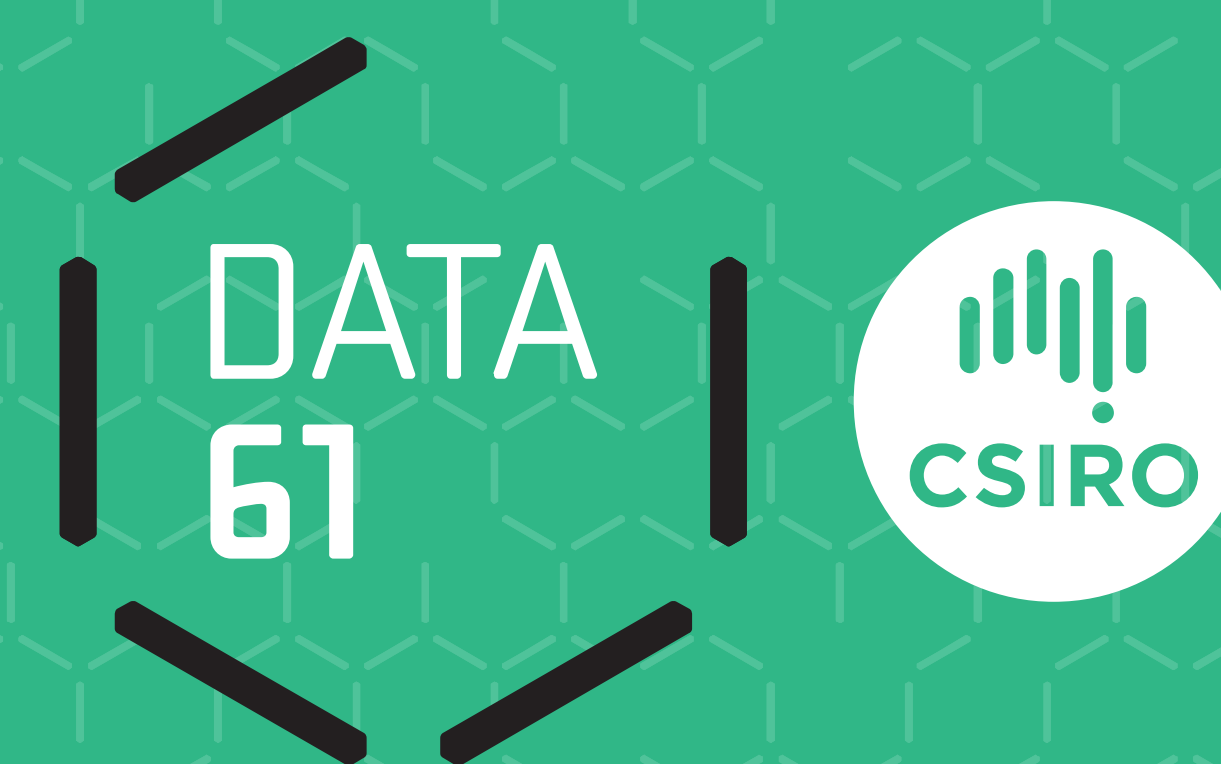


# Implementing Indonesia's National Forest Carbon Accounting System 2009 - 2016

CSIRO Contributions to Forest Monitoring in Indonesia

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The INCAS is a national level greenhouse gas accounting system that is being developed by the Government of Indonesia (GOI) to support their international measurement, reporting and verification requirements for the land sector. Through the INCAS Program of Support, the Australian Government has been supporting GOI to develop and operationalise the INCAS. This includes the delivery of targeted technical assistance from CSIRO to train GOI officials and national experts in the remote sensing components of the INCAS.

