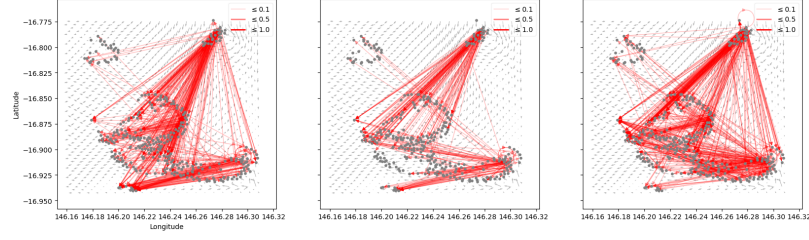
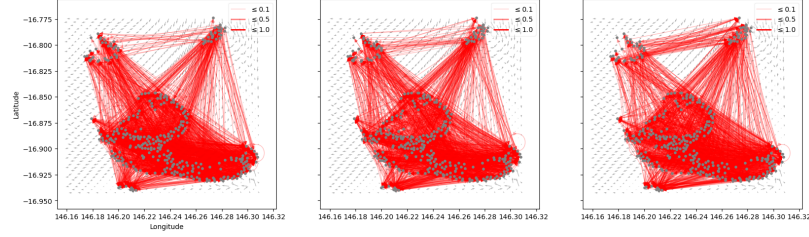


Supplementary Information for:

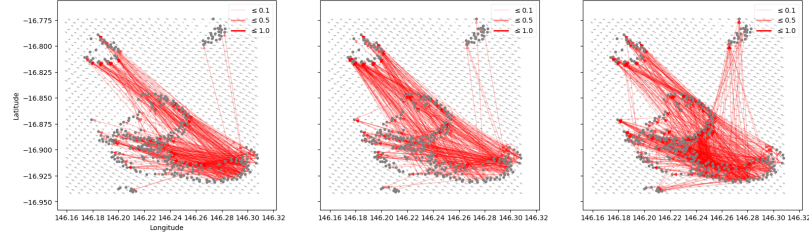
Ani et al. “Connectivity modelling identifies sources and sinks of coral recruitment within reef clusters”



(a) Spawning nights in 2015.

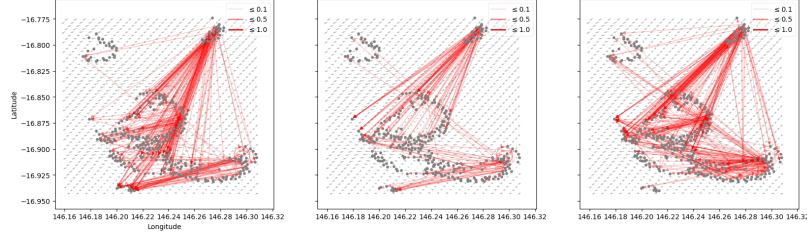


(b) Spawning nights in 2016

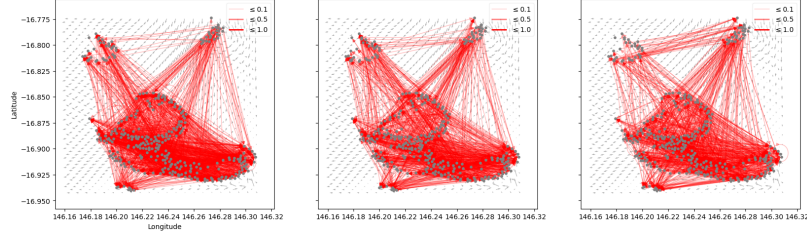


(c) Spawning nights in November 2017.

