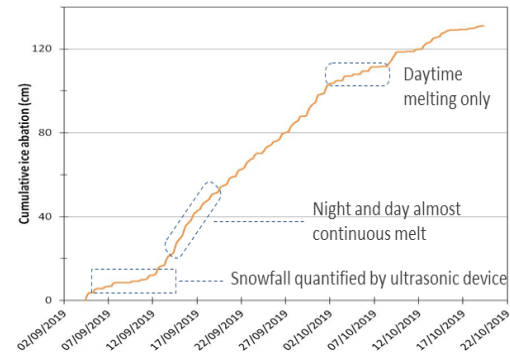


SmartStake: an autonomous measurement station for high-resolution monitoring of glacier ablation



Tracking the glacier mass loss along the melt season with sub-hourly time step and millimetric accuracy



Argentière Glacier, French Alps
Late summer 2019 continuous monitoring of ablation at 2400 m a.s.l.

SmartStake :
Designed and validated by A. Rabatel & R. Biron - I.G.E., Grenoble
CNRS / UGA / IRD / G-INP

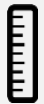
Key features



High temporal resolution monitoring
User-defined time step (typical 15')



Battery powered
Min. 2-year life



High resolution meas. (< 1cm)
Up to 8 m cumulative ablation



Light and compact
Can be handled by a single person



Direct and non-ambiguous measurement (automatic reel)



Easy to install and set-up



Internal data logger



Winter resistant

Options



Wireless data transmission
LoRa
(Satellite support in 2022)



GPS



Snowfall height
Temperature