LALINET Activities 2013 -2014

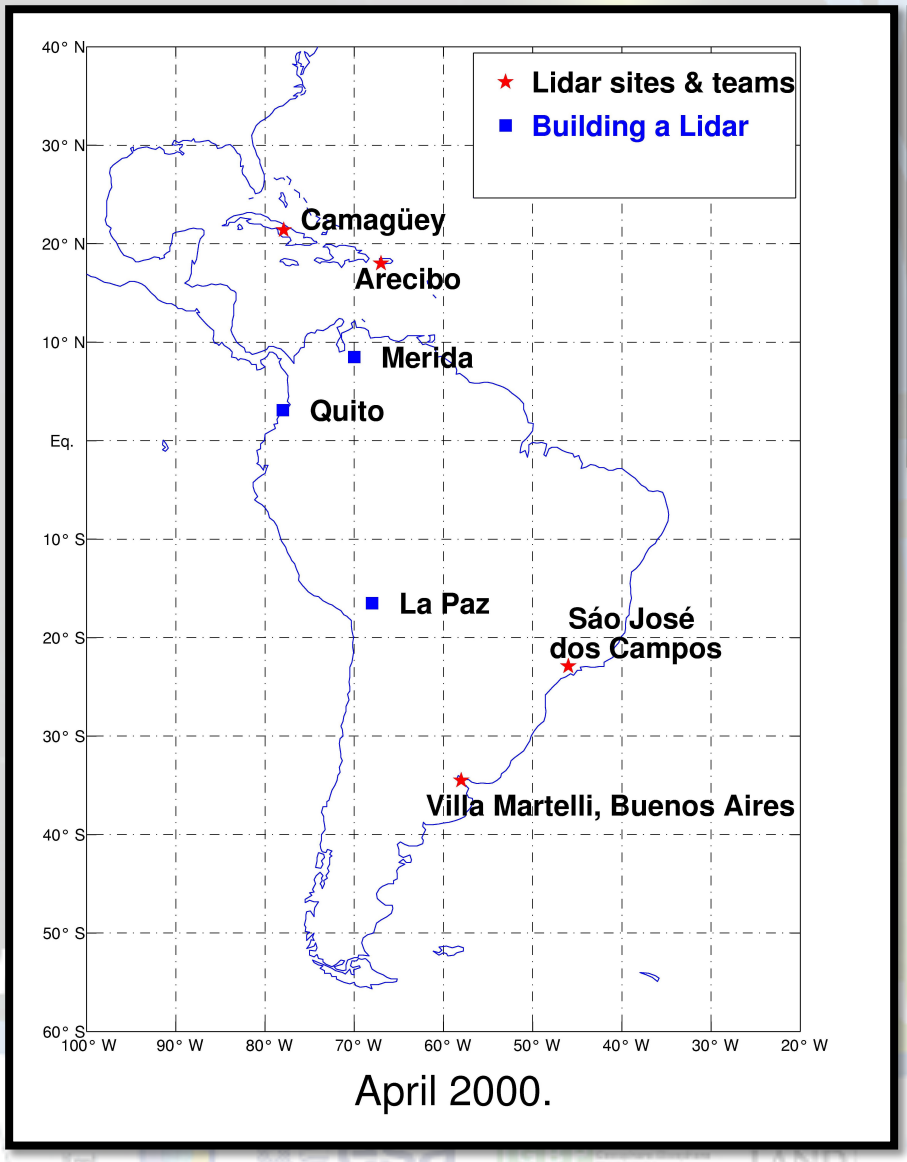
Eduardo Landulfo

LALINET Activities
2013 -2014

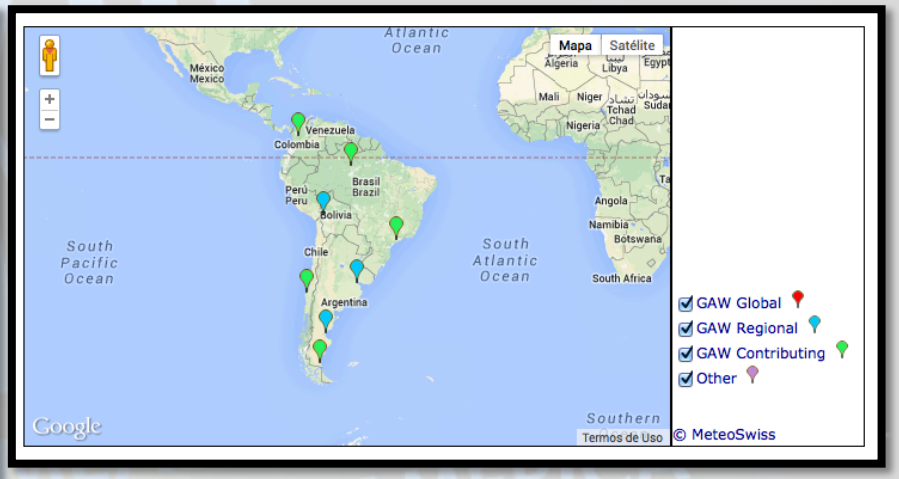
TOWARDS A LIDAR NETWORK

2000

2014



April 2000.



