Approach to Automated Storytelling Using Cluster Polygons

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In order to able to tell a coherent spatio-temporal data story from the change analysis output, we need to be able to pick out resultant change polygons that have seem to have significant impact on the dataset as a whole. We propose using an interestingness function to look for these.

We choose a set of change polygons SCP. These not only contains those objects but also their associated characteristics. For example, a SCP could contain a set of spatial clusters with polygon, their average drought score, total area, centroid coordinates and other summaries for each spatial cluster.

There are two levels of significance in polygons. The first is where whether they have changed sufficiently to be noticeable and the other is whether they have stayed invariant during the time period.

First, to detect change, we define a threshold α, which ensures that a narrative will only be generated an object p in SCP such that . Example parameters for α include

* Largest shift in polygon centroids

Second, to detect nonmoving polygons, we define a threshold β, which ensures that a narrative will only be generated an object p in SCP such that . Example parameters for β include:

The threshold parameters need to be finely tuned to not exclude those polygons who fall through exceptions. Once we have a suitable selection of polygons and have chosen a threshold value, we can create a summary narrative.