Time of buddburst and dynamics of leaf growth in *Tilia cordata* Mill. at Varaždin and Belišće

Lara Draganić, 3rd Primary school Varazdin

5 years of continuos observation of our environment at and near school

Why phenology measurements?

Visual interesting, **help detect climate change,** **get to do real scinece!**

Tearms important for phenology

- **Budburst** - The emergence of new leaves on a plant at the beginning of each growing season

Vegetation (growing) season (period) - part of the year during which local weather conditions (i.e. rainfall and temperature) permit normal plant growth

After 5 years measuring **we asked ourselves…**

- ***does the geographical location affect the time of budburst and the vegetation period?***

- ***Which microclimate conditions have the greatest impact on time of budburst and the vegetation period?***

We compared our 5 year data with school 300 km from us

We compared:

- Air temperature
- Soil temperature
- Air humidity
- Percipitation
- Time of budburst
- Duration of vegetation season

Hypothesis

- budburst starts **earlier in Belišće** due to the lower altitude and **warmer microclimate** but **lasts longer in Varaždin** due to **percipitation**

- **soil temperature** has the greatest influence **on time of budburst**

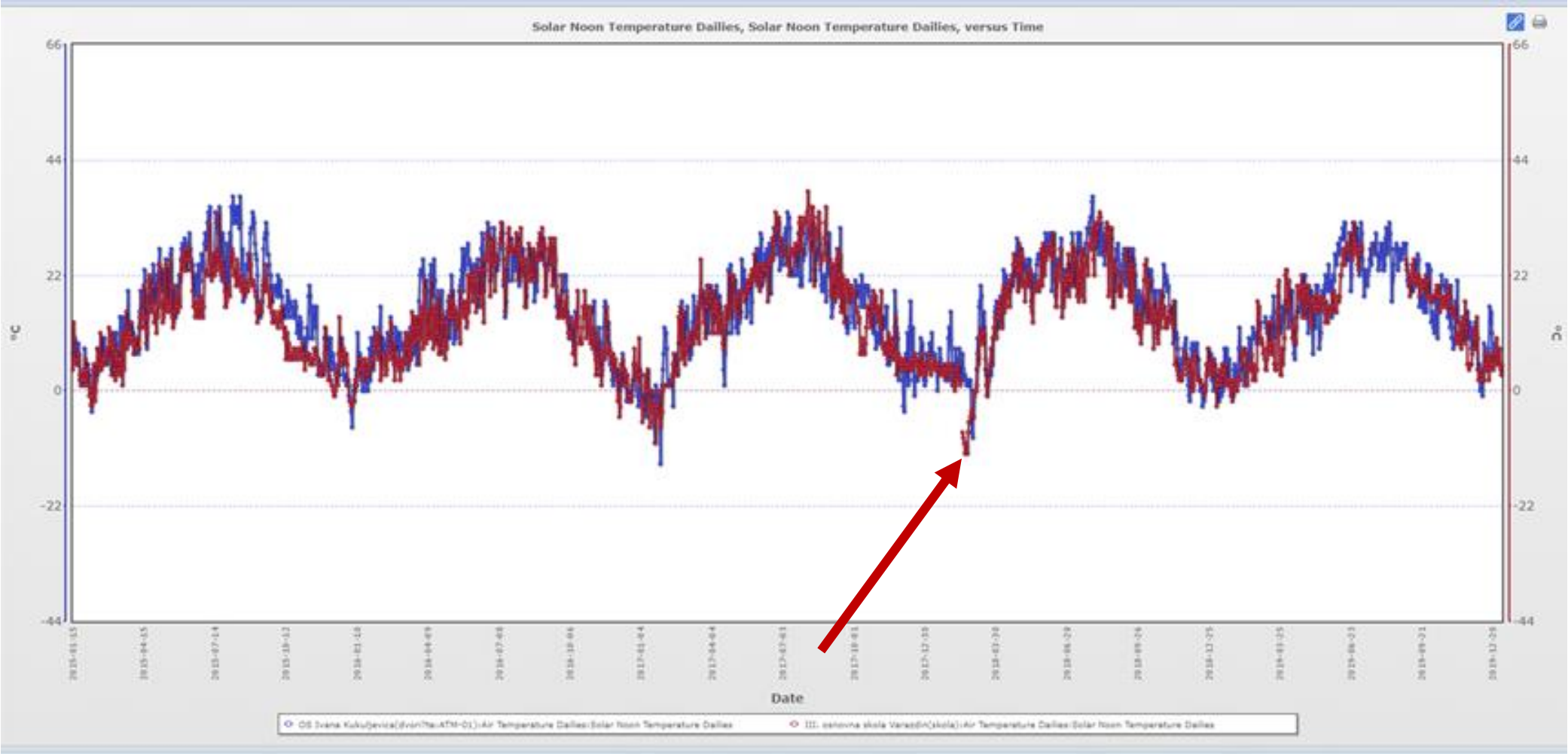
- **precipitation** has the greatest **on vegetation period**

