



*First LIAISE Conference and Determining
Evapotranspiration Crosscut Workshop*

HEAT WAVES EFFECTS ON AN APPLE ORCHARD EVAPOTRANSPIRATION EVALUATED BY A WEIGHING LYSIMETER.

Joan Girona (P), Mercè Mata, Jesús del
Campo.

IRTA – *Efficient Water Use in Agriculture*



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Heat Wave:

*A 'Heat wave' is considered to be an episode of at least **three consecutive days**, in which at least 10% of the stations considered record maximums **above the 95% percentile** of their daily maximum temperature series for the months of July and August, of the period 1971-2000.*

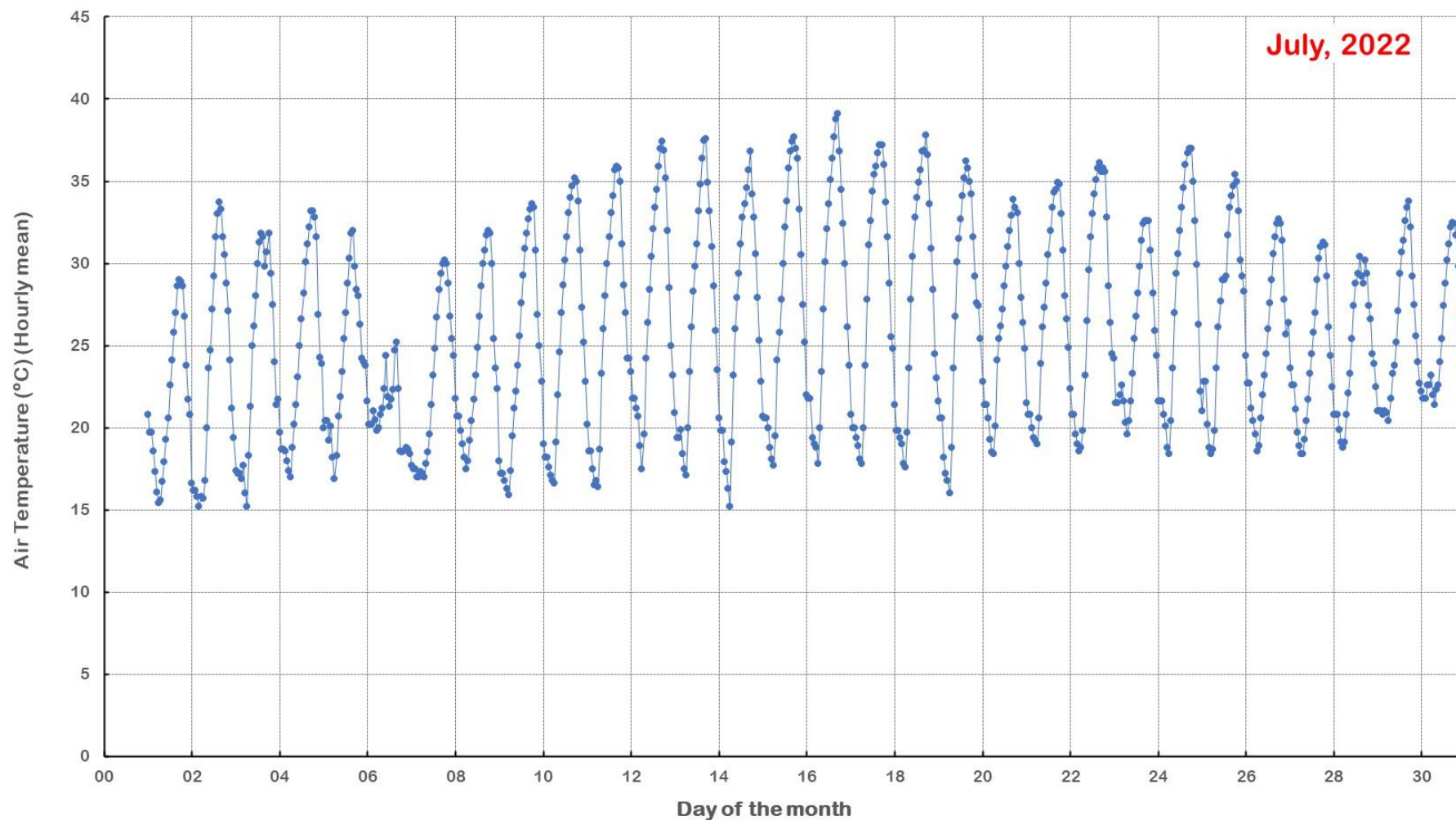


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Heat Wave:

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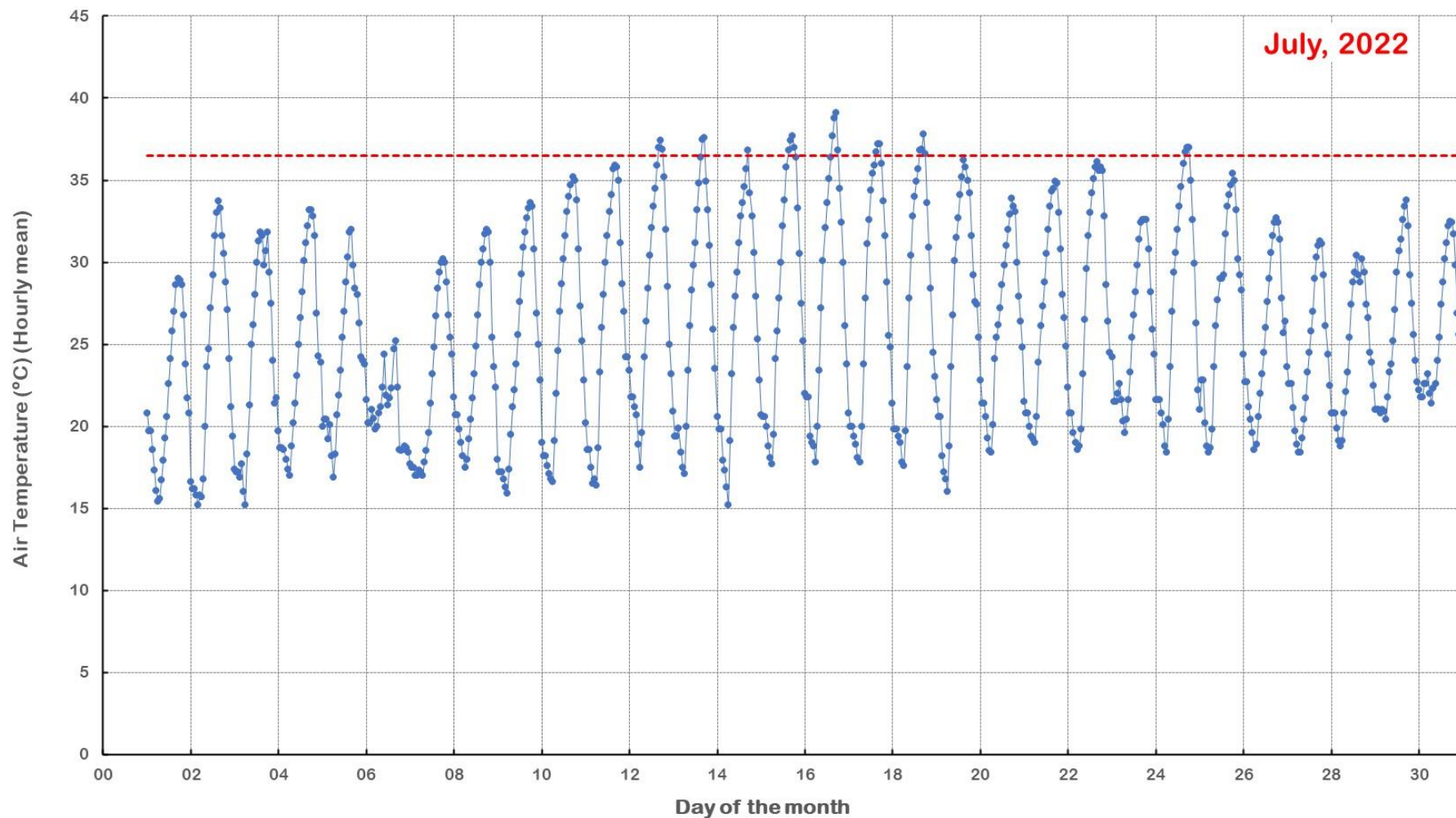


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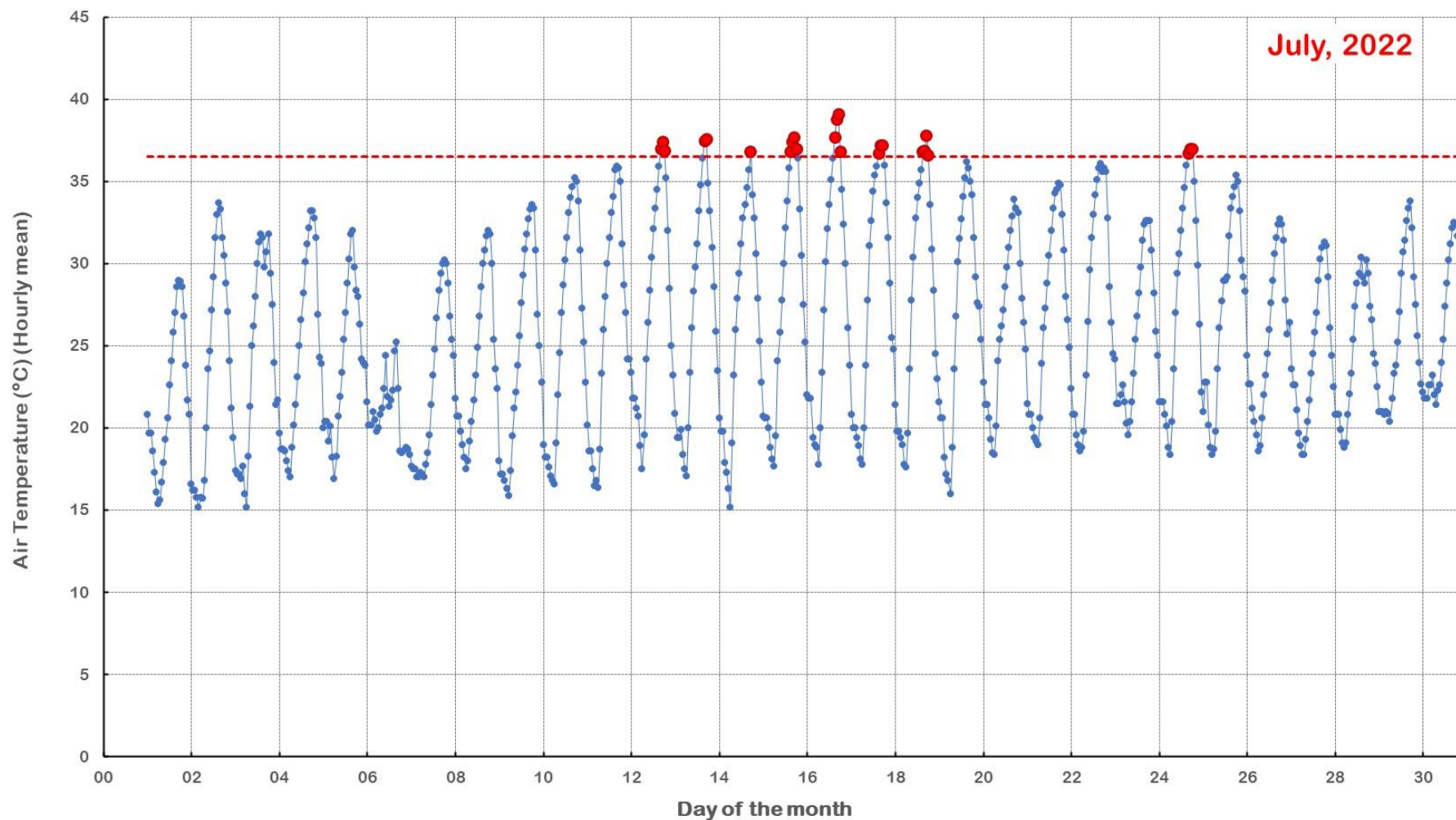


