

Sunset & Sunrise Spatial occurrence

Maximilian Hartmann, University of Zurich, EVA-VGI 2

Spatial occurrence

- **Goal:** Detect hot and cold spots
- **Method:** Chi (not squared) distribution
- **H₀:** Sunset & Sunrise are globally perceived the same

Normalisation steps

- Calculate global ratio of sunset Flickr images to all Flickr images (expected)
- Calculate Chi distribution per bin with contained sunset Flickr images (observed)
- Analyse Chi distribution range

Formula >

$$\chi = \sum \frac{O_i - E_i}{E_i}$$

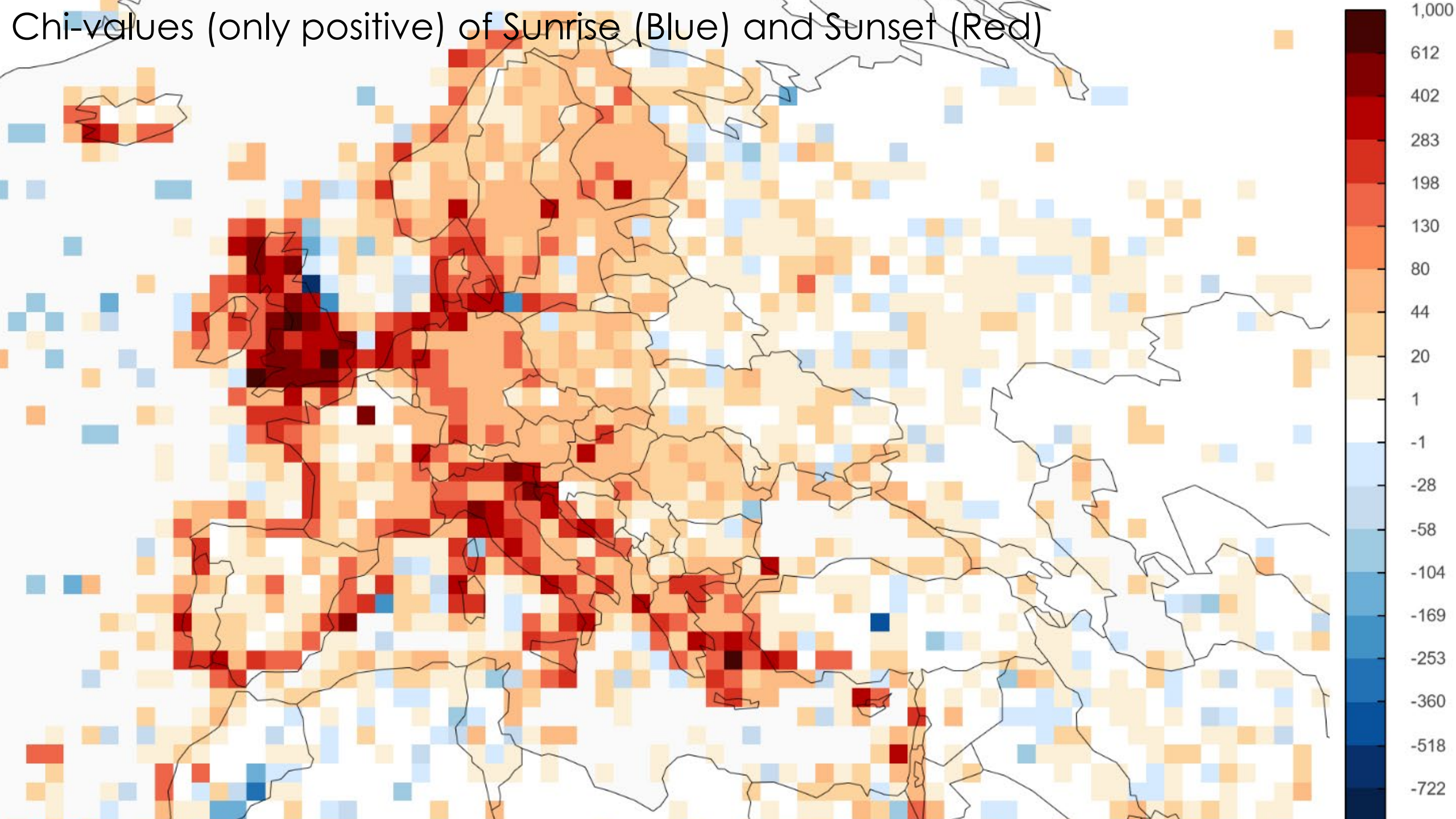
χ = chi

i = Grid cell

O_i = observed value

E_i = expected value

Chi-values (only positive) of Sunrise (Blue) and Sunset (Red)



