

# A comparisons of Landsat derived forest cover products for Nepal: thematic, temporal and spatial differences

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# Landsat forest cover assets for Nepal

**ICIMOD** 1990, 2000 and 2010

**Hansen** 2000-2017

**EW/OSU** 1988-2016

# Thematic Differences

**ICIMOD** - Mapped land cover distribution,  
including forests

**Hansen** - Mapped percent forest cover in 2000  
and forest change 2001-2017

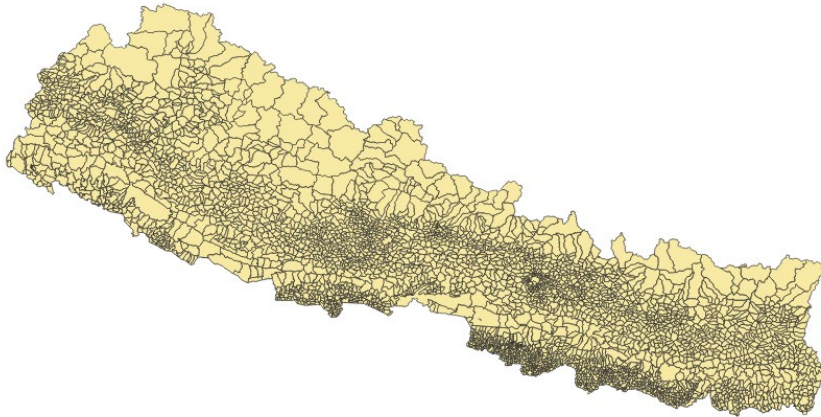
**EW/OSU** - Mapped presence/ absence of trees

# Temporal Differences

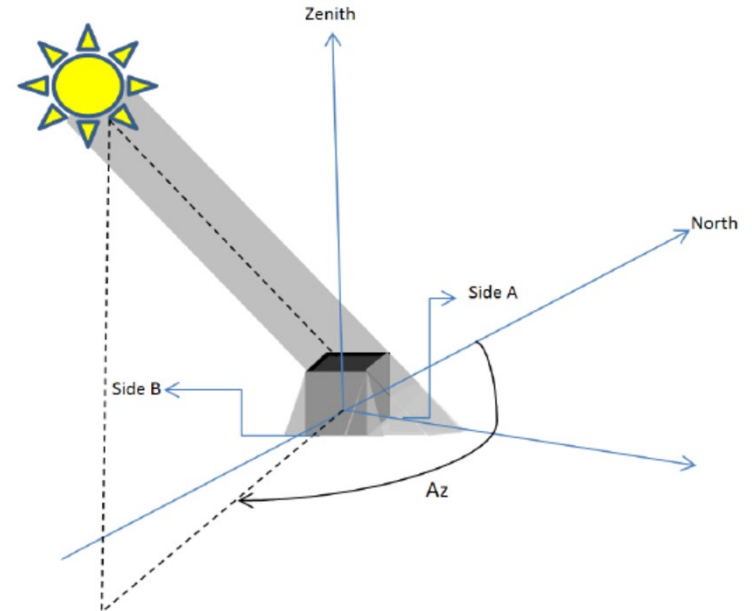
	1990	1995	2000	2005	2010	2015
ICIMOD Landcover	1990		2000		2010	
Hansen Forest Change			2000			2017
EW/OSU	1988					2016

# Spatial Differences

Village Development Committee (VDC)



Hill Slope and Sun Angel



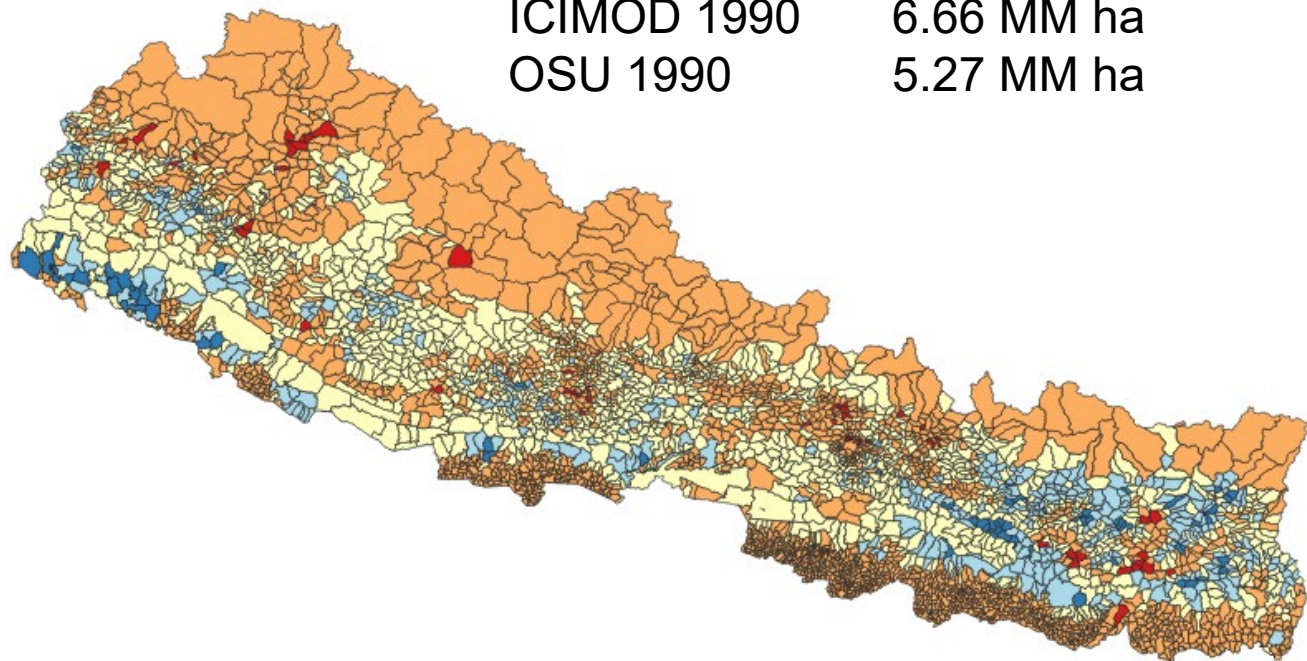
[https://www.researchgate.net/figure/Direction-of-shadow-in-satellite-images-Az-is-Azimuth-angle-of-sun-Depending-on-the\\_fig2\\_283704460](https://www.researchgate.net/figure/Direction-of-shadow-in-satellite-images-Az-is-Azimuth-angle-of-sun-Depending-on-the_fig2_283704460)

