



PERMOS Data Base – Table Description

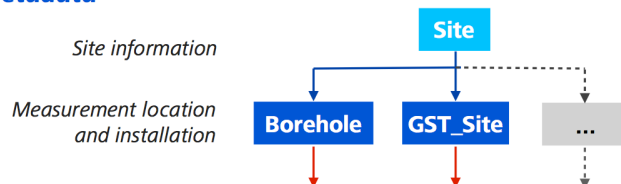
1 Introduction

The PERMOS data base is organized in three levels of data (Fig. 1). The *Metadata Tables* (cf. Section 2) include all information about the measurement sites and the installations, the *Data Tables* (cf. Section 3) hold the data measured in the field, and the third level includes the so-called *Products* (cf. Section 4). Products are directly created from the data tables to provide standardized versions of the data derived from the measurements, such as temporal aggregations or calculated values like active layer thickness or creep velocity. Data with known questionable quality (flagged) are not included to calculate product tables.

Published data (DOI releases) include the products and relevant metadata. For borehole temperatures the DOI releases include the metadata tables **site**, **borehole**, **bh_inst** and **pi** and the products **bht_day**, **bht_month**, **bht_year** and **bht_hyear** (cf. Sections 2 and 4). For ground surface temperatures the DOI releases include the metadata table **gst_loc** and the products **gst_day**, **gst_month**, **gst_year** and **gst_hyear** (cf. Sections 2 and 4), for geophysics data the metadata tables **ert_site**, **ert_profile**, **ert_survey** and **ert_topo** and the data **ert_raw** (cf. Sections 2 and 3), and for kinematic data the metadata tables **tgs_site**, **tgs_point** and **tgs_survey** and the product **tgs_vel** (cf. Sections 2 and 4).

The PERMOS data base is a relational PostgreSQL data base running on an Ubuntu server at the Department of Geography at the University of Zurich. Data can be visualised and accessed via the PERMOS Data Portal at <http://newshinypermos.geo.uzh.ch/app/DataBrowser/>.

Metadata



Data



ID	Borehole_ID	Depth	Time	Temp	PFlag	QFlag	Timestamp
1	3	10	2013-07-11 16:15:00	-1.256	b	1	2013-07-11 16:15:00

Proc. Quality Versioning

Products

Aggregations

hourly | daily | annual | hydr. year | FDD

Standard views

Temps per borehole | gst-site

- ★ performance
- ★ easy access and standard views
- ★ data exchange with predefined data sets
- ★ standard processing

no data manipulation!

Fig. 1: Organisation of tables in the PERMOS Data Base: metadata, data and product tables.

2 Metadata Tables

2.1 Site

General information about the measurement sites and data acquisition for all types of measurements

Field	Type	Default	Keys	Indexes	Description
Id	int4(32)	auto incr.	primary	unique	Site ID (only used for reference within the database) Auto increment: nextval('site_id_seq'::regclass)
abbr	text			unique	Site abbreviation
name	text			unique	Site name
alter_name	text	(NULL)			Other frequently used name for the site
permos	int2(16)				Site of the PERMOS network and/or the TEMPS Project? 0: neither PERMOS nor TEMPS site 1: PERMOS site (i.e., it is also a TEMPS site) 2: PERMOS reference site (i.e., it is also a TEMPS site) 3: TEMPS site only
country	text				Country abbreviation
region	text	(NULL)			Region, where the site is situated. For the Swiss sites, the major political regions are used (see Fig. 2)
landforms	text	text			Observed landform(s) at the site
lithology	text	(NULL)			Lithology (predominant rock type) of the site
e	numeric(10,0)	(NULL)			Approximate location in Swiss national coordinates (LV03), E-W direction) non-CH sites: -999
n	numeric(10,0)	(NULL)			Approximate location in Swiss national coordinates (LV03), N-S direction) non-CH sites: -999
lat	numeric(10,6)	(NULL)			Geographic coordinates, latitude (decimal degrees)
lon	numeric(10,6)	(NULL)			Geographic coordinates, longitude (decimal degrees)
h_min	numeric(10,0)	(NULL)			Approximate altitude range (m a.s.l.) of the measurement installations, min elevation
h_max	numeric(10,0)	(NULL)			Approximate altitude range (m a.s.l.) of the measurement installations, max elevation
comment	text	(NULL)			Additional comments, such as a short site description or a reference to an article describing the site in more detail
time_stamp	timestamp	(CURRENT_TIMESTAMP)			Date and time, when the data was included in the DB (YYYY-MM-DD HH:MM:SS)