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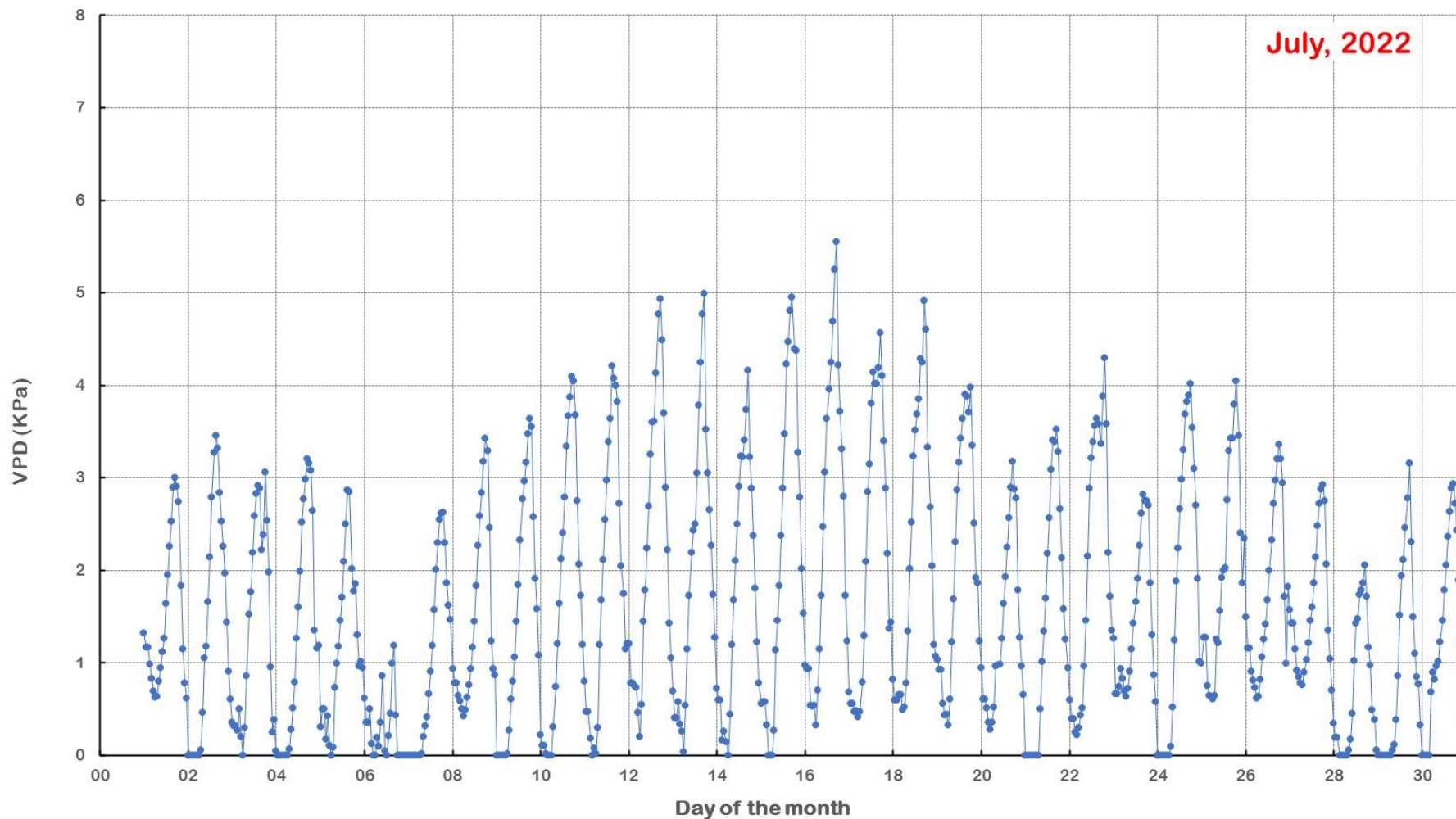


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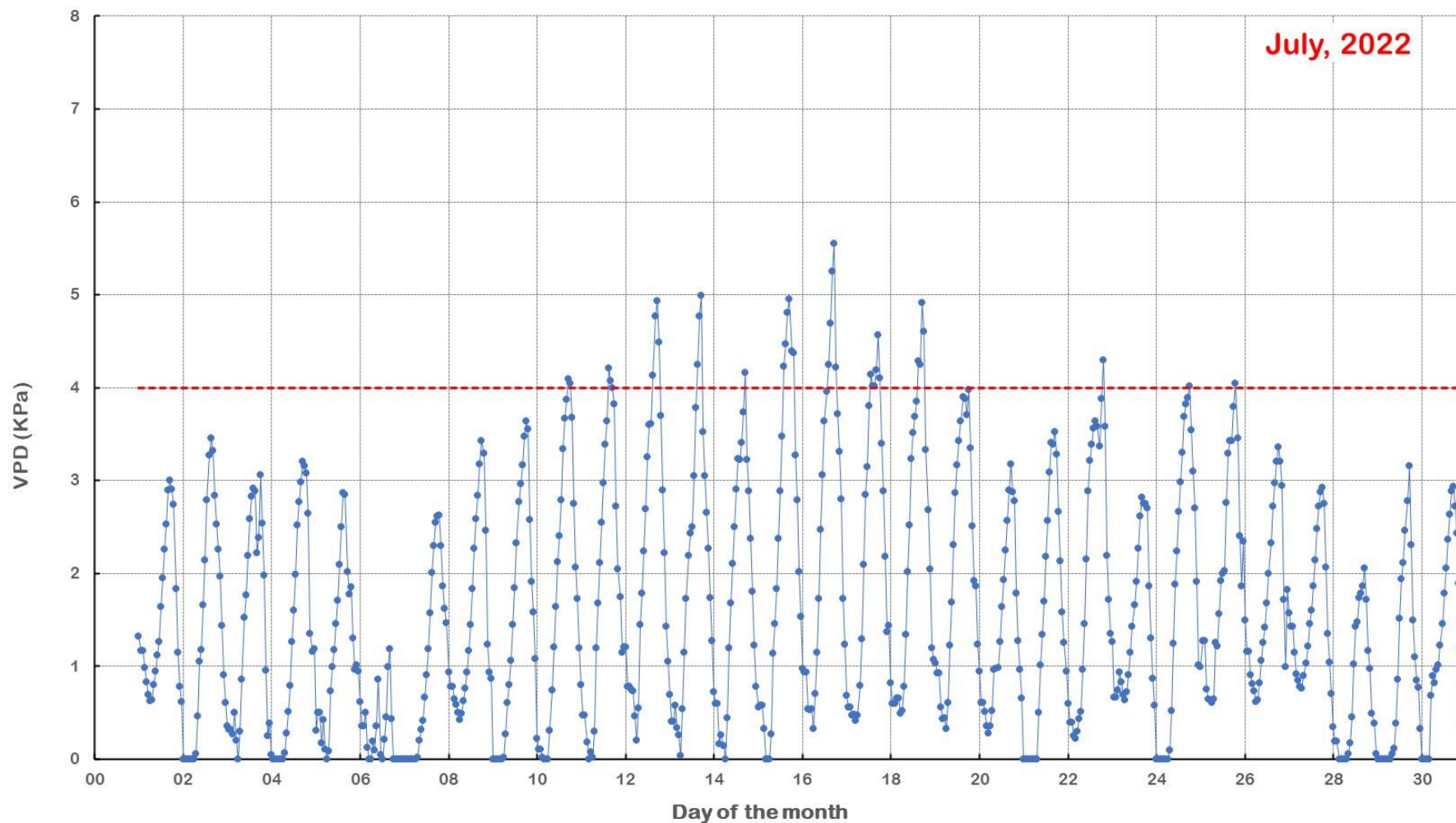


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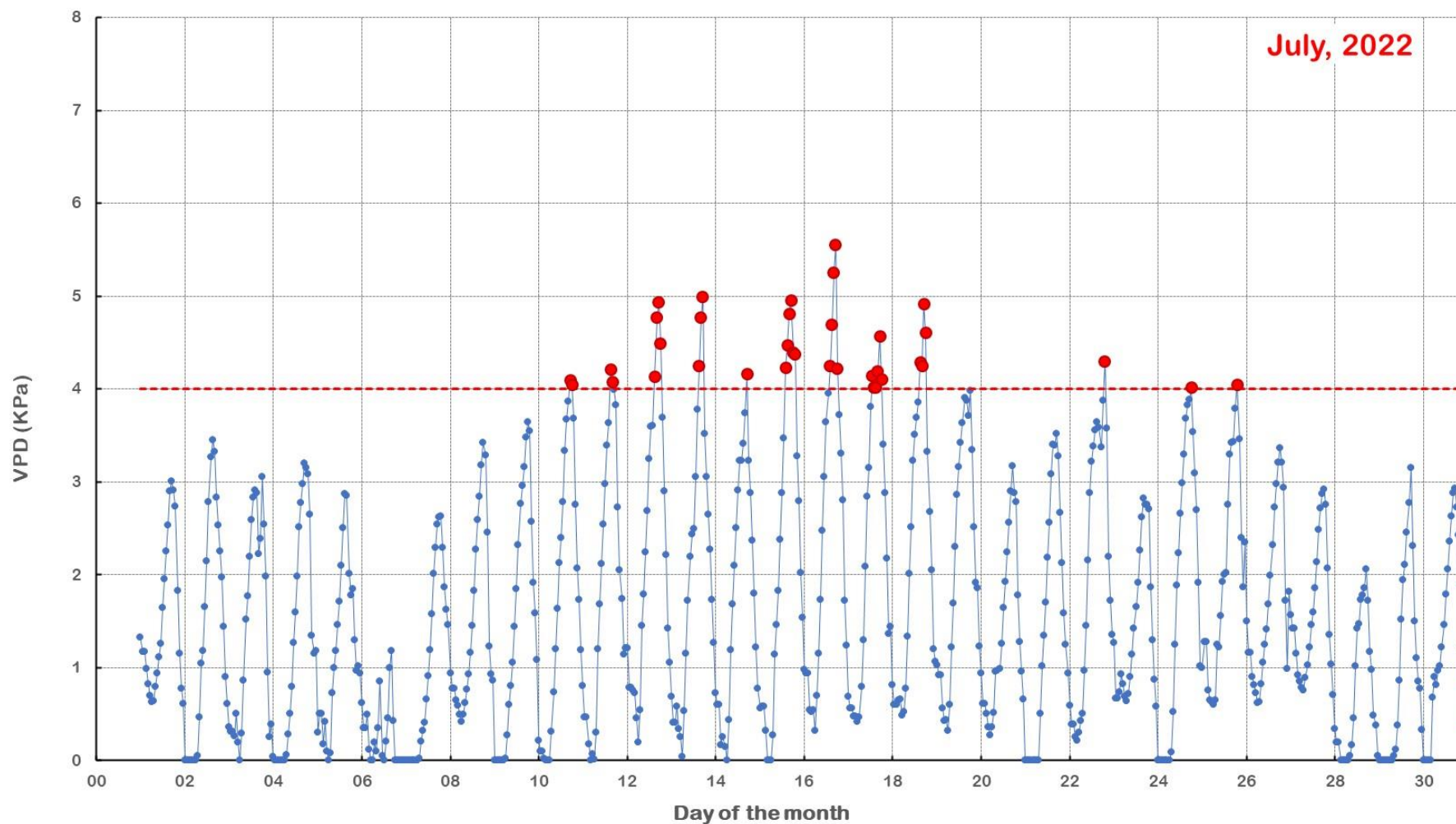


