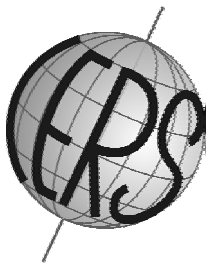


Concept and Implementation of the IERS INFORMATION and ARCHIVE SYSTEM



Bernd Richter
Wolfgang Schwegmann
IERS Central Bureau

at the Federal Agency for Cartography and Geodesy



Tasks of I E R S Central Bureau

1. Establishment of IERS database:

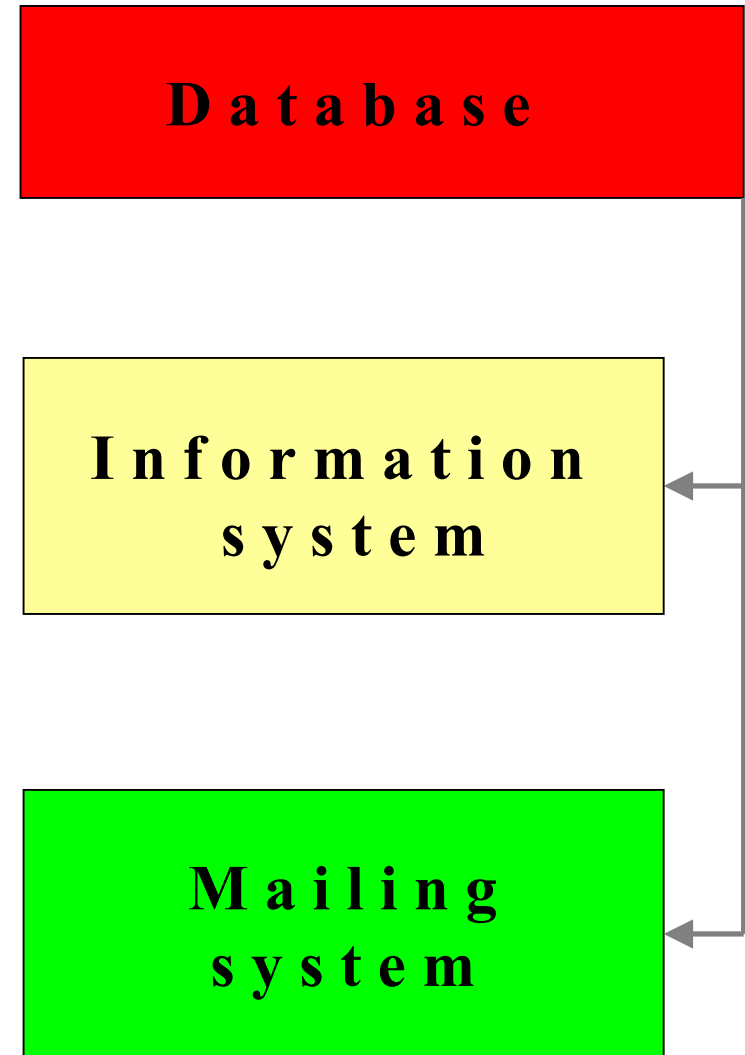
- Archiving of all IERS products and the data files to achieve the products
- Administration of Meta-Information for the available products and data

2. Maintenance of the IERS information system:

- General information concerning IERS
- Meta-Information of the products
- Web-Interface for search in the database
- Standardised access to all IERS products and data

3. General management and coordination:

- Address database
- Mailing lists for news and publication



Data centre



external ftp-Server

Archiving at external
ftp-Servers of the
Product Centres.

IERS Bulletin A - Microsoft Internet Explorer

Datei Bearbeiten Ansicht Favoriten Extras ?

← Zurück → Suchen Favoriten Medien

Adresse C:\Z_DOCS\D\temp\www.iers.org\iers\products\eop\rapid_eop.html Wechseln zu Links »

IERS Bulletin A: Rapid Earth Orientation Data

Contents

[Earth orientation parameters](#): x/y pole, UT1-UTC

- at daily intervals and
- predictions for 1 year into the future.

(<ftp://maia.usno.navy.mil/ser7/readme.bulla>)

Accuracy

	Observed EOPs	Prediction for 1d/4d/10d/40d			
Pole [mas]	0.10	0.50	1.60	3.90	11.2
UT1 [ms]:	0.02	0.14	0.52	1.60	7.70
Nutation [mas]:	0.30	0.30	0.30	0.30	0.30

Updates

- weekly on Thursday
- 1 day delay between publication and last available data with estimated EOP

Public access

Latest issue: <ftp://maia.usno.navy.mil/ser7/ser7.dat>

Archive: ftp://cddisa.gsfc.nasa.gov/pub/reports/iers/bulletin_a/

Email subscription: <http://maia.usno.navy.mil/>

Format

<ftp://maia.usno.navy.mil/ser7/readme.finals>

Documentation/References/Papers

<http://hpiers.obspm.fr/eop-pc/products/explanatory.html>

<http://maia.usno.navy.mil/>

Product Centre

[IERS Rapid Service/Prediction Centre](#)

[Home] Latest update: 31 July 2002
webmaster@iers.org

Valid

Arbeitsplatz

Information centre ➡ static Web-pages

Updates: Web-pages are maintained and updated manually.

Redundancy: Identical information at various locations and pages.

Consistency: Information are stored independently in the address database and in the information system.



Dynamique Administration of Web-pages:
Information be stored only in the database and serve the WEB - pages.

IERS Central Bureau

The Central Bureau is responsible for the general management of the IERS consistent with the directives and policies set by the Directing Board, i.e., acts as the executive arm of the Directing Board. The CB facilitates communications, coordinates activities, monitors operations, maintains documentation, archives products and relevant information and organizes reports, meetings and workshops.

Web site: www.iers.org

Director: Dr. [Bernd Richter](#)

Staff:

Scientists: Dr. [Wolfgang R. Dick](#), [Wolfgang Schwegmann](#)

Engineers: [Jürgen Eck](#), [Alexander Lothhammer](#)

Secretary: [Katalin Nagy](#)

Contacts:

IERS Central Bureau
[Bundesamt für Kartographie und Geodäsie](#)
Richard-Strauss-Allee 11
60598 Frankfurt am Main
Germany
phone: ++49-69-6333-273
fax: ++49-69-6333-425
e-mail: central_bureau@iers.org

More information:

[Annual Report 2001](#)

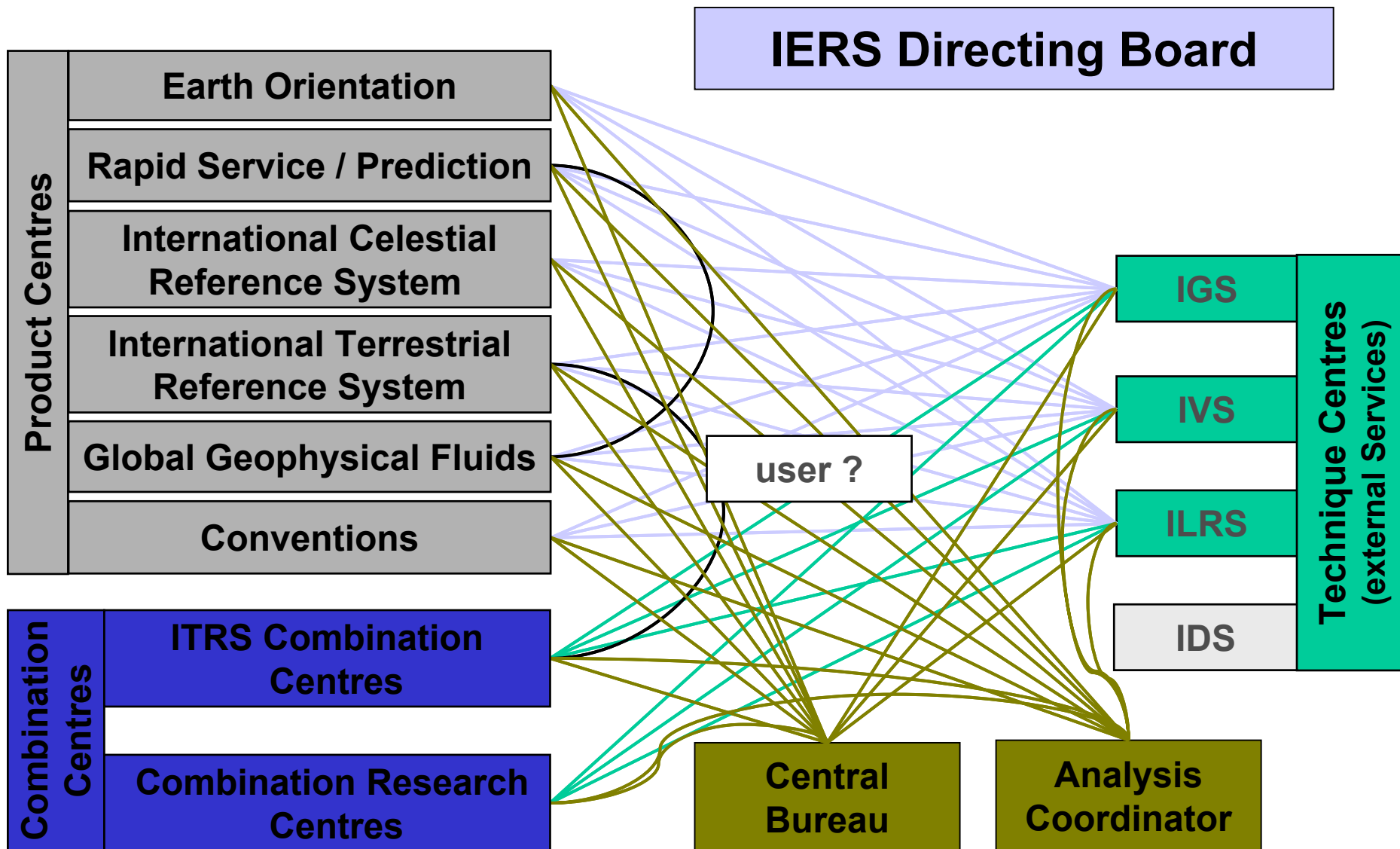
For more details about the tasks, please consult the [Terms of Reference](#) and the [Call for Participation in the new IERS](#).

