

Ministry of Justice of Georgia National Agency of Public Registry (NAPR)

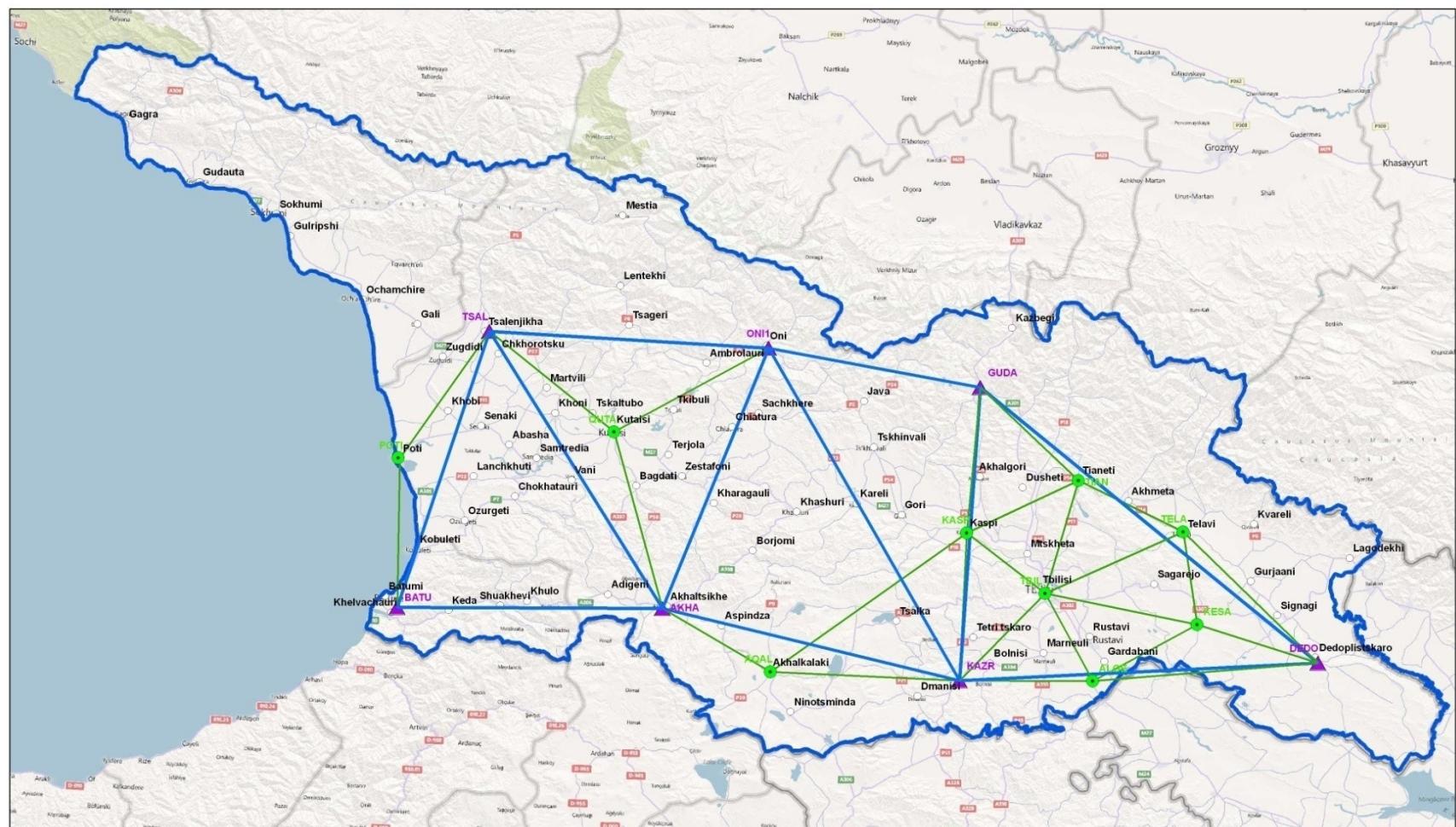


EUREF
Symposium 2012
Paris

National report

Head of Geodesy and Cartography Division
Galaktion Hahubia

16 A&B-class stations



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7 A-class stations



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9 B-class stations



Antenna and Receiver



14 Leica GNSS AR25 with individual calibration 14 Leica GRX1200+

Antenna IGS Name Phase Center Offset(East, North, Up)

LEIAR25.R3 LEIT

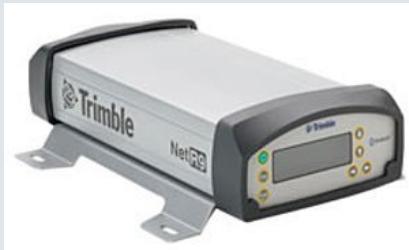
L1 0.0002 0.0001 0.1617

L2 0.0002 -0.0006 0.1588

LEIAR25.R4 LEIT

L1 0.0006 0.0010 0.1583

L2 0.0001 0.0001 0.1540



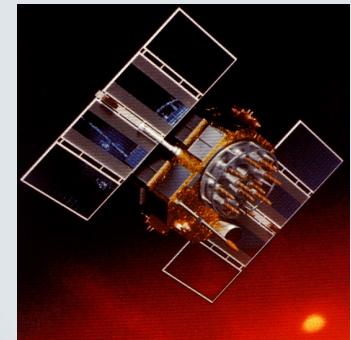
- 1 Trimble GNSS R8
- 1 Trimble GPS NETRS



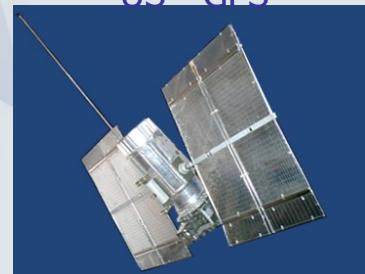
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GNSS signals

