e-GEOS

GeoDAF
Geodetic Data Archive Facility – ASI (Italian Space Agency) Local Data Centre
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Abstract

GeoDAF has been EUREF Local Data Centre since 1999. Mainly it manages rinex files from the Italian GPS stations (not only EUREF/IGSones), but it acts as LDC for some Greek stations too. We will provide an overview of the architecture of the system, together with statistics of data received, stored and distributed. Since the facility manages also analysis products, an overview of these products will be included.

GeoDAF services are available using both HTTP and FTP protocols at the same internet address:

http://geodaf.mt.asi.it
ftp://geodaf.mt.asi.it

Fig. 1, Fig. 2 and Fig. 3 show, as examples, respectively the Data distribution HTML page (new experimental layout), the Data Directory available throw FTP protocol and an HTML page (new experimental layout) containing Date Conversion Tool (YYYY/MM/DD ←→ YYYY/doy ←→ GPS Week) written in JavaScript.

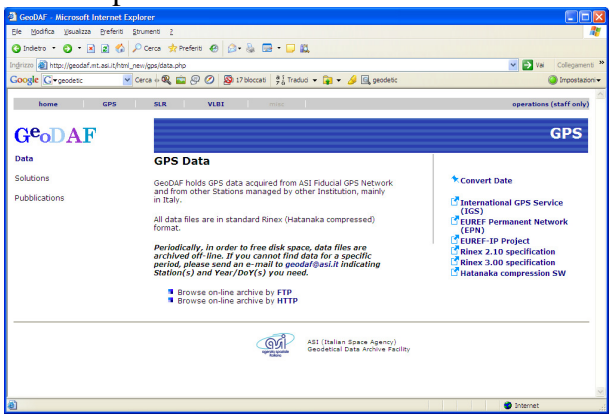

Fig. 1

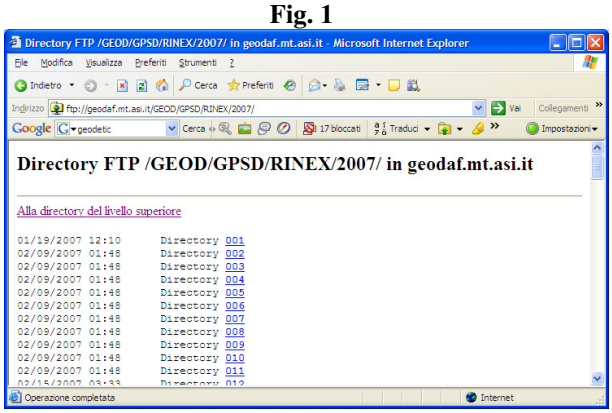

Fig. 2

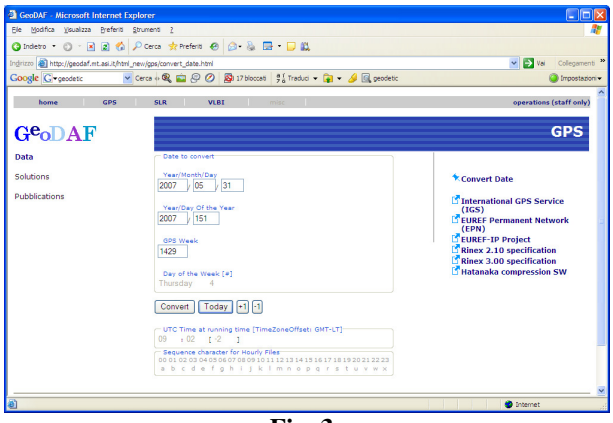

Fig. 3

GeoDAF has been EUREF Local Data Centre since 1999. Mainly it manages rinex files from the Italian GPS stations (not only EUREF/IGS ones), but it acts as LDC for some Greek stations too.
Presently 37 active Stations send daily/hourly files to GeoDAF as seen in CheckImport file showed in Fig. 4.