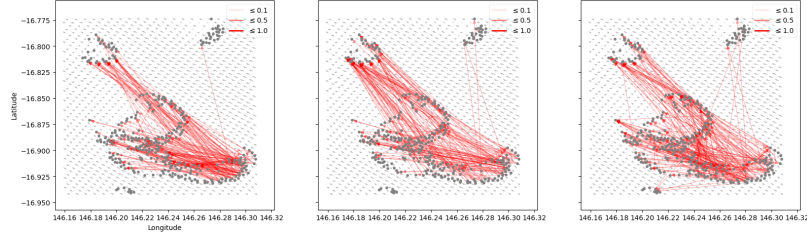
Supplementary Figure S1: Connectivity networks for *Acropora* coral in the Moore Reef cluster of the Great Barrier Reef for three nights of spawning in 2015 and 2016, and 3 nights in 2017 (first spawning event). From left to right: spawning nights 1, 2 and 3. Larval mortality was not considered. Nodes (points) represent the centroids of reef site polygons, red lines or arcs represent larval exchange between reef sites, and grey arrows correspond to the average tidal currents during larval dispersal. The transparency of links represents the strength of the larval exchange (i.e., the proportion of released larvae that settle on a site). A directed link is shown when larvae move from one node to settle on another node (straight line) or remain at the source node (cyclic line). The red arrowhead points to the settling or sink node. During larval dispersal, the average travel distances with respect to tidal currents are ~ 9.3 km (2015), ~ 9.6 km (2016) and ~ 18.1 km (November 2017).



(a) Spawning nights in 2015.

