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Preliminary study of Fella and But watersheds: how to exploit databases of channel control structures and High-Resolution Topography (HRT)

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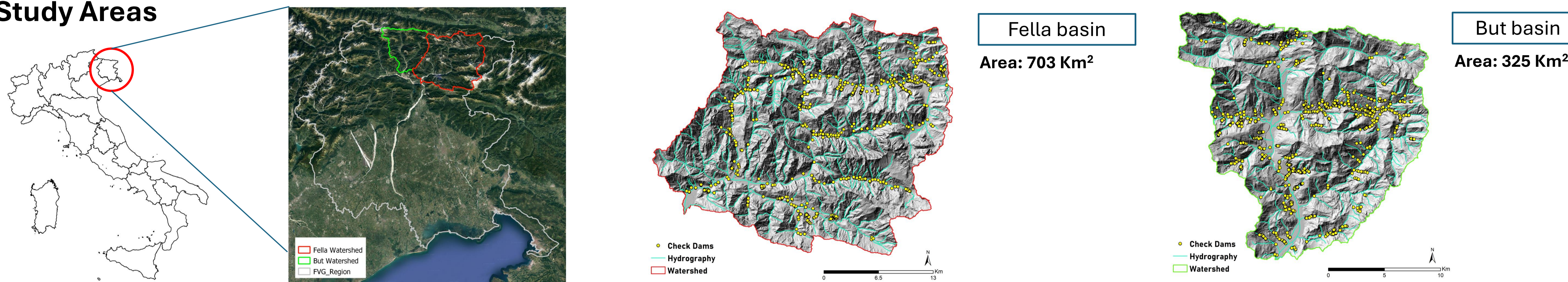
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Introduction

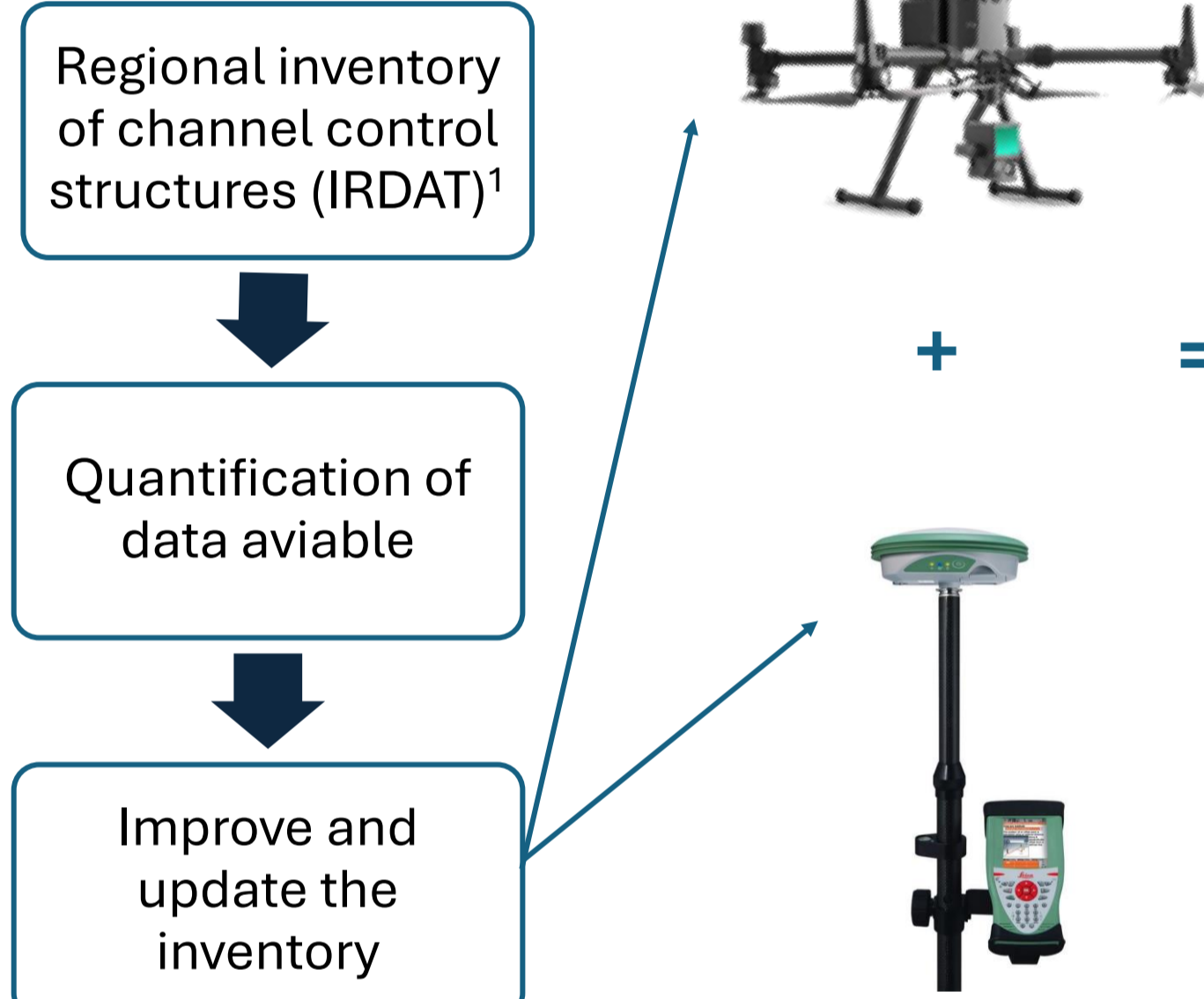
The study of sediment dynamics and its interaction with channel control structures enables effective hydrological risk mitigation. An updated inventory of these structures is crucial for monitoring and planning both old and new prevention works. High-resolution topography data (HRT), such as LiDAR, is essential for accurately mapping watershed characteristics and to perform multi-temporal analysis. The combination between multi-temporal analysis and channel control structures inventory is important to improving monitoring actions

