Options for grouping sites

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Possibly ways to group sites

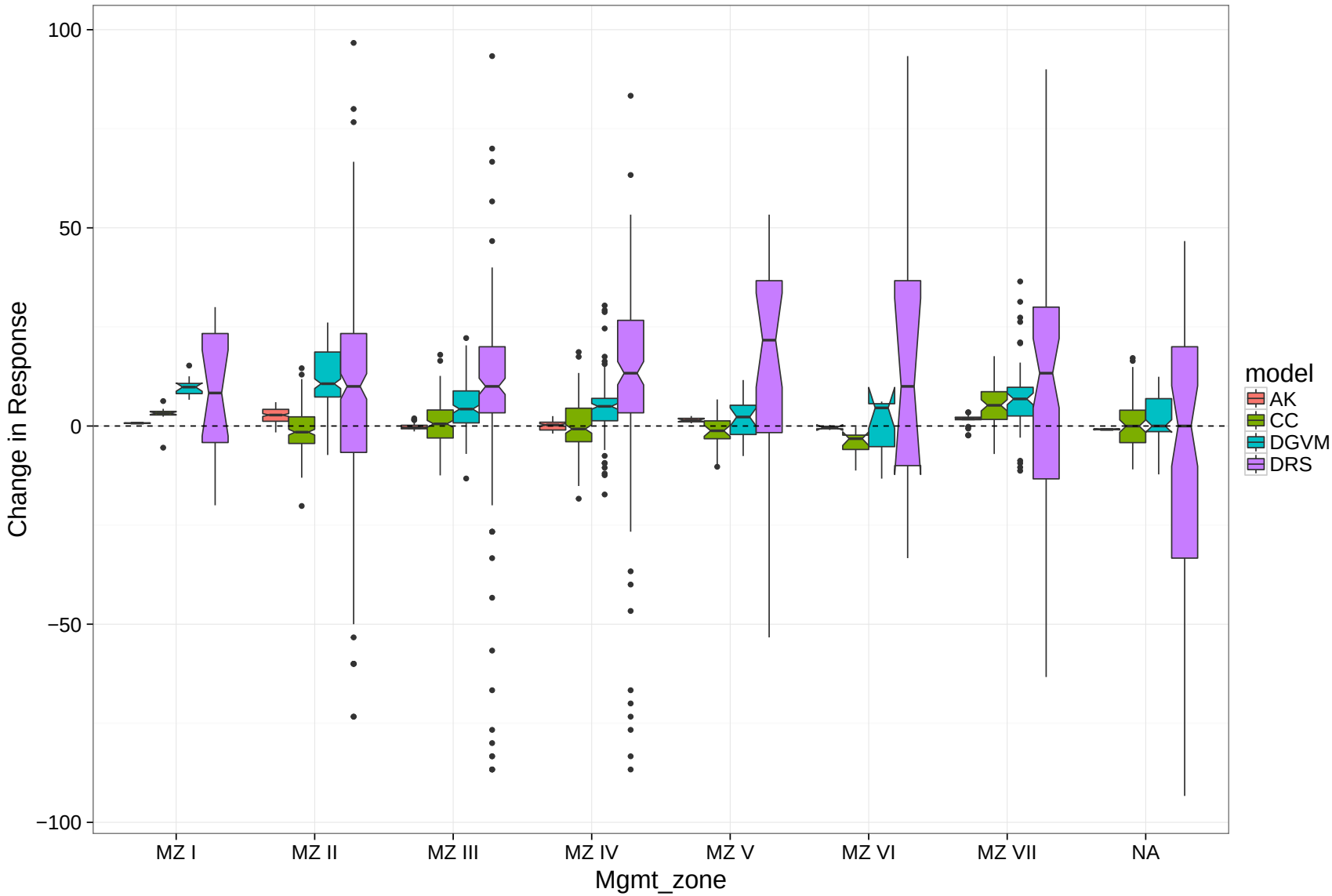
1. Sagegrouse management units
2. Elevation within management unit
3. Elevation classes
4. Original climate groupings from Andy's PCA
5. Ecotypes (US Level 3 or NA Level 2)
6. Kuchler PNV types
7. Any other ideas???

1. Sagegrouse management units

- Note sites not well distributed- ex. small sample in unit 6
- Some sites aren't in a management zone at all
- bird-centric, may not split sagebrush response in informative manner

	MZ I	MZ II	MZ III	MZ IV	MZ V	MZ VI	MZ VII	NA
TS	15	184	91	81	14	2	40	10
Others	15	218	166	157	26	11	61	69

Mgmt units: modeled response to 4C temperature increase



Elevation within mgmt unit

- problem: not enough sites to split into elev categories, also not a strong response to elev