Station

III - South America

- Buenos Aires Observatorio
- CEFOP Universidad de Concepcion
- Comodoro Rivadavia Aero
- La Paz-Ovejuyo
- LOA-UNAL
- Manaus
- Rio Gallegos
- Sao Paulo

EMPA
Materials Science & Technology

TOWARDS A LIDAR NETWORK

WLMLA (edition)	Local	Atendees				Contributions	
		Latin America	*ROW*	*Total*	*ST*	*Poster*	*Oral*
2001	**Camagüey, Cuba**	9	14	23	5	5	14
2003	**Camagüey, Cuba**	13	12	25	13	2	25
2005	**Popayán, Colombia**	25	6	52	26	6	25
2007	**Ilha Bela Brazil**	30	12	42	20	16	29
2009	**Buenos Aires, Argentina**	42	23	65	21	31	31
2011	**La Paz, Bolivia**	52	12	64	32	15	21
2013	**Pucón, Chile**	35	11	46	19	24	20
2015	**Coco Tryp Cuba**		-	-	-	-	-
2017	**Colombia**						

LALINET Activities 2013 -2014

LALINET

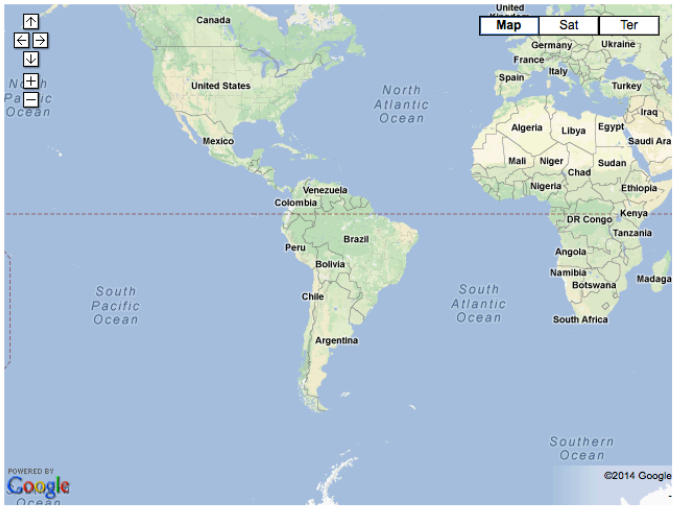
Latin American Lidar Network

Main

LALINET or ALINE

The Latin America Lidar Network (LALINET a.k.a ALINE) is a Latin American coordinated lidar network, established in 2001, measuring aerosol backscatter coefficient and aerosol extinction profiles for climatological studies of the aerosol distribution over Latin America, as well as other atmospheric species such as ozone and water vapor. This federative lidar network aims to establish a consistent and statistically sound database for enhancement of the understanding of the aerosol distribution over the continent and its direct and indirect influence on climate.

LALINET is a contributing network to the GAW Programme.



View Larger Map Download Google Earth KML KMZ. Last updated on 9/Nov/2012.

ALINE

- Measurement Protocol
- Galion/GAW
- Newsletter

Oportunities

Contributing Teams

- Argentina
- Bolivia
- Brasil - Manaus
- Brasil - Sao Paulo
- Chile
- Colombia
- Cuba

Workshops

- Concepcion 2014

Pilot Campaign 2012

- Announcement
- Measurement Specification
- Weather Forecasts
- Near Real-Time Data
- Software
- Data Availability and Policy

FTP Server

Contact

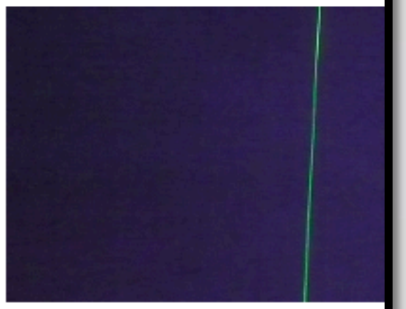
edit SideBar

8 STATIONS – 15 STATIONS

ABOU 18 M Sq. Km

LALINET

Latin American Lidar Network



Aline

Commitment

DOWNLOAD ORIGINAL DOCUMENT HERE

LETTER OF AGREEMENT

between

Latin America Lidar Network
hereinafter referred to as "ALINE"

and

World Meteorological Organization
Global Atmosphere Watch Programme
hereinafter referred to as "WMO/GAW"
hereinafter jointly referred to as the "Parties"

related to
the recognition of ALINE as a contributing network for the World Meteorological Organization Global Atmosphere Watch Programme