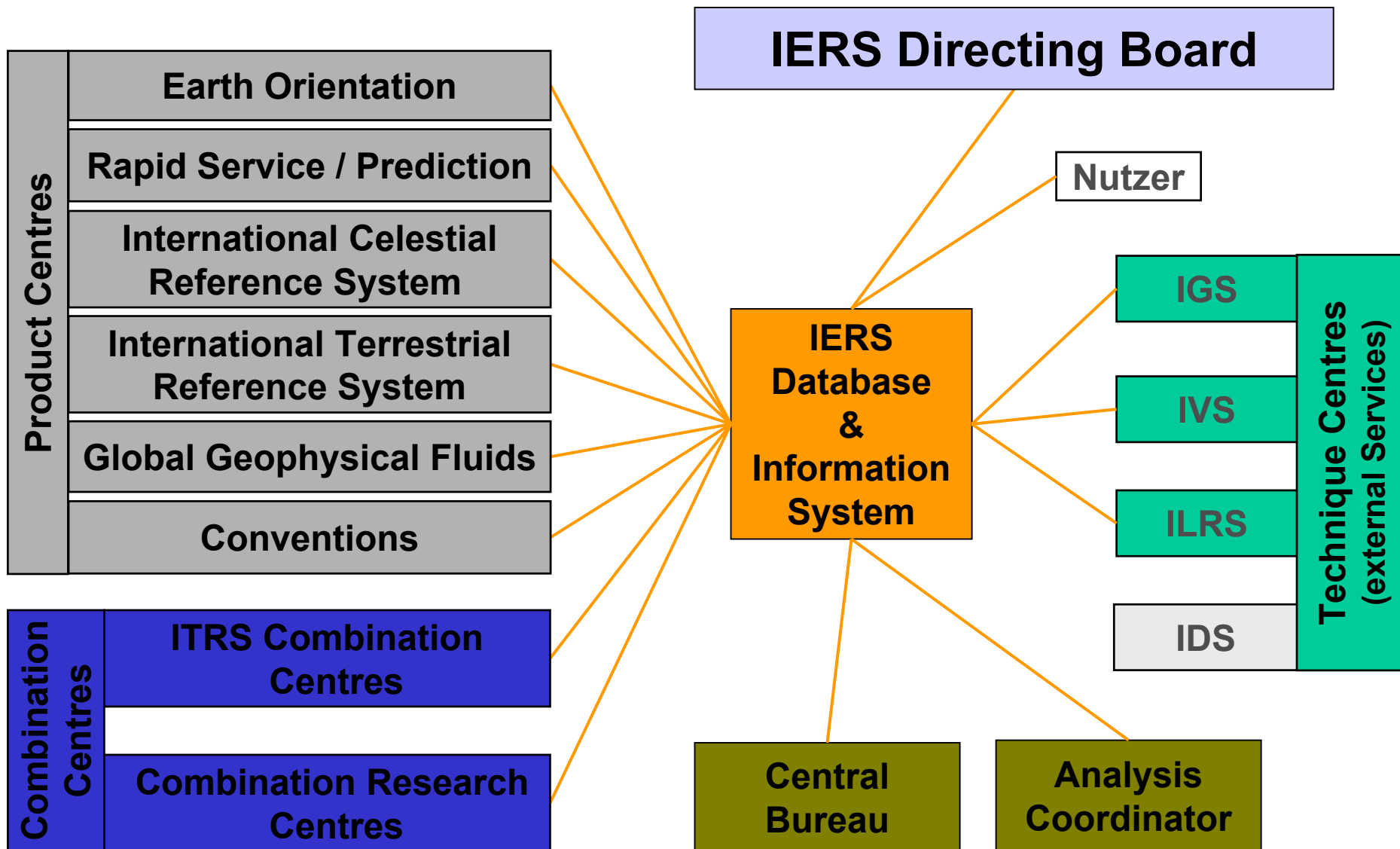
webmaster@iers.org

Latest update: 3 Feb 2003
[webmaster@iers.org](#)

[Home]

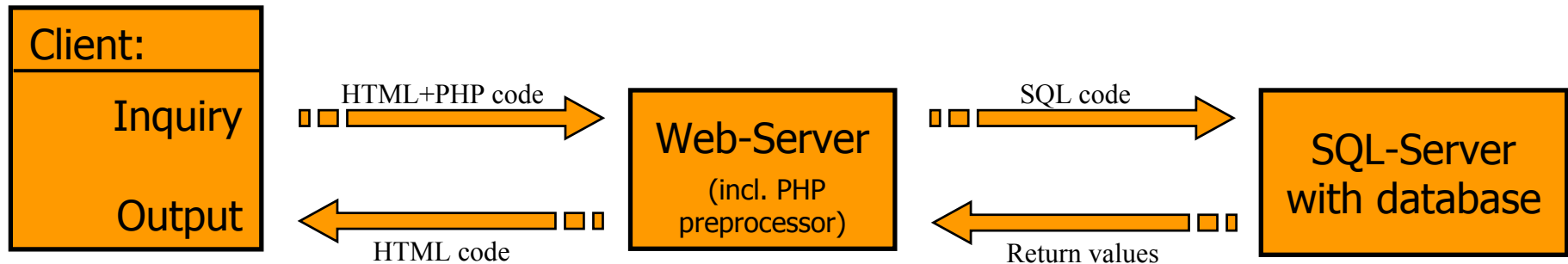
W3C HTML 4.01





Technical Realisation

Dynamic access to database supported Web-pages with PHP und SQL:



All components based on Open Source Software:

- Database: PostgreSQL/MySQL
- Web-Server: Apache
- Access to the database via Web-interface with PHP-scripts

XML: eXtensible Markup Language

- General syntax to define documents and data structures
- Individual document and data formats could be developed
- Structure and content of the information are clearly separated from their final representation or output
- XML-Parser check the syntax of XML-Data automatically when reading
- XML-Documents can be displayed in various manners
- There are many free software tools available to work on XML-documents (XQUERY, XPATH, XSLT, SVG, ...)
- XML is portable and facilitates an easy data exchange
- XML is an open standard and freely available

Administration of heterogenic IERS data and products with XML

Data: - technique specific analysis data
- IERS products: EOP, reference systems, geophysical fluids, ...

Formats: Ascii-text, tables, plots, SINEX I+II, HTML, ...

Transformation to XML

File archive

Meta-information stored in database

XSL

- HTML
- Tables / plots
- PDF
- Video streams
- Graphics (SVG)
- 3-D pictures
- ...

USER: - Search the database
- Visualisation of data
- Download of data
- Combination of data

Application to site descriptions and site co-location

- Site SINEX (ascii file)
- Site documentation
with details on environmental parameters
but no technique specific info
(ascii file)
- Maps / sketches / photos
- Site surveys (document, e.g. pdf, ..)

CDDIS SITE CATALOG

MARCH 1993

INTRODUCTION

This is the first edition of the **NASA Space Geodesy Program: Catalogue of Site Information**. This catalogue supersedes all previous versions of the **Crustal Dynamics Project: Catalogue of Site Information**, last published in May 1989. This document is prepared under the direction of the *Space Geodesy and Altimetry Projects Office* (SGAPO), Code 920.1, Goddard Space Flight Center. SGAPO has assumed the responsibilities of the Crustal Dynamics Project, which officially ended December 31, 1991. The catalogue contains information on all NASA supported [sites](#) as well as sites from cooperating international partners.

This catalogue is designed to provide descriptions and occupation histories of high-accuracy geodetic measuring sites employing space-related techniques. The emphasis of the catalogue has been in the past, and continues to be with this edition, station information for facilities and remote locations utilizing the *Satellite Laser Ranging* (SLR), *Lunar Laser Ranging* (LLR), and *Very Long Baseline Interferometry* (VLBI) techniques. With the proliferation of high-quality *Global Positioning System* (GPS) receivers and *Doppler Orbitography and Radiopositioning Integrated by Satellite* (DORIS) transponders, many co-located at established SLR and VLBI observatories, the requirement for accurate station and localized survey information for an ever broadening base of scientists and engineers has been recognized. It is our objective to provide accurate station information to scientific groups interested in these facilities.

SITE LIST

•North America

- o [Algonquin](#) (Algonquin, Ontario, Canada)
- o [Austin](#) (Austin, TX)
- o [Bear Lake](#) (Bear Lake, UT)
- o [Bloomington](#) (Bloomington, IN)
- o [Brewster](#) (Brewster, WA)
- o [Cabo San Lucas](#) (Cabo San Lucas, Baja, Mexico)
- o [Carrollton](#) (Carrollton, GA)
- o [Ely](#) (Ely, NV)
- o [Ensenada](#) (Ensenada, Baja, Mexico)
- o [Flagstaff](#) (Flagstaff, AZ)
- o [Fort Davis](#) (Fort Davis, TX)
- o [Green Bank](#) (NRAO, Green Bank, WV)
- o [Greenbelt](#) (GGAO, GSFC, Greenbelt, MD)

MATERA SITE INFORMATION

SITE INFORMATION

Site Number: 850

Current Site Name: MATERA

Other Site Name:

Location: MATERA, ITALY

Geographic Region: MEDITERRANEAN

Tectonic Plate: EURASIAN

Primary Scientific Purposes: MEASUREMENTS SUPPORTING MEDITERRANEAN TECTONICS AND SLR AND VLBI TECHNIQUE DEVELOPMENT, AND DETERMINATION OF PLATE MOTION, PLATE STABILITY, AND POLAR MOTION/EARTH ROTATION.

Site Description: THE SITE IS LOCATED IN THE BOOT OF ITALY JUST ABOVE THE INSTEP, 15 KM EAST OF MATERA AND APPROXIMATELY 80 KM NORTH OF TARANTO. A FIXED SAO LASER HAS BEEN OPERATED BY THE ITALIANS SINCE SEPTEMBER 1983. TWO SLR PADS ARE LOCATED SOUTHWEST OF THE FIXED LASER BUILDING. THE SITE IS EQUIPPED TO HOST TWO MOBILE LASER SYSTEMS SIMULTANEOUSLY. A FIXED VLBI ANTENNA HAS BEEN CONSTRUCTED AT THIS SITE.

GEOLOGICAL INFORMATION

Geological Province: SOUTHERN APPENNINES

Local Geology: UPPER CRETACEOUS SEDIMENTS

Comments: NONE

MONUMENT INFORMATION

(Continued)

Site Number: 850

Current Site Name: MATERA

Location: MATERA, ITALY

Monument Number: 7939

Type of Monument: INTERSECTION OF THE AZIMUTH AND ELEVATION AXES
OF THE LASER

Monument Inscription: NONE

Systems Using Monument: FIXED LASER (SAO-1)

Latitude: N 40 38' 55.7875"

Longitude: E 16 42' 16.6921"

Elevation: meters

Height Above Ellipsoid: 528.719 meters

Survey Source/Date: TELESPIAZIO SURVEYING TEAM (A. CALVITTI, M.
FRONTANI) / 01-JAN-86

Datum/Ellipsoid: EUROPEAN 1979/INTERNATIONAL SPHEROID

Comments: NONE

Differential Coordinates FROM Observing Monument 7939 TO Reference Monuments and Other Observing Monuments

Data Source: SURVEY OF MATERA SITE-MAR 1992

Differential Coordinates

Mon.Number	Monument Inscription	X	Y	Z
7540	----			
7541	----			
--	"A"- ECCENTRIC MARK			
--	"H" BASEMENT OF VLBI			
--	"K" BASEMENT OF VLBI			
--	"P" REFERENCE MARK			
--	"R" ROGUE GPS MARK			
--	MARKER D	31.1356	-4.1539	-45.8307
--	MARKER E	43.9416	-37.8763	-49.6646
--	MARKER F	15.4548	-59.3709	-8.5594
Mon.Number	Monument Inscription	North	East	Up
1		-31.7309	-17.3006	-7.2087
7541		-33.6306	-33.7213	-7.4486
--	"A"- ECCENTRIC MARK	-2.9025	-2.8523	-0.6347
--	"H" BASEMENT OF VLBI	71.9615	-55.3370	-3.1880
--	"K" BASEMENT OF VLBI	78.6739	-61.4896	-3.1594
--	"P" REFERENCE MARK	6.0460	-70.4876	-5.7375
--	"R" ROGUE GPS MARK	33.0559	-19.4183	-0.1784