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## Warning in qt((1 - level)/2, df): NaNs produced
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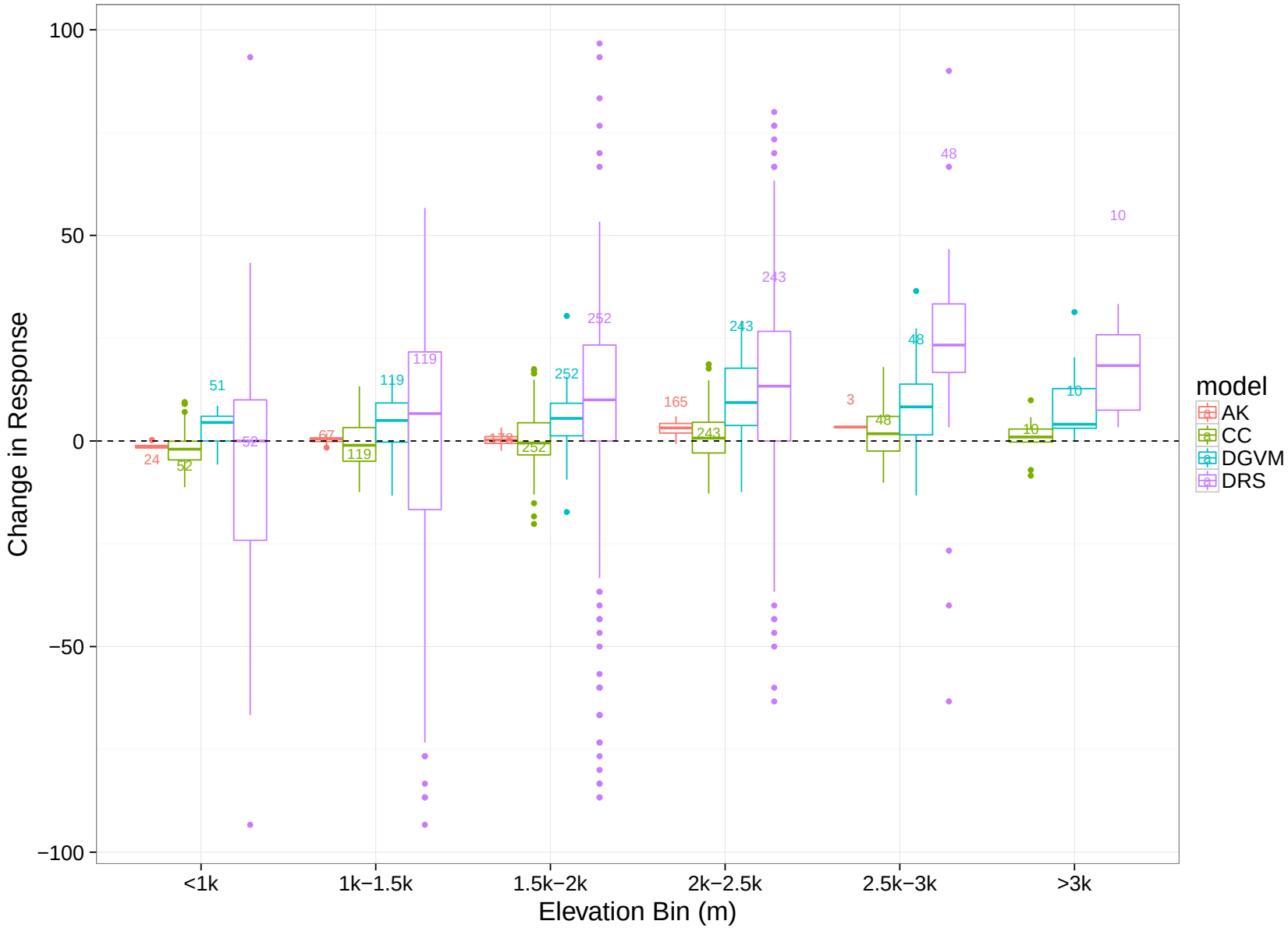
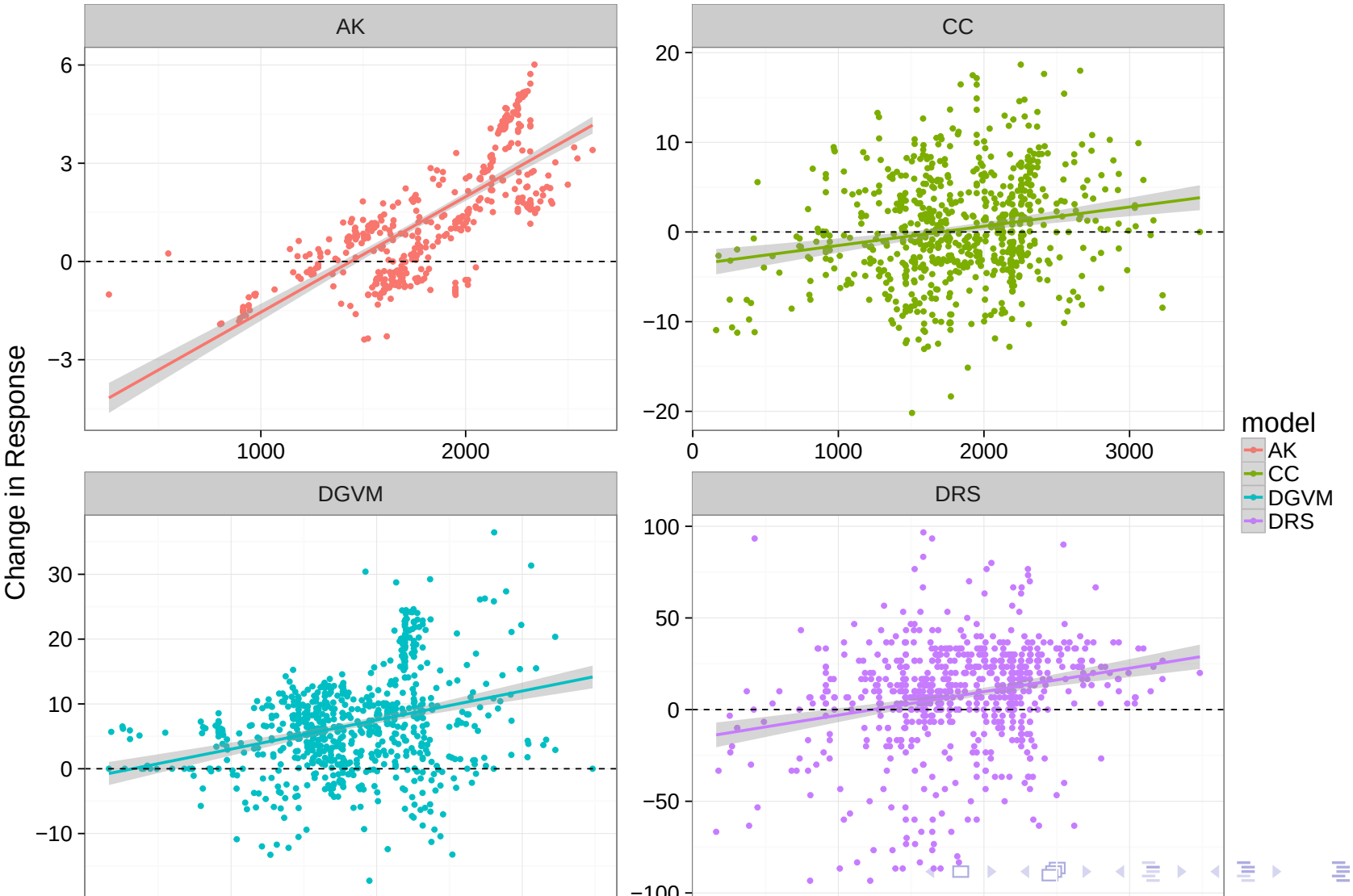
Elevation bands alone

