STEM ANALYSIS OF BOLAINA BLANCA "*Guazuma crinita* Mart."

Rocío Vargas Llanto

PERÚ

PROBLEM IN PERÚ

The marketing of the wood in Perú is every time bigger, for that in the present extracted of the forests more diversity of species for the supply of the factories.

Within of the forestry regulations is determined that the cubage of the volume of the trees is based in the “basal area a 1.3*Hc*0,65 = Commercial Volume”

0,65 is the factor of form used in the cubage of all forestry species.

Hc: Height commercial

PROBLEM IN PERÚ

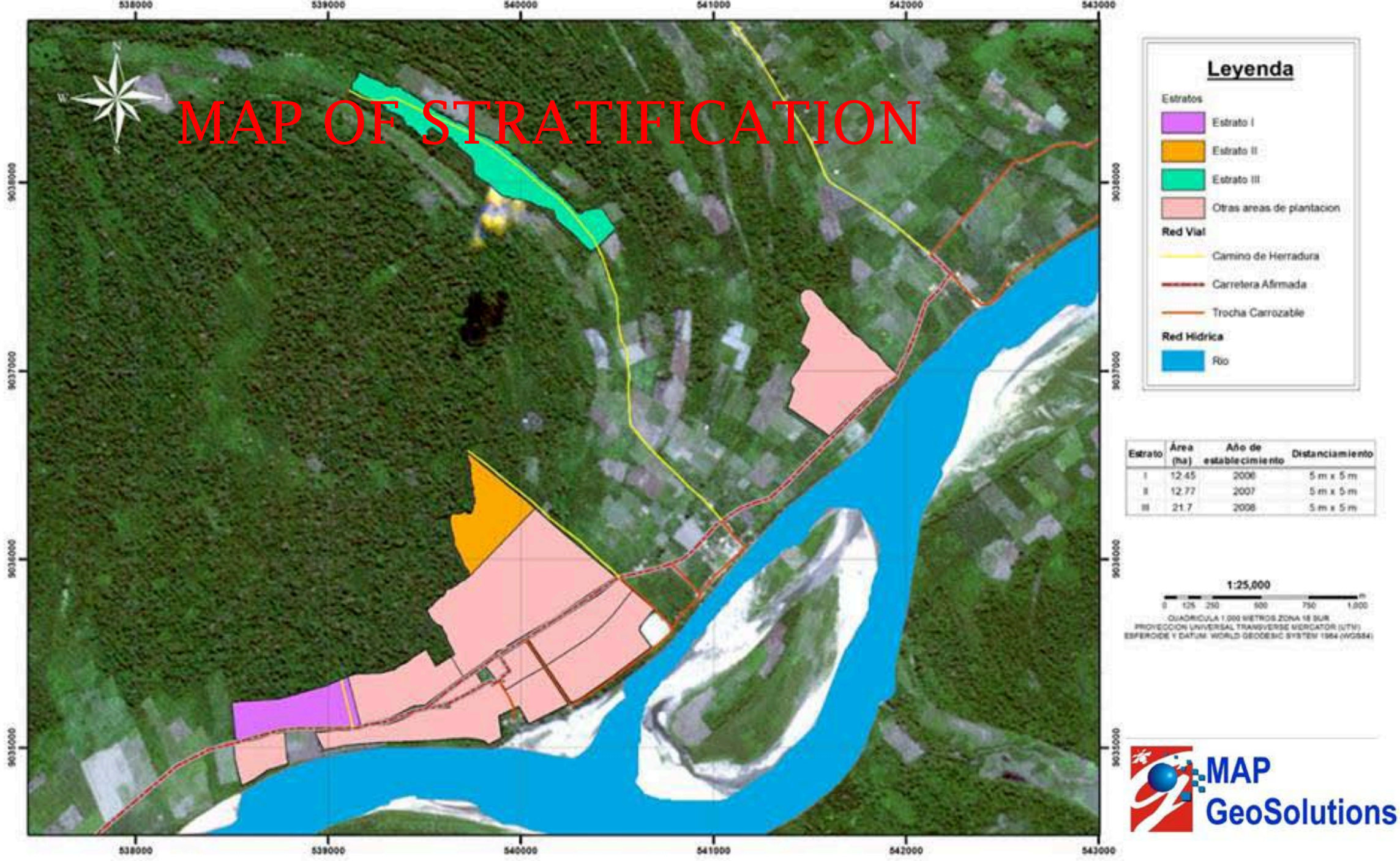
The initiative of this work is based in the neediness of establish a methodology for the assessment of the fustal profile of the different species found in the Peruvian forests and also for the species in the forestry plantation.