Study Areas

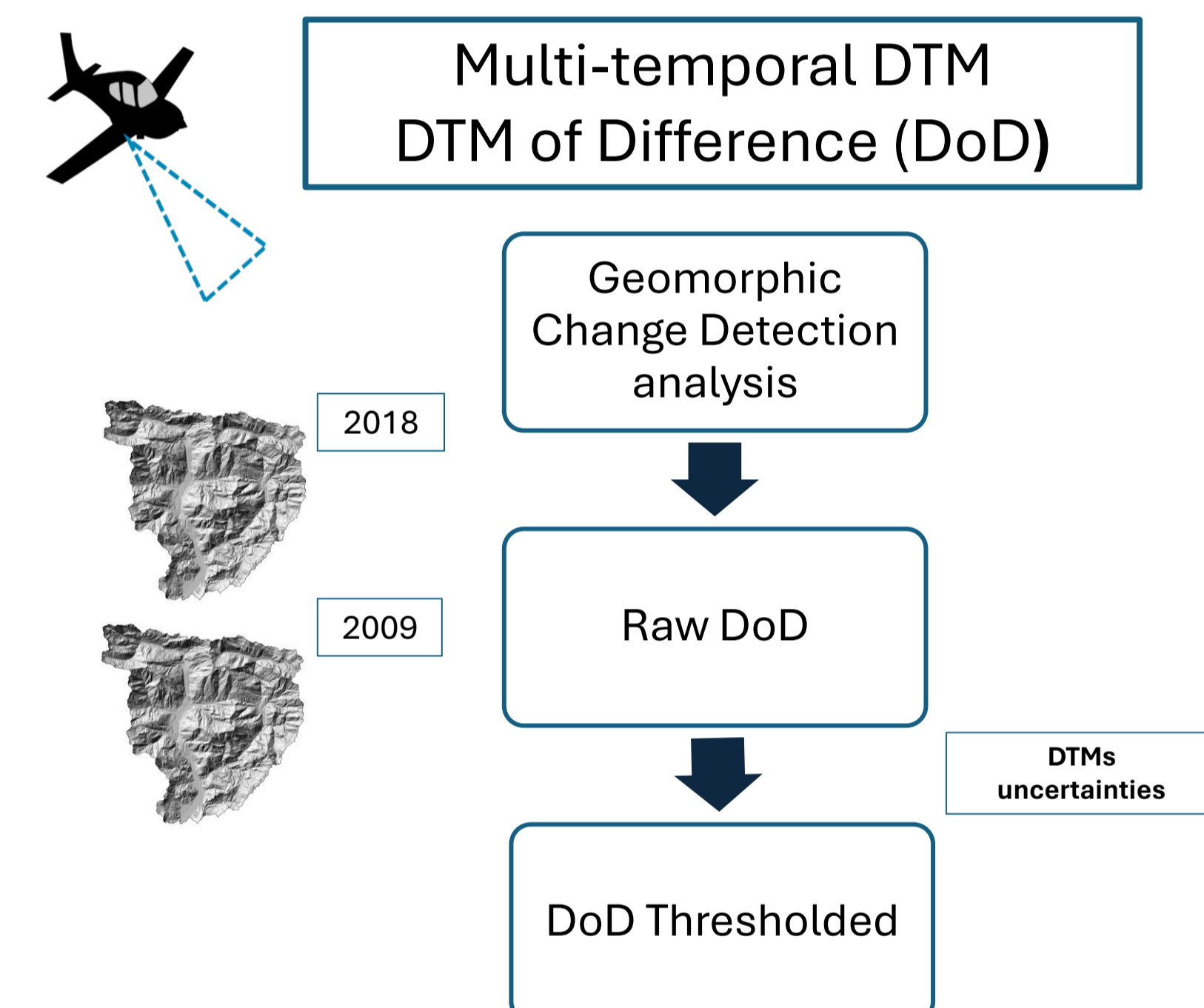