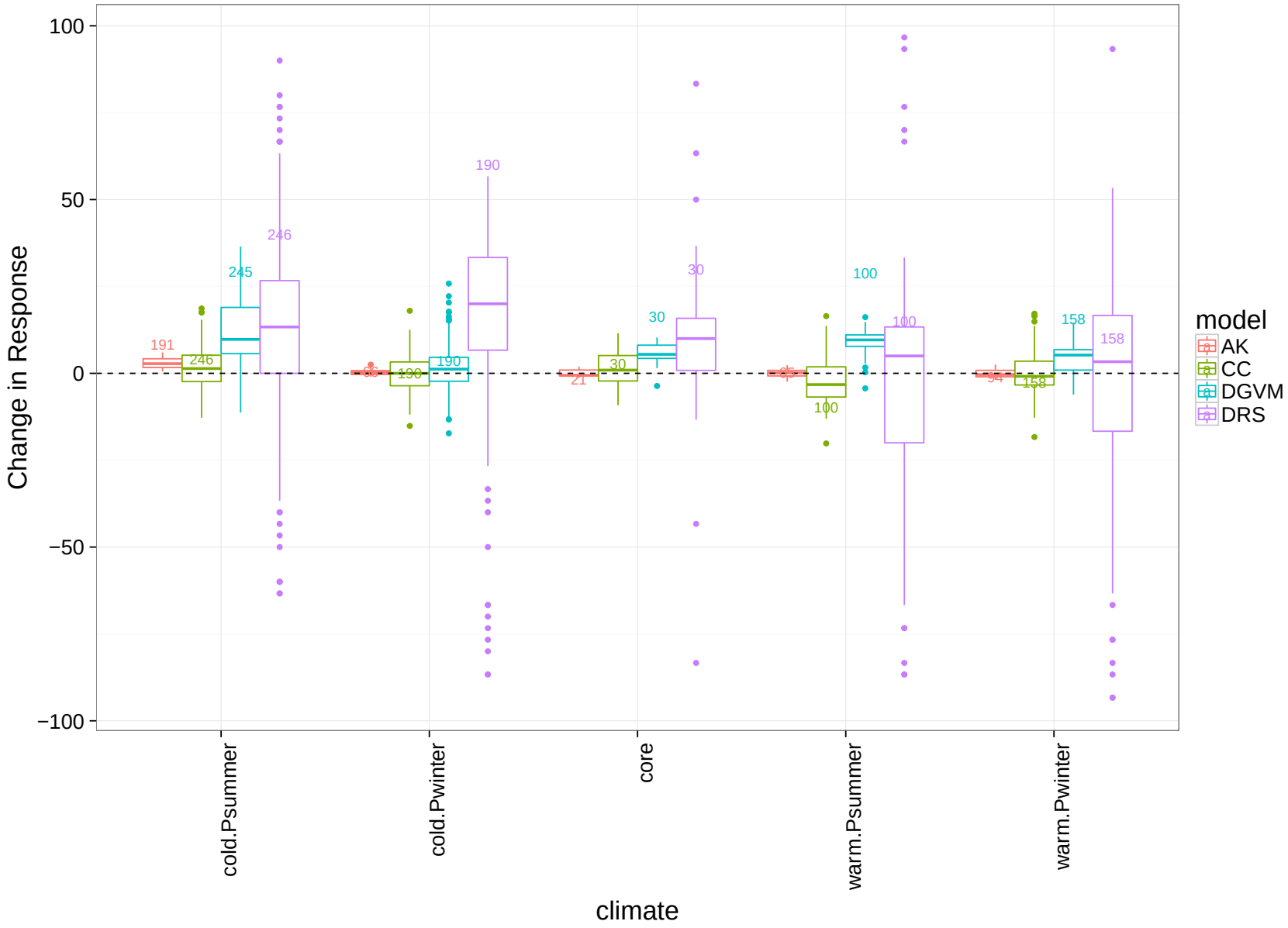


Bands could be better. Look at full data set:

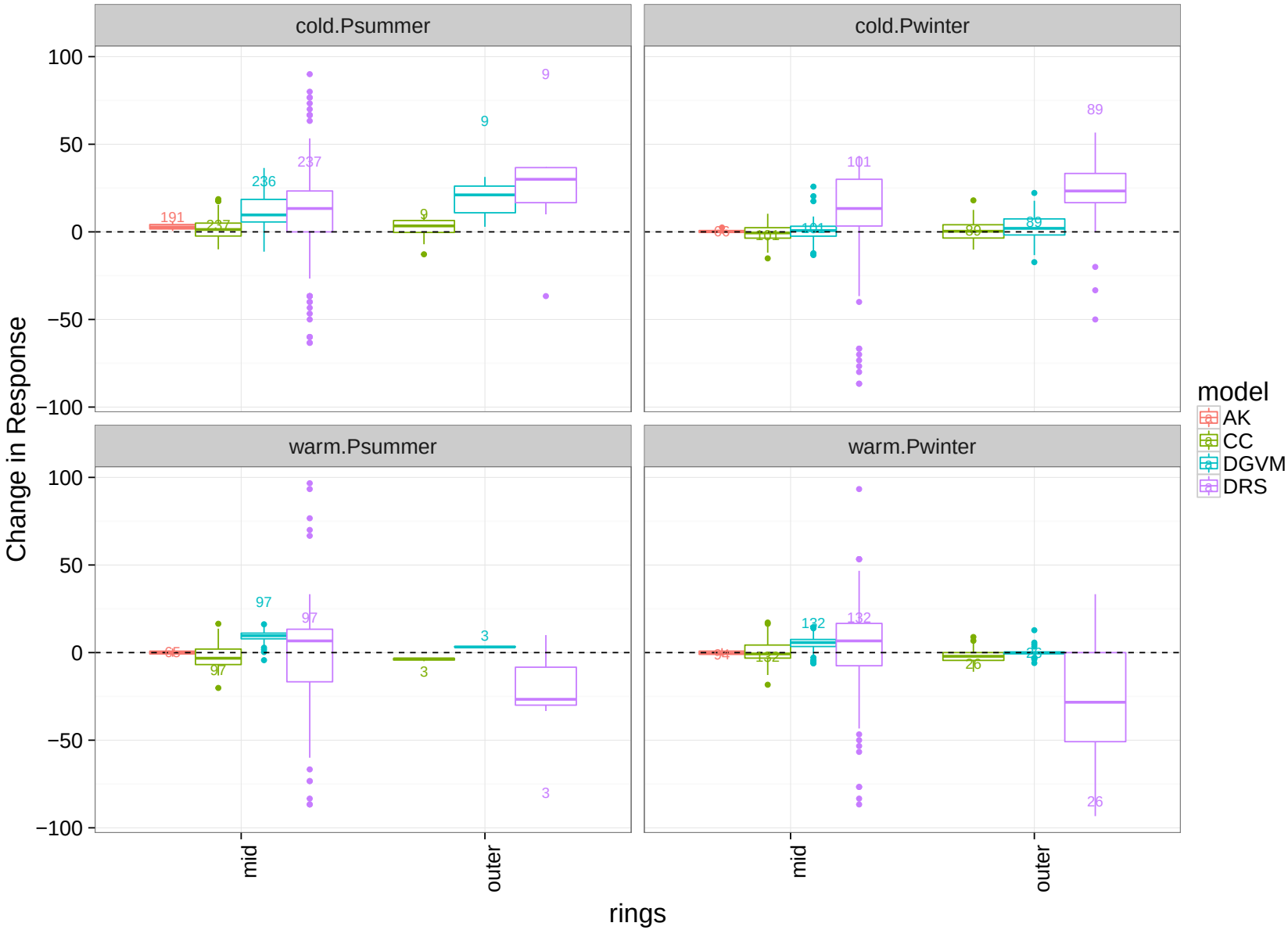
- all except DGVM suggest a cut-off between 1000-2000m
- elevation is really a proxy though- I'd rather stick with the MAT gradient if managers are okay with it.



Original climate groupings from Andy's PCA



What if I split these by ring? Not showing core.



