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Teacher information:
Temperature diurnal course and clouds

Material P23 deals with the influence of clouds on temperatures. The temperature curves shown here were measured with the Cool City Lab. The DIY experiment "Cool City Lab" is introduced in materials P30 (building instructions), P31 (experimentation guide for beginners), and P32 (experimentation guide for advanced learners).

To simplify the work with P23 only one temperature curve can be shown. At the same time, questions 7 and 8 can be skipped.
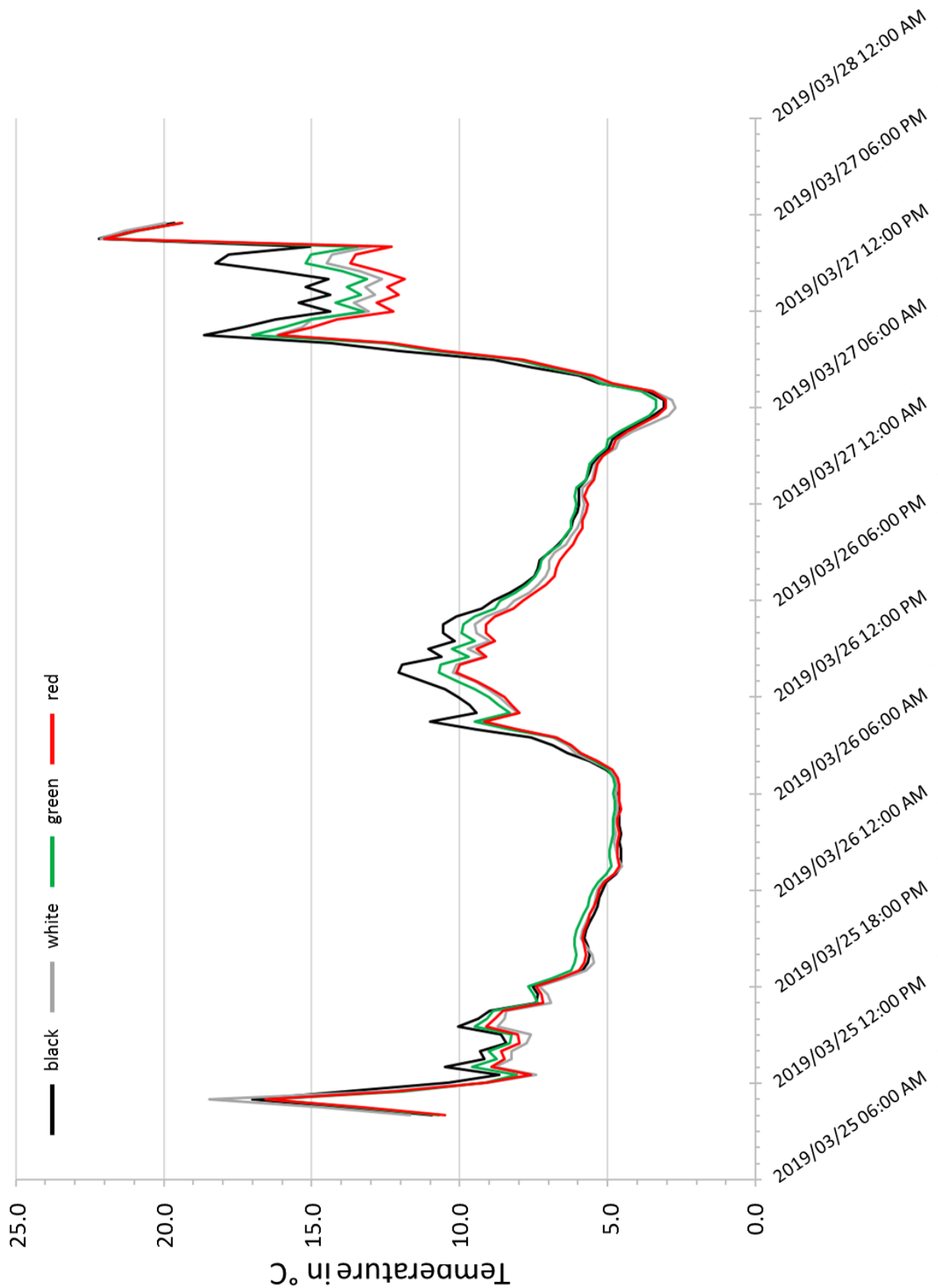
Temperature diurnal course and clouds

In the figure, you can see the temperatures in the boxes of the Cool City Lab (P30, P31) for the period 2019/03/25 until 2019/03/28.

1. **On the x-axis, circle the measurements that belong to the same day (2019/03/25; 2019/03/26; 2019/03/27; 2019/03/28).**

2. The sun's peak was at about 1:34 PM. This was not at 12:34 PM because it is daylight savings time. During daylight savings time, the clocks are set forward for one hour). **Mark the measurement for each day at 12 noon with yellow.**

3. **At what time is it coldest?**
    a. on 2019/03/25:_____
    b. on 2019/03/26:_____
    c. on 2019/03/27:_____
    d. on 2019/03/28:_____

4. **At what time is it warmest?**
    a. on 2019/03/25:_____
    b. on 2019/03/26:_____
    c. on 2019/03/27:_____
    d. on 2019/03/28:_____

5. ☆☆ Why is it coldest early in the morning and not at midnight?

6. ☆☆ Why is it not warmest at noon?

7. **Which box is warmest during the day?** The _____ box

8. **Which box is coldest during the day?** The _____ box

9. **Mark the location of Germany on the satellite images (approximately).**

10. **Look at the satellite images. What was the weather like on these days? Mark with a cross.**

	☁️	⛅	☀️
on 2019/03/25			
on 2019/03/26			
on 2019/03/27			
on 2019/03/28			

11. **Compare the cloudiness found in the satellite images with the temperatures found in the boxes. Is there a relation? What could be the reason?**