Methods

CHANNEL CONTROL STRUCTURES INVENTORY

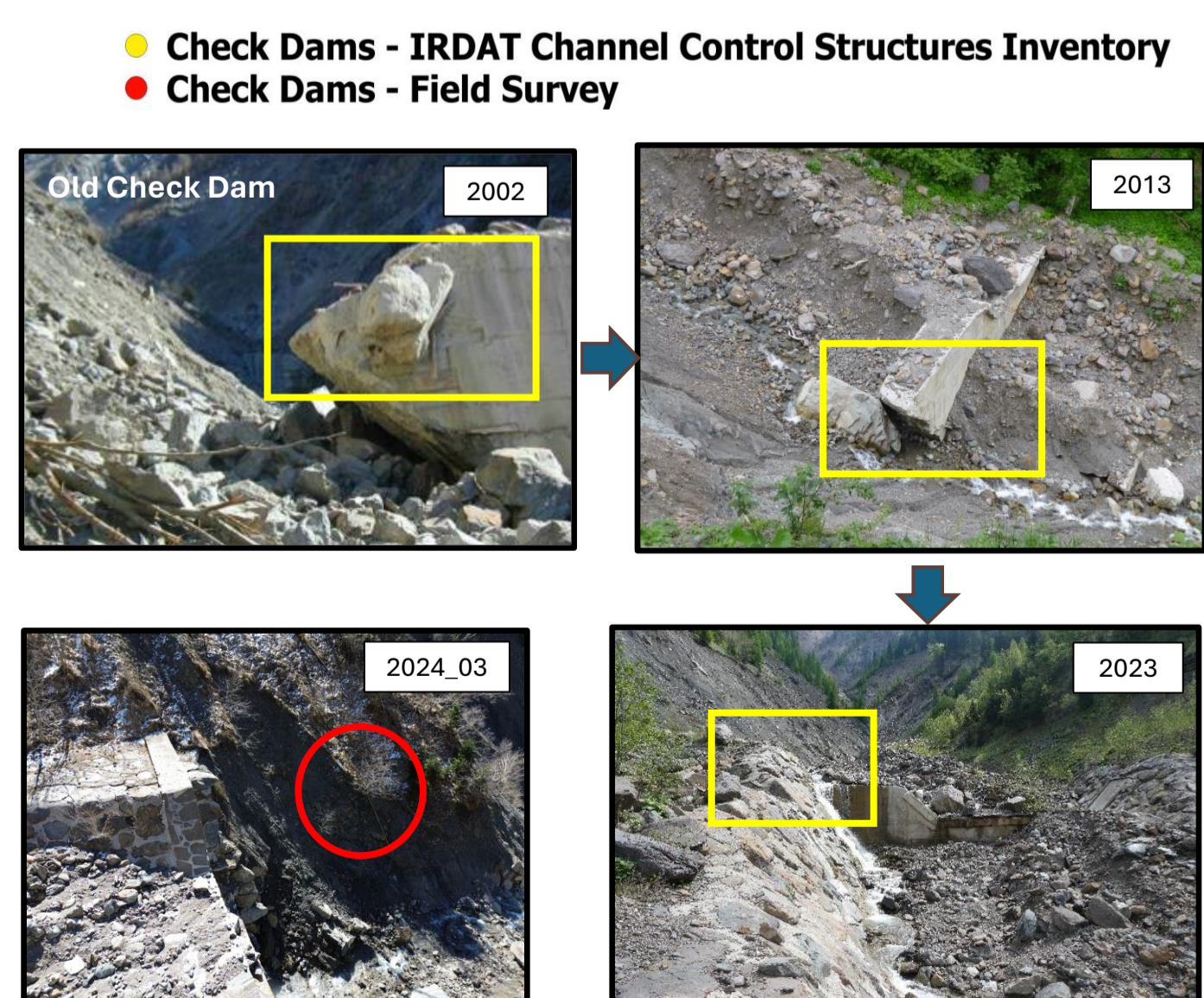