# ICIMOD 1990 - EW/OSU 1990 by VDC

## National Forest Cover

ICIMOD 1990 6.66 MM ha

OSU 1990 5.27 MM ha



## OSU Higher Forest Cover

■ -0.05 - -0.03

■ -0.03 - -0.10

■ -0.01 - 0.01

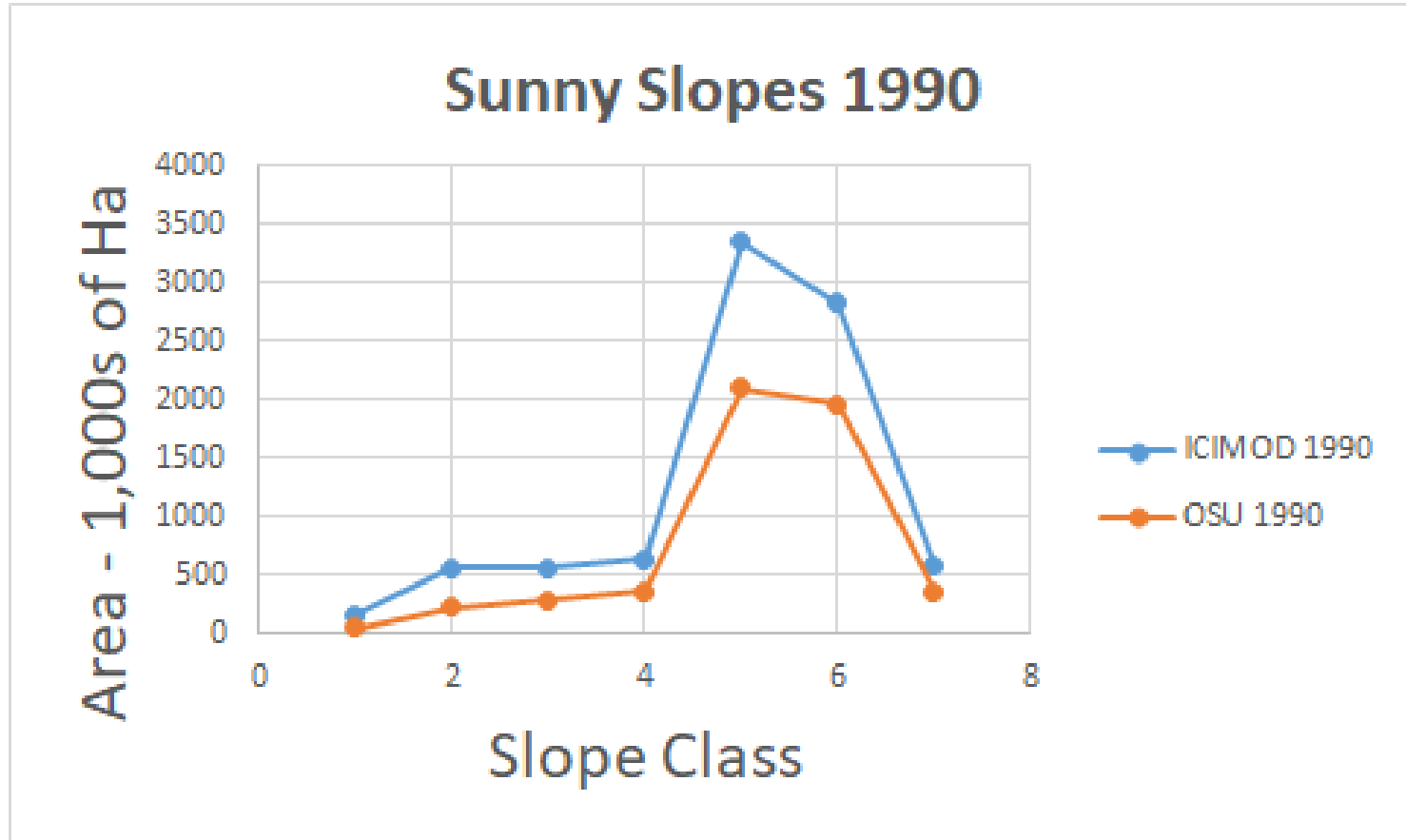
■ 0.01 - 0.03

■ 0.03 - 0.05

