



**Antarctic Meteorological Observation, Modeling, and Forecasting Workshop  
Boulder, Colorado, USA 2006**

# Features and performance of the web-accessible database of the Meteorological Observatory data in Antarctica.

**U. Gentili<sup>1</sup>, P. Grigioni<sup>1</sup>, A. Iaccarino<sup>1</sup>, A. Pellegrini<sup>2</sup>**

1 – ENEA CLIM  
2 – PNRA SCrI

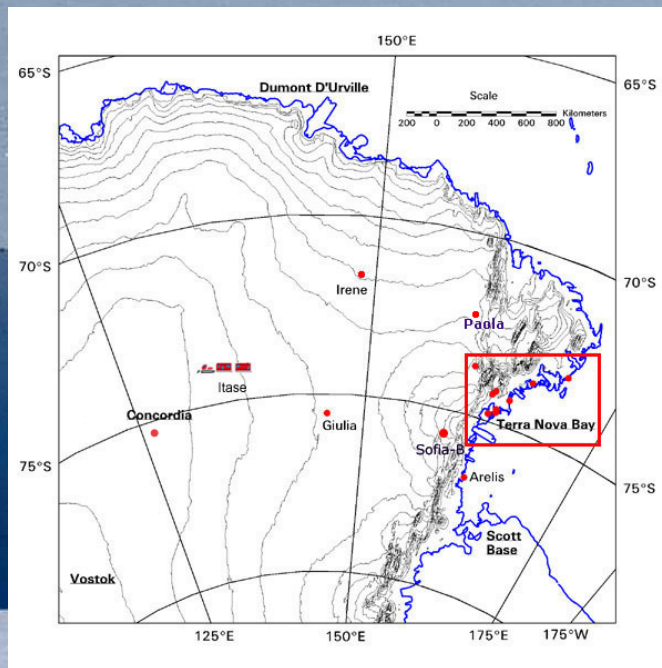
*Antarctic Meteorological Observation, Modeling, and Forecasting Workshop Boulder, Colorado, USA 2006*



# The Observatory

Since 1987

- 21 AWS
- 2 Radiosounding stations
- 4 Driftmeters
- 1 ceilometer





# Data



## AWS data

- Solid State Memories
- 1 data/hour
- Eneide 1 data/hour and 1 data/minute
- Penguin (summer only) every 10 min.

## Meteo data

- Synop
- Taf
- Temp
- Metar
- Weather reports

## Radiosounding data

- TNB
- Domec

## Real time data

- Argos AWS data
- Synop from AWS WMO NUMBER

## Other data

- GRIB by ECMWF
- MM5



# AWS



## AWS

- Vaisala
- Milos 200 - eprom
- Milos 500 - flash

## Sensors

- Temperature
- Relative Humidity
- Wind Speed
- Wind Direction
- Solar Radiation
- Snow depth

**1 Access db /AWS = 30 MB/AWS**

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# Radiosounding



**One radiosounding/day at Dome C at 12:00 UTC**

**7.5 MB/month = 90 MB/year  
1 Access db /year**



**Two radiosoundings/day at  
TNB at 00:00 and 12:00 UTC**

**7.5 MB/month = 30 MB/year  
1 db access/expedition**



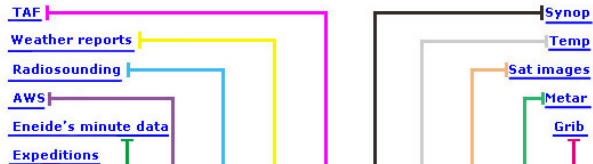
## Access to data

### Data description

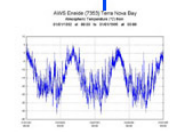
Stored data are incomplete and not homogeneous for all expeditions both because not all of them were collected starting from the first expeditions, and because they were collected and stored in different ways due to frequent changes of needs and personnel, and only during recent years we tried to standardize all data.

The table which follows reports all existing data divided by type. 'x' indicates that data exist for subject expedition.

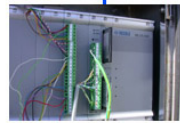
NOTE: During XX° expedition radiosounding was not done, due to Marwin failure. Are not included radiosounding data, Temp data and Synop data.



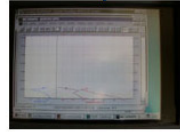
Expeditions	TAF	Weather reports	Radiosounding	AWS	Eneide's minute data	Expeditions	Synop	Temp	Sat images	Metar	Grib
I			x								
II			x	x							
III			x	x							
IV			x	x							
V			x	x							
VI			x	x							
VII			x	x							
VIII			x	x							
IX			x	x				x	x		
X			x	x				x	x	x	
XI			x	x	x			x	x		
XII			x	x				x	x		
XIII			x	x	x			x	x	x	
XIV			x	x	x			x	x	x	
XV			x	x	x	x		x	x	x	x
XVI			x	x	x	x		x	x	x	x
XVII			x	x	x	x	x	x	x	x	x
XVIII			x	x	x	x	x	x	x	x	x
XIX			x	x	x	x	x	x	x	x	x
XX			x	x		x				x	x
XXI			x	x	x					x	x



Temperature graph



AWS data storage



Radiosounding data

## Weather messages

- Synop
- Taf
- Temp
- Metar
- Weather reports

Synop : 80 KB/expedition  
 Weather reports : 30 MB/expedition  
 400/500 files/expeditions



# Model and Satellite Products

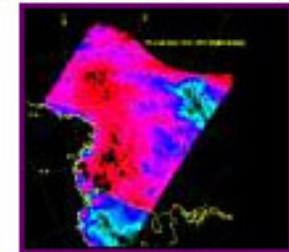


## Grib from ECMFW

- Raw data: 8 MB/day
- 240 files/expedition
- 960 MB/expedition
- Plotted : 14 MB/day
- 60.000 files/expedition
- 1.4 GB/expedition
- Image zip format : 14 MB/day
- 240 files/expedition
- 1.4 GB/expedition

## Satellite images

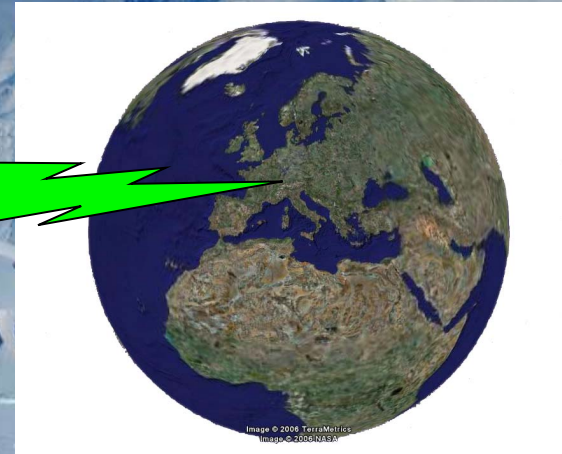
- 9.000 files/expedition
- 1.6 GB/expedition



Satimage\_041023\_btn.jpg Satimage\_041023\_ice.jpg



# Real time Argos



**Telnet to Toulouse (France)**  
CLS-Argos

- 8 files/day
- 240 kb/files
- 2920 files/year
- 87 MB/year





# Satellite data



**NOAA and DMSF data are received and stored at Mario Zucchelli Station since 1989: many different storage systems!**

- **At present, 700 GB/season**
- **Data transfer to std mass memory in progress**
- **Available on-line soon**



# Data collect



- AWS : 800 MB
- Radiosounding : 650 MB
- ECMFW : 12 GB
- Satellite data : 5 TB
- Other data : 900 MB

**Total data size : more than 5 TB**

## Old

- 3 ½ floppy disk (>2000)
- Magneto-optical (>100)
- CDROM (>100)
- Tape (>300)

