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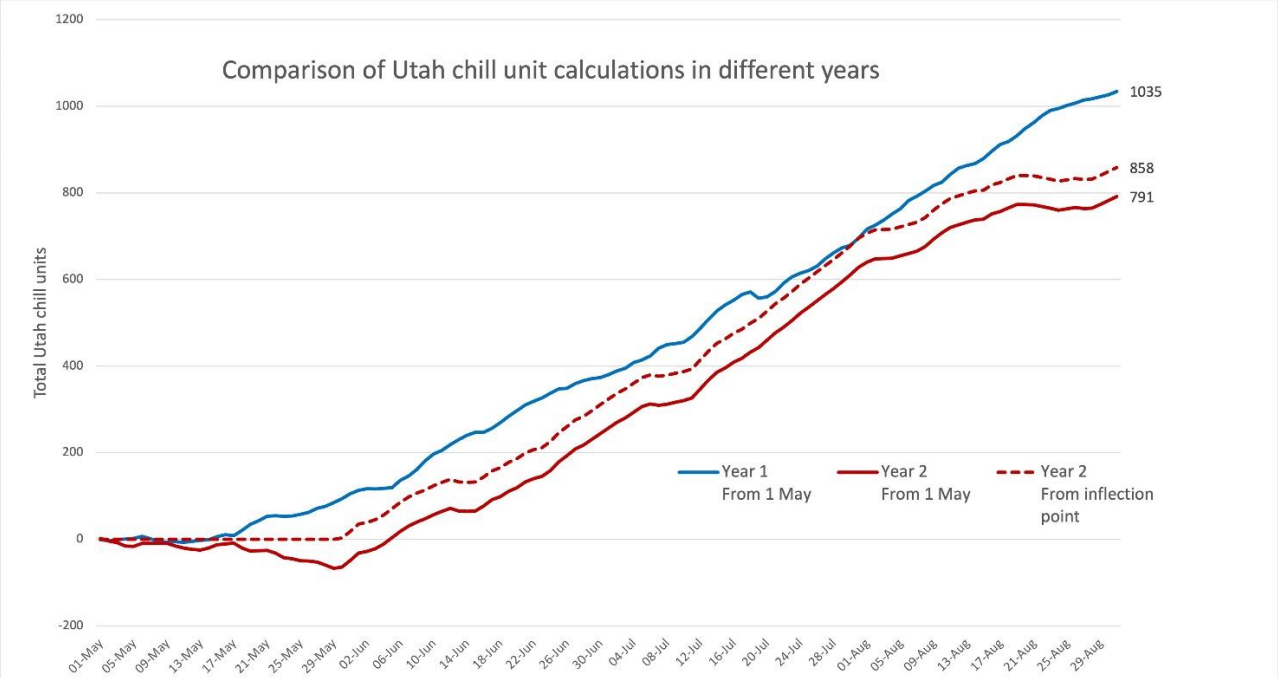
HORTEC

