

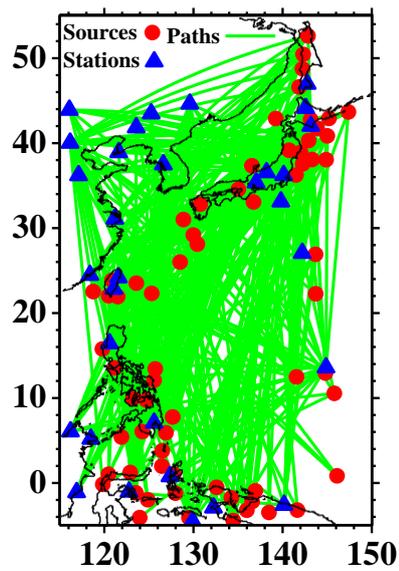
## **Supplementary material**

Supplement 1. Path coverage of the Rayleigh waves: (a) for the period range from 20 to 150 s (324 paths), (b) for 5 s (301 paths) and (c) for 200 s (224 paths). (d) Number of paths calculated for each dispersion-data period determined from the Rayleigh-wave analysis.

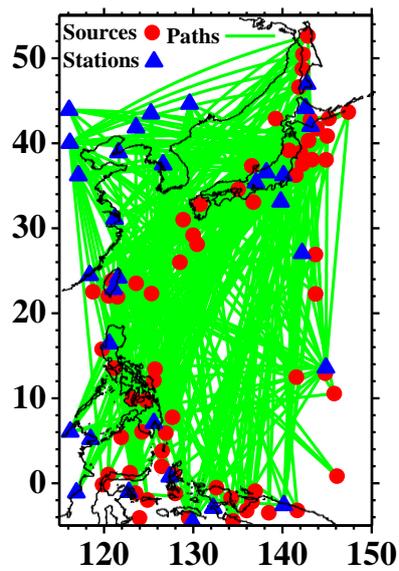
Supplement 2. Geographical distribution of the S-velocity as a function of depth. The interval between isolines is 0.1 km/s.

Supplement 3. Geographical distribution of the 1-sigma errors arisen in computation of the S-velocities shown in Supplement 2. The interval between isolines is 0.01 km/s.

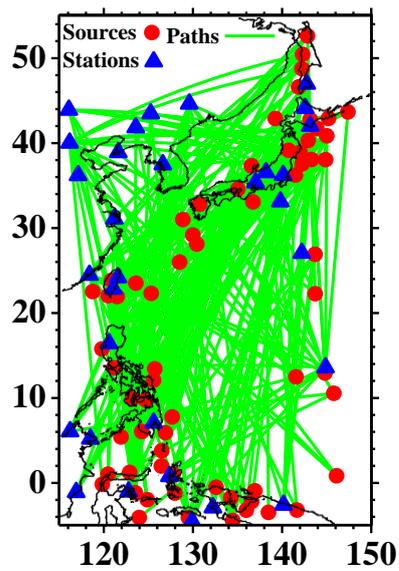
Supplement 4. Resolution maps of the inversion process performed to calculate the S-velocities shown in Supplement 2, plotted from 0 (not resolved) to 1 (perfect resolution). The interval between isolines is 0.1.