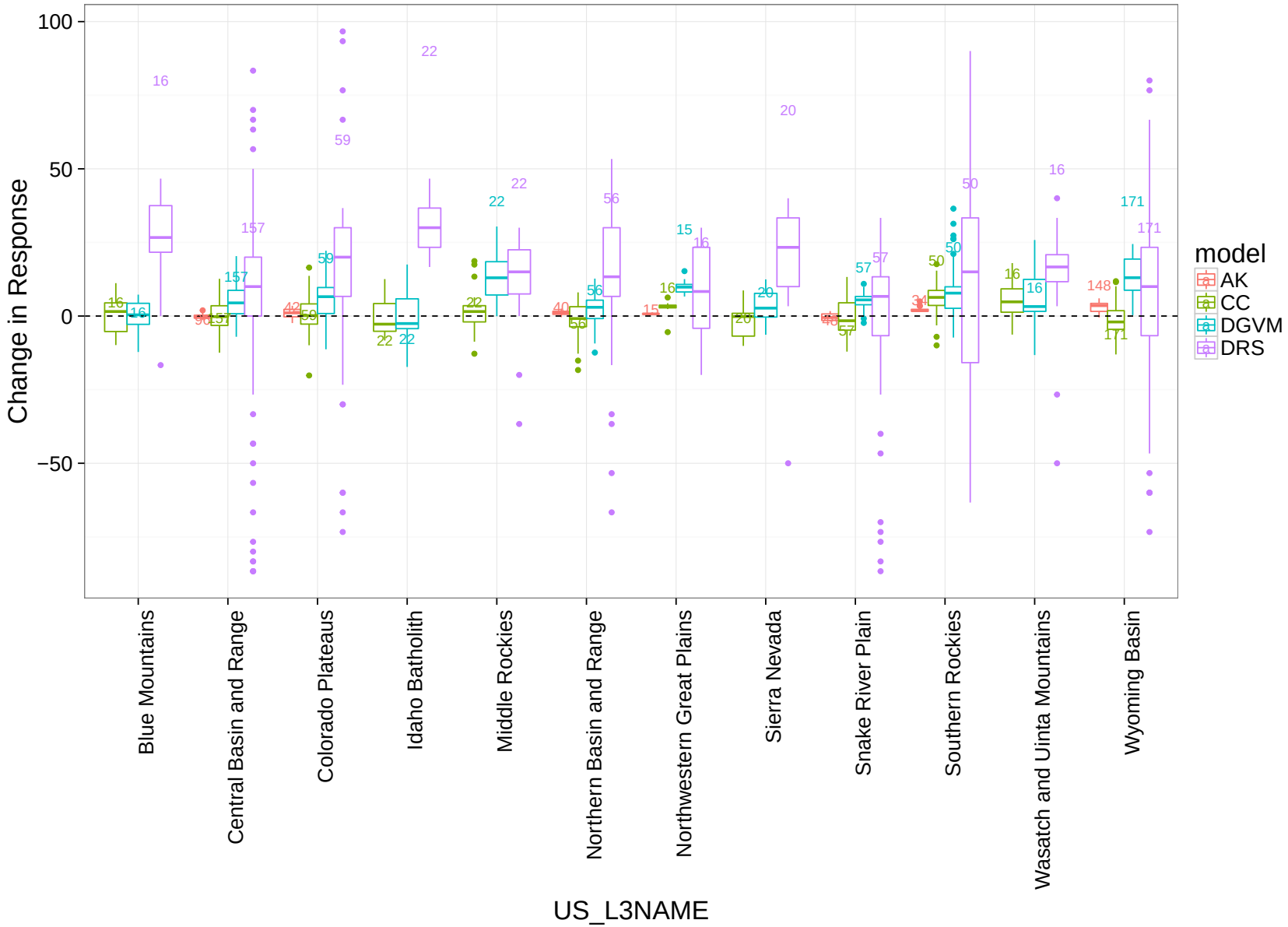
US Level 3 Ecoregions: sites per region

	TS	Others
Eastern Cascades Slopes and Foothills	0	1
Northern Rockies	0	3
North Cascades	0	6
Arizona/New Mexico Plateau	0	8
Sonoran Basin and Range	0	10
Arizona/New Mexico Mountains	10	11
Columbia Plateau	2	11
Mojave Basin and Range	0	12
Northwestern Great Plains	15	15
Blue Mountains	2	16
Wasatch and Uinta Mountains	0	16
Sierra Nevada	0	20
Idaho Batholith	0	22
Middle Rockies	0	22
Southern Rockies	34	50
Northern Basin and Range	40	56
Snake River Plain	48	57
Colorado Plateaus	42	59
Central Basin and Range	96	157
Wyoming Basin	148	171

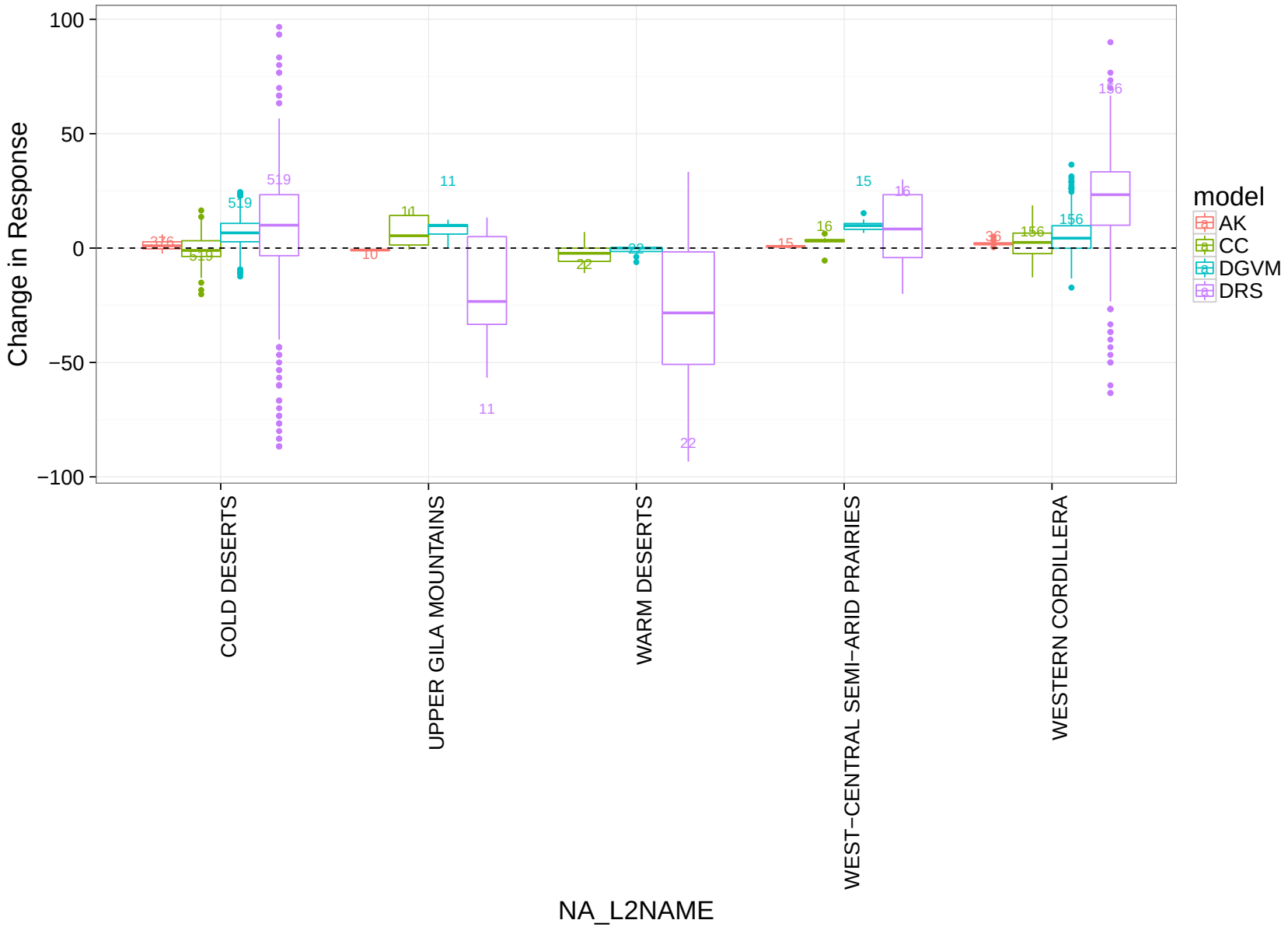
US Level 3 Ecoregions: Issues

- I eliminated the ecoregions with < 15 observations per model
- this eliminates a lot, and there are still too many categories. Can I lump them based on response? Proximity? Ecological characteristics?

