User Manual –
Avalanche Events

This User Manual was created by the Austrian Avalanche Warning Services. For inquiries and reactions, please write to us at lawis.cartography@univie.ac.at and lawine@tirol.gv.at.

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LAWIS …

...is a tool to record and store meteorological measurements, avalanche events and snow profiles. It is made available by the Austrian Avalanche Warning Services in cooperation with the Institute of Geographical and Regional Research of the University of Vienna. The data which have been recorded are graphically presented and are freely accessible on LAWIS. The wide-ranging data network can be easily and intuitively used with various search and filter options, as well as topographical maps.

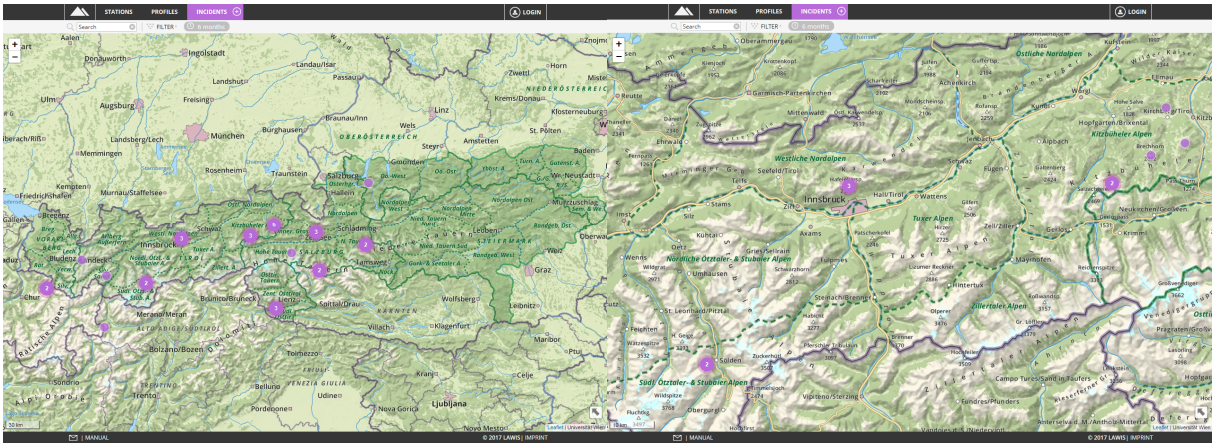
Avalanche events

The data base contained in LAWIS serves as a data collection and reference work of past avalanche events both with and without human involvement. When an event is recorded in LAWIS, it is freely available for one year as of that moment.

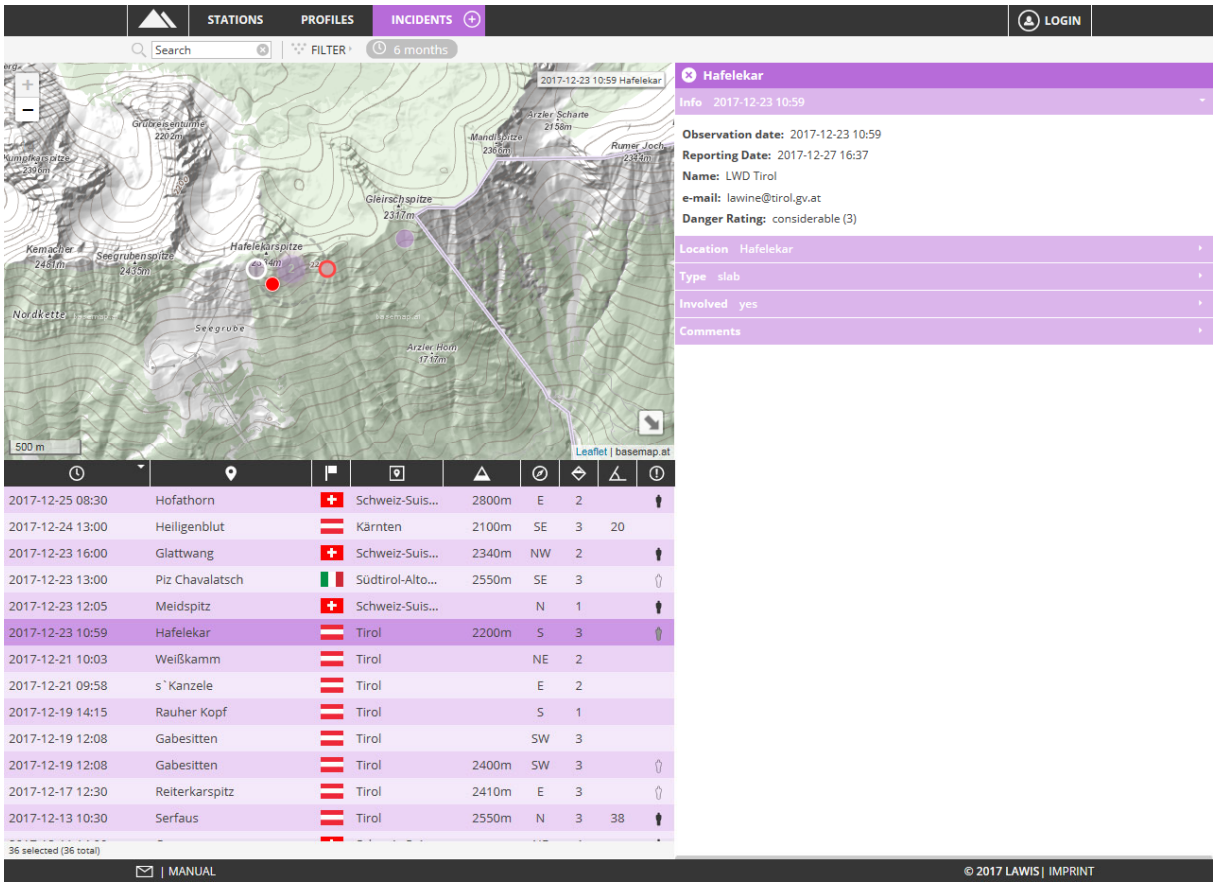
The category ‘Events’ is a fundamental category of LAWIS, it is both visually and technically coordinated to the other two categories ‘Profiles’ and ‘Stations.’