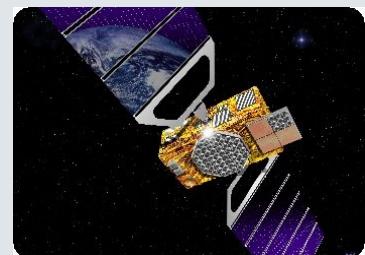
- Navstar/GPS – USA all
- GLONASS – Russia 15
- Galileo – EU (in a futures) 14



US - GPS



Russia - GLONASS

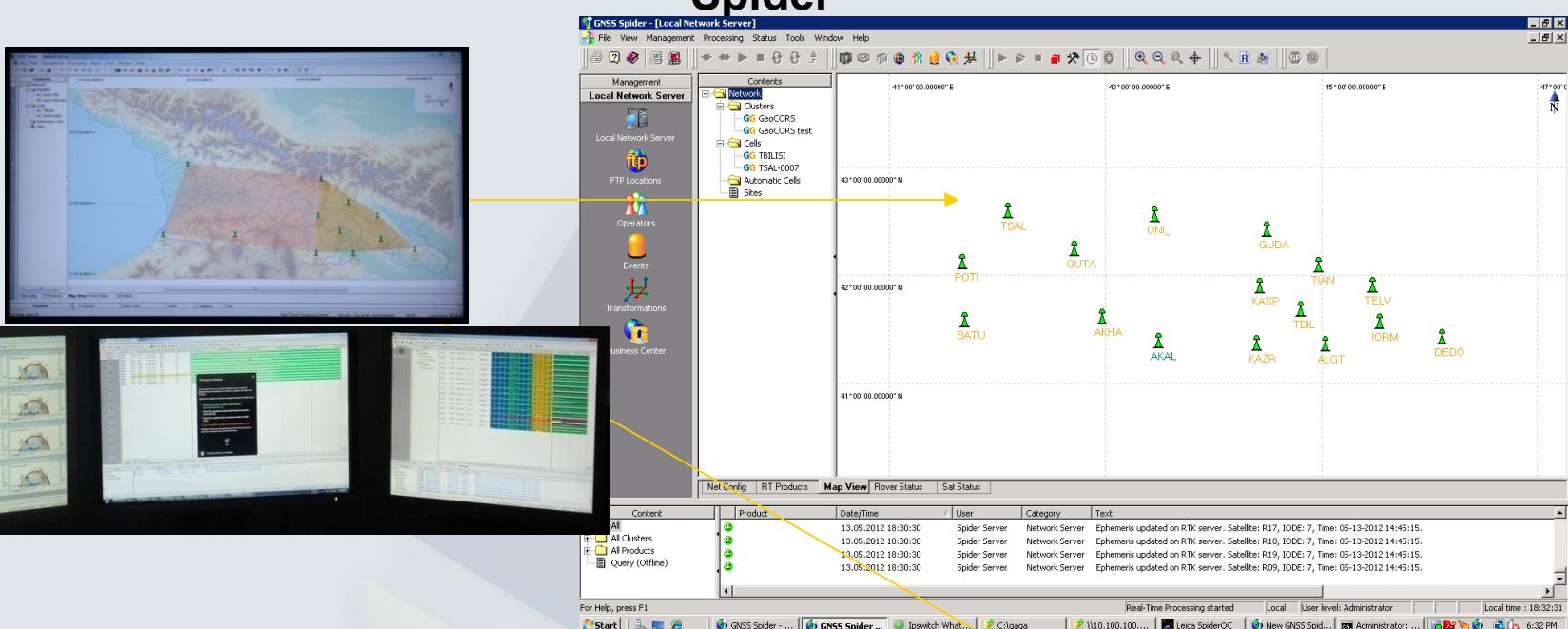


EU - Galileo

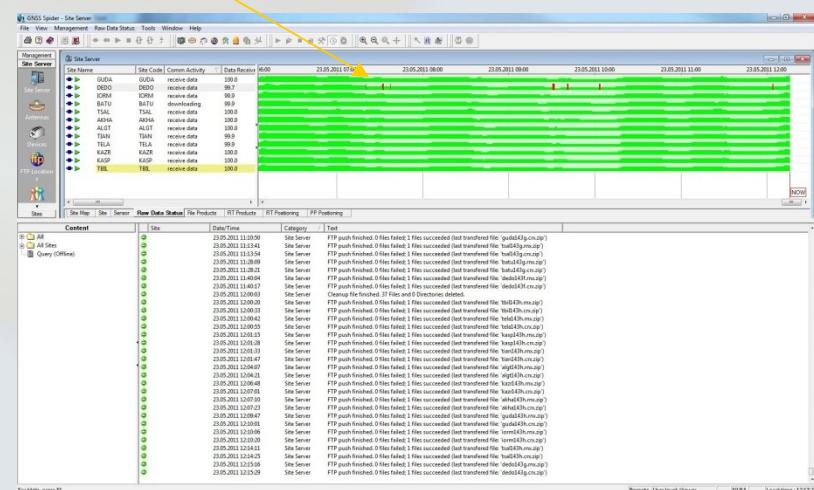


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Control Center Spider



- RINEX 30 sec all time
- RINEX 5 sec 1 year
- RINEX 1 sec 6 month



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GeoCORS services

- Positioning services:

- Positioning in Real-Time

- Positioning via Rinex file download from SpiderWeb server

- Automatic computation in SpiderWeb server

- Business center

- Registration



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SUMMARY OF BENEFITS

- Continuous operation 365/24/7
- Provides data & corrections in consistent national datum
- Provides positioning with higher accuracy reliability everywhere in Georgia
- Allows center control and monitoring all station
- Provides fundamental infrastructure for all positioning in Georgia
- Full control on all Surveys / Users



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geocors.napr.gov.ge

The screenshot shows a web browser window for 'Geo-CORS, SpiderWeb - Windows Internet Explorer'. The address bar contains the URL 'http://geocors.napr.gov.ge/spiderweb/index.aspx'. The page title is 'Geo-CORS, SpiderWeb'. The main content area features a map of Georgia with a red cross watermark and the text 'GEO-CORS' overlaid. A sidebar on the left contains sections for 'Rezgvalo sastavniy elementi' (Search and Filter) and 'Rezgvalo sastavniy elementi' (Search and Filter). The bottom of the page displays the text 'MINISTRY OF JUSTICE OF GEORGIA' and 'NATIONAL AGENCY OF PUBLIC REGISTRY'.

