

LINKING LAND USE LAND COVER CHANGE AND POPULATION AROUND MOUNT IDA USING HISTORICAL AND PRESENT LANDSAT DATA

Prof. Dr. Levent GENC
Res. Asst. Melis INALPULAT

Objective

Main objective of the study was to determine the Land Use Land Cover (LULC) and population changes around Mount Ida region between 1984 and 2014.

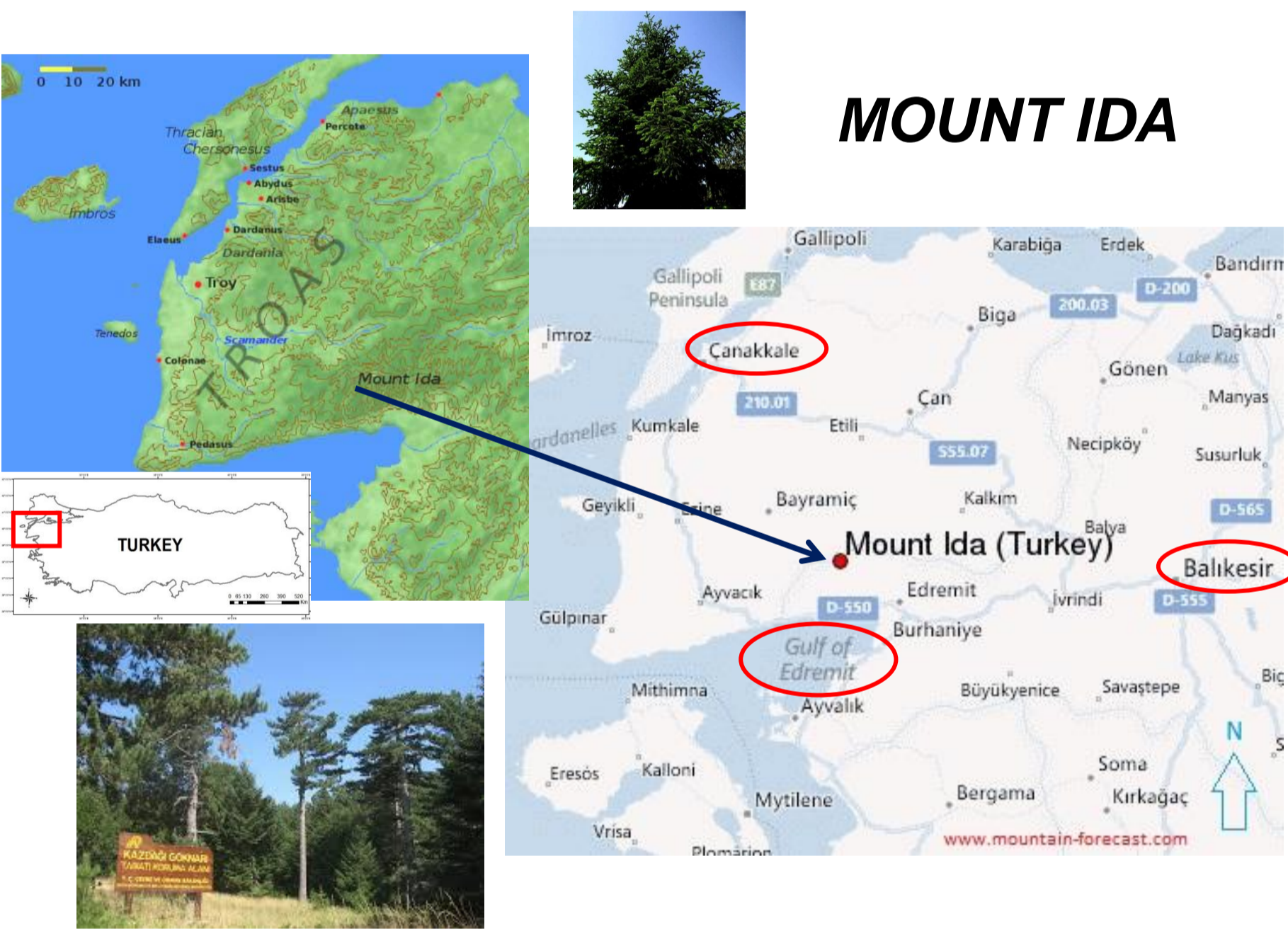
Study Area

IDA is a mountain in northwestern Turkey. It is located between Balıkesir and Canakkale provinces, along the north coast of the Gulf of Edremit. The highest elevation of Mount Ida is 1774 meters.

Majority of the area is covered by forests and there are few settlement in the vicinity of the Mount Ida. Main settlements are Ayvacik, Bayramic, Can, and Yenice districts of Canakkale province and Edremit district of Balikesir province.