1. Locating events

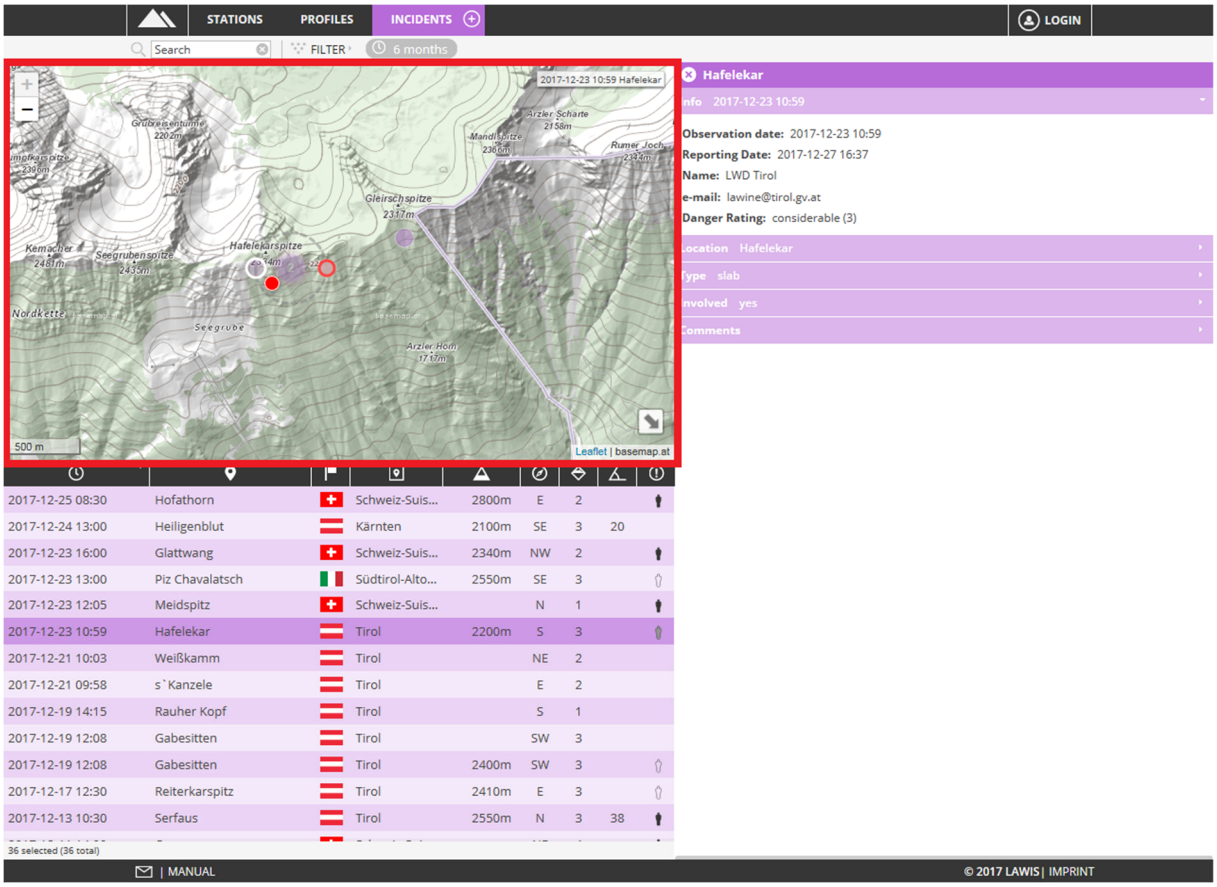
An event can be located and pinpointed by scrolling or clicking on the coloured circles in the maps which contain numbers. To start, any circle can be selected. The illustrations below show, step-by-step, various depictions of a search which is carried out.