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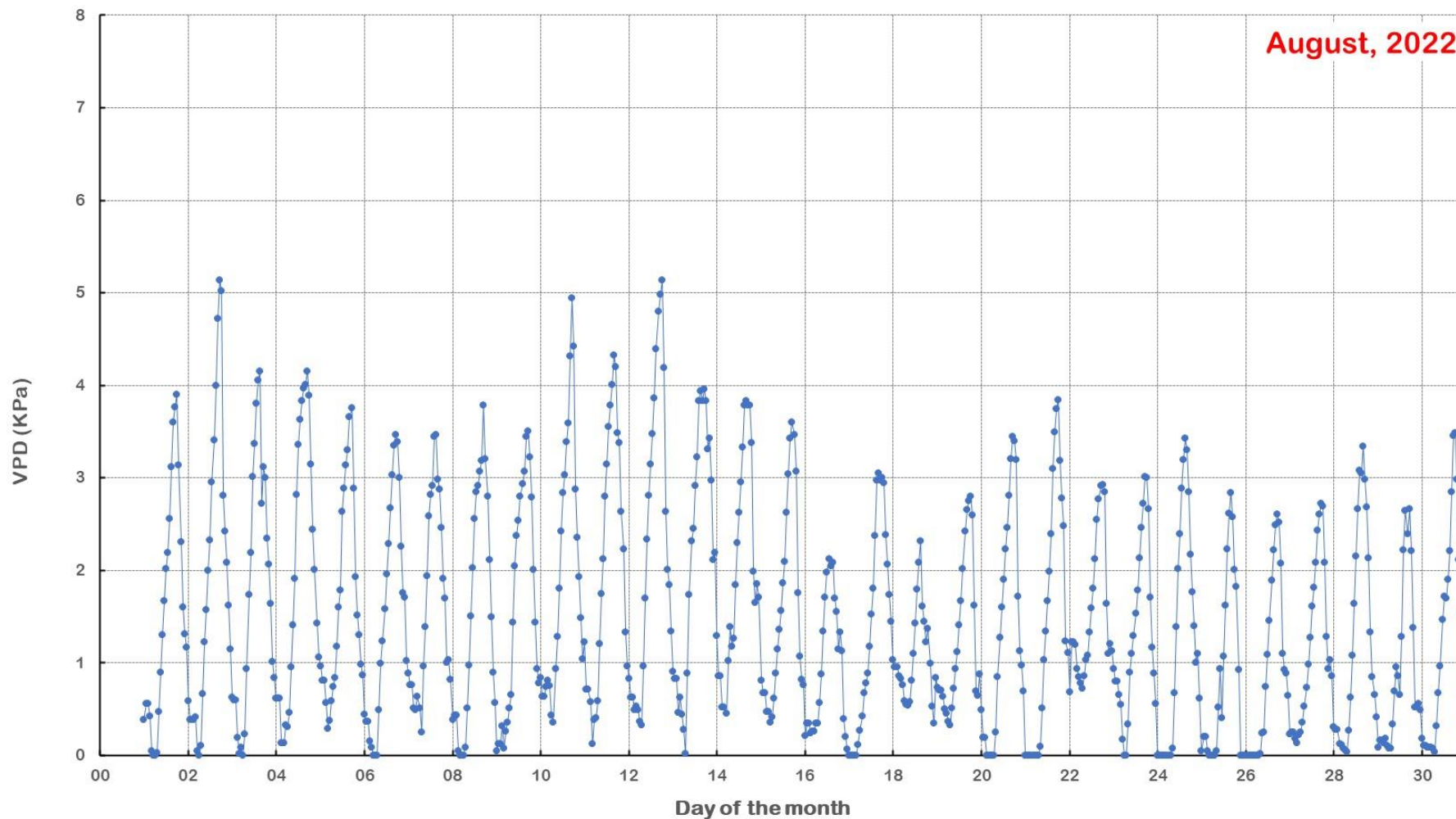


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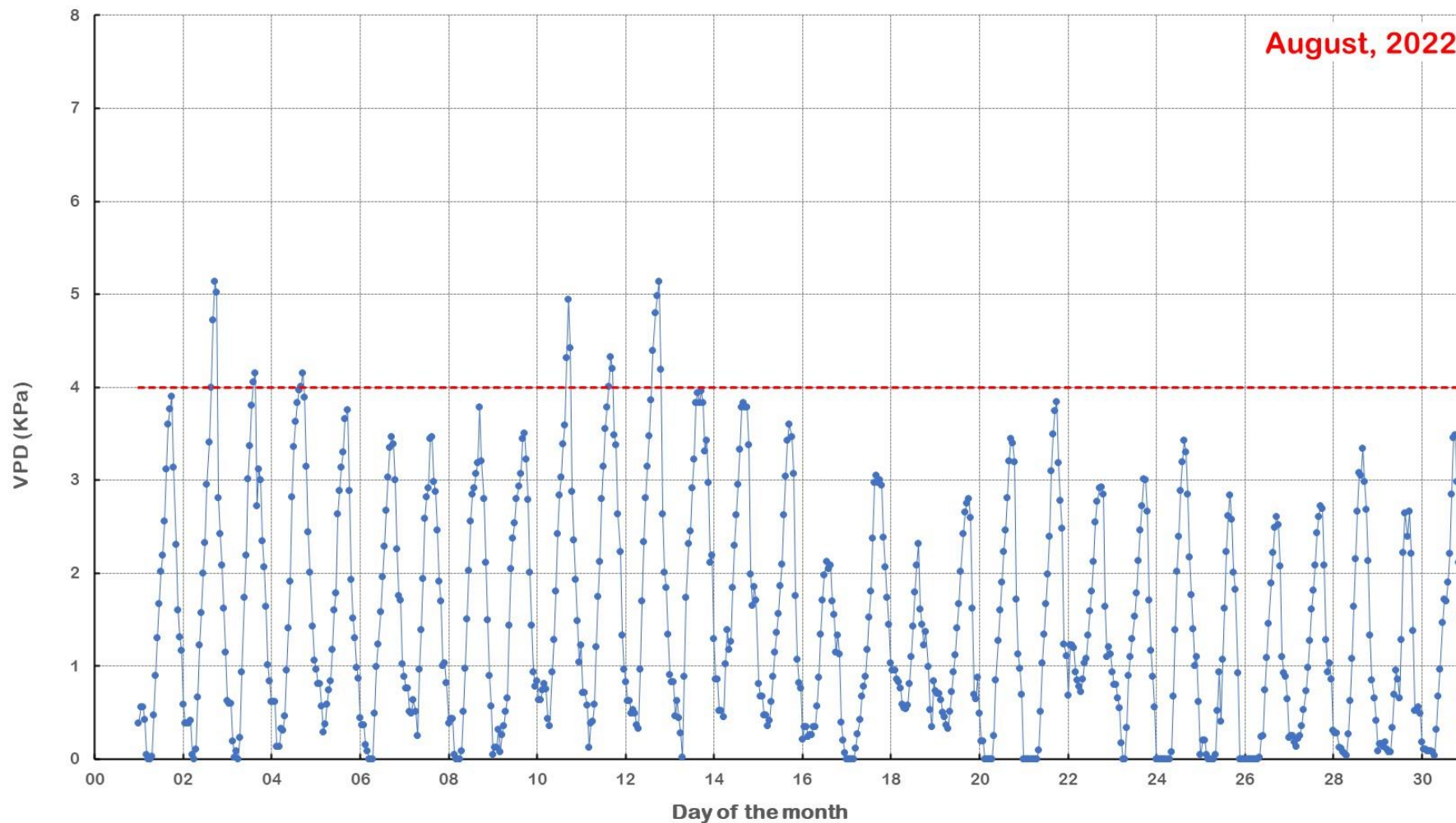


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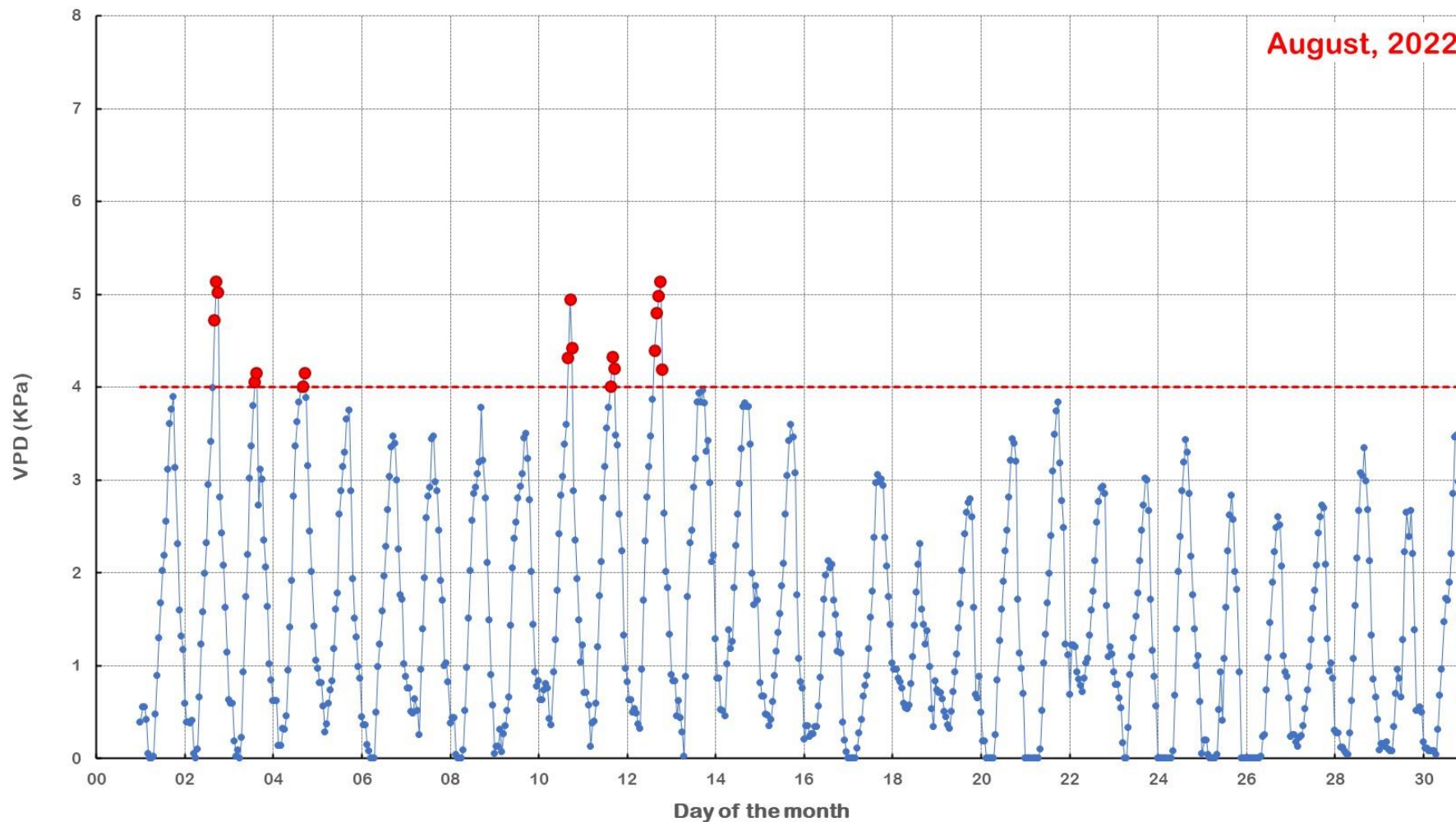


