



# Monitoring the Real-time IGS NTRIP Interface

NTRIP Interface [www.igs-ip.net/home](http://www.igs-ip.net/home)

## Welcome to the IGS-IP Ntrip Broadcaster

Protocol: NTRIP 1.0

This server is [www.igs-ip.net](http://www.igs-ip.net), running on Port 80 and 2101, operated by [BKG](http://www.bkg.bund.de) in support of the Real-Time IGS (RTIGS) Pilot Project.

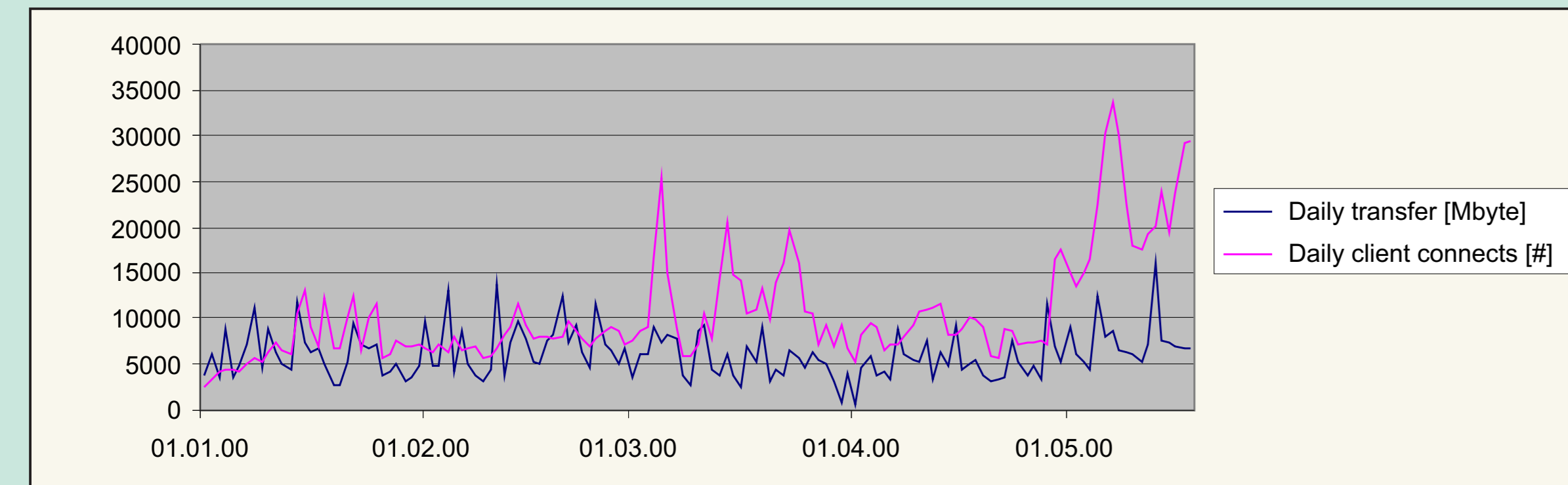
Details about GNSS data streams on the IGS-IP Ntrip Broadcaster are available as

- ? Distribution [Map](#)
- ? Stream [Table](#)
- ? Notice Advisories to Broadcaster Users [NABU](#)
- ? List of [Contributors](#).

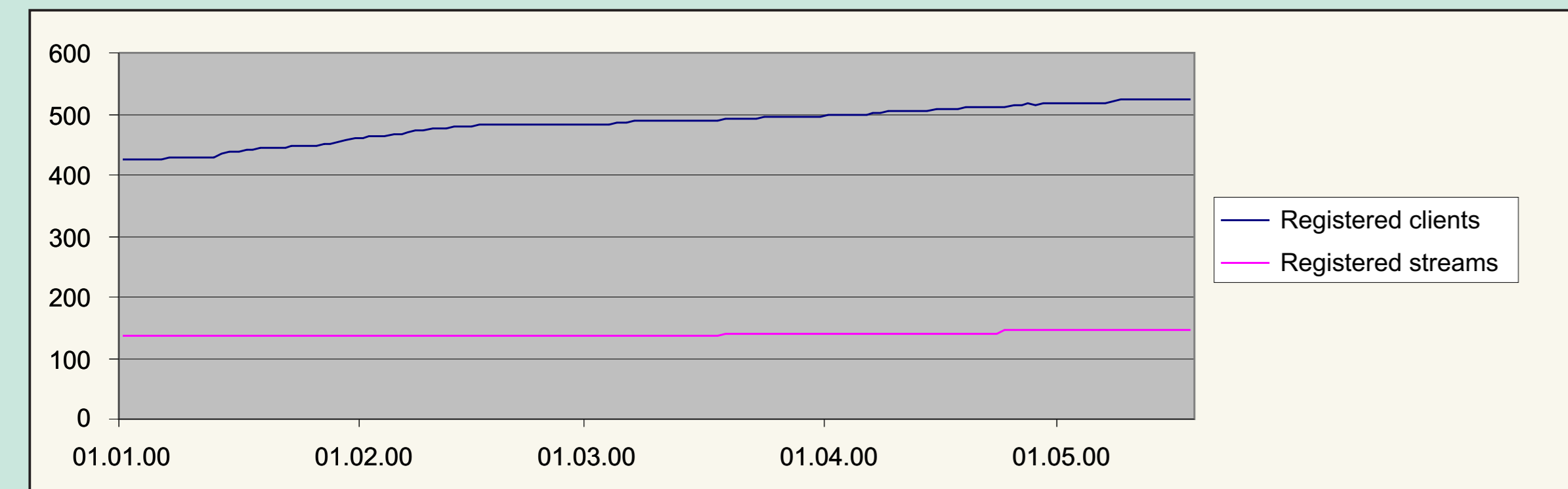
For receiving GNSS data streams via NTRIP in real-time you may use the [GNSS Internet Radio](#). This is an Ntrip Client program designed to run on a PC/Laptop, PDA, or cell phone. The program handles the HTTP communication and transfers received GNSS data to a serial or IP port to feed your application.