In the view below, a variety of tools are available which make it easier to locate an event you seek. Whether you choose to locate it by means of a list, a map, a search machine or a filter is completely up to you. How the search functions with the different tools is explained on the following pages.



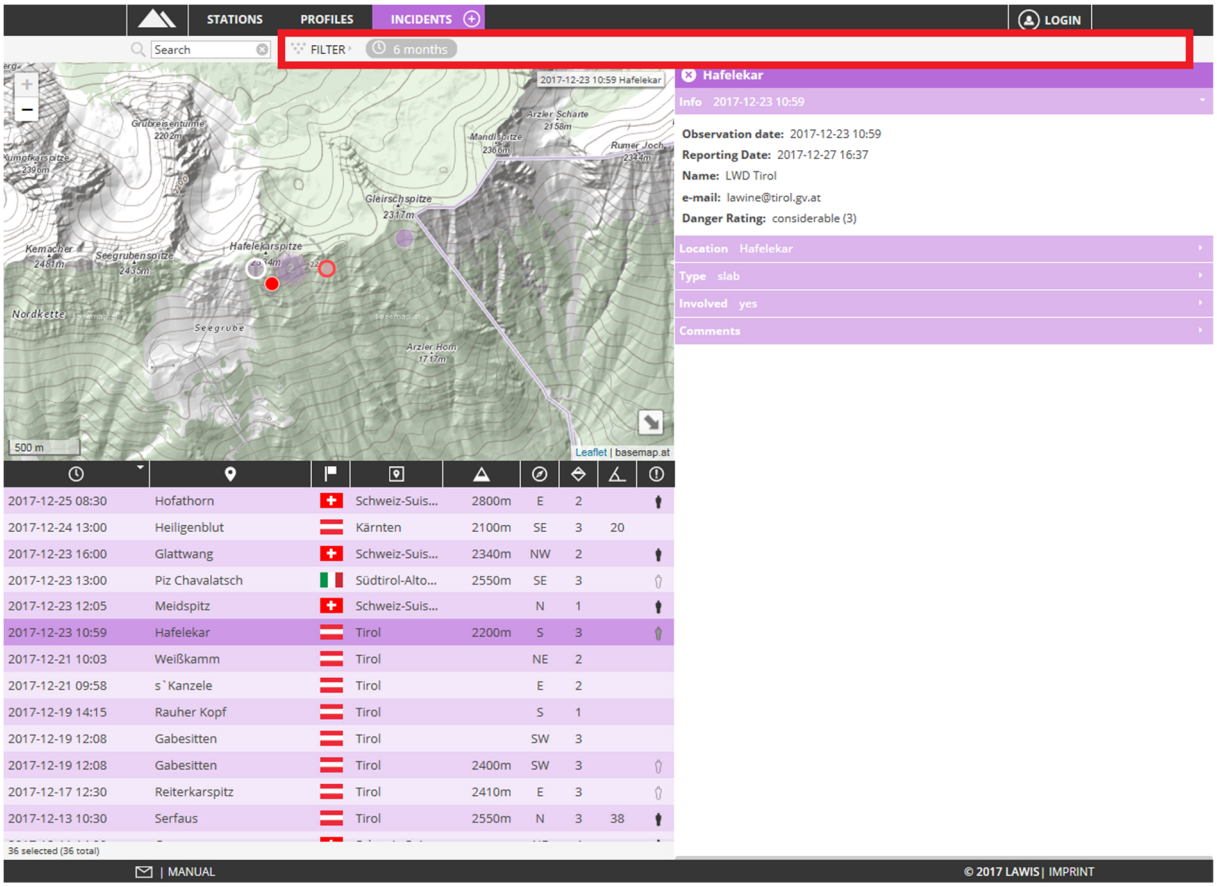
1.1. Locating events with a map



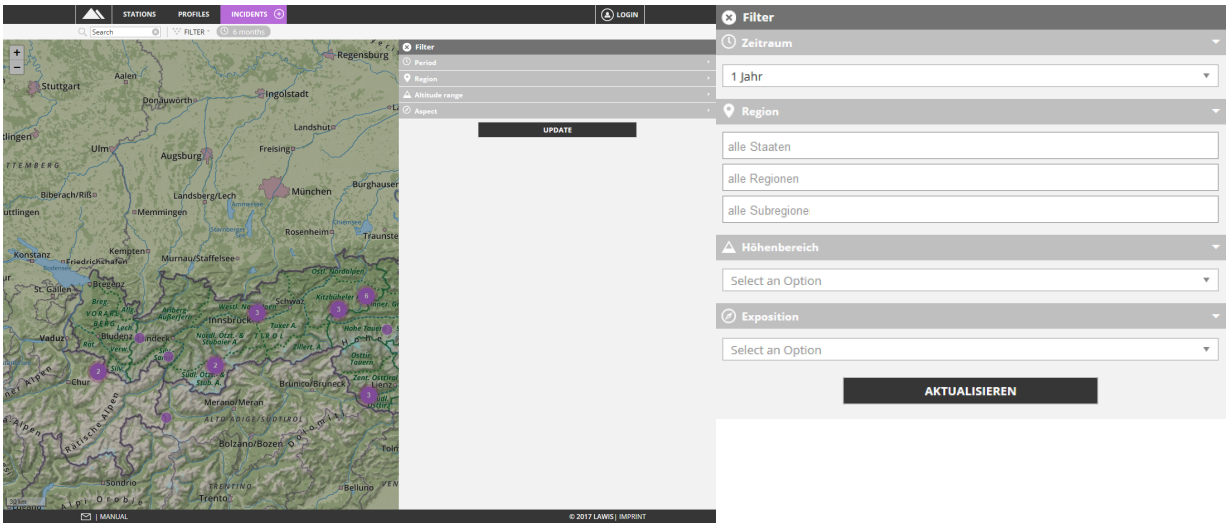
The map expanse serves as overview and orientation of where avalanche events have taken place. The interactive design of the map makes it possible for users to slide the map or zoom in and out. By clicking onto an event, the corresponding point on the map is marked in red. Making this selection also leads to opening the data base at the right.

1.2. Locating events with a filter

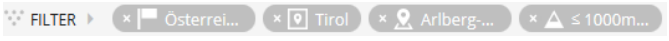
By clicking FILTER in the top line, events can be filtered in terms of geography and time.



After selecting FILTER, a gray-marked area in the right margin opens. Here you can specify the time window, region, altitude and aspect. By selecting the “update” space, the selected filter criteria are then carried out. Only those events are shown which fulfil the criteria selected.



As soon as you have selected your filter criteria, you can see the selected filter criteria in the graph in the top line. They are marked in gray.



If the event you are seeking is not found among the selected criteria, you can remove the individual filter criteria with one click on x (to the left of each criterium).

