**Thoughts and questions**

**(1)** What is the target journal for this paper?

**(2)** I like the Introduction very much, which clearly explains that environmental changes affect spatial distribution patterns, which then affect patterns of predator-prey overlap. This clearly justifies your modeling approach.

**(3)** You divided the Pacific cod population into three size classes, and the snow crab population into two size classes.

Unfortunately, I cannot run separate VAST models for the Pacific cod and snow crab size classes that you defined.

First, the thing is that, at each of the stations sampled by the standardized EBS bottom trawl surveys, species-specific length stratification is employed to select some of the sampled fish for carrying out stomach content analyses. For this reason, to produce predator-expanded-stomach-content (PESC) estimates (i.e., indices of predator consumption) for Pacific cod, I had no other choice than to: (i) develop individual models for 30-59 Pacific cod and 60+ cm Pacific cod; and (ii) sum the spatial PESC estimates for 30-59 Pacific cod and 60+ cm Pacific cod to obtain spatial PESC estimates for Pacific cod for you.

Second, prey weights are provided in the AFSC’s Groundfish Trophic Interactions Database, but not prey lengths, so I was unable to separate snow crabs into immature and mature female classes for my analyses.

All that said, this will not be an issue for your paper, as the goal of my analyses is to provide you with maps describing the spatial patterns of Pacific cod predation on snow crab, so as to facilitate the discussion of the results of your JDSM.

By the way, as we are going to describe your VAST model and mine in the paper, it may be a good idea to present them as “spatio-temporal models” both implemented with R package “VAST”, and to also refer to your model as the “joint dynamic species distribution model” (JDSDM) and to my models as to the “predator-expanded-stomach-content (PESC) models”.

**(4)** Nowadays, when covariates are included in VAST models, their modeled effect is quadratic. In other words, as your JDSDM includes the effects of depth and SST, you should ideally include the effects of depth, depth^2, SST and SST^2 in your JDSDM. Is this the case? Just checking now, as some reviewers can be real nitpickers :)

**(5)** “We estimated three spatial and three spatio-temporal factors for both linear predictors.” Why three spatial and three spatio-temporal factors? What is the rationale behind those specific modeling choices?

**(6)** The Methods section needs to be fleshed out. In particular, the modeling approaches and analyses should be described in more detail (e.g., the calculation of centers-of-gravity). Did you use the “Poisson-link delta model” for this paper? This was not clear to me.

**(7)** By contrast, the paragraphs of the Results section are way too long and too detailed. It is currently very hard to identify the main/most important results of the JDSDM. Therefore, the Results section should be largely reworked; it should be much more synthetic, and each of its paragraphs should start with a leading sentence that summarizes the information to be found in the paragraph.

Moreover, many sentences should be rephrased. For example, sentences like “Figure 2 shows the […]”, “consider Figure 3 that shows the […]” or “The variation apparent in Figure 3 is […]” are good in reports, but not in papers.

**(8)** As I mentioned to you in October, to estimate PESCs with VAST, I used 300 “knots” that were uniformly distributed over the extrapolation grid for the eastern Bering Sea.

Therefore, any quantity estimated with VAST that you will compare to PESCs should ideally be estimated with a VAST model where 300 knots were uniformly distributed over the extrapolation grid for the eastern Bering Sea.

**(9)** Some avenues for future research are missing in the Discussion section. One of them is to develop another JDSDM that includes not only the effects of depth and SST, but also the effect of the cold pool (modeled using a “spatially-varying coefficient model” – see the paper attached to this email).