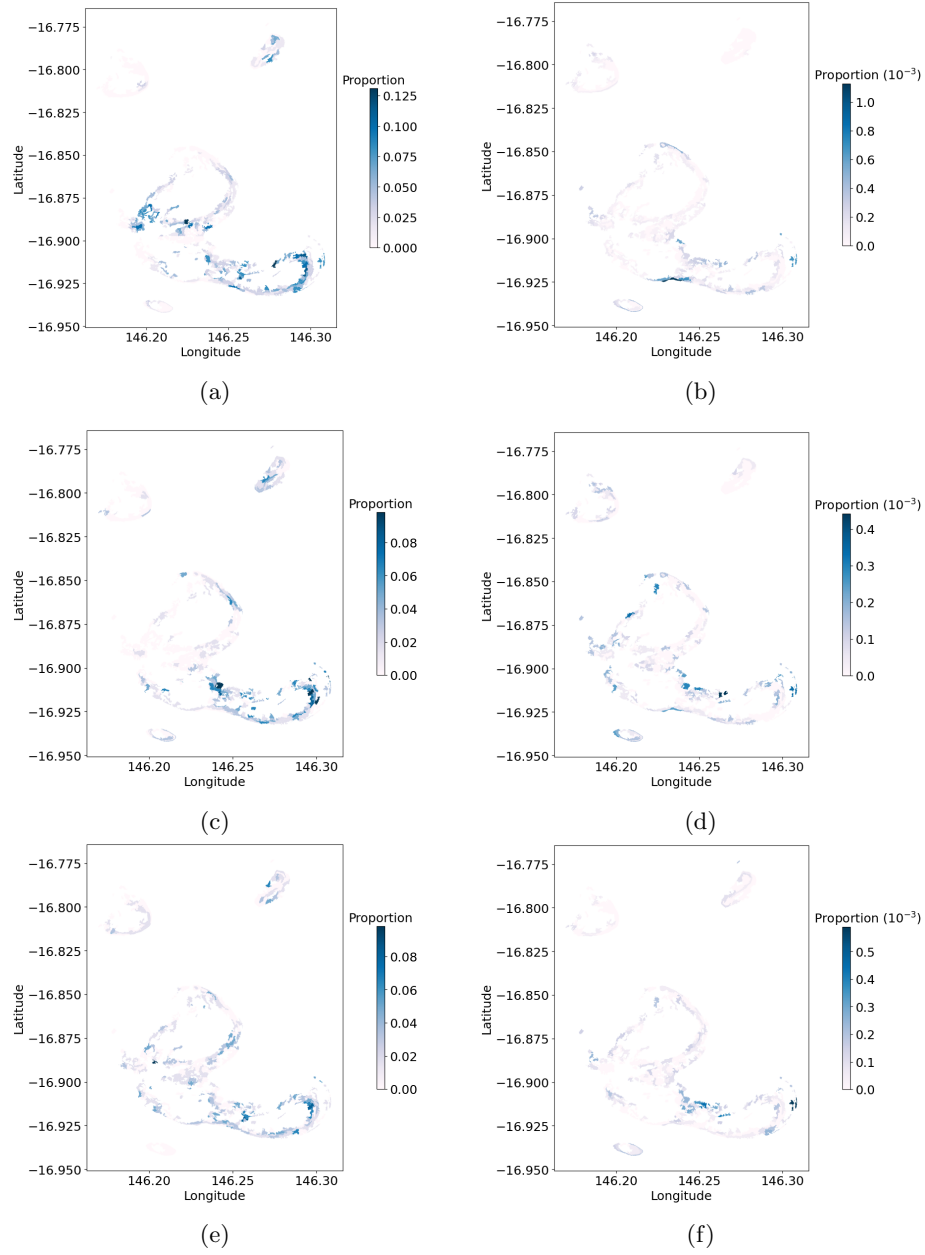


(b) Spawning nights in 2016

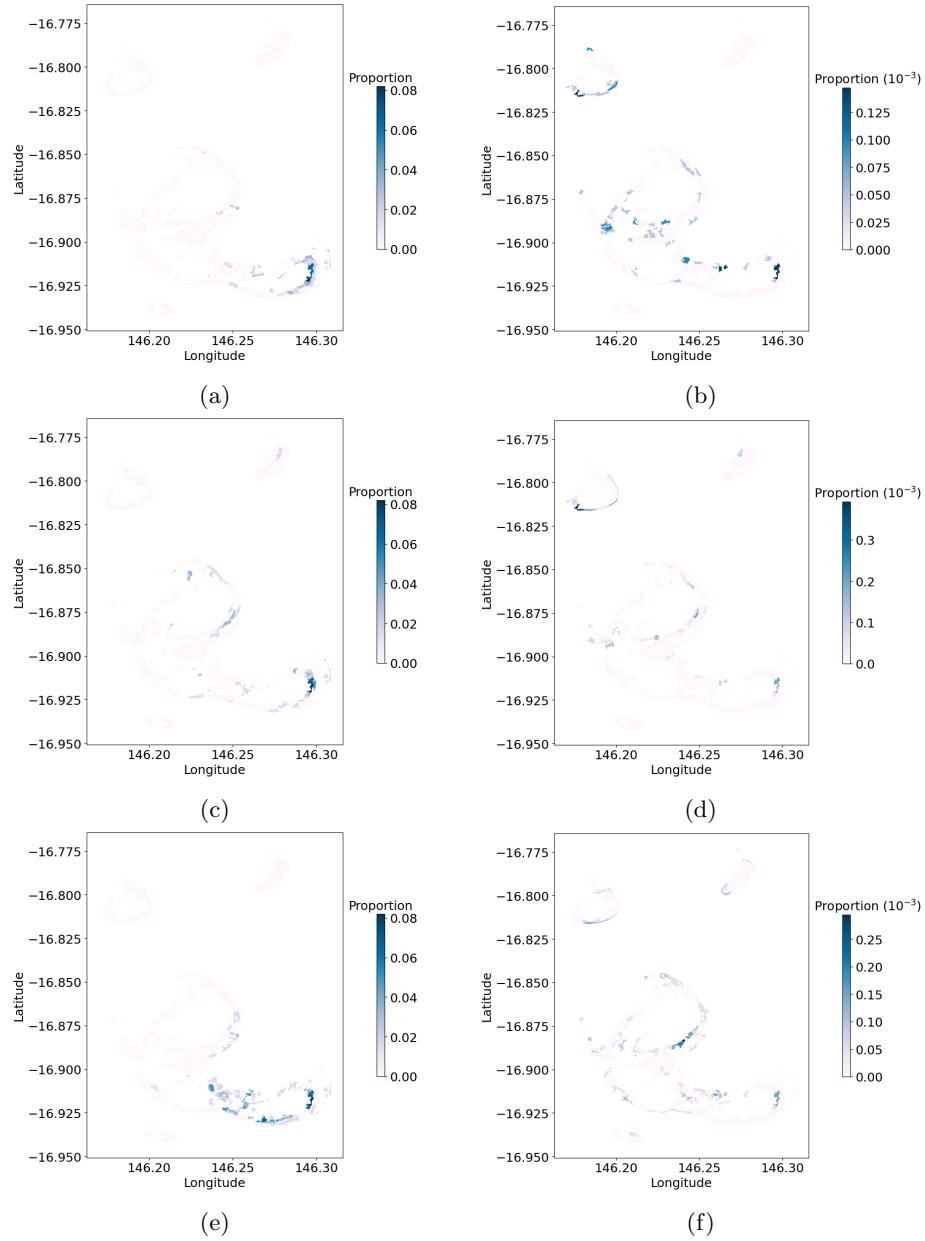


(c) Spawning nights in November 2017.

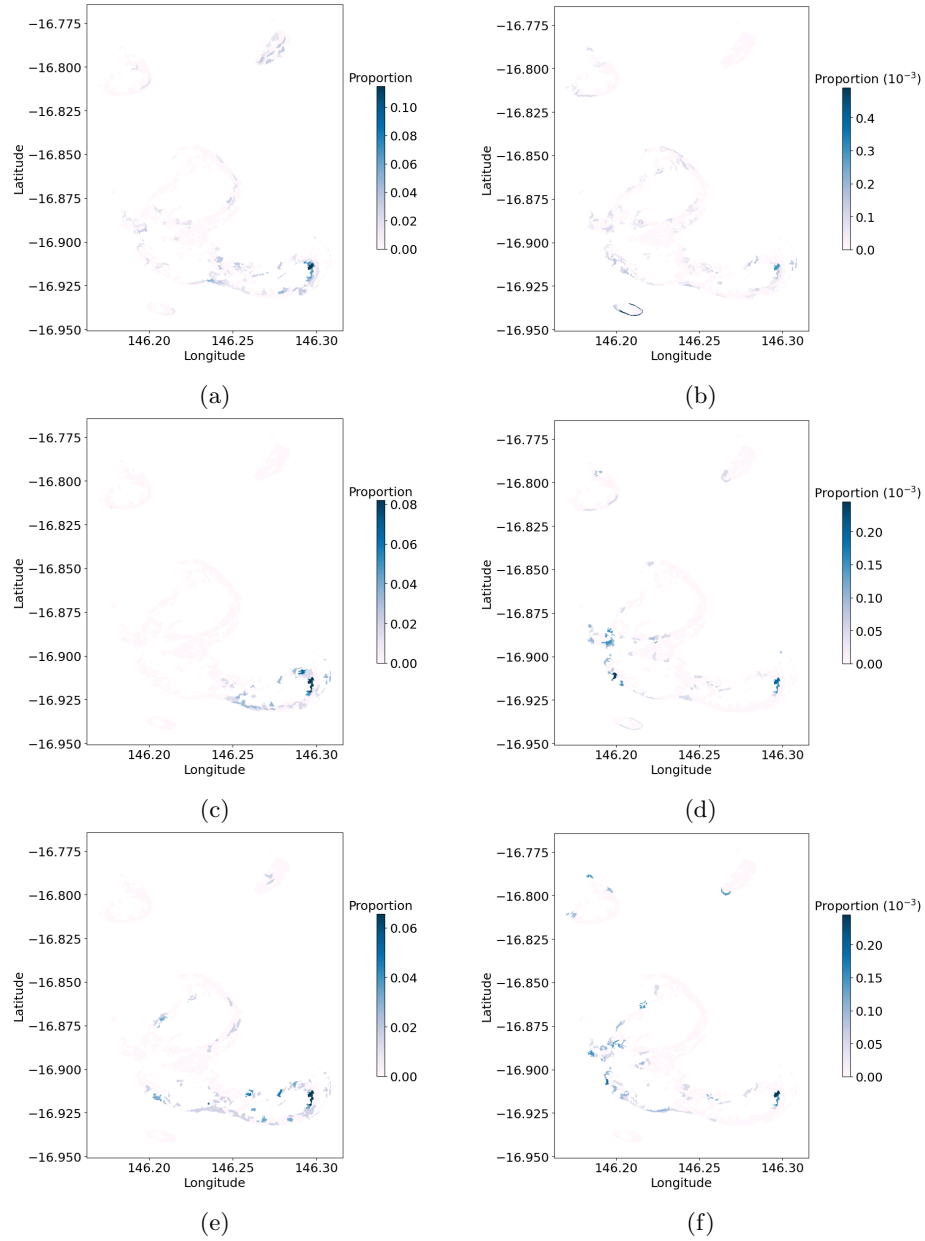
Supplementary Figure S2: Connectivity networks for *Acropora* coral in the Moore Reef cluster of the Great Barrier Reef for three nights of spawning in 2015 and 2016, and 3 nights in 2017 (first spawning event). From left to right: spawning nights 1, 2 and 3. 0.12 d^{-1} larval mortality rate was considered. Nodes (points) represent the centroids of reef site polygons, red lines or arcs represent larval exchange between reef sites, and grey arrows correspond to the average tidal currents during larval dispersal. The transparency of links represents the strength of the larval exchange (i.e., the proportion of released larvae that settle on a site). A directed link is shown when larvae move from one node to settle on another node (straight line) or remain at the source node (cyclic line). The red arrowhead points to the settling or sink node. During larval dispersal, the average travel distances with respect to tidal currents are $\sim 9.3 \text{ km}$ (2015), $\sim 9.6 \text{ km}$ (2016) and $\sim 18.1 \text{ km}$ (November 2017).



