**Work plan for PPP 15 May 24**

1. **Pull ADS polygons for MPB outbreak in SOR – see figure and DdP email**
2. **Pull ADS polygons for Firmaggedon area – this might take more tracking down and confirmation with DdP**
3. **Pull FIA plots for MPB outbreak in SOR – this can be from National database, timeline is 2000-2016**
4. **Pull FIA plots for Firmaggedon – this might require getting data from the PNW regional database**
5. **Make maps of both case studies to share with team for approval and thoughts before moving forward**
   1. **Next step is supplying ADS polygons to HZ to merge with Landsat change detection to produce spectral change data product that can be linked with FIA mortality/impact information**

**23 September 2024**

**Spectral mortality modeling thoughts**

So Meigs et al 2015 put together a similar modeling workflow for turning spectral information (RBR) into basal area mortality estimates. Their workflow is copied below – note that they use CVS plot data instead of FIA, which probably stops them from doing any area based estimation and limits the amount of tree/stand level information that can be brought to bear. I wonder as to this choice?

They use a RMA regression model (reduced major axis), which is a “type 2” regression (i.e., minimizies error on both axes to account for measurement error in both predictor and response).

I wonder if imputation would be a productive way forward for our modeling – do we \*need\* inference about relationships? Imputation or ML might be just as productive and informative; and then relationships come in during the next modeling step (i.e., climate, etc).