PREVIOUS OCCUPATION INFORMATION

Site Number: 850

Current Site Name: MATERA

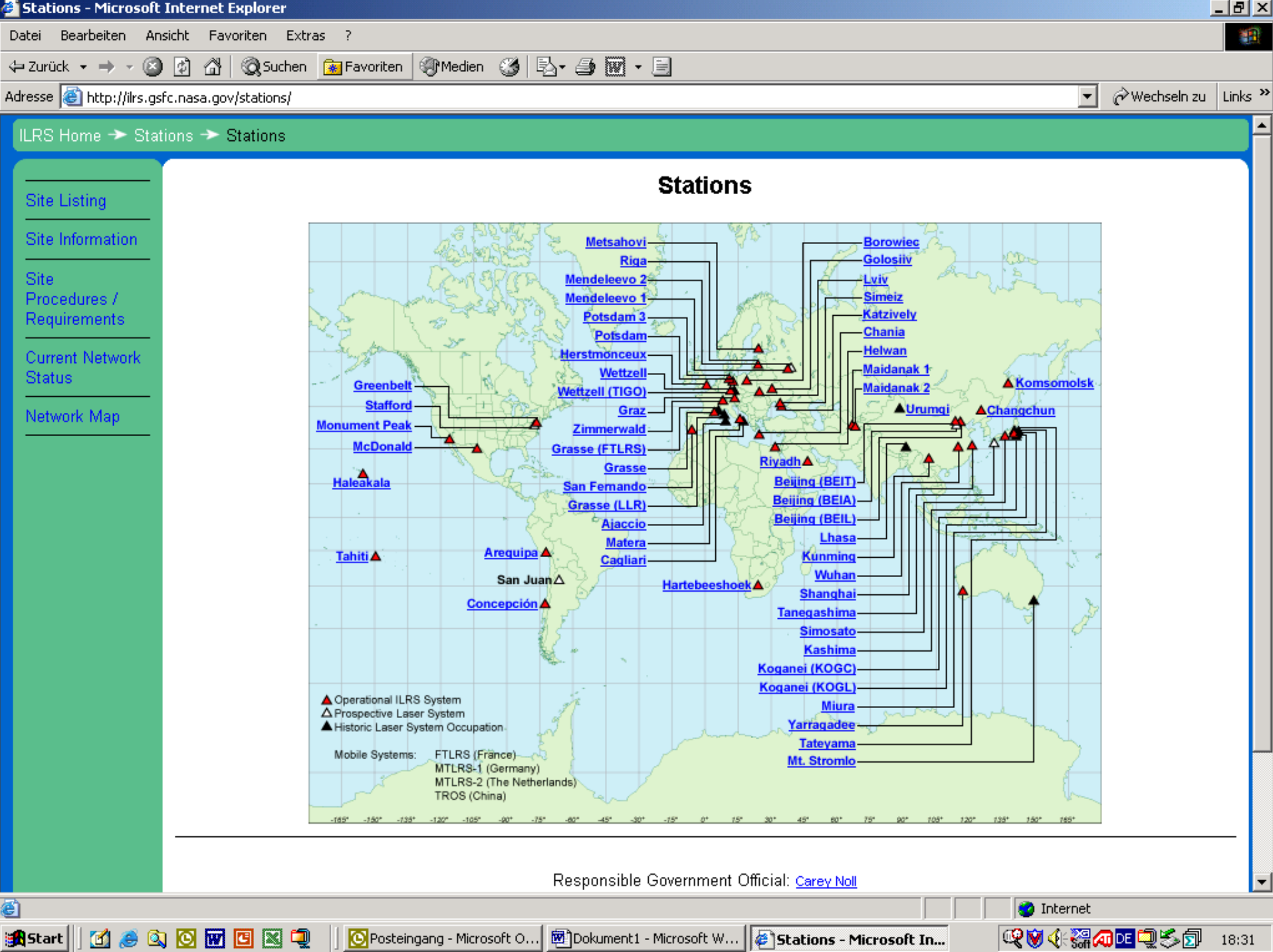
Location: MATERA, ITALY

SLR OCCUPATIONS

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date
7540	MTLRS-1	75401501	08-JAN-86	17-MAR-86
7541	MTLRS-2	75411601	08-DEC-85	12-MAR-86
7541	TLRS-1	75411102	24-MAR-94	18-JUN-94
7939	SAO-1	79394101	01-MAY-83	31-DEC-99

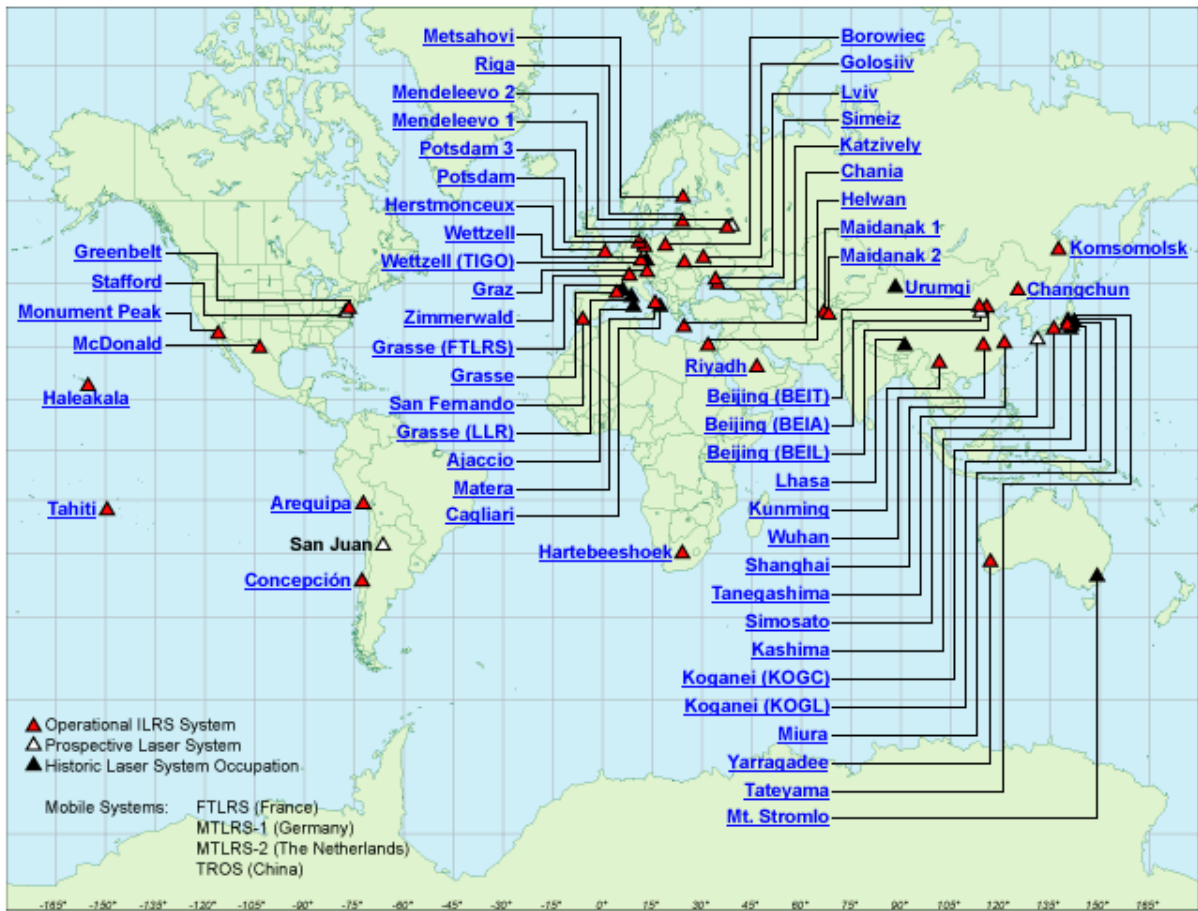
VLBI OCCUPATIONS

Monument Number	Occupying System	Occupation Designator	Starting Date	Ending Date
7243	20-METER	72435701	24-MAY-90	31-DEC-99

