

Supplement 2

Monthly fish positions

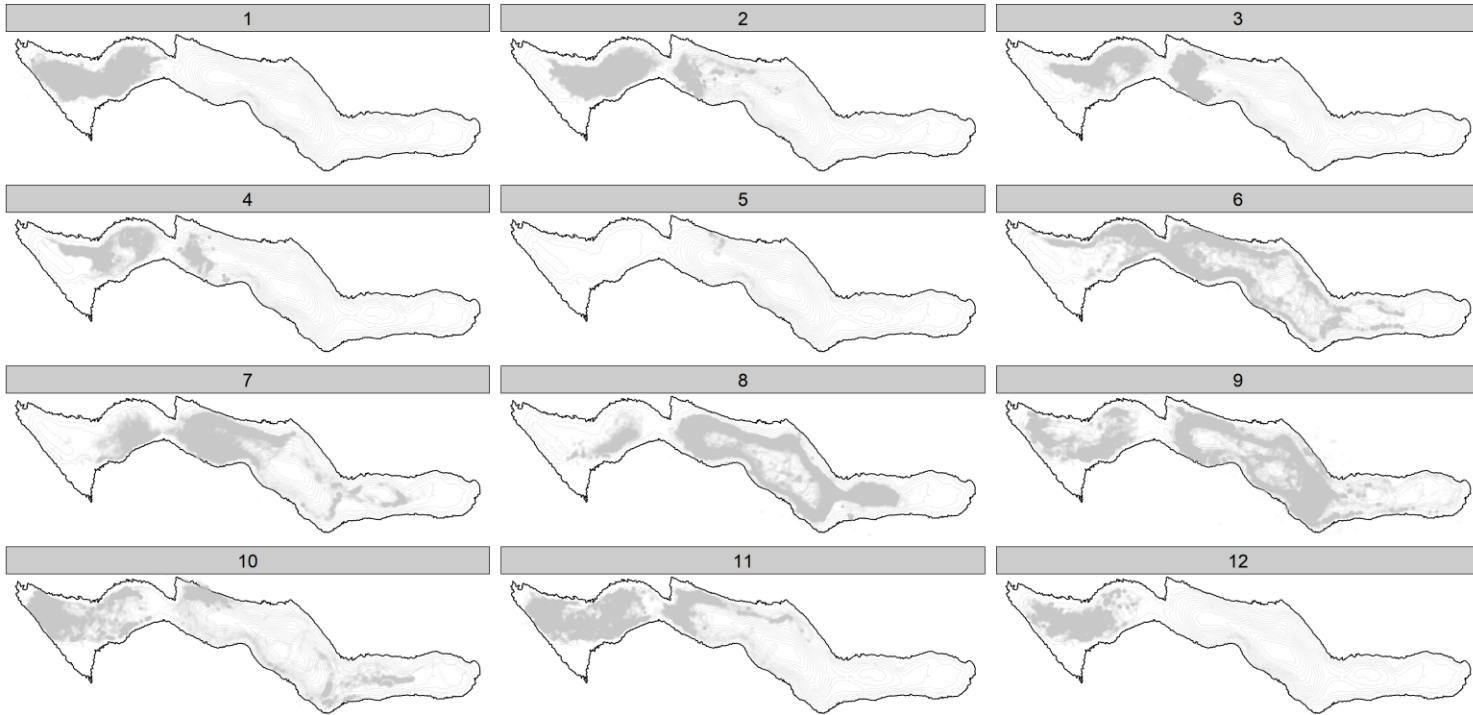
We mapped monthly positions with the *tmap* package of the R software (**Tennekes 2018**). It took 36 min to compute monthly positions of HR data (i.e., ~ 1 min per individual) on a personal desktop computer (Nitro N50-600; Intel® Core™ i7-9700 CPU processor). Few data were available during May because receiver batteries were discharged. In general, fish concentrated in the pelagic area at the central part of the lake during summer, expanded their distribution range during fall, and concentrated in nearshore areas at lake extremities during winter (**Figs. 1 & 2**). During winter, individuals identified as 2859-60 and Fish12 used the nearshore area along the north shore in the central part of the lake, Fish20 used the eastern part of the lake, and all other individuals that were recorded in winter used the shallow bay in the western part of the lake. The spawning period lasted from mid-October to mid-November (Marc Pépino, personal observation). The spawning site can be seen in November for individuals 2839-40, Fish38, and Fish46 (see also inlet 2 identified on Fig. 3 in **Bourke et al. 1997**). The use of the spawning ground would be better visualized using shorter time steps.

References

- Bourke, P., P. Magnan, and M. A. Rodríguez. 1997. Individual variations in habitat use and morphology in brook charr. *Journal of Fish Biology* 51:783-794.
- Tennekes, M. 2018. *tmap*: Thematic Maps in R. *Journal of Statistical Software* 84(6): 1-39. doi: 10.18637/jss.v084.i06 (URL: <https://doi.org/10.18637/jss.v084.i06>).

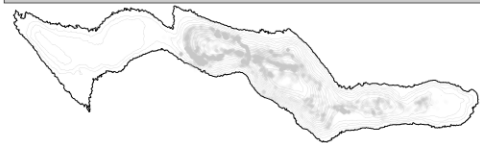
Figure 1

Monthly positions by individual. Numbers refer to month. The name of the individual is given at the bottom of the map. HR data only.



