

# CORSICA\* 2007 : a project of field campaign on ozone photochemistry and aerosols in western Mediterranean

\* Campagne d'Observation de la Représentativité d'un Site Insulaire Corse d'Altitude

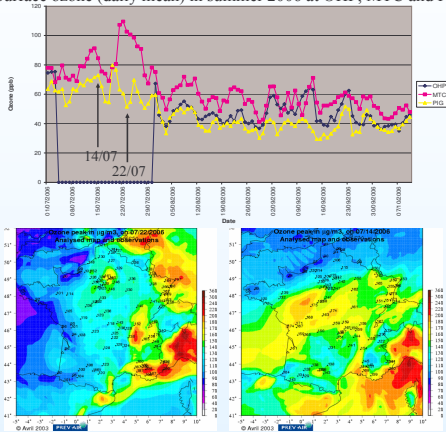
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and many colleagues from LaMP, CERES, LPCA, LOA, CEREGE, Qualitair Corse, Météo-France 2B, CNRM, SA, LSCE, LISA (France), CNR/ISAC (Italy), Nat. Tech. Univ. Athens (Greece) and Freie Univ. Berlin (Germany)

## The Mediterranean: a crossroad of long-range influences

- Mediterranean biomass burning
- Boreal fire products
- Mineral dust (Sahara)
- Photochemical pollution from surrounding urban poles
- Radiative influence of aerosols on regional climate
- Pollution episodes at regional scale

Surface ozone (daily mean) in summer 2006 at OHP, MTC and PIG



## Scientific questions :

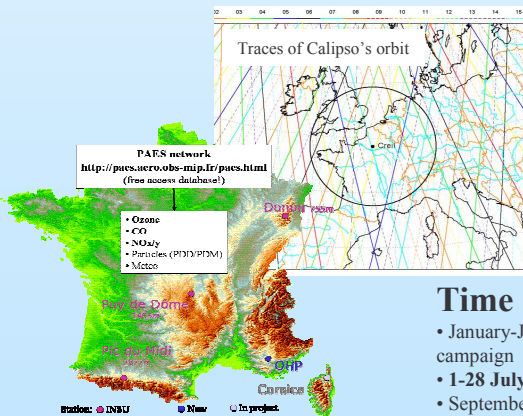
- How to discriminate the influences at the different scales (local, regional, intercontinental) in the chemical signal measured at Serra di Pigno?
- What are the origin and characteristics of the air masses sampled there?
- How to use at best the satellite products on aerosol, and how to combine them to local observation to study long-range transport of pollution?
- What is the radiative impact in the Mediterranean area of turbid and/or polluted layers transported over long ranges, in particular those carrying summer biomass burning products and mineral dust?

## Observation strategies at regional and local scales



## Long-term observation in the area :

- Satellite observation (e.g. Calipso) → need of surface data for validation
- Surface networks (e.g. PAES) → uncomplete, possible extension in Corsica, at Serra di Pigno (PIG), 960 m asl, above Bastia



## Other contributing data :

- Meteo and transport: Météo-France measurements and climatology of transport from ECMWF analyses and Lagrangian models
- Satellites: regional distribution of optical depth (MSG, ENVISAT), vertical distribution of aerosols (CALIPSO), ozone distribution and mineral dust (OMI)
- Earlinet lidar network: climatological database (2 measurements per week, enhanced during the campaign)

## Scientific exploitation of the database :

- Validation of the Pigno station for large-scale monitoring
- Validation and use of satellite measurements
- Synergy with numerical models of small-scale dynamics (MesoNH), regional chemistry (CHIMERE, LMDz-Inca), transport (FLEXPART) and radiative transfer (GAME).

## Time schedule :

- January-June 2007: preparation of the campaign
- 1-28 July 2007: campaign CORSICA 2007
- September 2007-: building of a database
- 1 January 2009: free access to the database

## International collaborations :

- National Technical University of Athens: lidar support and general coordination (A.Papayannis)
- CNR/ISAC (Italian National Research Council, Institute of Atmospheric Sciences and Climate): provides data (O<sub>3</sub>,CO) from the Monte-Cimone station (P.Cristofanelli, P.Bonasoni)
- Freie Universität Berlin: Cessna aircraft, optical characteristics of aerosols (J. Fischer)