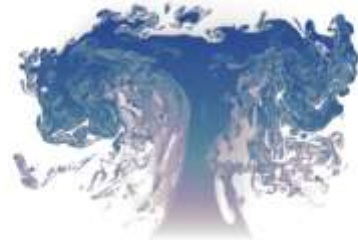


# Café Scientifique Headingley

Monday 11<sup>th</sup> March 2019 at 7:30pm

**Speaker:** Steven Boeing

**Title:** **Turbulent Clouds:  
Troublemakers in weather and climate models**



**Outline:** What would the weather be without clouds? From a scientific perspective, it would be a lot duller: clouds have a large effect on surface temperature but most importantly, they generate drizzle, rain, hail and snow. Without clouds, the water cycle that makes terrestrial life possible would not exist. However, thunderstorms and prolonged rainfall episodes also cause major flooding.

Predicting where and when clouds form is notoriously difficult. Weather and climate modellers have been working on this for many decades. Clouds are small compared to, for example, depressions and fronts, which makes it difficult to represent them in computer models. Moreover, we need to know about the behaviour of water droplets, snow and ice. Only over the last two decades, we have been able to explicitly model the clouds responsible for e.g. thunderstorms in a crude way. Taking the effect of smaller clouds into account remains hard.

This talk will address a number of questions about clouds, such as:

- What determines how tall a cloud grows, and when rain starts to form?
- How are clouds taken into account in weather and climate models?
- What can be improved, and how?
- How do we judge if a forecast is good, especially when scattered showers are predicted?
- Will we ever be able to forecast a thunderstorm cloud over Leeds days in advance?

Studies of turbulence in clouds and so-called chaos theory provide part of the answers.

**Biog:** *Steven Boeing is a research fellow at the University of Leeds. He has been working on clouds and rainfall since 2009 and holds a PhD from Delft University of Technology. He is particularly interested in novel methods for understanding and modelling cloud behaviour and interactions between clouds. He is part of the University of Leeds/Met Office strategic research group and collaborates with the convection group at the Met Office.*

**Venue:** The New Headingley Club 56 St Michael's Rd., Leeds LS6 3BG

**Time:** Club opens at 7:00pm for drinks & the room at 7:30; talk begins promptly at 7:45pm

**Entry:** Donation please for room hire and expenses: **£3 at the door**



Café Scientifique Headingley is a programme run under the auspices of the Headingley Development Trust [www.headingleydevelopmenttrust.org.uk](http://www.headingleydevelopmenttrust.org.uk)