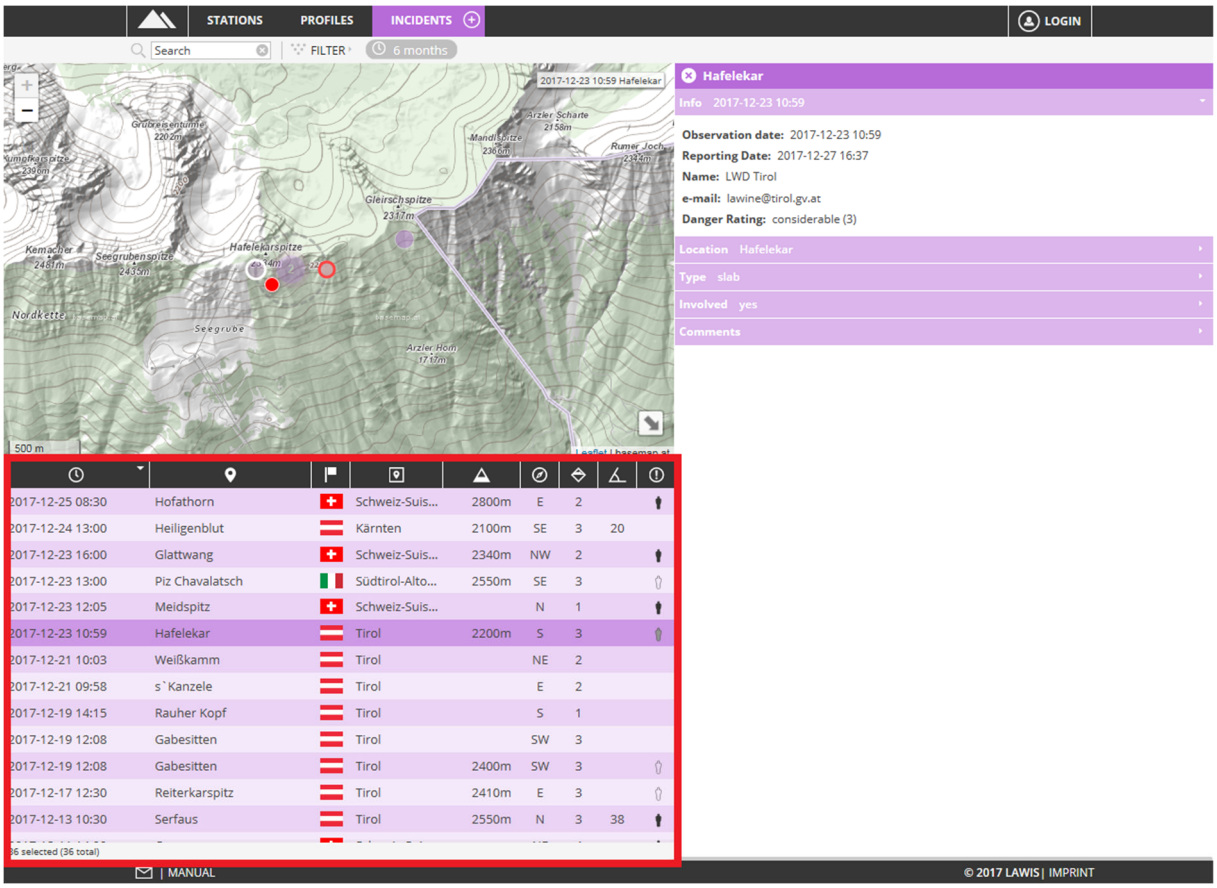
1.3. Locating events with a list

By clicking the icons between the depiction and the list, you can sort the events you seek according to date, town, province, region, altitude, aspect, danger level and whether persons were involved in either ascending or descending sequence. To do this, you only have to click the desired icon. By repeated clicking, the sequence or the categorised data changes from ascending-to-descending and vice versa.

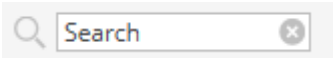
By scrolling up or down it is possible to view the overall contents of the list. In the pale-gray marked space beneath the list you can see whether the entire data base is contained in the list or only a limited amount of data was selected.

37 selected (37 total)