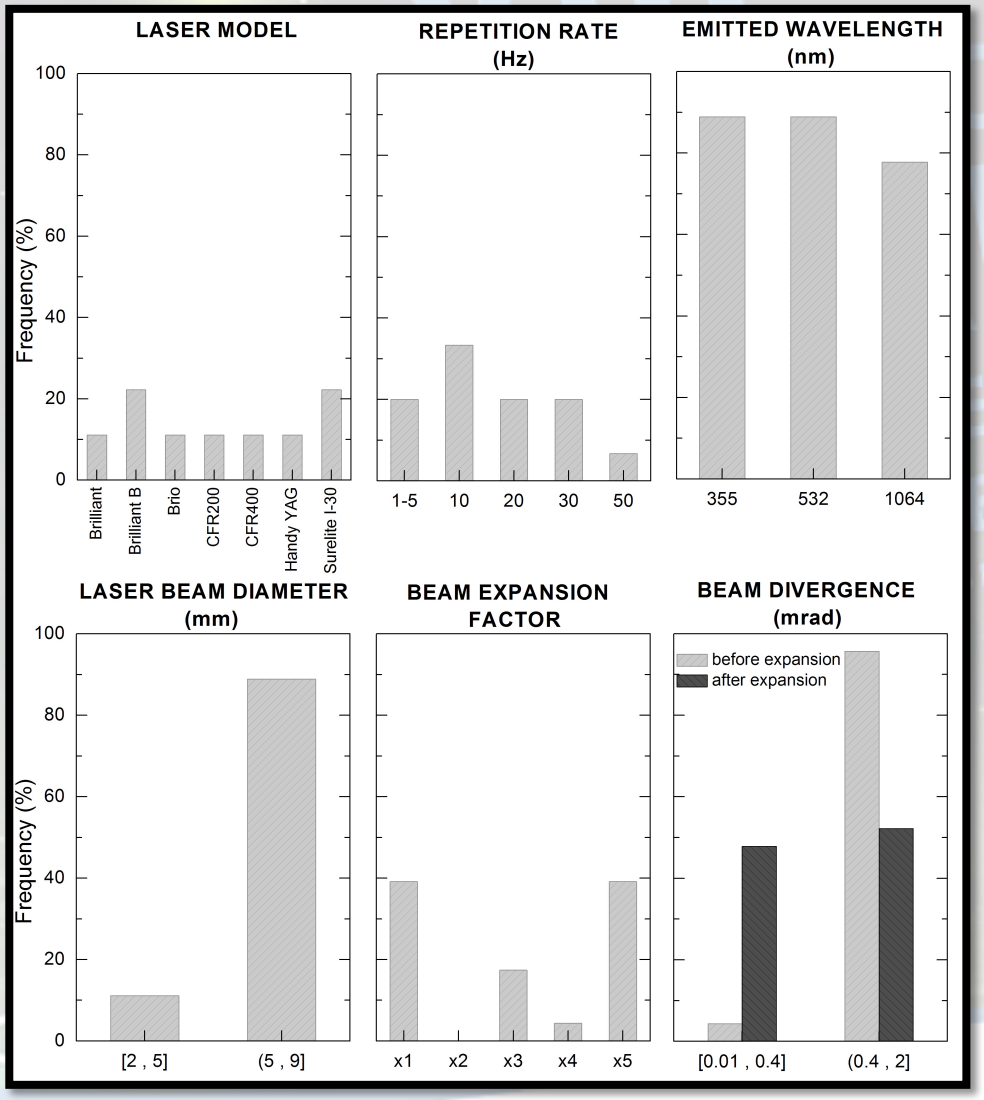
INSTRUMENTAL INVENTORY

Information to be fulfilled for each instrument (~80 different entries):

- **station information**
- **mode of operation**
- **emitter**
- **receiver optics**
- **wavelength detection**
- **data acquisition**
- **auxiliary information**

PUBLISHED : SPIE REMOTE SENSING 2014 – "Towards an instrumental framework of LALINET" Guerrero-Rascado *et al*.

INSTRUMENTAL INVENTORY



SPU STATION – 2013 DATA ACQUISITION

2013

January

Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

February

Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		

March

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					1	2
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17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

April

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28	29	30				

May

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19	20	21	22	23	24	25
26	27	28	29	30	31	

June

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23	24	25	26	27	28	29
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July

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28	29	30	31			

August

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18	19	20	21	22	23	24
25	26	27	28	29	30	31

September

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29	30					

October

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November

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December

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29	30	31				

SPU STATION – 2014 DATA ACQUISITION

2014

January

Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

February

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March

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23	24	25	26	27	28	29
30	31					

April

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20	21	22	23	24	25	26
27	28	29	30			

May

Su	Mo	Tu	We	Th	Fr	Sa
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18	19	20	21	22	23	24
25	26	27	28	29	30	31

June

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15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

July

Su	Mo	Tu	We	Th	Fr	Sa
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6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

August

Su	Mo	Tu	We	Th	Fr	Sa
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17	18	19	20	21	22	23
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31						

September

Su	Mo	Tu	We	Th	Fr	Sa
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7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

October

Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
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19	20	21	22	23	24	25
26	27	28	29	30	31	

November

Su	Mo	Tu	We	Th	Fr	Sa
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23	24	25	26	27	28	29
30						

