

10 years of thermo-mechanical monitoring of rock columns – *les chandelles de l'Escalette, France*

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Plan

- Site localisation
- Recordings
- Mechanical Interpretation
- Conclusion and perspectives

Site



Bathonien
Dolomite
60 m

Bathonien inf.
Limestone
30 m

Bajocien
Dolomite
20 m

Aalenien
Marl Limestone
20 m

Site - description

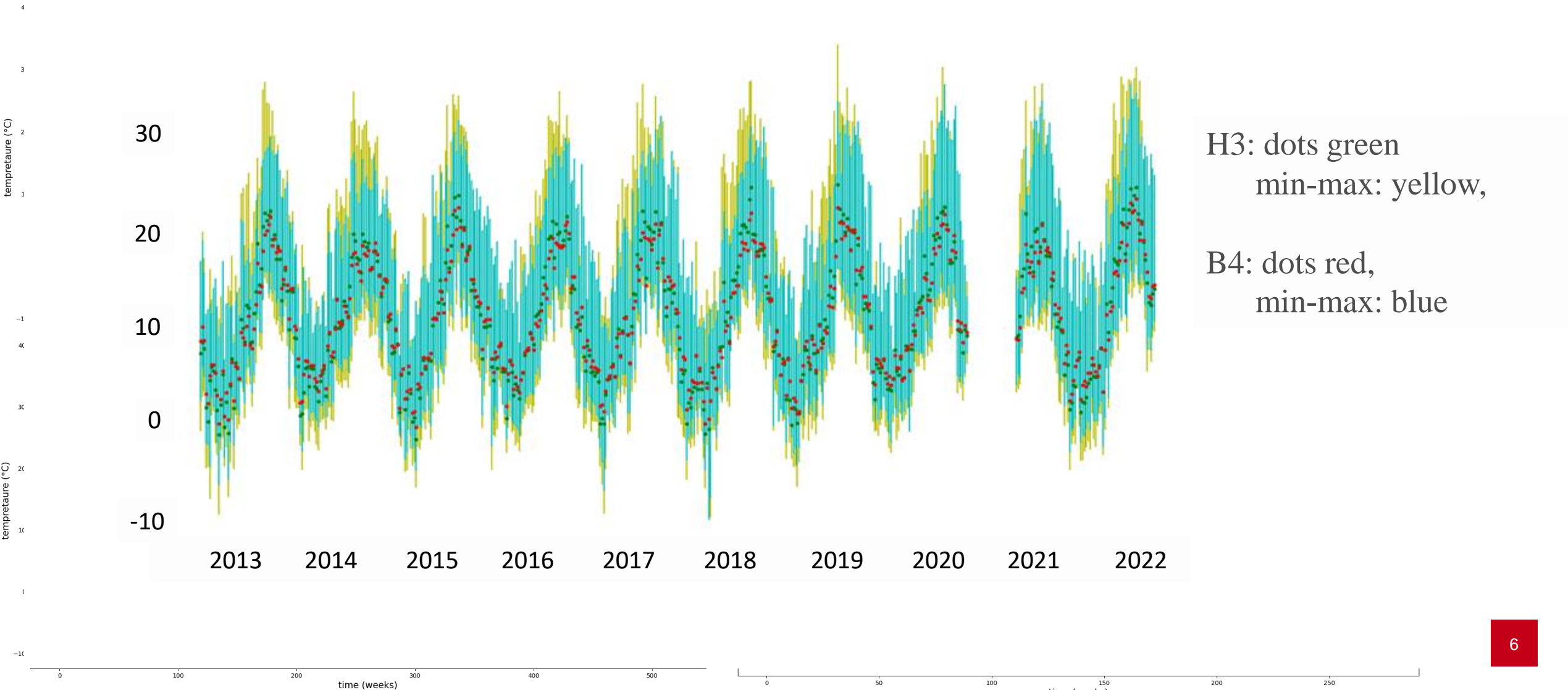


Site - sensors



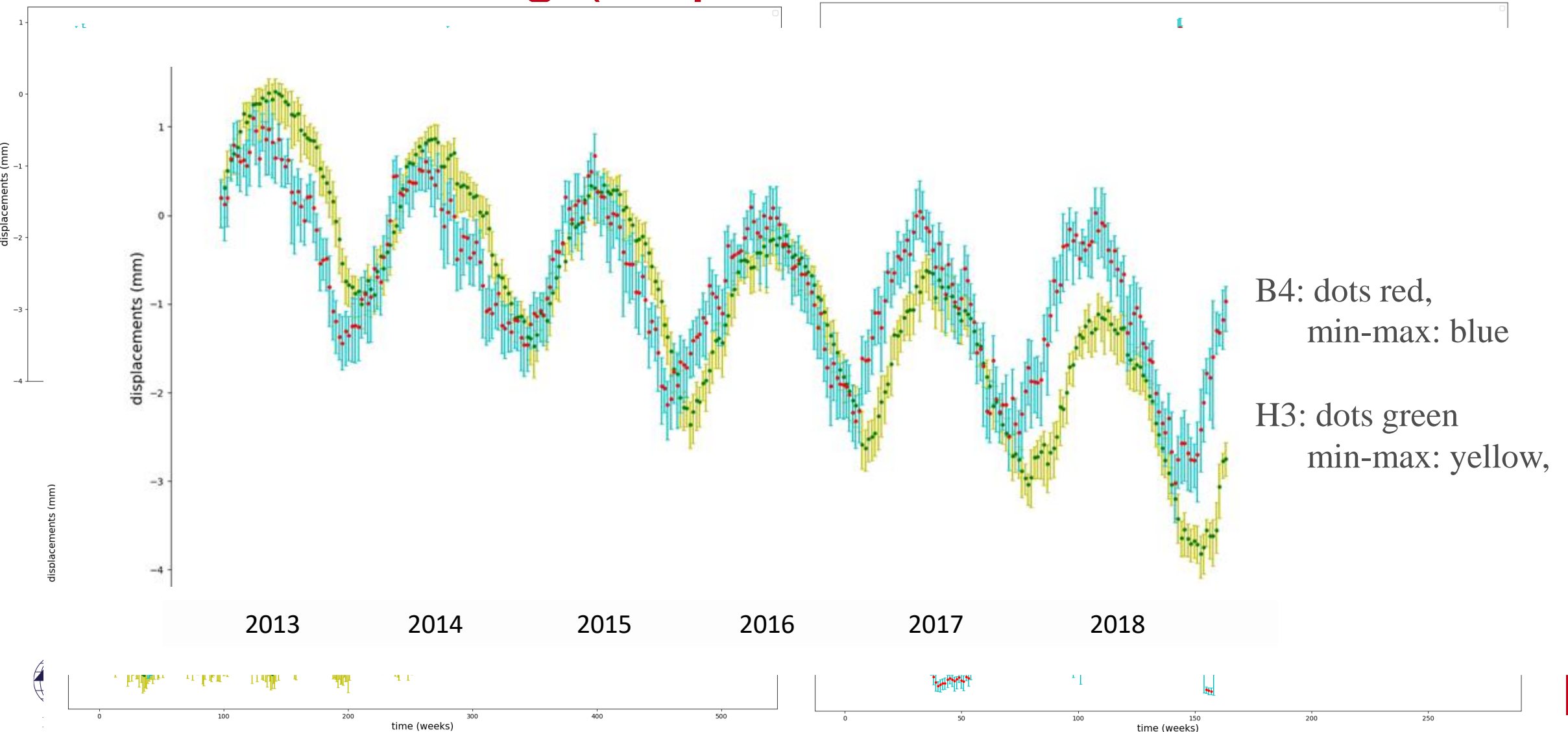
Recording (temperature)

