

Development of Cell Tracking Capabilities for Use in Aviation

Executive Summary

This report details the progress made in developing visualisation products, and understanding user requirement, based on the Met Office convective storm cell tracking operational product. The goals of this work are to continue to develop both the in-development products as well as our relationship with users in this particular space. The Met Office cell tracking system is an operational product that provides real time tracking of convective storm cell over the UK and Ireland. This data is output 10-15 minutes after the forecast time (at 5-minute intervals). This output was used to develop the visualisation tools discussed within this report, as well as the web application. The outputs of this project so far are 2 visualisation tools and an interactive web application. The first tool takes the form of a live map showing the storm cell tracks overlaid with the UK Flight Information Regions (FIR). The FIRs change colour depending on the number of storms present in that region. The other is a cell track archive that can be used to generate animated timelapses of day-long periods, showing the same as the live map for previous days. The interactive web application takes the cell information, and outputs live map images as well as storm cell metadata in an interactive format. A presentation meeting was held at NATS to gather information directly from the customer about further developments of these products. Further developments include greater depth with regards to UK FIRs, potentially using more complex sectors including specific airports, as well as the highlighting different storm types in the metadata section of the web application. The larger outcomes of this meeting, and project as a whole, are a deeper understanding of the customer requirements in this area, as well as a greater personal understanding of the kind of work we can provide to our users as a team.