Fish00

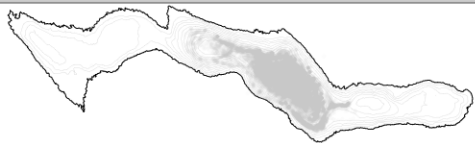
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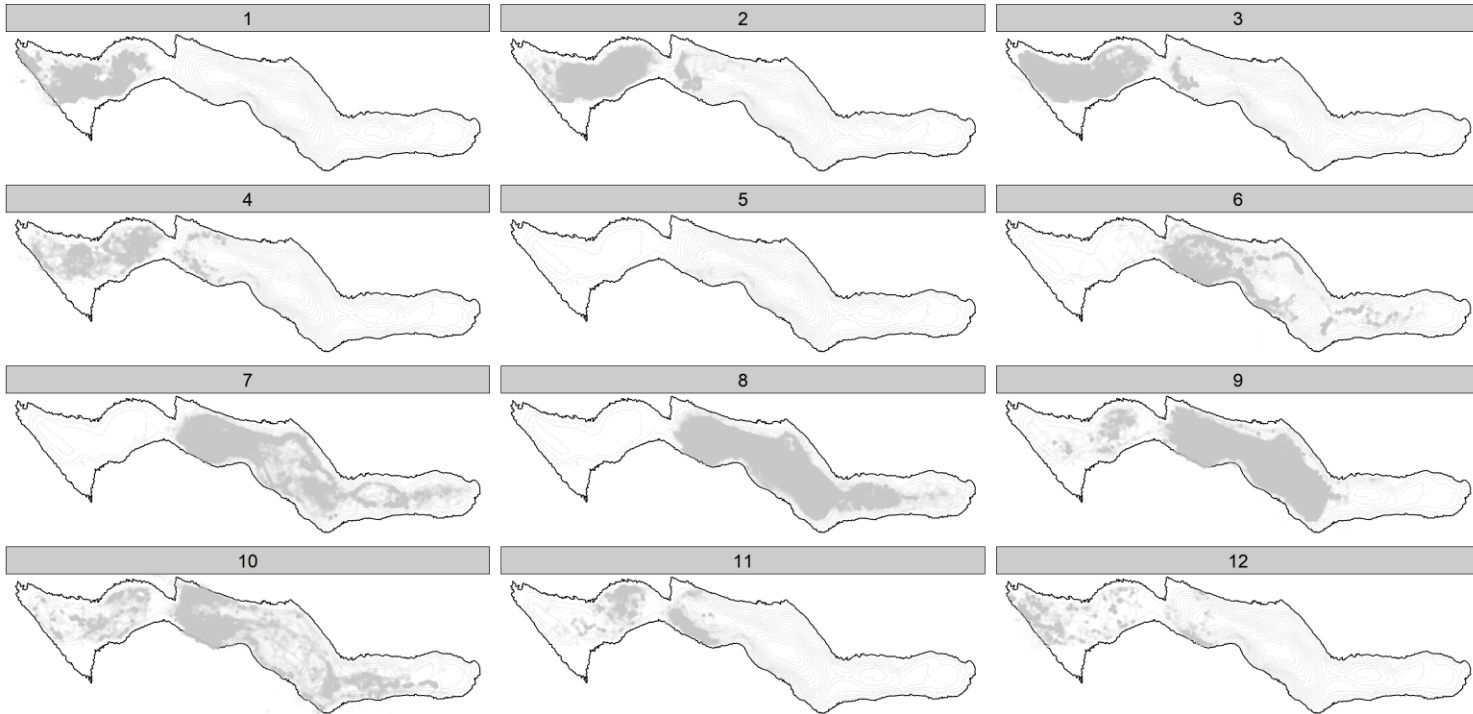
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Fish02



Fish04

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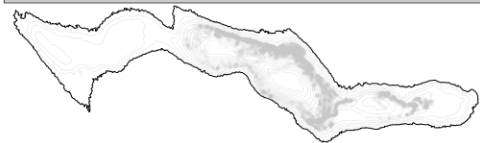


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Fish06

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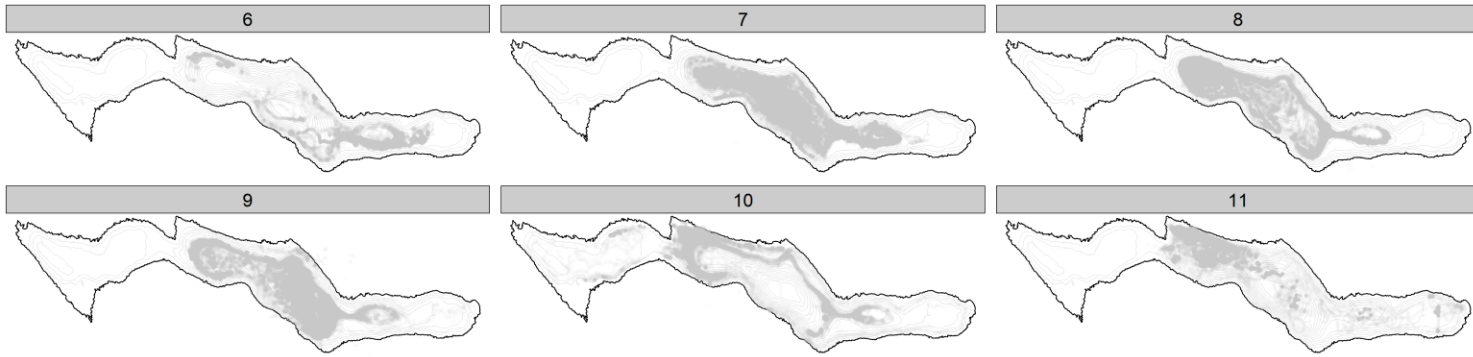
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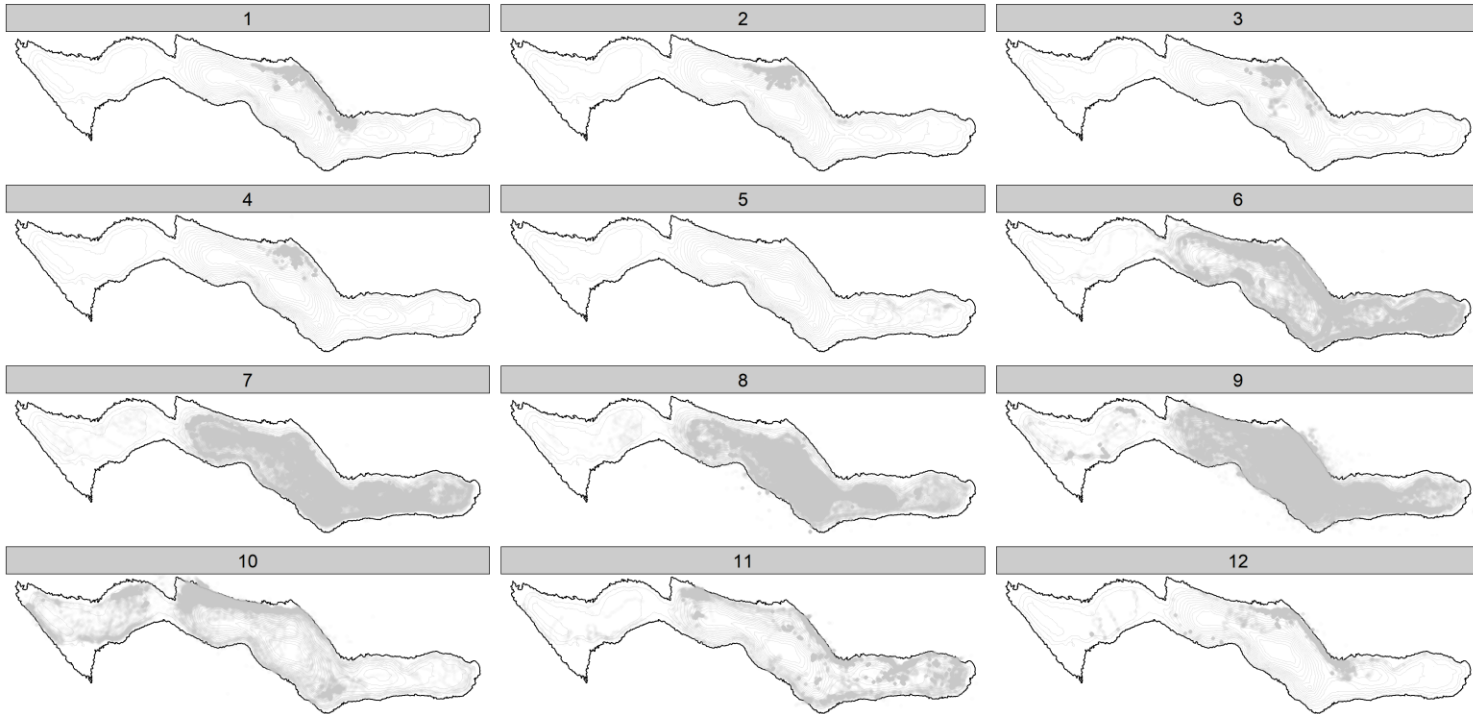
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Fish08