Sites grouped by ecoregion



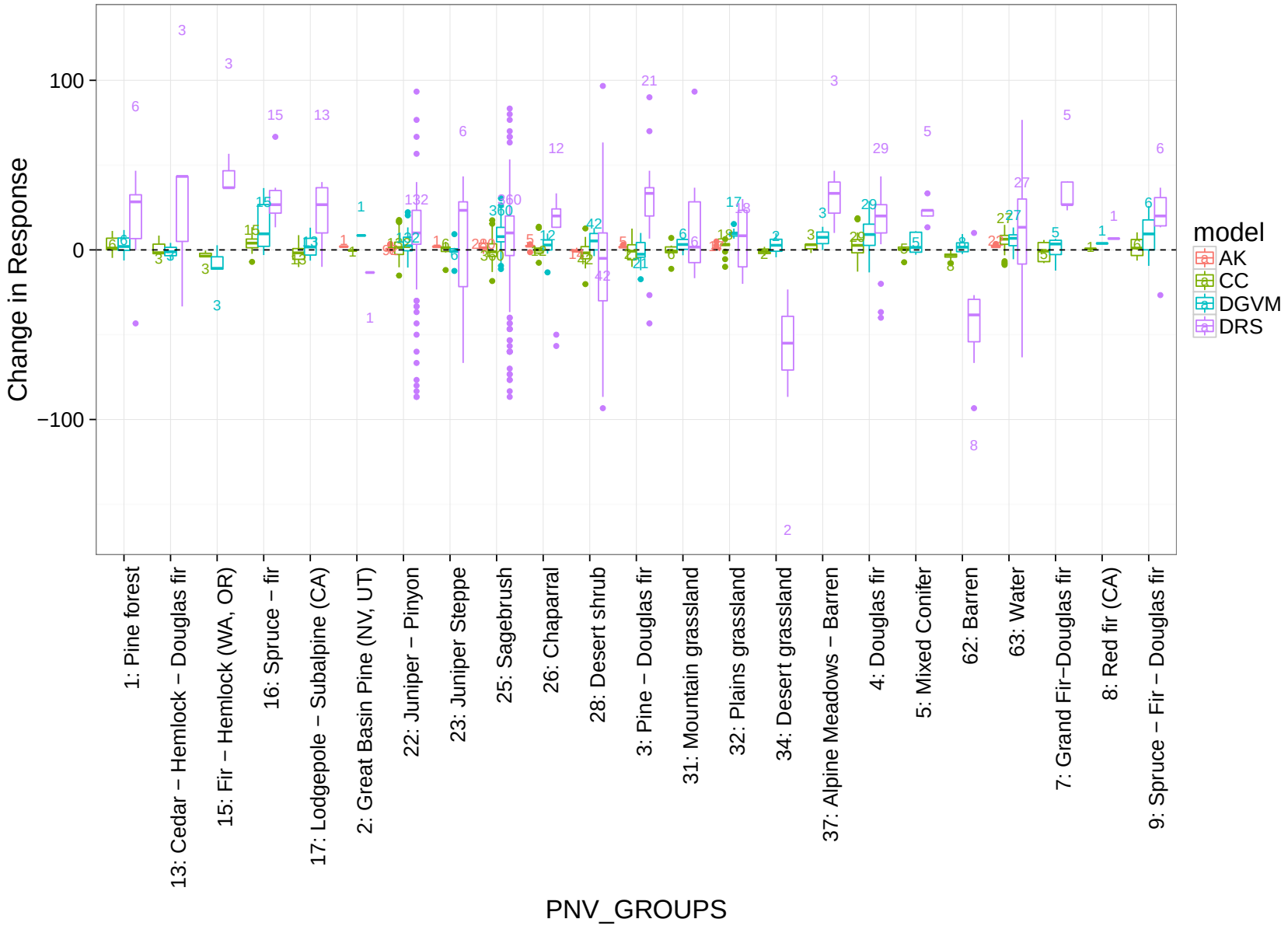
Sites grouped by L2 ecoregion (categories more general)