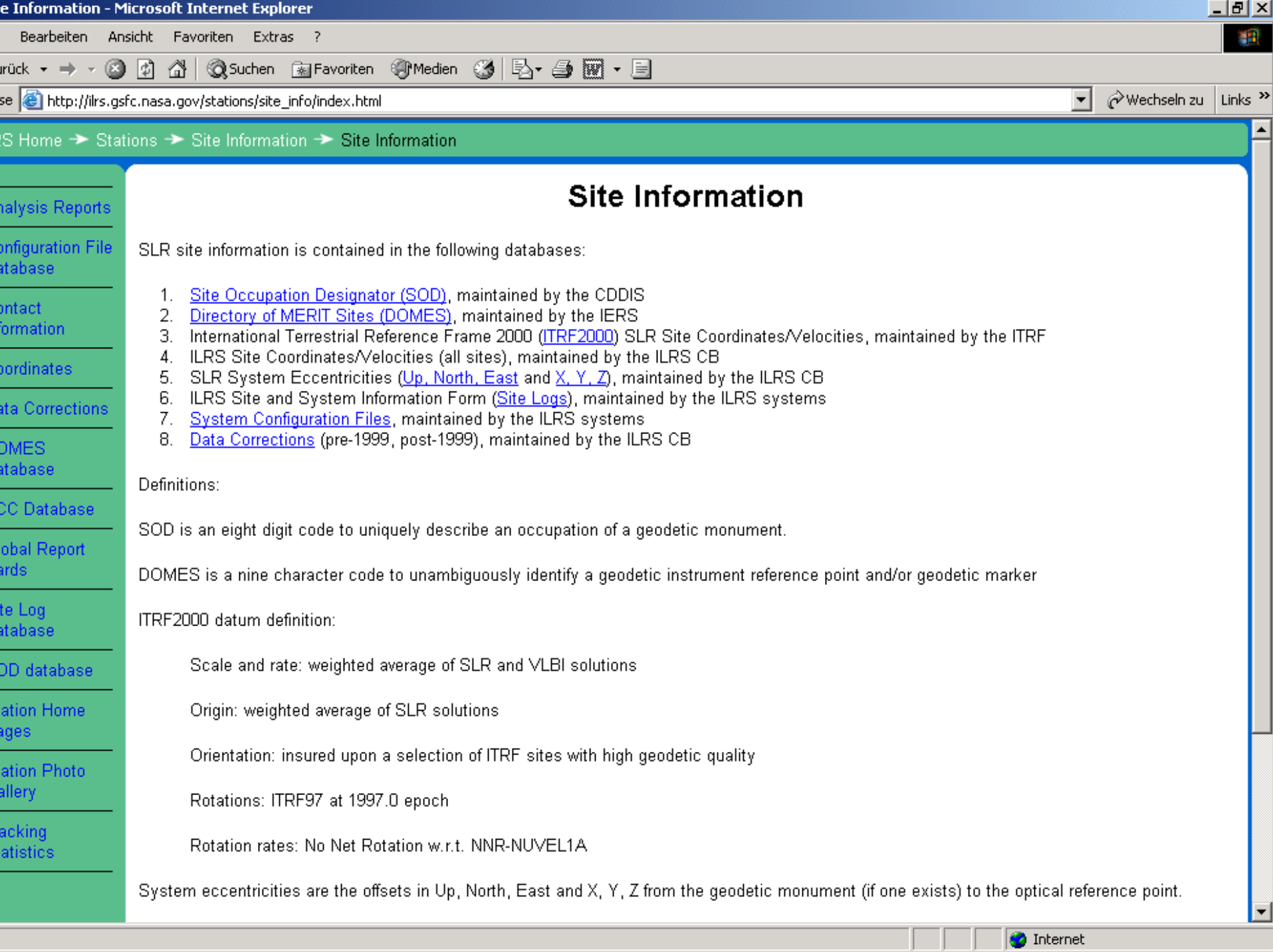


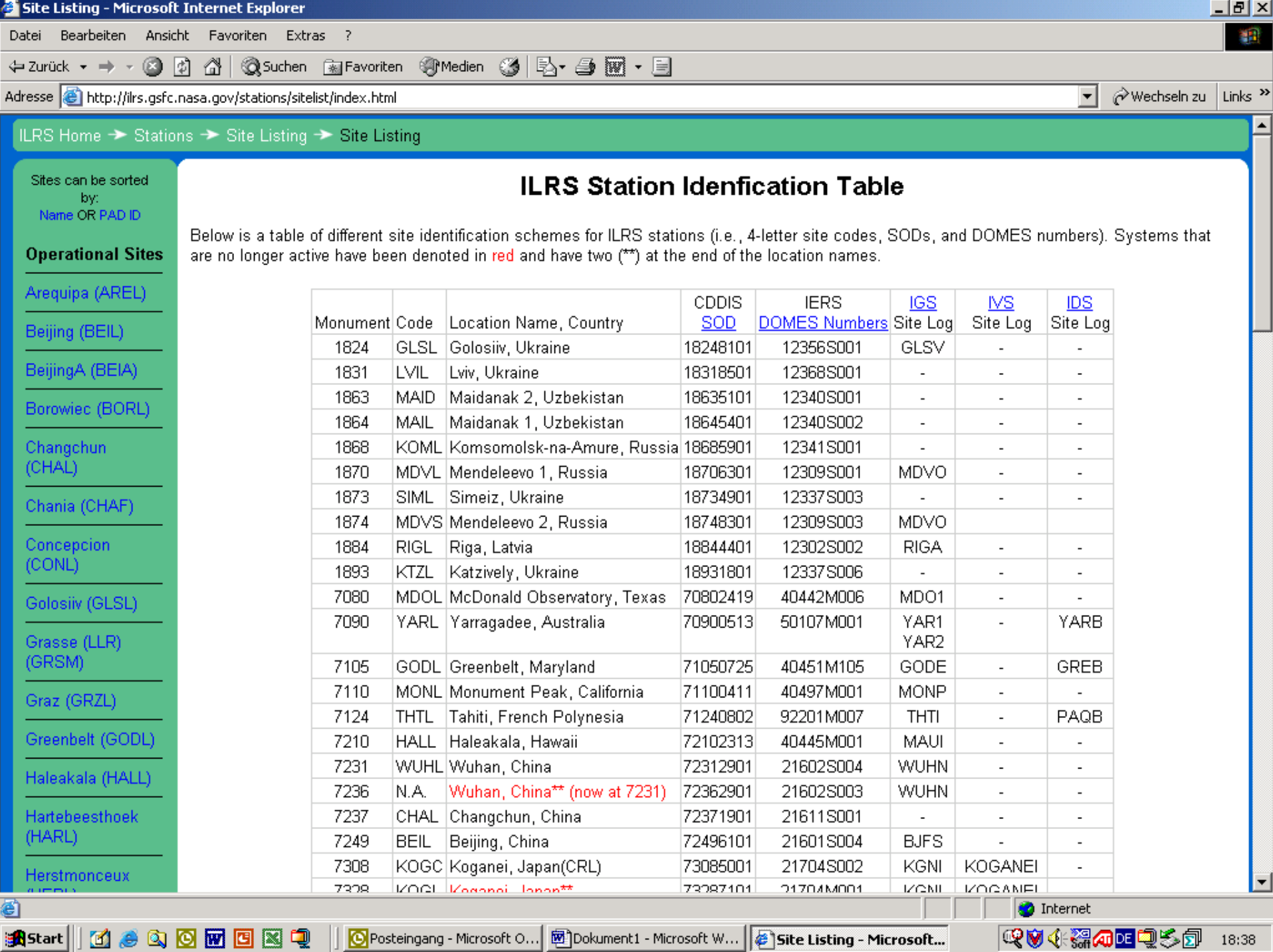
- Site Listing
- Site Information
- Site Procedures / Requirements
- Current Network Status
- Network Map

Stations



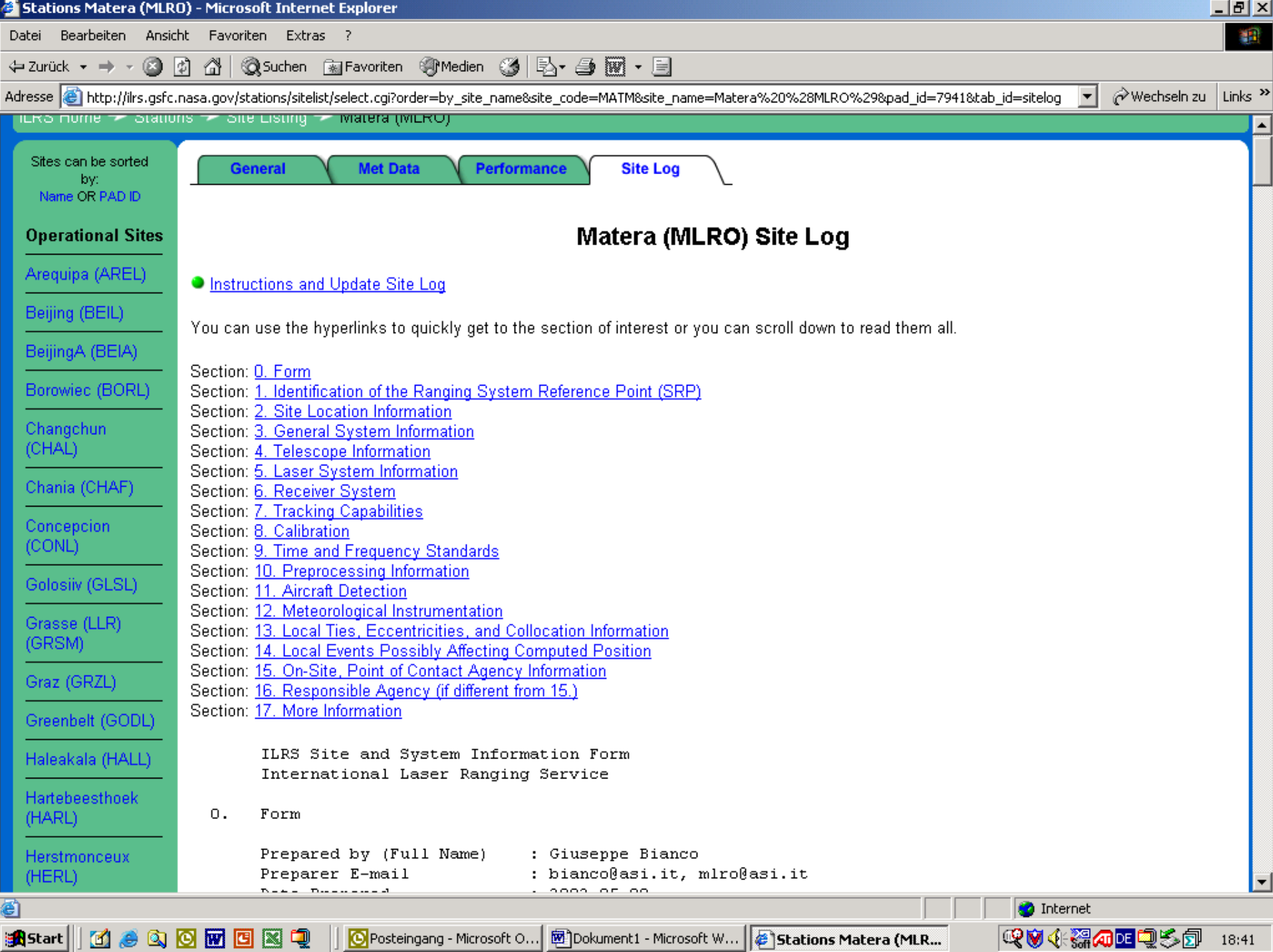
Responsible Government Official: [Carey Noll](#)

