We use calculus to calculate the number of pixels to be reloaded when observing from the air.

When observing from the air, because of the visibility in the air is about 13000 meter, the radius of the ground that can be seen is .

We can divide this circle into rings and the thickness of these rings are all . ()

(Picture)

Now we consider the th ring from the inside to the outside. Asis far less than, the distance between the observer and the points on the ring can be considered as , which is equal to .

According to the formula to calculate the number of pixels that is introduced before, the total amount of pixels on this ring is , and it can be simplified into .

After integral operations on the variable, we finally get the equation (…)