

## International initiatives in Air Quality Forecasting

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Air quality forecasting systems have been integrated as a key pillar in the delivery of the World Meteorological Organization (WMO) Global Atmospheric Watch (GAW) program. Consequently, WMO is coordinating and/or fostering a number of international initiatives to increase the accessibility to such forecasting systems and advance their scientific development. In collaboration with the MAP-AQ project, the Prediction and Forecasting Improvement for Africa (PREFIA) initiative is bringing a number of international research teams together to develop and improve air quality and meteorological prediction and forecasting capabilities for African applications. The eventual outcome would be a seamless prediction and forecasting framework geared to operate on higher resolutions for local, urban and regional scales based on a multiscale modelling approaches, ensuring consistency of factors such as land cover, emissions and meteorological processing. WMO is also contributing to the development of specialized training information for air quality forecasting. A comprehensive 'Best Practices and Training Materials for Chemical Weather and Air Quality forecasting' is set to be released in 2019. WMO has also developed and made available the 'Guide for Urban Integrated Hydro-Meteorological, Climate and Environmental Services Part 1a: Concept and Methodology' (<http://www.wmo.int/pages/prog/arep/gaw/documents/UrbanIntegratedServicesPart1aConceptandMethodologyEC-70.pdf>) which recognizes that rapid urbanization necessitates new types of prediction services to mitigate the increasing vulnerability of cities' environment. It is foreseen that comprehensive and consistent weather, climate, hydrology, air quality and health related stress information and forecasts will be required as a key component of urban resilience. The Guide Part-I documents the concept and methodology of the development and initiation of Urban Integrated Services, that meet the special local needs of cities, to assist countries and their cities in establishing and making the best use of such services. The presentation will provide an overview of these three initiatives and opportunities to collaborate.