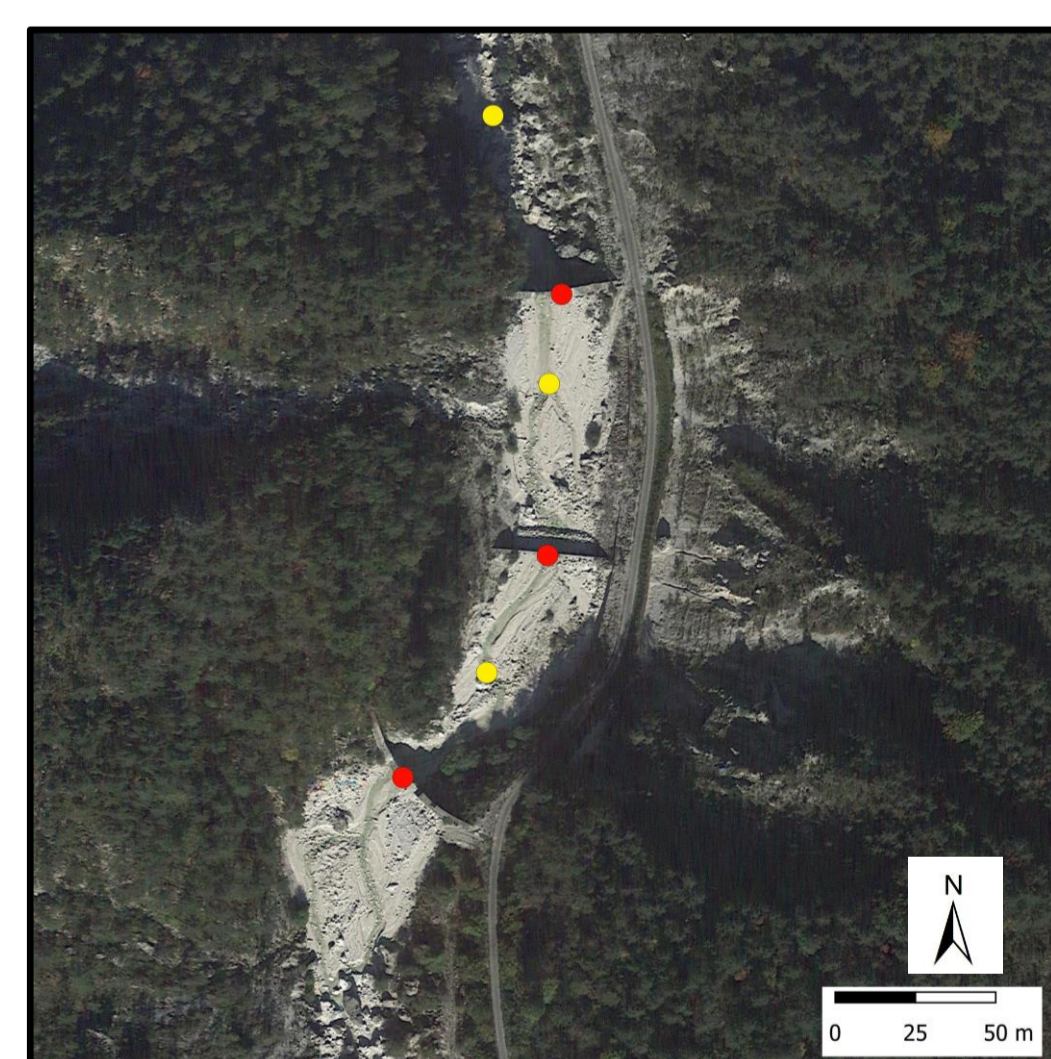
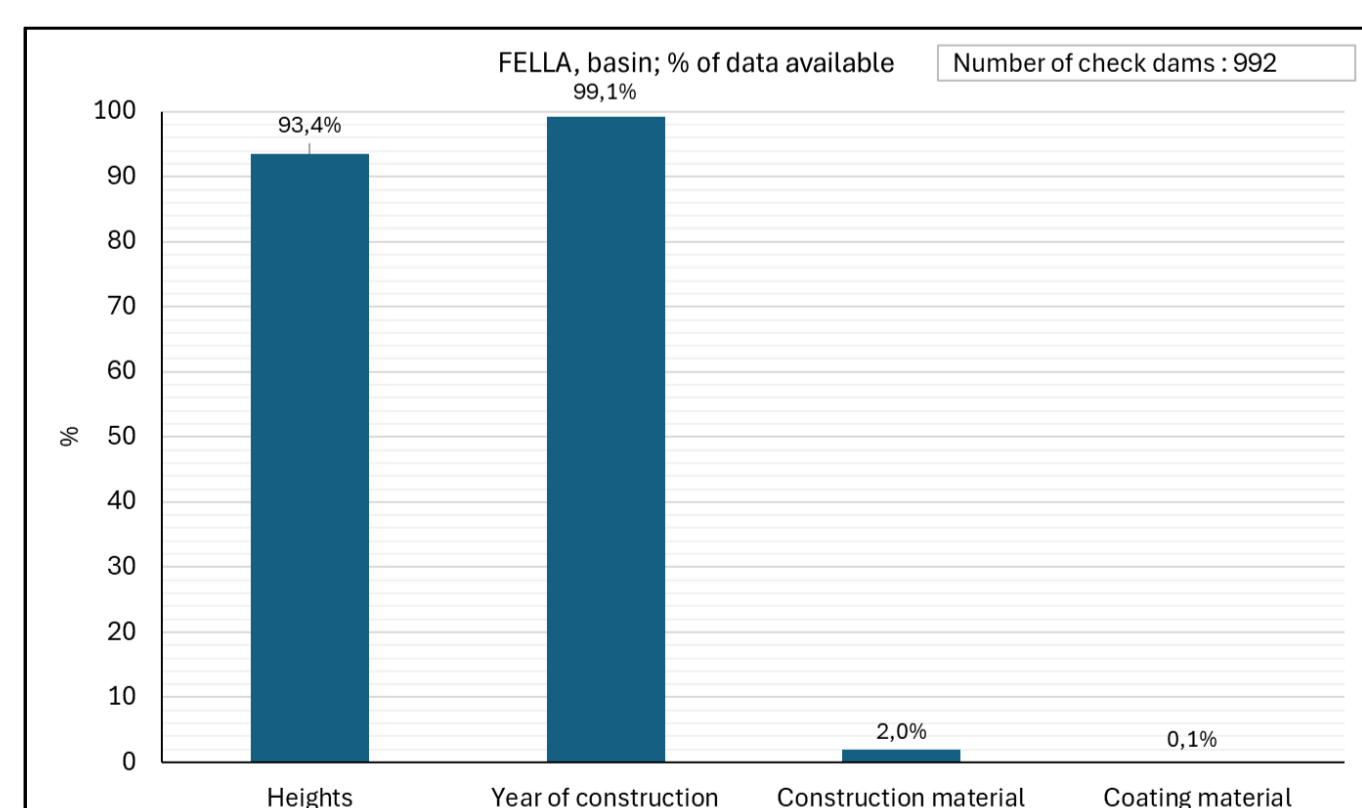
