Prediction of the viability of satellite imagery in terms of useful data for the purposes of geological analysis

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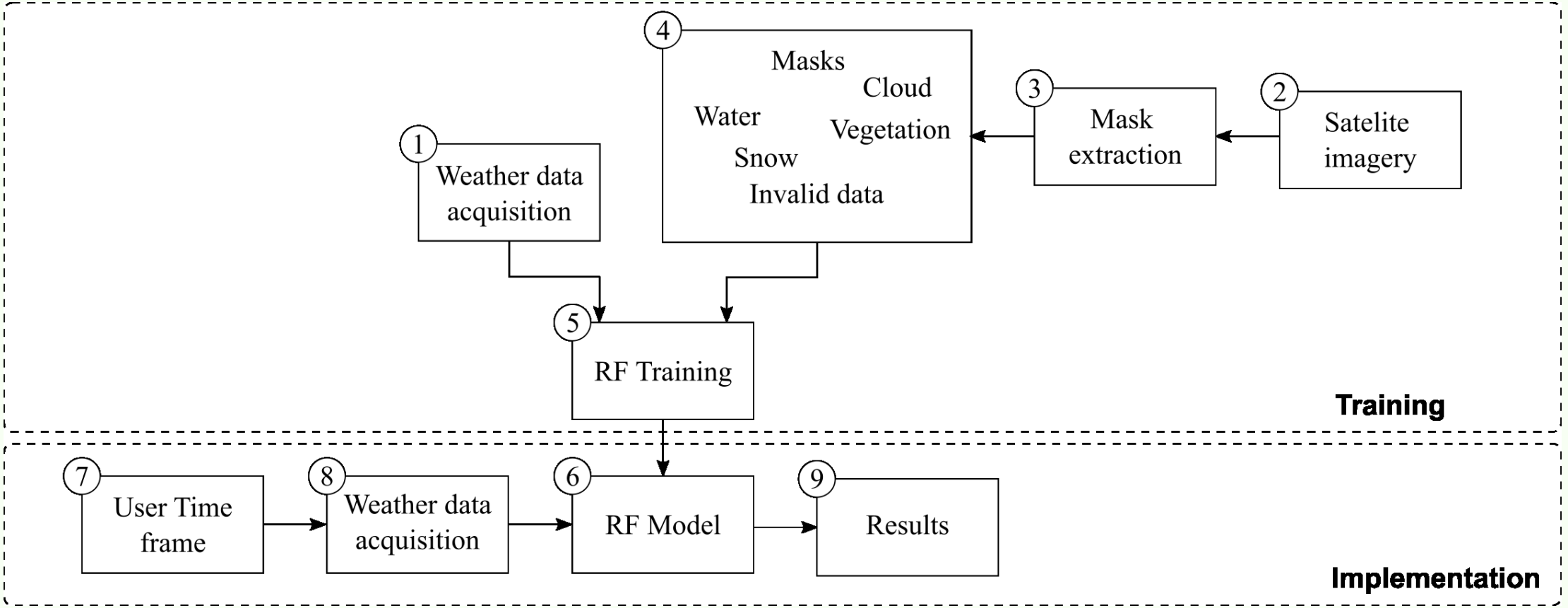
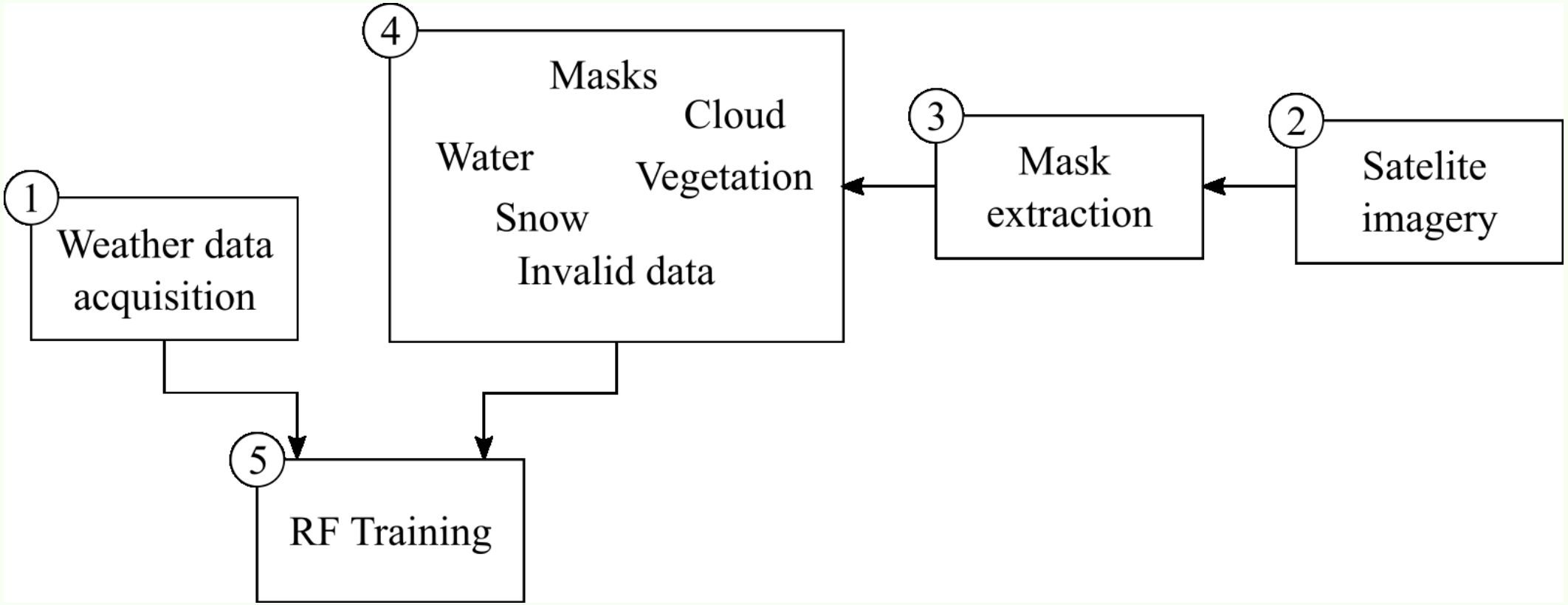
Introduction