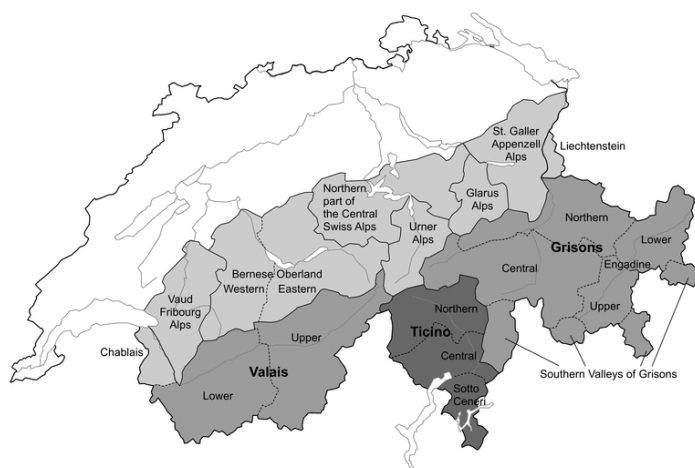


Fig. 2: Political units as used in the field *Region*:
Picture taken from
http://www.slf.ch/lawineninfo/zusatzinfos/interpretationshilfe/geographische_begriffe/karte_polit_geogr_e.gif.

2.2 borehole

Information about the individual boreholes and their location.

Field	Type	Default	Keys	Indexes	Notes
id	int4(32)	auto incr.	primary	unique	Borehole ID (only used for reference within the database)
name	text			unique	Borehole name: site abbreviation, underscore, number of the borehole, year drilled, e.g. SCH_5198
alter_name	text	(NULL)			Alternative name(s) of the borehole
site_id	int4(32)		foreign		ID of the corresponding measurement site.
year	int2(16)	(NULL)			Year, when the borehole was drilled (YYYY)
active	bool	(NULL)			Measurements ongoing? Either 1 or the year, when measurements were stopped (YYYY).
project	text	(NULL)			Network / project, the borehole is affiliated with
gtnp_id	text	(NULL)		unique	ID the borehole is addressed within GTN-P (GTN-P Code)
gtnp_dms_id	int4(32)	(NULL)		unique	ID of the GTN-P data management system (Borehole Code)
calm_id	text	(NULL)			ID of the borehole within the Circumpolar Active Layer Monitoring CALM
e	numeric(10,3)	(NULL)			Exact location in Swiss national coordinates (LV03 reference frame) non-CH sites: –999
n	numeric(10,3)	(NULL)			Exact location in Swiss national coordinates (LV03 reference frame) non-CH sites: –999
h	numeric(10,3)	(NULL)			Altitude (m a.s.l.)
lat	numeric(10,6)	(NULL)			Geographic coordinates, latitude (decimal degrees)
lon	numeric(10,6)	(NULL)			Geographic coordinates, longitude (decimal degrees)
depth	numeric(10,3)	(NULL)			Original depth of the borehole, when it was drilled (m)
inc	numeric(5,0)	(NULL)			Inclination (i.e., deviation from the vertical) of the borehole (°)
slp	numeric(5,0)	(NULL)			Slope of the borehole site (°). For boreholes all the way through a crest, the information for the slope closest to the «uppermost» sensor is given.
asp	numeric(5,0)	(NULL)			Aspect of the borehole site (°) For flat locations: –999
morphology	text	(NULL)			Morphology of the measurement location [crest moraine rock glacier solifluction lobe talus slope]
surf_type	text	(NULL)			Surface (material) at the measurement location [bedrock coarse blocks debris vegetation]
pf_thick	text	(NULL)			Estimated permafrost thickness at the borehole location
class	text	(NULL)			Borehole class according to GTN-P: SU: Surface, <10 m SH: Shallow, 10–25 m IB: Intermediate, 25–125 m DB: Deep, >125 m
comment	text	(NULL)			Additional comments
time_stamp	timestamp	(CURRENT_TIMESTAMP)			Date and time, when the data was included in the DB (YYYY-MM-DD HH:MM:SS)

2.3 *bh_inst*

Information about the instrumentation of the boreholes.