December

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

SPU STATION

LEAL
Laser Environmental Applications Laboratory

HOME | RESEARCH FIELD | PROJECTS | EQUIPMENTS | CAMPAIGNS | MEASUREMENTS | PUBLICATIONS | MEMBERS | PARTNERS

ABOUT US

In 2000 the Center for Lasers and Applications (CLA) belonging to the Institute of Energy and Nuclear Research - IPEN, opened the activities at the Laboratory of Environmental Applications Laser (LEAL), with the aim of studying the optical properties of aerosols in the metropolitan region of São Paulo atmosphere. From that time, it started the construction of an elastic backscatter LIDAR system called MSP-LIDAR I, the first atmospheric profile data was obtained in December 2002. The first studies of vertical distribution of aerosols in the atmosphere, aerosols transport and height of the planetary boundary layer (PBL) were published in 2003 and 2005, in collaboration with the National Technical University of Athens, Greece. In 2007 with the collaboration of researchers from the Howard University, NASA Goddard Space Flight Center and the Physics Instrumentation Center from Moscow, we developed a Raman Lidar system with 3 detection channels for the study of the vertical profile of aerosols and water vapor, and a calibration system using a quartz-halogen tungsten coiled filament calibrated lamp. Also in 2007 are started the first validation and evaluation activities of the CALIPSO satellite data in partnership with the NASA Langley Research Center. In 2008 LEAL acquired two new LIDAR systems, the MSP-LIDAR II and the MSP-LIDAR III. As a transportable system, the MSP-LIDAR II was used in several measurements campaigns throughout Brazil. The MSP-LIDAR III system, obtained in partnership with CEPEMA-USP, is installed in the city of Cubatao to study pollutants from oil refineries. In 2012, the MSP-Raman Lidar system I goes again for an upgrade and started to operate with 6 channels. Having two elastic channels in 532 and 355 nm, and 4 Raman channels in 387, 408, 607 and 660 nm, applied to the study of the vertical profile of aerosols and water vapor. In the same year, it started the construction of a system Cavity Ring Down Spectroscopy to study aerosol optical properties of the surface. The LEAL has cooperation with various groups at both national and international research centers. The LEAL has trained six doctors, six masters and currently has three Research Assistants, three PhD students, one Master's degree student and two scientific initiation students.

