

# FAO-JRC Global Forest Remote Sensing Survey: Answers to frequently asked questions

For more information: [www.fao.org/forestry/fra/remotesensingsurvey/en/](http://www.fao.org/forestry/fra/remotesensingsurvey/en/)

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## **What is the Global Forest Remote Sensing Survey?**

The FAO-led Global Forest Remote Sensing Survey is the most comprehensive snapshot yet of the world's forests. The survey covers the whole world through over 13,000 individual images. The satellite imagery used in the survey comes from NASA (the US National Aeronautics and Space Administration) and the US Geological Survey (USGS).

## **What can satellite imagery tell us about the world's forests?**

Satellites are great for mapping forest area - especially changes over time. From satellite images we can detect different signals for different types of land cover. This enables us to separate tree cover, like forests, from other areas like cropland or urban areas.

## **Why was this study conducted?**

The study was done to improve our knowledge of the changes that occur in forest area over time. The findings enhance the information already gathered in the Global Forest Resources Assessment 2010 (FRA 2010), which is based on a compilation of country reports that made use of a wide variety of sources.

## **What were the key findings?**

The new findings suggest that the rate of world deforestation, mainly the conversion of tropical forests to agricultural land, averaged 14.5 million hectares per year between 1990 and 2005. The survey also shows that worldwide, the net loss in forest area between 1990 and 2005 was not as great as previously believed. Forest conversion to other land uses was partially offset by gains in forest areas. The world lost an average of 4.9 million hectares of forest per year, between 1990 and 2005, or nearly 10 hectares of forest per minute over the 15-year period. This is 32 percent less than previously estimated (resulting in a net loss of 72.9 million hectares total, compared to 107.4 million hectares from the FRA 2010).

## **What were some of the regional differences?**

Deforestation occurred in all regions, but the loss of forests was highest in the tropics, where just under half of the world's forests are located. The highest rate of conversion of forest to other land uses was in South America, followed by Africa. Asia was the only region to show net gains in forest land-use area in both periods, due in part to extensive planting that has been reported in several countries, primarily China.

## **What's the difference between deforestation and net forest area change/net forest loss?**

Deforestation implies the loss of forest area, usually through a clearing of forests and the conversion of the land to other uses, or natural disasters. The net change in forest area is the sum of all the losses and gains in forest area over a given period and is normally expressed in the average number of hectares gained/lost per year. Forest area can be gained through the planting of trees on land which was not previously forested (afforestation) and expansion of forests through natural regeneration, such as when agricultural land has been abandoned or trees replace grasslands. Clear-felling of forests and natural regeneration or planting (reforestation) of such sites result in a zero change in forest area.

## **Can we get all the data we need on forests from satellites?**

No, there is a lot of information that is needed to properly manage forests that cannot be obtained from satellites. We still need a lot of important information from the field to know enough about our forests. For example, it is still very difficult to detect different tree species from most satellite imagery and we often need to know that to manage forests adequately.

**What are the next steps?**

Together with the broad range of information collected by countries, this data can be used to assist countries and organizations to better manage forests. The data will also be used to produce additional papers on land cover changes in 2012. The study has set up a framework for future monitoring of forests and other land use changes that can be built upon by countries or other collaborating organisations.

**What's the world's forest area?**

The world has just under 4 billion hectares of forest, or 30.3 percent of its total land area. The ten most forest-rich countries account for two-thirds of the total forest area. In descending order of forest area they are: The Russian Federation, Brazil, Canada, USA, China, Australia, Democratic Republic of the Congo, Indonesia, Peru, and India. The first five of these account for more than half of the world's forest area.