Field	Type	Default	Keys	Indexes	Notes
<i>id</i>	int2(16)	auto incr.	primary	unique	Record ID (only used for reference within the database)
<i>borehole_id</i>	int2(16)		foreign		ID of the corresponding borehole.
<i>beg_date</i>	date				Date from when the installation information is valid.
<i>end_date</i>	date				Date until when the installation information is valid. For currently valid records TO is set to '2100-01-01'.
<i>pi_id</i>	int2(16)		foreign		ID of the responsible PI
<i>low_sensor</i>	numeric(10,3)	(NULL)			Depth of the lowest working thermistor (m)
<i>sensor_type</i>	text	(NULL)			Type of sensor used for the temperature measurements
<i>log_system</i>	text	(NULL)			Type of logging system used
<i>last_calib</i>	int2(16)	(NULL)			Year of last calibration of the thermistor chain (YYYY)
<i>data_access</i>	text	(NULL)			Means of data access
<i>changes</i>	text	(NULL)			Information about major changes to the measurement configuration (not necessarily exhaustive!)
<i>comment</i>	text	(NULL)			Additional comments and possibly a reference to more detailed documentation of the installation
<i>time_stamp</i>	timestamp	(CURRENT_TIMESTAMP)			Date and time, when the data was included in the DB (YYYY-MM-DD HH:MM:SS)

2.4 *pi*

Information about the principal investigators (PI) or contact persons for the measurements

Field	Type	Default	Keys	Indexes	Notes
<i>id</i>	int4(32)	auto incr.	primary	unique	PI ID (only used for reference within the database)
<i>abbr</i>	text			unique	Abbreviation used for the PI
<i>last_name</i>	text			unique	Last name
<i>first_name</i>	text				First name
<i>institute</i>	text	(NULL)			Acronym for the responsible institute
<i>email</i>	text	(NULL)			Email address
<i>office</i>	text	(NULL)			Phone number office
<i>time_stamp</i>	timestamp	(CURRENT_TIMESTAMP)			Date and time, when the data was included or updated in the DB (YYYY-MM-DD HH:MM:SS)

2.5 *gst_loc*

Information on the locations of ground surface temperature (GST) measurements

Field	Type	Default	Keys	Indexes	Notes
id	int8(64)	auto incr.	primary	unique	GST location ID (only used for reference within the database)
name	text			unique	GST location name: site abbreviation, underscore, S (scree) or R (rock), consecutive number, e.g. SCH_R001
alter_name	text	(NULL)			Alternative name(s) of the GST location as used by PI
alter_name2	text	(NULL)			Alternative name(s) of the GST location
site_id	int4(32)		foreign		ID of the corresponding measurement site.
pi_id	int4(32)		foreign		ID of the responsible PI
year	int4(32)	(NULL)			Year, when the GST location was installed (YYYY)
active	bool	(NULL)			Measurements ongoing? Either 1 or the year, when measurements were stopped (YYYY).
project	text	(NULL)			Network / project, the GST location is affiliated with
e	numeric(10,3)	(NULL)			Exact location in Swiss national coordinates (LV03 reference frame) non-CH sites: -999
n	numeric(10,3)	(NULL)			Exact location in Swiss national coordinates (LV03 reference frame) non-CH sites: -999
h	numeric(10,3)	(NULL)			Altitude (m a.s.l.)
lat	numeric(10,6)	(NULL)			Geographic coordinates, latitude (decimal degrees)
lon	numeric(10,6)	(NULL)			Geographic coordinates, longitude (decimal degrees)
slp	numeric(10,3)	(NULL)			Slope of the GST location (°)
asp	numeric(10,3)	(NULL)			Aspect of the GST location (°) For flat locations: -999
morphology	text	(NULL)			Morphology of the measurement location [crest grassland moraine rock glacier solifluction lobe talus slope rock wall]
surf_type	text	(NULL)			Surface (material) at the measurement location [bedrock coarse blocks debris soil vegetation]
depth	numeric(10,3)	(NULL)			Depth of the logger [m]
sky_view	numeric(10,3)	(NULL)			Sky fraction (fraction 0–1) visible to the GST logger (measured on-site)
log_type	text	(NULL)			Type of logger device used
changes	text	(NULL)			Information about major changes to the measurement configuration (not necessarily exhaustive!)
comment	text	(NULL)			Additional comments
time_stamp	timestamp	(CURRENT_TIMESTAMP)			Date and time, when the data was included in the DB (YYYY-MM-DD HH:MM:SS)