Temperature and Rainfall report for MAY 2022 vs 2021

	MAY																	
	Average Temp			MAX Temp			MIN Temp			Avg Daily MAX			Avg Daily MIN			Total Rain		
Area	2021	2022	22 vs '21	2021	2022	22 vs '21	2021	2022	22 vs '21	2021	2022	22 vs '21	2021	2022	22 vs '21	2021	2022	22 vs '21
Elgin	12.5	12.2	-0.3	28.9	28.6	-0.3	-0.2	-0.1	0.1	19.2	19.5	0.3	6.4	5.6	-0.9	196	93	-103
Ermelo	10.7	10.9	0.2	24.9	22.6	-2.3	-0.2	-0.5	-0.4	19.9	18.5	-1.4	3.2	4.4	1.2	9	32	23
Franschhoek	15.0	15.1	0.1	32.7	32.0	-0.6	4.8	4.6	-0.2	21.3	21.6	0.3	10.3	10.0	-0.3	121	59	-62.0
Greyton	13.9	14.0	0.0	32.1	32.4	0.2	2.3	1.8	-0.5	21.0	22.0	1.0	8.7	7.4	-1.4	204	64	-139
Koue Bokkeveld	11.3	10.1	-1.2	26.7	27.2	0.5	-1.1	-2.5	-1.4	19.0	18.9	-0.1	4.6	1.9	-2.7	80	28	-51
Ladismith	13.9	13.5	-0.4	29.2	31.6	2.4	2.2	0.5	-1.7	21.0	22.2	1.2	7.6	6.6	-1.1	77	27	-49.8
Langkloof - Oos	13.4	12.9	-0.5	28.1	30.9	2.9	2.1	2.2	0.1	21.0	21.0	0.0	7.3	6.3	-1.0	50	34	-16
Langkloof - Wes	14.4	11.2	-3.2	29.6	28.7	-0.9	3.9	-0.1	-4.0	20.3	20.7	0.4	10.1	9.5	-0.6	42	32	-9
Montagu	14.2	14.3	0.0	32.2	33.7	1.6	1.1	1.7	0.6	22.5	23.9	1.4	7.9	5.8	-2.1	92	7	-85.2
Nuy	14.5	15.5	1.0	31.4	32.3	0.9	2.8	5.2	2.4	22.3	22.8	0.4	8.0	9.6	1.6	58	12	-45.5
Piketberg	13.7	13.9	0.2	27.2	29.9	2.7	4.3	4.6	0.3	17.6	18.5	0.8	9.9	9.9	0.1	120	38	-82
Robertson	13.8	13.8	0.0	29.9	33.4	3.5	1.4	0.1	-1.3	21.6	23.4	1.8	7.8	6.0	-1.8	70	5	-64.9
Simondium	15.3	15.8	0.6	32.3	31.8	-0.5	4.5	5.3	0.8	23.8	21.6	-2.2	9.8	10.5	0.7	130	79	-51.6
Stellenbosch	15.2	15.0	-0.2	32.7	32.5	-0.3	6.3	6.4	0.0	20.9	21.5	0.6	10.5	9.6	-0.9	108	76	-32.0
Tulbagh	15.2	13.6	-1.6	31.5	32.1	0.6	5.4	1.2	-4.2	21.4	22.6	1.3	10.7	5.9	-4.8	146	14	-132.1
Villiersdorp	14.1	14.0	-0.1	29.5	29.5	0.0	2.7	2.8	0.1	20.3	20.9	0.6	8.3	8.0	-0.3	159	60	-99
Vrystaat	10.3	10.5	0.2	23.2	23.0	-0.2	-0.3	-0.7	-0.4	19.5	19.3	-0.2	3.1	3.9	0.8	4	15	12
Vyeboom	14.1	14.1	0.0	29.8	30.6	0.8	1.5	1.5	0.1	20.0	20.6	0.6	8.5	7.7	-0.8	255	72	-183
Waterberg	15.8	15.5	-0.2	27.0	26.5	-0.5	6.7	5.6	-1.1	23.8	22.6	-1.2	9.2	9.9	0.7	0	28	27.7
WBV - Noord	12.8	12.5	-0.4	29.9	30.4	0.5	2.3	0.7	-1.6	21.5	21.7	0.2	6.0	4.9	-1.2	49	19	-30
WBV - Suid	11.6	11.5	-0.1	29.6	30.8	1.2	0.6	-0.1	-0.7	20.9	21.6	0.7	4.9	3.9	-1.0	91	48	-43
Wellington	15.7	15.8	0.1	33.9	33.8	-0.1	5.7	4.5	-1.2	22.6	23.1	0.5	10.4	9.5	-1.0	75	32	-43.5
Wolseley	13.8	13.7	-0.1	31.6	31.9	0.2	2.3	0.6	-1.7	21.7	22.6	0.9	7.5	6.5	-1.0	103	30	-73

Correctly calculating Utah (Richardson) chill units

In our industry, Utah chill units have been calculated from the arbitrary date of 1 May. This is incorrect as according to the model, chill units should be counted from the lowermost inflection point, i.e. the lowermost or most negative turning point, of the annual accumulated chill unit curve. In warm areas and in a warm season, the inflection point might occur much later than 1 May while in cold seasons and in cold regions, it might occur before May. The figure below illustrates how different calibrations of the Utah model can affect the reported accumulated chill.