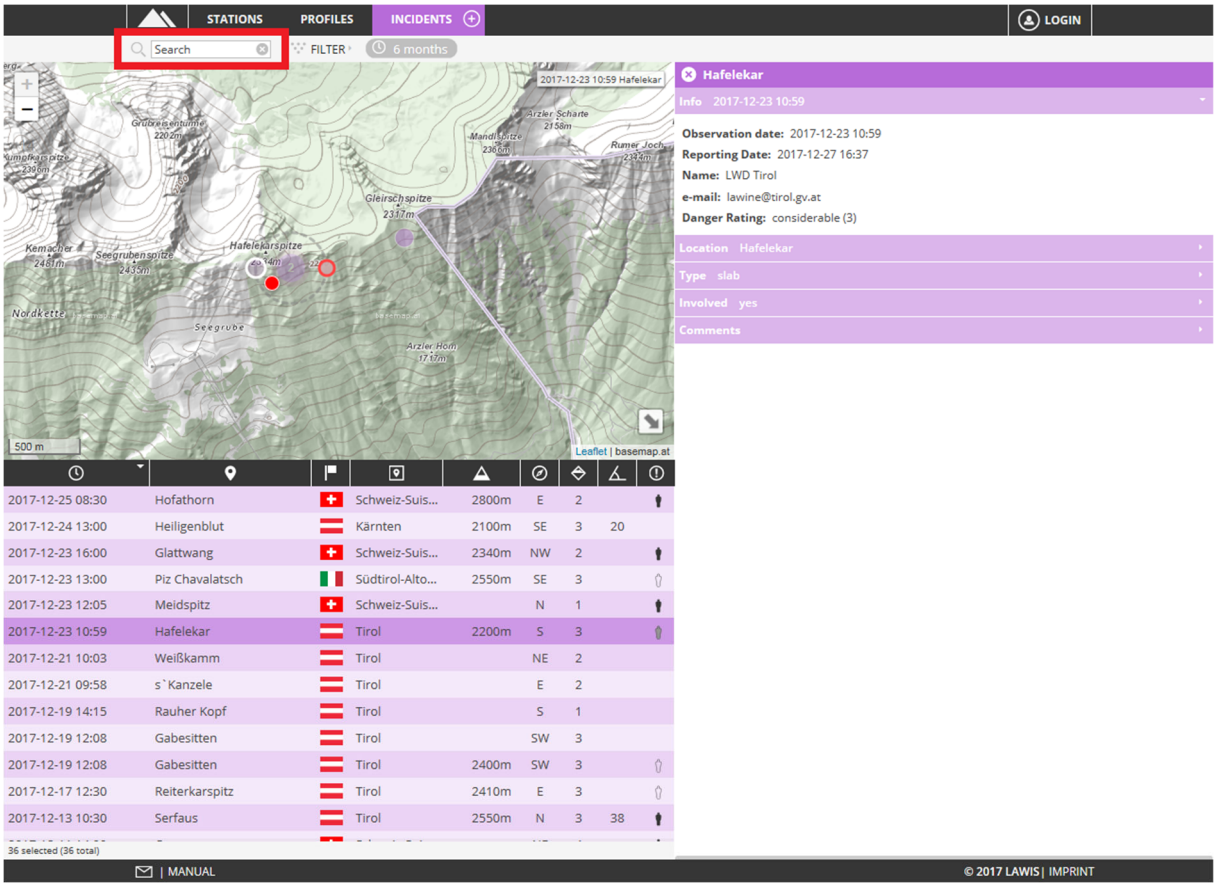
The event is selected by clicking on it. The corresponding graphic information about that given avalanche event then appears