The screenshot shows the Geo-CORS SpiderWeb interface running in Microsoft Internet Explorer. The top navigation bar includes links for File, Edit, View, Favorites, Tools, Help, and a search bar. Below the navigation is a toolbar with icons for Search, More, Facebook, YouTube, and others. The main content area features a logo for 'Geo-CORS' and a map of the Caucasus region, specifically Georgia, Armenia, and Azerbaijan, with numerous CORS station locations marked. On the left, a sidebar provides navigation links for Home, Site overview, Site quality, RINEX Job Service, VNetex, Computations, Configuration, Results, Statistics, Leica Geosystems, SpiderWeb, EUROS, NAPR, and NOVA-Maps. The top right corner shows the user is logged in as 'Admin Admin as Administrator'. The bottom of the interface has tabs for Site overview, RINEX Job Service, VNetex, Computations, Configuration, Results, Statistics, About, and Logout.

SBC Admin - Windows Internet Explorer
File Edit View Favorites Tools Help
Google Search More >
PLAY IT! Search Go Facebook Facebook Games TV Hotels Sign In
Favorites Suggested Sites Web Site Gallery ITTF Network Map Reference3D STONEX BRAND - Stonex...
SBC Admin

My Profile | Help | About | Logout

Welcome Admin Admin. You're logged in as Master Admin.

To-Do List

- Users
 - Individual Users
 - User Groups
- Packages
 - Products
 - Regions
 - Packages
- Profile Template
- Customization

Individual Users

User Status	Company	E-Mail	Full Name	Subscriptions Status	User Name
Active	Arc Group	zedgeric@mail.ru	zedgiric, natalia	Active	minizetze
Active	gen LTD	sergoh@gmail.com	chitona, sergo	Active	sergoh
Active	Tblis Group	nichikashvili@gmail.com	Cheshishvili, Meriam	Active	tg
Teragraphics	teratronics-rsze@zmail.com		irakistsevadze, irakil	Active	irakil
Active	askonidki	bostavishvili@zmail.com	bostavishvili, lasha	Active	bostavishvili
Active	Orange Field LTD	infogbell.ge	Elazarishvili, Shalva	Active	shalevashvili
Active	Catbu Berk	reni.misurishvili@catbu Berk.ge	Misurishvili, Nino	Active	ninineni31
Active	Idea Design Group	info@ideadesigngroup.com	Zangariashvili, Meriam	Active	ideang
Active	Techno Ltd	contact@techno.ge	Konishashvili, Archil	Active	Techio
Active	Geomep LTD	pogen@geomep.ge	Kverashvili, Goga	Active	geomap
Active	LTD "Geographic"	mamuka@geographic.ge	Kutusashvili, Makhaz	Active	mamukka
Active	teeth	andro-smerghishvili@ambro.ge	shenurashvili, andro	Active	ander shan
Active	MOD	korzetsdmitriy@mail.ru	Lopatinashvili, Giorgi	Active	Giangoro
Active	cosper	cosper@cospergroup.com	abudzhava, giorgi	Active	cospergiorgi
Active	shalva kohortsidze	kohortsidze.karina@zmail.com	Kohortsidze, Shalva	Active	korikevadze
Active	GPS@terrasensori.ge	GPS@terrasensori.ge	korisidze, veronika	Active	SEEB
Active	akhati.sergiozhe2009	akhati.sergiozhe2009@zmail.com	karatashvili, illia	Active	illia_karatashvili
Active	LTD TERRA-GRUPHIC	show@terraprographic.com	khiteishvili, shota	Active	temerigashvili
Inactive	bit bar		bekauri, masha	Active	D10252037
Active	RUKA-Mapping	amashukhina11@zmail.com	gorogorashvili, gelo	Active	vello
Active	geobase.net	insta@geobase.net	lia, irata	Active	lia_karaliashvili
Active	kd-ultra-sherijevye 2006	kd-ultra-sherijevye 2006@zmail.com	chegelashvili, zaza	Active	cliego

Show / Hide columns:
 User Status
 Company
 User Name
 Full Name
 Privileges
 e-Mail
 Subscriptions Status
 Language
 Digital Authentication
 GPS-UCP1
 GPS-UCP2
 Rover Brand