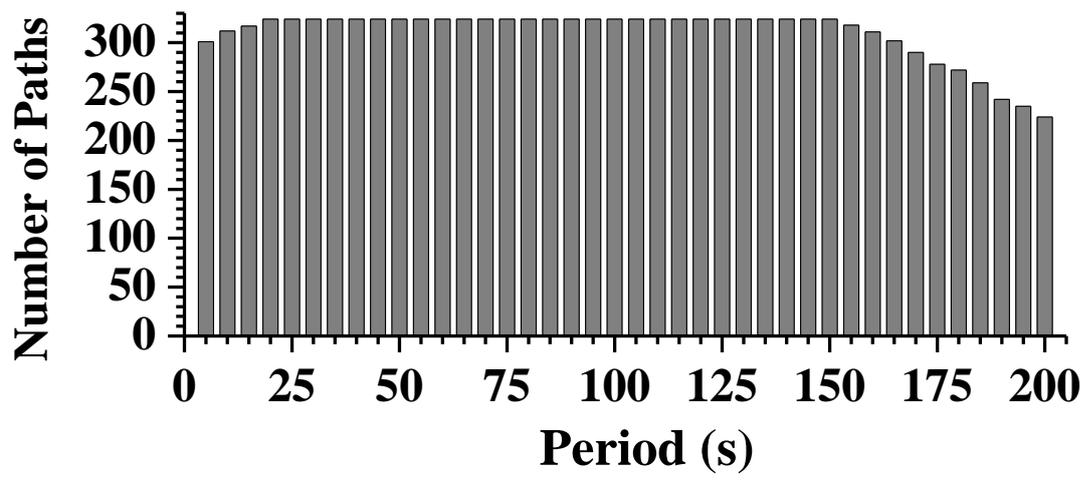
**(a)**



**(b)**