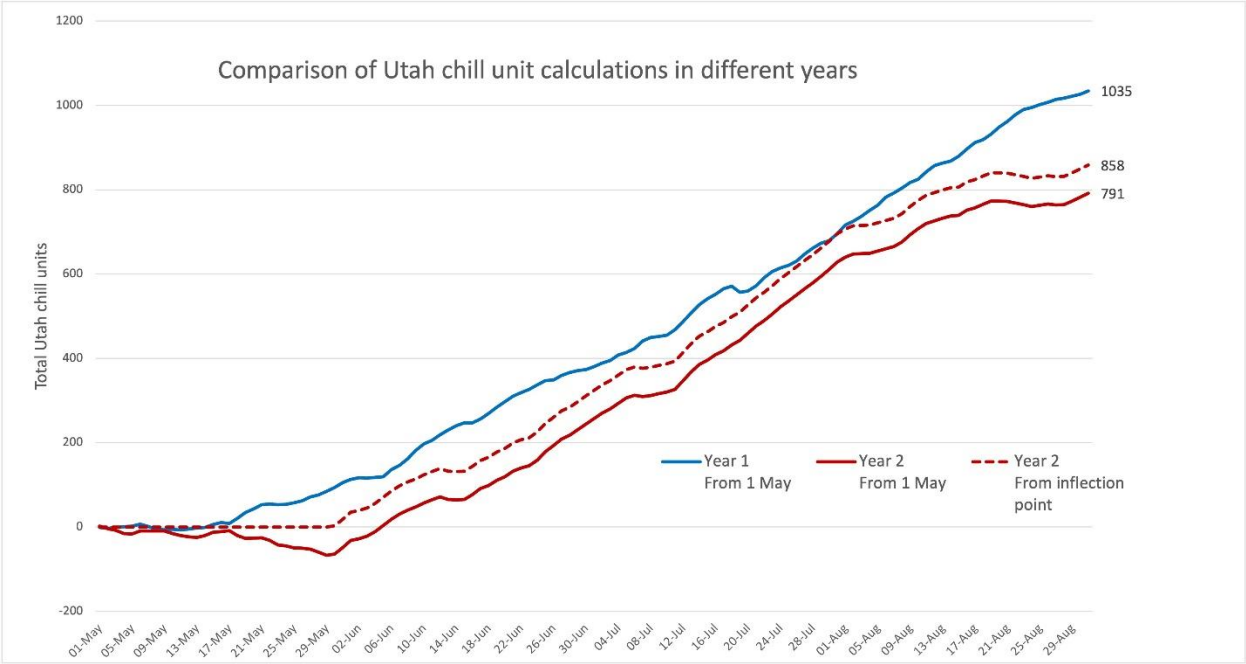
In the figure above, the blue solid line represents year 1, where the model has been correctly calibrated, so units only begin to accumulate from the inflection point, which happens to be 1 May. The red solid line, however, indicate that in year 2, chill units are also accumulated from 1 May, but the inflection point only occurs at the end of May. The result is an accumulation of negative chill units during May of year 2, which incorrectly reduces the reported data. The red dashed line indicate the accumulated chill units in year 2 if the model is correctly calibrated to start counting chill at the actual inflection point which is at the end of May. For more information, view issue 13 of the Fresh Quarterly - https://www.freshquarterly.co.za/publication/fresh-quarterly-issue-13-june-2021/

Thanks to Dr Nigel Cook for contributing the data set for this chart.

From winter 2022, we will be reporting Utah chill units from the inflection point, as specified by the model. Since inflection points can only be determined in retrospect, this means that we cannot yet report chill unit accumulation because some regions/stations might still reach their inflection points. When reporting chill units in a subsequent report, we will also include a table with re-calculated chill units for previous years so that comparison between years is possible.

Die korrekte bepaling van Utah (Richardson) koue-eenhede

In ons bedryf is Utah koue-eenhede tot op hede vanaf die arbitrêre datum van 1 Mei bepaal. Dit is verkeerd, want volgens die model, moet koue-eenhede eers vanaf die onderste of mees negatiewe draaipunt van die jaarlikse geakkumuleerde koue-eenhede kurwe bepaal word. In warm areas en in 'n warm seisoen kan die draaipunt heelwat na 1 Mei bereik word terwyl in koue seisoene en areas dit voor Mei kan gebeur.



In die grafiek hierbo verteenwoordig die blou lyn jaar 1, waar die model korrek gekalibreer is sodat koue-eenhede eers begin akkumuleer vanaf die draaipunt, wat in die geval 1 Mei was. Die soliede rooi lyn verteenwoordig die 2de jaar waar koue-eenhede ook vanaf 1 Mei begin akkumuleer het, alhoewel die draaipunt eers teen einde Mei was. Laasgenoemde lei tot die akkumulasie van negatiewe koue-eenhede gedurende Mei wat gevolglik die gerapporteerde data verkeerdelik afwaarts aanpas. Die rooi stippellyn dui die koue-eenhede aan wat ge-akkumuleer word gedurende jaar 2 indien die model korrek gekalibreer word sodat koue eers vanaf die werklike draaipunt begin akkumuleer. Vir meer inligting, sien uitgawe 13 van die Fresh Quarterly - https://www.freshquarterly.co.za/publication/fresh-quarterly-issue-13-june-2021/.

Dankie aan Dr Nigel Cook vir die bydra tot die datastel vir die grafiek.

Vanaf winter 2022 gaan ons Utah koue-eenhede korrek volgens die model vanaf die draaipunt rapporteer. Aangesien die draaipunt net terugskouend bepaal kan word, beteken dit dat ons nog nie koue-eenhede kan rapporteer nie want ons weet nie of al die areas/stasies reeds hul draaipunte bereik het nie. Ons sal in 'n volgende verslag waarin koue-eenhede gerapporteer word, ook 'n tabel met die hêrberekende koue-eenhede van vorige jare insluit om vergelyking tussen jare moontlik te maak.