

ROBERT J. KOESTER

Robert J. Koester first joined the Appalachian Search & Rescue Conference in 1981 and since then has participated in hundreds of searches. He holds a PhD in search theory from the University of Portsmouth and is CEO (Chief Executive Officer) of dbS Productions (dbS Productions is well known in the Search & Rescue Community as the source of search and rescue research, publications, and training).

His contributions to search and rescue include seminal research on lost person behavior (with emphasis on dementia), the International Search and Rescue Incident Database (ISRID), a the tactical decision aid software – FIND. A Search Mission Coordinator, instructor for the Virginia Department of Emergency Management, and past president of the Virginia Search and Rescue Council (15 years), Robert has also worked for the United States Coast Guard, National Aeronautics and Space Administration, National Park Service, Department of Homeland Security, and Federal Emergency Management Agency.

He is an author of numerous books and articles on search and rescue. Robert has presented on many different search topics all around the world, to mention Aruba, Australia, Iceland, Ireland, New Zealand, Poland, the United Kingdom, and throughout the United States and Canada.

On the RESCUE 2018, an international search and rescue conference in Reykjavik, Iceland, October 2018, Robert Koester lectured on enhancements to statistical Probability of Area Models based upon updated ISRID data collection and new sweep widths values, correction factors, models, UAVs values, and detection model validation, which can lead to more accurate assessments of the probability of detection.

The recent work has introduced many valuable changes into The International Search and Rescue Incident Database (ISRID), which previously contained 50,000 incidents as the basis for information found in Lost Person Behavior, increased the size to 145,000 incidents. This latest effort resulted in new data standards and a new data collection tool called Search and Rescue data Collection & Analysis Tool (SARCAT) to improve data quality.

A new spatial model called the point model was created which provides the probability that the subject is found within 100 meters of the IPP or the destination. The value of combining different spatial models such as the ring model and distance from IPP as scored by MapScore has been determined to statistically significant.

Several new subject categories are defined including multiple scenario based profiles (medical, trauma, investigative, avalanche, etc.). Additional new subject categories have been presented. A more detail analysis of Autism profile has also been provided. Analysis of new emerging trends to predict spatial model statistics when data is missing for temperate or dry domain specific expression has been determined. Additional polar domain data also has offered new insights.

The new ISRID data has also been used to determine enhanced and more detail survivability curves out to the 95%. The integration of multiple models together along with expression of the Probability of Success Rate (PSR) in the FIND tactical decision aid has been discussed.

(the presentation written using the Iceland 2018 SAR Conference official website)