1. Introduction

1.1 WVSS Enhancements: The WVSS data stream is a valuable resource for aviation operations, providing detailed water vapor data that can help in predicting fog and low-visibility conditions. WVSS data is used by air traffic controllers to adjust airport operations, and by pilots to make informed decisions regarding flight plans.

2. Overview of WVSS

2.1 WVSS-ACARS Integration: The WVSS system is integrated with ACARS to provide real-time data to pilots, enabling them to make informed decisions about flight operations. This integration has led to improved operational efficiency and reduced delays.

3. Examples from July 13, 2010 (Rockford, IL)

3.1 Cloud Layers: WVSS data was used to predict the presence of cloud layers, allowing pilots to adjust their flight plans to avoid turbulence.

4. Examples from August 30, 2010 (MID)

4.1 Visibility: WVSS data helped predict visibility conditions, allowing airports to adjust to changing weather conditions and maintain safe operations.

5. Examples of WVSS Support to Airlines Operations

5.1 Forecasting Fog: WVSS data was used to predict fog conditions, allowing airlines to adjust their flight plans to avoid delays and cancellations.

6. Examples of WVSS Support to Airports Operations

6.1 Runway Management: WVSS data was used to predict runway conditions, allowing airports to adjust their operations and maintain safety.

7. Summary of Technical Evaluations and Intercomparisons

7.1 WVSS and radiosonde comparisons: WVSS data was compared with radiosonde data to evaluate the accuracy of WVSS predictions. The comparison showed that WVSS data was accurate in predicting fog and visibility conditions.

8. Conclusions

8.1 WVSS has proven to be a valuable asset for aviation operations, providing real-time data that helps in decision-making processes. The integration of WVSS with ACARS and other systems has led to improved operational efficiency and reduced delays.