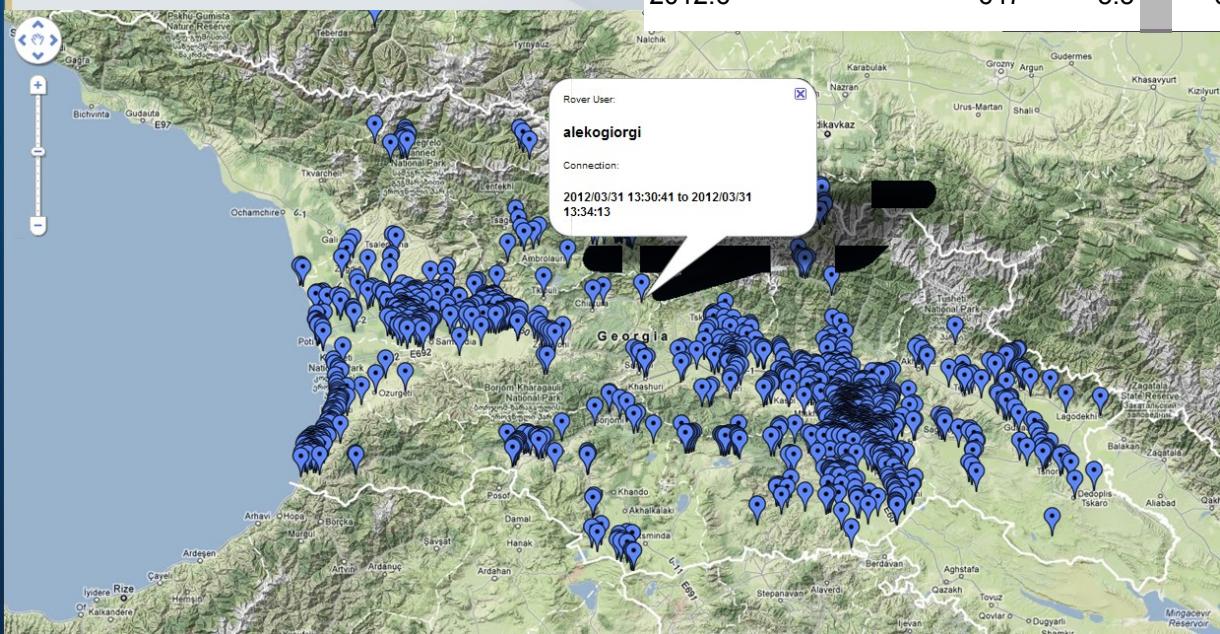
Configure Columns

Frozen columns: 1

Lines per page: 30

Page 1 of 3

		Month	Authorised Connections	Authorised Connections (%)			Total Connection Time (hrs)	Average Connection Time (min)
Last Connection:	2012/05/11 10:50:10.00							
Authorised Connections:	9,072	2011.11	616	5.3	5 10 0.0		241.04	23.5
Unauthorised Connections:	5	2011.12	971	8.3	0 0.0		255.44	15.8
Connections shown in map:	1,614	2012.1	1,053	9.0	0 0.0		211.65	12.1
Customers:	49	2012.2	1,286	11.0	0 0.0		289.86	13.5
Products:	17	2012.3	1,602	13.7	0 0.0		436.51	16.3
Skipped Records:	21	2012.4	2,474	21.1	0 0.0		584.16	14.2
Total Connection Time:	2,276.6 hrs	2012.5	3,078	26.2	0 0.0		771.40	15.0
Average Connection Time:	15.1 min	2012.6	647	5.5	0 0.0		175.78	16.3



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GNSS Spider - [Local Network Server]

File View Management Processing Tools Window Help

User-ID: zura Rover User Name: janashvili_zura Connect: 13.05.2012

Search Images Videos Maps News Shopping Gmail More

George Lobjanidze

Management Local Network Server

- Local Network Server
- FTP Locations
- Operators
- Events
- Transformations
- Business Center

Google 41.728392 41.734994(zura)

Map Photos

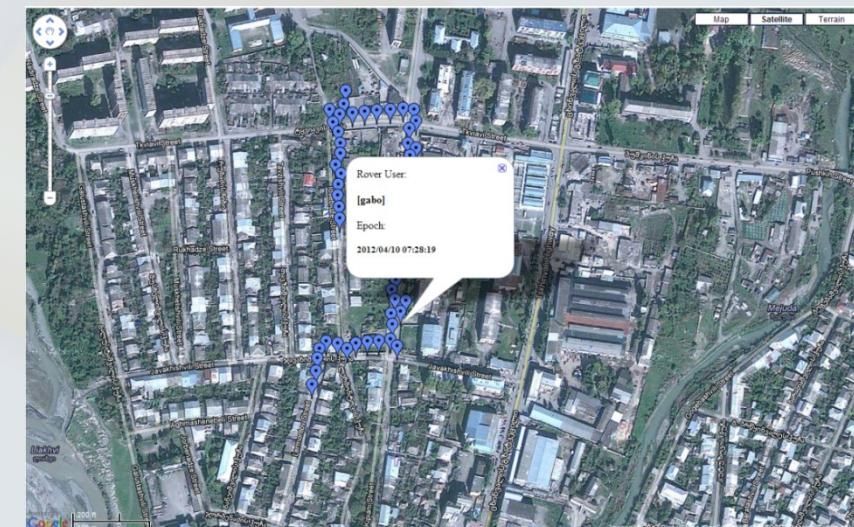
2000 ft 500 m

Net Config RT Products Map View Rover Status Sat Status

Content	Product	Date/Time	User	Category	Text
All	Spider Server	13.05.2012 19:00:30	Network Server	Ephemeris updated on RTK server. Satellite: R19, IODE: 9, Time: 05-13-2012 15:15:15.	
All Clusters	ClusterServer	13.05.2012 19:06:27	Cluster	Cluster GeoCORS: Broadcast Ephemeris missing for SV G2 in network processing	
All Products	Spider Server	13.05.2012 19:06:52	Network Server	Ephemeris updated on RTK server. Satellite: G02, IODE: 86, Time: 05-13-2012 16:00:00.	
Query (Offline)	ClusterServer	13.05.2012 19:06:52	Cluster	Cluster GeoCORS: Broadcast Ephemeris available for SV G2 in network processing	

Real-Time Processing started Local User level: Administrator Local time : 19:07:14

Start | GNSS Spider ... | GNSS Spider ... | Ipswich What... | C:\gaga | \\10.100.100... | Leica SpiderQC | New GNSS Spid... | Administrator: ... | 7:07 PM