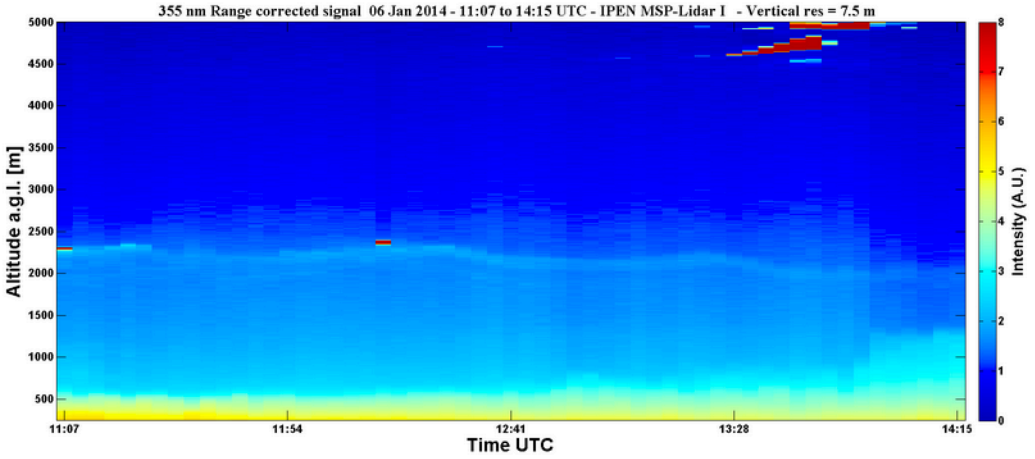
CLA - IPEN - USP

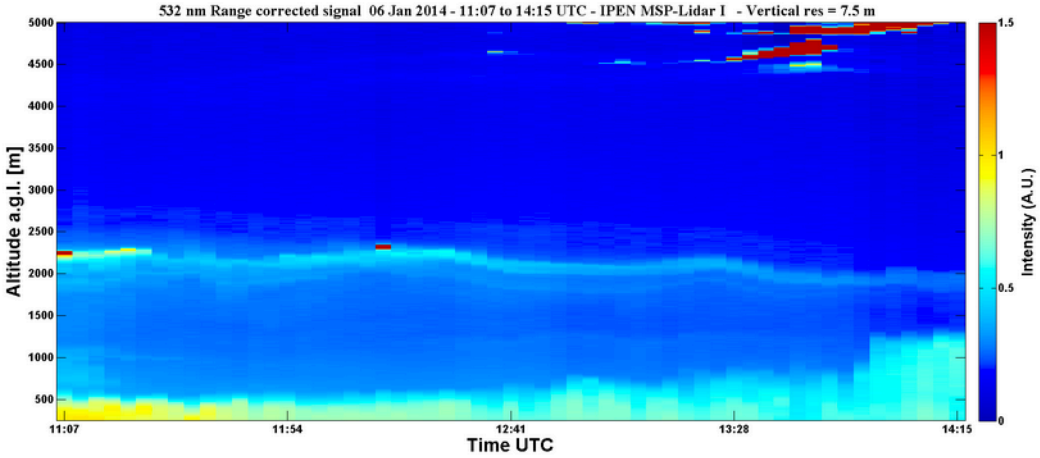
http://gescon.ipen.br/leal/

SPU STATION

LEAL
Lasers Environmental Applications Laboratory

HOME | RESEARCH FIELD | PROJECTS | EQUIPMENTS | CAMPAIGNS | MEASUREMENTS | PUBLICATIONS | MEMBERS | PARTNERS



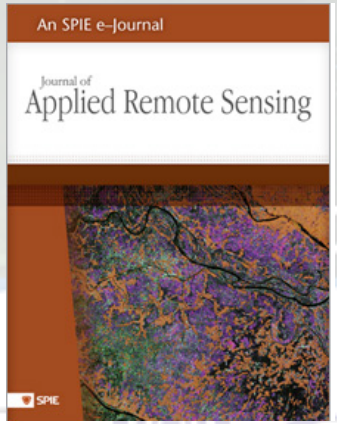


PUBLICATIONS

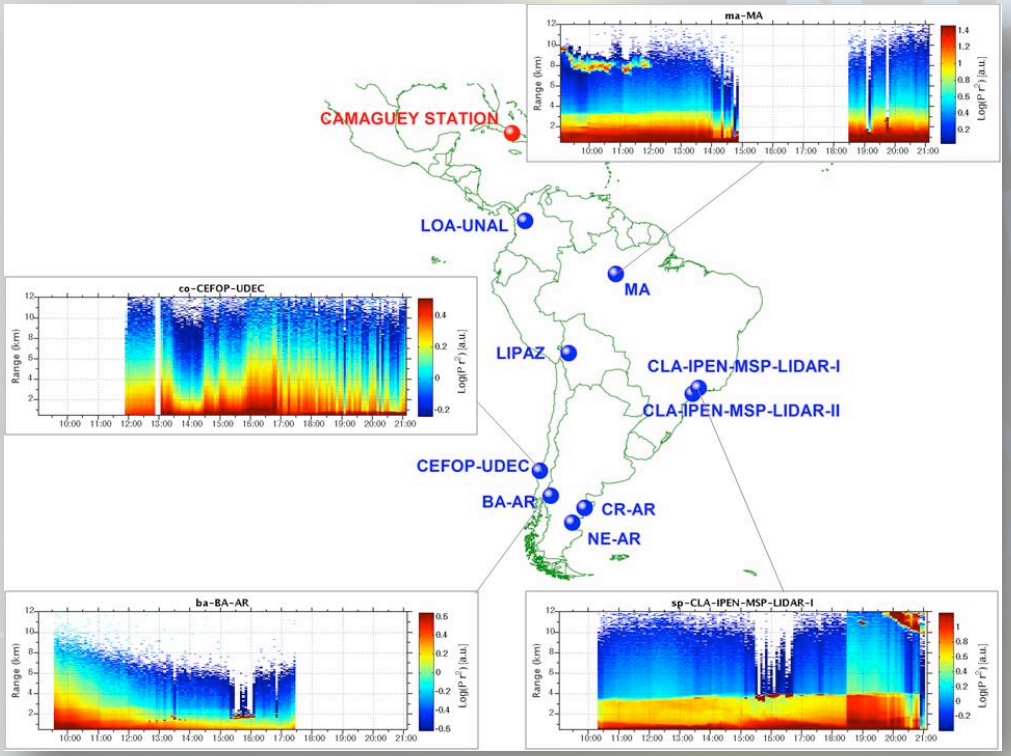
Latin American Lidar Network (LALINET): a diagnostic on networking instrumentation

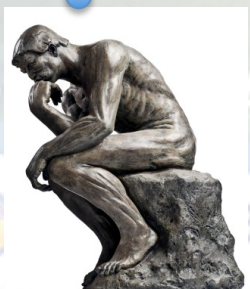
Juan L. Guerrero-Rascado,[a,b,c] Eduardo Land[illegible] Antuña,[d] Henrique M. J. Barbosa,[e] Borjis Barja,[d,e] Álvaro E. Bastid[illegible]és E. Bedoya,[f] Renata da Costa,[a] René Estevan,[d] Ricardo N. Forno,[g] Diego A[illegible] Carlos Jiménez,[h,i] Eliane G. Larroza,[a] Fábio J. S. Lopes,[a,j] Elena Monti[illegible] Grégori A. Moreira,[a] Walter M. Nakaema,[a] Daniel Nisperuza,[f] Dairo Al[illegible]icio Múnera,[f] Lidia Otero,[k] Sebastián Papandrea,[k] Juan V. Pallota,[k] Ezequiel [illegible],[k] Eduardo J. Quel,[k] Pablo Ristori,[k] Patricia F. Rodrigues,[a] Jacobo Salvador[illegible] María F. Sánchez,[g] Antonieta Silva[h,i]

SUBMITTED



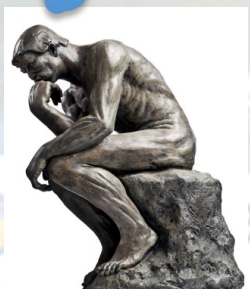
CAMPAIGNS: WHEN WILL BE THE NEXT ONE ?