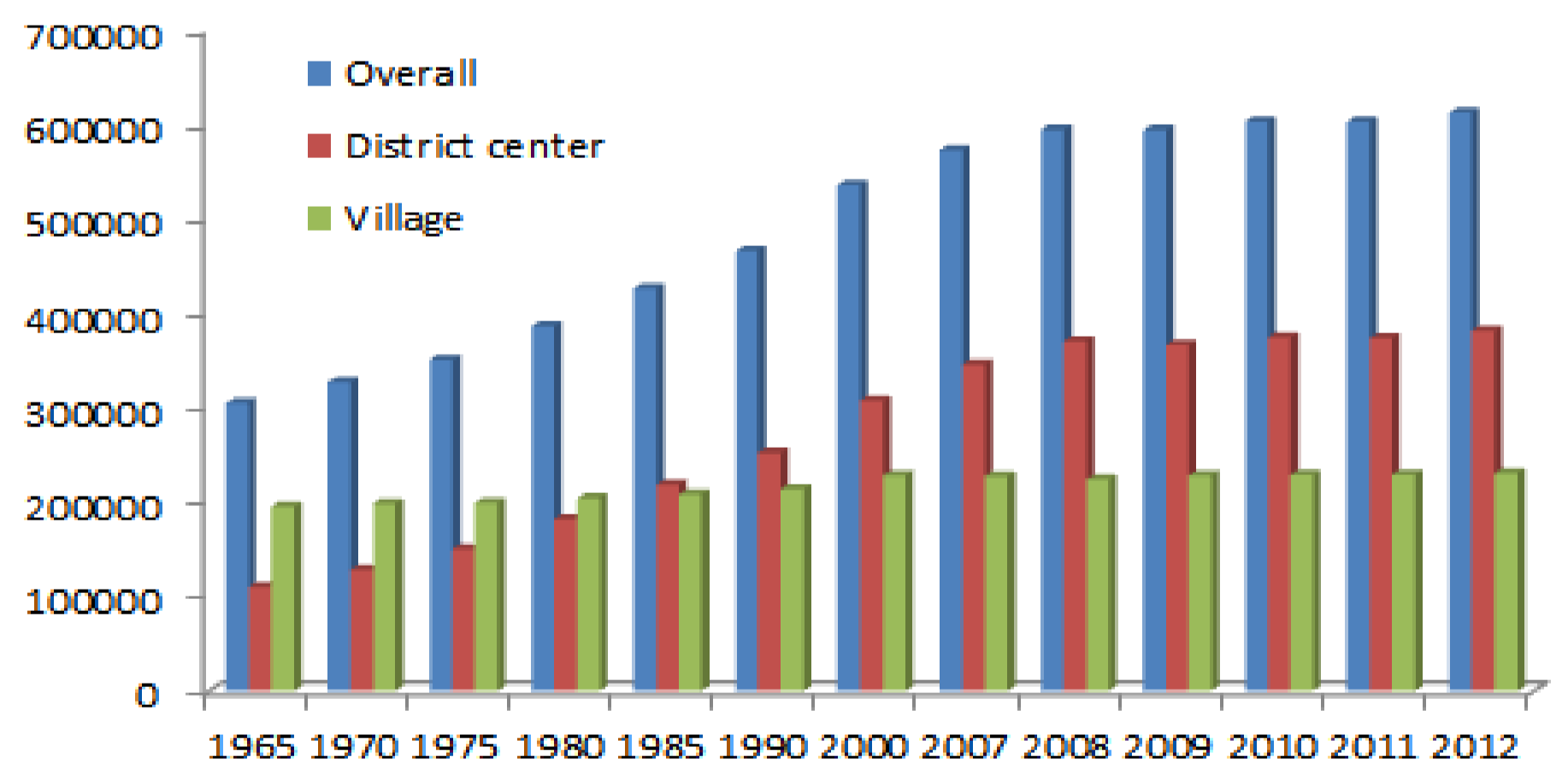
Areas of forest (F), water (W) and residential area-bare soil (RA-BS) classes were increased by 6.5, 0.3 and 0.7 % while grazingland-other (G-O), agriculture (A) and olive (O) classes were decreased by 3.6, 4.8, 0.2 %, respectively. Forest fire affected 5000 da area including agricultural lands, olive orchards, and forests in September 2012. Besides fire damage, human operations such as mining activities, construction of Bayramic dam, and activation of thermal plant power in Can region forced the LULC to change.