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Geo-CORS

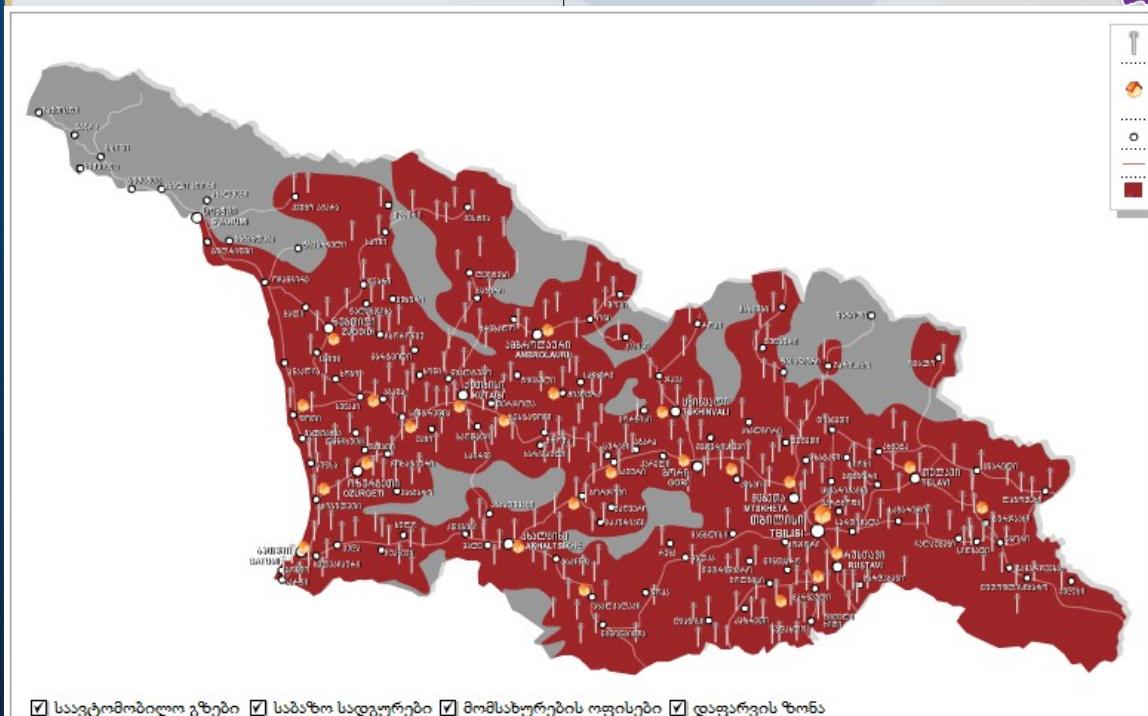
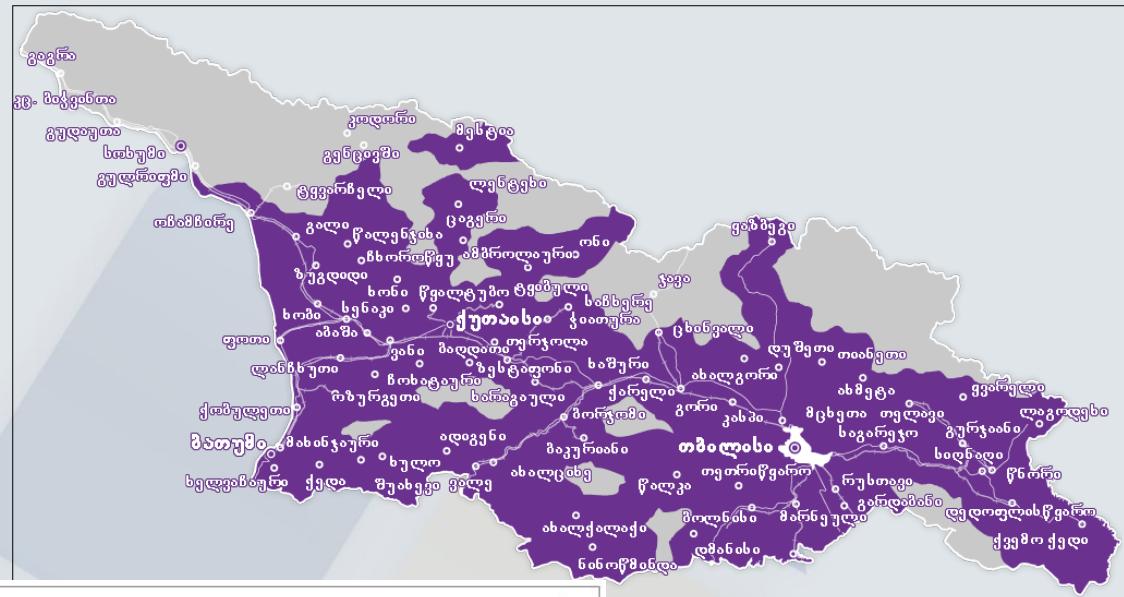
Summary : Ideal Support for Multiple Applications

- National Mapping Producers
 - Cadastre
 - GIS
 - Utility Companies
 - Telecoms
 - Transport Departments (fleet management...)
 - Infrastructure & Road construction
 - Natural Resource Management (Mining, Exploration)
 - Scientific (atmospheric modelling, seismic monitoring,...)
 - Meteorological Agency, Weather forecasts
 - Environmental Agencies
 - Agriculture
 - Natural Hazards & Disaster Management



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GSM coverage



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Station DataBase



Geo-CORS, SpiderWeb - Windows Internet Explorer

File Edit View Favorites Tools Help

Google Search More >

PLAY IT Search Go Facebook Facebook Games! YouTube TV Like HTML More

Favorites Suggested Sites Web Slice Gallery ITRF Network Map Reference3D STONEX BRAND – Stonex ...