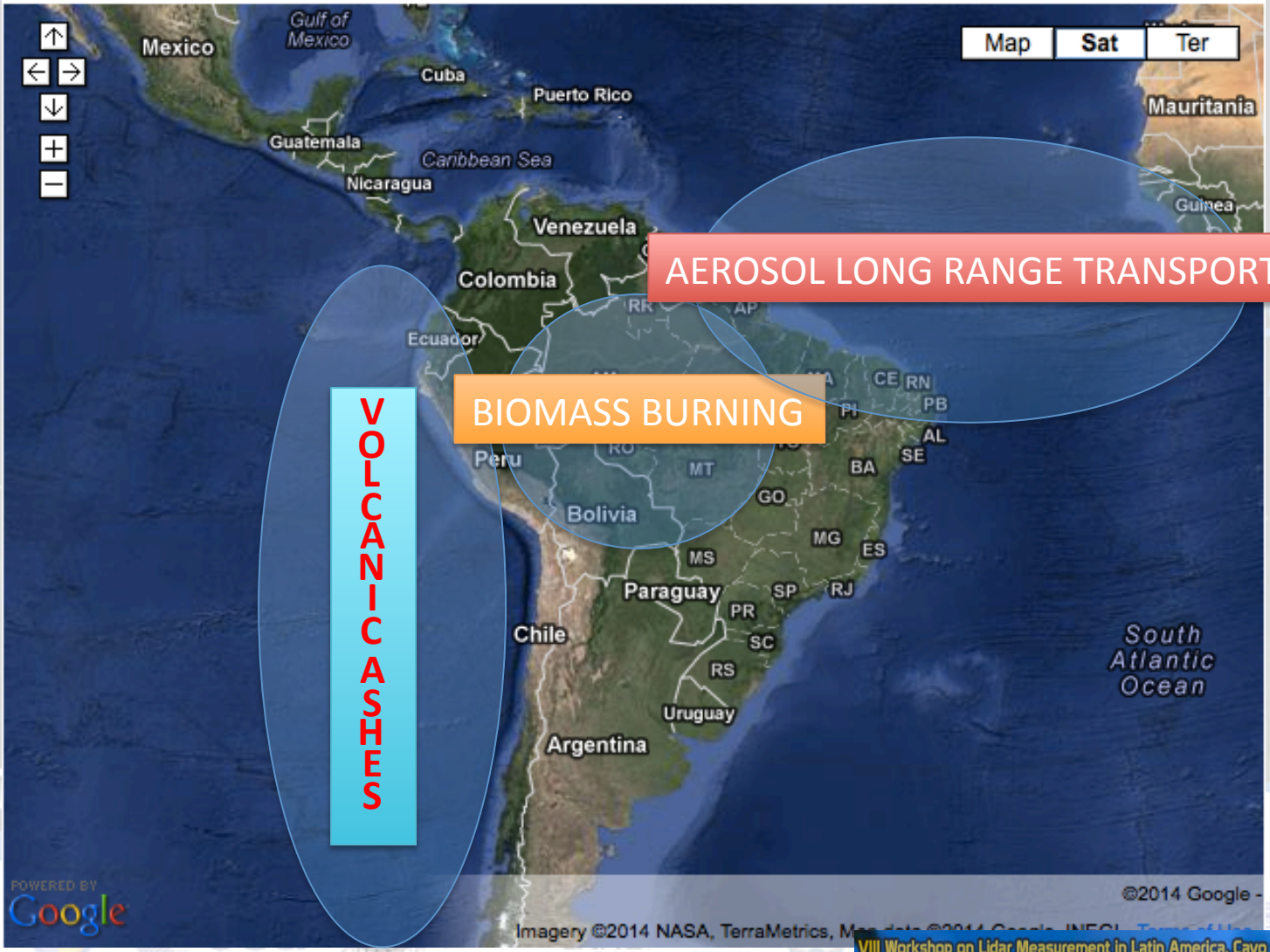


CAMPAIGNS: WHEN WILL BE THE NEXT ONE ?

HOW TO ORGANIZE IT BETTER ?

