

## Supporting Information for

# Spatiotemporal Evaluation of Regional Land Use Dynamics and Its Potential Ecosystem Impact under Carbon Neutral Pathways in the Guangdong–Hong Kong–Macao Greater Bay Area

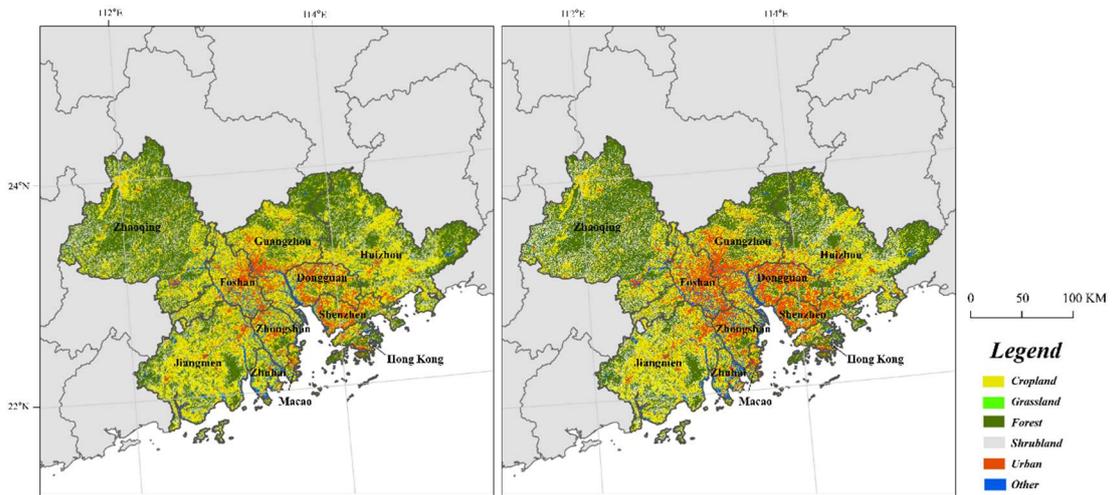
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**Table S1.** Reclassification of land-use data from multiple models