Classes	1984		2014		CHANGE (%)	
	HA	%	HA	%	(+)	(-)
F	162614	51.6	183054	58.1	6.5	-
G-O	72986	23.2	61666	19.6	-	3.6
A	46771	14.9	31857	9.1	-	4.8
W	253	0.1	1416	0.4	0.3	-
RA-BS	1918	1.2	5882	1.9	0.7	-
O	28526	9.1	28098	8.9	-	0.2
Total	315068	100	315068	100		



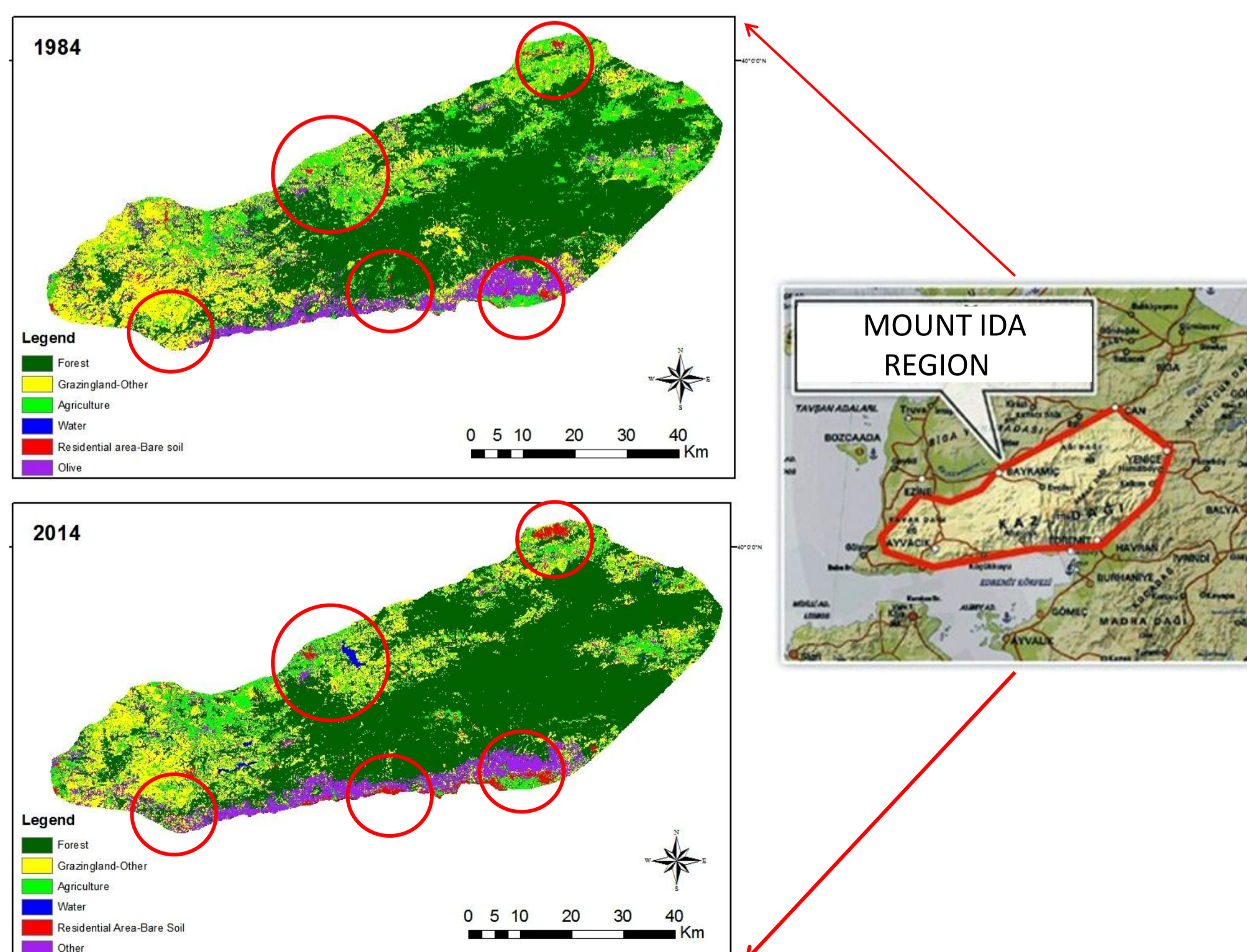
Population

Census data for overall, district center, and village between 1965-2000 (penteteric) and 2007-2012 (annual) were used in the study. Population of 2015 and 2030 years were estimated using regression equations.



Land Use Land Cover (LULC)

Historical and present LULC status of the study area were determined using Landsat data acquired in the summer of 1984 and 2014. Supervised classification was applied via maximum likelihood algorithm.



LULC -Population

Relations between LULC change and population growth were investigated. Decrement in agricultural lands is highlighted. It was seen that agricultural lands were decreased 4.8 % within three decades in consistent with overall population (P). Consequently it was estimated that population will reach approximately 705000 with a 65 % increase while agricultural lands may decrease from 23.9 % (1985) to 18.2 % (2030).

