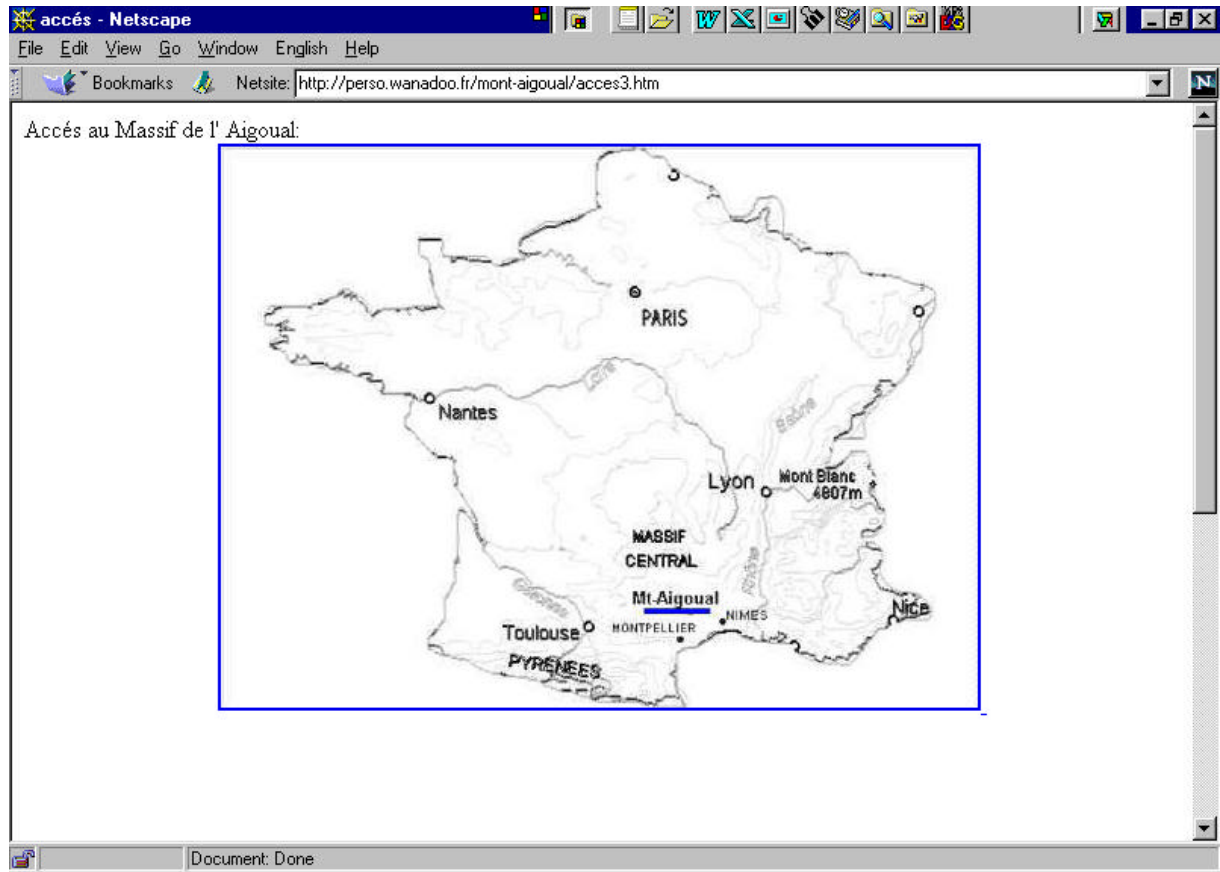


EUMETNET/SWS SITE

Mont Aigoual 1567 m. a.s.l.,



Objectives of Mont Aigoual tests

Mont Aigoual is subject to frequent heavy winds and severe icing conditions. A main advantage of this test site is the man power available to document icing events, with an observer making regular observations. The severity of the icing conditions, documented will allow to describe the icing thresholds causing problems to different sensors.

Infrastructure

The front of the Mont Aigoual observation building faces south, the upper terrace houses the instrument site where two identical pylons are installed. The southern side of the Mont Aigoual is steep while the northern presents a gentle slope.

A WMO wind intercomparison was held at Mont Aigoual in 1992-1993. Wind sensors were installed on the two 11.5 m. towers.



To facilitate access to the sensors, an additional platform has been set up and will be used for the SWS tests. The floor of this platform is 3 m above ground, accessible by stairs on each side. The sensors will be installed on the 2 sides of the platform, about 1.5 to 2 m above the floor (4.5 to 5 m above ground). The platform being aligned West-East, the sensors will be aligned perpendicular to the South-North axes where dominant wind are found.

The location, size and height of the platform will allow an easy access to the sensors for installation, maintenance, visual check and photos of the tested sensors.

The Mont Aigoual is part of the Météo-France observing network. Regular observations are therefore available : automatic measurements of wind, temperature, humidity, pressure ; visual observation of visibility, present weather, clouds, icing.

Wind data acquisition system.

Sensors with digital output will be connected to one or several PCs, running specific software under DOS. This software has been developed by Météo-France and already used for past tests.

Some wind sensors will be connected to a PC with an existing Météo-France software for wind sensors, allowing real time display and data recording.

Sensors with analog output will be connected to CR10 data logger from Campbell Scientific.

Data will be recorded at 1 minute intervals.

List of instruments to be tested during the winter 2000/2001

Sensor	Factory	Parameters	Remarks
Rosemount	Rosemount	icing	ice detector (vibrating rod).
FMI tube	FMI	icing	manual reading and photos.
Observer	Human	icing, present weather	regular observation from a professional Météo-France meteorologist.
Automatic station	Degreane, Vaisala, ...	wind, TT, HH, P	Regular automatic observations of the Mont Aigoual synoptic station. Daily maintenance.
Laumonier	Laumonier	wind	Heated (500+350W) anemometer and wind vane currently used at Mont Aigoual and known to stay ice free.
Rosemount 1447W	Rosemount	wind	heated Pitot tube. Not currently working. To be repaired , if possible.
WAA251	Vaisala	wind speed	anemometer with heated cups
USA2	Metek	3D wind	ultrasonic
DEOLIA92	Degreane	wind	non heated cup anemometer and wind vane. To document effect of icing.
DEOLIA96	Degreane	wind	same as above, with shaft heating. To document effect of icing and relative efficacy of the shaft heater.
Wind monitor	Young	wind	non heated wind propeller. To document effect of icing on this type of sensor, known to survive to icing conditions.
Rain gauge	Météo-France	precipitation	heated tipping bucket rain gauge. Prototype developed by Météo-France.
Miniature screen	Socrima	TT	Radiation screen, currently used with automatic stations. To document effect of icing on temperature measurements.