Weekly average

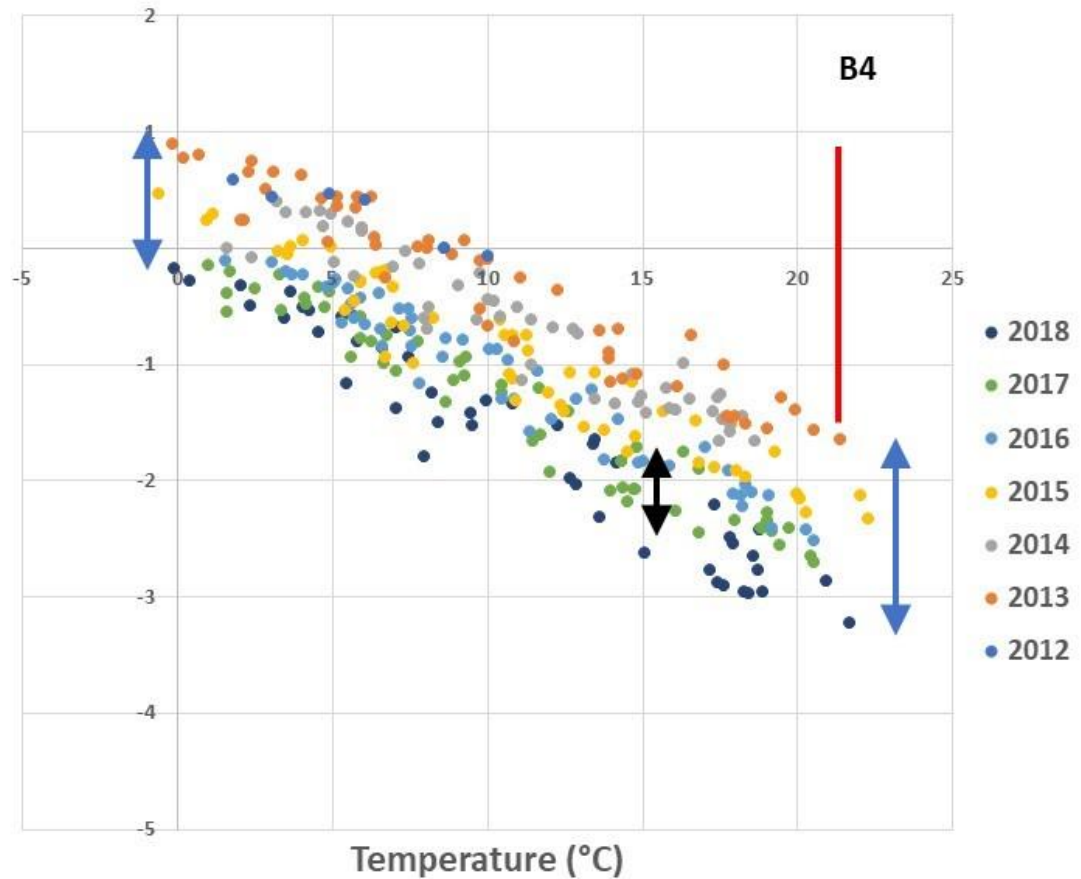
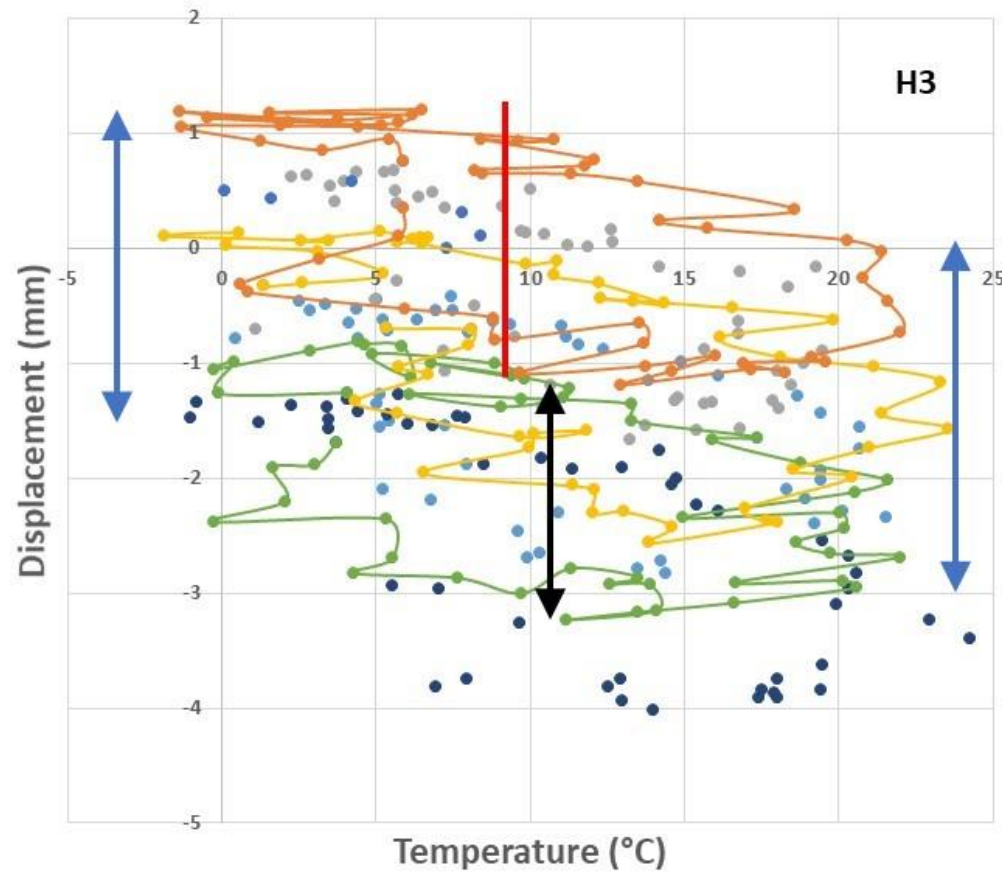


