

## MeteoSwiss – the Payerne site



◀ Aerial view of the Payerne aerological station in 2003. In the centre is the new building completed in 2002.

The Payerne aerological station is the MeteoSwiss centre for meteorological measurement technology. From here, the numerous MeteoSwiss weather stations are maintained and the weather balloons that provide valuable data about the atmosphere, sent up.

Without a knowledge of the state of the atmosphere, a good weather forecast is inconceivable. The radiosonde, developed in the 1930s, enabled meteorologists to observe and monitor atmospheric layers up to a height of over 30 km. In September 1937, the International Meteorological Commission made a decision to establish a network of around 50 atmosphere sounding stations in Europe, one of which was intended for Switzerland. As a result, on 6 August 1940, the Federal Council decided on the creation of the Payerne aerological station.

There was a particular reason for choosing Payerne, namely that the radiosondes fixed to the weather balloons should, if possible, land again in Switzerland. Since in Switzerland, the predominant west wind generally carries balloons towards the east, the station had to be located in western

### MeteoSwiss

#### Tasks and role of the national weather service

The Federal Office for Meteorology and Climatology, MeteoSwiss, performs important tasks for the public, the state and the economy, and has been observing and forecasting the weather since 1881. In addition, we issue severe weather warnings to the cantonal authorities. To do this, we are on duty round the clock and in all regions of the country.

Another of our tasks is to keep climate records, for which we collect, archive and analyse meteorological data. This has resulted in long-term series of measurements which provide a valuable basis for investigating climate change. We are committed to a better understanding of climatic phenomena in both national and international projects.

#### Our vision

MeteoSwiss is the centre of competence for Alpine meteorology and climatology. In this function, we strive to expand our know-how in the service of society.

#### Quality management

On 8 December 2004, MeteoSwiss obtained the ISO 9001:2000 certificate for its quality management. We are thus committed to consistently maintaining binding quality standards.

#### Offices

As well as its headquarters in Zurich, MeteoSwiss is represented at four other sites: Zurich Airport, Geneva, Payerne and Locarno. This regional organization allows us not only to be at the front of weather developments, but also close to our clients.

#### Some key data

Employees	approx. 270
Observation stations	792
Automatic measuring stations	130
Radar stations	3
Aerological stations	1
Phenological observation stations	160





Switzerland. The aerological station was inaugurated in 1941.

After approximately 60 years, the construction of a new building, with a modern infrastructure, became inevitable, due to the greatly extended area of responsibility. At the beginning of 2002, the station was able to move into new, modern premises. Today, the Payerne aerological station has 43 employees, with a further 5 working at the Lichtklimatische Observatorium (light/climate observatory) in Arosa.

**We don't only launch balloons**

Today, we still carry out altitude measurements on a daily basis, working around the clock, since weather balloons are sent up 4 times every day. The attached radiosondes measure pressure, humidity, temperature and wind up to an altitude of 33km twice daily and wind only twice daily. In addition, since 1966, an ozone profile is produced three times per week. But ozone measurements in Switzerland did not start only in 1966. Since 1926 already, measurements of the ozone quantity in the atmosphere have been carried out at the Lichtklimatische Observatorium in Arosa. This allows us to reproduce the chronological development of the ozone layer.

Since 1973, we have been responsible for the technical operation of the MeteoSwiss measurement network. We thus look after the SwissMetNet project, through which earlier measurement stations are being replaced by a modern measurement network. The first SwissMetNet station was put into operation in Plaffeien in August 2005.



▲ **The new phenological garden (foreground).**

International cooperation is of great importance in meteorology, since weather does not respect political borders. We therefore participate in programs of the World Meteorological Organization WMO and other international organizations. One such project is the Global Atmosphere Watch Programme, a global program run by WMO. It has the objective to gather and evaluate data and other information concerning the chemical composition of the atmosphere in all parts of the world. Within this framework, we not only monitor the ozone layer, but also operate special radiation monitoring stations in Payerne and

**Weather balloon with radiosonde shortly before its release.**



other locations in the Alpine region. Since radiation behaviour plays a key role in the greenhouse effect, we thus contribute towards explaining temperature increases in the atmosphere.

**Aerobiology and phenology united: our phenogarden**

MeteoSwiss operates the National Pollen Monitoring Network (NAPOL), which consists of 14 monitoring stations distributed throughout Switzerland. At each station is a pollen trap which draws in pollens. These are classified and counted in the laboratory in Payerne and in Zurich. The information obtained benefits both doctors and people suffering from allergies.

Opened in September 2005, another of our features is the phenological garden, with 24 kinds of tree. This garden allows us to make observations and to train observers. It also serves to inform the general public about pollen allergies and the influence of climate change on plants.

In the future too, we will actively help shape developments in atmospheric monitoring and thus realize important tasks for the country, the economy and society.

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