Sunset & Sunrise

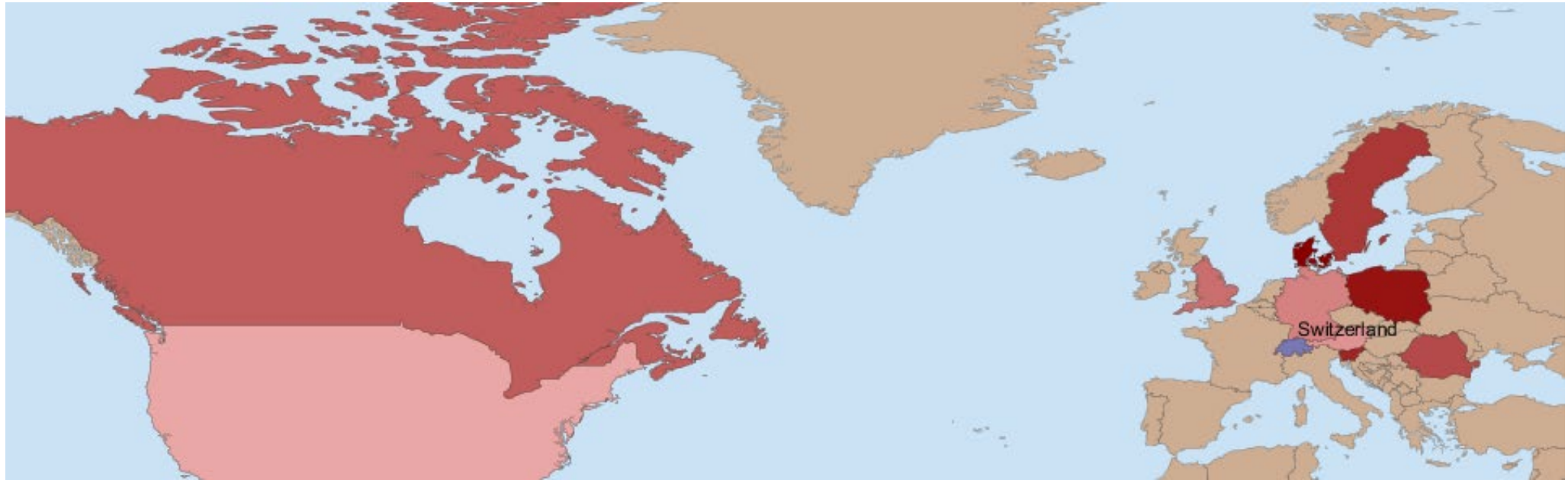
Semantic analysis

Investigate Similarity

- **Goal 1:** Which countries are most similar based on sunset & sunrise descriptions?
- **Method:** Cosine-Similarity