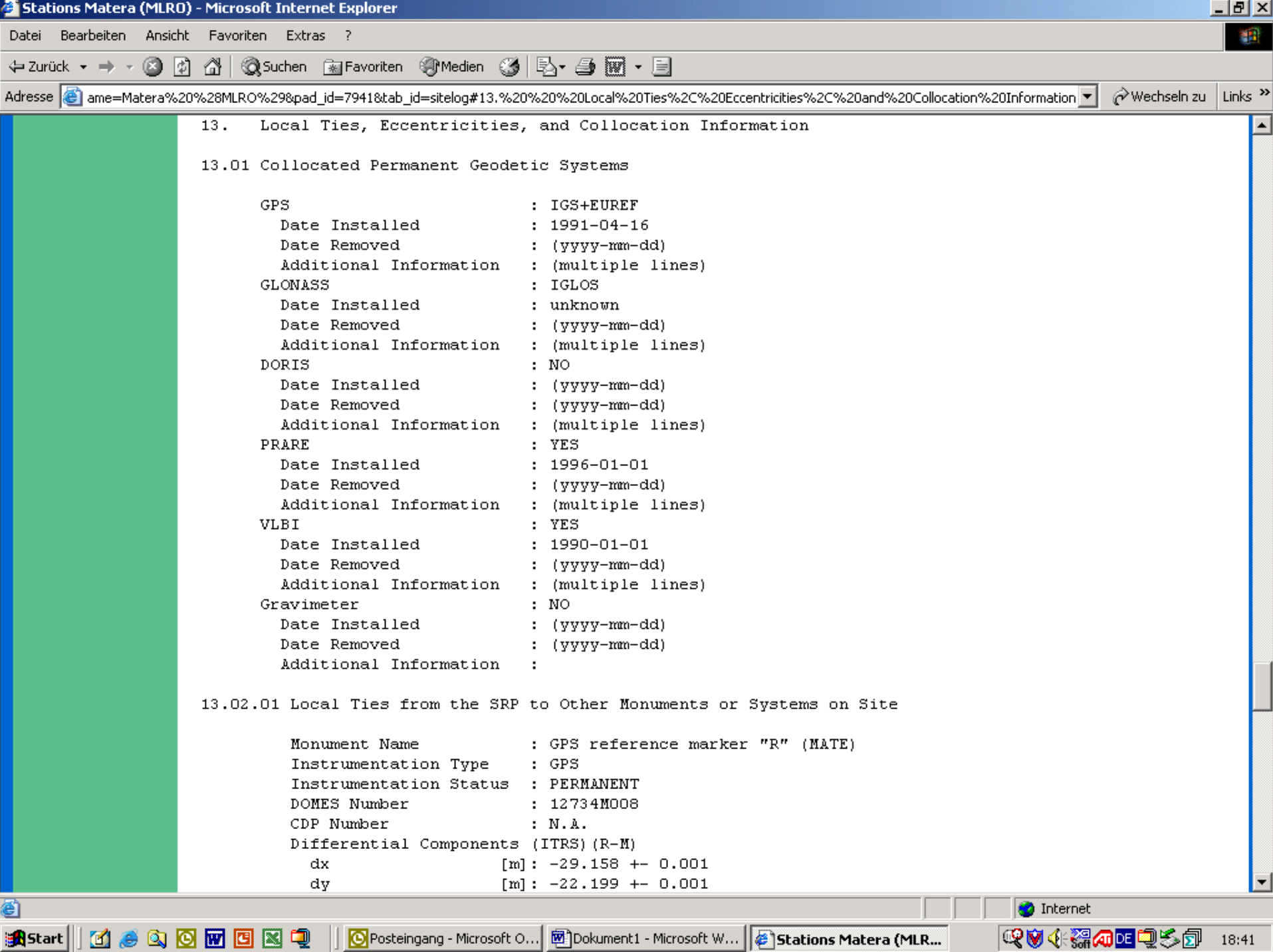


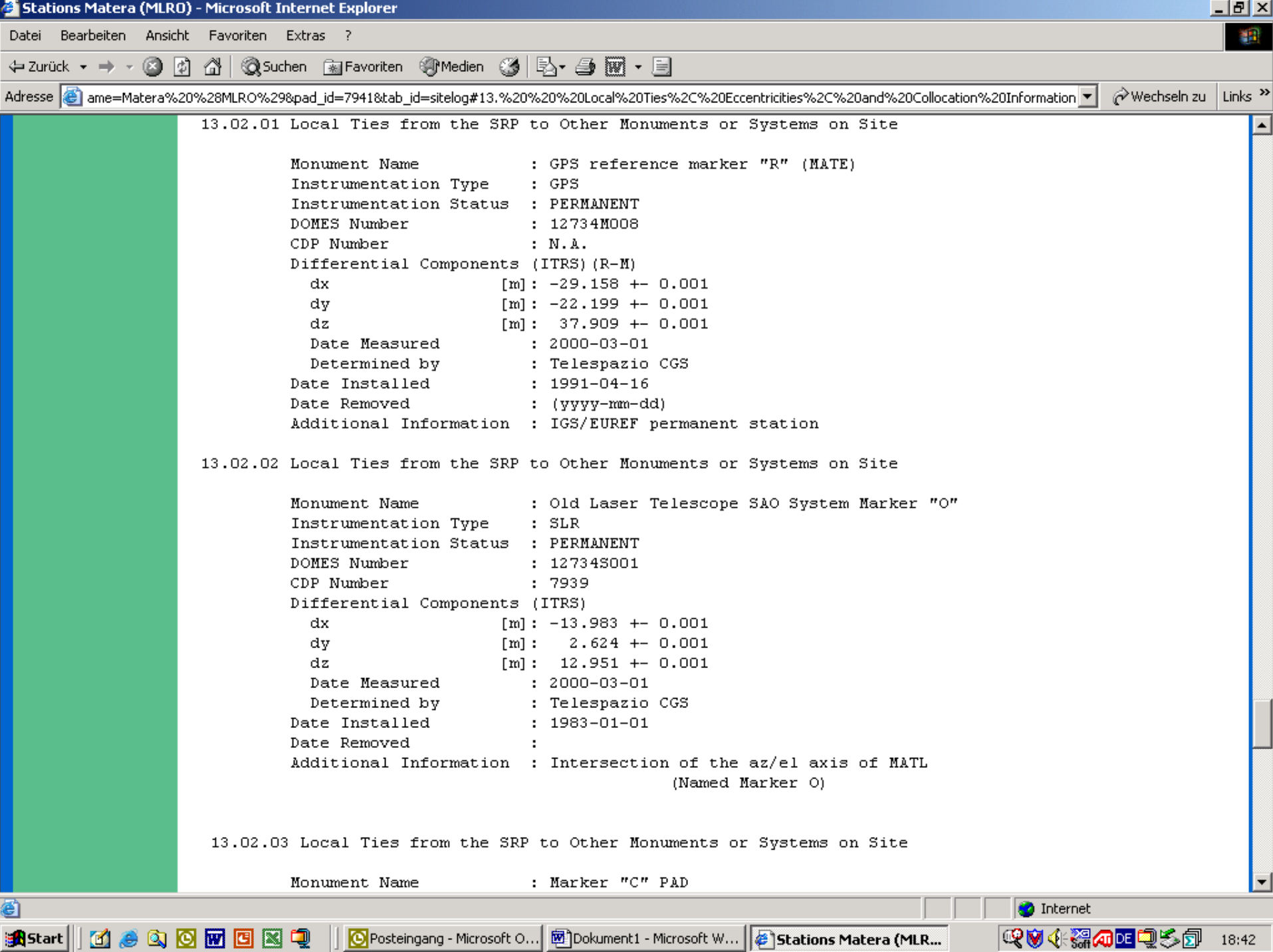


Sites can be sorted
by:
Name OR PAD ID

Operational Sites[Arequipa \(AREL\)](#)[Beijing \(BEIL\)](#)[BeijingA \(BEIA\)](#)[Borowiec \(BORL\)](#)[Changchun
\(CHAL\)](#)[Chania \(CHAF\)](#)[Concepcion
\(CONL\)](#)[Golosiiv \(GLSL\)](#)[Grasse \(LLR\)
\(GRSM\)](#)[Graz \(GRZL\)](#)[Greenbelt \(GODL\)](#)[Haleakala \(HALL\)](#)[Hartebeesthoek
\(HARL\)](#)[Herstmonceux
\(HERL\)](#)**General****Met Data****Performance****Site Log**Jump to: [Photo](#), [Contact](#), [Coordinates](#), [News](#), [Links](#)**Matera (MLRO) Photo:**







Stations Matera (MLRO) - Microsoft Internet Explorer

Datei Bearbeiten Ansicht Favoriten Extras ?

Zurück Zurück Suchen Favoriten Medien

Adresse ame=Matera%20%28MLRO%29&pad_id=79418&tab_id=sitelog#13.%20%20%20Local%20Ties%2C%20Eccentricities%2C%20and%20Collocation%20Information Wechseln zu Links >>

13.02.01 Local Ties from the SRP to Other Monuments or Systems on Site

Monument Name : GPS reference marker "R" (MATE)
Instrumentation Type : GPS
Instrumentation Status : PERMANENT
DOMES Number : 12734M008
CDP Number : N.A.
Differential Components (ITRS) (R-M)
dx [m]: -29.158 +- 0.001
dy [m]: -22.199 +- 0.001
dz [m]: 37.909 +- 0.001
Date Measured : 2000-03-01
Determined by : Telespazio CGS
Date Installed : 1991-04-16
Date Removed : (yyyy-mm-dd)
Additional Information : IGS/EUREF permanent station

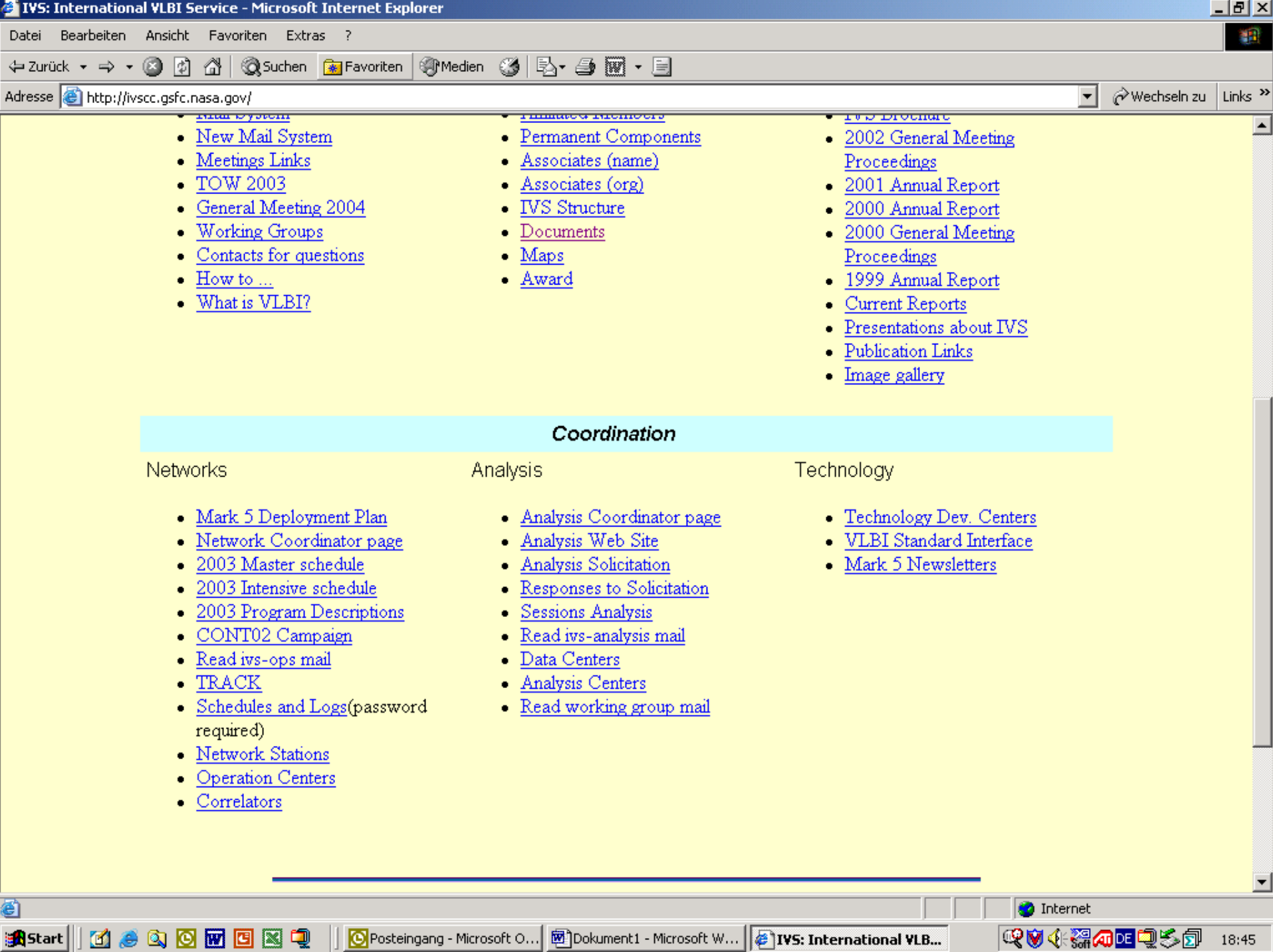
13.02.02 Local Ties from the SRP to Other Monuments or Systems on Site

Monument Name : Old Laser Telescope S&O System Marker "O"
Instrumentation Type : SLR
Instrumentation Status : PERMANENT
DOMES Number : 12734S001
CDP Number : 7939
Differential Components (ITRS)
dx [m]: -13.983 +- 0.001
dy [m]: 2.624 +- 0.001
dz [m]: 12.951 +- 0.001
Date Measured : 2000-03-01
Determined by : Telespazio CGS
Date Installed : 1983-01-01
Date Removed :
Additional Information : Intersection of the az/el axis of MATL
(Named Marker O)

13.02.03 Local Ties from the SRP to Other Monuments or Systems on Site

Monument Name : Marker "C" PAD

Start Posteingang - Microsoft O... Dokument1 - Microsoft W... Stations Matera (MLR... Internet 18:42



- [Home System](#)
- [New Mail System](#)
- [Meetings Links](#)
- [TOW 2003](#)
- [General Meeting 2004](#)
- [Working Groups](#)
- [Contacts for questions](#)
- [How to ...](#)
- [What is VLBI?](#)
- [Permanent Components](#)
- [Associates \(name\)](#)
- [Associates \(org\)](#)
- [IVS Structure](#)
- [Documents](#)
- [Maps](#)
- [Award](#)
- [IVS Brochure](#)
- [2002 General Meeting Proceedings](#)
- [2001 Annual Report](#)
- [2000 Annual Report](#)
- [2000 General Meeting Proceedings](#)
- [1999 Annual Report](#)
- [Current Reports](#)
- [Presentations about IVS](#)
- [Publication Links](#)
- [Image gallery](#)

Coordination

Networks

- [Mark 5 Deployment Plan](#)
- [Network Coordinator page](#)
- [2003 Master schedule](#)
- [2003 Intensive schedule](#)
- [2003 Program Descriptions](#)
- [CONT02 Campaign](#)
- [Read ivs-ops mail](#)
- [TRACK](#)
- [Schedules and Logs](#)(password required)
- [Network Stations](#)
- [Operation Centers](#)
- [Correlators](#)