Fish10



Fish12

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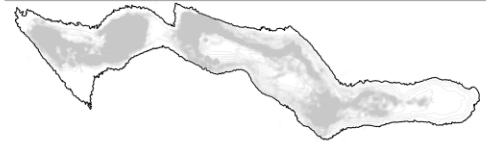
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Fish14

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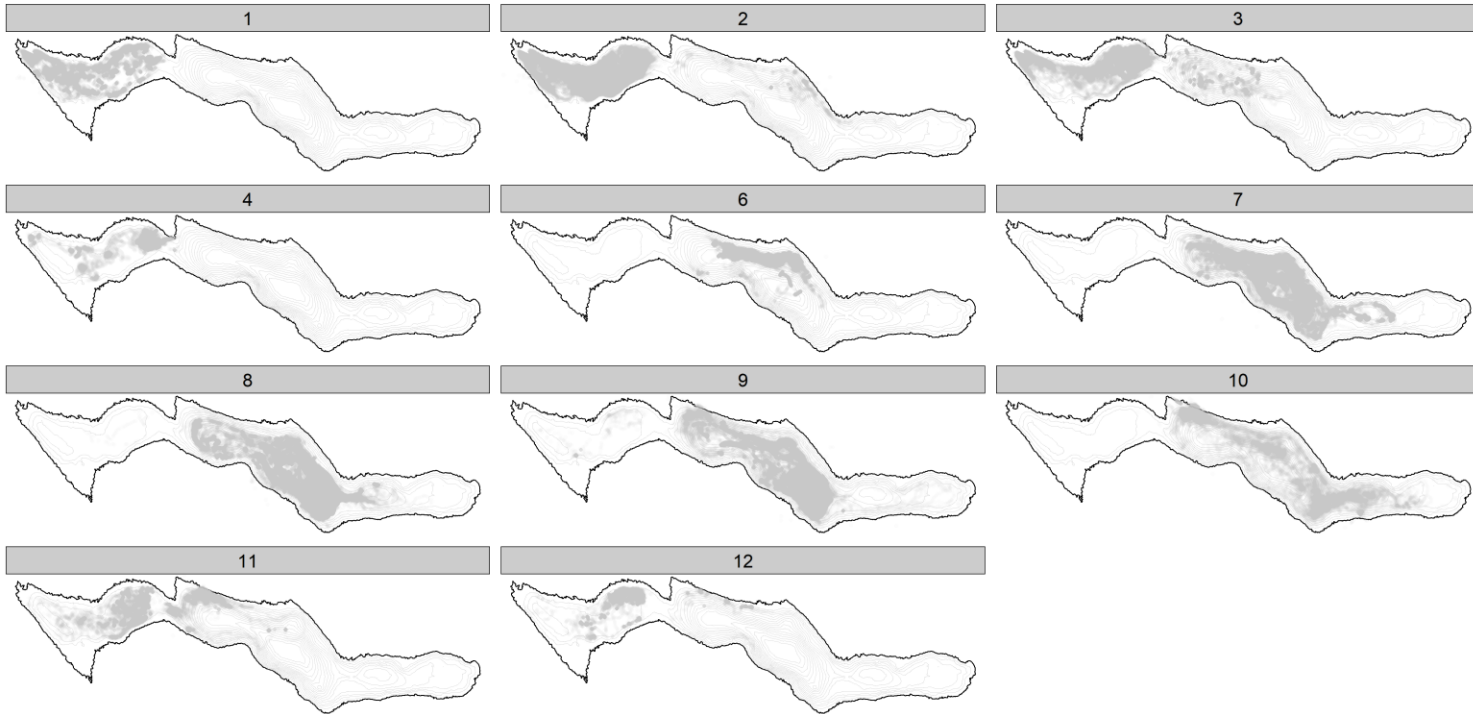
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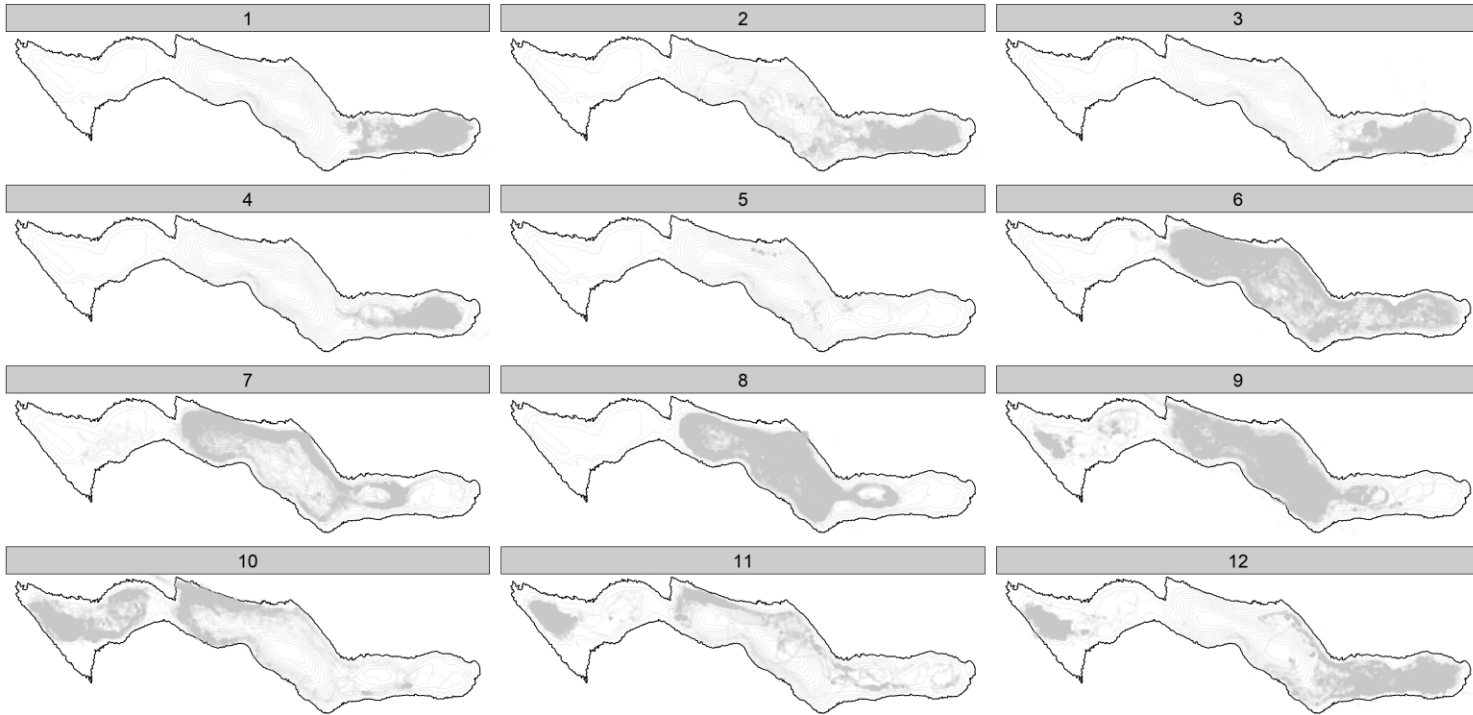
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Fish16