Geo-CORS, SpiderWeb

EUPOS
European Position Determination System

Station DataBase

Map of EUPOS Reference Stations

Map Satellite Terrain

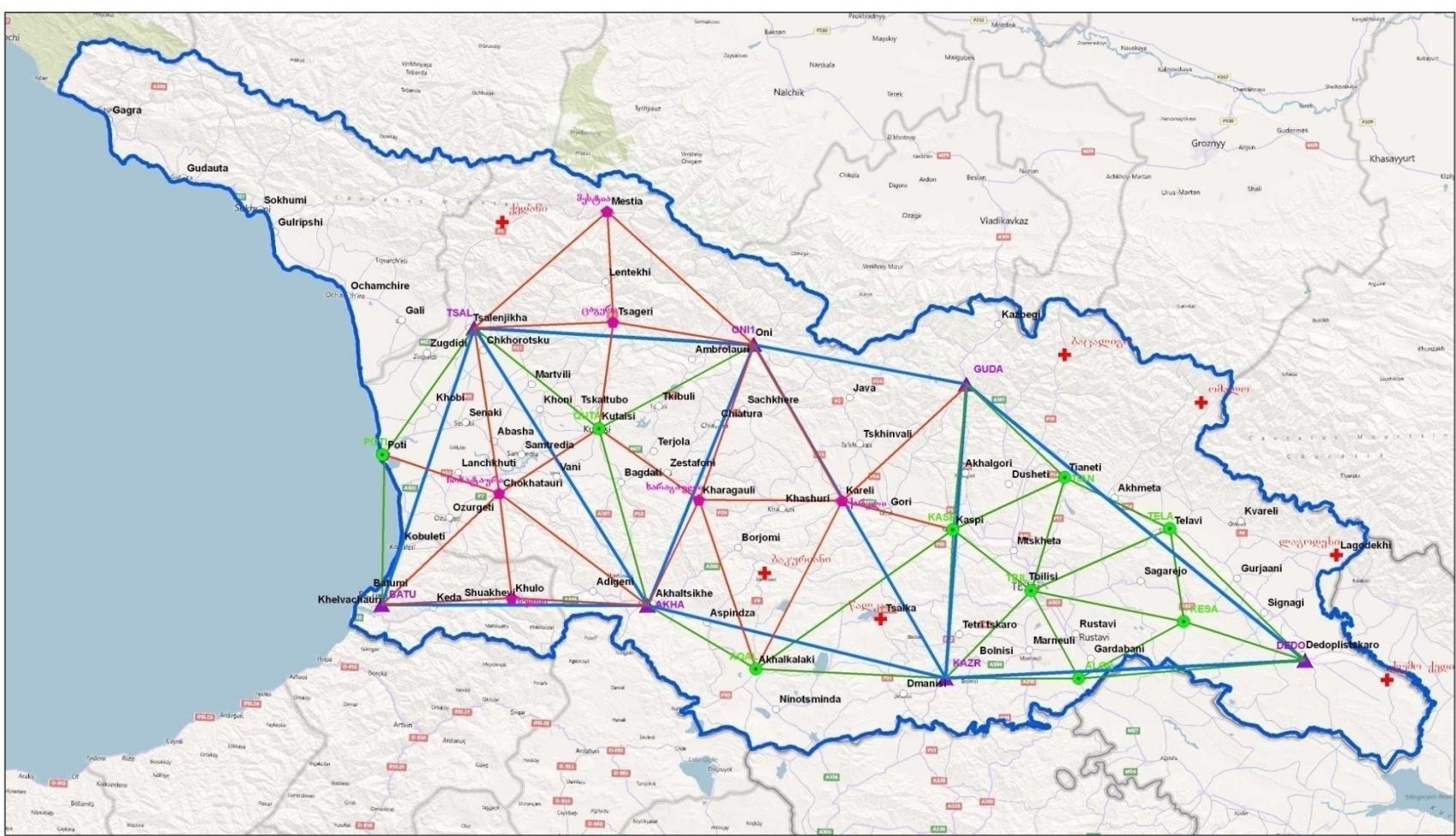
A map showing the locations of EUPOS reference stations across Europe and parts of Central Asia. Numerous red dots represent station locations, primarily concentrated in Germany, Italy, and the United Kingdom, with smaller clusters in France, Spain, Portugal, Poland, and Russia.



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Plane for 2012 year

22 stations



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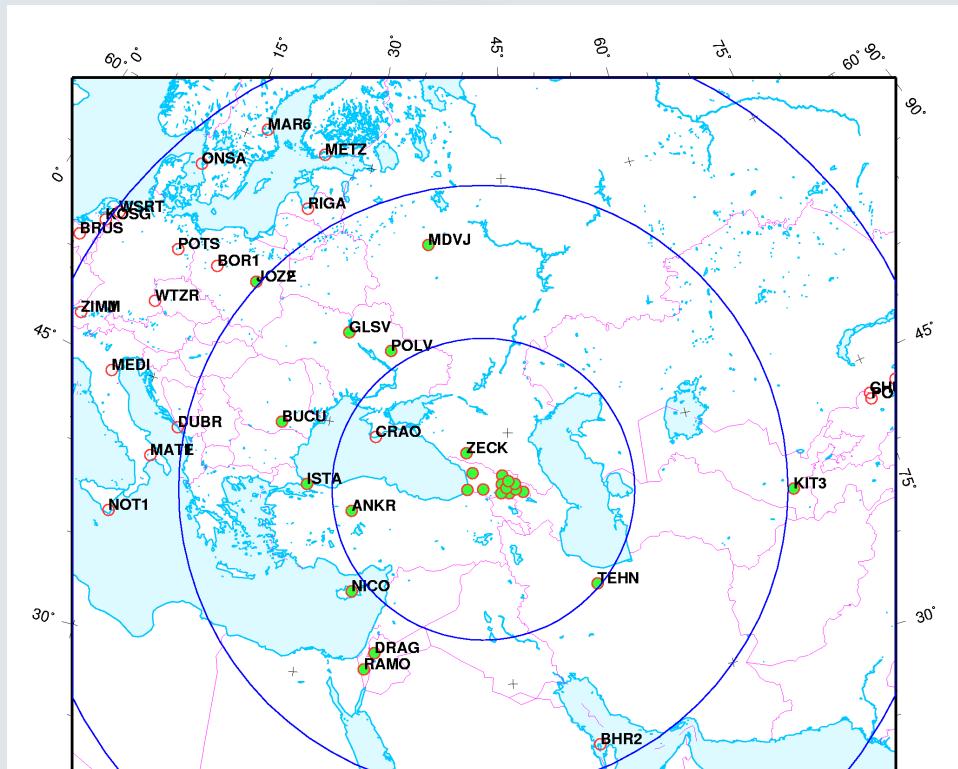
- **Creation of new reference frame “CEONET”**
- **Establishment of new modern geoid model for Georgia**