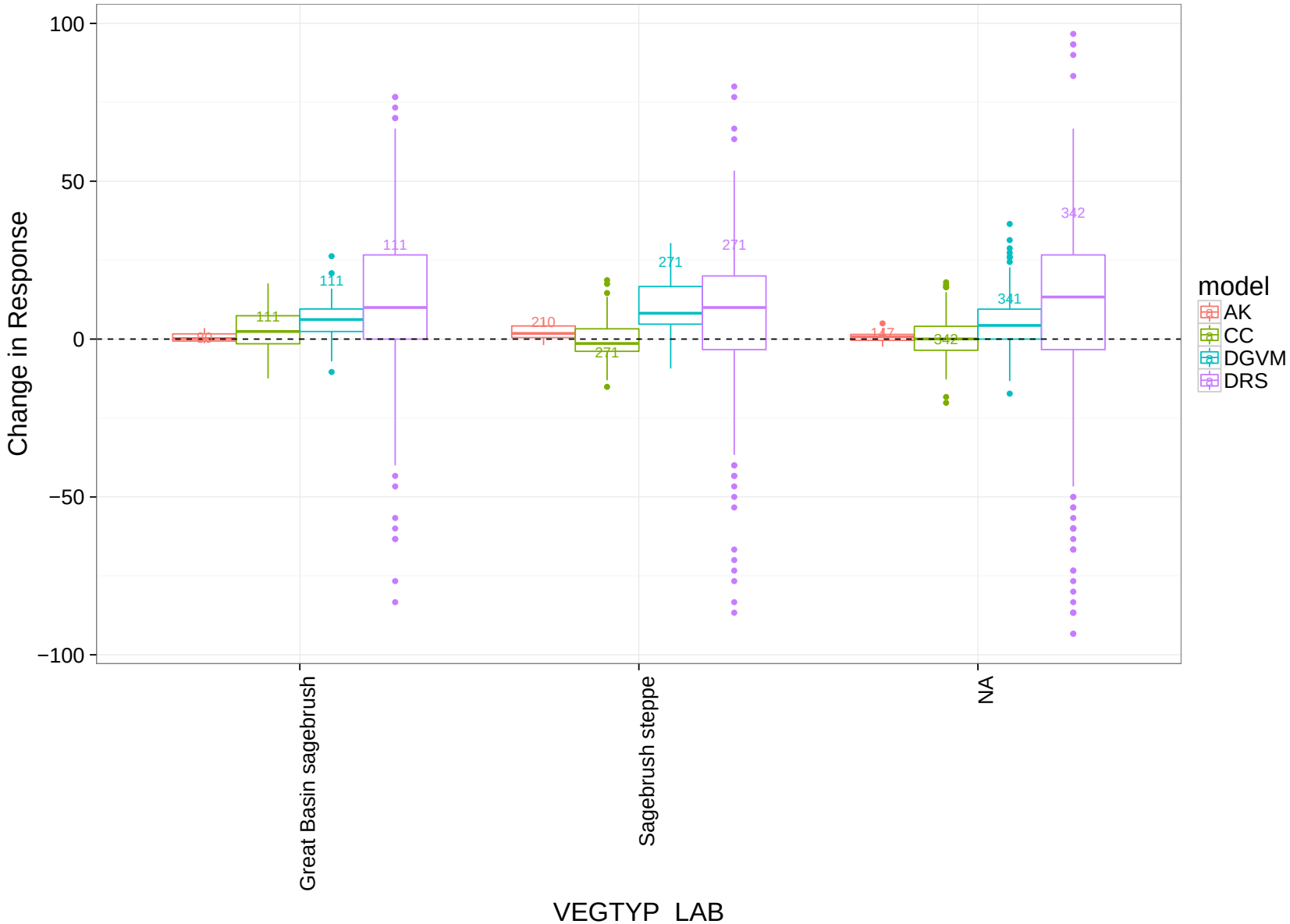
Sites grouped by Kuchler PNV types: sample size

	TS	Others
2: Great Basin Pine (NV, UT)	1	1
8: Red fir (CA)	0	1
34: Desert grassland	0	2
13: Cedar - Hemlock - Douglas fir	0	3
15: Fir - Hemlock (WA, OR)	0	3
37: Alpine Meadows - Barren	0	3
5: Mixed Conifer	0	5
7: Grand Fir-Douglas fir	0	5
1: Pine forest	0	6
23: Juniper Steppe	1	6
31: Mountain grassland	0	6
9: Spruce - Fir - Douglas fir	0	6
62: Barren	0	8
26: Chaparral	5	12
17: Lodgepole - Subalpine (CA)	0	13
16: Spruce - fir	0	15
32: Plains grassland	17	17
3: Pine - Douglas fir	5	21
63: Water	22	27
4: Douglas fir	0	29
28: Desert shrub	14	42
22: Juniper - Pinyon	92	132
25: Sagebrush	280	360