Fish18



Fish20

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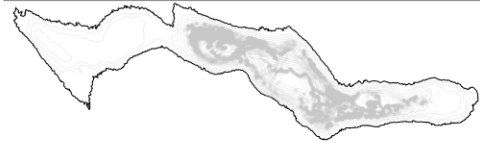


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Fish22

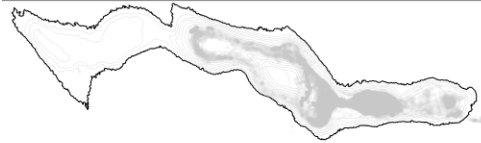
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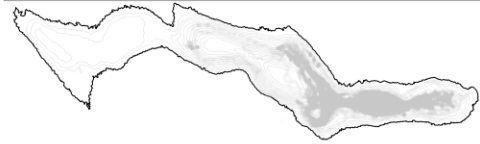
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Fish24

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Fish26

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Fish28

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Fish30

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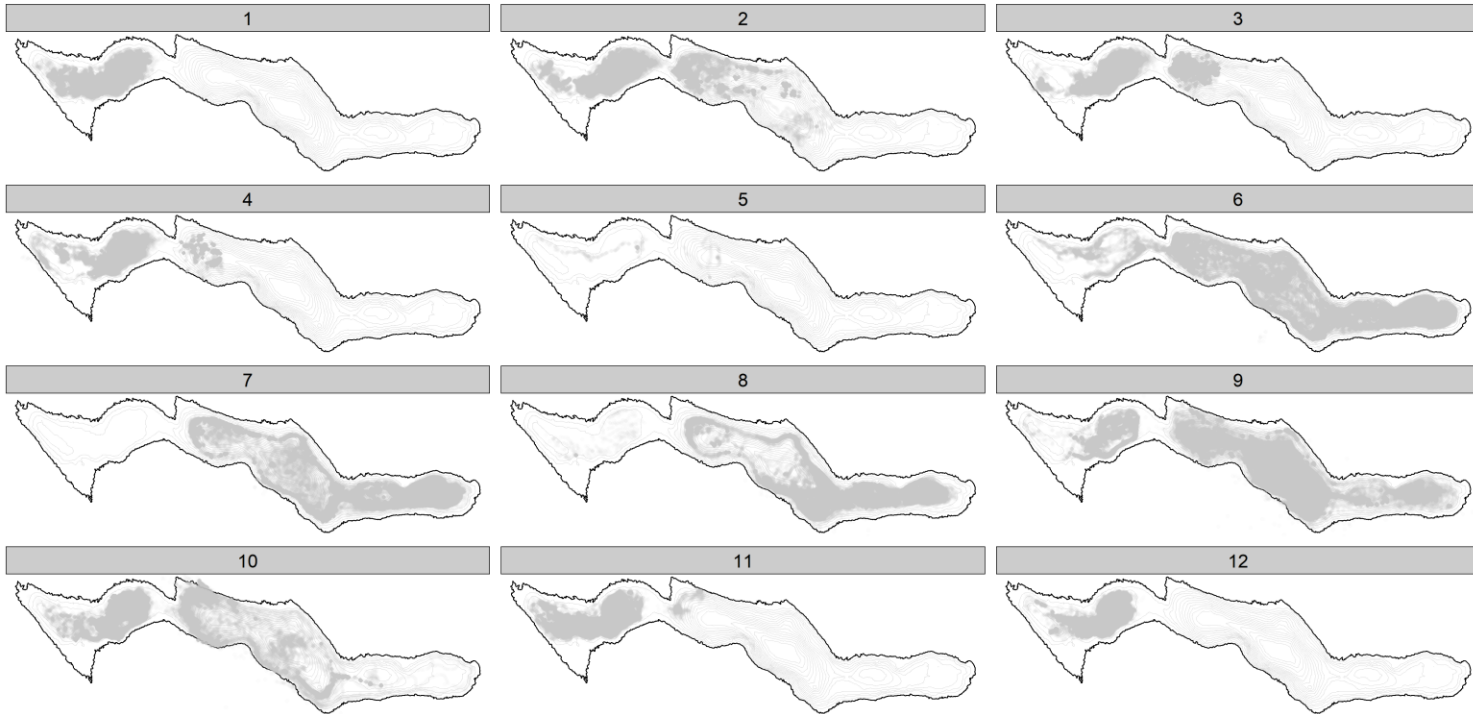
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Fish34