2.6 tgs_site

Information on terrestrial geodetic surveys (TGS) on rock glaciers.

Field	Type	Default	Keys	Indexes	Notes
id	Int8(64)	auto incr.	primary	unique	TGS site ID (only used for reference within the database)
name	text			Unique NN	TGS site name: site abbreviation, underscore, TGS, consecutive number, e.g. MUR_TGS1
alter_name	text	(NULL)			Alternative name(s) of the TGS site as used by the PI
site_id	int4(32)		foreign		ID of the corresponding measurement site.
pi_id	int4(32)		foreign		ID of the responsible PI
year	int2(16)	(NULL)			Year of start of measurements (YYYY)
active	bool	(NULL)			Measurements ongoing? Either TRUE or FALSE
project	text	(NULL)			Network / project, the TGS location is affiliated with
e	int4(32)	(NULL)			Approximate location in Swiss national coordinates, east coordinate (LV03 reference frame) non-CH sites: -999
n	int4(32)	(NULL)			Approximate location in Swiss national coordinates, north coordinate (LV03 reference frame) non-CH sites: -999
h_min	int4(32)	(NULL)			Approximate altitude range (m a.s.l.) of the tgs site, min elevation
h_max	int4(32)	(NULL)			Approximate altitude range (m a.s.l.) of the tgs site, max elevation
lat	numeric(10,6)	(NULL)			Geographic coordinates, latitude (decimal degrees)
lon	numeric(10,6)	(NULL)			Geographic coordinates, longitude (decimal degrees)
asp	text	(NULL)			General aspect of the landform observed (S, SE, etc.)
morphology	text	(NULL)			Morphology of the measurement location
n_meas_year	int2(16)	(NULL)			Number of measurements per year, 0.5 means every second year
n_ref_points	int4(32)	(NULL)			Number of reference points
n_obs_points	int4(32)	(NULL)			Number of observed points (reference, monitoring and control points)
crs	text	(NULL)			Coordinate system/reference frame of TGS data in the DB: LV03 Swiss national coordinates in LV03 (y, x) LV95 Swiss national coordinates in LV95 (E, N) If not specified, by default crs is LV03
changes	text	(NULL)			Information about major changes to the measurement configuration (not necessarily exhaustive!)
comment	text	(NULL)			Additional comments and possibly a reference to more detailed documentation of the installation
method	text	(NULL)			Method of survey: TS total station dGPS differential GPS

2.7 tgs_point

Information on measurement points at the TGS Sites.

Field	Type	Default	Keys	Indexes	Notes
id	int8(64)	auto incr.	primary	unique	TGS point ID (only used for reference within the database)
name	text	(NULL)			TGS point name: site abbreviation, underscore, consecutive number, consecutive letter (only if new points have been measured to substitute an existing one), e.g. GFU_202
alter_name	text	(NULL)			Alternative point name used by the PI
tgs_site_id	int4(32)		foreign	unique	id of the corresponding TGS site
p_group	text	(NULL)			Name of the group of point constituting a coherent time series, e.g. GFU_302 and his replacement point GFU_302b constitute the group GFU_302
active	bool	(NULL)			Is the point currently measured? t or f
zone	text				Zone on rock glacier, where the point is located, e.g front, center, rooting zone, zone1, etc.
type	int2(16)	(NULL)			Type of measurement point: 0: control point (stable, not moving points) 1: monitoring point (moving points not used as reference) 2: reference monitoring point (used to compute the site mean)
comment	text	(NULL)			Additional comments

2.8 tgs_survey

Information on individual surveys at the TGS Sites.

