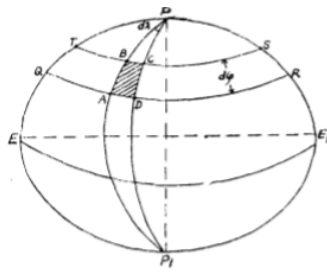
Thanks for your constructive comments. As you said, the area of a grid cell (ABCD as shown in figure below) can be calculated by R*R*(lon1-lon2)*pi/180*[sin(lat1)-lat2],

but only the navigability at points (point A, B, C, and D) can be confirmed according to the data and method. So the real navigable area and percentage can not be obtained because the accessibility is still unknown within the interior zone. The points were uniformly distributed at each latitude after interpolation. Therefore, the percentage of navigable points indicate the percentage of navigable area to a certain extent. The Y labels were revised to navigable grid points in Figures 7 and 8.