Fish36

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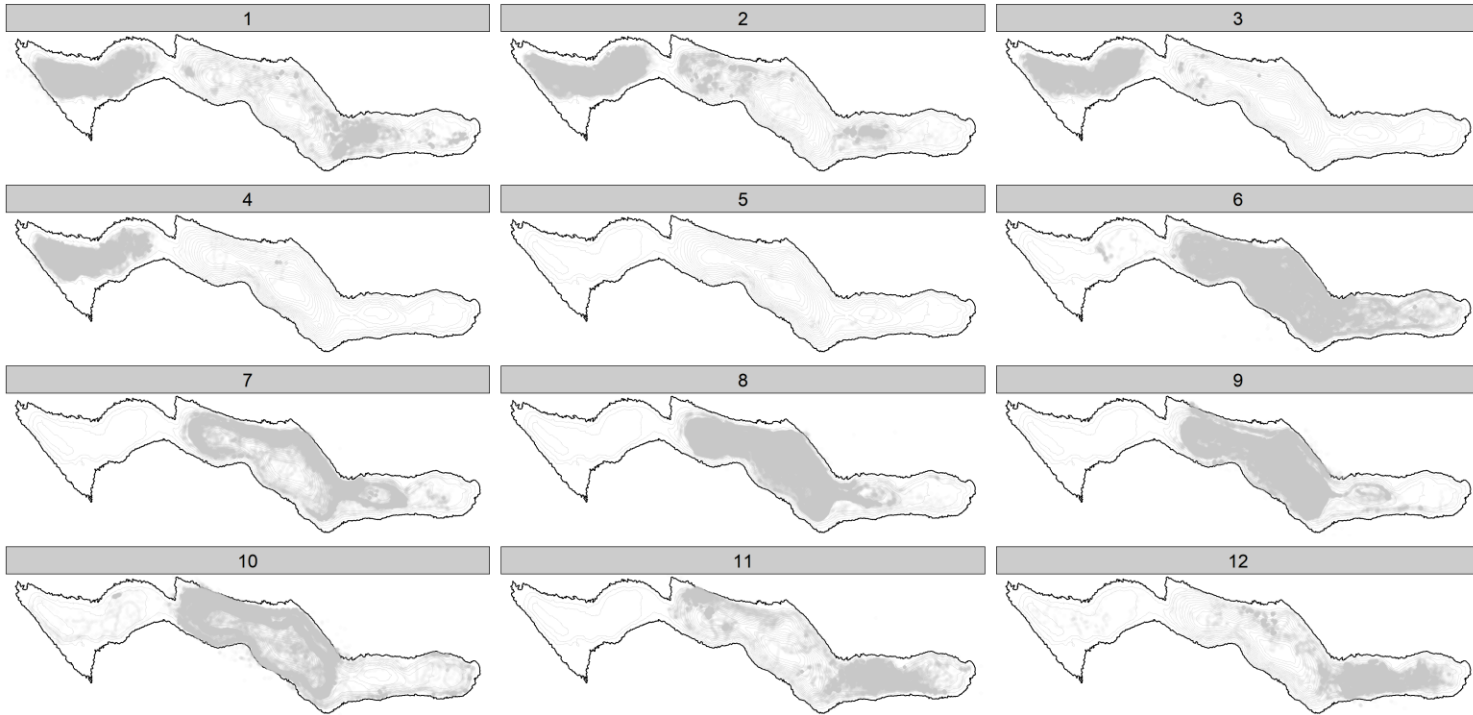
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Fish38



Fish40

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Fish42

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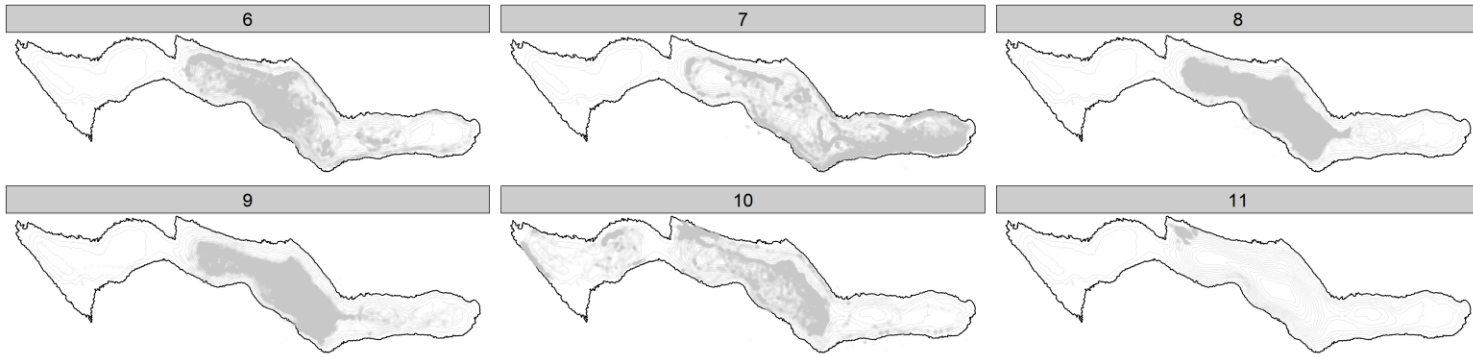
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Fish44