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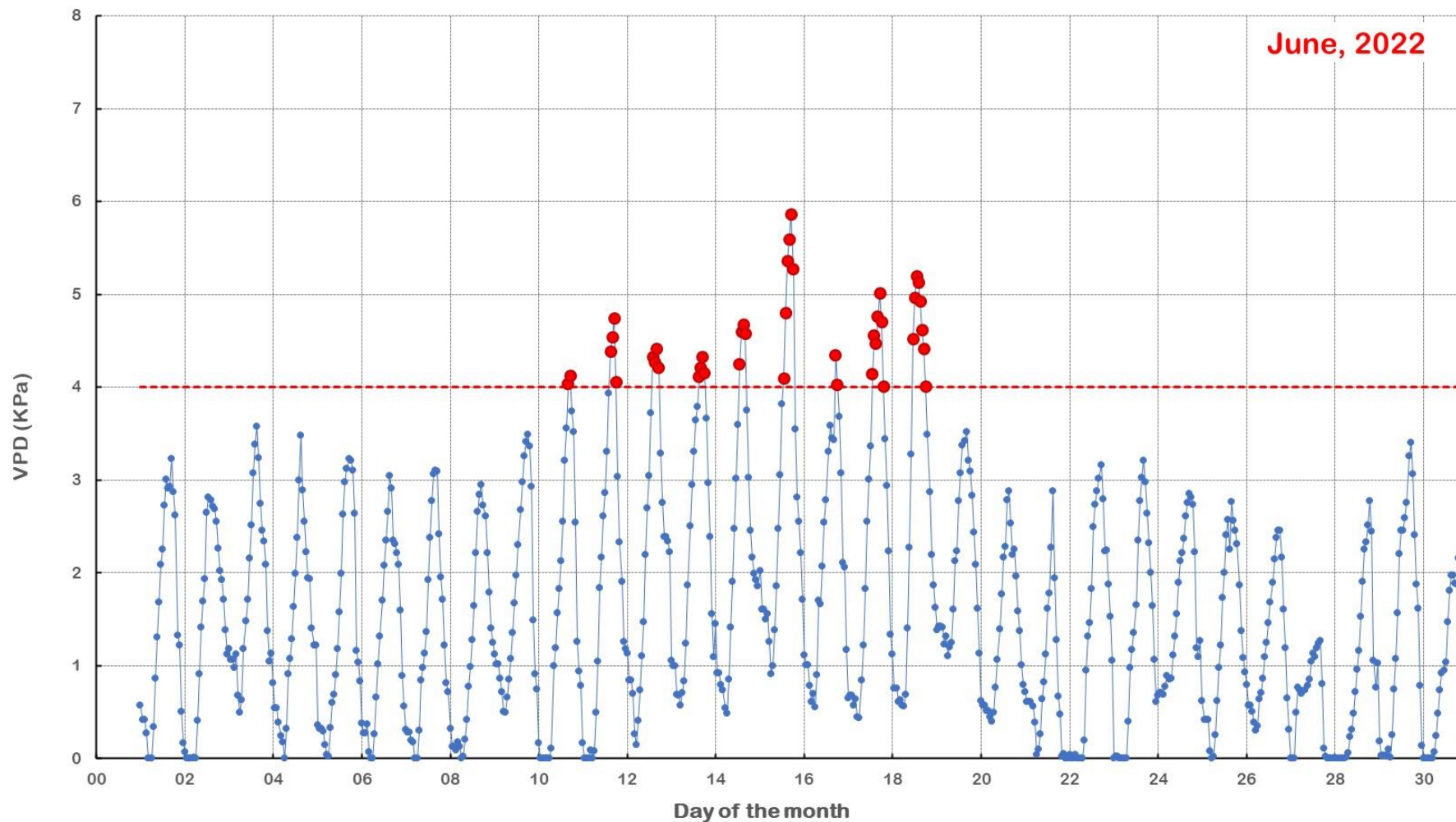


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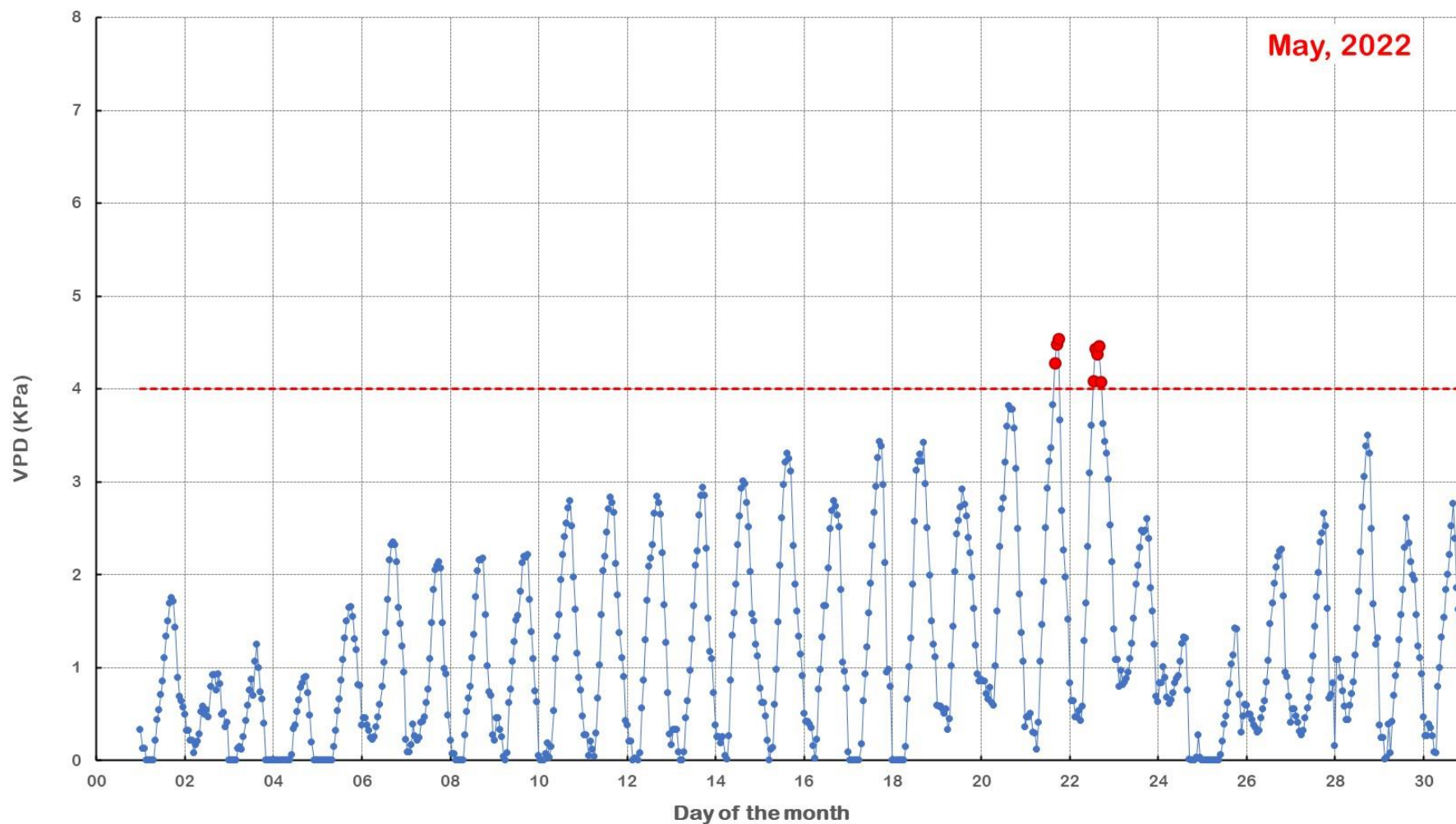


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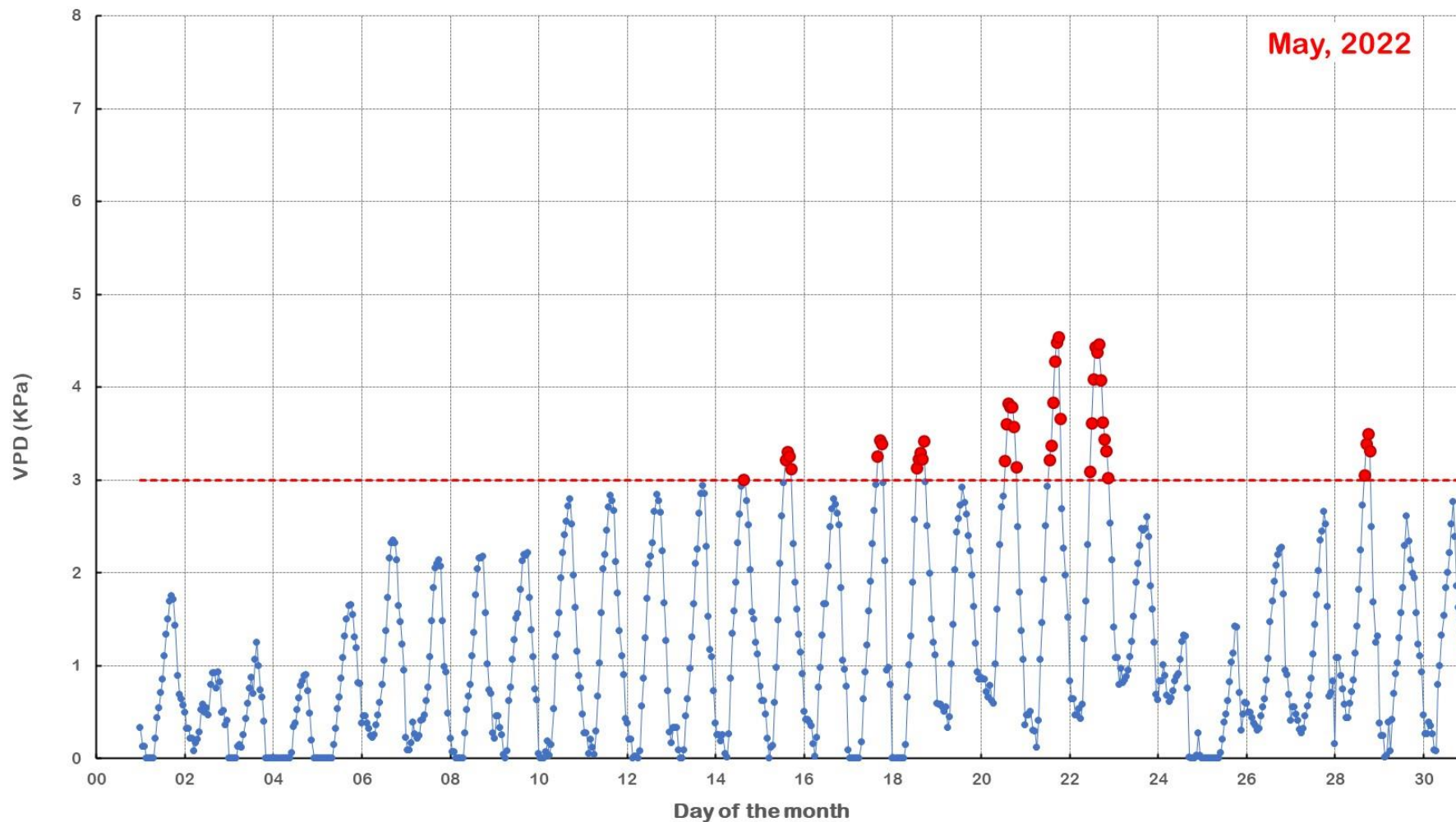