Analysis

- [Analysis Coordinator page](#)
- [Analysis Web Site](#)
- [Analysis Solicitation](#)
- [Responses to Solicitation](#)
- [Sessions Analysis](#)
- [Read ivs-analysis mail](#)
- [Data Centers](#)
- [Analysis Centers](#)
- [Read working group mail](#)

Technology

- [Technology Dev. Centers](#)
- [VLBI Standard Interface](#)
- [Mark 5 Newsletters](#)

IVS Network Stations

(Alphabetical order by country)

[IVS Network Stations Map](#) [Blank configuration file](#) [Configuration file instructions](#) [Configuration files](#)

Country	IVS Component Name (link to configuration file)	2- letter code	8-letter name	On-site Technical Contact	Administrative Contact	Sponsoring Organization
Australia	Hobart, Mt. Pleasant Radio Observatory	Ho	HOBART26	Brett Reid	Peter McCulloch	University of Tasmania
Brazil	Fortaleza, Radio Observatorio Espacial do Nordes (ROEN)	Ft	FORTLEZA	Macilio Lucena	Pierre Kaufmann	Centro de Radio Astronomia e Aplicacoes Espaciais
Canada	Algonquin Radio Observatory	Ap	ALGOPARK	Mario Berube	Mario Berube	Geodetic Survey Division, Natural Resources Canada
Canada	Yellowknife Geophysical Observatory	Yk	YLOW7296	Bill Outhwaite	Mario Berube	Geodetic Survey Division, Natural Resources Canada
China	Nanshan VLBI Station	Ur	URUMQI	Zhang Hongbo	Zhang Jin	Chinese Academy of Sciences
China	Seshan	Sh	SESHAN25	Liang Shiguang	Huang Xinyong	Joint Laboratory for Radio Astronomy (JLRA), CAS and Shanghai Observatory, CAS
Germany	ERS/VLBI Station O'Higgins	Oh	OHIGGINS	Andreas Reinhold	Wolfgang Schlueter	Budesamt fuer Kartographie und Geodaesie (BKG)
Germany	Fundamentalstation Wettzell	Wz	WETTZELL	Richard Kilger	Wolfgang Schlueter	Budesamt fuer Kartographie und Geodaesie (BKG) and Forschungseinrichtung Satellitengeodaesie der Technischen Universitaet Muenchen (FESG)
Germany	Transportable Integrated Geodetic Observatory	Tg	TIGOWTZL	Hayo Hase	Wolfgang Schlueter	Budesamt fuer Kartographie und Geodaesie (BKG)

Network Station Configuration File
International VLBI Service

Refer to the instructions in the file
ftp://ivscc.gsfc.nasa.gov/config/instructions.txt
for how to fill out and submit this form.

990624 nrv Form version 0.5

990702 nrv Form version 0.6

990713 nrv Form version 0.7

991020 nrv Form version 0.8

0. Form

Prepared by (full name) : Wolfgang Schlueter
Date prepared : 2001-jan-19
Report type : unknown

1. Site identification

Site name : Wettzell
Site 8-letter code : Wettzell
Site 2-letter code(s) : Wz
IERS DONES number : 14201\$004
CDP occupation code : 72247801
CDP monument number : 7224

Surveyed into national network? : yes

IGS station code : WTZR

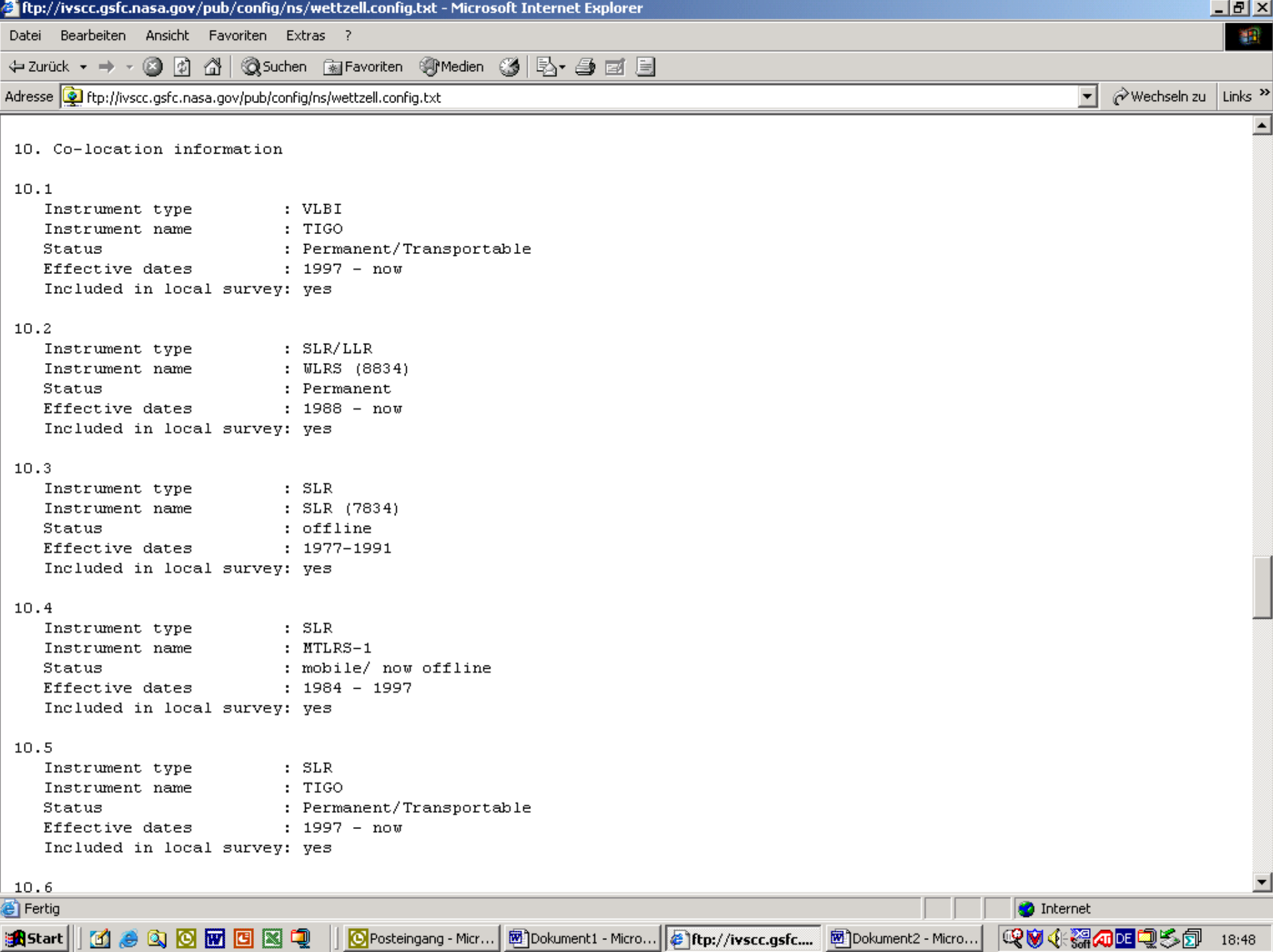
ILRS station name : WLR5

Additional information : no

2. Site information

2.1 Site location information

City or Town : Koetzting
State or Province : Bavaria
Country : Germany
Tectonic plate : Eurasia



10. Co-location information

10.1

Instrument type : VLBI

Instrument name : TIGO

Status : Permanent/Transportable

Effective dates : 1997 - now

Included in local survey: yes

10.2

Instrument type : SLR/LLR

Instrument name : WLRS (8834)

Status : Permanent

Effective dates : 1988 - now

Included in local survey: yes

10.3

Instrument type : SLR

Instrument name : SLR (7834)

Status : offline

Effective dates : 1977-1991

Included in local survey: yes

10.4

Instrument type : SLR

Instrument name : MTLRS-1

Status : mobile/ now offline

Effective dates : 1984 - 1997

Included in local survey: yes

10.5

Instrument type : SLR

Instrument name : TIGO

Status : Permanent/Transportable

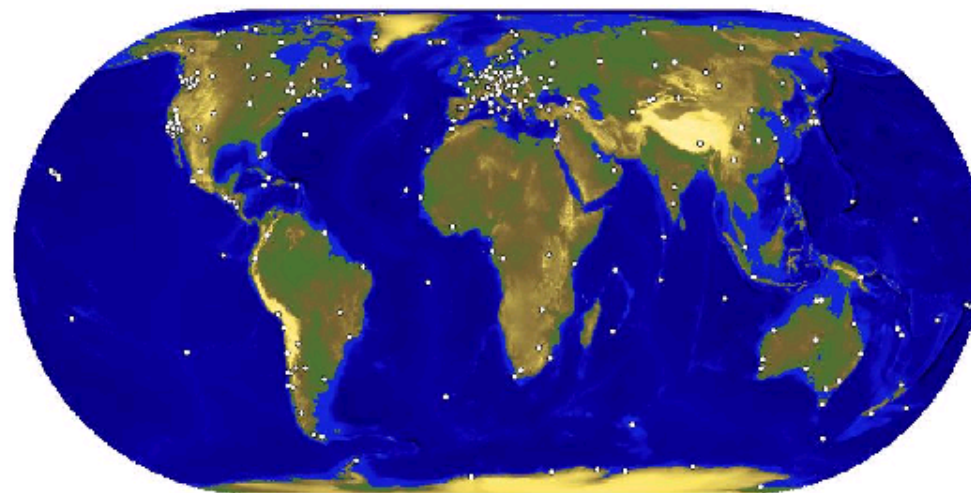
Effective dates : 1997 - now

Included in local survey: yes

10.6



IGS Tracking Network



Site information

complete clickable [map](#) or [station list](#)

active hourly sites [map](#)

"Global" stations [map](#)

GPS/GLONASS stations [map](#)

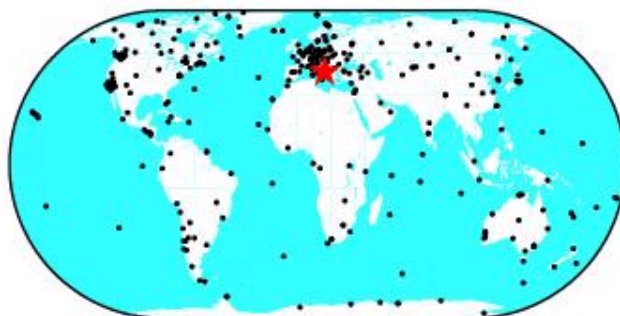
active high rate [LEO](#) sites [map](#)

All maps on [one page](#)



IGS Station: mate

Station Information



current site log

[mate 20020919.log](#)

older site logs [below](#)

igsnet graphs

[mate.gif](#) (13 K)

site pictures none found

Most Recent IGSMail

Older IGSMail [below](#)

[4367](#) 07May2003 Francesco Ambrico Subject: Fixed MATE external frequency proble



SOPAC

[Home](#) | [Site Map](#) | [Contacts](#) | [Help](#) Quick links:

scripps orbit and permanent array center

Data Archive **Processing** **Projects** **Sites** **Maps** **Other**

[CSRC](#) | [SCIGN](#) | [GSAC](#)

Fri Oct 17 09:56:29 PDT

Temp: 61.9 F / 16.6 C ([more](#))**About****SOPAC:**[Services](#)[Research](#)[Partners](#)

Mission: archive high precision GPS data, particularly for the study of earthquake hazards, tectonic plate motion, crustal deformation, and meteorology. ([more](#))

Participant in major projects: [CSRC](#), [FSL](#), [IGS](#), [SCIGN](#), [UNAVCO](#)

What's New?**Archive Statistics**

- [Processing page](#) updated with new layout
- Try the SOPAC [java time series applet](#)
- New [SOPAC Online Mapping Interface](#)
- SOPAC refined [coordinates](#) ([more](#))

- This month's ftp transfers: 744251
- RINEX obs files for October 16, 2003: 568 ([more](#) / [historical stats](#))

Go to [SOPAC data archive](#) via [http](#)



Durmid Hill SCIGN GPS site, near the Salton Sea, CA

[GSAC](#): GPS Seamless Archive Center

Institutional links

SOPAC Fact: Precise GPS site [coordinates](#) and [velocities](#) for hundreds of sites are available at SOPAC.