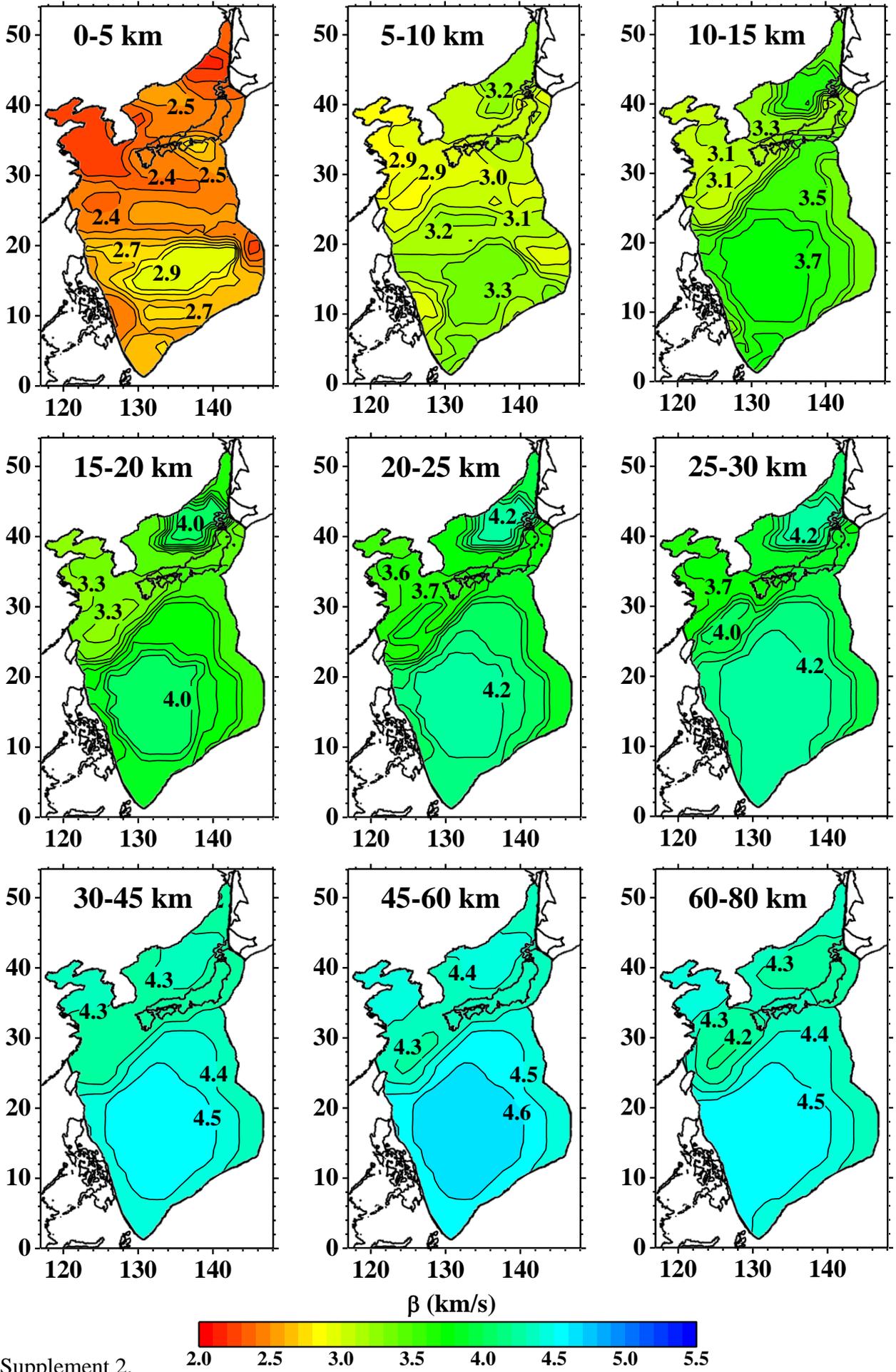


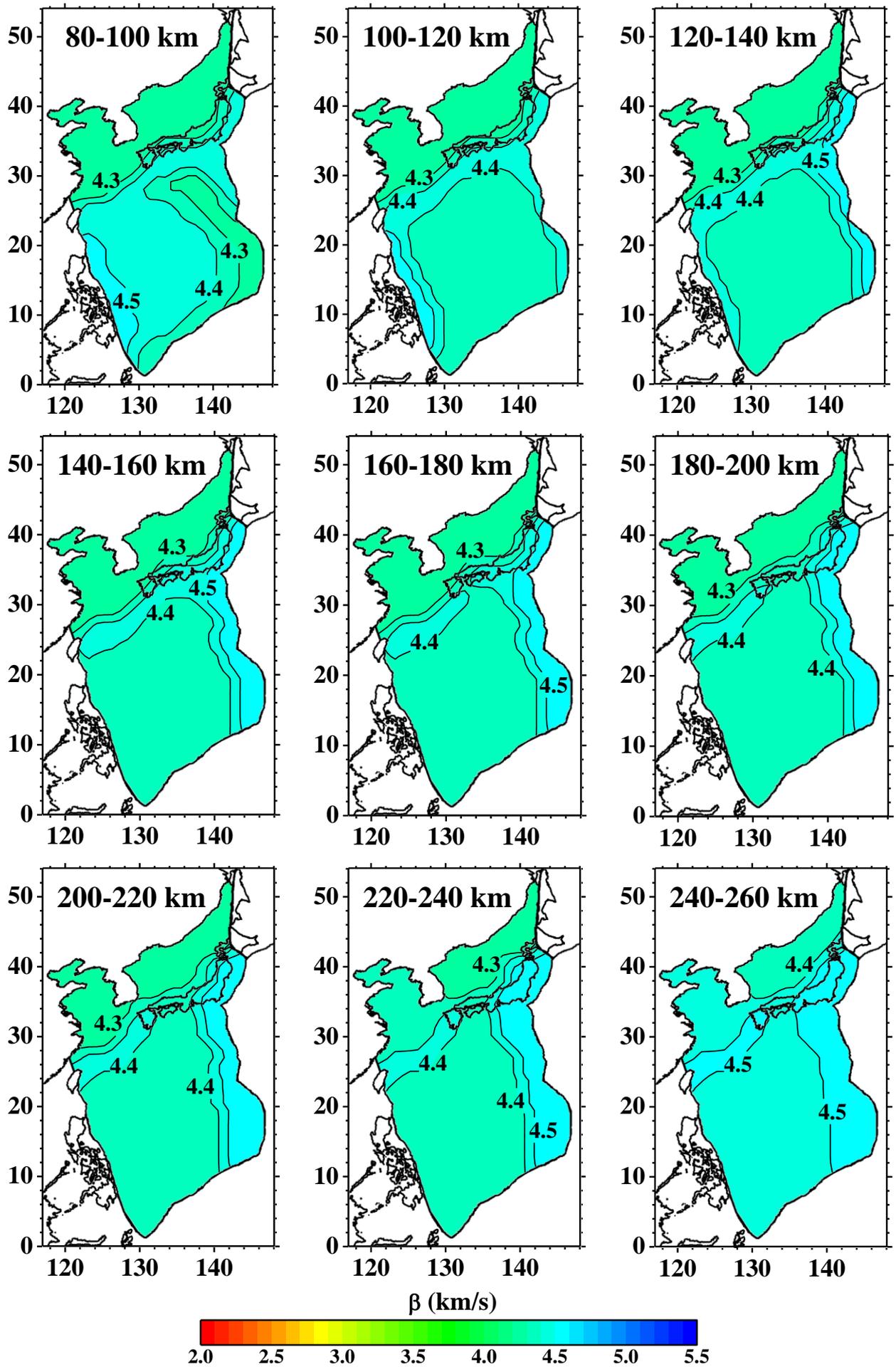