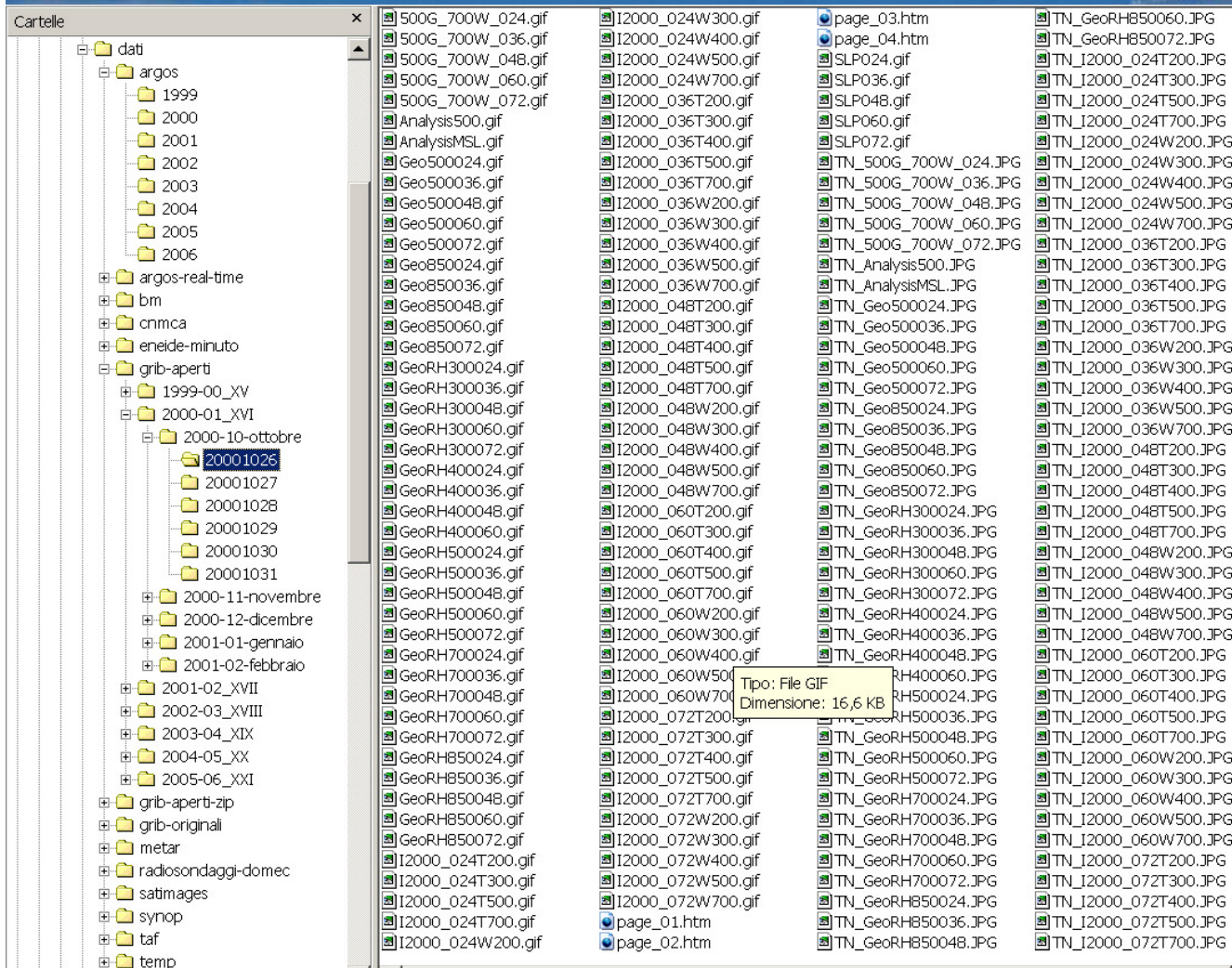


- Hard disk (4 2TB)
- Data base





# Standardized directory structure



**Data directory**

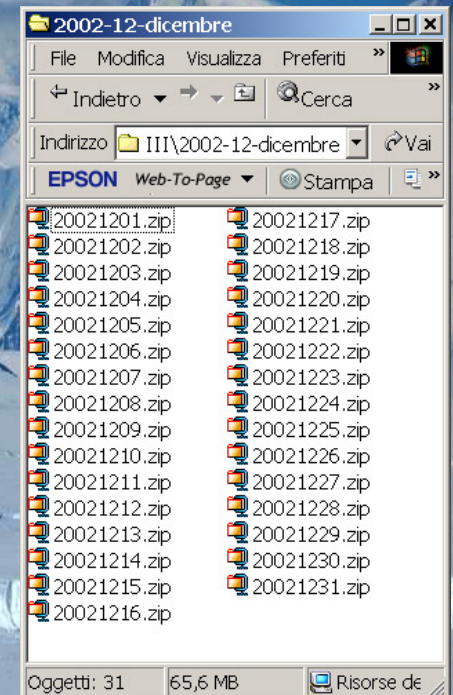
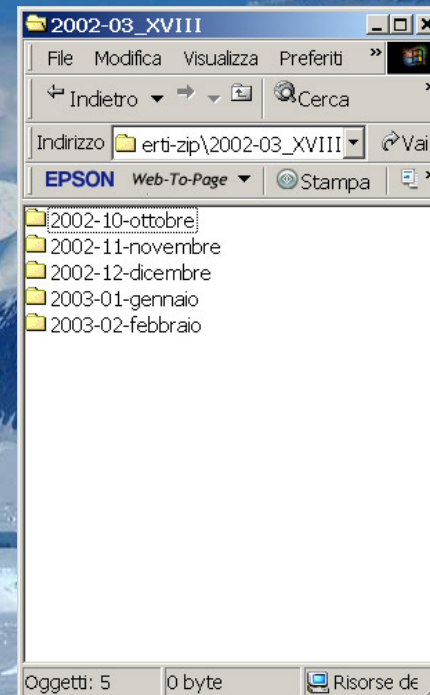
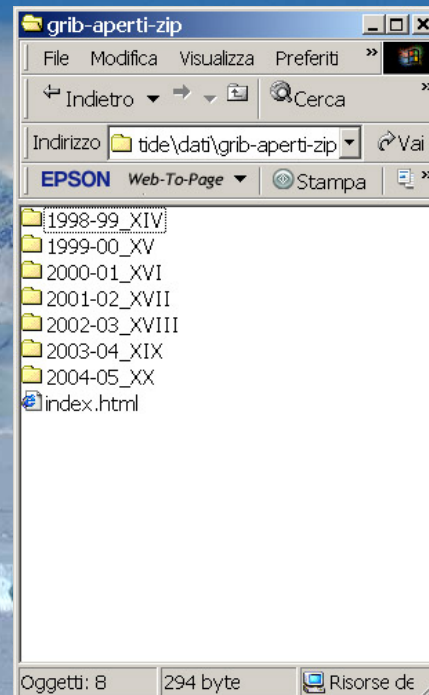
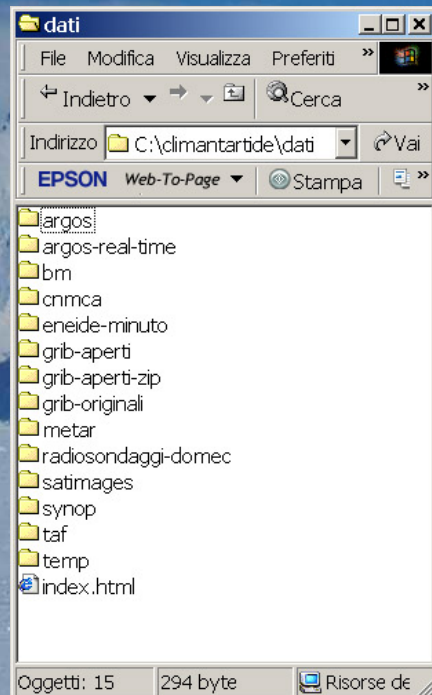
- directory by year
- directory by expedition