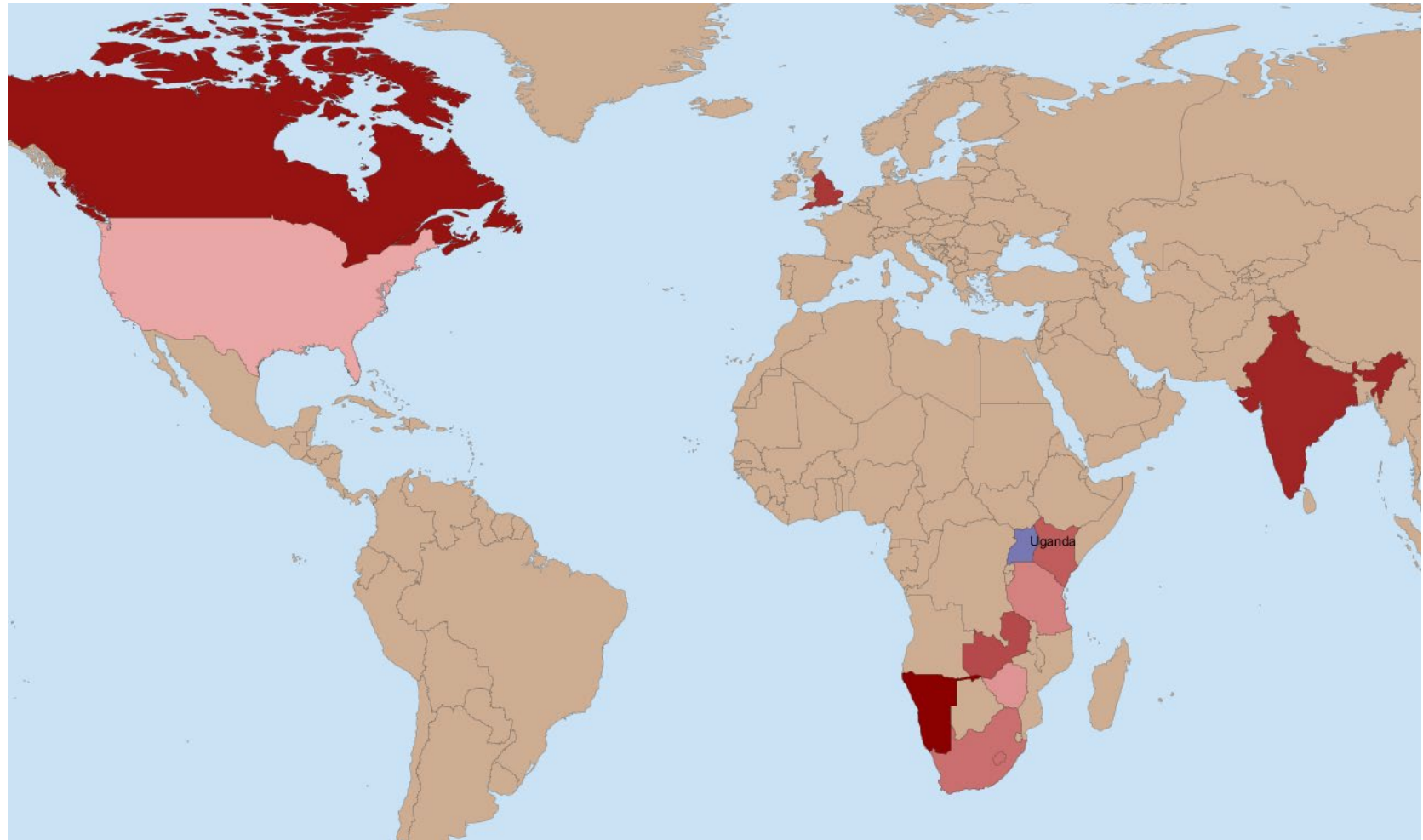
Investigate Similarity

Switzerland



Investigate Similarity

Uganda

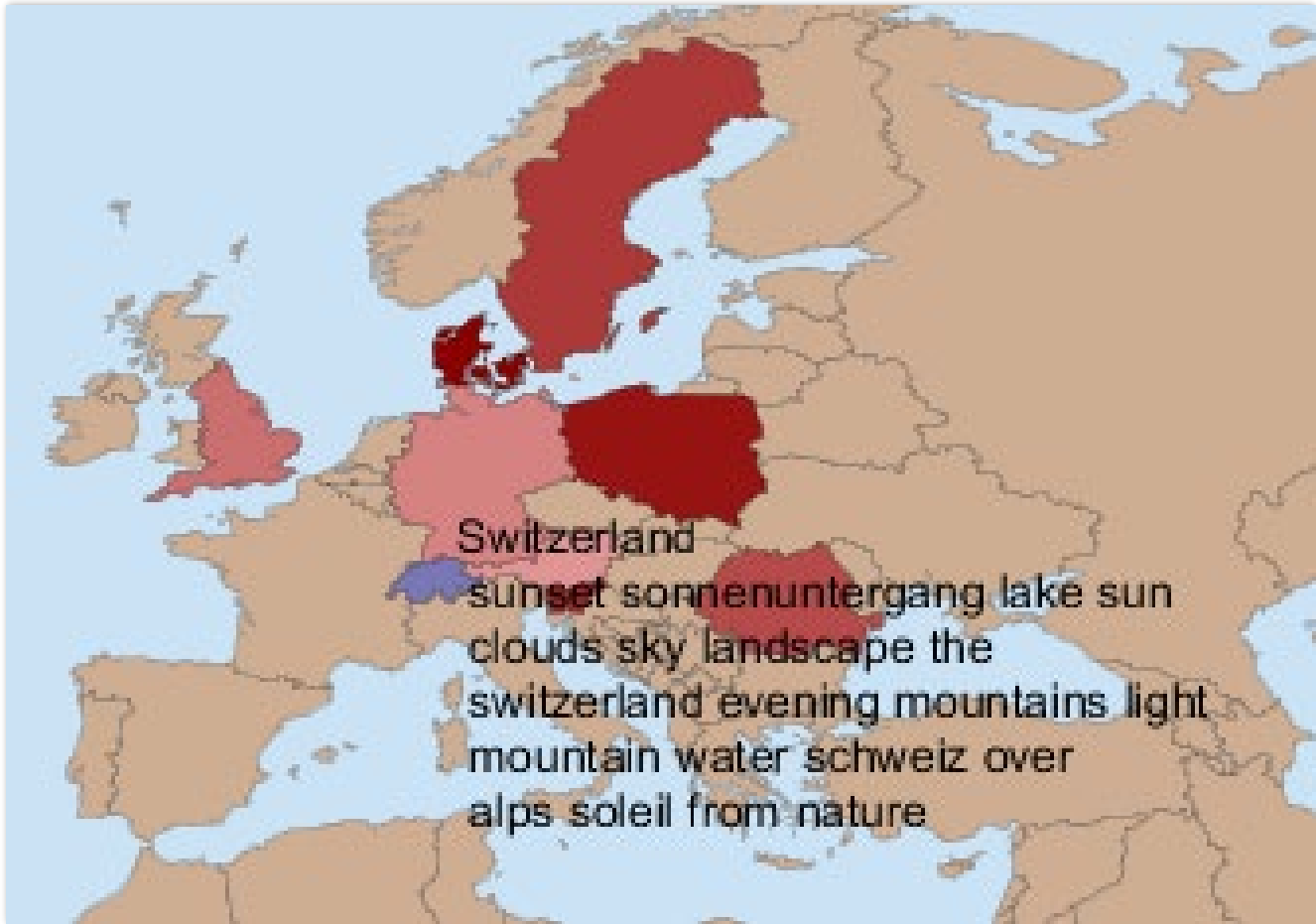


Understand Context

- **Goal 2:** What are the words most used together with sunrise & sunset per country?
