Thornthwaite method for determining potential evapotranspiration

A monthly index is obtained from the equation:

$i = (t/5)^{1.514}$

Summation of the 12 monthly values gives an appropriate heat index, I.

To calculate a, the expression is:

$a = 0.000000675I^3 - 0.0000771I^2 + 0.01792I + 0.49239$

From these relations, a general equation for potential evapotranspiration is obtained. It is:

$$e = 1.6\left(\frac{10t}{I}\right)^a$$

in which a has the value given in the equation above.

Hamilton RBG Climate Data

	Daily Average Temp (C^o)	Monthly index (i)	Potential Evapotranspiration (cm)	Adjusted Potential Evaportranspiration (cm)
Jan	-4.7			0
Feb	-3.9			0
Mar	0.5	0.030619634	0.141489475	0.158468212
April	7.1	1.70045269	2.980613536	3.33828716
May	13.3	4.398157705	6.129446549	7.723102652
June	18.9	7.487254318	9.177357679	11.74701783
July	22	9.422960101	10.92657209	14.095278
August	20.9	8.718883818	10.30139518	12.36167422
September	16.3	5.984273673	7.74263507	8.052340473
October	10	2.856007959	4.417316126	4.196450319
November	4.1	0.740481431	1.586283476	1.284889615
Dec	-1.4			0
	HEAT INDEX (I) =	41.3084717		**62.96** **cm/year**
				629.58 **mm/year**
	a =	1.148654797