to the right of the map and list.



1.4. Locating events with a search machine

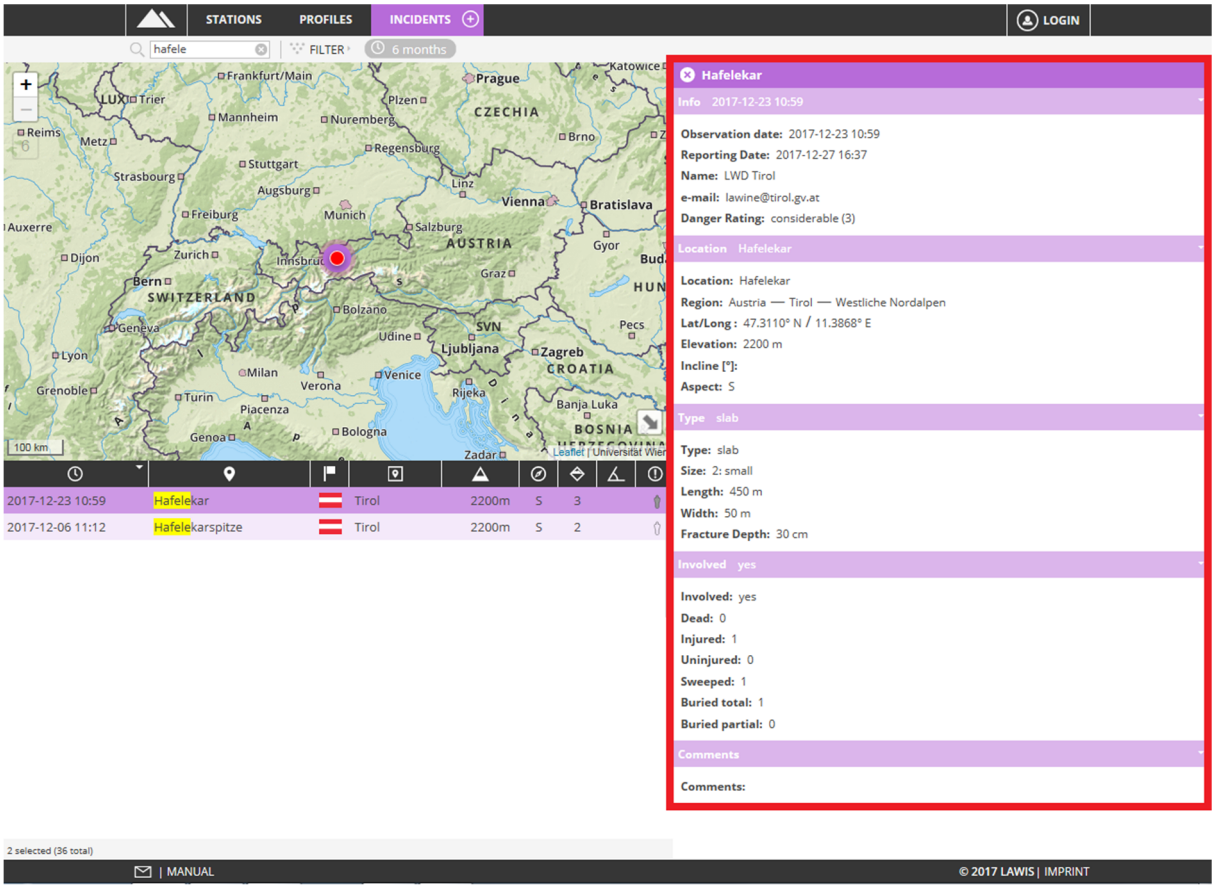
The Search space is at the upper left. 

