

Supplement of The Cryosphere, 13, 3413–3434, 2019  
<https://doi.org/10.5194/tc-13-3413-2019-supplement>  
© Author(s) 2019. This work is distributed under  
the Creative Commons Attribution 4.0 License.



*Supplement of*

## **Continuous and autonomous snow water equivalent measurements by a cosmic ray sensor on an alpine glacier**

**Rebecca Gugerli et al.**

*Correspondence to:* Rebecca Gugerli ([rebecca.gugerli@unifr.ch](mailto:rebecca.gugerli@unifr.ch))

The copyright of individual parts of the supplement might differ from the CC BY 4.0 License.

## **Field data**

Table 1 shows the summary of each field survey conducted on Plaine Morte with all observed and calculated parameters.

**Table 1.** All field campaigns with measurements methods, uncertainty definitions and resulting snowpack properties with uncertainties and standard deviations. The dates marked with a star correspond to the summary of the single daily measurements.

Date	$r_{\text{tube}}$ [cm]	$\Sigma r_{\text{tube}}$ [cm]	$\Sigma m_{\text{scale}}$ [kg]	$\Sigma m_{\text{mass}}$ [kg]	$\Sigma l$ [cm]	n	SD [cm]	$s_{SD}$ [cm]	$\bar{\sigma}_{SD}$ [%]	SWE [cm]	$s_{SWE}$ [cm]	$\bar{\sigma}_{SWE}$ [%]	$\rho$ [kg m <sup>-3</sup> ]	$s_{\rho}$ [kg m <sup>-3</sup> ]	$\bar{\sigma}_{\rho}$ [%]
09.12.2016	4.75	0.10	0.05	0.05	0.5	6	90.0	3.4	2%	25.2	0.7	6%	279.7	6.6	6%
23.01.2017	4.75	0.10	0.05	0.05	1.0	4	153.8	4.5	1%	43.5	2.1	6%	282.8	7.0	6%
23.01.2017	4.75	0.10	0.02	0.05	1.0	4	153.8	4.5	1%	43.1	2.6	7%	280.4	10.5	7%
23.01.2017	4.50	0.10	0.05	0.10	1.0	4	153.0	4.5	1%	42.0	1.2	6%	274.7	10.1	6%
23.01.2017	4.50	0.10	0.10	0.10	1.0	4	153.0	4.5	1%	41.0	0.8	6%	268.4	12.5	6%
23.01.2017*						16	153.4	4.1	1%	42.4	1.9	6%	276.6	10.8	6%
27.03.2017	4.50	0.10	0.10	0.10	1.0	2	299.0	0.0	2%	117.8	4.0	7%	393.9	13.4	7%
10.05.2017	4.50	0.10	0.05	0.10	1.0	2	326.5	3.5	2%	133.2	0.0	9%	408.1	4.5	9%
10.05.2017	4.00	0.10	0.05	0.15	1.0	3	329.7	1.2	2%	128.1	1.8	10%	388.6	4.1	9%
10.05.2017*						5	328.4	2.6	2%	130.2	3.1	9%	396.4	11.3	9%
05.12.2017	4.75	0.10	0.05	0.05	1.0	8	150.2	3.2	1%	45.3	2.4	6%	301.6	17.6	6%
19.12.2017	4.75	0.10	0.05	0.10	1.0	8	223.5	1.2	1%	57.5	0.8	12%	257.4	4.0	12%
10.01.2018	4.00	0.10	0.05	0.15	1.0	3	309.0	0.0	1%	93.9	2.5	11%	303.9	8.1	11%
22.02.2018	4.00	0.10	0.05	0.15	1.0	3	424.0	0.0	0%	159.7	2.5	10%	376.7	5.8	10%
06.04.2018	4.15	0.15	0.05	0.15	1.0	1	520.0	-	1%	233.4	-	12%	448.9	-	12%
24.05.2018	4.15	0.15	0.05	0.15	1.0	2	357.5	2.1	1%	193.4	2.0	12%	540.9	8.8	12%