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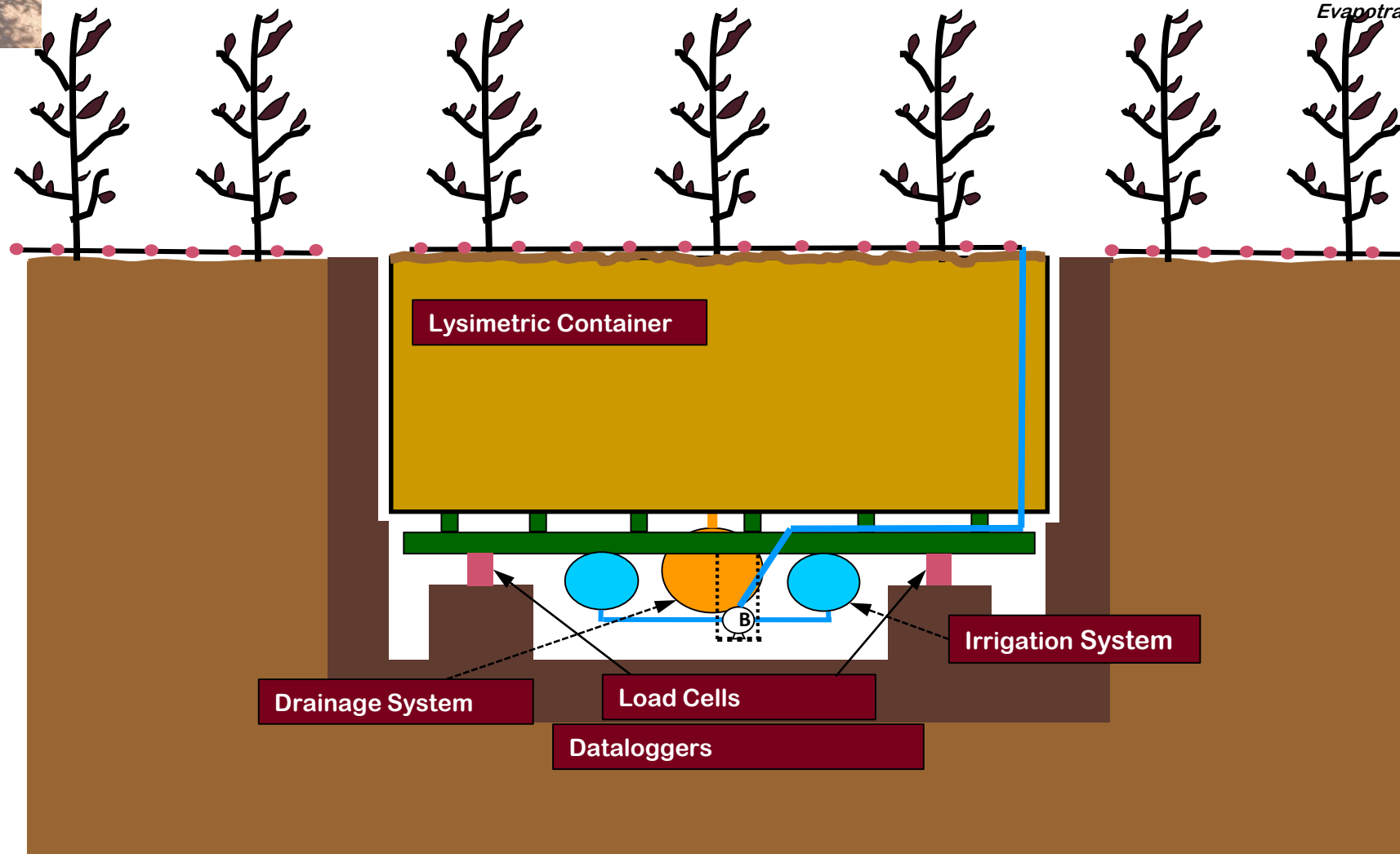


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Lysimeter:



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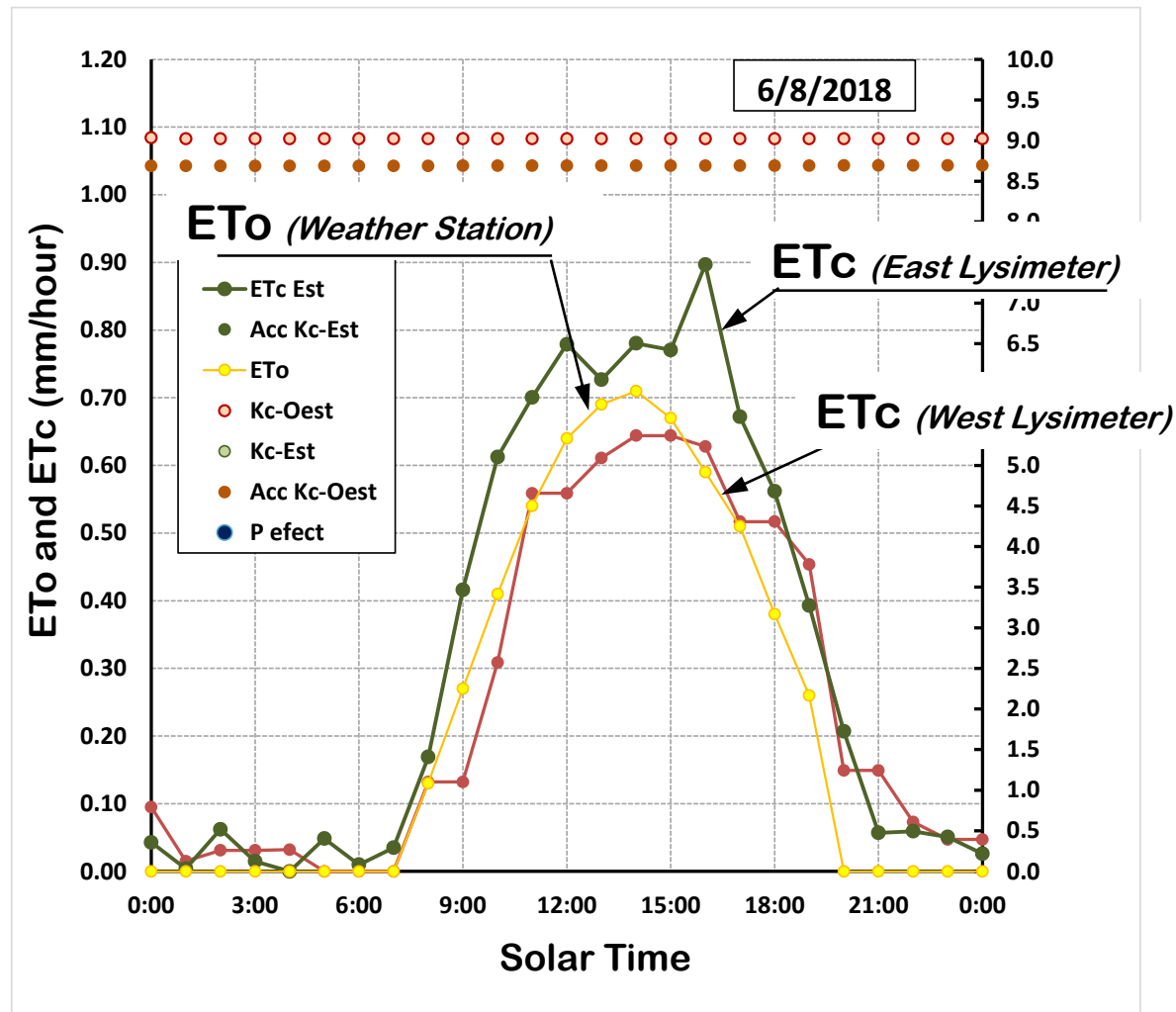


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Lysimeter:



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Daily ETo (mm/day)
(East Lysimeter)

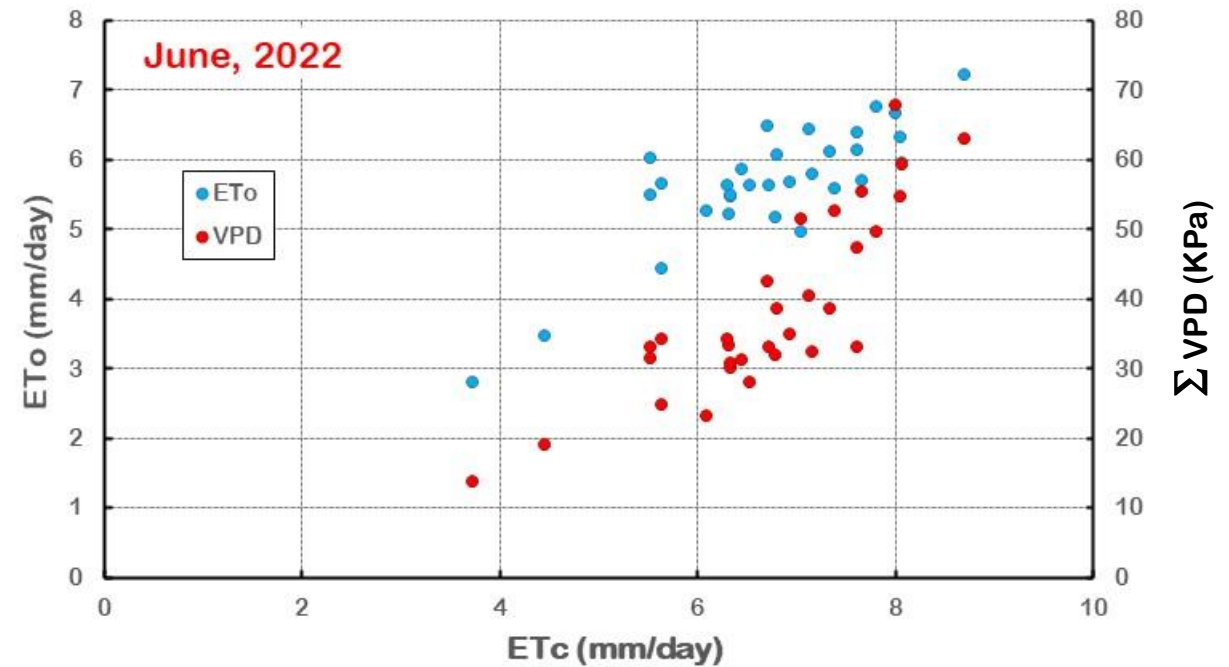
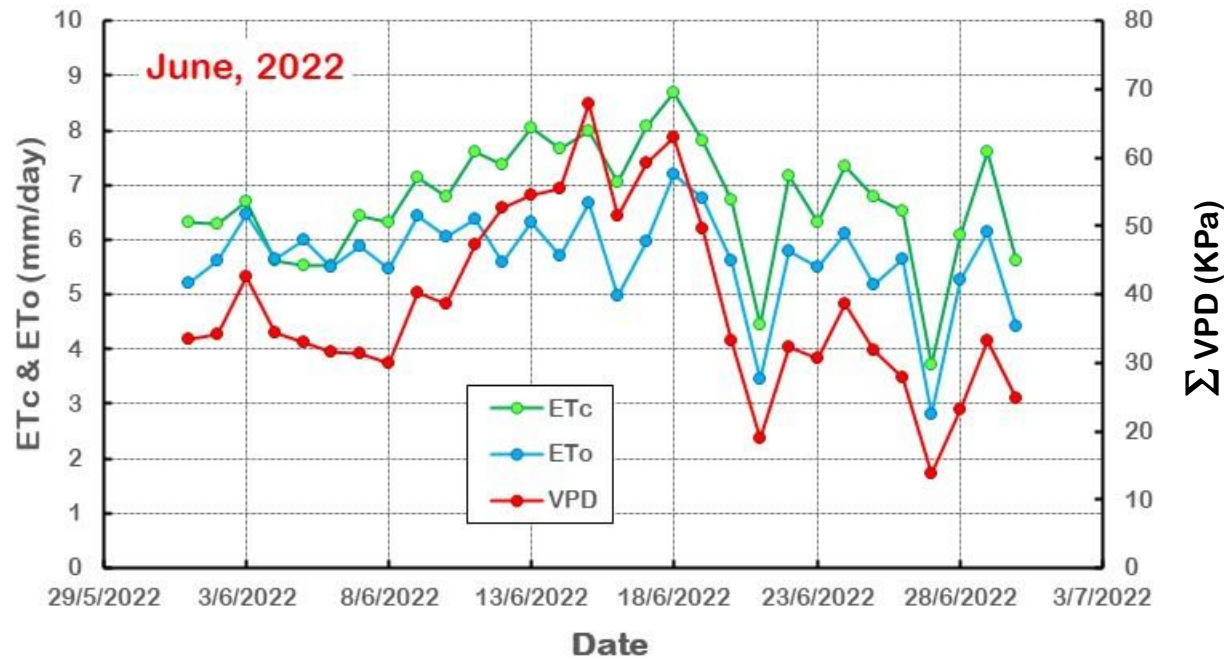