- **Method:** Term Frequency - Inverse Document Frequency (TF-IDF)

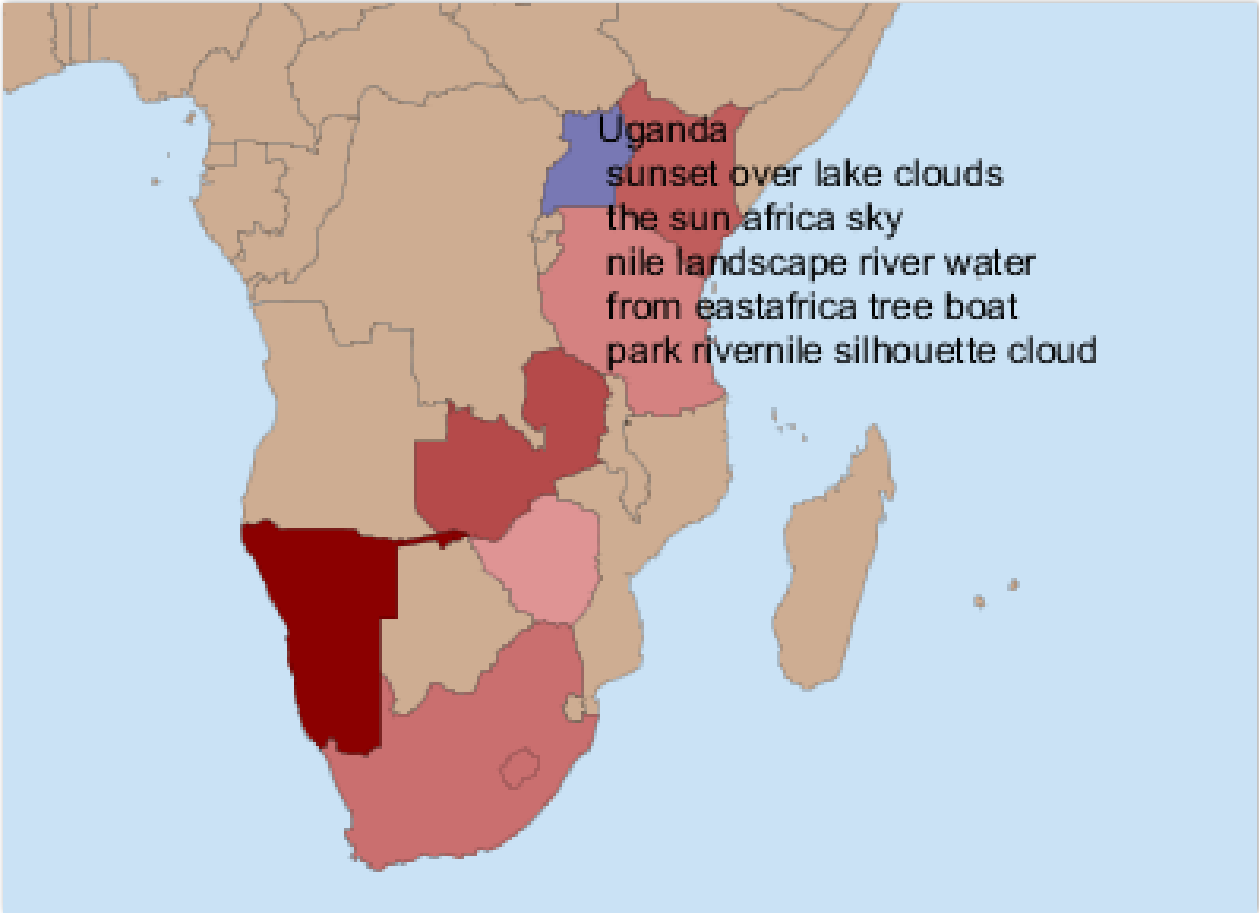
Understand Context

Switzerland
sunset



Understand Context

Uganda
sunset



Open Discussion

Thank's for listening