**File names**

- type\_yymmddhh.ext
- example :  
synop\_020206.txt  
taf\_050104.txt



# Standardized directory structure





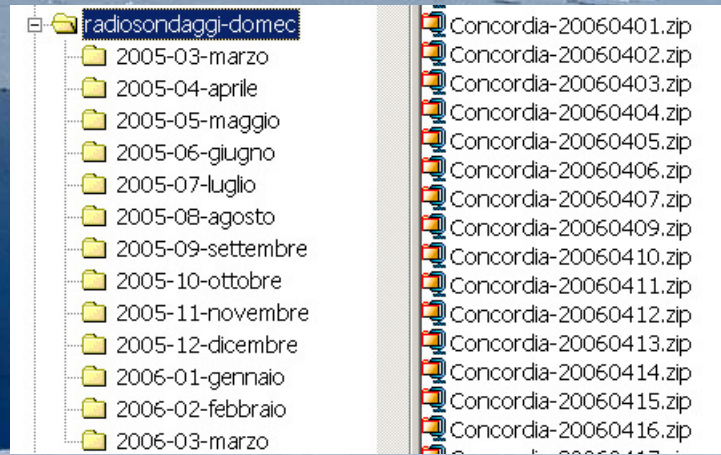
# Database and Archive

Microsoft Access - [anno2006 : Tabella]

anno	mese	giorno	ora	time1	slp	tist	rh	nsw	eww	he
6	1	1	12	6010112	26525	-21	56	1,2	-3,9	
6	1	1	12	6010112	26522	-21,3	61	0,9	-3,4	
6	1	1	12	6010112	26518	-21,4	64	1	-3,7	
6	1	1	12	6010112	26512	-21,5	67	1,1	-4,1	
6	1	1	12	6010112	26506	-21,6	70	1,2	-4,5	
6	1	1	12	6010112	26500	-21,7	72	1,3	-4,9	
6	1	1	12	6010112	26494	-21,8	73	1,5	-5,2	
6	1	1	12	6010112	26488	-21,9	74	1,6	-5,6	
6	1	1	12	6010112	26481	-22	75	1,8	-5,9	
6	1	1	12	6010112	26474	-22,1	76	2	-6,1	
6	1	1	12	6010112	26467	-22,2	77	2,2	-6,4	
6	1	1	12	6010112	26461	-22,3	78	2,3	-6,6	
6	1	1	12	6010112	26455	-22,4	78	2,5	-6,7	
6	1	1	12	6010112	26448	-22,5	79	2,7	-6,8	
6	1	1	12	6010112	26443	-22,5	80	2,9	-6,9	
6	1	1	12	6010112	26439	-22,6	80	3	-7	
6	1	1	12	6010112	26435	-22,6	79	3,1	-7	
6	1	1	12	6010112	26429	-22,6	79	3,2	-7,1	
6	1	1	12	6010112	26423	-22,7	79	3,3	-7,1	
6	1	1	12	6010112	26416	-22,7	80	3,3	-7,1	

## Storing Data

- Access database
- Mysql database
- Zip archive



Server: localhost Database: met Tabella: domec2005

Struttura Mostra SQL Cerca Inserisci Esporta Operazioni Svuota Elimina

Visualizzazione record 0 - 29 (377686 Totali, La query ha impiegato 0.0318 sec)

query SQL:  
SELECT \* FROM 'domec2005' LIMIT 0, 30

Mostra: 30 righe a partire da 30

in modalità orizzontale e ripeti gli headers dopo 100 celle Numero pagina: 1

	anno	mese	giorno	ora	time1	slp	tist	rh	nsw	eww	height	pres	td	mix	dir	vel	azimuth	radius	lon	lat	lsk	time2
<input type="checkbox"/>	5	9	14	12	5091412	26572.00	-60.00	32	-4.00	-1.00	3260	656.00	-69.00	0.00	197	4.00	17	0	123.00	-75.00	49159	2005091412
<input type="checkbox"/>	5	9	14	12	5091412	26570.00	-60.00	32	-5.00	-1.00	3262	656.00	-68.00	0.00	190	6.00	13	0	123.00	-75.00	2064	2005091412
<input type="checkbox"/>	5	9	14	12	5091412	26569.00	-59.00	32	-7.00	-0.00	3265	656.00	-68.00	0.00	184	7.00	10	0	123.00	-75.00	16	2005091412
<input type="checkbox"/>	5	9	14	12	5091412	26566.00	-59.00	33	-8.00	0.00	3268	655.00	-67.00	0.00	178	8.00	7	0	123.00	-75.00	528	2005091412
<input type="checkbox"/>	5	9	14	12	5091412	26562.00	-58.00	35	-8.00	1.00	3275	655.00	-67.00	0.00	174	9.00	3	100	123.00	-75.00	534	2005091412
<input type="checkbox"/>	5	9	14	12	5091412	26556.00	-58.00	37	-9.00	1.00	3284	654.00	-66.00	0.00	170	9.00	0	100	123.00	-75.00	528	2005091412
<input type="checkbox"/>	5	9	14	12	5091412	26549.00	-57.00	39	-10.00	2.00	3294	653.00	-64.00	0.00	168	10.00	358	100	123.00	-75.00	33296	2005091412
<input type="checkbox"/>	5	9	14	12	5091412	26542.00	-54.00	41	-11.00	2.00	3305	652.00	-61.00	0.00	167	11.00	356	100	123.00	-75.00	512	2005091412
<input type="checkbox"/>	5	9	14	12	5091412	26535.00	-50.00	44	-11.00	2.00	3316	650.00	-57.00	0.00	167	11.00	354	100	123.00	-75.00	512	2005091412
<input type="checkbox"/>	5	9	14	12	5091412	26528.00	-46.00	46	-11.00	2.00	3327	649.00	-53.00	0.00	167	12.00	353	200	123.00	-75.00	0	2005091412
<input type="checkbox"/>	5	9	14	12	5091412	26523.00	-44.00	48	-12.00	2.00	3336	648.00	-50.00	0.00	167	12.00	353	200	123.00	-75.00	32768	2005091412
<input type="checkbox"/>	5	9	14	12	5091412	26518.00	-41.00	50	-12.00	2.00	3344	648.00	-48.00	0.00	167	12.00	352	200	123.00	-75.00	0	2005091412
<input type="checkbox"/>	5	9	14	12	5091412	26513.00	-40.00	51	-12.00	3.00	3352	647.00	-46.00	0.00	167	12.00	351	200	123.00	-75.00	0	2005091412
<input type="checkbox"/>	5	9	14	12	5091412	26509.00	-39.00	52	-12.00	3.00	3359	646.00	-45.00	0.00	166	13.00	351	300	123.00	-75.00	32768	2005091412
<input type="checkbox"/>	5	9	14	12	5091412	26505.00	-38.00	53	-12.00	3.00	3366	646.00	-44.00	0.00	166	13.00	350	300	123.00	-75.00	0	2005091412
<input type="checkbox"/>	5	9	14	12	5091412	26500.00	-38.00	53	-12.00	3.00	3374	645.00	-44.00	0.00	165	13.00	350	300	123.00	-75.00	5	2005091412
<input type="checkbox"/>	5	9	14	12	5091412	26495.00	-37.00	54	-12.00	3.00	3383	644.00	-43.00	0.00	164	13.00	350	300	123.00	-75.00	0	2005091412
<input type="checkbox"/>	5	9	14	12	5091412	26490.00	-37.00	55	-12.00	3.00	3391	643.00	-43.00	0.00	164	13.00	349	400	123.00	-75.00	32768	2005091412
<input type="checkbox"/>	5	9	14	12	5091412	26485.00	-37.00	55	-12.00	3.00	3399	643.00	-43.00	0.00	163	13.00	349	400	123.00	-75.00	0	2005091412
<input type="checkbox"/>	5	9	14	12	5091412	26477.00	-37.00	55	-12.00	4.00	3413	641.00	-42.00	0.00	162	13.00	348	400	123.00	-75.00	0	2005091412



# Web interface to the database



# www.climantartide.it



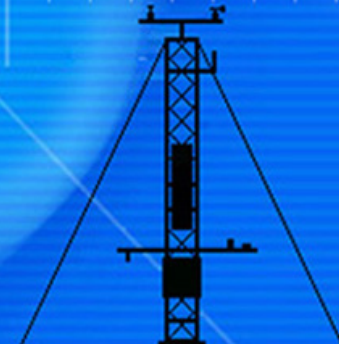
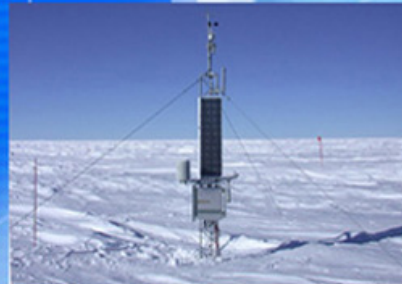
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- ◆ [Collaborations](#)
- ◆ [Photo Gallery](#)
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- ◆ [Italian research sites](#)
- ◆ [Statistics on access](#)
- ◆ [News](#) **NEW**

  
[Versione Italiana](#)

## Programma Nazionale di Ricerche in Antartide (Italian Antarctic Research Programme)

Meteo-climatological  
Observatory

ENEA Clim-Oss  
Antar





# Graphic Products



ENEAC CLIM-OSS / ANTAR

- Homepage
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- The Observatory
- Aws stations
- Radiosounding
- Access to data
- Reserved data
- AWS Charts
- Radiosounding charts and data
- News
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- Reports, Publications
- Copyright Warning
- Collaborations
- Photo Gallery
- Real time data
- Italian research sites
- Statistics on access
- Versione Italiana


## • Radiosounding charts and data

### Introduction


Radiosoundings are executed from 1987 during the summer expedition in Terra Nova Bay from the Campometeo locality, and, from 2005, during all the year, in Dome C from the Concordia Station.