The main goal is focused in generate the factors of form, specific for every specie and for his diameter classes.

Due to the poor experience of the works with Field-Map in our country, this work have been more a practice to start bigger goals with the management of our tropical forests.

MAP OF LOCALIZATION

MAP OF STRATIFICATION



Estrato	Área (ha)	Año de establecimiento	Distanciamiento
I	12.45	2006	5 m x 5 m
II	12.77	2007	5 m x 5 m
III	21.7	2008	5 m x 5 m

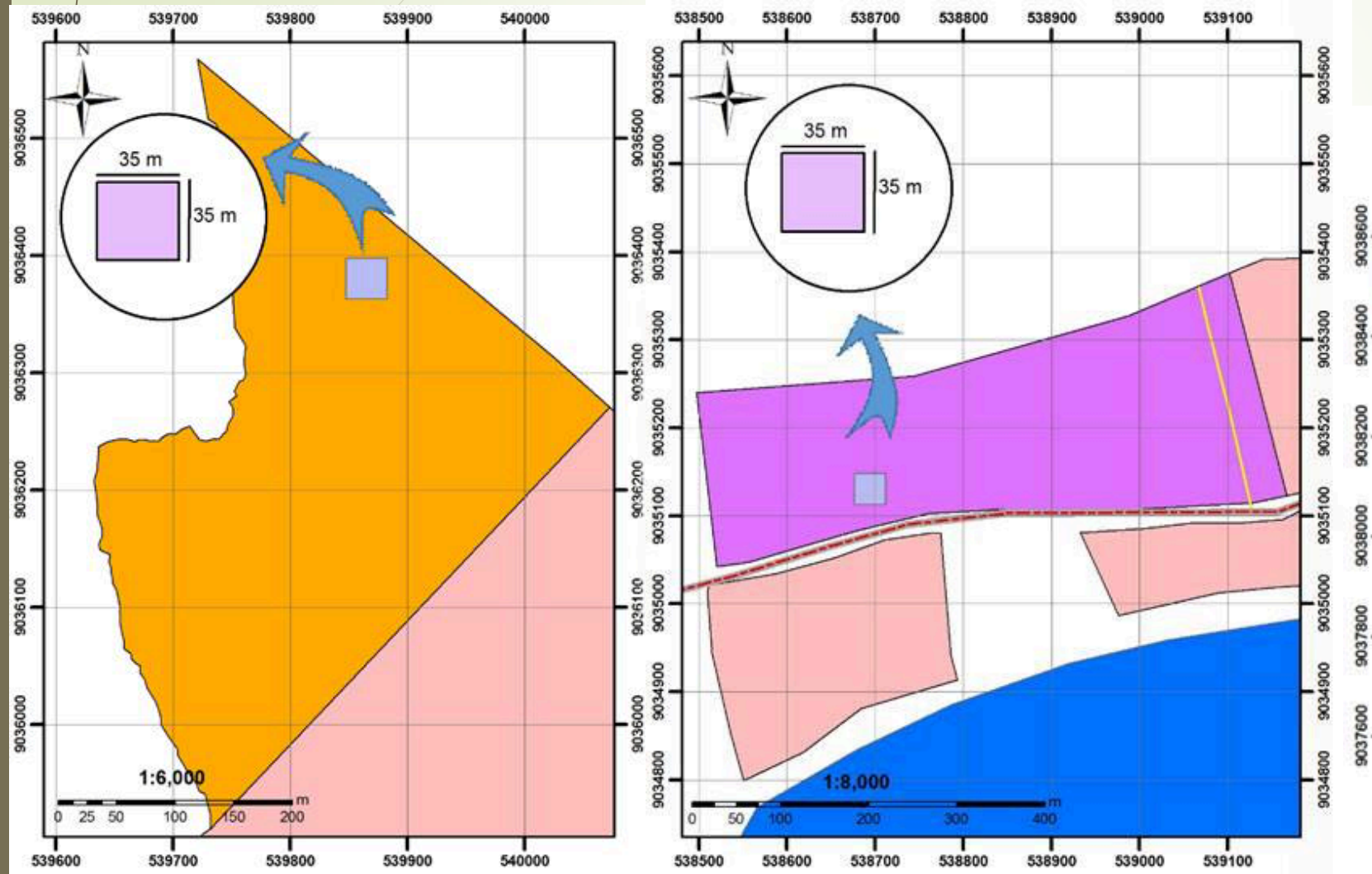
1:25,000

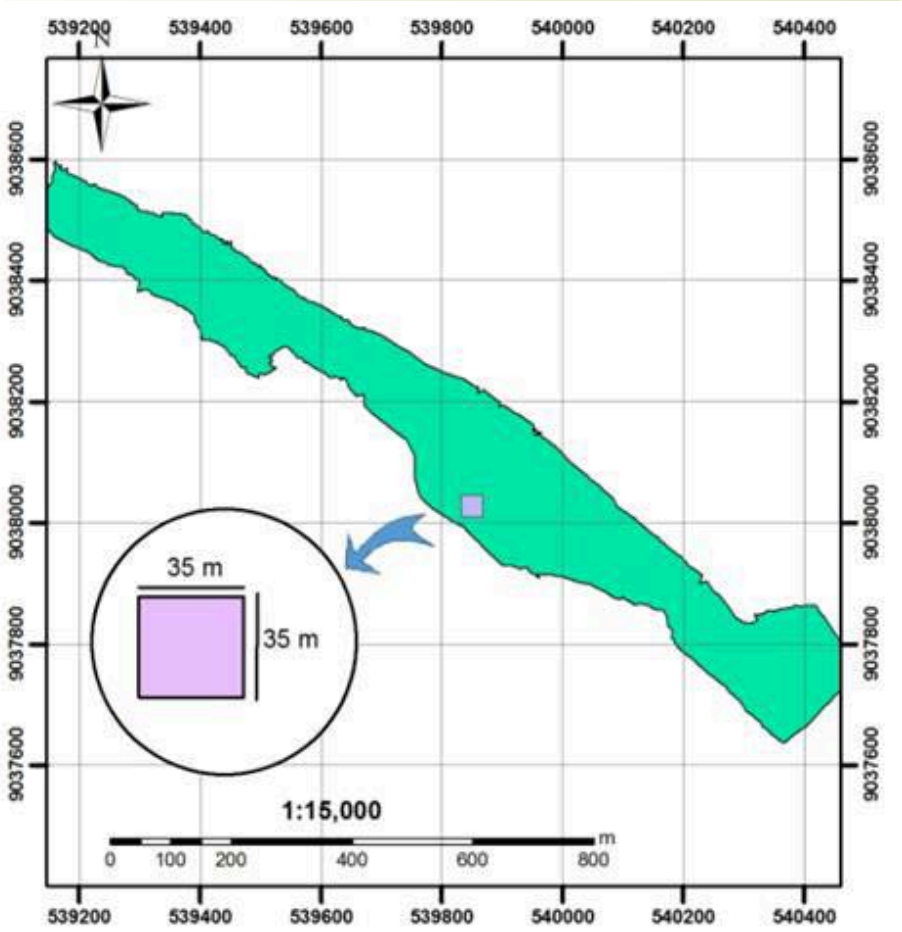
0 125 250 500 750 1,000 m

CUADRICULA 1,000 METROS ZONA 18 SUR
PROYECCION UNIVERSAL TRANSVERSE MERCATOR (UTM)
ESFEROIDE Y DATUM: WORLD GEODESIC SYSTEM 1984 (WGS84)