Field	Type	Default	Keys	Indexes	Notes
id	int8(64)	auto incr.	primary	unique	TGS survey ID (only used for reference within the database)
tgs_site_id	int4(32)		foreign	unique	ID of the corresponding tgs_site.
survey_date	date			NN	Date of survey ((YYYY-MM-DD))
e_corr	numeric(20,4)	(NULL)			Easting correction value in metres (RAW +x)
n_corr	numeric(20,4)	(NULL)			Northing correction value in metres (RAW +y)
h_corr	numeric(20,4)	(NULL)			Elevation correction value in metres (RAW +z)
equipment	text	(NULL)			Equipment used for survey
operator	text	(NULL)			Full name of survey operator (first name last name)
uncertainty	numeric(10,4)	(NULL)			Estimated uncertainty
espg	int4(32)	(NULL)			EPSG-NR. of Coordinate Reference System (CRS). Default: CH1903/LV03 (21781)
comment	text	(NULL)			Additional comments
corr_point_id	int4(32)	(NULL)			array with all ids of tgs_point used for correction

2.9 ert_site

Information about the sites, where electrical resistivity tomography (ERT) profiles are present.

Field	Type	Default	Keys	Indexes	Notes
id	int(5)	auto incr.	primary	unique	ERT site ID (only used for reference within the database)
name	text			Unique NN	ERT site name: site abbreviation, underscore, V (vertical) or H (horizontal), consecutive number, e.g. SCH_H1.
alter_name	text	(NULL)			Alternative (file) name(s) of the ERT profile as used by the PI
site_id	int(5)		foreign		ID of the corresponding PERMOS measurement site.
pi_id	int(5)		foreign		ID of the responsible PI
year	year(4)	(NULL)			Year of start of measurements (YYYY)
surf_type	text	(NULL)			Surface (material) at the measurement location
ert_add	bool	(NULL)			Additional ERT-measurements are available (t=TRUE, f=FALSE)
rst	bool	(NULL)			Seismic profile(s) along this ERT profile (t=TRUE, f=FALSE)

2.10 ert_profile

Information about the profiles along which electrical resistivity tomography (ERT) surveys are performed

Field	Type	Default	Keys	Indexes	Notes
id	int(5)	auto incr.	primary	unique	ERT profile ID (only used for reference within the database)
name	text			Unique NN	ERT profile name: ert_site abbreviation, underscore consecutive number (i.e. number of the profile) e.g. SCH_H1_1.
ert_site_id	int(5)		foreign		ID of the corresponding ert site.
start_date	date	(NULL)			Date of the first measurement on this profile (YYYY-MM-DD)
active	bool	(NULL)			Measurements ongoing? t = TRUE, f = FALSE
n_elec	int(5)	(NULL)			Number of electrodes in the ERT profile
spacing	numeric(5,2)	(NULL)			Spacing of the electrodes (m)
e_first	numeric(10,1)	(NULL)			Exact location in Swiss national coordinates of first electrode, north coordinate (LV03 reference frame) non-CH sites: -999
n_first	numeric(10,1)	(NULL)			Exact location in Swiss national coordinates of first electrode, east coordinate (LV03 reference frame) non-CH sites: -999
h_first	numeric(10,1)	(NULL)			Altitude of first electrode (m a.s.l.)
e_last	numeric(10,1)	(NULL)			Exact location in Swiss national coordinates of last electrode, east coordinate (LV03 reference frame) non-CH sites: -999
n_last	numeric(10,1)	(NULL)			Exact location in Swiss national coordinates, north coordinate (LV03 reference frame) of last electrode non-CH sites: -999
h_last	numeric(10,1)	(NULL)			Altitude of last electrode (m a.s.l.)
bh1	text	(NULL)			Name of BH1 along the profile (used for plotting)
bh1_dist	numeric(4,1)	(NULL)			Horizontal distance of BH1 along ERT-Profile from first electrode (m)
bh2	text	(NULL)			Name of BH2 along the profile (used for plotting)
bh2_dist	numeric(4,1)	(NULL)			Horizontal distance of BH2 along ERT-Profile from first electrode (m)
bh3	text	(NULL)			Name of BH3 along the profile (used for plotting)
bh3_dist	numeric(4,1)	(NULL)			Horizontal distance of BH3 along ERT-Profile from first electrode (m)
aert	bool	(NULL)			Automated ERT monitoring (t=TRUE, f=FALSE)
changes	text	(NULL)			Information about major changes to the measurement configuration (not necessarily exhaustive!)
comment	text	(NULL)			Additional comments and possibly a reference to more detailed documentation of the installation