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Orchard Water Requirements:



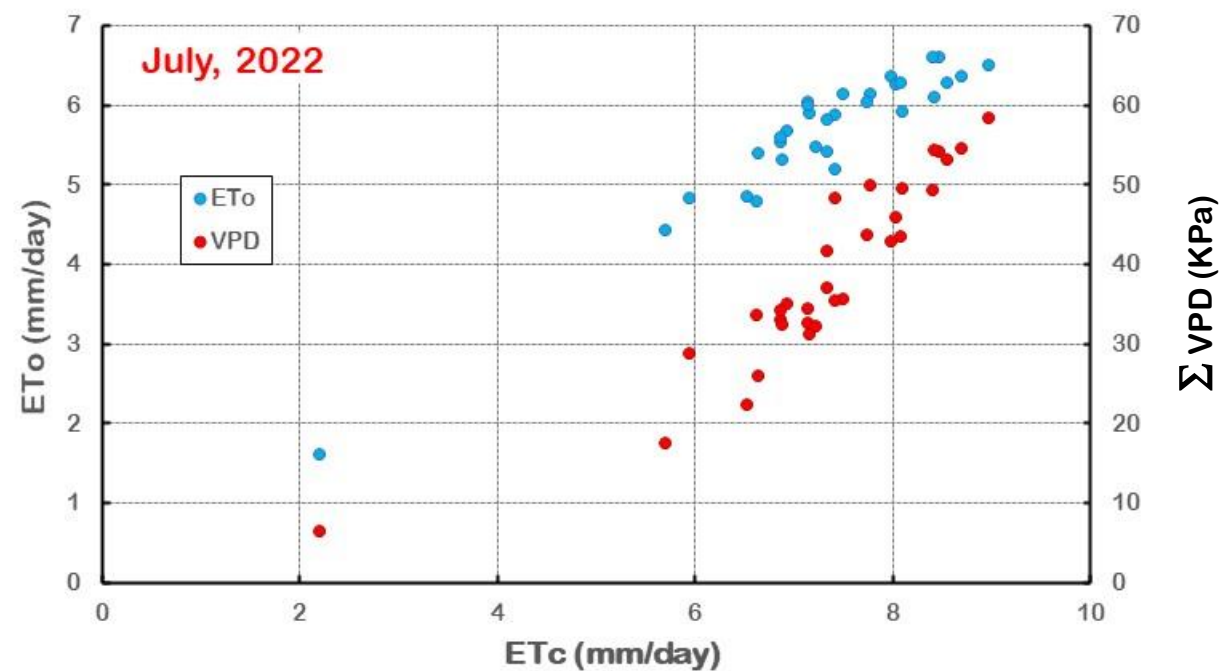
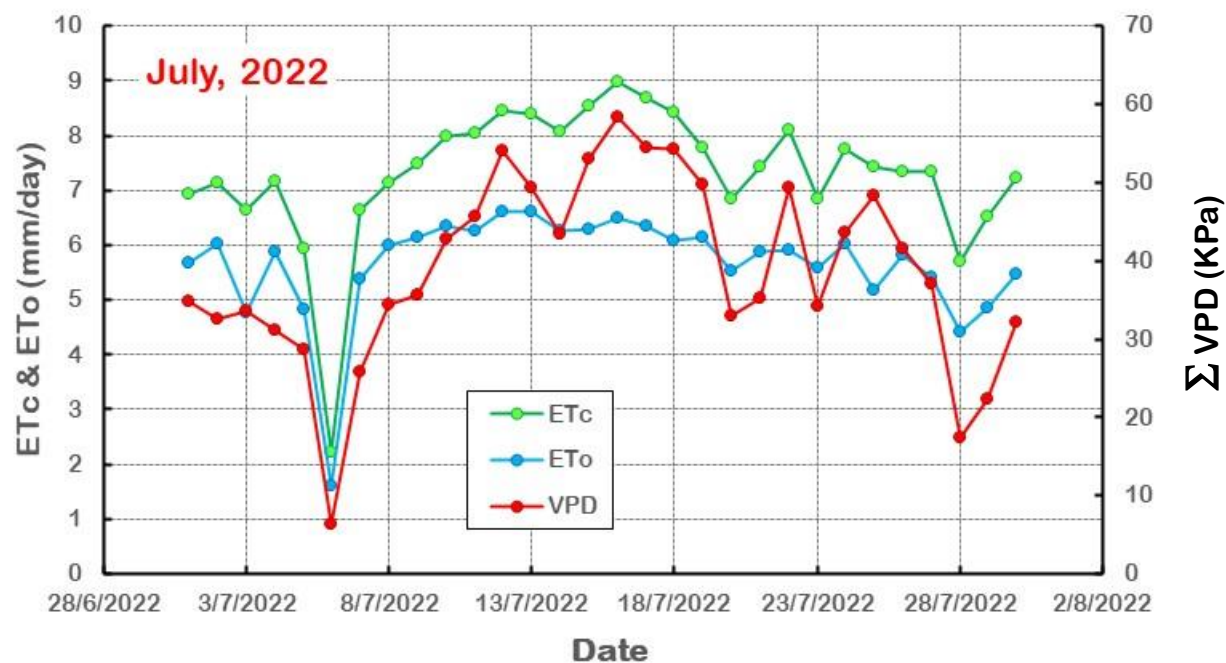


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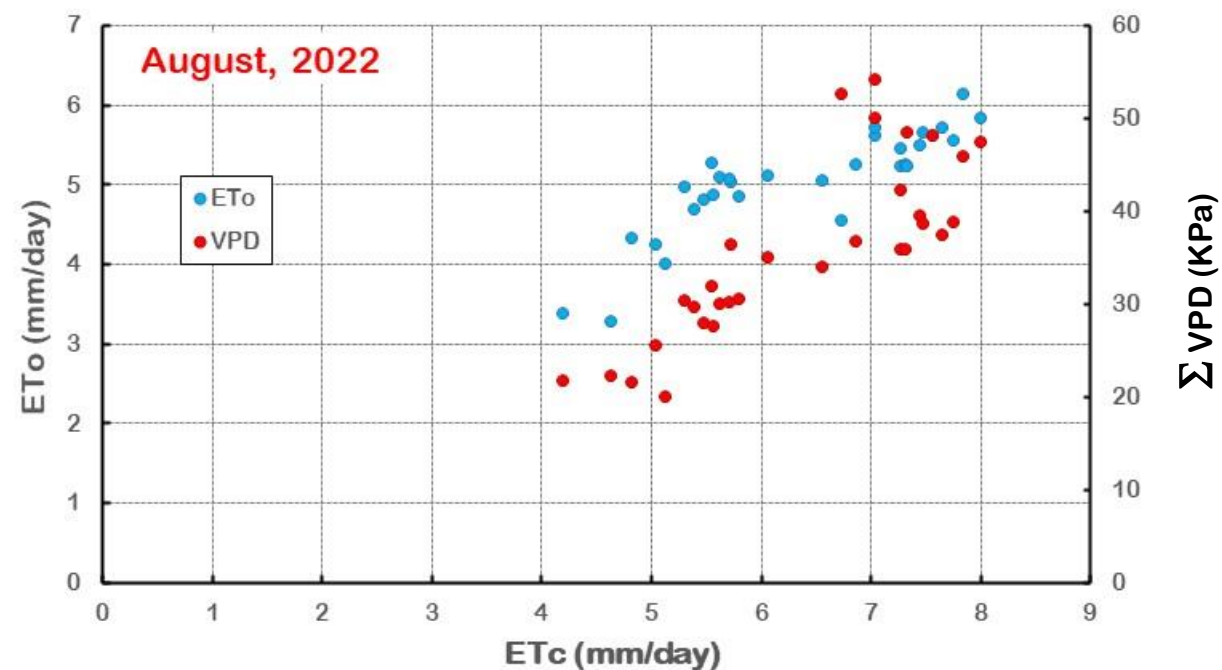
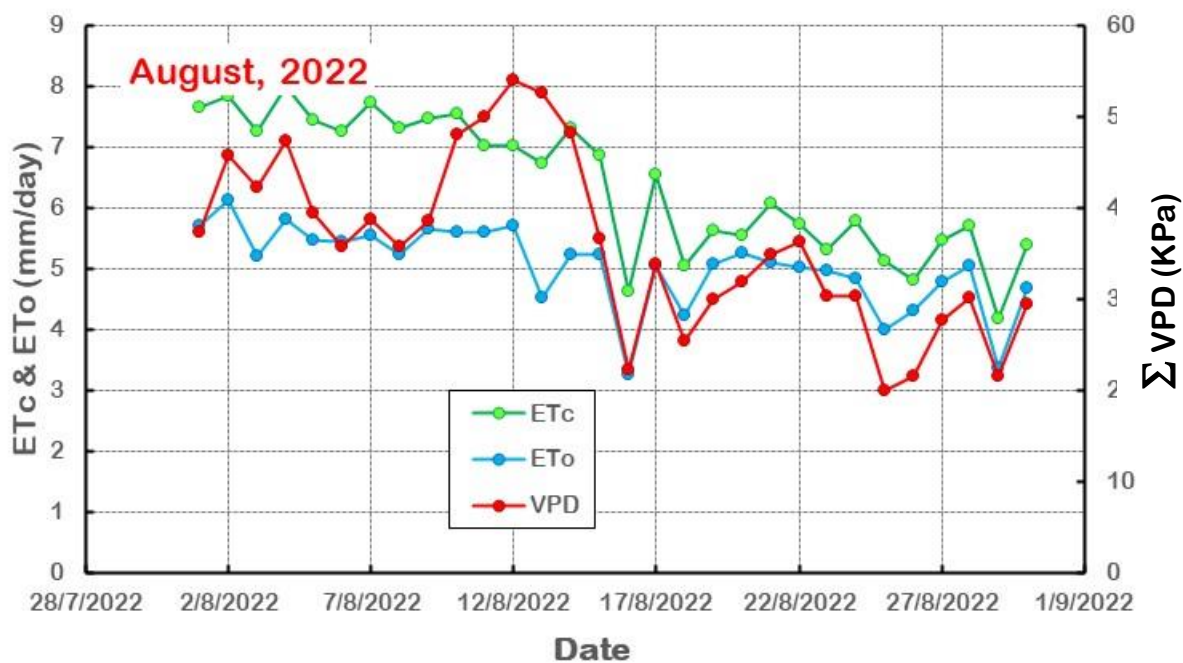


