## Cartographic reconstruction of administrative boundaries for the Catholic Church

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Keywords: Catholic Church, administrative division, boundaries, maps, data, parishes

## **Abstract:**

The Catholic Church is administered based on its territorial units. This is defined by the Catholic Church's acquis also known as the Code of Canon Law (1983). The structure of the administrative division of the Catholic Church (hereinafter, the administrative territories of the Catholic Church – ATCC) begins with the smallest administrative unit – a parish. The number of parishes and the location of each parish depend on the configuration of the ATCC. Number of available maps of parishes is limited not only in Lithuania, but also in the world. The study examines the availability, completeness, and quality of a data of parish boundaries in Lithuania. This study contributed to the creation of a unified ATCC geospatial database in Lithuania that would contribute to more convenient administration of territories and allow residents to know exactly which parish they are assigned to. Also, ATCC geospatial data will be applicable to historical, genealogical and sociological researches, because detail information about residents is stored in parishes.

The data that describes boundaries of separate parishes, consists of lists of settlements and topographical descriptions for boundaries. The datasets are stored in different dioceses (the higher tier ATCC which consists of parishes) or in separate parishes. All the data is stored as paper documents or as verbal evidence. Only three out of seven of all dioceses have published information about boundaries of their parish. The typical information, that is published on websites run by parishes, consists of list of settlements, enriched by several topographical descriptions of the boundaries. These are the main sources of information that have been used to prepare geospatial data to determine boundaries. All settlements of parishes were searched and checked against the available information in the geographical database of the Register of Address of the Republic of Lithuania. All settlements found in the official register have been classified as settlements that belong to certain parish and form an area of a parish. When assessing the quality of the data, it was noted that the data are not accurate, and it was difficult to interpret. Therefore, settlements have been classified into six types of problematic settlements associated with a flaw in the data.

- 1) Spelling mistakes in settlement names,
- 2) Unknown settlement no match has been found in the geographical database of the Register of Address of the Republic of Lithuania,
- 3) Settlements that have been assigned to several parishes,
- 4) Part of the settlement is not clearly defined,
- 5) Additional settlement two settlements are presented in the sources, while there is only one in the geographical database of the Register of Address of the Republic of Lithuania,
- 6) One missing settlement the sources provide one settlement, while the geographical database of the Register of Address of the Republic of Lithuania contains two settlements of the same or similar name,

Settlements that are within a territory of a parish but not included in the settlement lists, have been observed. They are classified into (a) settlements with no residents and (b) settlements which don't belong to a parish without any reason.

Inaccuracies cannot be avoided when a data of parish boundaries is based solely on the settlement lists. Uninhabited areas intervene between settlements. Then boundaries are drawn according to permanent natural objects or a network of roads. However, such interpretation requires additional adjustments and updates. The clergy that administers the ATCC must contribute to adjusting the boundaries of parishes. Unfortunately, the dioceses of the Catholic Church of Lithuania

are reluctant to actively take part in the digitization of the ATCC boundaries. Semi structured interviews demonstrated that reluctance may be linked to the idea that it would be an extremely resource-intensive and not necessarily successful task. Nevertheless, an online map is a tool for observing and analysing the ATCC boundaries. Web Feature Service enables to edit, change parish boundaries at any time. The Cartographic reconstruction of administrative boundaries for the Catholic Church does not have a timeframe for implementation. Is sought for as accurate data as possible, which would not be possible without active involvement of Catholic Church clergy.