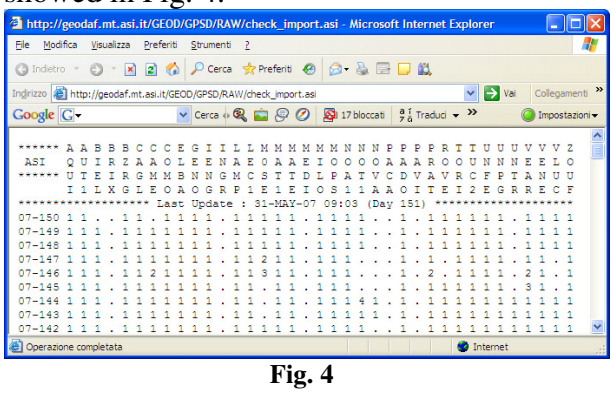

Fig. 4

GeoDAF publishes Analisys Products too (see Fig. 5, Fig. 6, Fig. 7 and Fig. 8):

- GPS daily/weekly site coordinates
- GPS ZTD tropospheric estimates
- GPS/SLR/VLBI combined velocity field

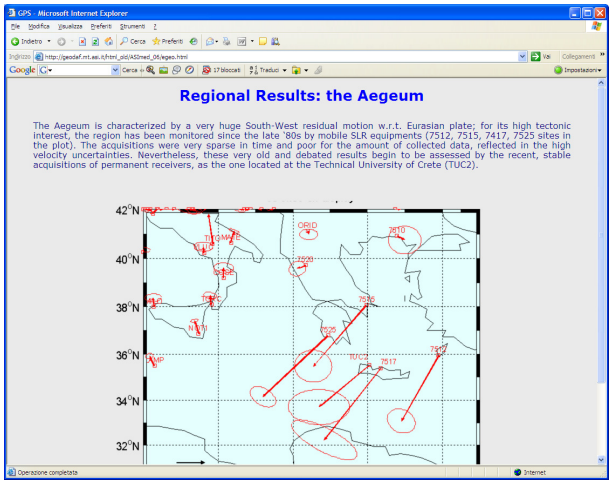

Fig. 5

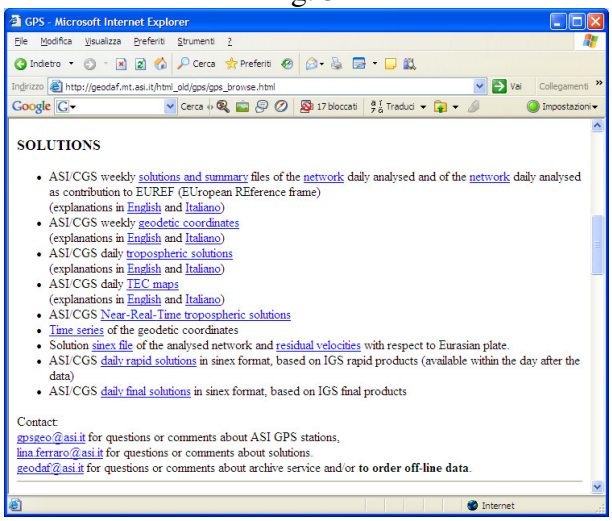

Fig. 6

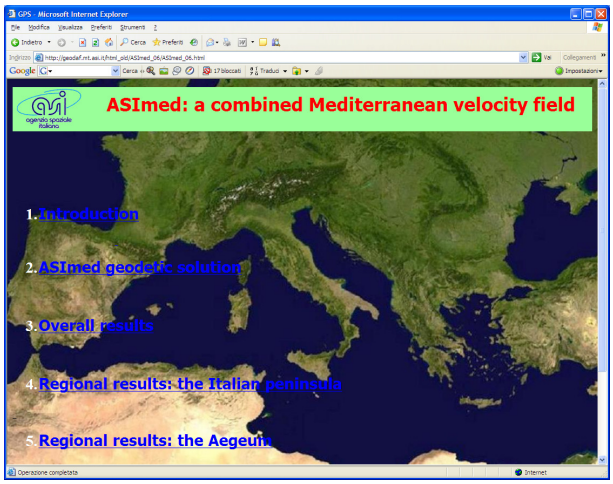

Fig. 7

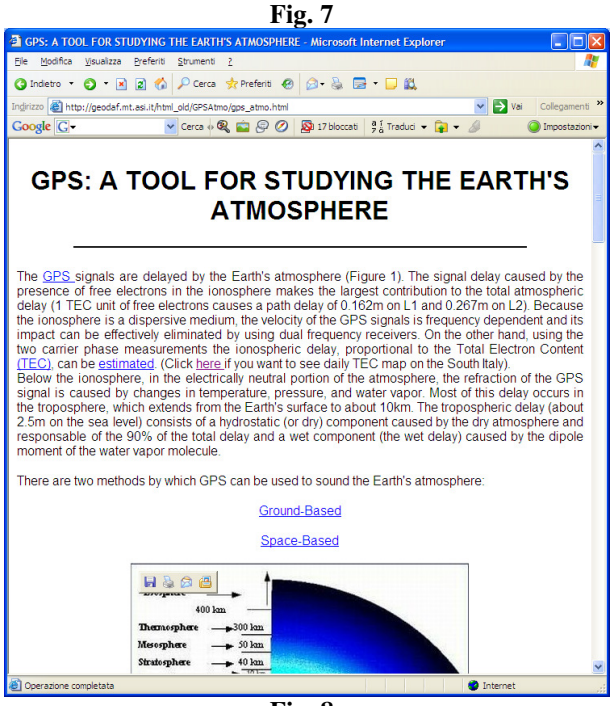

Fig. 8

GeoDAF runs on a Server PC HP E60 (Linux Red Hat Operating System) with Apache Web Server and VSFTP FTP Server.
It was designed to run services unattended.
Data flow (red and blue arrows in Fig. 9), including log file updates, validity checks, etc., are managed by Bash Shell Scripts (approx 4000 lines of code).
On daily base data are automatically transferred to an off-line PC (purple arrow in Fig. 9) in order to be ready to burn CD/DVD media for off-line archive library.
Files to send to RDC/GDC remain into buffer up to the time of successfully transfers (for fail safe operations)

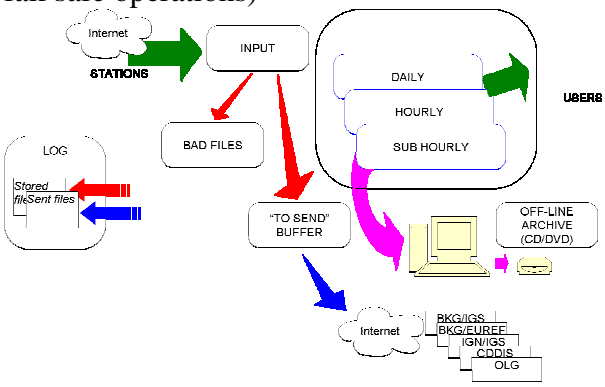

Fig. 9

Tab. 1 shows files received and "published" from Jan 2007 up to end of May.
File are grouped by Type (e.g. "Daily" means daily Rinex files). Not only GPS related File Types are managed by GeoDAF, e.g. "TIMING" contains data from Matera "Time & Frequency" systems.

PROCESSED FILES From 01/01/07 to 29/05/07				