If name, region or subregion of the searched-for event are known, the appropriate search word can be entered here. LAWIS filters all results and displays the list of objects found beneath the graph. The filters are automatically adapted.



2. Event details

If the searched-for avalanche event is located with map, filter, list or search machine, a detailed description of the avalanche event then opens in the space to the right, including all existing information.



All data compiled thus far are reflected in the description. If not all spaces are filled, the reason may be lacking data, e.g. if it was not possible to compile.

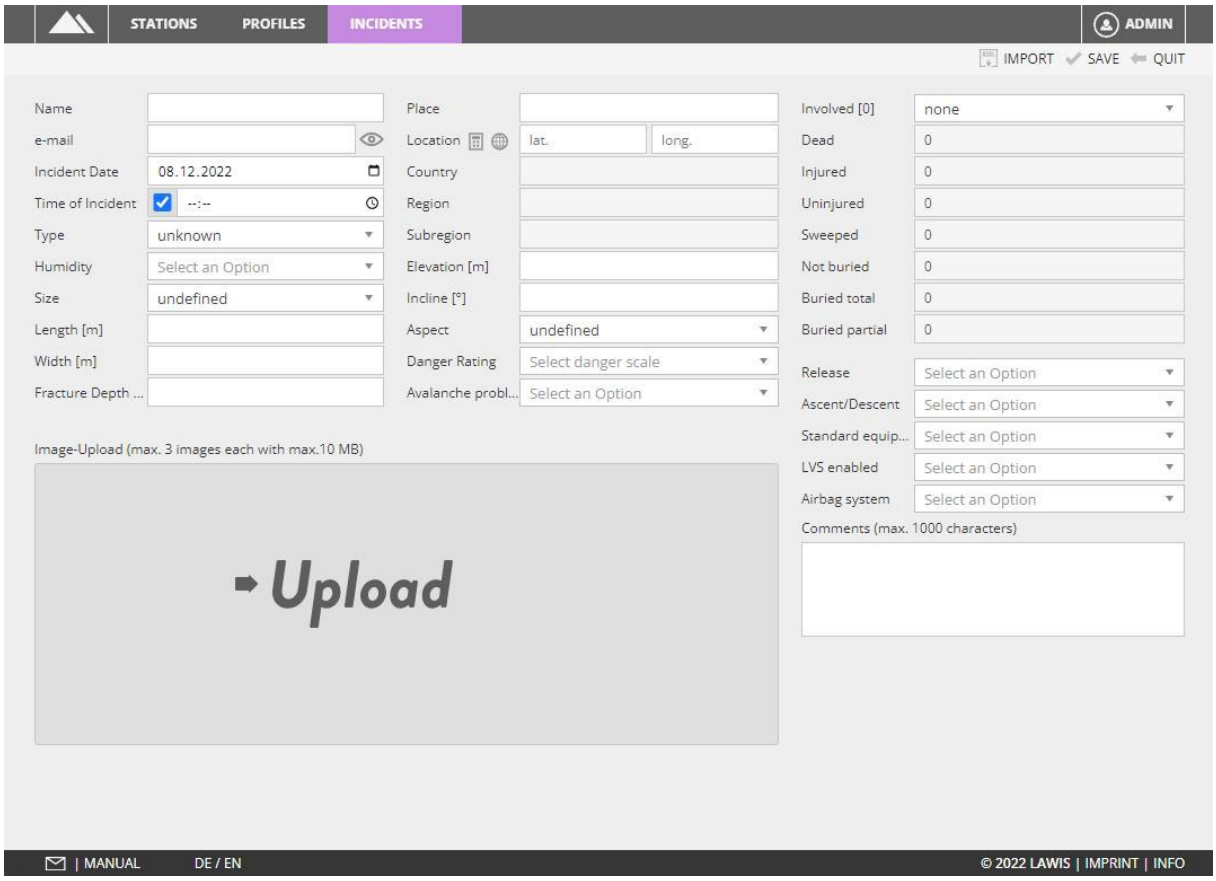
By  clicking in the upper left corner, the information about the event can be closed again.