MAP GeoSolutions

Localization of the plots





SPECIFICATIONS OF THE WORK

- Specie "*Guazuma crinita* Mart."; Bolaina blanca.
- Was made in plantations of different ages 4, 5 y 6 years old.
- Distance between plants 5m x 5m.
- Area of assessment 1,400 m2
- Number of trees measured 192.
- Number of the trees analyzed 129.
- Equipment used FM-LT

DATAS COLLECTED IN FIELD

Entity	Attribute	Specifications
TREE	DBH	Datas collected of manually
	Diameter to the height of 0,50 m o 0,30 m	
	Diameter to the height of 2,00 m	
	Height commercial	Datas collected whit equipment Field-MapLT
	Height total	
	Diameter 1/3 Height total	
	Diameter 3/5 Height total	
	Specie	
	Age of the tree (6, 5, 4 years)	
	Distancing (5mx5m)	

MAP GeoSolutions

DATAS COLLECTED IN FIELD

TABLE OF RESULTS

Variables	olds	Species	Mean residual%	Mean residual%	Mean residual cm	Mean residual Abs cm	Standard Desv. cm	r2	N° Data
DBH,H	All ages	All individuls	-0,88	5,74	-0,51	0,82	1,30	0,98	903
	6	Guazuma crinita	0,29	4,79	0,02	0,68	1,07	0,99	301
	5	Guazuma crinita	0,04	6,05	-0,09	0,89	1,36	0,97	301
	4	Guazuma crinita	-2,95	6,39	-0,38	0,89	1,47	0,97	301
DBH,H, Dstump	All ages	All individual	-0,21	4,94	-0,05	0,63	1,15	0,98	903
	6	Guazuma crinita	-0,81	3,87	-0,12	0,49	0,88	0,99	301
	5	Guazuma crinita	2,37	5,40	0,23	0,71	1,27	0,98	301
	4	Guazuma crinita	-2,21	5,56	-0,27	0,69	1,27	0,98	301

COMPARISON OF TOTAL VOLUMES

Stratum	Mean height total (m)	Mean DBH (cm)	Mean of volume total	
			Model global (m^3)	Cubicación del árbol en pie (m^3)
All individual	22,4984	23,0380	0,4633	0,6154
6 years	23,1809	23,3535	0,4628	0,6469
5 years	22,4107	22,8767	0,4601	0,6062
4 years	21,9037	22,8837	0,4669	0,5932

COMPARISON OF COMMERCIAL VOLUMES

Stratum (Ages)	Mean height commercial (m)	Mean DBH (cm)	Mean of volume commercial	
			modelo Global (m^3)	cubicación del árbol en pie (m^3)
All individual	18,1547	23,0380	0,4364	0,4948
6 years	18,2074	23,3535	0,4375	0,5065
5 years	17,8144	22,8767	0,4361	0,4793
4 years	18,4423	22,8837	0,4356	0,4986

MORPHIC COEFFICIENT

Stratum	Mean Volume		Mean morphic coefficient
	Model global (m^3)	Fórmula del cilindro (m^3)	
All individuals	0,4364	0,7721	0,5679
6 years	0,4375	0,7792	0,5639
5 years	0,4361	0,7701	0,5668
4 years	0,4356	0,7670	0,5708

CONCLUSION

The averages of total volumes of *Guazuma crinita* Mart. for the stratum of 6 years old was calculated in 0,4628 m3, for the stratum of 5 years old 0,4601 m3 and the stratum of 4 years old 0,4669 m3.

The averages of commercial volumes *Guazuma crinita* Mart. for the stratum of 6 years old was calculated in 0,4375 m3, for the stratum of 5 years old 0,4361 m3 and for the stratum of 4 years old 0,4356 m3.

The morphic coefficient for *Guazuma crinita* Mart., was calculated to the total of the individuals and is 0,5679; for the stratum of 6 years old is 0,5639; for the of 5 years old is 0,5668 and of 4 years old is 0,5708.

MAP
GeoSolutions