**(c)**



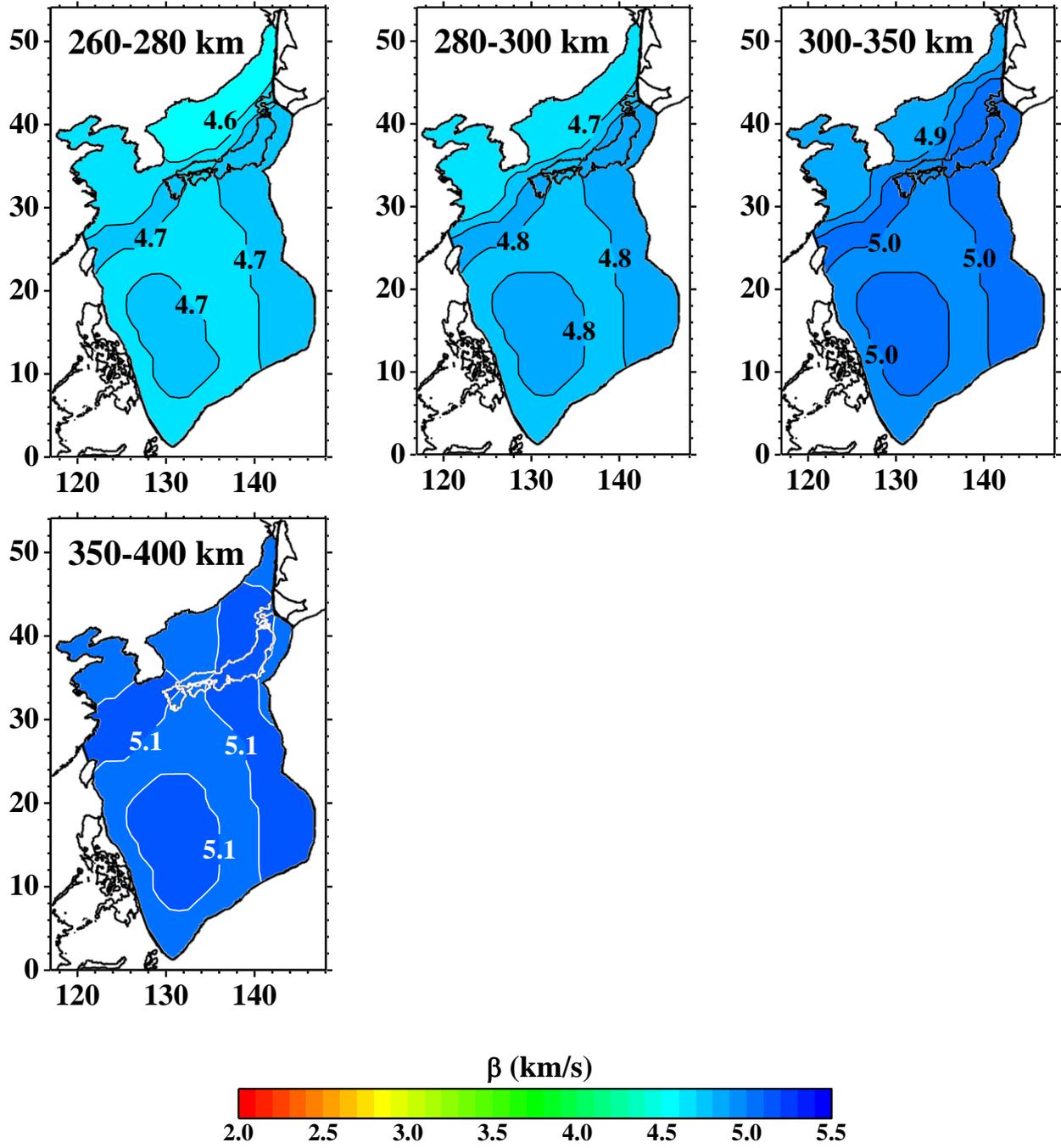
**(d)**

Supplement 1.