Data

year	Time of budburst Varazdin	Time of budburst Belisce	End of vegetation seasion Varazdin	End of vegetation seasion Belisce	Duration of vegetation season Varazdin	Duration of vegetation season Belisce
2015.	6.4.	7.4.	25.5.	19.5.	61	42
2016.	30.3.	24.3.	27.5.	4.5.	58	42
2017.	27.3.	28.3.	25.5.	8.5.	59	42
2018.	29.3.	13.4.	9.5.	8.5.	41	26
2019.	21.3.	28.3	21.5.	23.5.	61	57

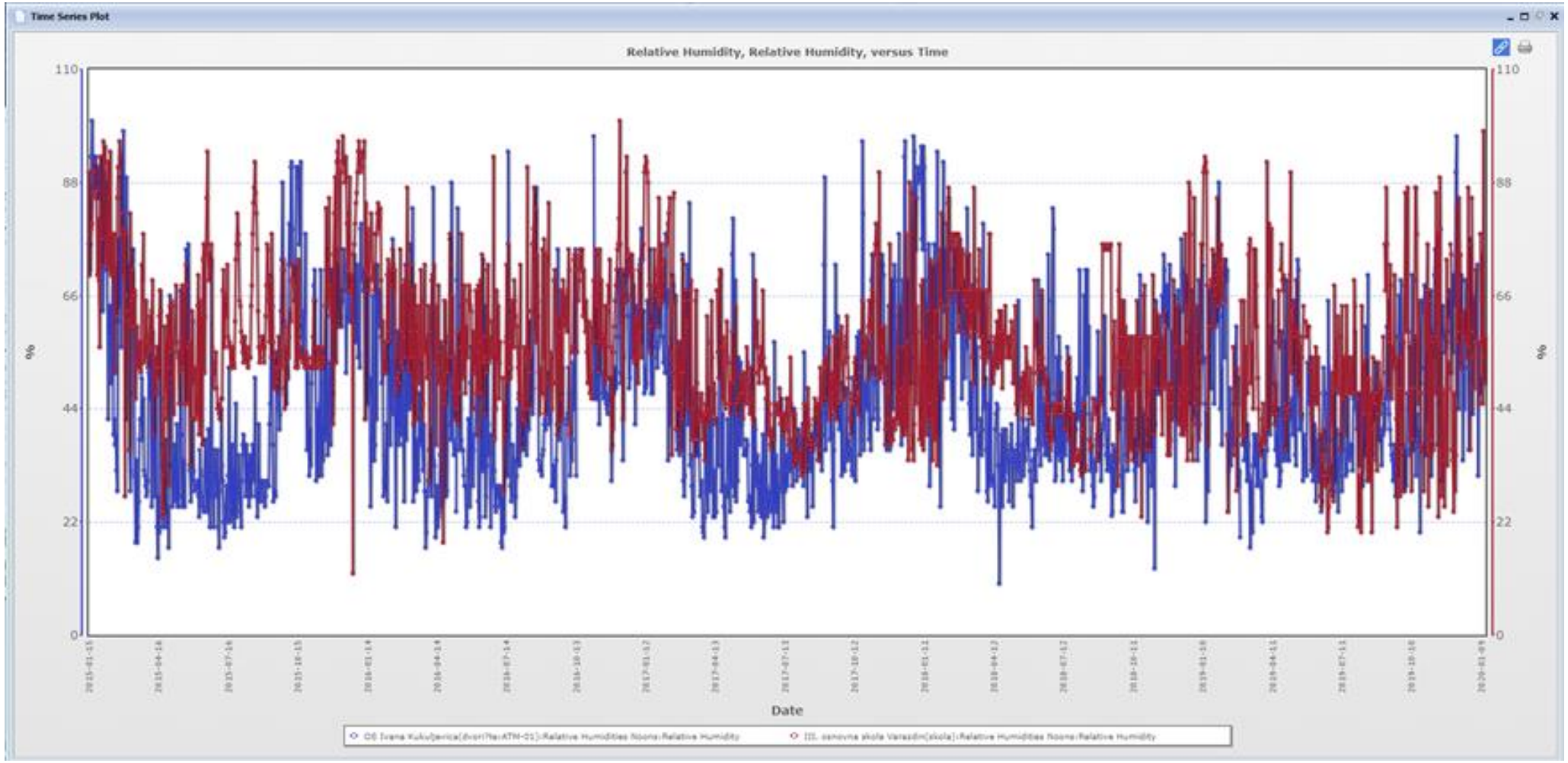
Air temperature at station B and VZ since 2015.