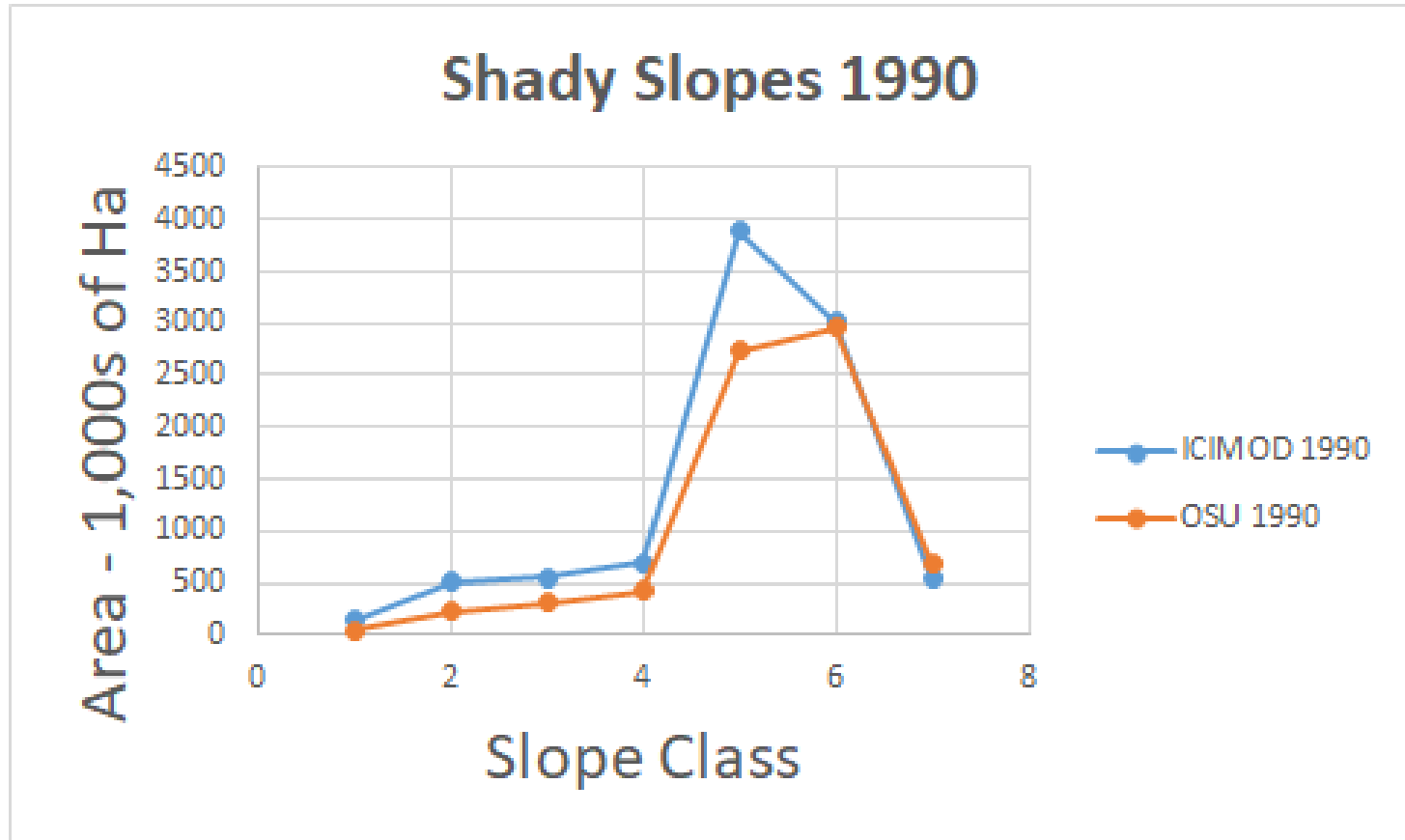
## ICIMOD Higher Forest Cover

0 200 km

# 1990 ICIMOC & EW/OSU Data on Sun Facing Slopes



# 1990 ICIMOC & OSU Data on Shaded Slopes

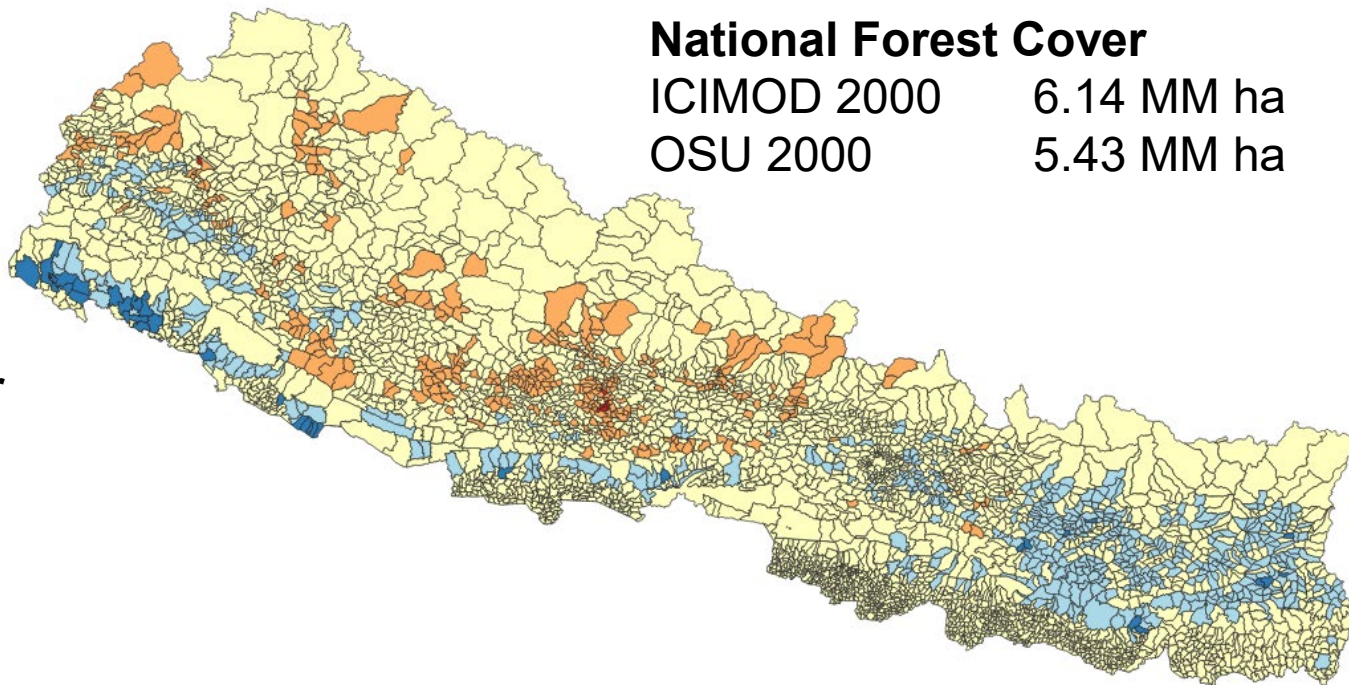




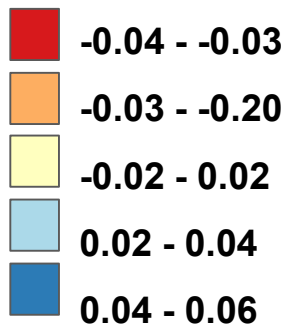