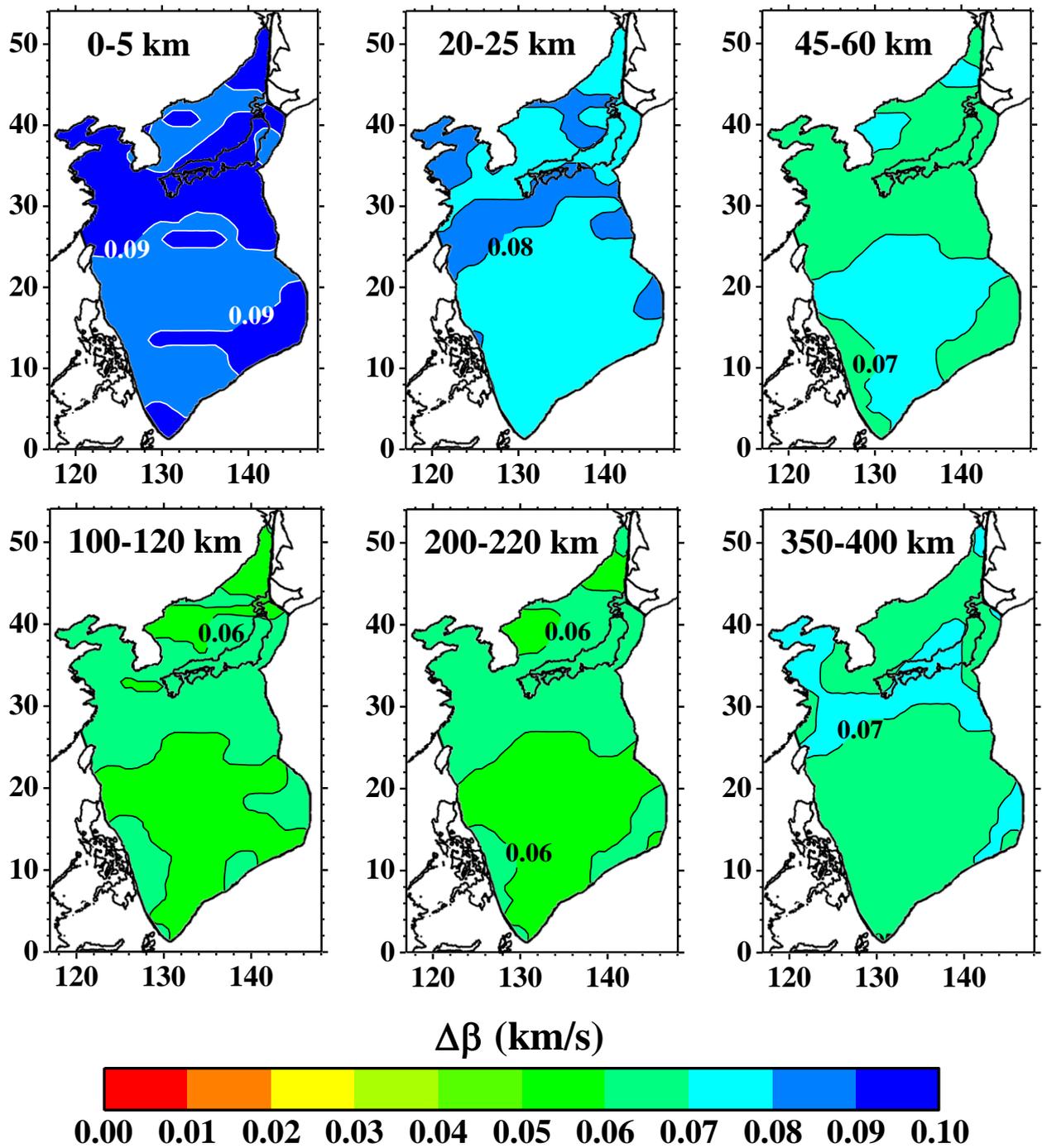




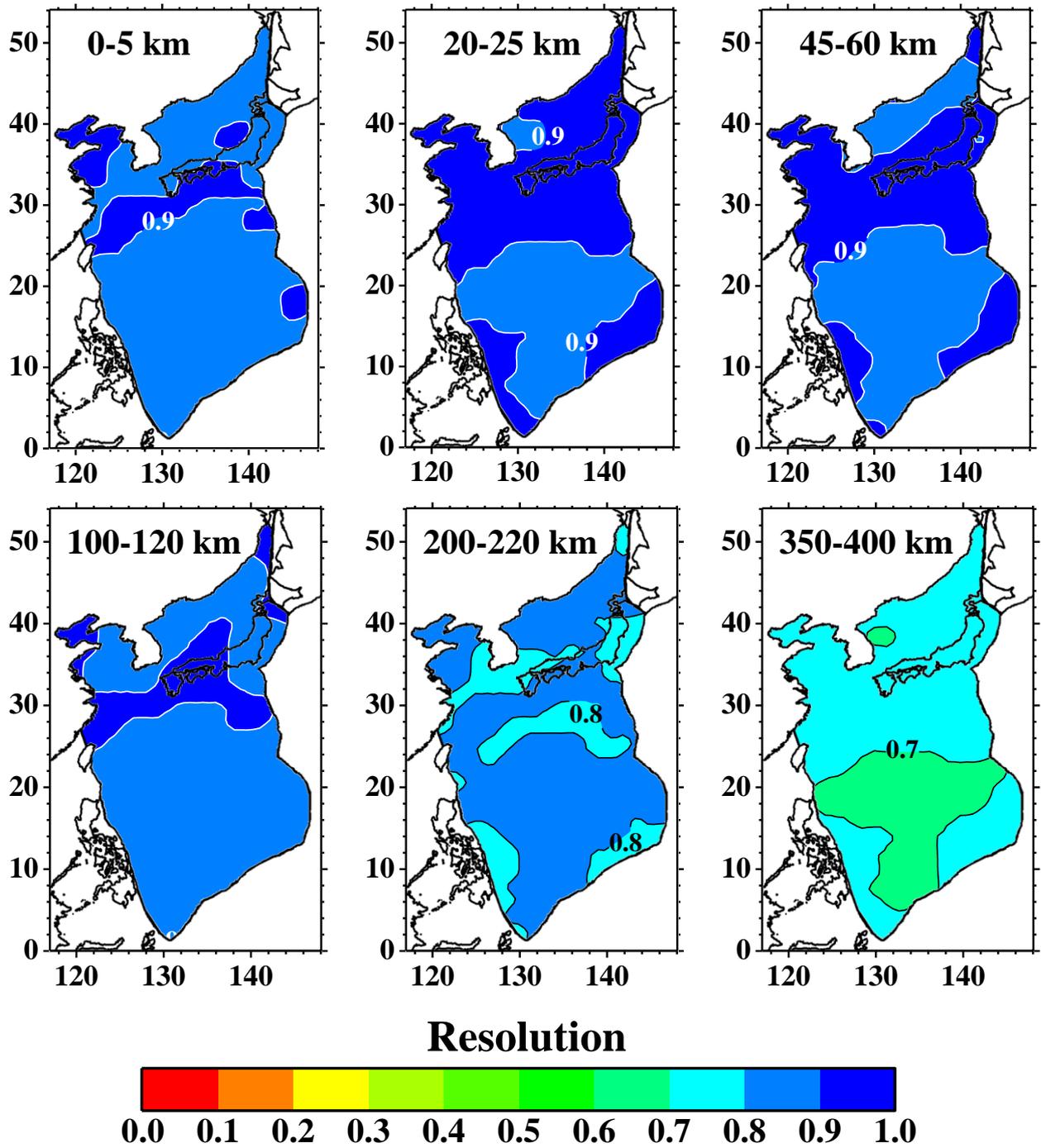
Supplement 2 (continued).



Supplement 2 (continued).



Supplement 3.



Supplement 4.