



Ground measurements acquisition report for the VALERI site

Turco

sampled from 26/07/2001 to 28/07/2001

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People participating to the field experiment:

Firstname & Name	Organization
Roland Bosseno	IRD/INRA CSE, Avignon, France
Jean-François Hanocq	INRA CSE, Avignon, France
Freddy Loza de la Cruz	ABTEMA, La Paz, Bolivia
Justina Mollo de Villca	Breeder, Turco, Bolivia
Rufián Villca Carex	Breeder, Turco, Bolivia

Site coordinates

	Lat-Long WGS-84 (unit = deg)		UTM 19 South, WGS-84 (unit = meter)		Other projection* (unit = meter)	
	Lat.	Long.	Easting	Northing	Easting	Northing
Upper left corner	-18.2213387	-68.19804815	584792.4200	7985140.5722	584999.9000	7985502.1000
Lower right corner	-18.24868974	-68.16916859	587832.3667	7982100.6208	588039.9000	7982462.1000

*The other projection user is UTM19 South, PSAM56. All the characteristics are provided in the following table (see <http://www.avignon.inra.fr/valeri>, methodology page, GPS document for more information):

Geodesic Map Datum	
Associated Ellipsoid	international 1924
Semi-major axe	6378388
Semi-minor axe	6356911.9
1/flattening	297
Eccentricity	0.081991978

Ground control points

	Easting	Northing	Comments
Wp1	585725	7986837	cross road
Wp2	585896	7986574	cross road
Wp3	585556	7984265	cross road
Wp4	586110	7983707	cross road
Wp5	585476	7983303	cross road

GPS system used: Garmin 12.

Description of the site and land cover

Category according to IGBP classification

Barren and sparsely vegetated.

Comments on the land cover

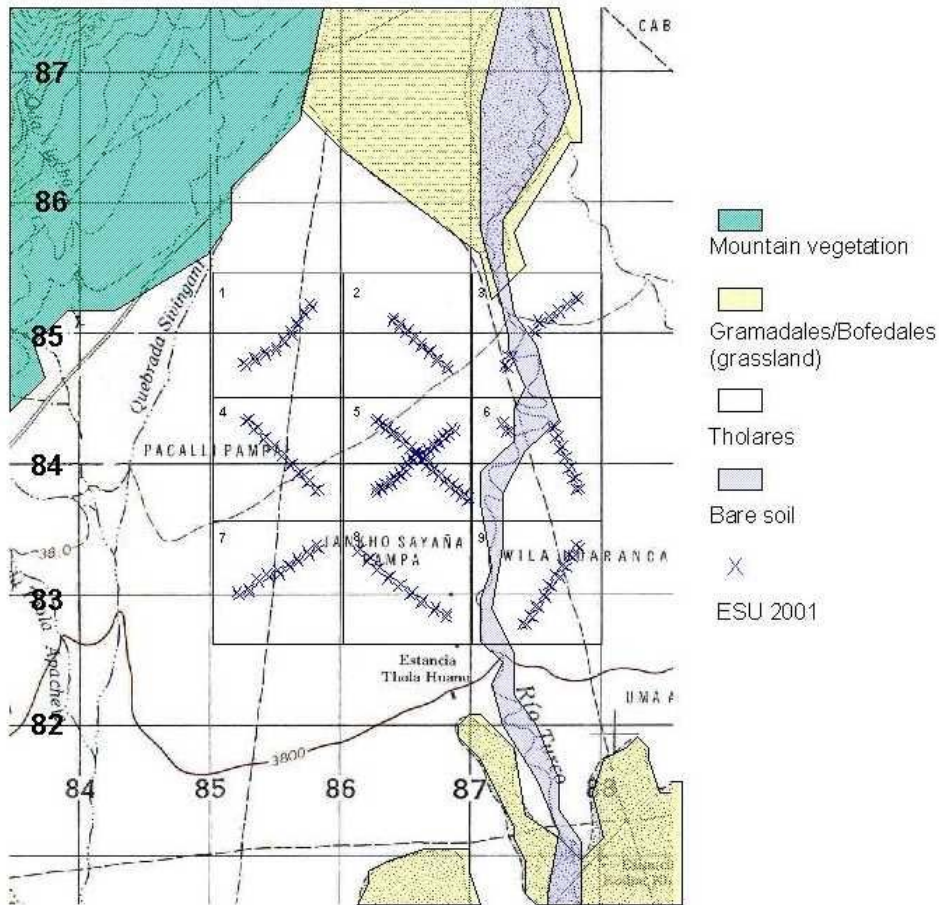
The land cover is composed only of Tholar which is a homogeneous population of shrubs (*Festuca orthophylla*). The plant has 1 meter height maximum. The fraction of plant cover is running between 5 and 20%. Soil surface has a sandy texture and pale brown colour 10YR6/3 (Munsell Soil Colour Charts), it is covered by a discontinuous carpet of short grass, dry during this season, and by some brown gravel (10YR5/3).