SOPAC is [located](#) at the Institute of Geophysics and Planetary Physics ([IGPP](#)) on the [SIO](#) campus of [UCSD](#).

[Contact webmaster](#) | Copyright 2003 [SOPAC](#), [IGPP](#) / [SIO](#) / [UCSD](#) | [Acknowledgements](#)



[Home](#) | [Site Map](#) | [Contacts](#) | [Help](#) Quick links:

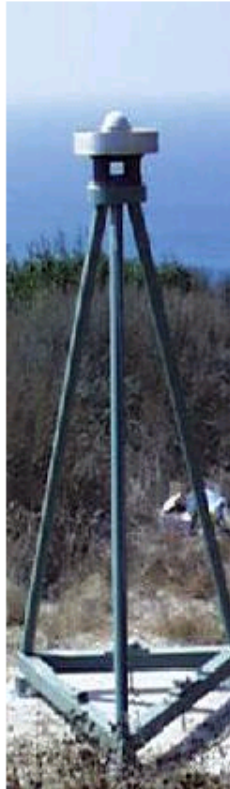
scripps orbit and permanent array center

Data Archive **Processing** **Projects** **Sites** **Maps** **Other**

[SIM](#) | [Locate Site](#) | [Check Site ID](#)

GPS Sites Archived at SOPAC

Site information utilities

- 
- [GPS Networks](#) SOPAC archives data for GPS networks around the world. This page provides a listing of these networks, their sites, and network maps.
 - [Site Information Manager \(SIM\) v1.30](#) The SIM allows users to view site metadata for GPS sites archived at SOPAC. Users with proper access rights may use the SIM to update and maintain their site logs. (version 1.20 is no longer supported).
 - [SITE \(Site Information Tool\)](#) Retrieve a selected subset (cross-section) of information for a set of sites and/or GPS networks.
 - [Get Single Site Information](#) Obtain site information by entering the site's four-character code.
 - [Check 4-Character Site Code](#) Use this tool to determine whether a four-character site code is available, or already in use.
 - [Locate Site](#) Locate a GPS site by entering the site's four-character code.
 - [Site Problem History](#) A table of GPS sites currently or previously offline. Note that only sites with problems entered into the SOPAC database are included.
 - [Site Logs](#) These contain important metadata about a GPS site - antenna/receiver types, antenna height, equipment change dates, etc.
 - [Refined Site Timeseries](#) A listing of all GPS sites with timeseries generated from the [SOPAC](#)

Data Archive Processing Projects Sites Maps Other[Data Browsers](#) | [GPS Networks](#) | [SCIGN Report](#)

mate: Permanent GPS Site Information

Array: [EUREF](#)**Name:** Matera**City:** MATERA**County:** n/a**State/Province:** BASILICATA**Country:** ITALY**Domes Number:** 12734M008**XYZ coordinates (m):** 4641949.5849 1393045.4078 4133287.4358

[Ref. epoch: 2003.7945] [Ref. frame: ITRF2000]

[Source: estimated using [SOPAC refined model](#)]**XYZ coordinates (m):** 4641949.591 1393045.4086 4133287.4406

[Ref. epoch: 2003.7479] [Ref. frame: ITRF2000]

[Source: Latest weekly analysis result]

XYZ coordinates (m): 4641949.6877 1393045.2903 4133287.3558

[Ref. epoch: 1998.0027] [Ref. frame: ITRF2000]

[Source: [SOPAC ITRF2000 CORE SITE FILE - apriori coordinate file](#)]**XYZ coordinates (m):** 4641949.709 1393045.298 4133287.333

[Ref. epoch: N/A] [Ref. frame: N/A]

[Source: [site log](#)]**Lat/Lon/Ellip. Ht (deg/deg/m):** 40.64913135 16.70445911 535.6486

[Ref. epoch: 2003.7945] [Geodetic datum: WGS84]

[Source: estimated using [SOPAC refined model](#)]**Lat/Lon/Ellip. Ht (deg/deg/m):** 40.64913135 16.7044591 535.6563

[Ref. epoch: 2003.7479] [Geodetic datum: WGS84]

[Source: Latest weekly analysis result]

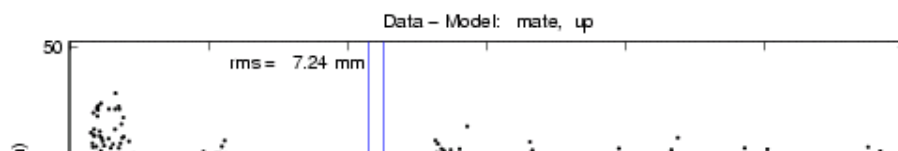
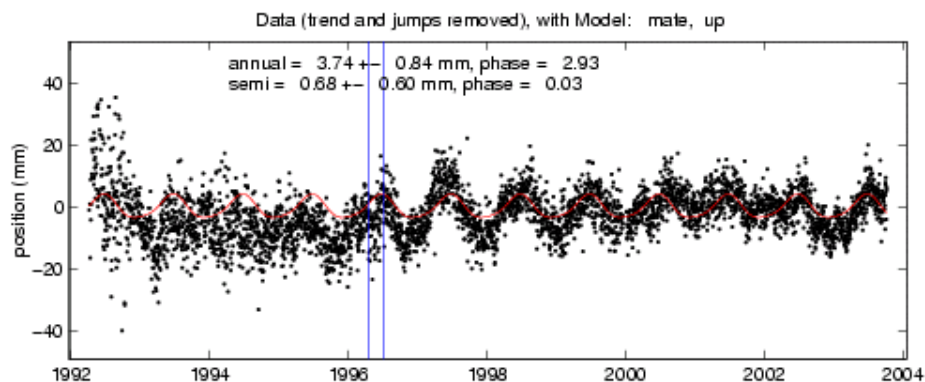
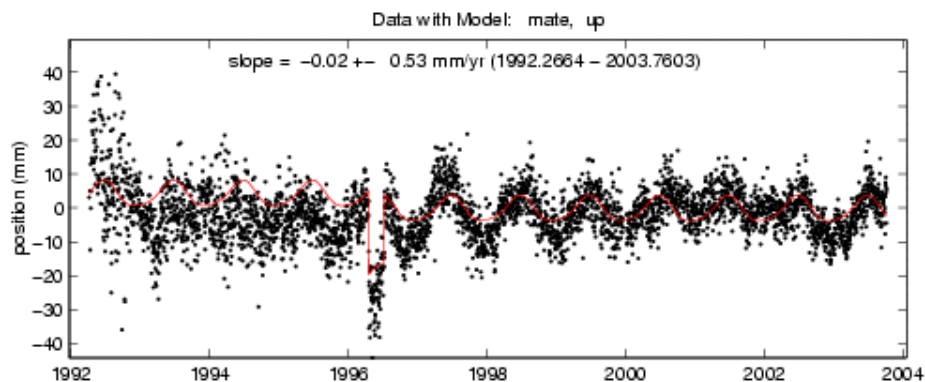
Lat/Lon/Ellip. Ht (deg/deg/m): 40.6491 16.7045 535.65

[Ref. epoch: N/A] [Geodetic datum: N/A]

[Source: [site log](#)]**Site log:** [mate.log](#) [problems downloading?](#) [unix->windows text converter](#)**Site location:** [Go](#)

[Data Archive](#) | [Processing](#) | [Projects](#) | [Sites](#) | [Maps](#) | [Other](#)[Coordinates](#) | [Time Series](#) | [SCOUT](#)

SOPAC Refined Model Time Series (ITRF2000) - site mate

Site: **MATE** Component: **up** Type: **unfiltered**[Java Time Series](#)[Documentation](#)



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EUREF Permanent Network



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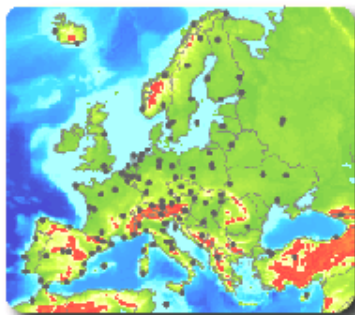
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WELCOME !



The [IAG subcommission EUREF](#) which is responsible for the maintenance of the European Reference System (ETRS89) took in 1995 the initiative to coordinate the activities related to existing local permanent GPS networks in Europe. These stations observe in permanence the satellites from the Global Positioning System (GPS) which has proven to be valuable for a wide range of space geodetic applications. A selection of the European permanent GPS tracking stations was the basis for the **EUREF Permanent Network (EPN)**.

The European permanent tracking stations involved in the EPN provide in near real time high quality GPS data to Local and Regional Data Centres. EPN analysis centres routinely analyse the data from this network and deliver to the GPS community precise coordinates for all stations involved in the network. EUREFs multi-year network submissions to the International Earth Rotation Service assures the integration of the EPN tracking stations in the successive realisations of the International Terrestrial Reference System, which is the basis for the European Reference System.

Taking into account that more than 30 European countries are actively involved, EUREF created the necessary structure for several institutes to cooperate, share resources, develop and pursue standards, and make tracking and auxiliary data, as well as products of various kinds, publicly available. Download the [EPN flyer](#) for a quick overview of the EPN (Last updated : September 19, 2003). Since the EPN is the European densification of the IGS network, a



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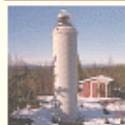
TRACKING NETWORK

Maps



View and download different maps of the EPN tracking stations, including subnetwork maps such as stations submitting hourly data. High and low resolution maps are available in pdf, eps and jpg format.

Stations



Through a clickable map you have access to a complete description of each individual EPN station (site configuration, tracking performance, data availability and coordinate repeatabilities). In addition, you find tables of candidate stations, new stations and excluded stations.

Equipment list



The names of the GPS receivers and antennae known to both the IGS and EUREF, as well as the calibration values of the antennae.

Coordinates



Coordinates of the EPN stations in the different realizations of the International Reference System (ITRS) and European Terrestrial Reference System (ETRS89). The most recent set of coordinates includes all EPN stations included in the EPN from before Jan. 2000.

 EPN Central Bureau (Royal Observatory of Belgium)

January 15, 2003

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TRACKING NETWORK - STATIONS

Descriptions



Through a clickable european map you have access to a complete description of each individual EPN station: log file, data availability, RINEX errors, coordinate repeatabilities, tracking performance, related EUREF mails, collocation info, ...

Lists extracted from log files



Historical, summary or user-defined lists (machine-readable) of the configuration of the EPN stations. It includes the station location, the receiver/antenna names, the antenna height and much more.

Planned



The EPN tracking network is permanently growing. Browse the list of candidate stations (including map and preliminary log files) and follow their inclusion status.

Temporary excluded



Some EPN stations have been excluded temporarily from the weekly EUREF combined solution. This gives most of the time an indication that something is wrong with this station. Find out which stations they are and why they were excluded.