From the following menu it is possible have charts in real time of the radiosounding or to view data in table format.


The examples gives a panoramic of the obtainable charts with the relative explanations.



Computers and Marwin



Launch system



Radiosounding

[Charts Terra Nova Bay](#)

[Data Terra Nova Bay](#)

[Charts Dome C](#)

[Data Dome C](#)

### Examples

- SkewT & Hodograph
- T, RH, TD Wind Speed & Components (vertical plot)
- Rel. Hum. (contour #2days & vertical plot)
- Temperature (contour #2days & vertical plot)
- Dew Point (contour #2days & vertical plot)
- Mixing Ratio (contour #2days & vertical plot)
- Wind Speed (contour #2days & vertical plot)
- Wind direction (contour #2days & vertical plot)
- Wind RH components (contour #2days & vertical plot)
- Wind WE Components (contour #2days & vertical plot)

ENEAC CLIM-OSS / ANTAR

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## • AWS charts

### Introduction

First of all, select the station desired from the field 'Automatic Weather Stations', and click on the name of the station. Stations are indicated by name, Argos number, and geographic site. Only stations working all year long are included; data surveyed by Itase, Itasca and Penguin are not present because fragmentary and scarcely indicative.

Secondly, select the chart of the variable desired and the period, giving year, month, and starting and ending hour, and from 'Generate AWS Plot' the chart can be obtained in a new Browser window.

N.B.: the processing of an on-line chart takes from 20 seconds to 2-3 minutes, according to the type of chart and time interval requested. If a slow modem is used, the display time may lengthen.

### Charts

**Automatic Weather Stations**

Alessandra (7351) Cape King

**Graphic**

Temperature (Linear Plot)

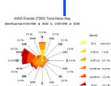
**Start Date**

Year 1987 Month 01 Day 01 Hour 00

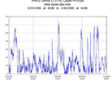
**End Date**

Year 2005 Month 11 Day 07 Hour 01

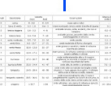
Generate AWS Plot



Wind rose



Wind and wind-chill



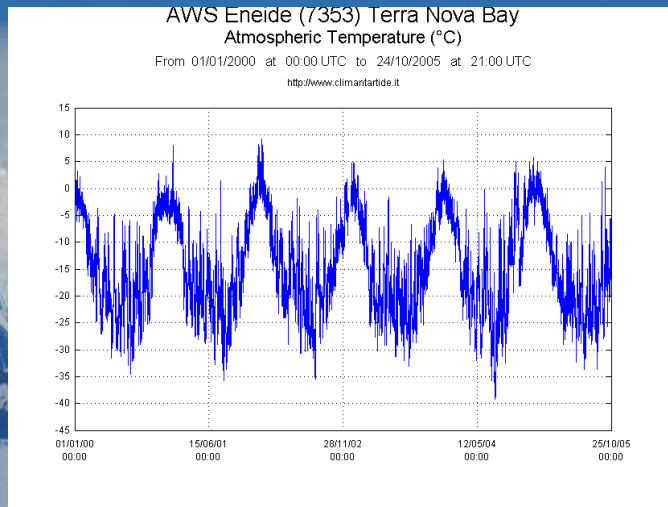
Beaufort scale

Charts available  
in real time  
(10 to 30 seconds)

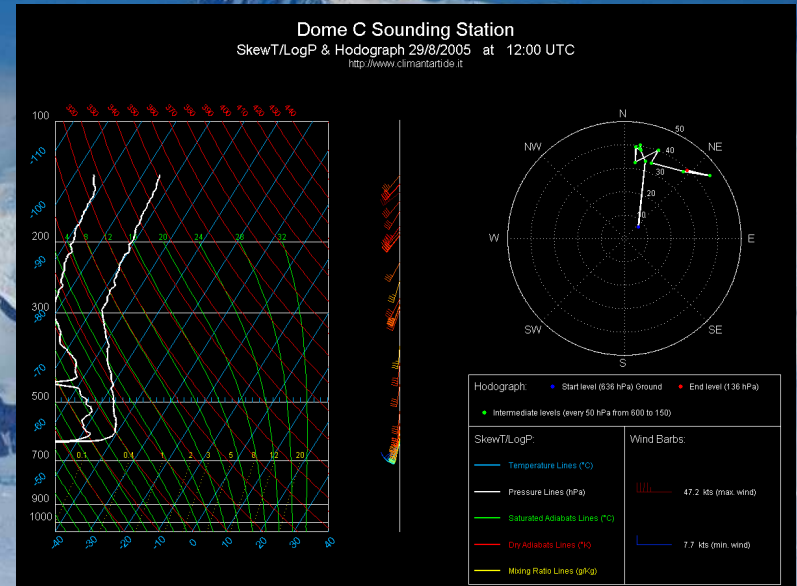
- SkewT & Hodograph
- T,RH,Wind (vertical plot)
- Temperature , Humidity, etc



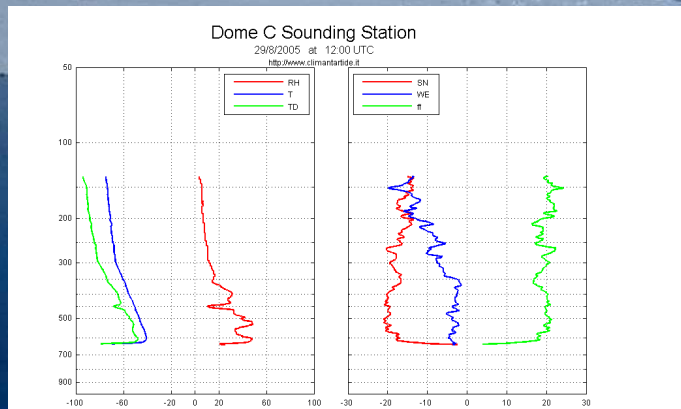
# Charts examples



Temperature



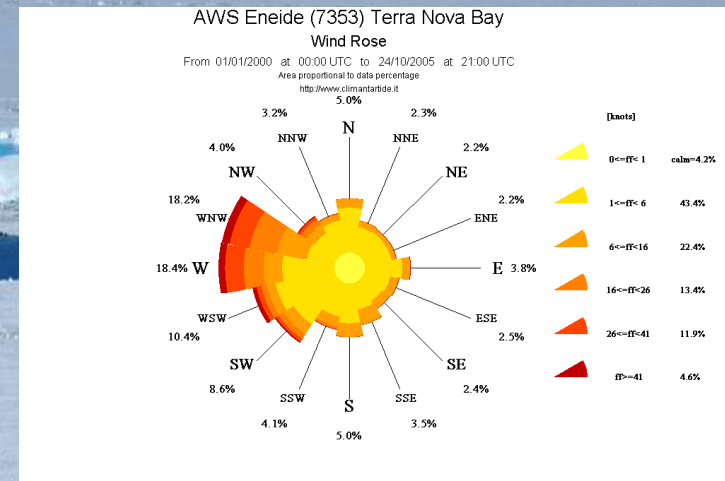
SkewT and Hodograph



T, RH, TD, Wind speed and Components



Wind rose







# Radiosounding Data Listing



ENEA CLIM-OSS / ANTAR

## • Radiosounding standard data Dome C

**Introduction**  
Data collected by radiosounding are presented for standard levels in table format. (hPa "ground pressure": 925, 850, 700, 500, 400, 300, 250, 200, 150, 100, 70, 50, 30, 20, 10)  
Choose the radiosounding clicking on the rectangle with the hour of launch.