# ICIMOD 2000 - EW/OSU 2000 by VDC

## National Forest Cover

ICIMOD 2000	6.14 MM ha
OSU 2000	5.43 MM ha



## OSU Higher Forest Cover

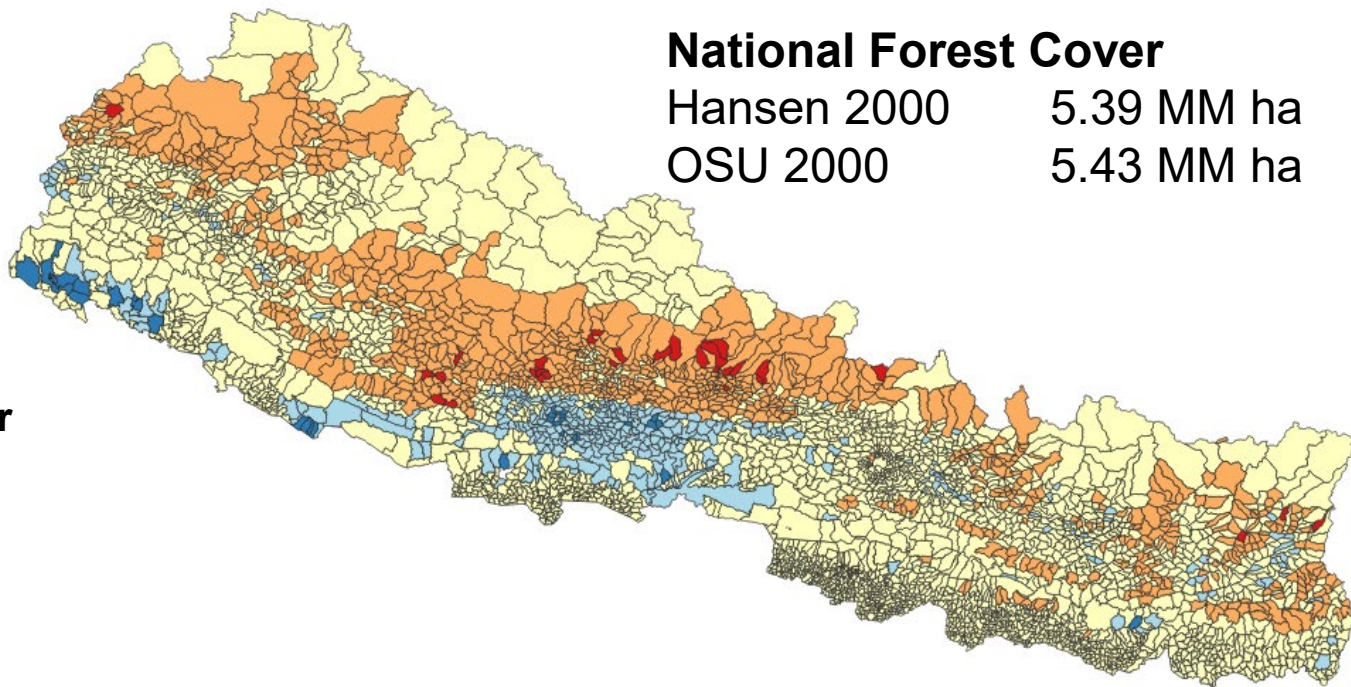


## ICIMOD Higher Forest Cover

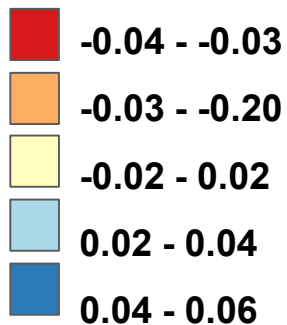