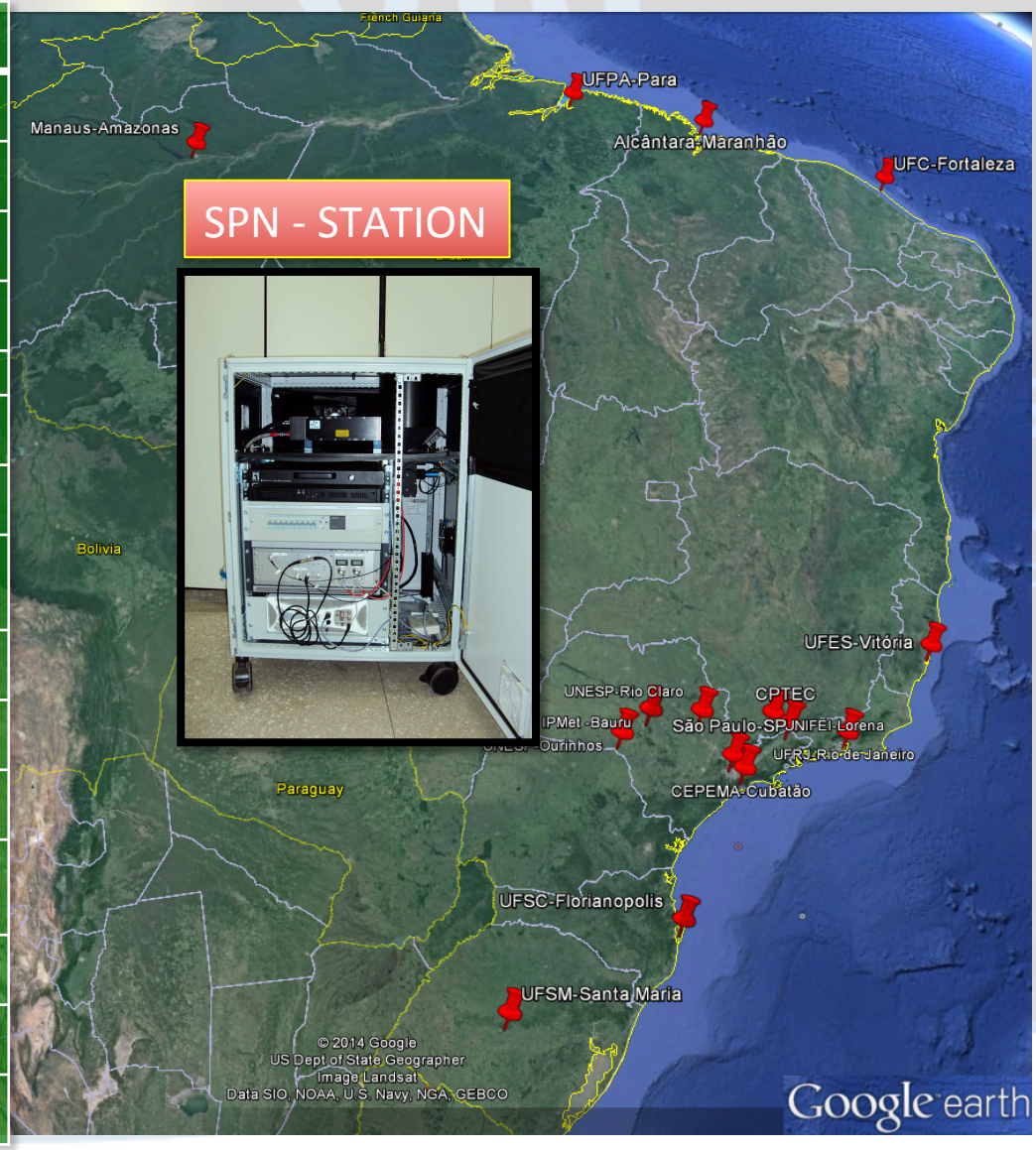


NETWORK SCIENTIFIC DRIVES



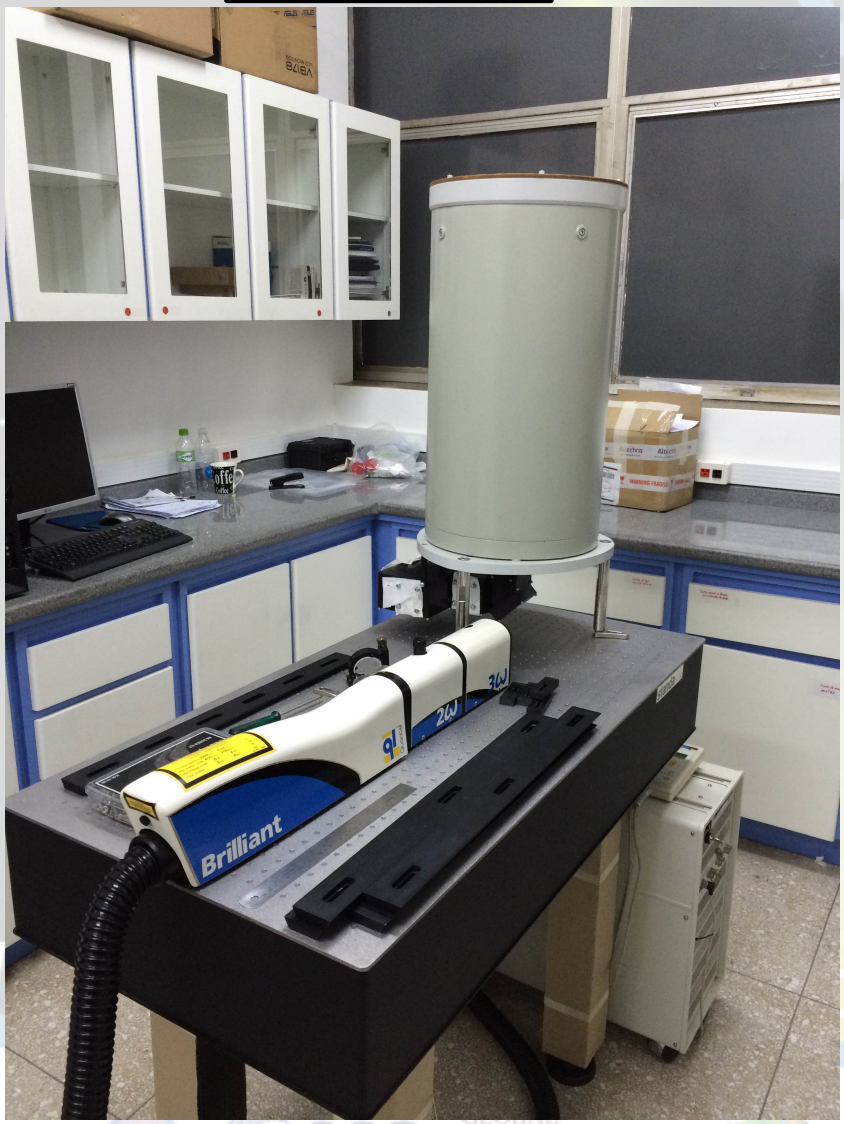
NETWORK EXPANSION

YEAR	CAMPAIGN SITE	PERIOD
2009	IPEN – São Paulo – SP	March to April
	UNESP – Rio Claro – SP	June to October
	CEPEMA – Cubatão – SP	October to November
2010	IPMet – Bauru – SP	01-09 of February
	Alcântara – MA	10-19 of March
	CEPEMA – Cubatão – SP	07-26 of July
	UNESP – Ourinhos – SP	04-31 of August
2011	CPTEC – Cachoeira Paulista – SP	February to March
	UFC – Fortaleza – CE	01 to 29 of April
	UFPA – Belém– PA	01 to 04 of June
2012	IPEN – São Paulo – SP	May, July to October
	IPMet – Bauru – SP	07 to 26 of March 02 – 17 of April
	UFSC – Florianópolis – SC	08-15 of May
	UFES – Vitória – ES	23 to 30 of July
	UFMS – Santa Maria - RG	06 to 29 of November



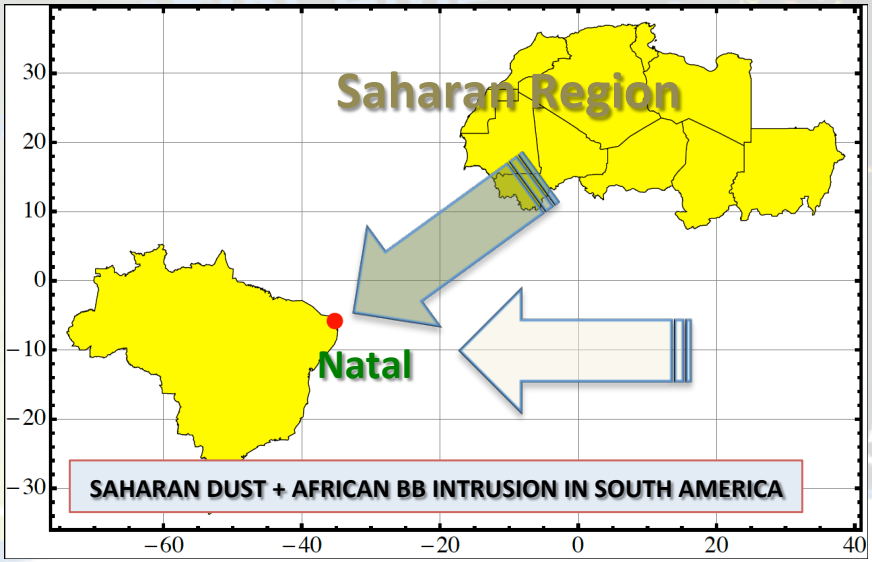
NETWORK EXPANSION

LIDAR DUSTER



SCHEDULED FOR 1ST semester 2015

1064,532 p+s, 355 nm
300 mm, cassegranian
Igor Vesselovski's design



LALINET Activities
2013 -2014

OUTREACH

ALINE

Santander

CIÊNCIA SEM FRONTEIRAS

FAPESP

INTA - MADRID

UNIVERSITY OF GRANADA

CIÊNCIA SEM FRONTEIRAS

GOAC - CAMAGUEY

HANDS ON WORKSHOPS

FACING WORLD (SA ?) CRISIS

FACING WORLD (SA ?) CRISIS

AIM INTERNATIONAL COOPERATION

INTRANETWORK COOPERATION

BEING INVENTIVE

FACING WORLD (SA ?) CRISIS

SUCCESSS

FURTHER STEPS ON NETWORK CONSOLIDATION

SHORT TERM

- ESTABLISH DATA ANALISYS PROTOCOLS
- ESTABLISH QA PROTOCOLS
- PROVIDE QUICKLOOKS & DATA RETRIEVALS ACCESS

LONG TERM