The table show the fields:  
Atmospheric pressure at standard levels (hPa)  
ASL height (m)  
Wind direction (degree)  
Wind speed (m/s)  
Temperature (°C)  
Relative humidity (%)

**View daily data**

Expedition:  Year: 2006  
Month:  January

Gennaio 2006						
DOM	LUN	MAR	MER	GIO	VEN	SAB
<input type="button" value="12:00"/>	<input type="button" value="12:00"/>	<input type="button" value="12:00"/>	<input type="button" value="12:00"/>	<input type="button" value="12:00"/>	<input type="button" value="12:00"/>	<input type="button" value="12:00"/>
<input type="button" value="12:00"/>	<input type="button" value="12:00"/>	<input type="button" value="12:00"/>	<input type="button" value="12:00"/>	<input type="button" value="12:00"/>	<input type="button" value="12:00"/>	<input type="button" value="12:00"/>
<input type="button" value="12:00"/>	<input type="button" value="12:00"/>	<input type="button" value="12:00"/>	<input type="button" value="12:00"/>	<input type="button" value="12:00"/>	<input type="button" value="12:00"/>	<input type="button" value="12:00"/>
<input type="button" value="12:00"/>	<input type="button" value="12:00"/>	<input type="button" value="12:00"/>	<input type="button" value="12:00"/>	<input type="button" value="12:00"/>	<input type="button" value="12:00"/>	<input type="button" value="12:00"/>
<input type="button" value="12:00"/>	<input type="button" value="12:00"/>	<input type="button" value="12:00"/>	<input type="button" value="12:00"/>	<input type="button" value="12:00"/>	<input type="button" value="12:00"/>	<input type="button" value="12:00"/>
<input type="button" value="12:00"/>	<input type="button" value="12:00"/>	<input type="button" value="12:00"/>	<input type="button" value="12:00"/>	<input type="button" value="12:00"/>	<input type="button" value="12:00"/>	<input type="button" value="12:00"/>
<input type="button" value="12:00"/>	<input type="button" value="12:00"/>	<input type="button" value="12:00"/>	<input type="button" value="12:00"/>	<input type="button" value="12:00"/>	<input type="button" value="12:00"/>	<input type="button" value="12:00"/>
<input type="button" value="12:00"/>	<input type="button" value="12:00"/>	<input type="button" value="12:00"/>	<input type="button" value="12:00"/>	<input type="button" value="12:00"/>	<input type="button" value="12:00"/>	<input type="button" value="12:00"/>

Versione Italiana

View Data

**Radiosounding of 2006-01-30 at 12**

Atmospheric pressure at standard levels (hPa)	ASL height (m)	Wind direction (degree)	Wind speed (m/s)	Temperature (°C)	Relative humidity (%)
500.0	5058	190	3.00	-35.00	30
400.0	6573	187	6.00	-44.00	57
300.0	8458	180	13.00	-55.00	49
250.0	9621	194	4.00	-50.00	3
200.0	11100	203	4.00	-46.00	1
150.0	13001	288	1.00	-42.00	1
100.0	15727	275	2.00	-42.00	1
70.0	18117	199	3.00	-39.00	1
50.0	20472	318	1.00	-39.00	1
30.0	23798	111	3.00	-38.00	1
20.0	-999	-999	-999	-999	-999
10.0	-999	-999	-999	-999	-999

Download Data

ENEA CLIM-OSS / ANTAR

## • Radiosounding Dome C

**Introduction**  
Radiosoundings done in Dome C are daily downloadable for the current month, and monthly for the other months, and are in zip format.

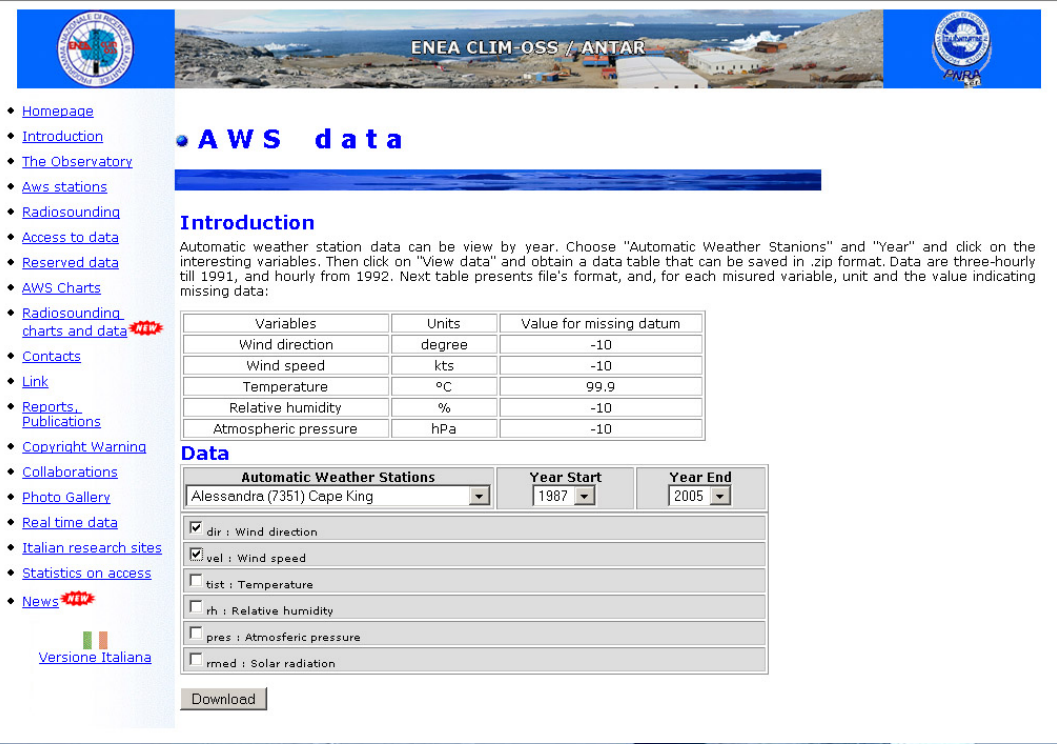
**Data**

Note: dimension of yearly data file is 29 Mb

Versione Italiana



# Aws Data Listing

**• AWS data**

**Introduction**  
Automatic weather station data can be view by year. Choose "Automatic Weather Stations" and "Year" and click on the interesting variables. Then click on "View data" and obtain a data table that can be saved in .zip format. Data are three-hourly till 1991, and hourly from 1992. Next table presents file's format, and, for, each misured variable, unit and the value indicating missing data:

Variables	Units	Value for missing datum
Wind direction	degree	-10
Wind speed	kts	-10
Temperature	°C	99.9
Relative humidity	%	-10
Atmospheric pressure	hPa	-10

**Data**

Automatic Weather Stations: Alessandra (7351) Cape King  
 Year Start: 1987  
 Year End: 2005

dir : Wind direction  
 vel : Wind speed  
 tist : Temperature  
 rh : Relative humidity  
 pres : Atmospheric pressure  
 rmed : Solar radiation

[Download](#)

[Versione Italiana](#)

## View Data

- Table

Year	Month	Day	Hour	dir	vel	tist	rh	pres
2005	1	27	14	260	4	-39,7	17,0	648,3
2005	1	27	15	260	5	-41,6	17,0	648,2
2005	1	27	16	250	6	-42,0	16,0	648,0
2005	1	27	17	260	6	-44,0	16,0	648,0
2005	1	27	18	260	5	-44,5	16,0	648,1
2005	1	27	19	260	4	-44,9	16,0	648,2
2005	1	27	20	260	4	-44,5	16,0	648,2
2005	1	27	21	270	5	-43,3	16,0	648,2
2005	1	27	22	270	4	-41,5	16,0	648,4
2005	1	27	23	260	5	-39,1	17,0	648,6
2005	1	28	0	-10	99,9	-10,0	-10,0	-10,0
2005	1	28	1	-10	-10	99,9	-10,0	-10,0
2005	1	28	2	-10	-10	99,9	-10,0	-10,0
2005	1	28	3	-10	-10	99,9	-10,0	-10,0
2005	1	28	4	-10	-10	99,9	-10,0	-10,0
2005	1	28	5	-10	-10	99,9	-10,0	-10,0
2005	1	28	6	-10	-10	99,9	-10,0	-10,0
2005	1	28	7	-10	-10	99,9	-10,0	-10,0
2005	1	28	8	-10	-10	99,9	-10,0	-10,0
2005	1	28	9	-10	-10	99,9	-10,0	-10,0
2005	1	28	10	-10	-10	99,9	-10,0	-10,0
2005	1	28	11	280	5	-34,2	24,0	650,7
2005	1	28	12	270	5	-36,3	22,0	650,8
2005	1	28	13	260	5	-38,3	23,0	650,8
2005	1	28	14	250	5	-40,0	17,0	650,9
2005	1	28	15	260	6	-41,3	17,0	651,0
2005	1	28	16	260	6	-43,1	17,0	651,0
2005	1	28	17	250	5	-43,8	16,0	651,2
2005	1	28	18	260	5	-44,8	16,0	651,1
2005	1	28	19	240	5	-44,8	16,0	651,3
2005	1	28	20	260	5	-44,9	16,0	651,3
2005	1	28	21	250	3	-43,3	16,0	651,2
2005	1	28	22	270	2	-42,4	16,0	651,0
2005	1	28	23	270	3	-40,0	17,0	651,2
2005	1	29	0	-10	-10	99,9	-10,0	-10,0
2005	1	29	1	-10	-10	99,9	-10,0	-10,0
2005	1	29	2	-10	-10	99,9	-10,0	-10,0
2005	1	29	3	-10	-10	99,9	-10,0	-10,0