# Hansen 2000 - EW/OSU 2000 by VDC

## National Forest Cover

Hansen 2000	5.39 MM ha
OSU 2000	5.43 MM ha



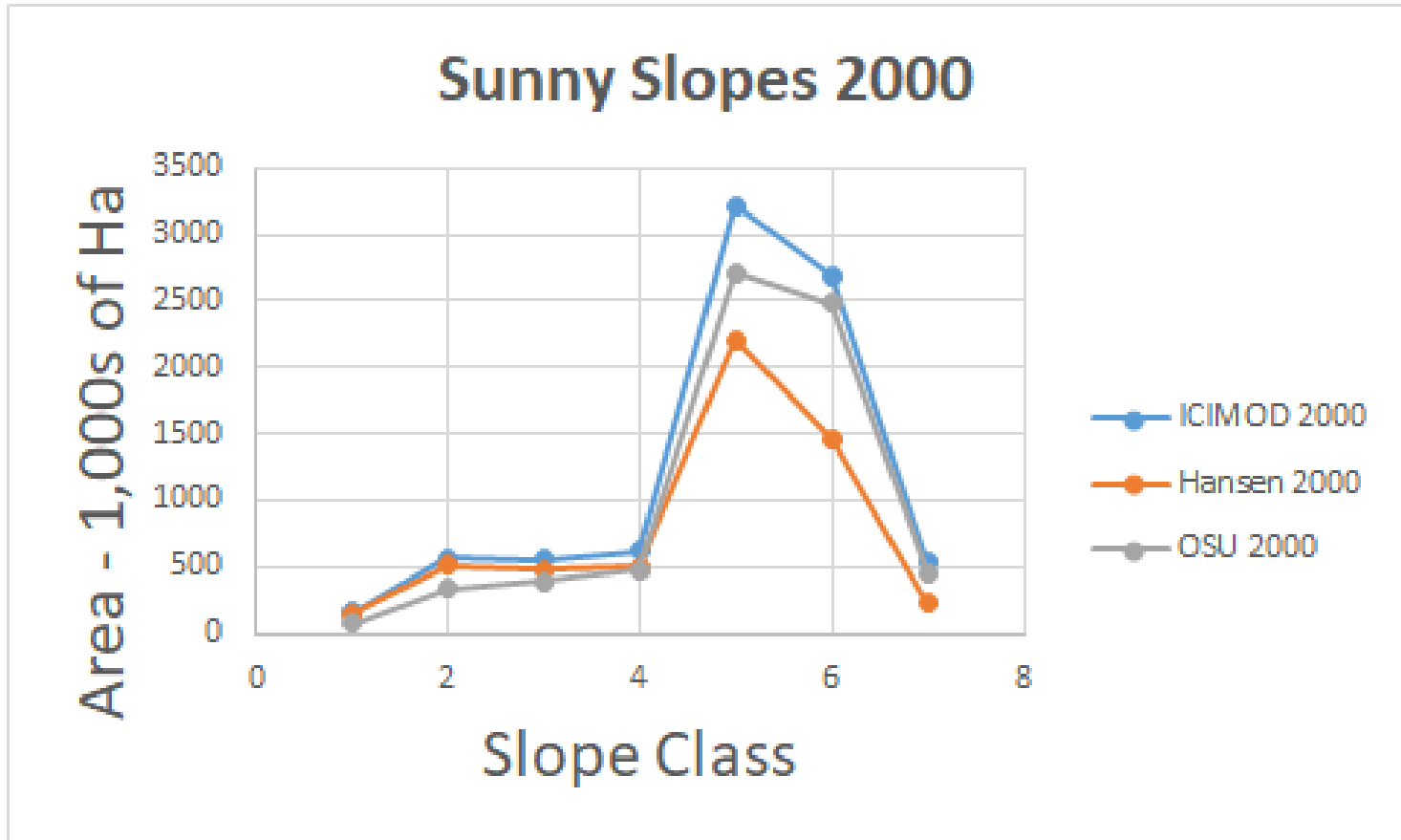
## OSU Higher Forest Cover



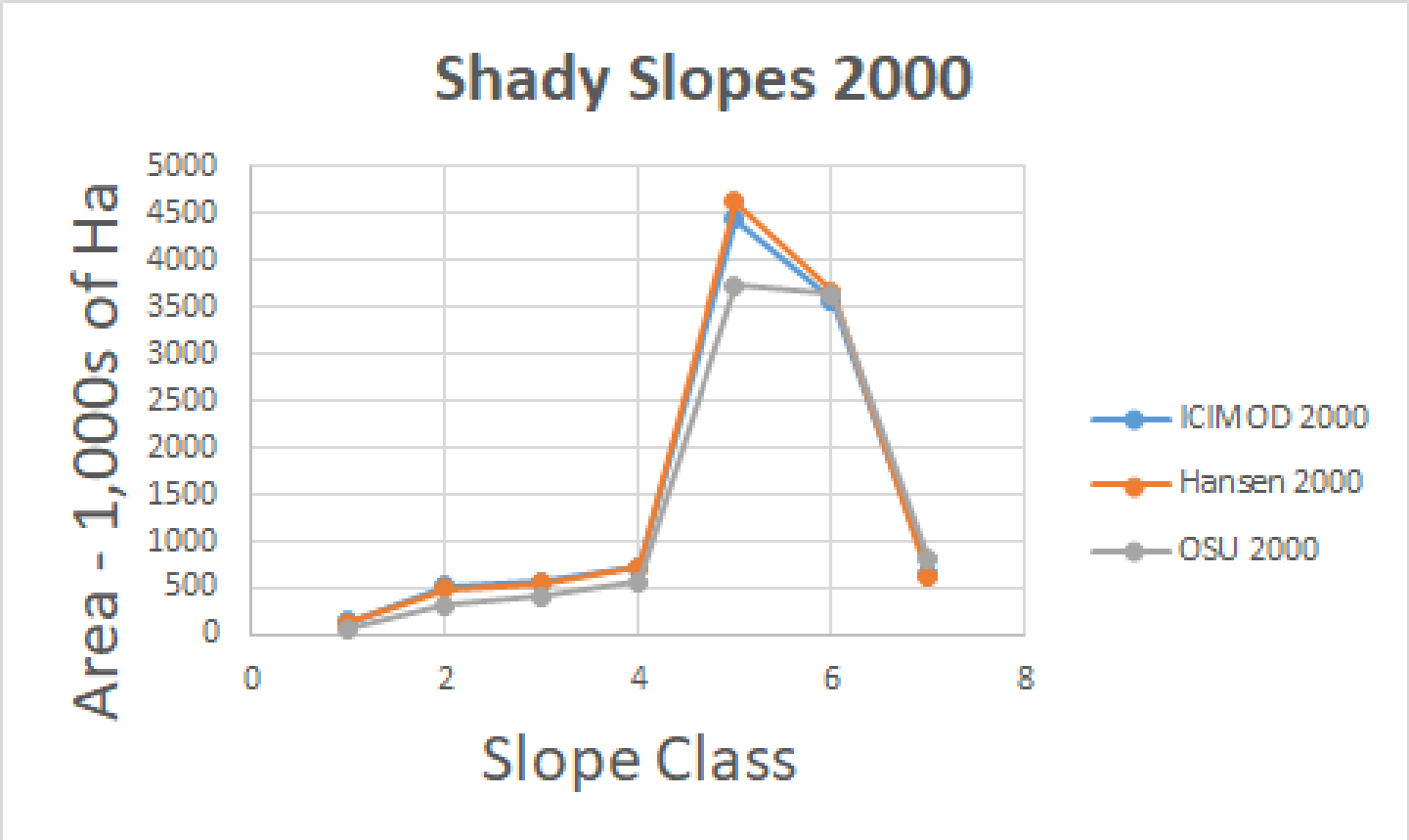
0 200 km