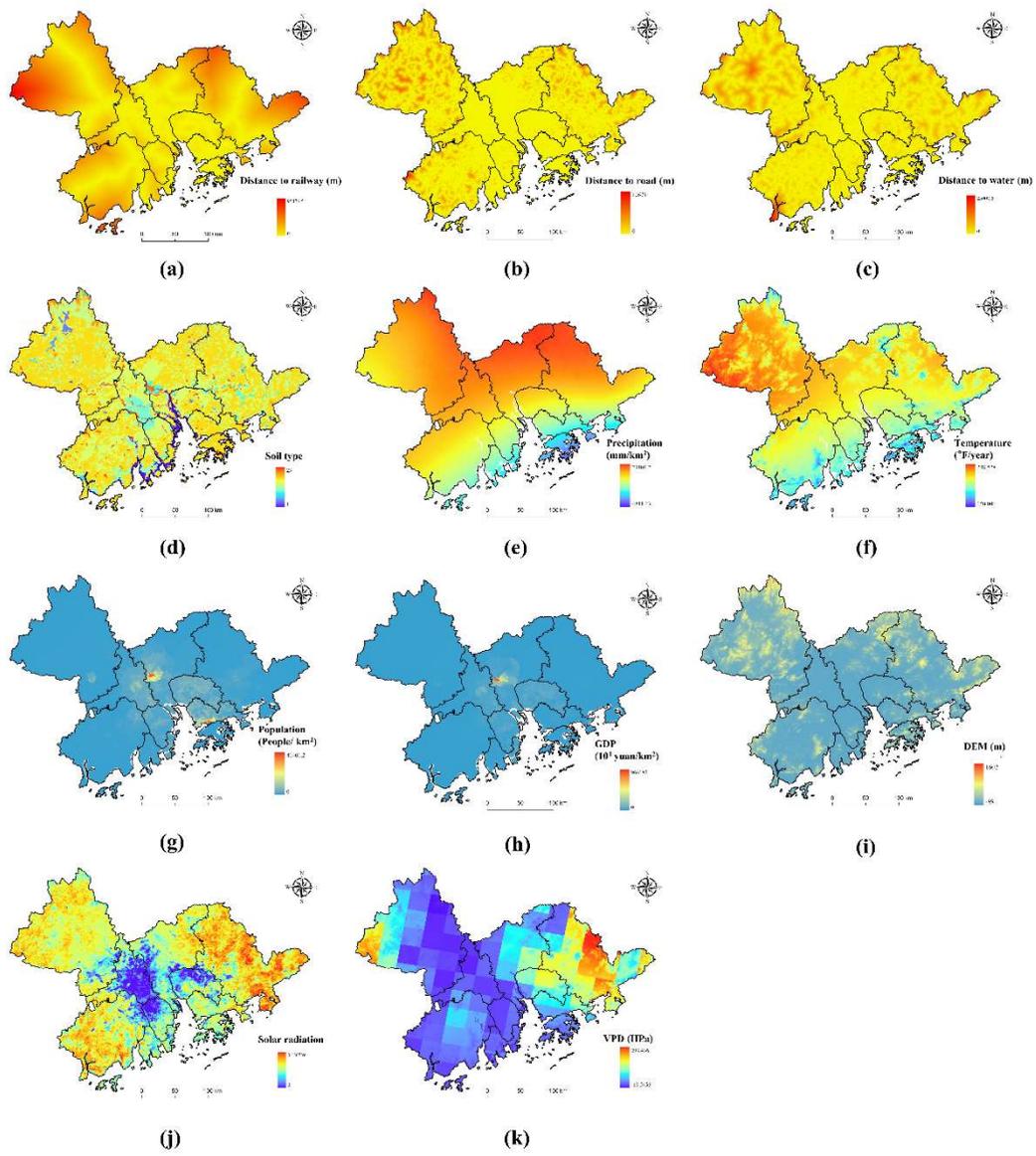
PLUS (6 classes)	Landsat land-use data (15 classes)
1 Cropland	10 Rainfed cropland
	20 Irrigated cropland
2 Grassland	11 Herbaceous covers
3 Forest	51 Open evergreen broadleaved forest
	52 Closed evergreen broadleaved forest
	61 Open deciduous broadleaved forest (0.15<fc<0.4)
	62 Closed deciduous broadleaved forest (fc>0.4)
	71 Open evergreen needle-leaved forest (0.15<fc<0.4)
	72 Closed evergreen needle-leaved forest (fc>0.4)
4 Shrubland	120 Shrubland
	121 Evergreen shrubland
5 Urban	190 Impervious surfaces
6 Other	180 Wetlands
	210 Water bodies
	220 Permanent ice and snow

**Table S2.** The information on driving factors

Driving factors	Spatial resolution	Data sources
Precipitation	1000 m	The Data Center for Resources and Environmental Sciences of the Chinese Academy of Sciences
Temperature		
GDP		
Population		
Solar radiation	~500 m	EARTHDATA ( <a href="https://lpdaac.usgs.gov/products/mcd43a3v061/">https://lpdaac.usgs.gov/products/mcd43a3v061/</a> )
VPD	1000 m	Climate Data Store ( <a href="https://cds.climate.copernicus.eu/cdsapp#!/dataset/reanalysis-era5-land?tab=form">https://cds.climate.copernicus.eu/cdsapp#!/dataset/reanalysis-era5-land?tab=form</a> )
DEM	30 m	The geospatial data cloud ( <a href="https://www.gscloud.cn">https://www.gscloud.cn</a> )
Road network data	/	OpenStreetMap ( <a href="http://www.openstreetmap.org">www.openstreetmap.org</a> )
River data		
Railway data		
Soil type data	1000m	Harmonized World Soil Database ( <a href="https://www.fao.org/soils-portal/soil-survey/soil-maps-and-databases/harmonized-world-soil-database-v12/en/">https://www.fao.org/soils-portal/soil-survey/soil-maps-and-databases/harmonized-world-soil-database-v12/en/</a> )



**Fig.S1.** (a) Land cover map of 2000; (b) land cover map of 2010.



**Fig. S2.** Maps of nine driving factors: (a) distance to railway; (b) distance to road; (c) distance to water; (d) soil type; (e) precipitation; (f) temperature; (g) population; (h) GDP; (i) DEM; (j) solar radiation; (k) VPD.