

The GAW Global Station Zugspitze/Hohenpeissenberg: Instrumentation and Scientific Aims

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Germany runs 1 out of 22 Global Stations in the World Meteorological Organization (WMO) Global Atmosphere Watch (GAW) program on two platforms, Zugspitze and Hohenpeissenberg. The extensive measurements at Hohenpeissenberg by the German Weather Service (Deutscher Wetterdienst) started in 1995. In addition to continuous monitoring of meteorological parameters, they include a broad spectrum of important chemical parameters, following the guidelines of WMO for a GAW global station and the need for research on atmospheric physics and chemistry.

We intend to contribute to a better understanding of the oxidation capacity in the troposphere, aerosol formation from the gas phase and the impact of the slowly changing composition of the atmosphere on climate. Furthermore, we are looking for long-term trends in the data following the aims of GAW. These major topics in relation to the measured parameters are illustrated in Figure 1.

The extensive monitoring program also makes Hohenpeissenberg an ideal validation point for satellite data and all

kinds of models. The excellent site, long observational data, and a comprehensive monitoring programme of gas and aerosol components, radiation parameters, chemical components in rain and aerosol, and a full meteorological data set including back trajectories, make the Hohenpeissenberg predestinated for a GAW global station (in combination with Zugspitze) in Central Europe.

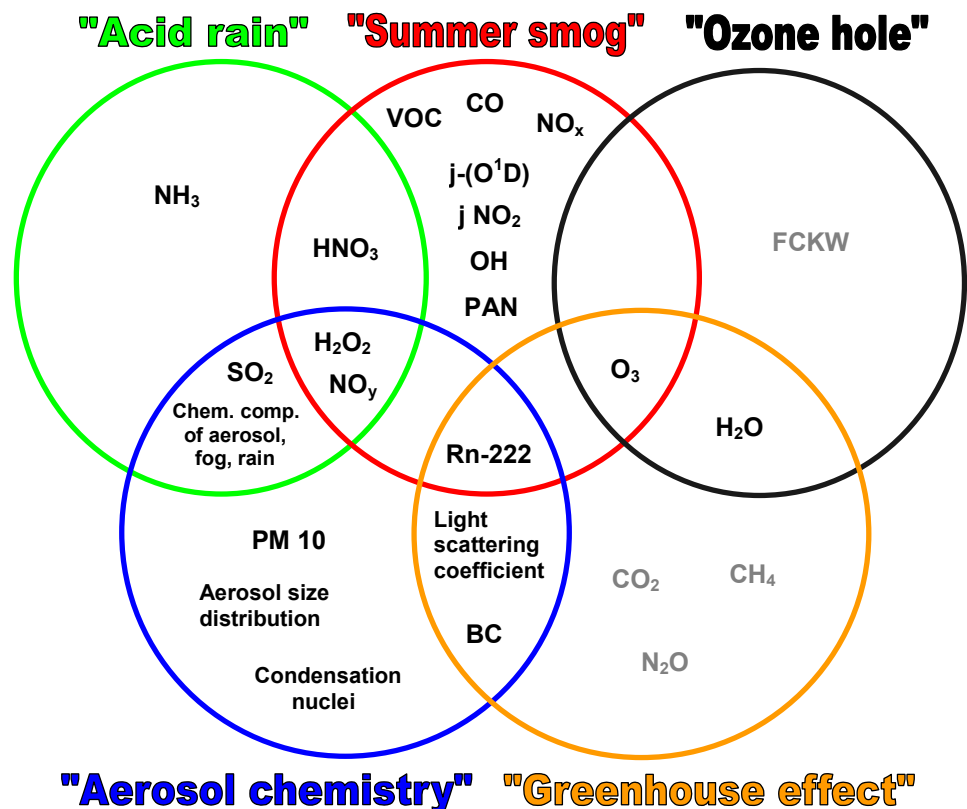


Figure 1. Actual research topics in atmospheric chemistry. Black: parameters measured at MOHp. Grey: Parameters only measured at Zugspitze by Umweltbundesamt.