

Fog Analysis during SOFOG3D Experiment

Pragya Vishwakarma, Julien Delanoë, Christophe Le Gac, Fabrice Bertrand, Jean-Charles Dupont, Martial Haeffelin, Pauline Martinet, Frédéric Burnet, Christine Lac, Alistair Bell, et al.

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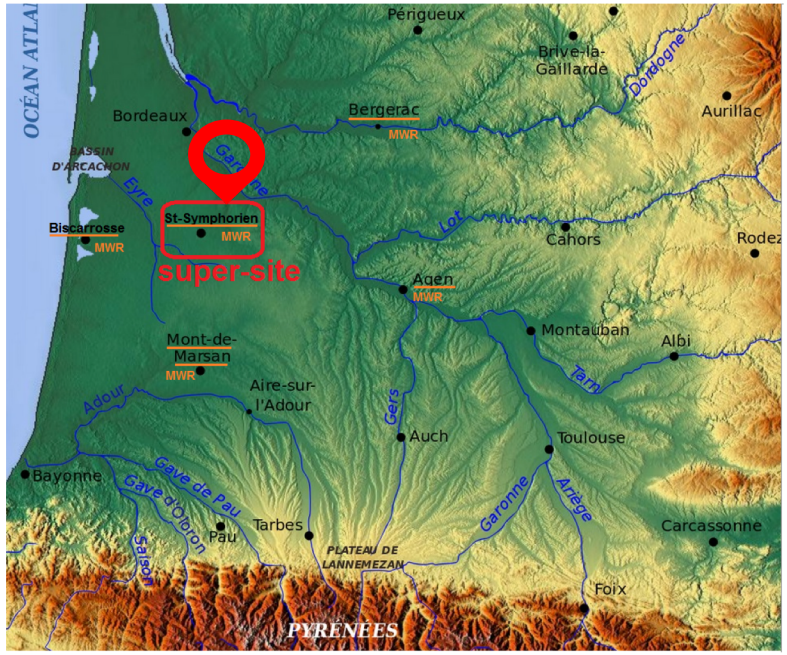
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Observation Site



- SoFOG-3D campaign ran from October 1, 2019 to March 31, 2020.
- Observations of fog structures are collected using various instruments.

LWC retrieval

An algorithm based on variational method to retrieve LWC of liquid cloud and fog.

Forward model:

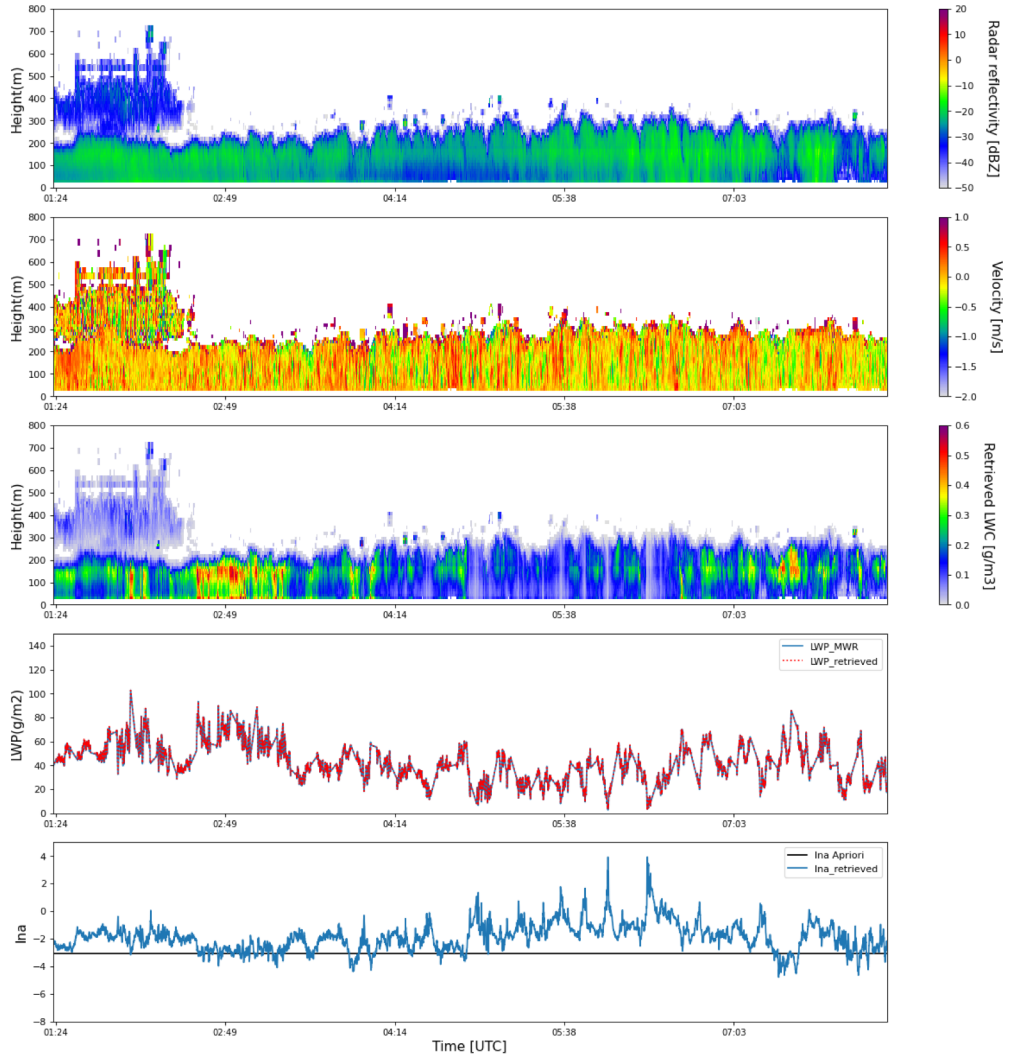
$$lnZ = lna + \mathrm{b} \cdot ln\, LWC$$

$$LWP = \sum LWC \cdot dz$$

where lna is called 'scaling factor' retrieved for each profile.

Apriori used in the algorithm is from Atlas' empirical relation for clouds.

When LWP is not available climatology of lna is used to retrieve fog LWC.



UNIVERSITÉ DE VERSAILLES ST-QUENTIN-EN-YVELINES
université PARIS-SACLAY