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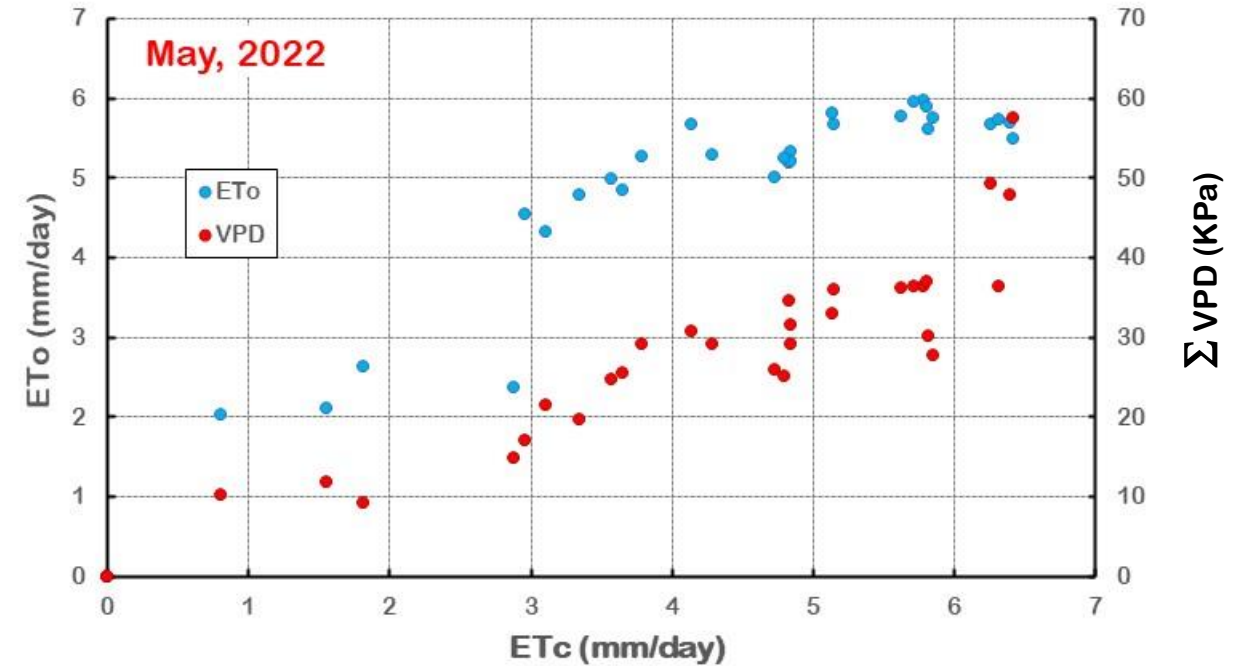
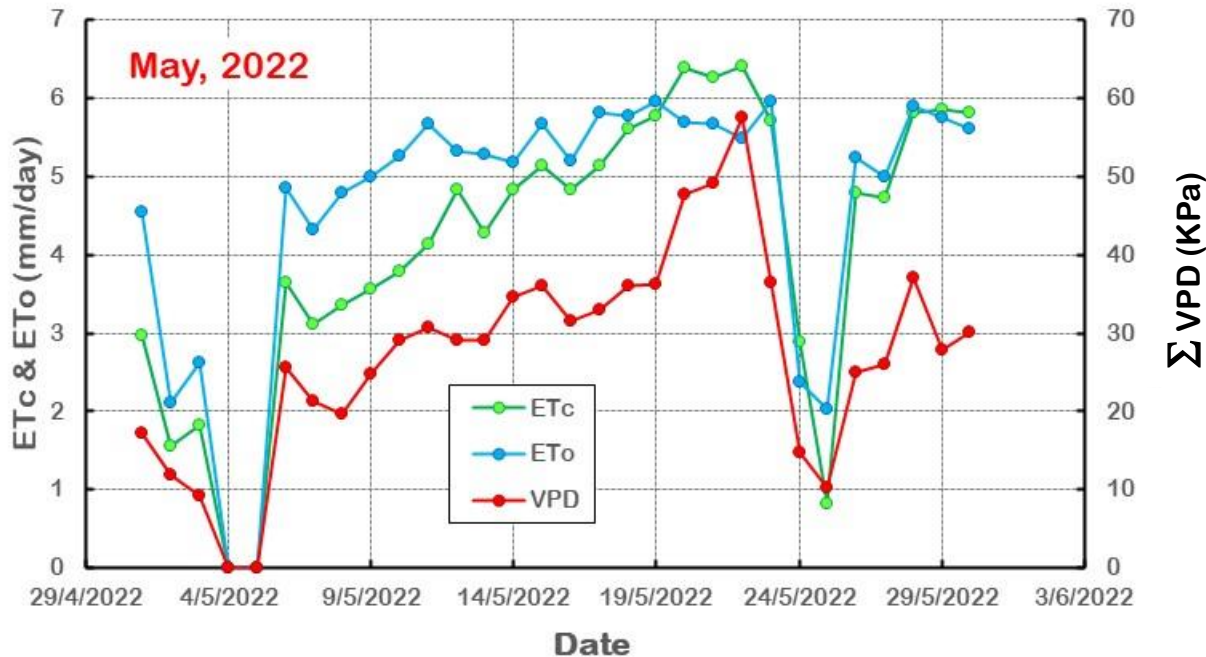


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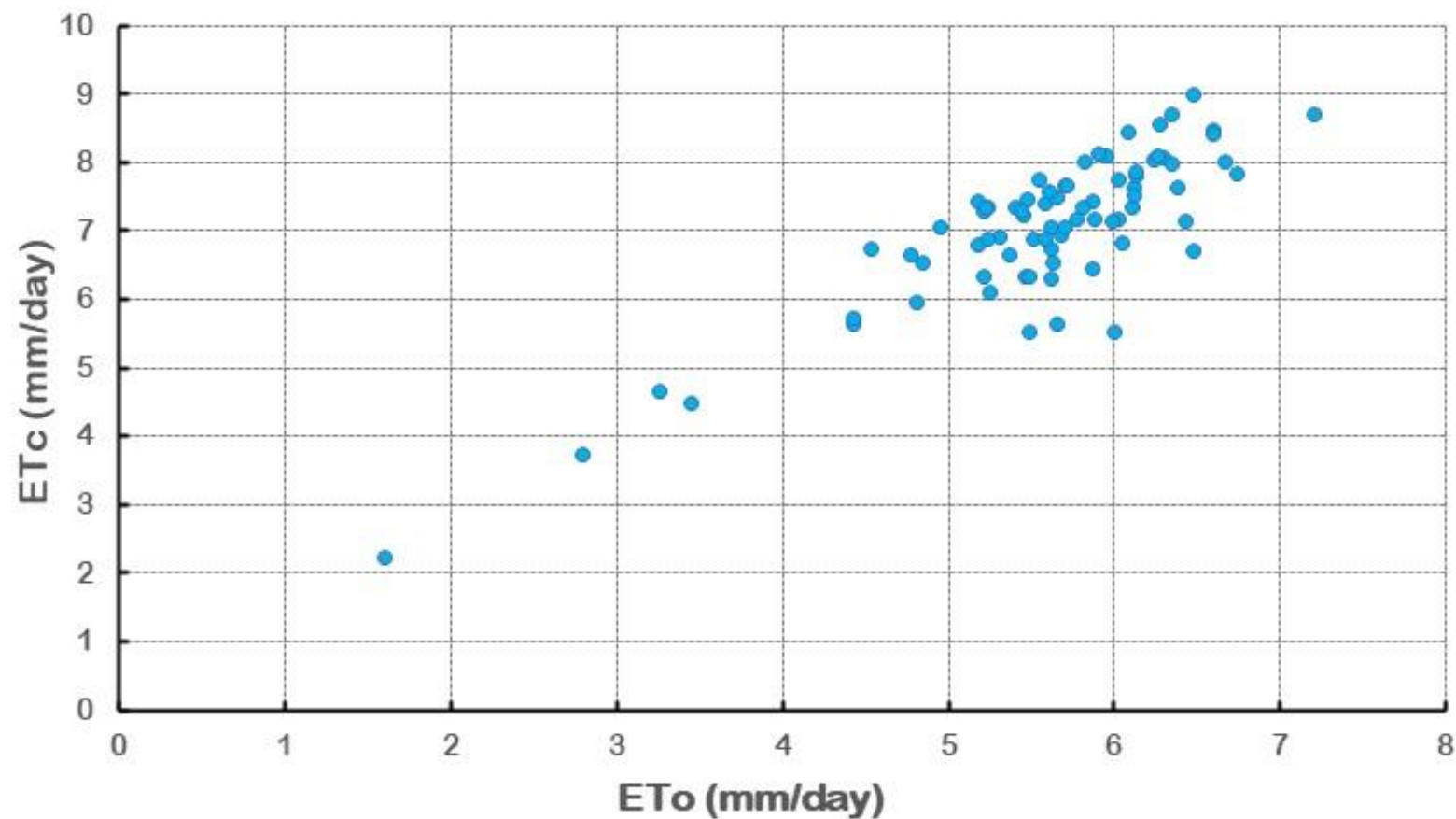


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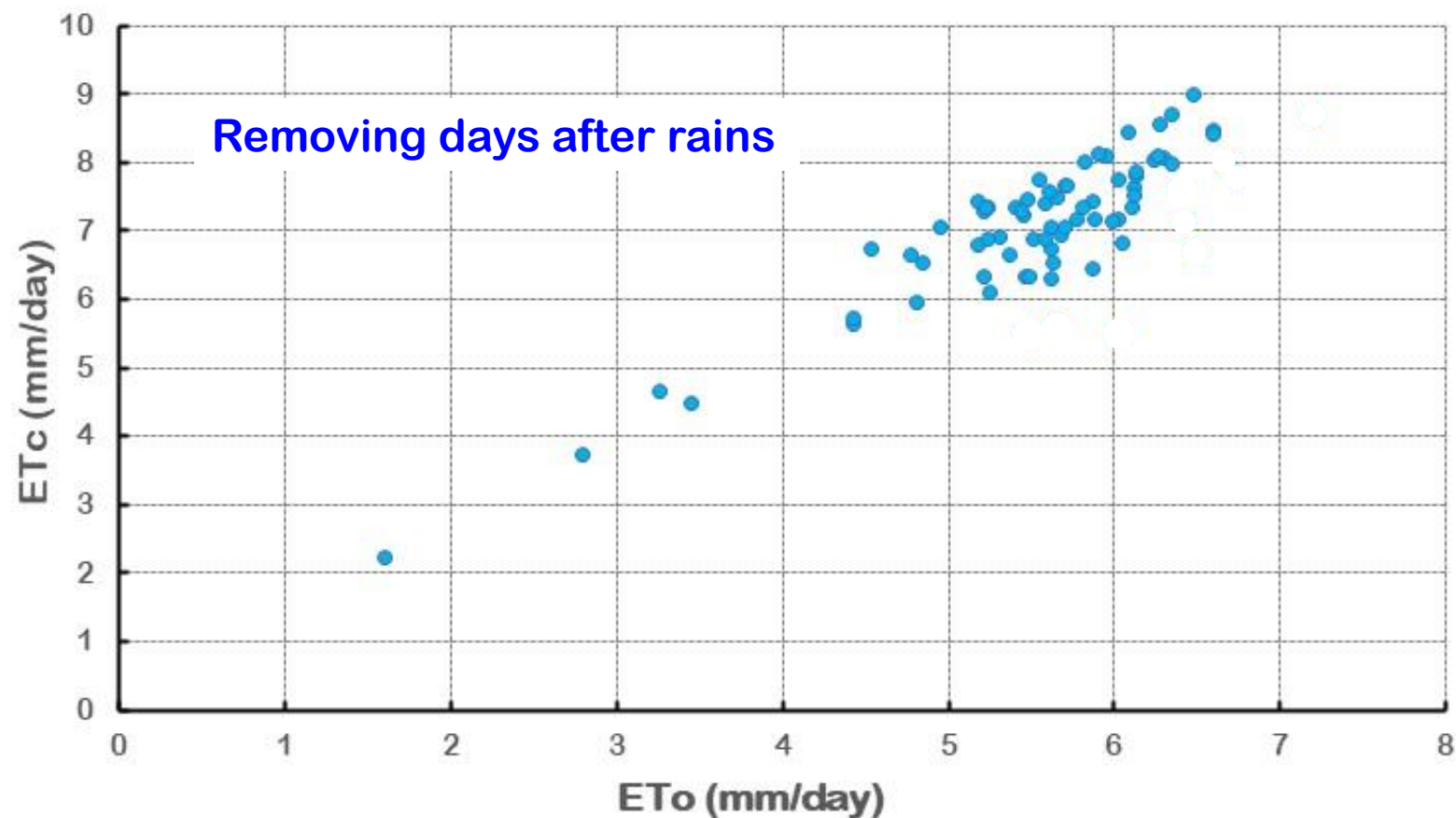