Fish46

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12



Fish48

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Fish50

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Fish52

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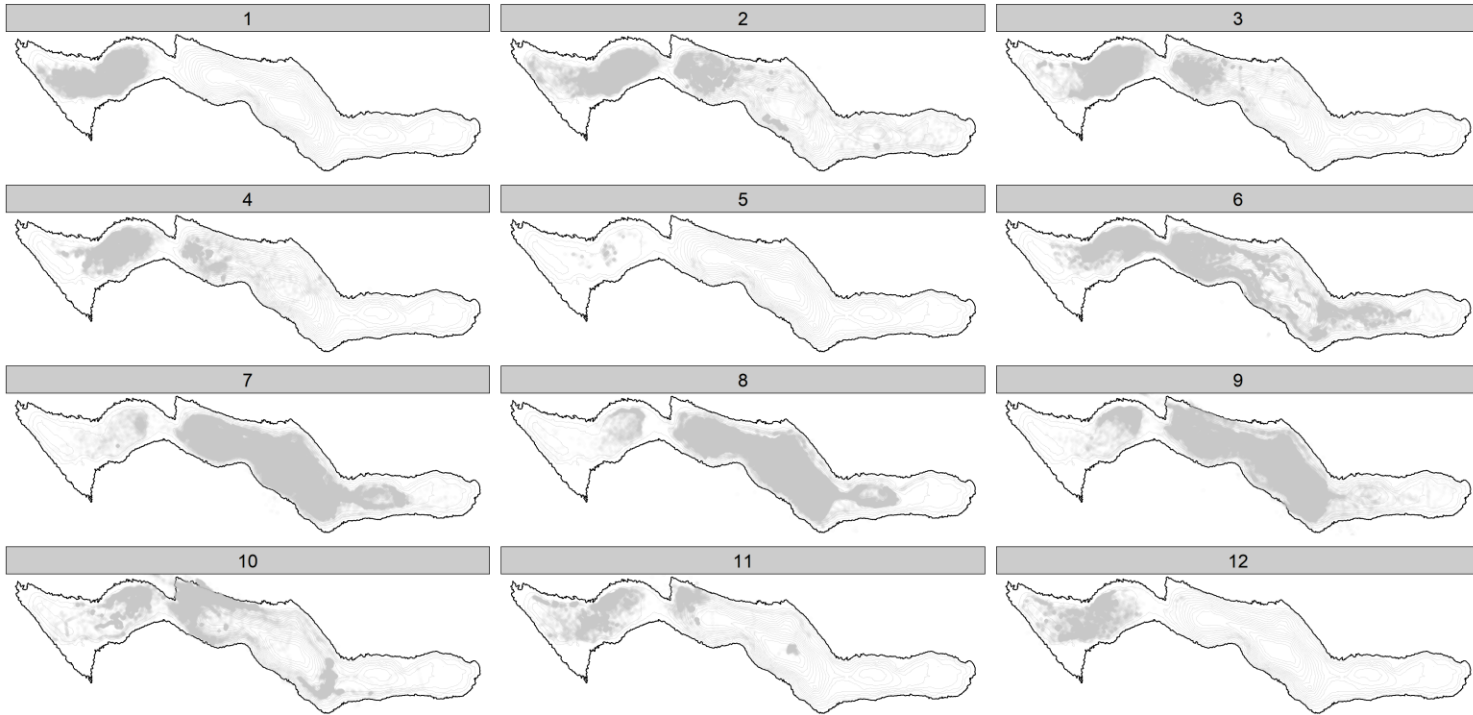
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Fish54



Fish56

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Fish58

Figure 2

Monthly positions by individual. Numbers refer to month. The name of the individual is given at the bottom of the map. VUE data only.

