

Growth increases with warming, and this is due to that metabolism decreases relative to Cmax… (as I can reproduce bad growth curves with bad temperature scaling). The positive effect declines with Age.

Why does it do that? The scalars are not size-dependent… see what happens to feeding levels:

First, the difference in feeding level is not big, but then it is a unitless value between 0:1 so it’s hard to say what is big. It is always lower with warming (albeit a little), so the better growth performance is simply due to more efficient feeding, not higher feeding rates.



Why is the abundance of most size-classes lower in the warming scenario? Is it because they grow faster out of each size-class? The only thing I’m changing (in the green scenario) is the physiological scaling, which we know affects growth rates.

* Compare SSB in these scenarios (is the relative change in SSB in line with growth? Then I don’t know what happens. Or is it the same, and they grow more efficiently, should biomass accumulate in the largest sizes???



Aha, here I’m looking at the relative predation mortality… this is not optimal since the predation mortality may not exist here. That’s why I always need the absolute scale as well. Plot both spectra and mortality in both absolute and relative as in growth. Then see if the high relative values are important (maybe not many fish in that size??).

Conclusion could be that mostly growth rates are affected?? Why do they decline though? Well, feeding levels decline. But also, in Putter growth models, do effect of growth decline with size if benetiftla scalig? Does it have to do wth exponents?

A picture containing screenshot

Description automatically generated

OK, here I tried without background mortality.. why is the size-spectrum smaller??? So it must be due to the changes in growth then??A picture containing screenshot

Description automatically generated

Here I only have an activation energy on intake. Still smaller spectra, which would also be the case if it was only due to growth

A picture containing screenshot

Description automatically generated

And here I only have temperature effects on resources in the blue scenario, otherwise equal!

Ok, so it seems to be an effect of the changes in growth rate… Below I test that by re-running the ref scenario and only change h manually.

A close up of a logo

Description automatically generated

Looks roughly the same!