3. Recording a new event

If you have observed an avalanche event which involved people or were yourself involved in such an event, you can record your collected data in order to contribute to the completeness of the Event data base in LAWIS and in this way make your data freely available for one year. The basis of this data base is a so-called crowd-sourcing principle. All data are additionally controlled by the authorised Avalanche Warning Service.

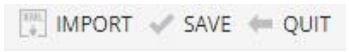
Please enter only avalanche events where persons were involved.

In the top line adjacent to the space Events is a plus-sign in a circle. Select this plus-sign to be transferred to ENTER mode.



Please fill out all spaces truthfully and accurately.

Once you have completed the process of entering details of the event, please select the space above right to save the data. If you wish to interrupt the process and return to the general collection of events, please click on the space QUIT. To import an incident as XML, please click the space IMPORT.



3.1. Explanation of entry spaces

Name/ E-Mail: These are mandatory spaces, so that Avalanche Warning Services can contact observers if necessary.

Date of event: The current date is displayed. Correct this entry if the event occurred on another date.

Type: Description of mechanism which triggered the avalanche.

Size: This is the five-category scale to describe the size of the avalanche. A size must be selected. Typical definitions of these categories can be found in the glossary under “Avalanche size”.

Length & Width: We do not expect you to know the exact measurements. Approximations, rounded off, are sufficient.

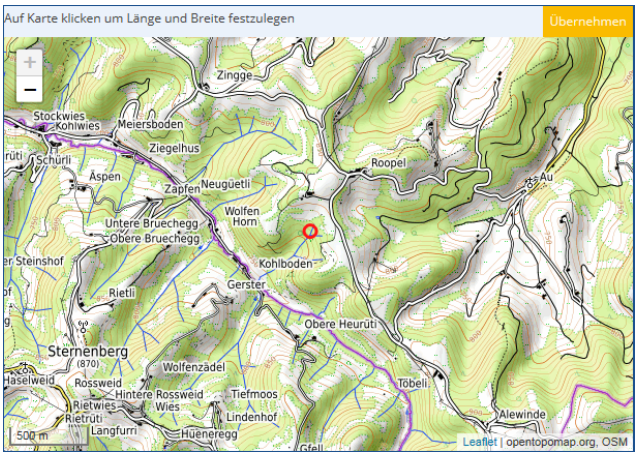
Fracture depth: Depth of snow mass, i.e. height at the spot where the avalanche fractured.

Location: Please select the most precise designation of the location possible, e.g. scree, gully, valley...

Land & Region & Subregion: Please select from among the selections offered.

Lat/Long: If you do not know the coordinates of the event, a coordinate-calculator and interactive map are available in order to pinpoint the exact spot of the event.

Click on “Accept” above right to accept the spot you have selected as the location of the event.



Altitude: Meters above sea level

Slope gradient: Slope gradient (angle) in degrees at the fracture point of the avalanche

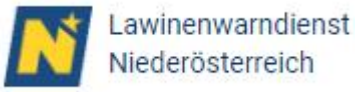
Danger level: Select the published danger level at the time of the avalanche event. This can be found on the website of the authorised Avalanche Warning Service.

Persons involved: Please select from among the options offered.

Dead, injured, uninjured, swept along Number of persons directly involved, categorised according to the consequences of the avalanche event

Number totally buried	Number of persons whose heads were beneath the snow masses. Other body parts need not be beneath the snow masses.
Number partially buried	Number of persons whose heads, at very least, were above the snow masses at the time of engulfment.
Release, Ascent/Descent etc.	Choose the appropriate information from the dropdown-menus.
Comments:	Do you have other information for us which is not addressed in the regular questions? If so, please enter your comments here or write us an email.
Photo upload:	Do you have photos of the avalanche event? If so, please upload them here. They contain details of value to us.

4. Printing information – Partners



LAWIS - Lawinenwarndienst Informationssystem

Created in collaboration with the Avalanche Warning Services of Tirol, Styria, Salzburg, Upper Austria, Vorarlberg, Carinthia, Lower Austria, together with the University of Vienna, Institute for Geography and Regional Research.