legend: red – Varazdin, Blue - Belisce



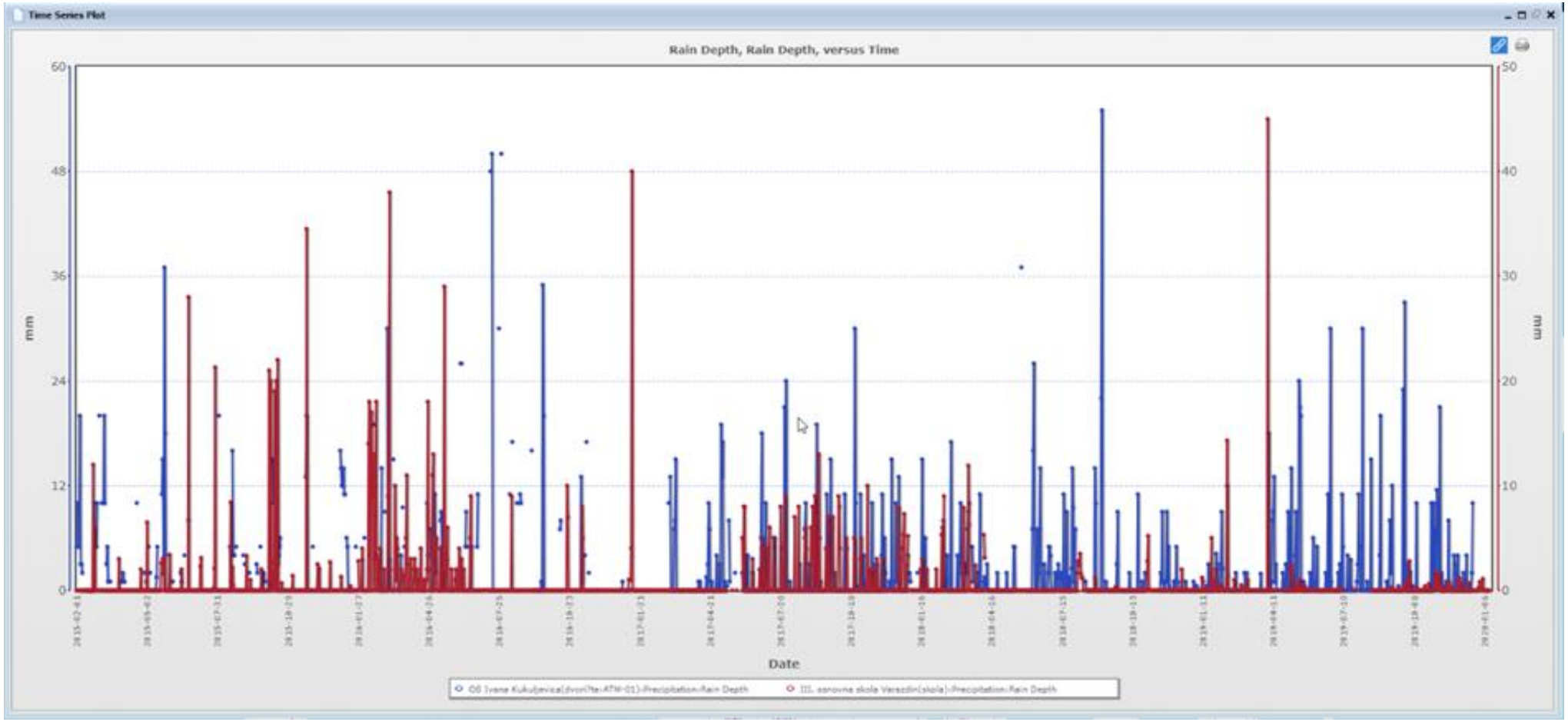
Air Humidity

legend: red – Varazdin, Blue - Belisce



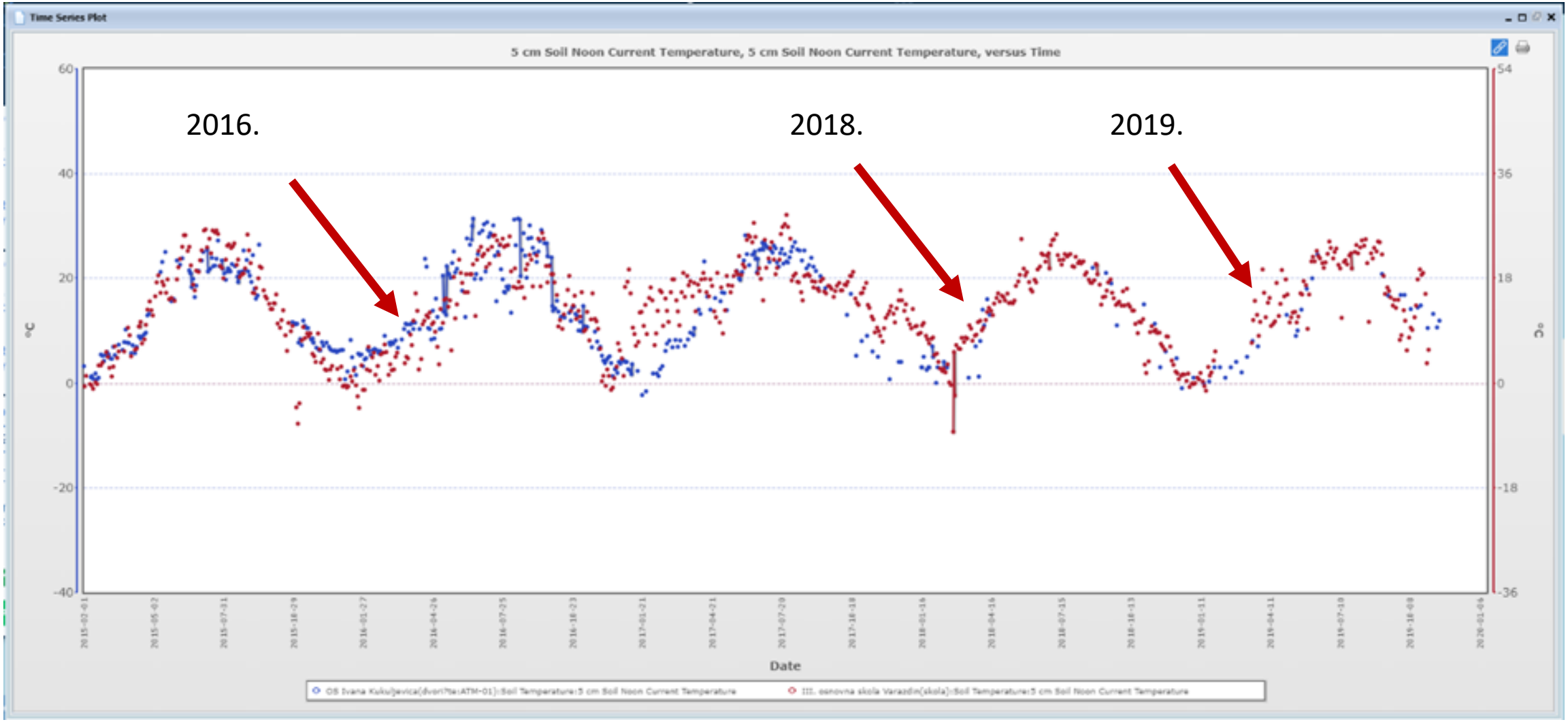
Percipitation

legend: red – Varazdin, Blue - Belisce



Soil temperature at 5 cm

legend: red – Varazdin, Blue - Belisce



Conclusion

- ***Time of budburst is similar in both station***
- ***Vegetation season is longer in Varazdin because of higher humidity***
- ***the main factors influencing the time of budburst is air and soil temperature***