Type	Total		Daily Average	
	MBytes	Files	MBytes	Files
Daily	1804	13350	60.6	447
Hourly	4475.3	222736	150.6	7476
Sub-h	891	28432	29.8	955
Glon_D	21.4	863	0.8	30
Glon_H	44.6	23423	1.6	787
SLR_EOP	0.1	26	0	0
GEO_SOL	9.4	66	0.4	2
TRO_SOL	4.9	154	0	5
GEO_COOR	0	22	0	0
TEC_MAP	7.7	161	0.2	6
ROSP_MLRO	7.5	630	0.3	21
ATMO	1515.3	182885	50.9	6152
ATMOxTOUGH	290.6	38556	9.8	1301
AD_MON	8.2	352	0.3	12
METEO	183.6	10655	6.2	360
TIMING	28.9	10185	0.9	341
DAILY_R	8.4	77	0.3	2
DAILY_F	6.9	56	0.3	1
Total	9071.8	511304	305	17182

Tab. 1

Tab. 2 summarizes files distributed, by FTP protocol only, from Jan 2007 up to end of May, while Fig. 10 shows the countries from which FTP requests originated.

Summary by Month				
Month	Daily Avg	Monthly Totals		
	Files	Sites	MBytes	Files
mag-07	6,479	181	16,322	194,371
apr-07	6,997	184	16,322	209,912
mar-07	6,743	182	14,090	209,039
feb-07	7,942	168	15,951	222,397
gen-07	5,946	157	9,609	184,341
Totals			72,294	1,020,060

Tab. 2

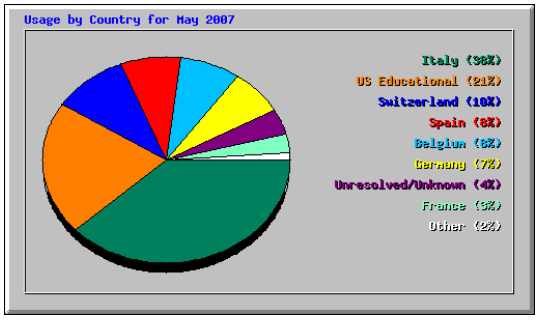

Fig. 10

Following Figures show some of the Control Panels used during normal ASI GPS Network control and monitoring.
Fig. 11 and Fig. 12 show on-line QC graph generations for Station quality checks.
Fig. 13 shows Control Panel used to monitor GPS data Transfers from Stations.
Finally Fig. 14 shows % of observations for all ASI GPS Stations.