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Georgia Continuously Operating Reference Stations

Coordinates Computation Report by IGN author DPR/SGN/PMT/sb



Results

1. **Georgia CORS IGS08 ep. 2011.353 Coordinates (use today)**
2. **Georgia CORS ETRF2000 ep. 2011.353 Coordinates**

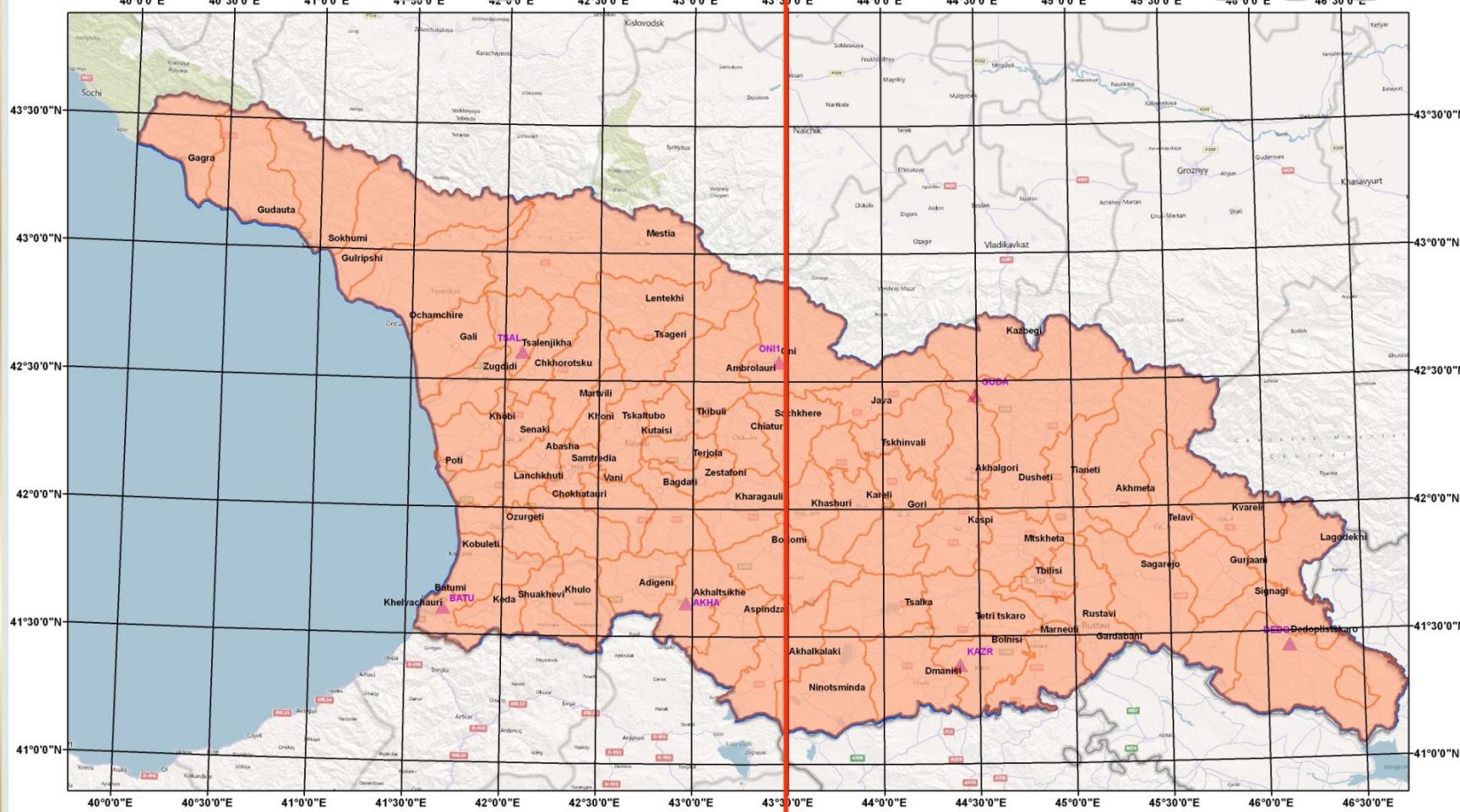


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GEONET12TM

ETRF89

ITRF2008



Central meridian 43,5 degrees

1:10 000.....1:1 000 000 – scale factor 0,9996



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40

41,5

43

44,5

46

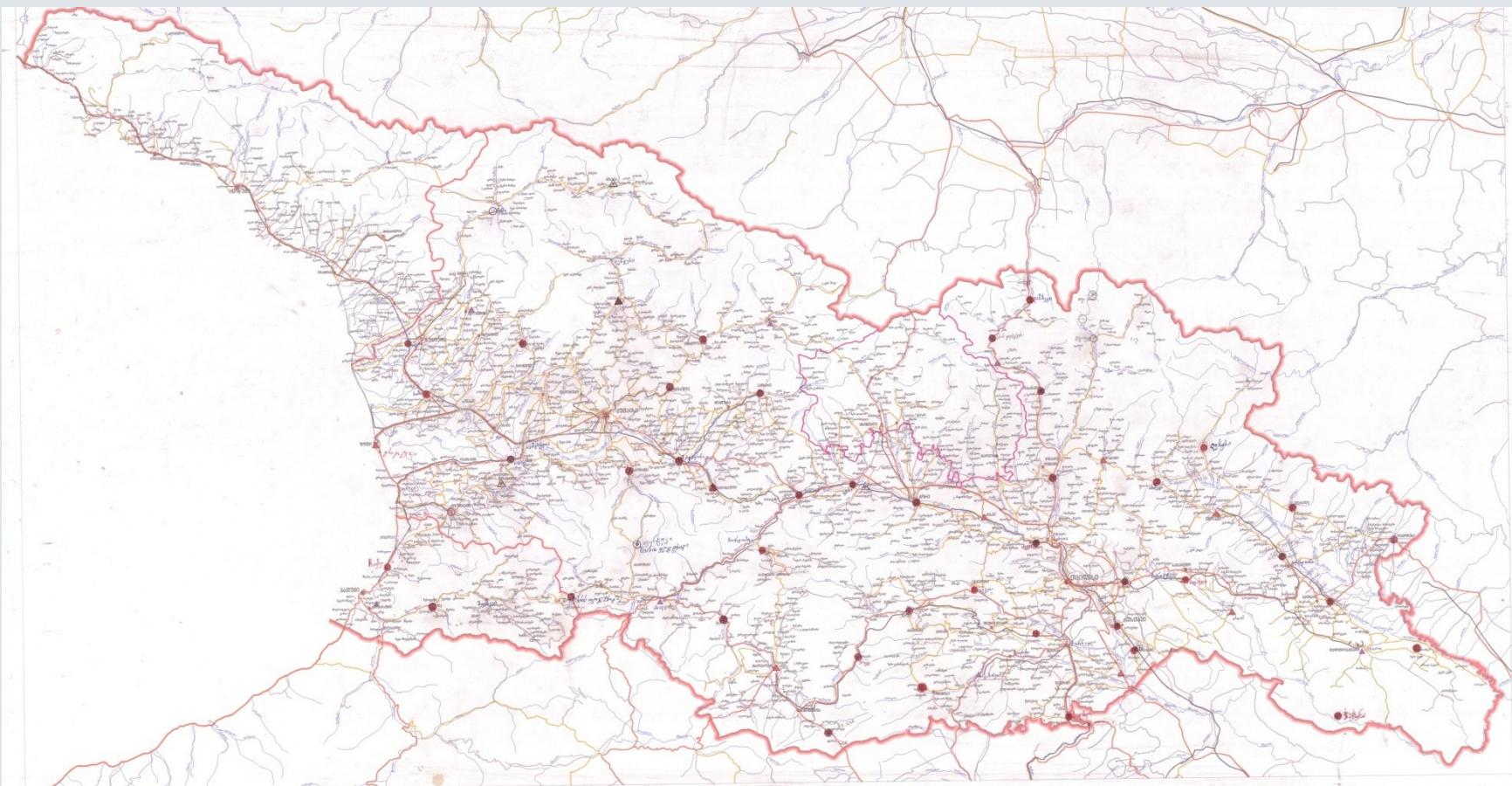
5 Zones for scales

1:500.....1:5000 scale factor 1