Site log submission & test



EPN site logs may be submitted to an automatic email system which will parse the log and install it in the EPN CB data base if the format is compliant. Detailed submission instructions can be found here.

Manager list



Need to know who is in charge of a specific EPN station? You will find their names and e-mail addresses here. These are also the people we contact in case of problems with a specific station.

Inactive and former



Access the complete description of the former and inactive EPN stations and find the answer to your question why these stations are presently not included in the EPN.

Inconsistency reports



For each EPN station, there needs to be full agreement between the site configuration info, extracted from the header of its data files, and the site log file. If not, this inconsistency can confuse the analysis centres and lead to erroneous station coordinates. The inconsistency reports, archived here, are distributed weekly through EUREFmail.



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TRACKING NETWORK - STATIONS - DESCRIPTIONS - MATE_12734M008

Station included in the EUREF network since GPSweek No 0834.

• Station logs

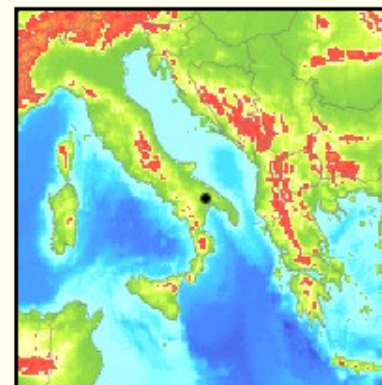
[mate_20020919.log](#)

(current)

[mate_20020805.log](#)

View

(previous ones)



• Daily data available at

1=24H	03-289	03-288	03-287	03-286	03-285	03-284	03-283	03-282	03-281	03-280	03-279	03-278
ASI	1	1	1	1	1	1	1	1	1	1	1	1

1=12H	03-289	03-288	03-287	03-286	03-285	03-284	03-283	03-282	03-281	03-280	03-279	03-278
BKG (IGS RDC)	1	1	1	1	1	1	1	1	1	1	1	1

MATE Site Information Form
International GPS Service

0. Form

1. Site Identification of the GNSS Monument

Site Name	: Matera
Four Character ID	: MATE
Monument Inscription	: Stable pillar on the roof (Marker R)
IERS DOMES Number	: 12734M008
CDP Number	: (A4)
Monument Description	: PILLAR
Height of the Monument	: 1.2
Monument Foundation	: CONCRETE BLOCK
Foundation Depth	: (m)
Marker Description	: BRASS NAIL
Date Installed	: 1992-02-17
Geologic Characteristic	: BEDROCK
Bedrock Type	: SEDIMENTARY
Bedrock Condition	: JOINTED
Fracture Spacing	: (1-10 cm/11-50 cm/51-200 cm/over 200 cm)
Fault zones nearby	: (YES/NO/Name of the zone)
Distance/activity	: (multiple lines)
Additional Information	:

5. Surveyed Local Ties

- 5.2 Tied Marker Name : SLR (MARKER O)
Tied Marker Usage : SLR
Tied Marker CDP Number : 7939
Tied Marker DOMES Number : 12734S001
Differential Components from GNSS Marker to the tied monument (ITRS)
dx (m) : 15.172
dy (m) : 24.826
dz (m) : -24.959
Accuracy (mm) : 2
Survey method : TRIANGULATION
Date Measured : 1996-07-01
Additional Information :
- 5.3 Tied Marker Name : VLBI
Tied Marker Usage : VLBI
Tied Marker CDP Number : 7243
Tied Marker DOMES Number : 12734S005
Differential Components from GNSS Marker to the tied monument (ITRS)
dx (m) : -10.946
dy (m) : -42.246
dz (m) : 38.203
Accuracy (mm) : 6
Survey method : TRIANGULATION
Date Measured : 1991-11-01
Additional Information :

7. Collocation Information

7.1	Instrumentation Type	:	SLR
	Status	:	PERMANENT
	Effective Dates	:	1993-09-01/CCYY-MM-DD
	Notes	:	
7.2	Instrumentation Type	:	VLBI
	Status	:	PERMANENT
	Effective Dates	:	1990-05-01/CCYY-MM-DD
	Notes	:	
7.3	Instrumentation Type	:	PRARE
	Status	:	PERMANENT
	Effective Dates	:	1996-03-01/CCYY-MM-DD
	Notes	:	

**GeoDAF**

MATERA Site Description

The [Centro di Geodesia Spaziale](#) (CGS) of the [Italian Space Agency](#) came into operation in 1983 in the framework of an agreement with the Basilicata Regional Government.

Thanks to the collocation of all precise positioning space based techniques, CGS is one of the few "fundamental" stations in the world. Full integrated in the worldwide network for Space Geodesy, the Center observed several thousands of passes of the principal laser ranged satellites (LAGEOS I and II, STARLETTE, AJISAI, ERS I and II, TOPEX/POSEIDON, STELLA, METEOR III). In the early 90's the station as extended its capabilities to the Very Long Baseline Interferometry using a 20m radiotelescope full designed and built in the framework of an ASI contract awarded to Alenia Spazio and SAE. The Center capabilities extended also to the use of satellite based radio positioning techniques such as the US developed GPS (Global Positioning System).

Since 1983, the operational activities are performed by [Telespazio S.p.A.](#)

Acquisition Systems:

- [SAO-1](#) and new [MLRO](#) SLR Systems
- [VLBI System](#)
- [GPS Receiver](#)
- [PRARE System](#)

[Time and Frequency System](#)

General Information:

See [Local Surveys & reports](#) page.

Other resources:

- [Site information](#) from [NASA SGP Catalog of Site Information](#) on [CDDIS](#).



12366	LVIV	UKRAINE	24	52	49	50	EURA
12367	NOVOSIBIRSK, SNIIM	RUSSIA	82	55	55	02	EURA
12368	BRJUHOVYCHI	UKRAINE	23	57	49	55	EURA
12602	DIONYSOS	GREECE	23	56	38	05	EURA
12612	ASKITES	GREECE	25	34	40	56	EURA
12613	ROUMELLI	GREECE	24	42	35	24	EURA
12614	KARITSA	GREECE	20	40	39	44	EURA
12615	KATAVIA	GREECE	27	47	35	57	EURA
12616	XRISOKALARIA	GREECE	21	53	36	47	EURA
12617	CHANIA	GREECE	24	04	35	31	EURA
12706	LAMPEDUSA	ITALY	12	34	35	31	AFRC
12711	MEDICINA	ITALY	11	21	44	29	EURA
12712	GENOVA	ITALY	8	55	44	25	EURA
12717	NOTO	ITALY	12	48	36	42	AFRC
12718	TRIESTE	ITALY	13	53	45	39	EURA
12721	ELBA ISLAND	ITALY	10	13	42	45	EURA
12724	TORINO I	ITALY	7	38	45	01	EURA
12725	CAGLIARI	ITALY	9	00	39	08	EURA
12734	MATERA	ITALY	16	37	40	42	EURA
12741	VENEZIA	ITALY	12	20	45	26	EURA
12749	MONTE VENDA	ITALY	11	42	45	19	EURA
12750	PADOVA	ITALY	11	53	45	25	AFRC
12751	BOLZANO	ITALY	11	20	46	30	EURA
12752	PERUGIA	ITALY	12	22	43	07	EURA
12753	TRENTO	ITALY	11	07	46	04	EURA
12754	CAMERINO	ITALY	13	07	43	06	EURA
12755	REGGIO CALABRIA	ITALY	15	39	38	07	EURA
12756	FERRARA	ITALY	11	00	44	00	EURA
12757	L AQUILA	ITALY	13	21	42	22	EURA
12758	TRAPANI-MILO	ITALY	12	35	38	00	EURA
12759	NOVARA COMUNE	ITALY	8	37	45	27	EURA
12760	PRATO	ITALY	11	06	43	53	EURA
12761	MILANO-CAMPUS COMO	ITALY	9	06	45	48	EURA
12762	BRESCIA	ITALY	10	14	45	34	EURA
12763	CERCIVENTO	ITALY	12	58	46	33	EURA
12764	FORGARIA	ITALY	12	59	46	14	EURA
12765	MEDEA	ITALY	13	26	45	55	EURA
13101	BRUSSELS	BELGIUM	4	22	50	48	EURA
13102	REDU	BELGIUM	5	08	50	00	EURA



File : iers_dir.sta

Release: 03 4 28

DIRECTORY OF IERS STATIONS

DOMES SITE CDP IGS DORIS DESIGNATION

Number

```

-----

10001  PARIS
M007              SMNE      P BUILDING TERRACE / NORTH-EAST CONCRETE
                             PILLAR / TOP AND CENTRE OF A CENTERING DEVICE
S006              OPMT      Paris Observatory / 3S Navigation TSA 100 S/N
                             19 / ARP

10002  GRASSE
M001              7605      Mark Caussols 3 (F 2)
M003              7605      Mobile VLBI mark 1989
M004              7605      Concrete Slab/ 25 mm brass mark
M006              GRAS      GPS Pillar/brass mark
M008              7605      SELF 2 mark
M010              GRAC      Concrete Pillar with Brass antenna
                             base/GLONASS Marker
S001              7835      SLR IAR
S002              7845      LLR IAR
S014              GR2A      DORIS Ant. Ref. Pt.
S016              GR2B      DORIS antenna ref. pt. (Starec type)

10003  TOULOUSE
M003              7608      VLBI mark
M004              TOUL      TOUL IGS mark
M005              7608      DORIS 1 mark
M006              7608      DORIS 2 mark
M008              7608      Cité de l'espace / Mark under the DORIS
                             antenna
M009              TLSE      Mark on a terrace roof
S001              TLSE      TLSA DORIS 1 antenna ref. pt (Alcatel type)

```

12734	MATERA		
M001			Mark (I 201130)
M004		7541	Mark SLR 7541 "C"
M005		7540	Mark SLR 7540 "B"
M007			Roof GPS Mark
M008		MATE	Pole (CIGNET GPS mark)
M009		MAT1	0.4 meter stable pillar on the roof
S001		7939	SLR IAR
S005		7243	Fixed VLBI antenna
S006			ROGUE SNR-8/DM B/L1 22-JAN-91
S007			ROGUE SNR-8/DM B/L1 16-APR-91
S008		7941	Intersection of alt-az axes of the 1.5 m SLR/LLR telescope
12741	VENEZIA		
M001		VENE	METALLIC PILAR ON THE ROOF
12749	MONTE VENDA		
M001		7542	SLR mark
12750	PADOVA		
M001		UPAD	Concrete pillar
M002		UPAD	Screw under plastic mast
S001		PADO	TRIMBLE 4000SSI Antenna / Bottom of Chocke Ring
12751	BOLZANO		
M001		BZRG	Stable metallic pillar on the roof (local nb. 909)
12752	PERUGIA		
M001		UNPG	Stable pillar "A" on the roof
12753	TRENTO		
M001		TREN	Pilaster placed on the roof of a building made of reinforced concrete (Palazzo Giulia)
12754	CAMERINO		
M001		CAME	One meter stable pillar

Administration of heterogenic IERS data and products with XML

Data: - technique specific analysis data
- IERS products: EOP, reference systems, geophysical fluids, ...

Formats: Ascii-text, tables, plots, SINEX I+II, HTML, ...

Transformation to XML

File archive

Meta-information stored in database

XSL

- HTML
- Tables / plots
- PDF
- Video streams
- Graphics (SVG)
- 3-D pictures
- ...

USER: - Search the database
- Visualisation of data
- Download of data
- Combination of data