**Dust Emission from Patagonia (DFP)**

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**ABSTRACT**

We use a combined approach including ground level aerosol sampling, LIDAR measurements and simulations to identify dust emission from Southern Patagonia. Starting from December 2011, we plan to acquire a continuous 2-years measurement series of weekly accumulated aerosol concentrations at Rio Gallegos (51°S 69°W) coupled with LIDAR monitoring and a dust optical response model. Laboratory chemical analysis of the aerosols will include elemental composition, solubilisation and mineralogical determination.

Results from LIDAR will indicate when the aerosol vertical layer is continuous and when a vertical extrapolation can be made from the ground to the top of the layer. The LMDz model coupled with INCA module (Interactions between Chemistry and Aerosols) will be used to simulate dust episodes over the region. Expected deliverables are estimation of the amount of dust exported from Patagonia towards the South Atlantic, its chemical properties, including bioavailability simulation, simulation from model and comparison to experimental measurements.

**EXPECTED DELIVERABLES: 2013**

1. Estimation of the amount of dust exported from Argentina toward the South Atlantic and sub-antarctic circulation.
2. Chemical properties, including bioavailability simulation, of the exported aerosol.
3. Dust and aerosol simulation from model and comparison to experimental measurements.

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**Notes**

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