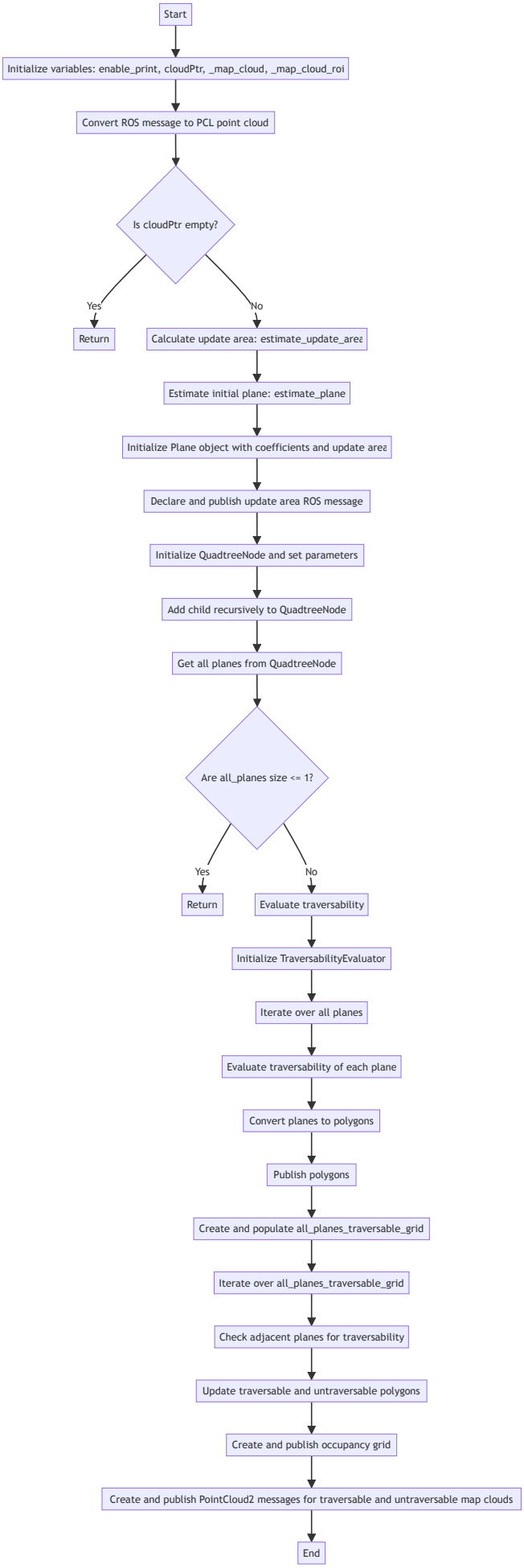
Start
Initialize variables: enable_print, cloudPtr, _map_cloud, _map_cloud_roi
Convert ROS message to PCL point cloud
Is cloudPtr empty?
Yes
No
Return
Calculate update area: estimate_update_area
Estimate initial plane: estimate_plane
Initialize Plane object with coefficients and update area
Declare and publish update area ROS message
Initialize QuadtreeNode and set parameters
Add child recursively to QuadtreeNode
Get all planes from QuadtreeNode
Are all_planes size <= 1?
Yes
No
Return
Evaluate traversability
Initialize TraversabilityEvaluator
Iterate over all planes
Evaluate traversability of each plane
Convert planes to polygons
Publish polygons
Create and populate all_planes_traversable_grid
Iterate over all_planes_traversable_grid
Check adjacent planes for traversability
Update traversable and untraversable polygons
Create and publish occupancy grid
Create and publish PointCloud2 messages for traversable and untraversable map clouds
End