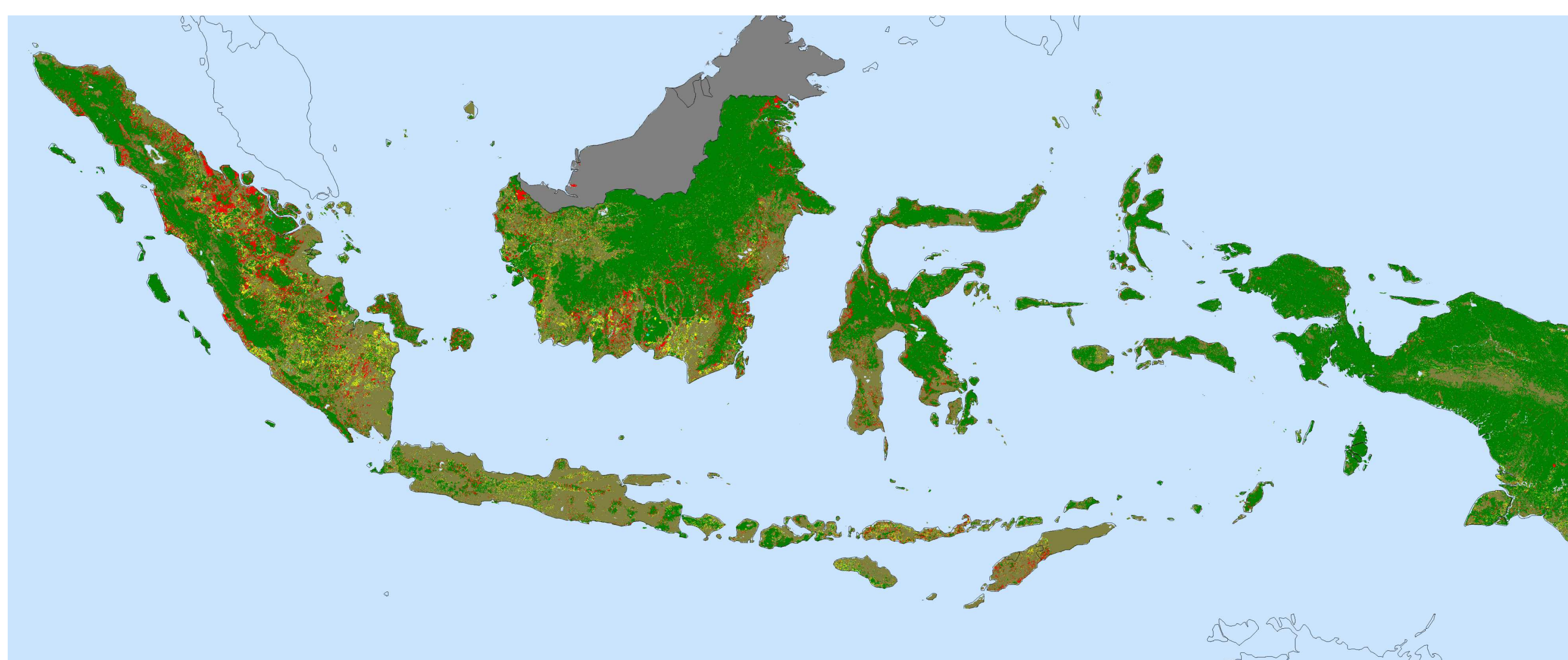


Figure 1: Forest extent and change map 2000-2012 for Indonesia. Dark green indicates areas that were always forest from 2000 to 2012, red shows forest loss between 2000 and 2012 while yellow indicates forest gain in the same period.



Figure 2: Forest change 2000-2012 by year. Dark green is mapped as forest in 2000. Shades of red, orange, yellow and pink are forest loss. Each shade corresponds to a different year. Shades of green, blue and purple are forest gain.

## CSIRO Role

INCAS will help produce the most detailed picture of forestry-based GHG emissions for any developing country. The system is based on Australia's domestic forest monitoring system.

Since 2009, CSIRO has provided sustained technical assistance to help build the remote sensing forest monitoring system of INCAS. The principal partner agency has been the Indonesian National Institute of Aeronautics and Space (LAPAN), along with other Indonesian government agencies. The system has been successfully implemented at LAPAN producing image coverage and national products (forest and change maps) spanning the period 2000-2012 with ongoing annual updates.

The keys to the long-term success have been:

1. The long term commitment by Australia through IAFCP/DFAT and by individuals to build a working operational system and capacity in Indonesia. Many stages took longer than first planned, but had we simply conducted training and assumed that the methods would then be implemented the current results would not have been achieved.
2. The regular visits from people in the CSIRO group, building strong trust and relationships, and their ability to deliver technical outcomes.
3. A strong and demanding partner in LAPAN with the right mandate and willingness. LAPAN are seeking to grow the relationship into other areas of their activities.

## CSIRO Impact

The INCAS activities have had a profound impact on LAPAN over the six years of their involvement in the project. The following is an extract from an email from Tom Harvey who is now Coordinator of the Global Forest Observations Initiative Office at the UN FAO. Dedi Irawadi is the LAPAN Director of the Remote Sensing Data Centre.

"By the way, Pak Dedi spoke very, very highly yesterday of the work you've done with LAPAN. He said: INCAS has "transformed" the way LAPAN works. He said all of LAPAN's core processes from data processing, archiving, receiving and distributing have improved remarkably since the INCAS program (read: CSIRO/you started working with them). He also said "INCAS or no INCAS, we will keep doing this work because it has been so good for LAPAN and become so important valuable for Indonesia." So there you go, that's about as good a wrap as I've heard from a partner government agency commenting on a development/capacity building program!"



Figure 3: Captured moments with the project team.

### FOR FURTHER INFORMATION

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### REFERENCES

Roswintarti O., Dewanti, R., Furby S.L and Wallace J.F. *The Remote Sensing Monitoring Program of Indonesia's National Carbon Accounting System: Methodology and Products*. LAPAN-IAFCP. Jakarta. 2014. Available [http://www.incas-indonesia.org/wp-content/uploads/2015/10/INCAS-LAPAN\\_remote\\_sensing.pdf](http://www.incas-indonesia.org/wp-content/uploads/2015/10/INCAS-LAPAN_remote_sensing.pdf)