- DEPLOY A REFERENCE SYSTEM (HRSL ?)
- ASSIMILATE OTHER NETWORKS EXPERTISE INTO LALINET

ACKNOWLEDGEMENTS

GLOBAL IGBP CHANGE International Geosphere-Biosphere Programme

FAPESP

GAW

GOAC Grupo de Óptica Atmosférica de Camagüey

CNPq Conselho Nacional de Desenvolvimento Científico e Tecnológico

GLEO Grupo Láseres y Espectroscopia Óptica

World Meteorological Organization Weather • Climate • Water

CEILAP CONICET CITEFA

CALAIRE Laboratorio de Calidad de Aire

Center for Optics and Photonics

esa European Space Agency

"I do not have any updates to give since the ACTRIS meeting in Lille. We are moving forward with our new Version 3 release. I am still very interested in setting up new MPLNET sites in Latin America. As I said in Lille, it would be very helpful if the ALINE community might propose a short prioritized list of sites for MPLNET (and by default AERONET). I would prefer to avoid a situation where I may upset one group by working with another, or interfere with other plans by putting a lidar somewhere based only on my limited knowledge of whats happening in the region. It would be best if the ALINE group could help balance good sites for what MPLNET can provide vs the other lidar sites being setup in the region. For instance, I would not want to put MPLNET at a site co-located or near another lidar. It would be best if the sites could be chosen based on transport considerations, or other AQ driven selections. I wish I was there to discuss this in person, its much harder to explain via email."