## Hansen Higher Forest Cover

# 2000 ICIMOC, Hansen & EW/OSU Data on Sun Facing Slopes



# 2000 ICIMOC, Hansen & EW/OSU Data on Shaded Slopes

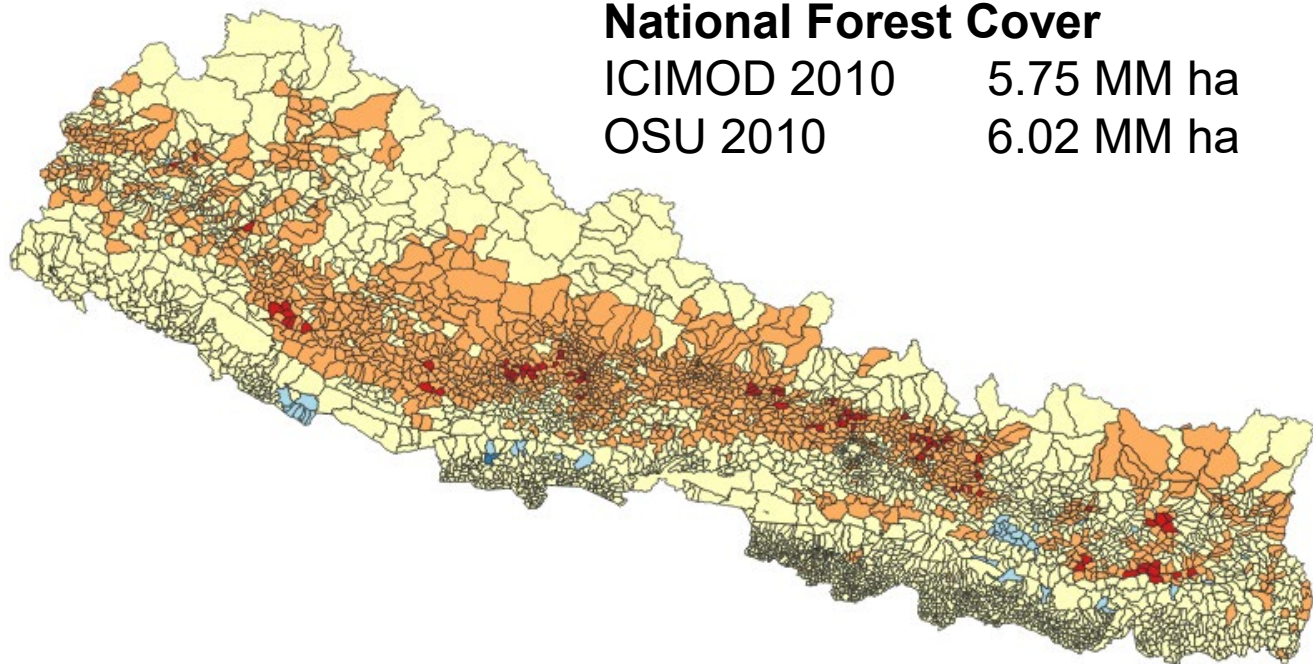


# ICIMOD 2010 - EW/OSU 2010 by VDC

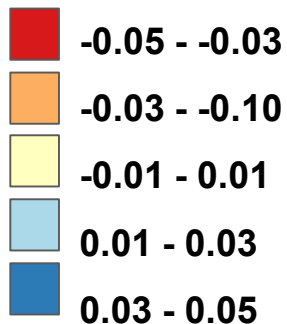