Supplementary Figure S3: Habitat map of reef sites that act as local sources (S3a, S3c and S3e) and sinks (S3b, S3d and S3f) during the 2016 annual mass spawning. Spawning night 1 (S3a and S3b), spawning night 2 (S3c and S3d), spawning night 3 (S3e and S3f). The colour bar labelled ‘Proportion’ corresponds to the proportion of released larvae from each reef site that settle on one or more other sites (S3a, S3c and S3e) and sum of the proportion of the total released larvae from all sites that settle on a particular site (S3b, S3d and S3f).



Supplementary Figure S4: Habitat map of reef sites that act as local sources (S4a, S4c and S4e) and sinks (S4b, S4d and S4f) during the first spawning event in 2017. Spawning night 1 (S4a and S4b), spawning night 2 (S4c and S4d), spawning night 3 (S4e and S4f). The colour bar labelled 'Proportion' corresponds to proportion of released larvae from each site that settle on one or more other sites (S4a, S4c and S4e) and sum of the proportion of the total released larvae from all sites that settle on a particular site (S4b, S4d and S4f).



Supplementary Figure S5: Habitat map of reef sites that act as local sources (S5a, S5c and S5e) and sinks (S5b, S5d and S5f) during the second spawning event in 2017. Spawning night 1 (S5a and S5b), spawning night 2 (S5c and S5d), spawning night 3 (S5e and S5f). The colour bar labelled ‘Proportion’ corresponds to the proportion of released larvae from each reef site that settle on one or more other sites (S5a, S5c and S5e) and sum of the proportion of the total released larvae from all sites that settle on a particular site (S5b, S5d and S5f).