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2837-38

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2839-40

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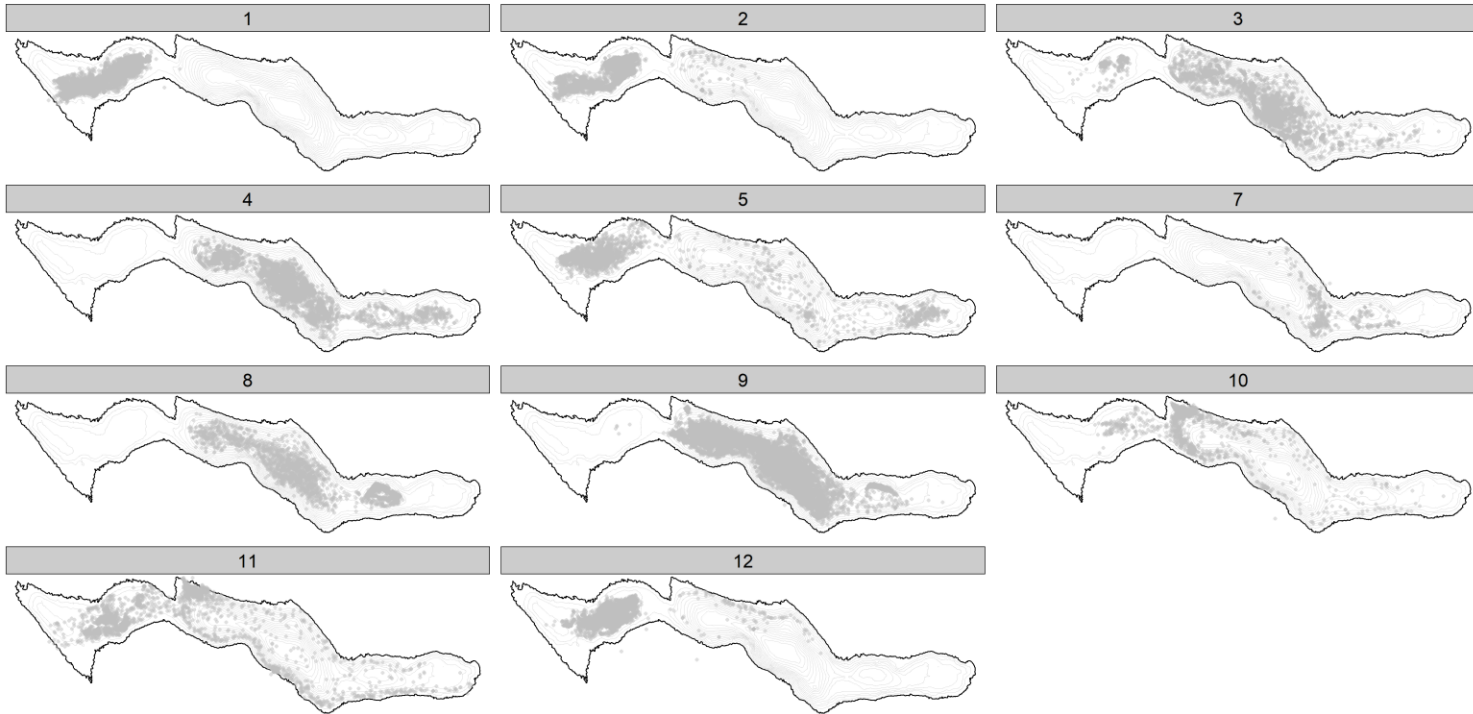
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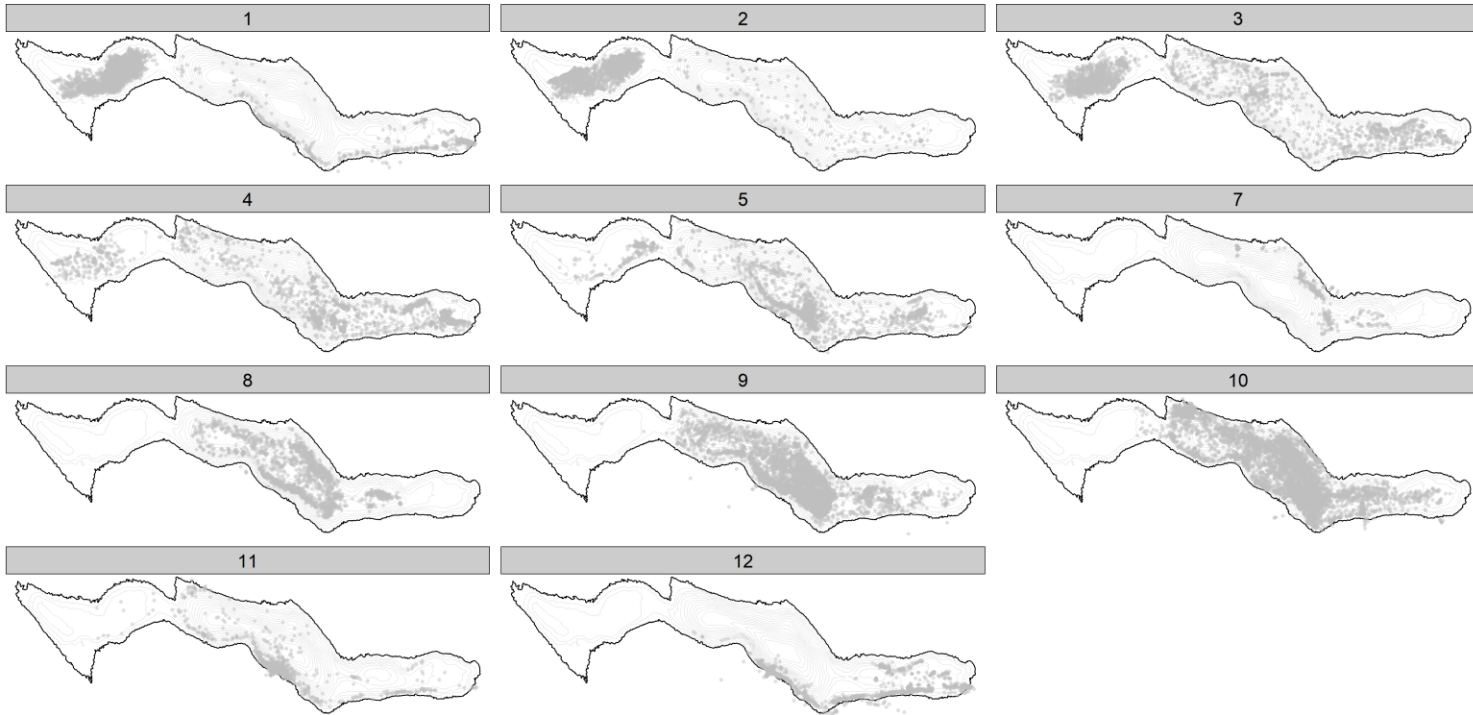
