conflict causes humanitarian crises
- Efforts to alleviate (or if possible prevent) such crises more effective if prepared, funded, and implemented early
- Systematic early warning would help these objectives

The niche for VIEWS:

- IGOs and governments develop early-warning systems
- But cannot make forecasts public

Main objectives of PoC:

- Establish VIEWS as a leading open early-warning system
- Strengthen network among users and explore funding opportunities

The proposed PoC: Objectives

1. Secure the organisational structure required to run a live operational EWS
2. Clarify our IPR position and strategy
3. Incorporating recent innovations into the VIEWS public system
4. Evaluating the predictive performance of the forecasting system
5. Demonstrating, assess, and validating the project's outcomes

Activities and results

1. Secure the organisational structure required to run a live operational EWS
   - Set VIEWS up as a research consortium between PRIO and Uppsala University
   - No independent organizational structure
2. Clarify our IPR position and strategy
   - Licensing all code and data appropriately
   - Securing IPR for website, dashboard, graphic profile etc to VIEWS as its own entity, rather than individual host institutions

Activities and results

1. Incorporating recent innovations into the VIEWS public system
   - Major rewrite of the data infrastructure
   - Transition from dichotomous to continuous target complete
   - Development of interpretative models
   - Working on developing a modern MLOps pipeline
2. Evaluating the predictive performance of the forecasting system
   - Considerable work on the evaluation criteria
   - Evaluation integral part of new MLOps pipeline
3. Demonstrating, assess, and validating the project's outcomes
   - Document input data (and make it available to the public); writing codebooks for all source variables that inform the model
   - Document output data; codebooks
   - Documentation papers on website
   - Multiple meetings and consultations with users

First application for PoC not successful; lessons:

- Less focus on the scientific innovation, and much more on the societal innovation we hoped to achieve with the PoC - and how to achieve this
- Drastically shortened description of the preceding AdG intended to motivate our fit for the PoC
- Planned activities re-packaged from long strategic discussions to clear-cut and tangible activities
- Short text and minimal scientific jargon
- Consulted with externals and prospective users on the text
- In retrospect, some of the activities we proposed were difficult to implement – we should have left more room for maneuver

Conclusions

The ERC-PoC grant has been very useful to us:

- Has allowed investing in the user network to an extent that would not have been feasible without it
- Funding from the user community is coming in already

Challenges:

- The technological development required is very challenging (for an academic institution)
- A lot of improvisation has been necessary