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50 height benchmarks points measured by GPS



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Rehabilitation and creation of new height benchmarks for the leveling model



I class

II class

3963 height benchmarks.
65 are 1 class
674 are 2 class



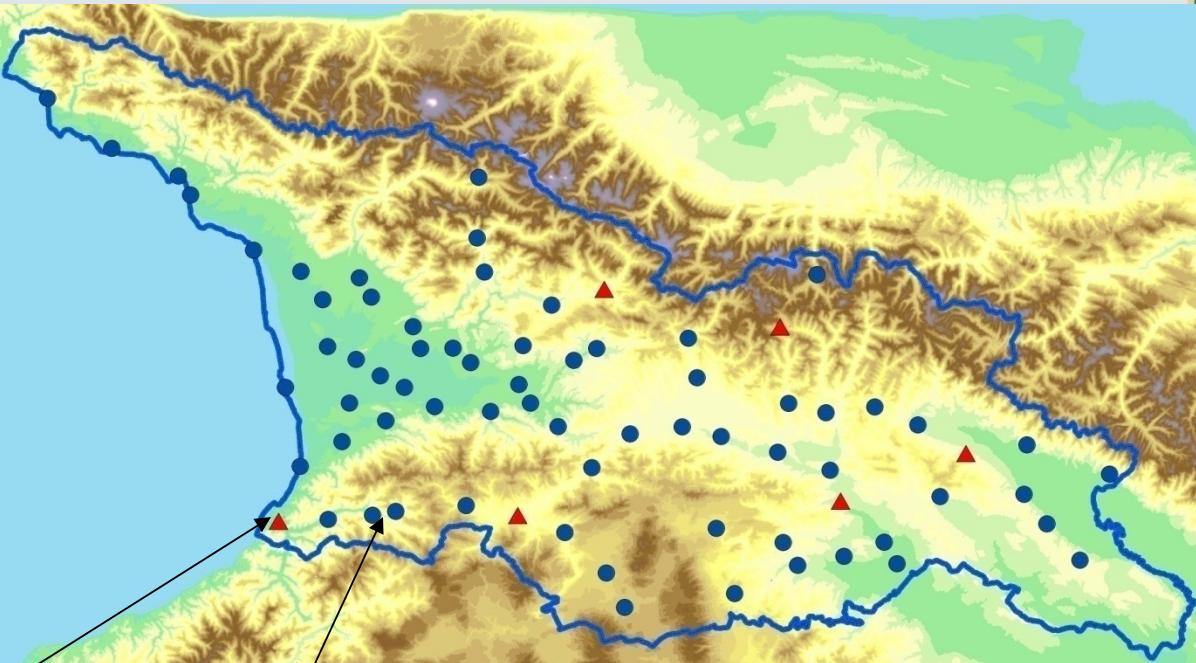
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Gravimetric work



Old gravimetric map

New gravimetric map



Absolute Gravity for ties



Relative Gravity for
expanding local regions
where airborne shows
significant mismatch with
existing terrestrial



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Thank You for your Attention !!!



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