## Download Data

- Mysql database



# Other Data



ENEA CLIM-OSS / ANTAR



- [Homepage](#)
- [Introduction](#)
- [The Observatory](#)
- [Aws stations](#)
- [Radiosounding](#)
- [Access to data](#)
- [Reserved data](#)
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## Access to data

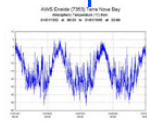
### Data description

Stored data are incomplete and not homogeneous for all expeditions both because not all of them were collected starting from the first expeditions, and because they were collected and stored in different ways due to frequent changes of needs and personnel, and only during recent years we tried to standardize all data.

The table which follows reports all existing data divided by type. 'x' indicates that data exist for subject expedition.

NOTE: During XX<sup>o</sup> expedition radiosounding was not done, due to Marwin failure. Are not included radiosounding data, Temp data and Synop data.

	TAF	Weather reports	Radiosounding	AWS	Eneide's minute data	Expeditions	Synop	Temp	Sat images	Metar	Grib
I			x								
II			x	x							
III			x	x							
IV			x	x							
V			x	x							
VI			x	x							
VII			x	x							
VIII			x	x							
IX			x	x			x	x			
X			x	x			x	x	x		
XI			x	x	x		x	x			
XII			x	x			x	x			
XIII			x	x	x		x	x	x		
XIV			x	x	x		x	x	x		
XV		x	x	x	x		x	x	x	x	
XVI		x	x	x	x		x	x	x	x	
XVII		x	x	x	x	x	x	x	x	x	x
XVIII		x	x	x	x	x	x	x	x	x	x
XIX		x	x	x	x	x	x	x	x	x	x
XX		x	x	x		x	x	x		x	x
XXI		x	x	x			x	x			



Temperature graph



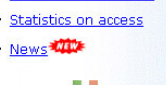
AWS

## View and download Data

- Grib
- Synop
- Temp
- Taf
- Metar
- Weather reports



Antarctic Meteorological Observation,



ENEA CLIM-OSS / ANTAR



## SYNOPSIS

### Introduction

Meteorological messages contain informations about weather observations and weather forecasts, coded according to specific rules issued by World Meteorological Organization (WMO).

First of all they are divided in 'synoptics' messages (code SYNOP and TEMP), and 'aeronautic' messages (METAR e TAF).

First ones contain meteorological observation at ground and altitude respectively, taken at synoptic hours or in hours during which in all the stations of the world synoptic network the same observations are made with the same formalities and are coded according to the same standards; these messages are diffused all over the world through a dedicated data transmission network called Global Telecommunication System (GTS) so that all information contained in it can be used from meteorological centres, mainly to initialise numerical models.

On the contrary, aeronautic messages are used for assistance to air navigation: METAR contains weather observations about airports, while TAF contains weather forecasts. They too are coded, but not necessarily diffused on GTS.

### Data

XVIII Expedition (14 Oct 2002 - 22 Feb 2003)

IX Expedition (23 Oct 1993 - 11 Feb 1994)

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# Satellite Data



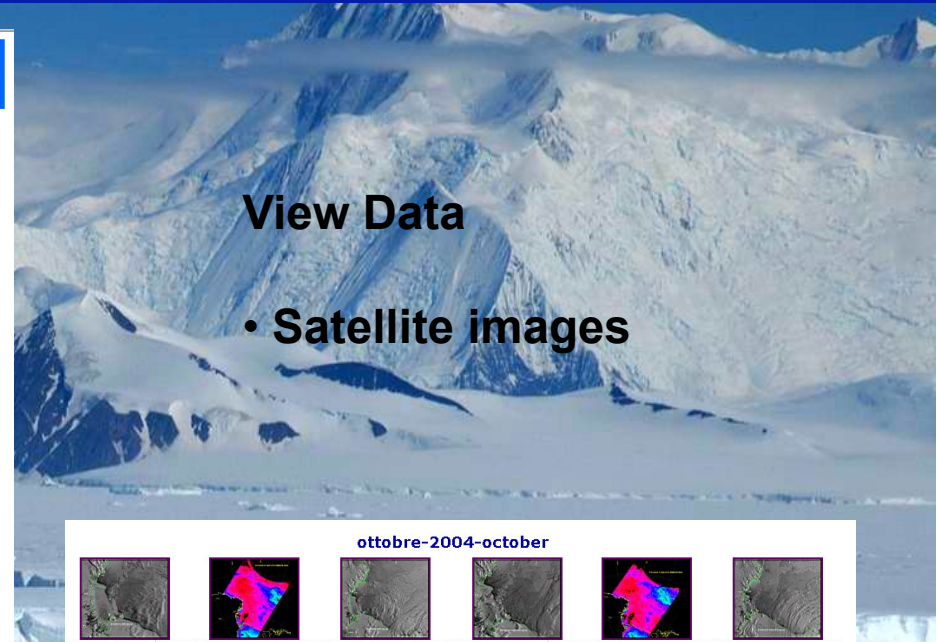
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**• Satellite Images XX Expedition**

OCTOBER	<a href="#">Low resolution (150 KB)</a>	<a href="#">High resolution (800 KB)</a>
NOVEMBER	<a href="#">Low resolution (150 KB)</a>	<a href="#">High resolution (800 KB)</a>
DECEMBER	<a href="#">Low resolution (150 KB)</a>	<a href="#">High resolution (800 KB)</a>
JANUARY	<a href="#">Low resolution (150 KB)</a>	<a href="#">High resolution (800 KB)</a>
FEBRUARY	<a href="#">Low resolution (150 KB)</a>	<a href="#">High resolution (800 KB)</a>

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View Data

• Satellite images

ottobre-2004-october

<a href="#">Satimage_041016_btn.jpg</a>	<a href="#">Satimage_041016_ice.jpg</a>	<a href="#">Satimage_041016_ross.jpg</a>	<a href="#">Satimage_041017_btn.jpg</a>	<a href="#">Satimage_041017_ice.jpg</a>	<a href="#">Satimage_041017_ross.jpg</a>
<a href="#">Satimage_041018_btn.jpg</a>	<a href="#">Satimage_041018_ice.jpg</a>	<a href="#">Satimage_041018_ross.jpg</a>	<a href="#">Satimage_041019_btn.jpg</a>	<a href="#">Satimage_041019_ice.jpg</a>	<a href="#">Satimage_041019_ross.jpg</a>
<a href="#">Satimage_041020_btn.jpg</a>	<a href="#">Satimage_041020_ice.jpg</a>	<a href="#">Satimage_041020_ross.jpg</a>	<a href="#">Satimage_041021_btn.jpg</a>	<a href="#">Satimage_041021_ice.jpg</a>	<a href="#">Satimage_041021_ross.jpg</a>
<a href="#">Satimage_041022_btn.jpg</a>	<a href="#">Satimage_041022_ice.jpg</a>	<a href="#">Satimage_041022_ross.jpg</a>	<a href="#">Satimage_041023_btn.jpg</a>	<a href="#">Satimage_041023_ice.jpg</a>	<a href="#">Satimage_041023_ross.jpg</a>
<a href="#">Satimage_041024_btn.jpg</a>	<a href="#">Satimage_041024_ice.jpg</a>	<a href="#">Satimage_041024_ross.jpg</a>	<a href="#">Satimage_041025_btn.jpg</a>	<a href="#">Satimage_041025_ice.jpg</a>	<a href="#">Satimage_041025_ross.jpg</a>

Page: 1 2  
[ Prev ] [ Next ]



# Reserved Data

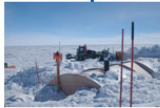



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**Reserved data**

You are entered as user: umby    User class: 4

- [Meteorological Bulletin](#)
- [Full radiosounding data BTN](#)
- [Full radiosounding data Dome C](#)
- [Original Grib](#)
- [Documentation](#)
- [Manuals](#)
- [AWS manutention](#)
- [Photographic archive](#)
- [View AWS Data](#)
- [Radiosounding Dome C](#)
- [Argos data](#)

  
[Mid Point](#)

  
[Works at AWS](#)

  
[Crevasses](#)

[Versione Italiana](#)

View and download Data  
(User ID and PWD)

- full radiosounding data
- full AWS data
- raw data from ECMWF



# Real time Data

ENEA CLIM-OSS//ANTAR

## Realtime data from AWS

- Homepage
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**Introduction**

Data acquired by AWS are transmitted by Argos satellite each hour and received in Italy. Temperature, pressure, humidity, solar radiation, wind direction and speed are here shown in table and graphics form.