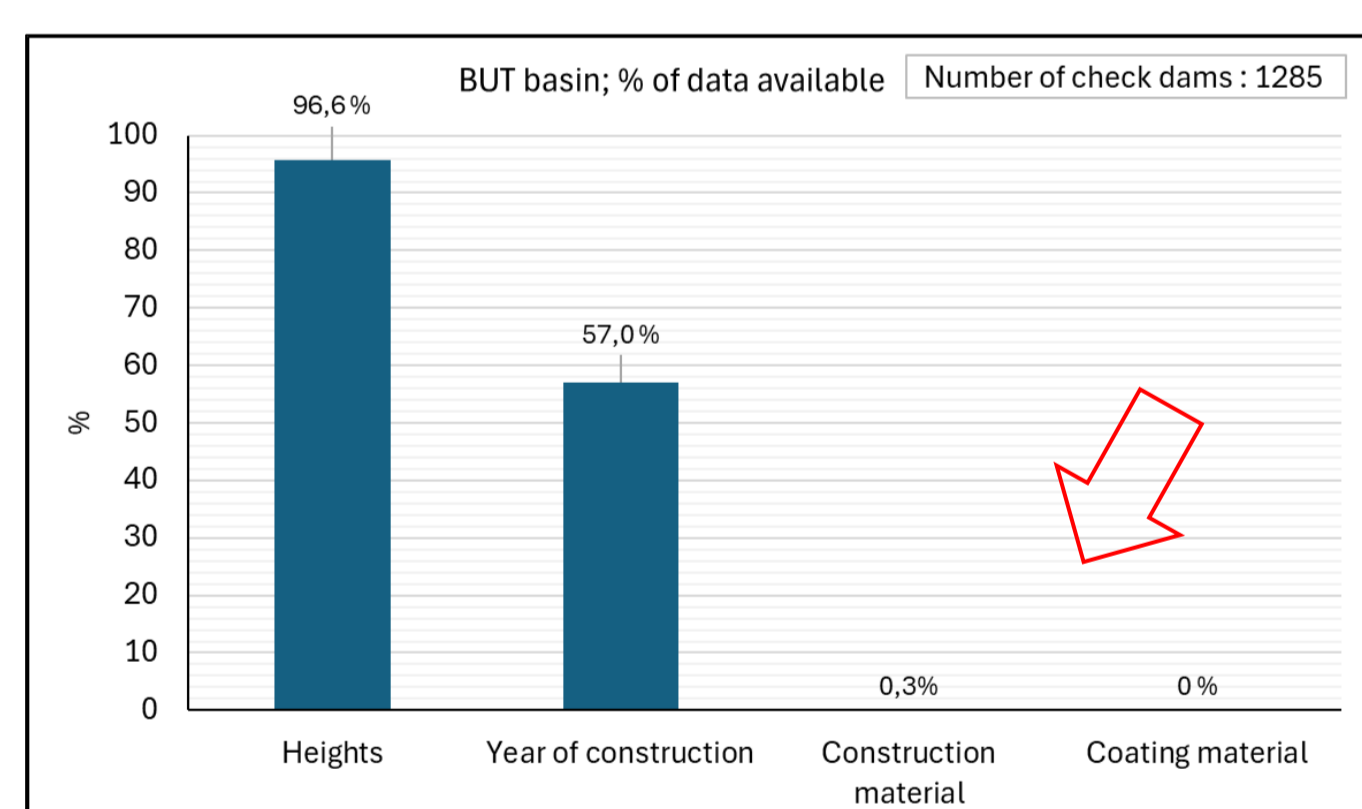