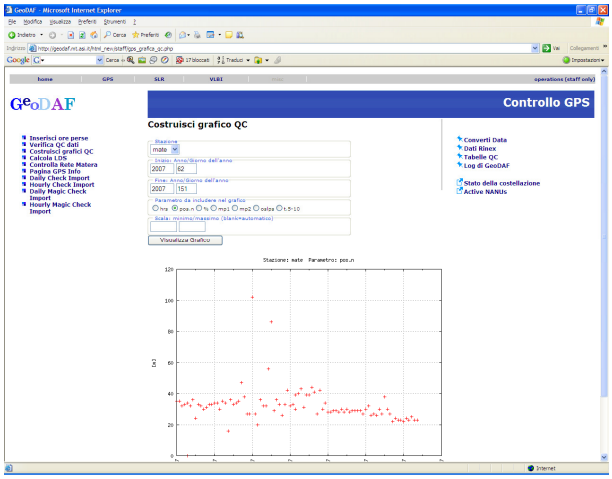

Fig. 11

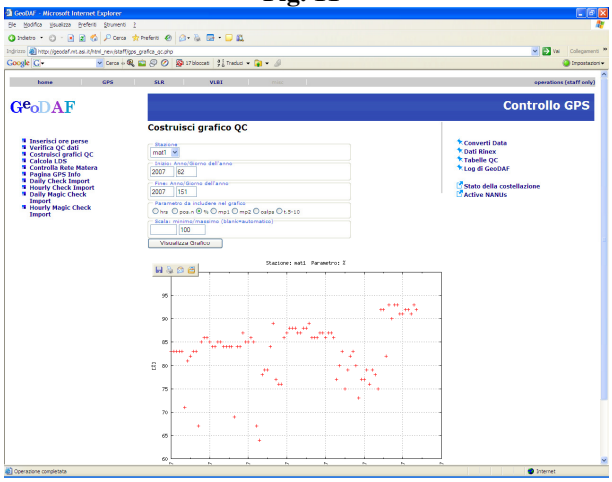

Fig. 12

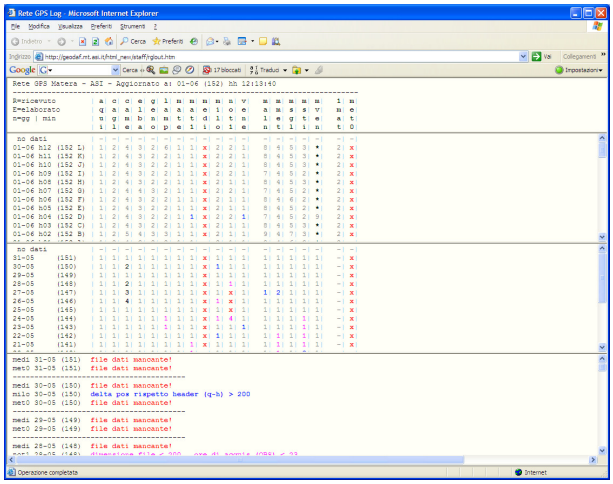

Fig. 13

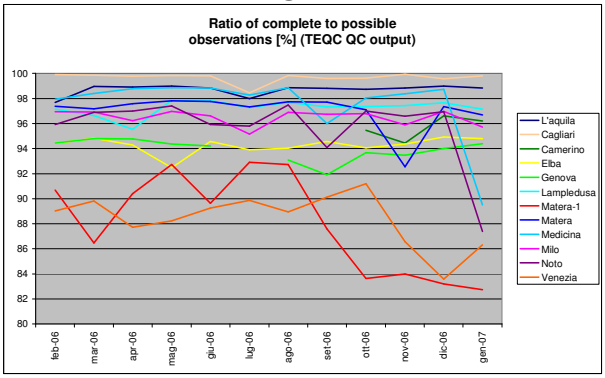

Fig. 14