AWS Eneide (WMO number 89662) transmit Synop, Temp and Taf too.

AWS Arelis (WMO number 89656), Giulia (WMO number 89648), Irene (WMO number 89646), Modesta (WMO number 89659), Silvia (WMO number 89661) transmit Synop.

**AWS data**

NOTE : Temp and Taf of the AWS Eneide are not more produced because XXI expedition is in order to end, and from 7 February radiosounding ended.

The Synop of AWS Eneide are transmitted automatically, and will be found with the synop of the other AWS

**Synop AWS**

[Ice on the sea](#)

[Apple against the sun](#)

[Bottom of landstrip](#)

ID Argos	Name	date/time	Wind			Temperature (°C)			Humidity (%)	Pressure (hPa)	Solar Radiation (W/m2)	Batteries (V)
			Dir (deg)	Speed Inst (kt)	Speed Max (kt)	Inst	Max	Min				
01218	<a href="#">Irene</a>	--	--	--	--	--	--	--	--	--	--	
01627	<a href="#">Giulia</a>	2006-01-02 15:00	200	16	22	-42.5	-42.5	-42.7	56	754.0	--	16.2
07350	<a href="#">Sofia-B</a>	2006-06-01 09:00	0	0	0	-26.9	-26.8	-27.5	74	805.8	--	13.0
07351	<a href="#">Alessandra</a>	2006-06-01 09:00	240	4	5	-21.0	-20.8	-21.0	76	974.2	0	12.5
07352	<a href="#">Zoraida</a>	2006-06-01 09:00	0	0	0	-25.6	-25.3	-25.7	48	912.8	--	13.5
07353	<a href="#">Eneide</a>	2006-06-01 09:00	240	11	22	-20.7	-20.4	-20.8	78	983.5	0	13.0
07354	<a href="#">Rita</a>	2006-06-01 09:00	240	18	22	-21.5	-21.5	-21.8	56	960.5	--	13.0
07355	<a href="#">Modesta</a>	2006-05-21 09:00	310	17	22	-57.4	-57.0	-57.7	40	750.8	--	12.8
07356	<a href="#">Lola</a>	--	--	--	--	--	--	--	--	--	--	--
07357	<a href="#">Arelis</a>	2006-06-01 09:00	130	7	16	-16.7	-16.7	-19.3	81	973.7	--	12.9
07379	<a href="#">Silvia</a>	2006-06-01 06:00	240	27	39	-21.8	-21.6	-22.1	70	919.4	--	13.2

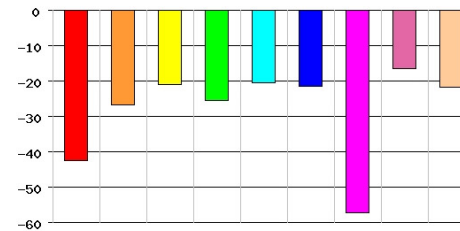
Lola does not transmit more from 10 February

Irene and Giulia does not transmit from 14 April

Modesta does not transmit more from 21 May

Giulia transmits again from June the first, but she has lost the data that has been reset to January the first

[Back to the map](#)   [Back to the menu](#)



Legend:

- Giulia
- Sofia-B
- Alessandra
- Zoraida
- Eneide
- Rita
- Modesta
- Arelis
- Silvia

Temperature (C)

From the map you enter in a page from which: Clicking on "All AWS" you obtain a table in which last hour data of all AWS are shown. Clicking on the name of AWS you obtain data of that AWS relative to last day.

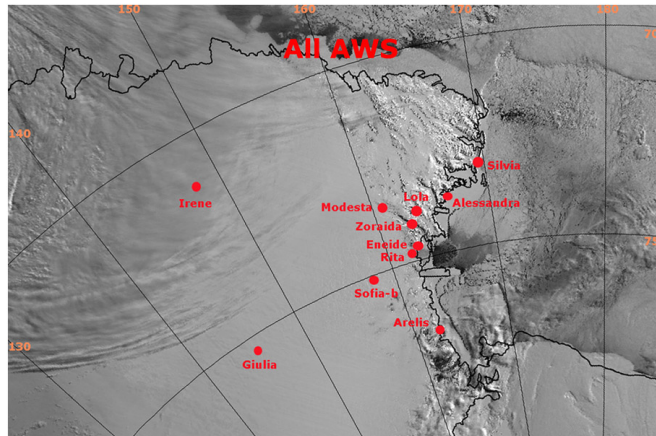
Data are adjoined every 3 hours.

Lola does not transmit more from 10 February

Irene and Giulia does not transmit from 14 April

Modesta does not transmit more from 21 May

Giulia transmits again from June the first, but she has lost the data that has been reset to January the first



View Data

- AWS data
- Synop



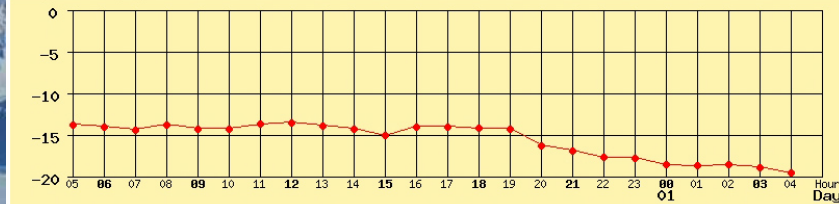
# Real time Data



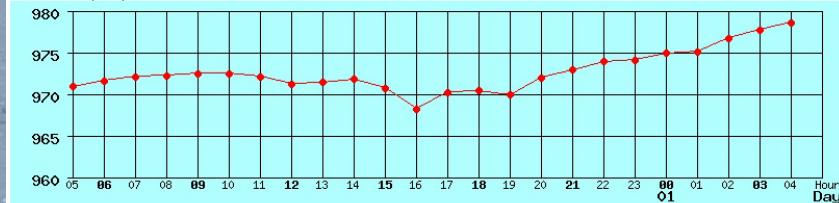
data/ora	Vento		Temperatura (°C)			Umidità (%)	Pressione (hPa)	Radiazione Solare (W/m2)	Batterie (V)	
	Dir (deg)	Vel Inst (kt)	Vel Max (kt)	Inst	Max					Min
	2006-06-01 04:00:00	240	18	23	-19.6					-18.8
2006-06-01 03:00:00	270	8	17	-18.9	-18.5	-19.0	82	977.7	0	13.0
2006-06-01 02:00:00	220	13	28	-18.6	-18.3	-18.7	83	976.7	0	13.0
2006-06-01 01:00:00	210	22	28	-18.7	-18.5	-18.8	83	975.1	0	13.0

[Indietro alla lista](#)   [Indietro alla mappa](#)   [Indietro al menù](#)

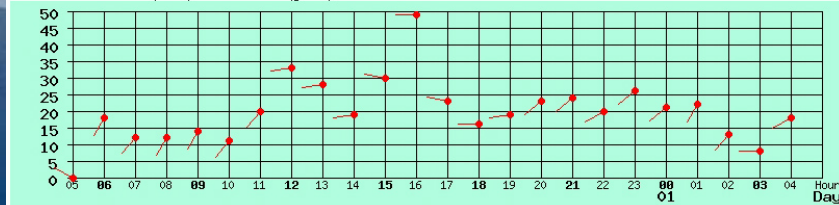
Temperatura (°C) nelle ultime 24 ore



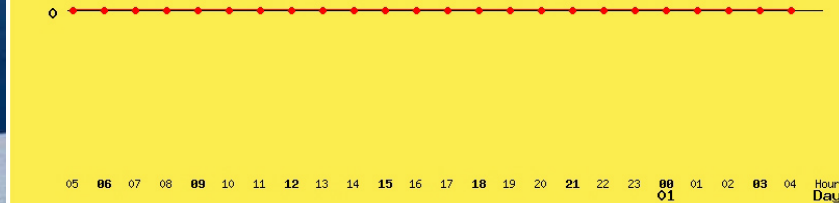
Pressione (hPa) nelle ultime 24 ore



Velocità del vento (nodi) e direzione (gradi)