The SPOT image was acquired the 31/07/2001 during the ground measurements.

Topography

The site is at about 3800 m altitude. It is absolutely flat, with a very small slope of 0.5% in the South East direction.

Land cover map



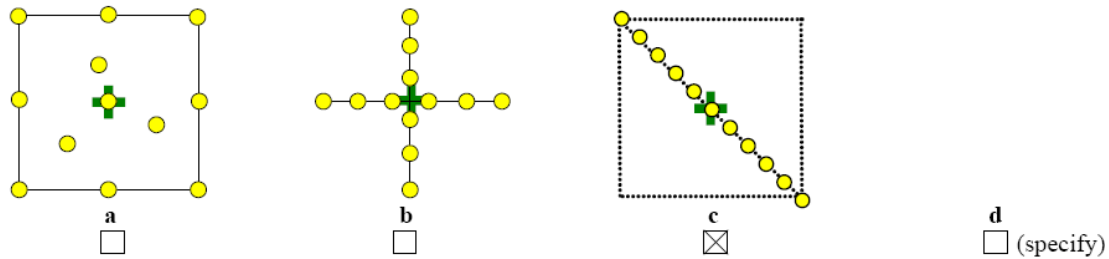
The land cover map included here is approximate and should be refined according to the SPOT image.

Spatial Sampling scheme

Sensors used for sampling the ESUs

	Method	Comments
<input checked="" type="checkbox"/>	Hemispherical photographs	NIKON Coolpix 9000 instruments, only for the central pixel
<input type="checkbox"/>	LAI2000	
<input type="checkbox"/>	TRAC	
<input type="checkbox"/>	Direct measurements	
<input checked="" type="checkbox"/>	Other	fCover, green biomass and LAI also were estimated by direct and destructive measurements

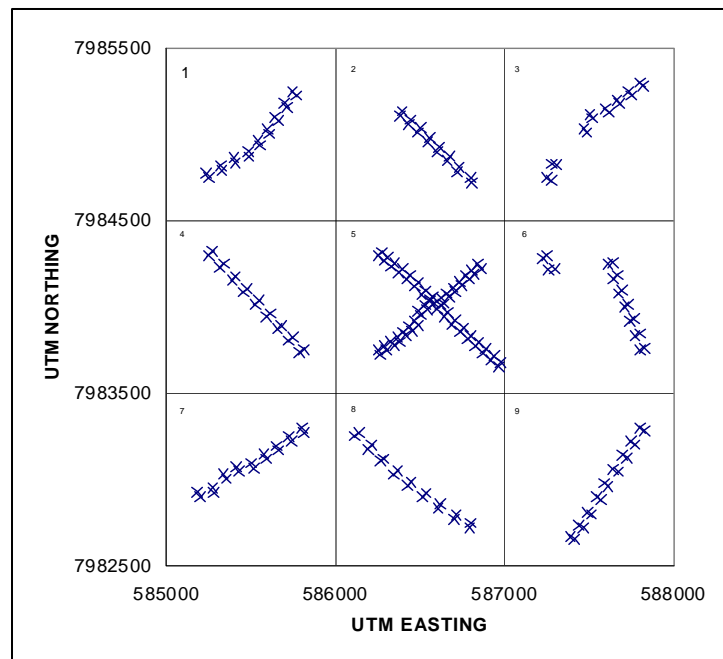
Sampling strategy for the ESU



Distribution of the Elementary sampling units

According with the VALERI protocol, vegetation was measured along transect line (800m) each 100m for each 1km peripheral pixel and along two crossed transects line (800m) each 50m for the 1km central pixel. Each ESU was not too close to the borders of the one km pixel (at least 40 to 50m). 95 ESUs were sampled, 34 in the central pixel and 8 or 9 in each peripheral pixels (see figure below).

Only ESUs 501,503,505,512,515 have hemispherical pictures.



The high spatial resolution image

Satellite

Satellite used
Level of processing
Projection type

SpotView Basic
UTM19 South, PSAM56

SPOT2 HRV2

Airborne

No airborne data.

