

## Monitoring air quality: the role of OSSEs in determining the future global observing system

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The need to monitor air quality is recognized world-wide. This involves, inter alia, measurements of key pollutants (e.g. ozone and carbon monoxide) in the lowermost troposphere at spatio-temporal scales relevant to monitor, forecast and manage air quality on a daily basis (temporal frequencies less than 1 hour; spatial scales less than 10 km). This presentation identifies the role of data assimilation observing system simulation experiments (OSSEs) in determining the future observing system to monitor air quality, with focus on lower troposphere measurements of ozone and carbon monoxide. Caveats associated with setting up and interpreting OSSEs are discussed. OSSEs performed to assess the added value of the proposed geostationary satellite platform MAGEAQ (Monitoring the Atmosphere from Geostationary orbit for European Air Quality), as well as the added value of other observing platforms of the global observing system for monitoring air quality (low earth orbit satellites; ground-based data) are presented to illustrate the concept.