Radiazione Solare (W/m2)



View Data

- AWS data
- Synop

## Index of /dati/cnmca/aws-synop

Name	Last modified	Size	Description
[DIR] <a href="#">Parent Directory</a>	21-Feb-2006 07:00	-	
[TXT] <a href="#">PNRA20060201001600.TXT</a>	01-Feb-2006 02:16	1k	
[TXT] <a href="#">PNRA20060201004100.TXT</a>	01-Feb-2006 02:41	1k	
[TXT] <a href="#">PNRA20060201004200.TXT</a>	01-Feb-2006 02:42	1k	
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[TXT] <a href="#">PNRA20060201011601.TXT</a>	01-Feb-2006 03:16	1k	
[TXT] <a href="#">PNRA20060201015700.TXT</a>	01-Feb-2006 03:57	1k	
[TXT] <a href="#">PNRA20060201021700.TXT</a>	01-Feb-2006 04:17	1k	
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[TXT] <a href="#">PNRA20060219063800.TXT</a>	19-Feb-2006 08:38	1k	
[TXT] <a href="#">PNRA20060219064300.TXT</a>	19-Feb-2006 08:43	1k	
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[TXT] <a href="#">PNRA20060219090801.TXT</a>	19-Feb-2006 11:08	1k	
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[TXT] <a href="#">PNRA20060219100801.TXT</a>	19-Feb-2006 12:08	1k	
[TXT] <a href="#">PNRA20060219103200.TXT</a>	19-Feb-2006 12:32	1k	
[TXT] <a href="#">PNRA20060219103700.TXT</a>	19-Feb-2006 12:37	1k	
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[TXT] <a href="#">PNRA20060219133201.TXT</a>	19-Feb-2006 15:32	1k	
[TXT] <a href="#">PNRA20060219133300.TXT</a>	19-Feb-2006 15:33	1k	



# Computers



## WEB SERVER

- Linux Fedora release 5
- 3.6 GHz
- 1 GB RAM

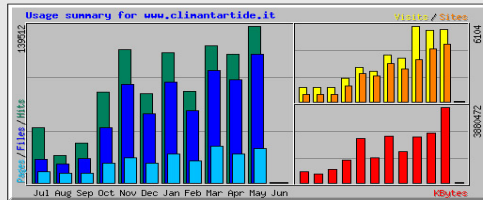
## PLOTTING (MATHLAB) SERVER

- Windows 2000
- 3.2 GHz
- 2 GB RAM
- Matlab 12

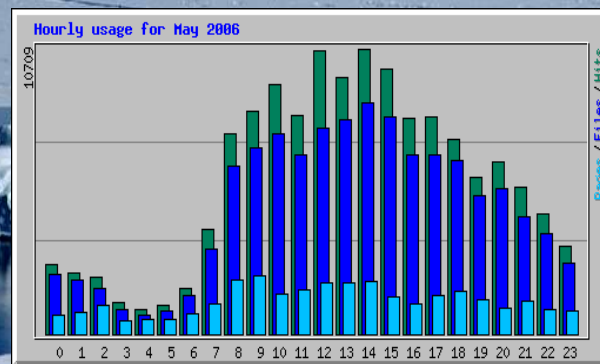
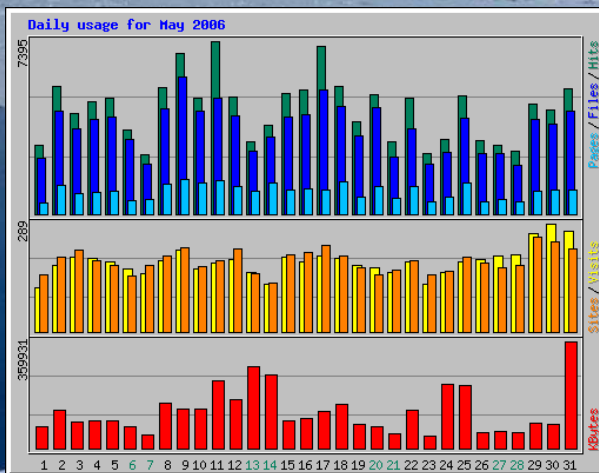




# Site Access Statistics



Month	Daily Avg				Monthly Totals					
	Hits	Files	Pages	Visits	Sites	KBytes	Visits	Pages	Files	Hits
Jun 2006	102	81	49	40	44	6214	40	49	81	102
May 2006	4500	3700	977	187	4658	3880472	5816	30317	114709	139512
Apr 2006	3810	3060	851	191	4248	2544917	5751	25536	91809	114319
Mar 2006	3943	3219	1055	196	3367	2358275	6104	32712	99811	122257
Feb 2006	2902	2304	704	126	2659	1586031	3541	19713	64515	81261
Jan 2006	3734	2904	824	121	3087	2406772	3754	25574	90025	115773
Dec 2005	2567	1980	561	79	2112	1287304	2464	17396	61390	79582
Nov 2005	3951	2921	745	92	2272	2263098	2785	22373	87637	118553
Oct 2005	2601	1594	573	62	1289	1153734	1928	17767	49426	80654
Sep 2005	1187	717	284	37	585	701636	1138	8522	21515	35620
Aug 2005	779	548	270	37	567	461374	1176	8382	16991	24154
Jul 2005	1587	674	327	36	602	575643	1137	10157	20905	49201
<b>Totals</b>						<b>19225470</b>	<b>35634</b>	<b>218498</b>	<b>718814</b>	<b>960988</b>



#	Hits	Files	KBytes	Country			
1	68150	48.85%	57832	50.42%	1204870	31.05%	Italy
2	23589	16.91%	19382	16.90%	721937	18.60%	Unresolved/Unknown
3	18043	12.93%	13921	12.14%	968253	24.95%	US Commercial
4	11521	8.26%	8561	7.46%	211834	5.46%	Network
5	2121	1.52%	1806	1.57%	34214	0.88%	Switzerland
6	1773	1.27%	1122	0.98%	29574	0.76%	US Educational
7	1771	1.27%	1551	1.35%	36503	0.94%	France
8	1714	1.23%	1665	1.45%	384254	9.90%	Non-Profit Organization
9	1465	1.05%	1015	0.88%	68244	1.76%	United Kingdom
10	1047	0.75%	997	0.87%	29978	0.77%	Czech Republic
11	612	0.44%	580	0.51%	14263	0.37%	Brazil
12	588	0.42%	524	0.46%	11527	0.30%	Germany
13	543	0.39%	499	0.44%	11711	0.30%	Portugal
14	504	0.36%	446	0.39%	11793	0.30%	Belgium
15	493	0.35%	444	0.39%	14536	0.37%	Netherlands
16	472	0.34%	449	0.39%	9116	0.23%	Poland
17	407	0.29%	378	0.33%	10158	0.26%	Mexico
18	387	0.28%	364	0.32%	9827	0.25%	Canada
19	381	0.27%	70	0.06%	1370	0.04%	Saudi Arabia
20	370	0.27%	341	0.30%	6357	0.16%	Romania
21	369	0.26%	341	0.30%	16853	0.43%	Australia
22	361	0.26%	292	0.25%	11514	0.30%	New Zealand (Aotearoa)
23	244	0.17%	229	0.20%	3050	0.08%	United States
24	238	0.17%	212	0.18%	3581	0.09%	Norway
25	236	0.17%	226	0.20%	5536	0.14%	Spain
26	203	0.15%	195	0.17%	3435	0.09%	Argentina
27	202	0.14%	177	0.15%	5205	0.13%	Chile
28	127	0.09%	108	0.09%	5114	0.13%	Peru
29	120	0.09%	110	0.10%	3100	0.08%	Turkey
30	113	0.08%	56	0.05%	1221	0.03%	Finland
31	105	0.08%	73	0.06%	3905	0.10%	Japan
32	100	0.07%	95	0.08%	2414	0.06%	Greece



# Conclusion



- 1. Valid instrument for storing and accessing data**
- 2. Future: some statistical/climatological products**
- 3. Downloadable satellite data**



**Thank you for your attention**