## National Forest Cover

ICIMOD 2010 5.75 MM ha

OSU 2010 6.02 MM ha

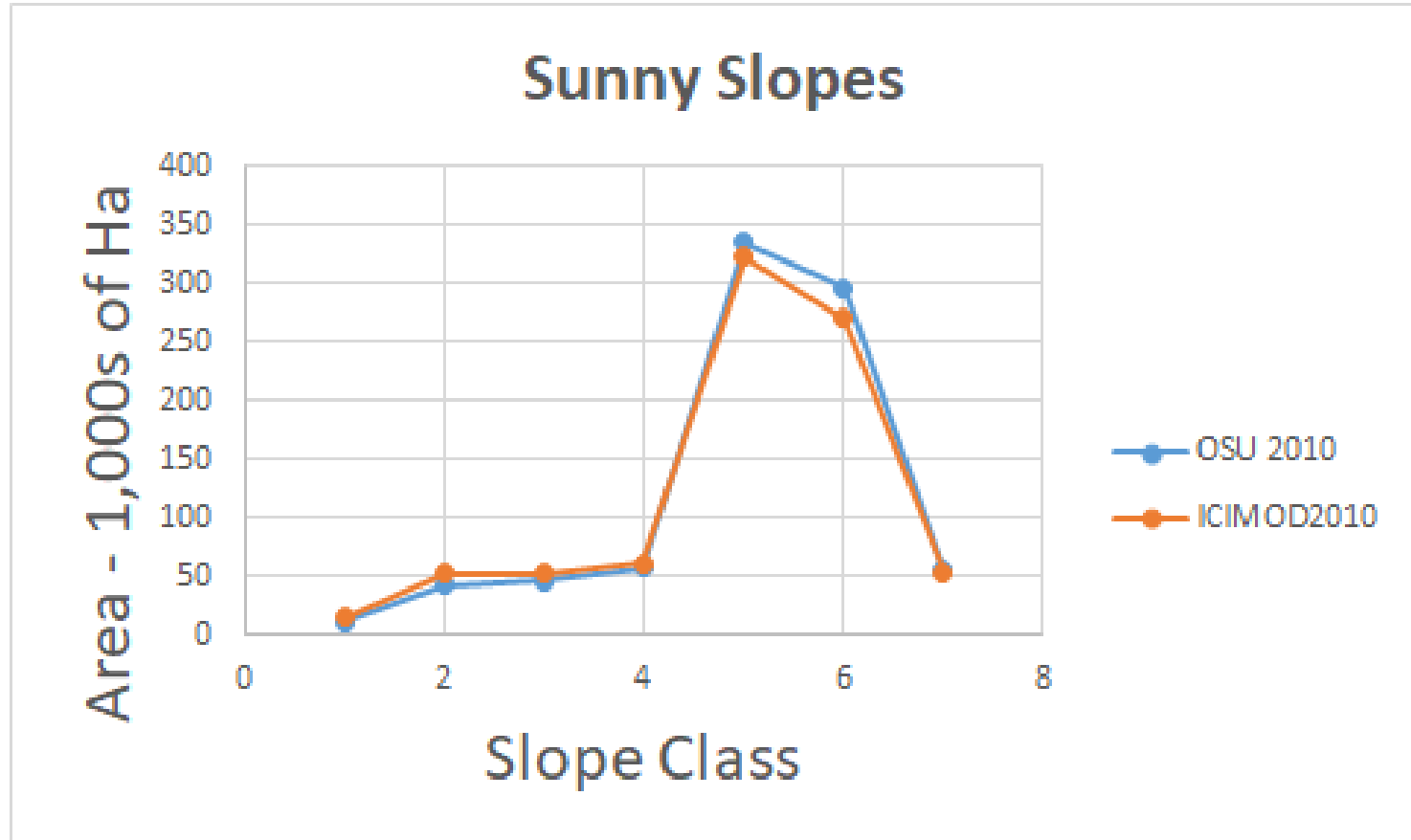


## OSU Higher Forest Cover

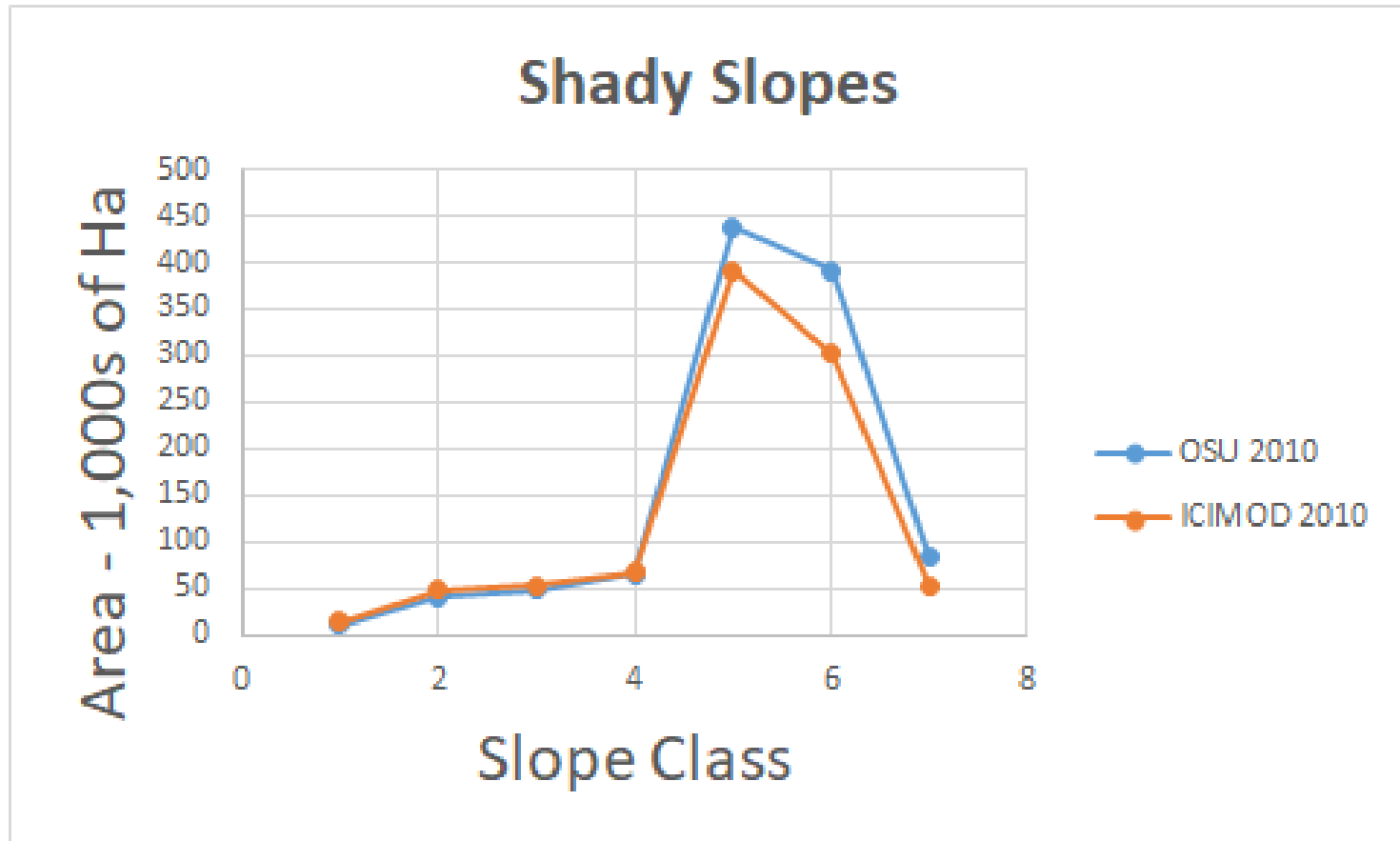


## ICIMOD Higher Forest Cover

# 2010 ICIMOC & EW/OSU Data on Sun Facing Slopes



# 2010 ICIMOC & EW/OSU Data on Shaded Slopes



# Summary

- Important to assess differences in distribution across scales (Don't just compare national totals)
  
- Further investigation needed into the drivers of cross scale differences



Questions?



