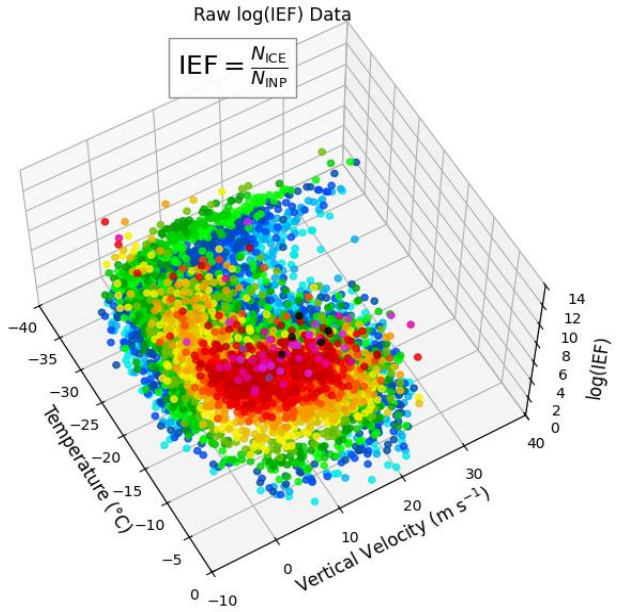
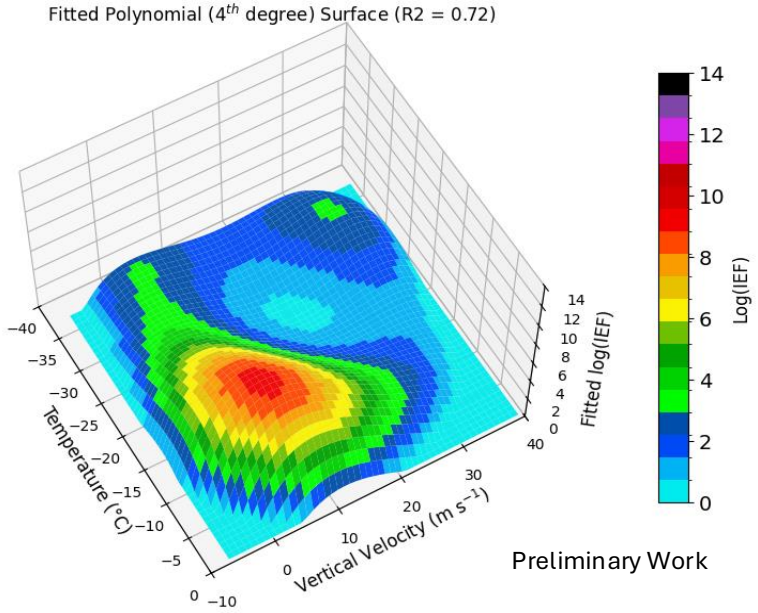
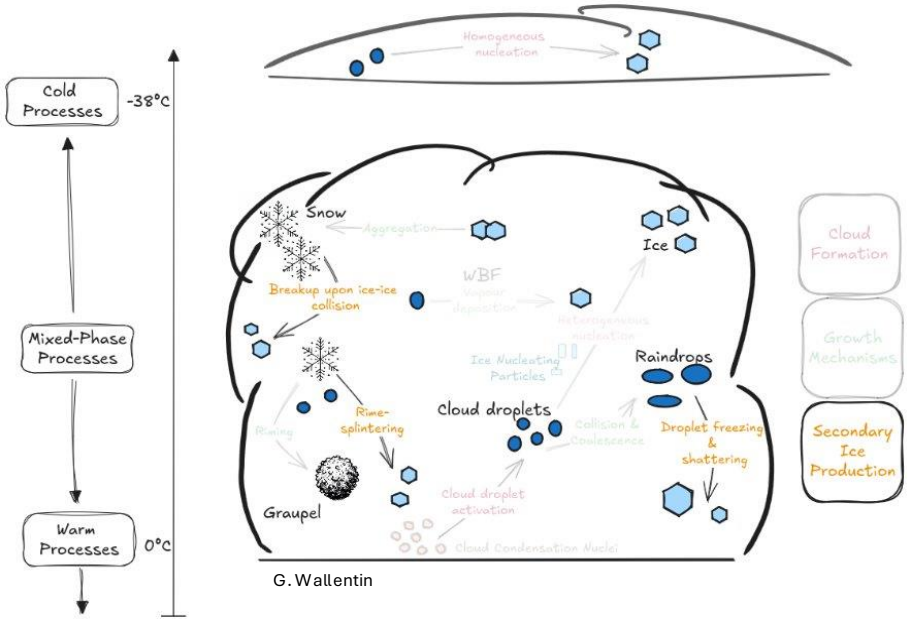
Predicting Secondary Ice Production using Machine Learning

- Secondary ice production (SIP) is hypothesised to have a large impact on clouds
- Ice Enhancement Factors (IEF) quantifies this impact on the cloud ice number concentration
- Using ICON simulations this project aims to train a machine learning method to predict the IEF across different cloud systems





Preliminary Work



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Tasks:

- Running the numerical weather prediction (NWP) model ICON in various locations across the globe (US plains, Arctic, Europe)
- Set up a machine learning framework to predict the IEF

Skills Gained:

- NWP modelling
- Python and FORTRAN programming
- Machine learning
- Large data handling