2.11 ert_survey

Information about the survey performed along the electrical resistivity tomography (ERT) profiles.

Field	Type	Default	Keys	Indexes	Notes
id	int(5)	auto incr.	primary	unique	ERT survey ID (only used for reference within the database)
ert_profile_id	int(5)		foreign		ID of the corresponding ERT profile.
date	date			NN	Date of the measurement (format YYYY-MM-DD)
type	int(11)	(NULL)			Type of measurement: 1: monitoring survey 2: annual reference survey
config	tinyint(1)	(NULL)			Configuration of survey: 1: Wenner 3: Dipole-Dipole 7: Wenner-Schlumberger
equipment	text	(NULL)			Equipment used for survey
operator	text	(NULL)			Full name of survey operator (first name last name)
data_quality	text	(NULL)			Quality of the ERT survey (bad or good). The quality is defined according to the automatic filtering procedure defined in Mollaret et al. 2018 ¹ . (good > 80% of data left, bad < 80% of data left)
rst	bool	(NULL)			Additional RST measurements available along the same profile at the same date (t=TRUE, f=FALSE)

2.12 ert_topo

Topography data of the ERT profiles.

Field	Type	Default	Keys	Indexes	Notes
id	int(5)	auto incr.	primary	unique	ERT topography point ID (only used for reference within the database)
ert_profile_id	int(5)		foreign		ID of the corresponding ERT profile.
x	decimal(5,2)				Horizontal distance (along the surface) from first electrode (m)
z	decimal(5,2)				Height of electrode (m). Heights can be given as absolute or relative values

¹ Mollaret, C., Hilbich, C., Pellet, C., Flores-Orozco, A., Delaloye, R., & Hauck, C. (2018). Mountain permafrost degradation documented through a network of permanent electrical resistivity tomography sites. The Cryosphere Discussions, 1–34. <https://doi.org/10.5194/tc-2018-272>

3 Data Tables

3.1 ert_raw

Measured apparent resistivity data along the ERT profiles. The data within this table are “raw” data and they have not been processed in any way

Field	Type	Default	Keys	Indexes	Notes
id	int(5)	auto incr.	primary	unique	ERT raw measurement ID (only used for reference within the database)
ert_survey_id	int(5)		foreign		ID of the corresponding ERT survey.
x	decimal(5,2)				Horizontal distance (along the surface) of the first electrode of the measured quadrupole (m)
a	decimal(5,2)				Spacing between the electrodes of the measured quadrupole (array dependent, m) Wenner: spacing in-between each of the four electrodes Dipole-dipole: spacing in-between the potential electrodes and in-between the current electrodes Wenner-Schlumberger: spacing in-between the potential electrodes
n	decimal(5,2)				Integer multiplying the electrode spacing (array dependent, m) Wenner: NA Dipole-Dipole: multiplier applied to the spacing in-between the current and potential electrode groups Wenner schlumberger: multiplier applied to the spacing in-between the current and potential electrodes
rho_a_obs	decimal(20,5)				Measured apparent resistivity (Ohm m)

4 Products

4.1 Aggregations

Measured data are stored in the highest available temporal resolution, which typically differs between different installations. Tables with aggregated data are named *DataTable_AggregationLevel*. That is, daily means of borehole temperatures are stored in the table **bht_day (gst_day)**, annual means of calendar years are stored in the table **bht_year (gst_year)** etc.

