1.10 AVIATION AND WEATHER – A NEW INITIATIVE IN GERMANY

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1. BACKGROUND

Weather impact on aviation in Germany is generally thought to be less important than other influences, such as air traffic management constraints. Traffic increased in Germany up to 2001 by 5 % annually and a doubling of air traffic volume within the next 15 – 20 years is still expected. The major hubs in Germany are Frankfurt, Munich and Düsseldorf with total numbers of take-off and landings in 2001 of 459372, 332015, and 191592 respectively. The fact that these airport operate near or even over their nominal capacity, however, made the air traffic more and more susceptible to adverse weather. The monthly delay statistic for December 2001 (DFS, 2002), for example, reveals that weather contributed with 56%, 77%, and 76% respectively to the ATFM delay observed at the three airports. A recent study by Hauf and Sasse (2002) documented for the first time quantitatively the impact of thunderstorms on the landing traffic at Frankfurt airport with approximately 1000 delay minutes per event.

2. THE INITIATIVE

Here we report from a newly founded initiative *Flugverkehr und Wetter* (Aviation and Weather) founded and organized by the University of Hannover, the Deutsches Zentrum für Luft- und Raumfahrt (DLR), Oberpfaffenhofen and the German Weather Service (DWD), Offenbach. The objective of the initiative is (1) to foster research and development activities on aviation meteorology in Germany, (2) to provide an organisational platform for such activities, and (3) to increase the communication between research organisations, airports, airlines, pilots , air traffic management and meteorologists.

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3. RESULTS FROM A FIRST MEETING

A first workshop was held in Langen on June 26, 2001 with 23 participants representing the German Weather Service, airlines, airports, governmental organizations, research organisations, and the German and European air traffic management authorities. The following statements were made after a fruitful and intensive discussion:

- Weather impact on aviation will increase with demand exceeding capacity of airports.
- More user friendly forecasts with higher resolution in space and time are requested. Timeliness and high accuracy in the terminal area are necessary for efficient ATM control mechanism.
- Weather impact phenomea were ranked according to their importance in Germany: thunderstorms, ice (icing) and snow, strong winds, shear and poor visibility or low ceiling conditions.
- Collaborative decision making should be improved.
- Communication and information platforms have to be improved. Meteorological products should be modernized.

4. FUTURE PLANS

Current activities focus on the compilation of a status report. The installation of two working groups is proposed and a workshop will be held in the not so far future. Details of future activities will be outlined.

Hauf, T., M. Sasse, 2002: The impact of thunderstorms on landing traffic at Frankfurt airport (Germany) – A case study. *Preprints, 10th Conference on Aviation, Range, and Aerospace Meteorology, May 13 – 16, 2002, Portland, Or.*

Deutsche Flugsicherung, 2002: Monthly flight statistic for December 2001.