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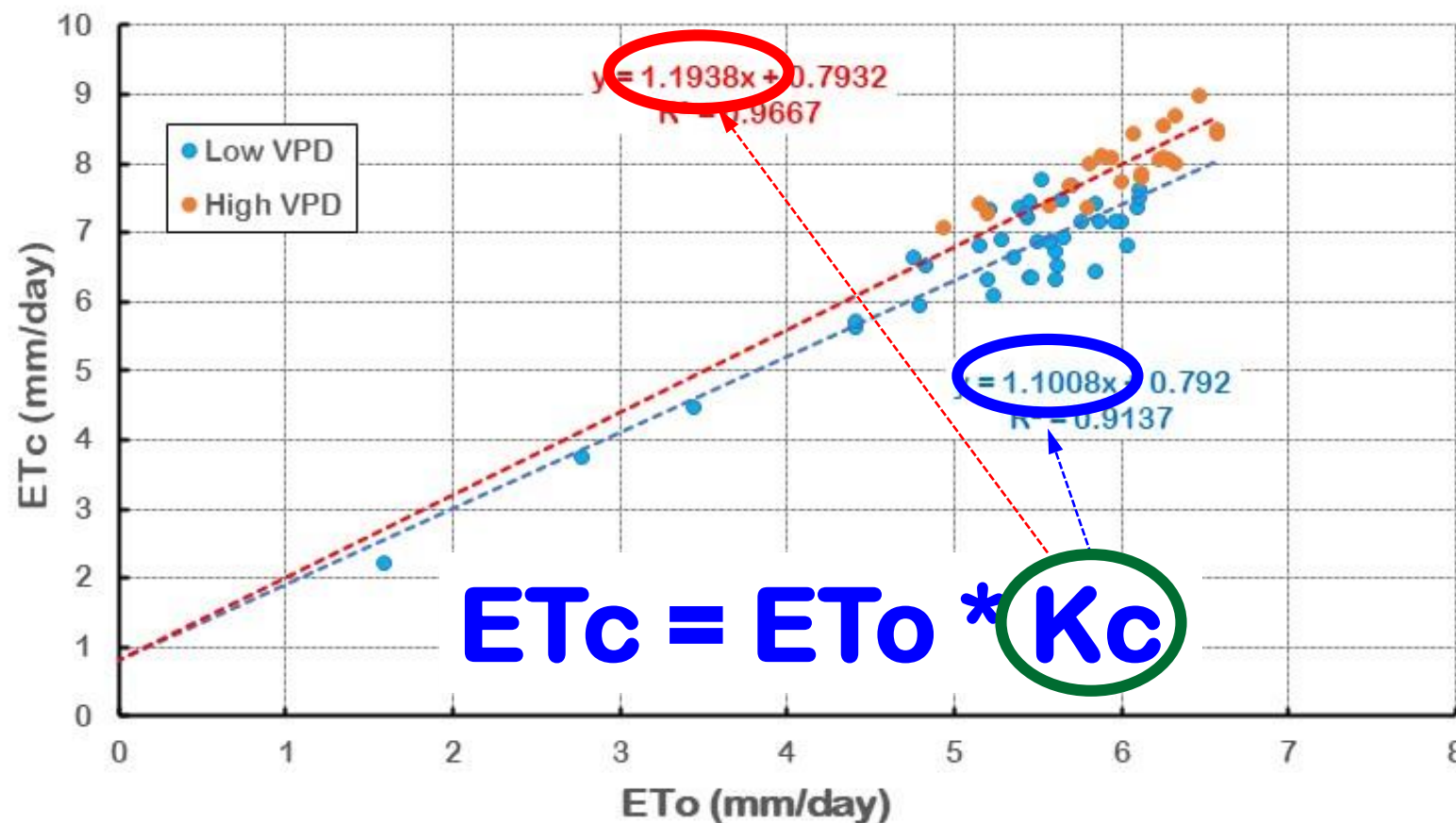


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Low VPD: < 40 (Σ KPa) < High VPD

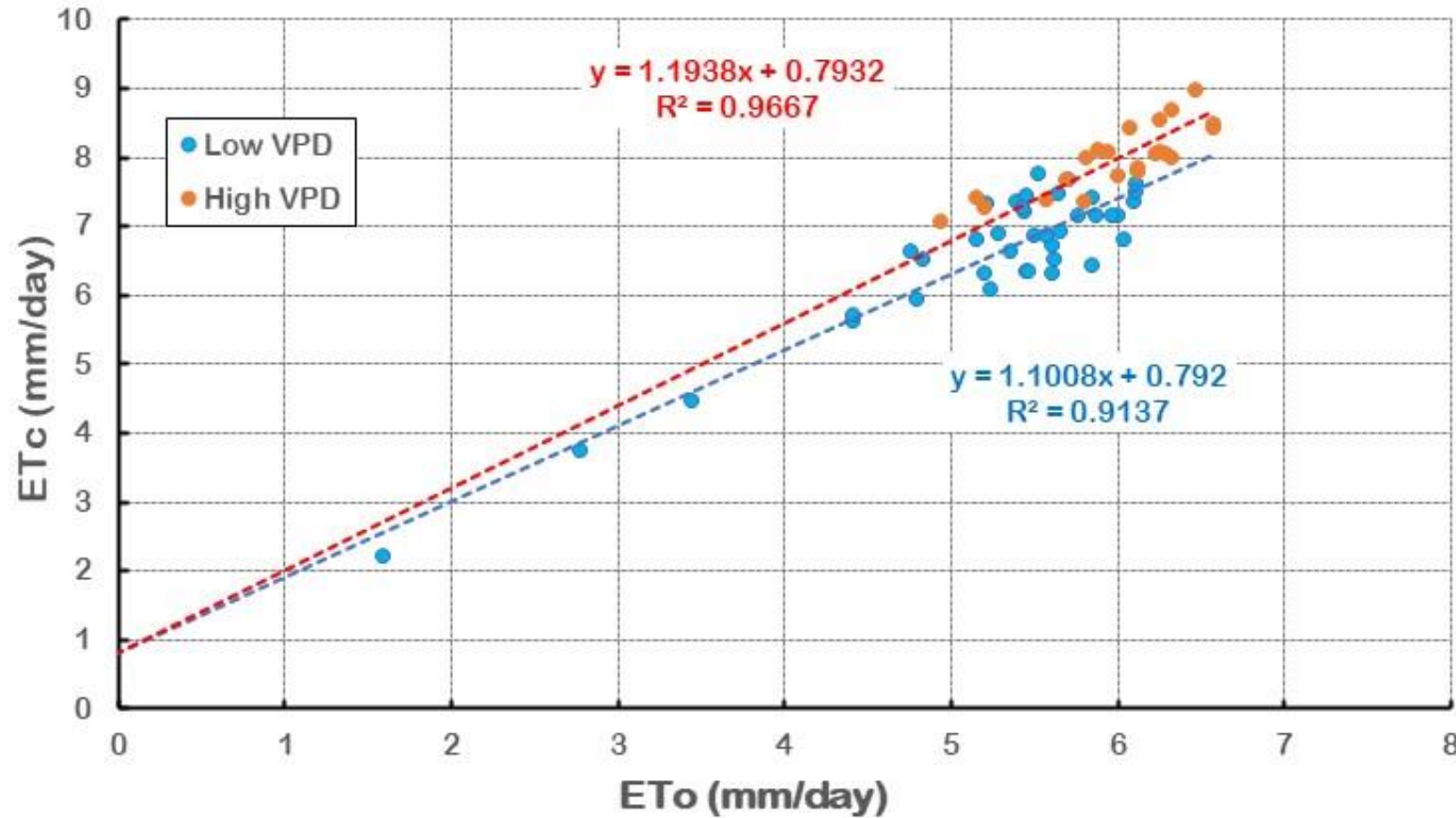


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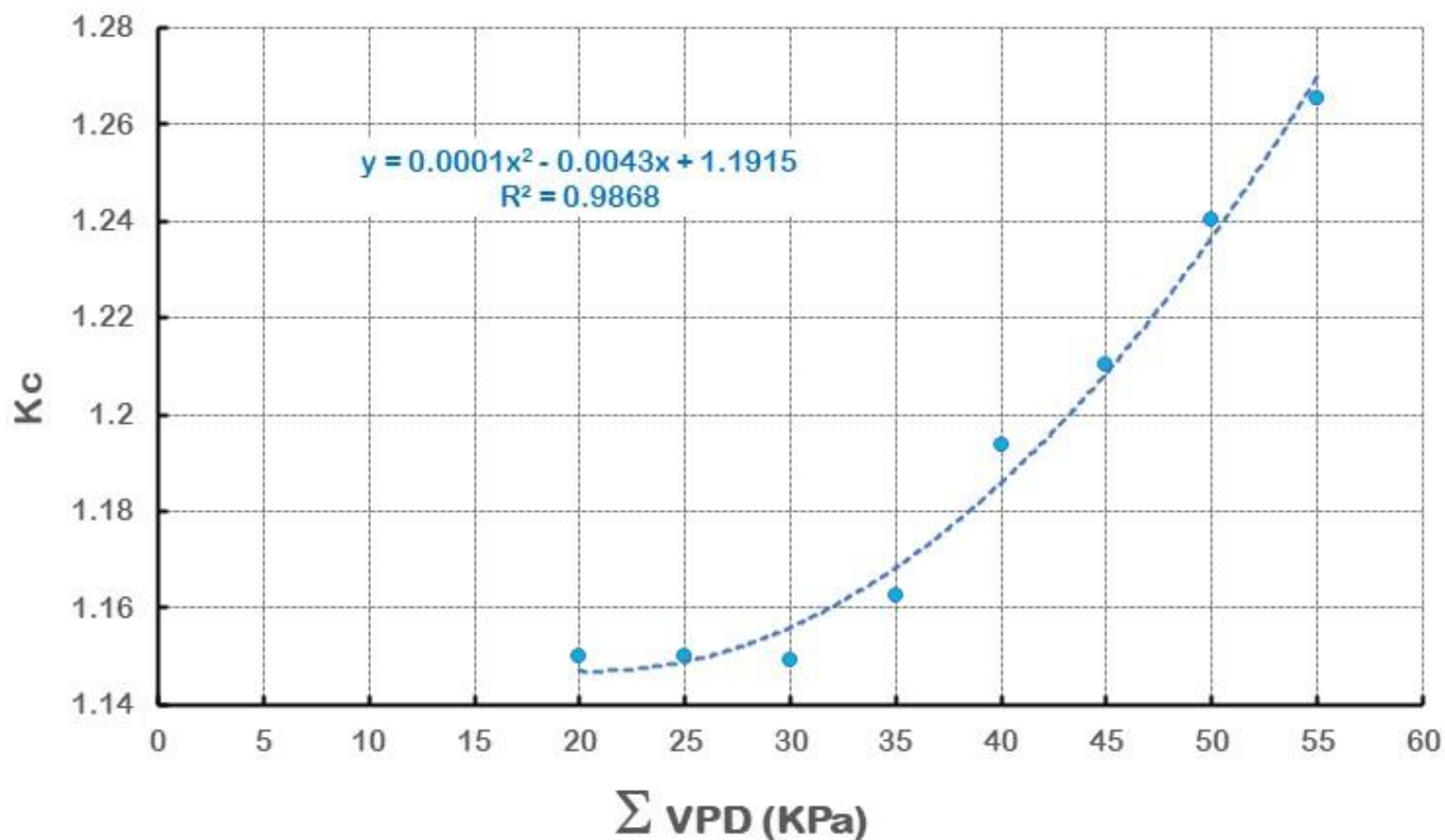


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CONCLUSIONS:

- **During Heat Waves, Orchard Water Requirements are sub estimated when using ETo as a reference .**
- **VPD couples better with Orchard Water Requirements than ETo**
- **Heat Waves may increase Orchard Water Requirements up to 20% or more if VPD reaches values higher to 45 (KPa*Day).**