The French operational weather radar network: achievements, current situation and outlook

Pierre Tabary
Météo France, France

E-mail: pierre.tabary@meteo.fr

In France as in many other countries, a significant increase in the number of radars and radar products has taken place over the past decades. Indeed, the number of French mainland operational radars has increased from 13 in 1995, up to 27 in 2014. By 2017, the network might comprise some 34 elements, with high (> 98%) yearly availability rate targets. In parallel to that densification, a number of major technological upgrades have been introduced into operations in order to fulfil the needs of more and more demanding users, working in an increasing number of areas (nowcasting, NWP, aviation, climatology, hydrology, …). All three wavelengths (S, C and X) are present in the network, which poses several challenges in terms of data mosaicking. Dual-polarization has become over the years the operational standard and motivated the development of a robust polarimetric processing chain applicable to S, C and X-band. All radars have been equipped with a Doppler triple-PRT scheme, which paved the way towards the retrieval of multi-Doppler low-level windshear mosaicks. An overview of the major operational achievements of the past decade (in particular on dual-polarisation and quantitative precipitation estimation) will be provided and insight towards the future will be given.