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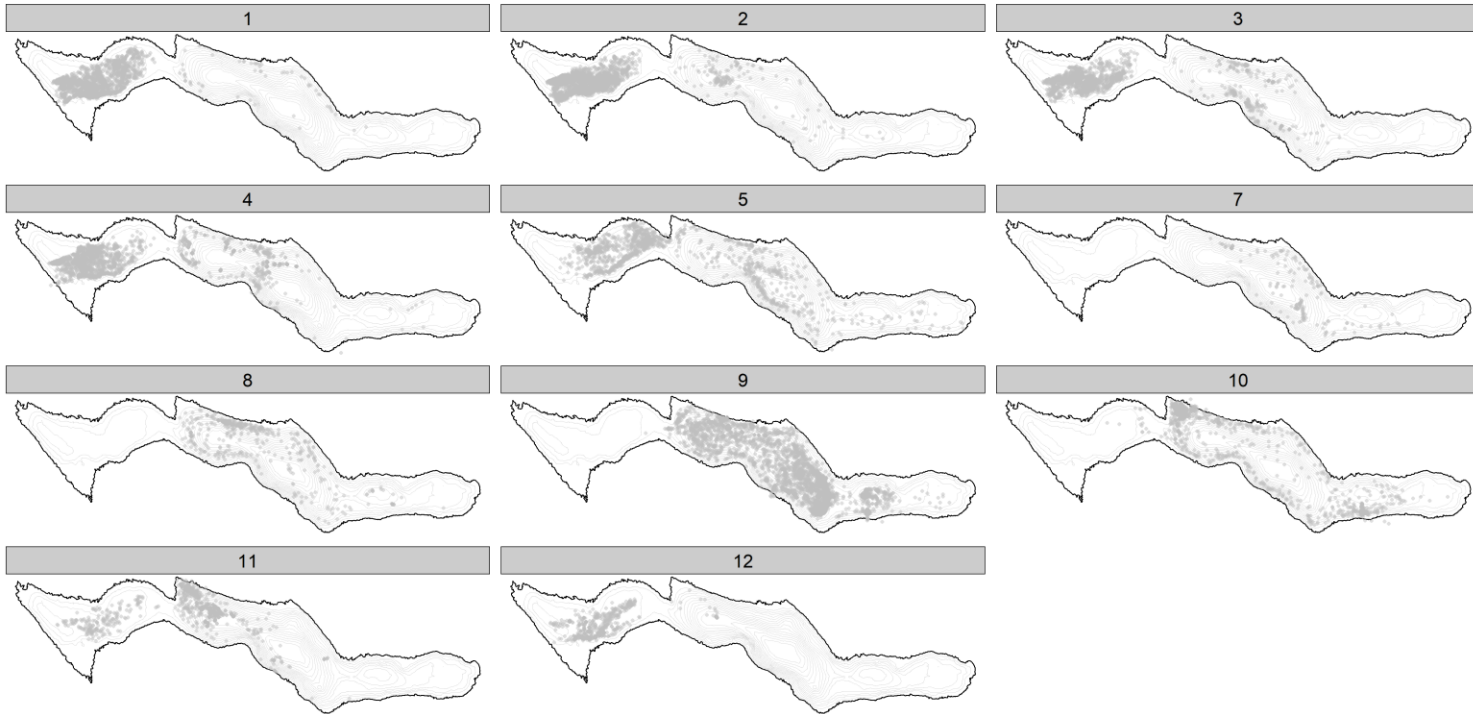
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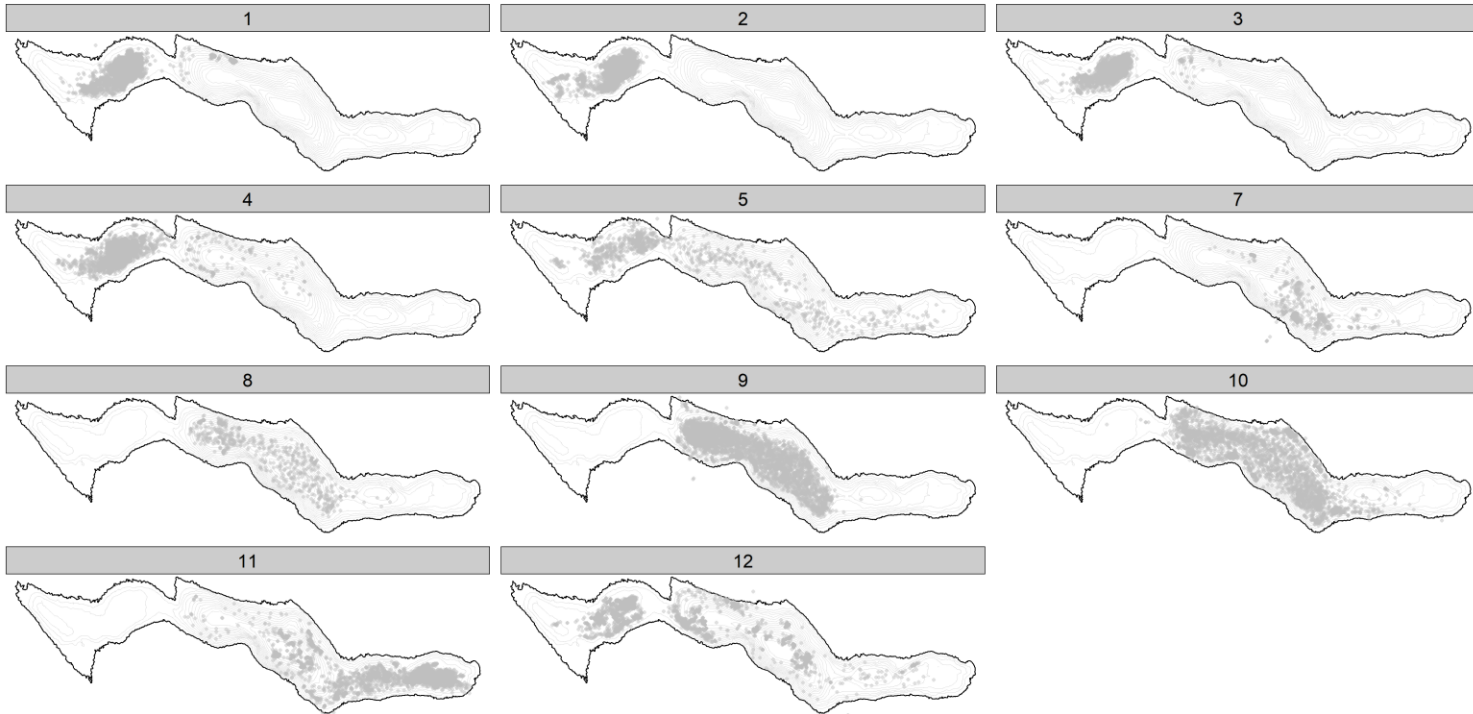
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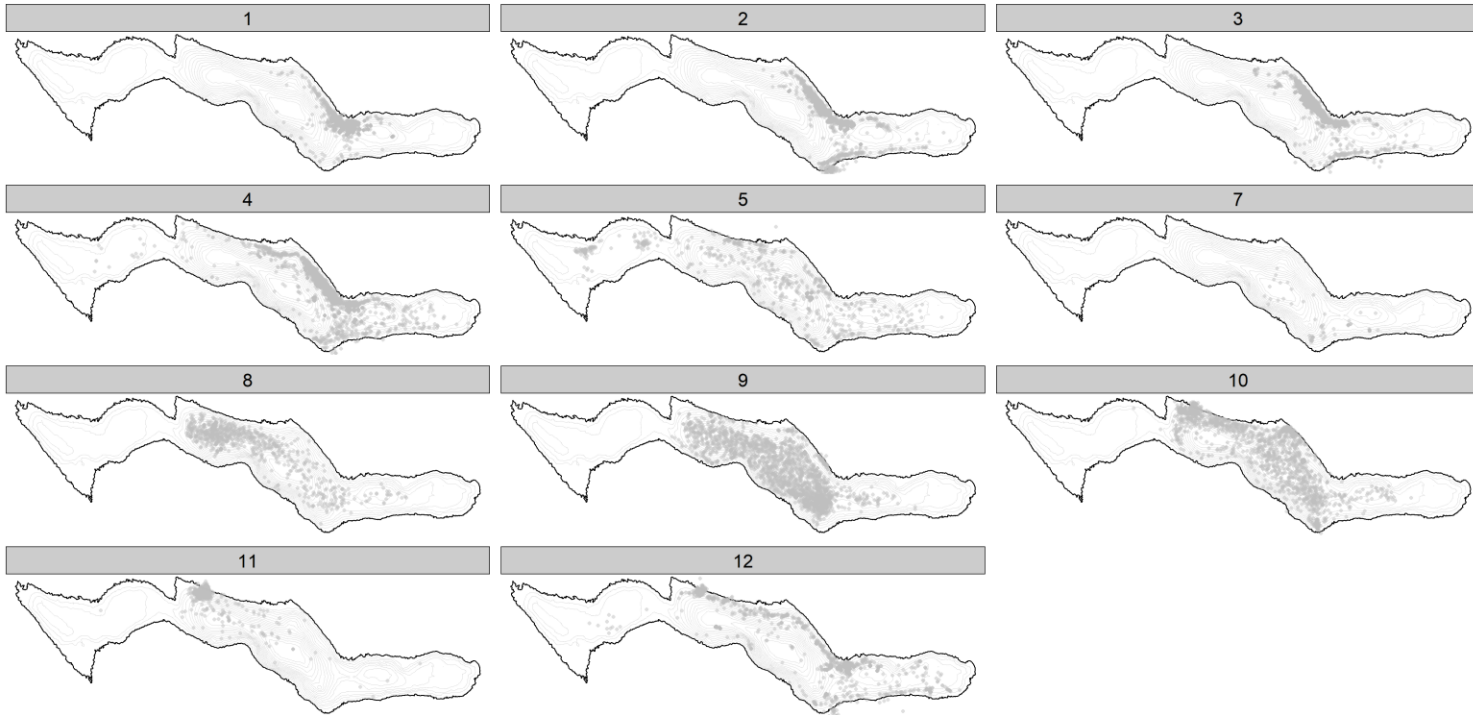
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2849-50



2853-54



2859-60