MULTI-TEMPORAL TOPOGRAPHIC DATA



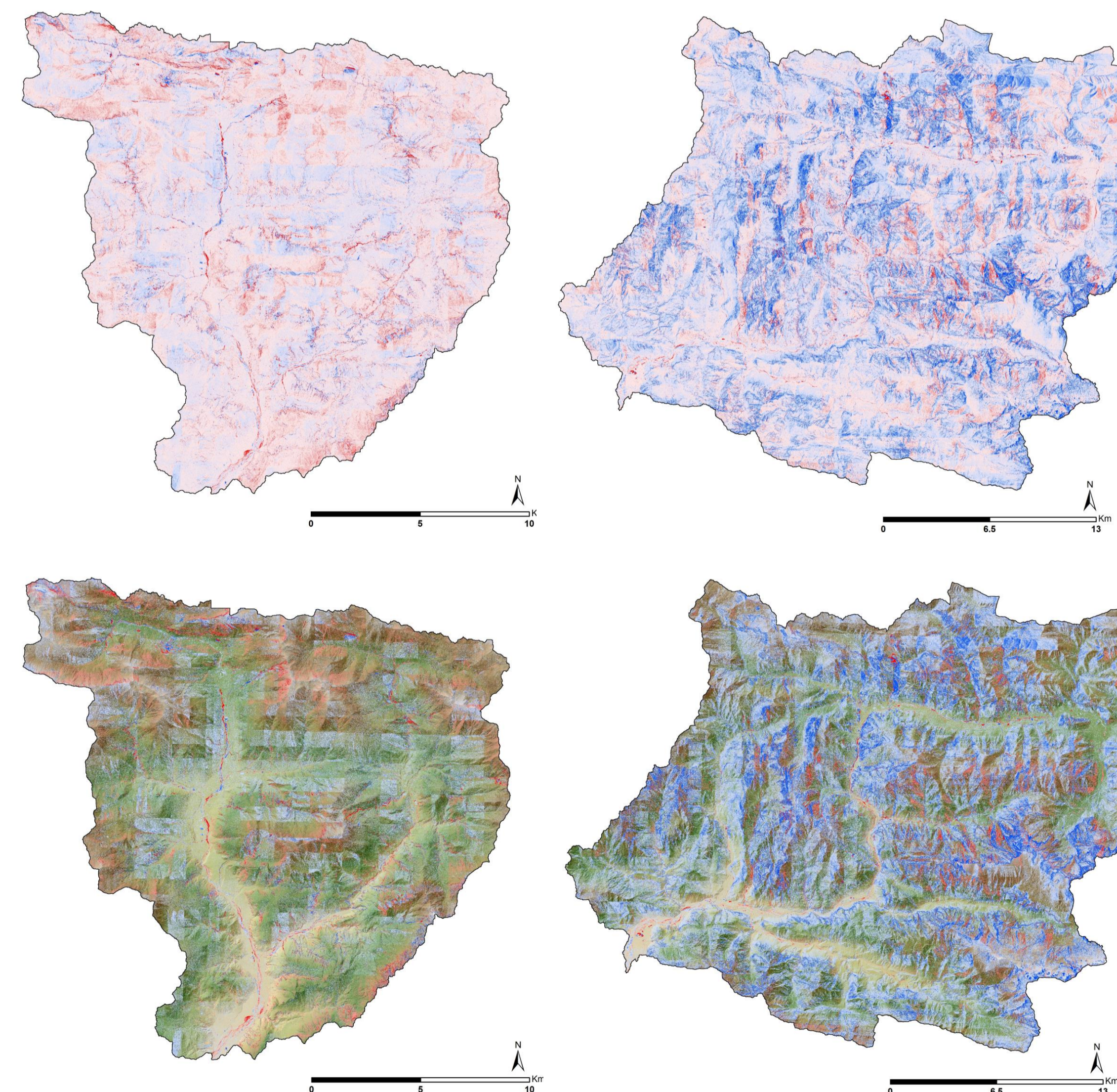
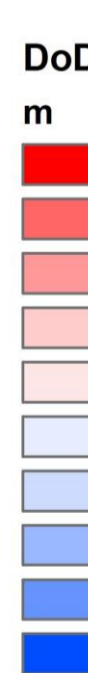
Results

IRDAT Channel Control Structures Inventory



RAW DoD

TRESHOLDED DoD



Conclusions

Regional Channel Control Structures inventory

- Not accurate GNSS precision of location
- Need to update
- Need to increase information on status, functionality and materials of channel control structures

High-Resolution Topography dataset (HRT)

- Necessity to post-processing for multi-temporal analysis (Not ready-to use)
- Co-registration of point cloud (raw data)
- Problem of processing HRT data for large spatial scale