

6.8 THE OPERATIONAL REALITY OF WEATHER RADARS WORLDWIDE A TRAVEL REPORT

H. AL SAKKA¹, J. DIDSZUN¹, A. WEIPERT¹

¹ Meteorological Information Systems Department, Selex ES GmbH, Neuss Germany
h.alsakka@selex-es-gmbh.com

Weather radar has become an essential tool for meteorological real time monitoring and studying, nowcasting, forecasting and modeling. However, a discrepancy exists between the detailed ongoing research in this area and the operational reality of weather radar data processing and usage world-wide.

The paper presents a résumé and sharing experience after three years of traveling between six continents, training and working with local users on weather radars (operators, forecasters, hydrologists, and scientists). It is a collection of the main usage and problems of the end users' daily work. It wraps up their current and future needs and uses from their perspective.

Despite major enhancements in the radar technology and data processing chain, there are still some gaps between research and development and the final operational usage of the weather radar data. Different problems persist: attenuation, quality control standards, interference (between radars or from other devices like Wifi, data links, etc.), anomalous propagation, the type and the quantification of the precipitation, compositing (especially with heterogeneous radars), and other hardware and software problems. Although most of these problems are tackled by research in one or other way, for some problems practical solutions are still rare and some are not reflected in research as it should be regarding their effect on the operational data quality.

In other words, this paper reflects the reality of the usage of weather radars world-wide, it shows the advantages, the inconveniences, the limitations of the weather radars, and what the end users are expecting from the scientific community.