Available aggregation levels are: *day, month, year, hyear*.

Notes:

- Daily means are calculated from the original data tables (bht, gst) based on all original data with a quality flag lower than 10. Annual means are calculated based on daily data and are only included for years with a minimum of 350 daily values (96% of the data, cf. attribute *Count*).
- The time field for tables with annual means is called year (hyear) and is of type year(4).
- Definition of the hydrological year: 01.10. to 30.09.

Field	Type	Default	Keys	Indexes	Notes
borehole_id OR gst_loc_id	Int(5)		foreign	unique	ID of the corresponding borehole
time	datetime				Date and time of measurement in Central European Time (UTC+1, YYYY-MM-DD HH:MM:SS)
depth	decimal(20,5)	(NULL)			Depth of the measurement (m)
temp	decimal(20,5)	(NULL)			Measured borehole temperature (°C)
t_min	decimal(20,5)	(NULL)			Minimum borehole temperature in aggregation period (°C)
t_max	decimal(20,5)	(NULL)			Maximum borehole temperature in aggregation period (°C)
count	int(5)	(NULL)			Number of measurements available for the calculation of the aggregated value.

4.2 ALT

The active layer thickness for each year and borehole is calculated by linear interpolation between thermistors.

Field	Type	Default	Keys	Indexes	Notes
id	int(5)	auto incr.	primary		Unambiguous identifier for the data point (primary key)
borehole_id	int(5)		foreign	unique	ID of the corresponding borehole
year	year				Year
alt	decimal(20,5)	(NULL)			Maximum active layer thickness (m)
date	date	(NULL)			Date of the max ALT (YYYY-MM-DD)
guess	varchar(45)	(NULL)			Set to 1 if ALT value is a guess by the PI or the PERMOS Office
upper_therm	decimal(10,2)	(NULL)			Depth of upper thermistor used for the interpolation (m)
lower_therm	decimal(10,2)	(NULL)			Depth of lower thermistor used for the interpolation (m)
comment	varchar(45)	(NULL)			Additional information about the calculation of the max. ALT
time_stamp	timestamp	(CURRENT_TIMESTAMP)			Date and time, when the data was included or updated in the DB (YYYY-MM-DD HH:MM:SS)

4.3 tgs_vel

The velocity for each surveyed **tgs_point** is calculated. E and N coordinates and H values are corrected when necessary using the E_corr, N_corr and H_corr values, respectively, that are stored in the table **tgs_survey**.

Field	Type	Default	Keys	Indexes	Notes
site_name	text			Unique NN	TGS site name: site abbreviation, underscore, TGS, consecutive number, e.g. MUR_TGS1
p_group	text	(NULL)			Name of the group of point constituting a coherent time series, e.g. GFU_302 and his replacement point GFU_302b constitute the group GFU_302
type	int2(16)	(NULL)			Type of measurement point: 0: control point 1: monitoring point 2: reference monitoring point
zone	text	(NULL)			Zone on rock glacier, where the point is located, e.g front, center, rooting zone, zone1, etc.
survey_date	date			NN	Date of survey ((YYYY-MM-DD))
e	numeric(10,6)	(NULL)			Exact location in Swiss national coordinates, east coordinate (LV03 reference frame) non-CH sites: -999
n	numeric(10,6)	(NULL)			Exact location in Swiss national coordinates, north coordinate (LV03 reference frame) non-CH sites: -999
h	numeric(10,6)	(NULL)			Exact altitude (m a.s.l.) of the surveyed point at the date of the survey
timediff	int4(32)	(NULL)			Time difference between consecutive surveys (days)
ediff	numeric(10,6)	(NULL)			Easting difference between consecutive surveys (m)
ndiff	numeric(10,6)	(NULL)			Northing difference between consecutive surveys (m)
hdiff	numeric(10,6)	(NULL)			Altitude difference between consecutive surveys (m)
vel2d	numeric(10,6)	(NULL)			Horizontal (2d) velocity (m/a)
vel3d	numeric(10,6)	(NULL)			3d velocity (m/a)