List of the ESUs

ESU	Month	Day	Hour	Minute	UTM-E	UTM-N	Team	Comments
101	7	26	15	48	585243	7984763	A	manual measure
102	7	26	16	07	585325	7984805	"	"
103	7	26	16	20	585402	7984851	"	"
104	7	26	16	30	585485	7984887	"	"
105	7	26	16	44	585546	7984952	"	"
106	7	26	17	03	585603	7985016	"	"
107	7	26	17	15	585650	7985089	"	"
108	7	26	17	31	585704	7985170	"	"
109	7	26	17	41	585756	7985237	"	"
201	7	27	9	20	586803	7984736	"	"
202	7	27	9	44	586725	7984798	"	"
203	7	27	10	08	586668	7984862	"	"
204	7	27	10	33	586607	7984914	"	"
205	7	27	10	47	586550	7984969	"	"
206	7	27	11	01	586494	7985025	"	"
207	7	27	11	15	586437	7985073	"	"
208	7	27	11	30	586387	7985121	"	"
301	7	27	9	24	587263	7984742	"	"
302	7	27	9	37	587292	7984827	"	"
304	7	27	16	20	587479	7985023	"	"
305	7	27	16	13	587513	7985105	"	"
306	7	27	16	02	587607	7985138	"	"
307	7	27	15	49	587672	7985190	"	"
308	7	27	15	41	587742	7985238	"	"
309	7	27	15	32	587810	7985291	"	"
401	7	28	9	10	585261	7984312	"	"
402	7	28	9	25	585327	7984242	"	"
403	7	28	9	40	585398	7984167	"	"
404	7	28	9	55	585464	7984097	"	"
405	7	28	10	11	585535	7984027	"	"
406	7	28	10	24	585602	7983955	"	"
407	7	28	10	37	585668	7983885	"	"
408	7	28	10	51	585735	7983816	"	"
409	7	28	11	04	585800	7983746	"	"
501	7	28	11	46	586257	7983737	"	hemis. picture
502	7	28	12	00	586295	7983764	"	"
503	7	28	12	13	586337	7983790	"	hemis. picture
504	7	28	12	23	586373	7983811	"	"
505	7	28	12	33	586406	7983847	"	hemis. picture
506	7	28	12	48	586444	7983876	"	"
507	7	28	15	15	586477	7983908	"	"
508	7	28	15	32	586494	7983967	"	"
509	7	28	15	38	586536	7983999	"	"
510	7	28	15	49	586571	7984034	"	"
511	7	28	16	04	586631	7984037	"	"
512	7	28	16	12	586665	7984069	"	hemis. picture
513	7	28	16	25	586702	7984102	"	"
514	7	28	16	38	586739	7984137	"	hemis. picture
515	7	28	16	45	586780	7984173	"	"
516	7	28	16	58	586813	7984204	"	"
517	7	28	17	11	586851	7984236	"	"
521	7	28	15	06	586262	7984310	"	"
522	7	28	15	19	586298	7984279	"	"
523	7	28	15	34	586339	7984245	"	"
524	7	28	15	47	586384	7984210	"	"
525	7	28	16	00	586432	7984173	"	"
526	7	28	16	13	586477	7984131	"	"

527	7	28	16	26	586521	7984084	"	"
528	7	28	16	36	586565	7984047	"	"
529	7	28	16	45	586611	7984000	"	"
530	7	28	16	54	586653	7983956	"	"
531	7	28	17	03	586696	7983914	"	"
532	7	28	17	14	586747	7983870	"	"
533	7	28	17	26	586791	7983826	"	"
534	7	28	17	36	586836	7983787	"	"
535	7	28	17	47	586879	7983748	"	"
536	7	28	17	59	586929	7983706	"	"
537	7	28	18	10	586970	7983668	"	"
601	7	27	10	10	587238	7984292	"	"
602	7	27	10	25	587279	7984221	"	"
603	7	27	15	10	587626	7984254	"	"
604	7	27	14	59	587655	7984176	"	"
605	7	27	14	49	587683	7984090	"	"
606	7	27	14	38	587720	7984008	"	"
607	7	27	14	29	587753	7983927	"	"
608	7	27	14	21	587786	7983841	"	"
609	7	27	14	11	587813	7983757	"	"
701	7	28	9	20	585807	7983287	"	"
702	7	28	9	28	585731	7983238	"	"
703	7	28	9	36	585655	7983183	"	"
704	7	28	9	42	585584	7983136	"	"
705	7	28	9	51	585507	7983082	"	"
706	7	28	9	59	585420	7983062	"	"
707	7	28	10	10	585345	7983020	"	"
708	7	28	10	17	585277	7982940	"	"
709	7	28	10	39	585191	7982914	"	"
801	7	28	11	35	586797	7982737	"	"
802	7	28	11	44	586707	7982784	"	"
803	7	28	11	54	586612	7982849	"	"
804	7	28	13	03	586525	7982912	"	"
805	7	28	12	13	586437	7982978	"	"
806	7	28	12	24	586355	7983043	"	"
807	7	28	12	36	586275	7983116	"	"
808	7	28	12	47	586202	7983189	"	"
809	7	28	12	58	586125	7983263	"	"
901	7	27	14	11	587815	7983292	"	"
902	7	27	14	21	587760	7983214	"	"
903	7	27	14	32	587710	7983134	"	"
904	7	27	14	43	587657	7983054	"	"
905	7	27	14	53	587601	7982973	"	"
906	7	27	15	07	587558	7982894	"	"
907	7	27	15	19	587501	7982806	"	"
908	7	27	15	31	587454	7982730	"	"
909	7	27	15	42	587401	7982664	"	"

This is extracted from the Excel file GPSTurco2001.xls.
Hour in local time: GMT – 4.

Acknowledgements

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