Recording (displacements)

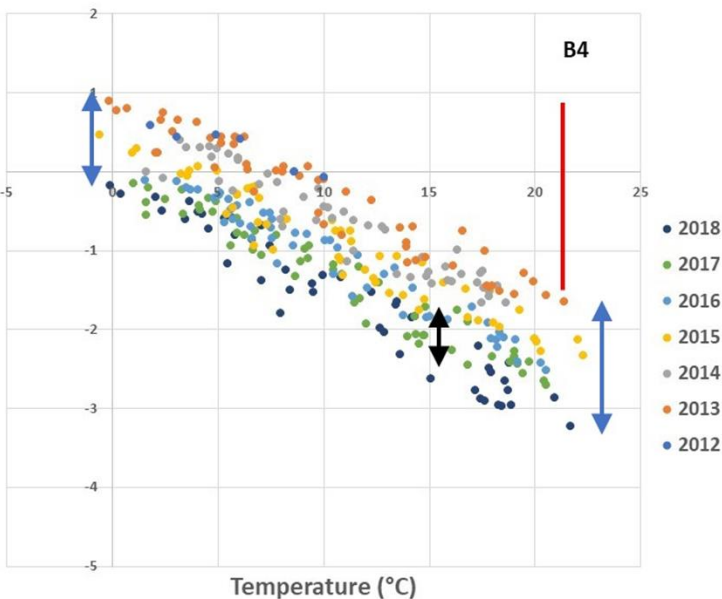
Weekly average



Displacement vs temperature



Displacement vs temperature



Sensor	Annual displacements range (mm)	annual hysteresis (mm)	6-years drift (mm)
H1	- 2.25	0.3	-1.4
B2	- 2	0.3 to 0.4	- 0.8 to -1
H3	-2.5	2	-2.5 to 3
B4	-2.5	0.5	-1.1 to -1.5
H5	0.95	0.5	0.5 to 0.6
B6	1.7	0.3	2
H7	-0.5	0.35	-0.9 to -0.95
B8	1.1	1.1	4 to 5.5
H9	2.1	1.3	1.5
B10	2.5	1.55	1.3 to 1.5

Mechanical interpretation



Conclusion and perspectives

- It is more than “just” a mechanical interpretation
- Data processing is still under study
- ...