- This presentation outlines an algorithm for the prediction of the viability of satellite imagery when implemented for the purposes of geological analysis.
- The algorithm relies on meteorological data for the specific place of interest in order to predict weather phenomena that can reduce the useful data contained in the image.
- The algorithm utilizes AI techniques and its prototype version presented in the current publication is based on the Random forest approach.
- The presented study is part of the CloudEARTHi project.

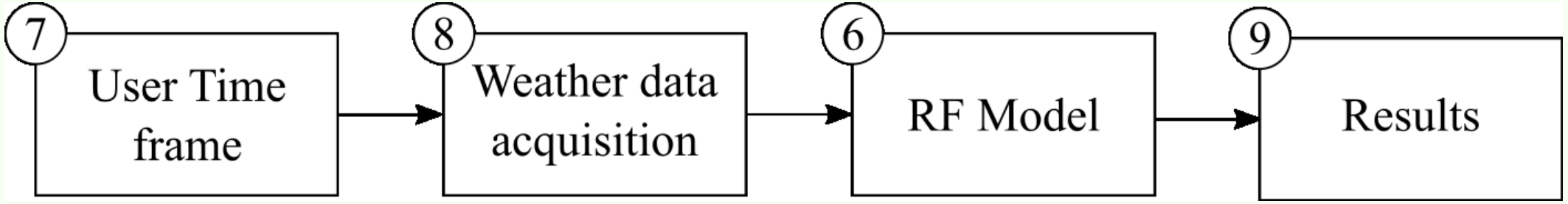
Basic structure



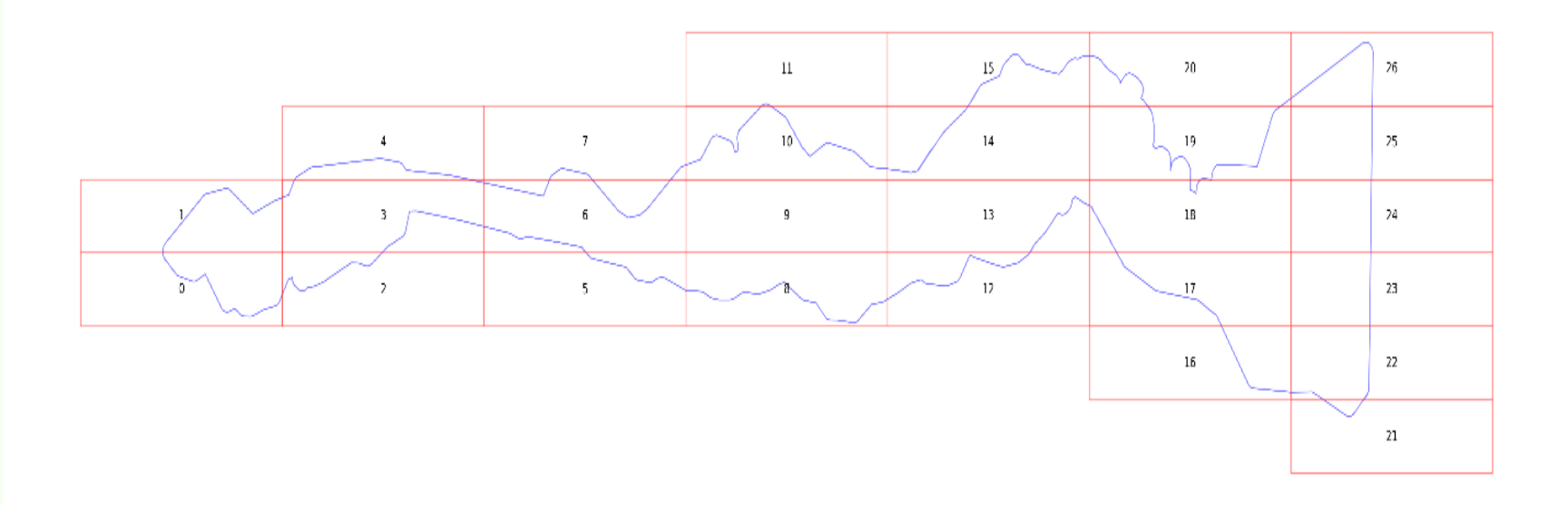
Training stage



Implementation stage



Training data



Results, Future work and conclusions

- ✓ Training of the RF and model creation was developed based on the python programing language;
- ✓ The concept was tested over more then 300 images on single location within a timeline of 3 years;
- ✓ The accuracy of the algorithm was estimated at approximately 90%;
- ✓ Its operation was tested within a concrete study;
- ✓ Future work can include more test for various places – various geographical locations and climate zones;
- ✓ Integration within an online tool