I think this is what I was thinking; I show an example assuming a base temp of 20C and base soil moisture of 0.10 and a warming treatment of 5C that dries soil moisture by 0.3: With no warming treatment applied:

$$y_Z = \alpha + \beta_1(20) + \beta_2(0.10) \tag{1}$$

With the warming treatment applied, but soil moisture not affected by warming (aka, what is generally assumed):

$$y_Y = \alpha + \beta_1(25) + \beta_2(0.10) \tag{2}$$

With the warming treatment applied, but with soil moisture effect included:

$$y_W = \alpha + \beta_1(25) + \beta_2(0.07) \tag{3}$$

Then you can calculate two sensitivities. This first one assuming soil moisture is not affected by warming:

$$\frac{y_Y - y_Z}{5} \tag{4}$$

This next one includes the effect of soil moisture due to warming:

$$\frac{y_W - y_Z}{5} \tag{5}$$

All this said and done, I wonder if it is mathematically equivalent to what you did ... just a different way of showing it/thinking about it.