

Asamoah et al. (2021)

1. pg. 1105, 2nd paragraph: “we present climate and land-use changes as a velocity (km yr^{-1}) - the ratio of temporal trends ($^{\circ}\text{C yr}^{-1}$ or $\% \text{ yr}^{-1}$) to the spatial gradient ($^{\circ}\text{C km}^{-1}$ or $\% \text{ km}^{-1}$).”
 - Wait. What?
 - Soooo, could we relate velocity of the change in a species’ mean location to climate velocity and land use instability?
2. pg. 1105, 4th paragraph:
 - “median dispersal velocity of 493 non-volant mammals = 1.4 km yr^{-1}
 - “median poleward migration rates of bird, insect and mammal species = $16.9 \text{ km decade}^{-1}$ ”
 - How do those values compare to values in Table 1?
 - Based on their Fig. 1, what should we expect in the 48 states?
3. Fig. 2 – climate velocity increases in the future but land use instability slows down – why might this be the case?
4. pg. 1107, bottom left to top right - “We observed that 64% of PAs are poised to experience high rates of climate change by 2050... Fig. 3b) ... ~27% fall within regions where land-use instability is also high, suggesting that more than one-quarter of the current global investment in biodiversity conservation hedges towards high-risk zones during the near future.”
 - As one of the world’s few conservation biogeographers, what do you recommend?
5. pg. 1107, bottom right- “PAs with the fastest climate velocities were located near coasts and on relatively flat landscapes ... [but] ... “ land-use instability across PAs generally increases rapidly towards the coast, indicating that projected coastal development may impede climate-driven range shifts in the near future.”
 - So we should expect spatial heterogeneity / autocorrelation in Climate * Land Use interactions – how do we attack that in analyses?
6. Fig. 4 – which is more important to PAs: climate change or land use?
7. Fig. 5 – what does this map and ternary plot suggest about our potential results?