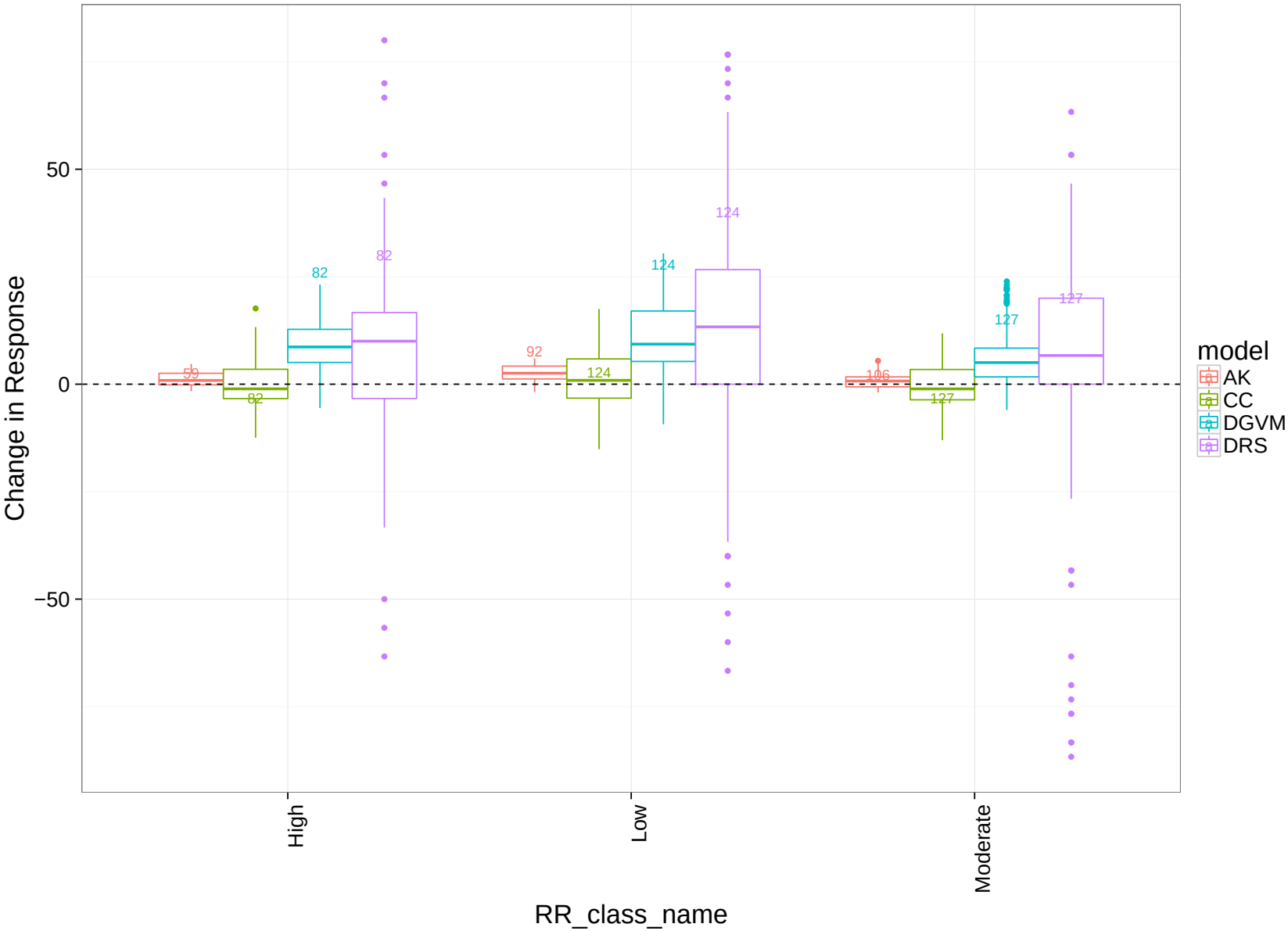
Sites grouped by Kuchler PNV types



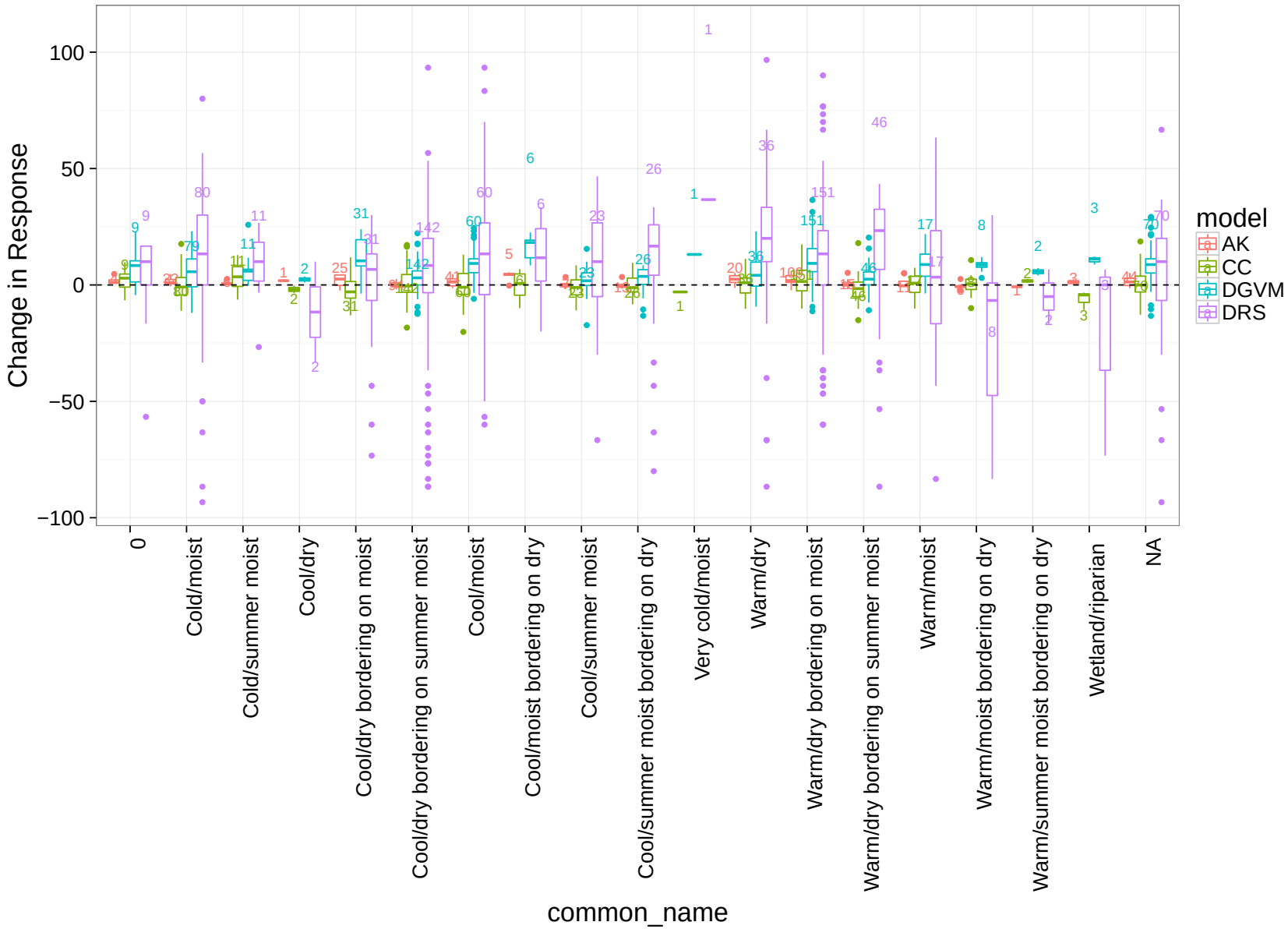
Sites grouped by Kuchler PNV types: lumped into categories (shapefile from Peter?)



Sites grouped by resistance and resilience classes



Sites grouped by temp/moisutre regime



What if I could replace actual response with the consensus for each grouping?