Most of the data streams on the IGS-IP Ntrip Broadcaster are protected. Authorization is provided through a [Registration](#) form.

## Usage per Day



## Registered Streams and Clients



## Alarm System: Notice Advisory to Broadcaster Users (NABU)

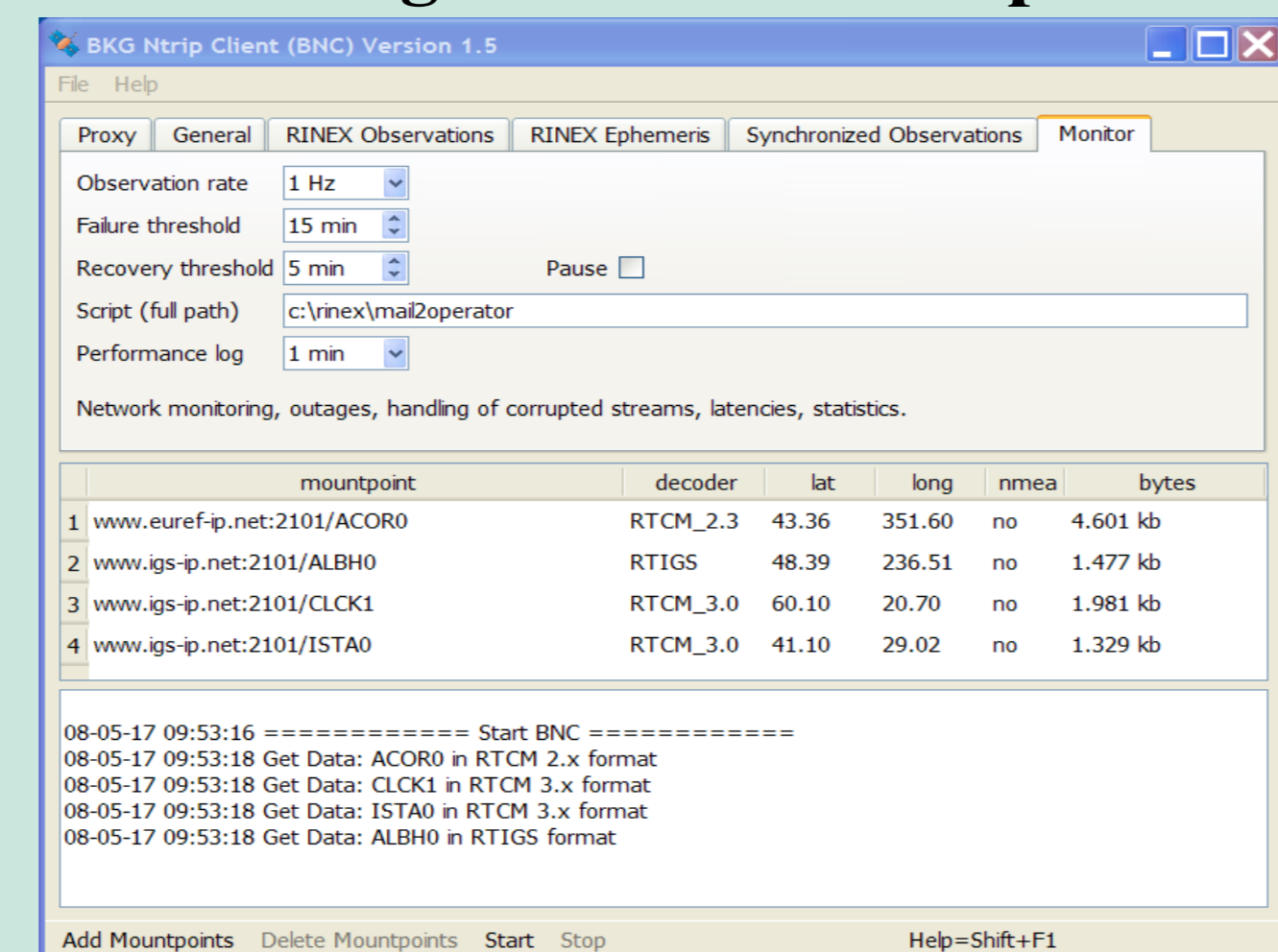
NOTICE ADVISORY TO BROADCASTER USERS (NABU) 20083340  
 SUBJ: GNSS REAL-TIME DATA STREAM(S) FROM IGS-IP NTRIP BROADCASTER  
[www.igs-ip.net](http://www.igs-ip.net) AVAILABLE AFTER OUTAGE

- NABU TYPE: AVAILAB  
 NABU NUMBER: 20083340  
 NABU DTG: 080516 14H35 UTC
- STREAM(S) AFFECTED: 1  
 GOPE0: PRAHA-ONDREJOV, REF NABU: 20083339,  
 REF START DTG: 080516 14H11 UTC
- CONDITION: GNSS REAL-TIME DATA STREAM(S) FROM IGS-IP NTRIP BROADCASTER [www.igs-ip.net](http://www.igs-ip.net) AVAILABLE AFTER OUTAGE
- POC: BKG AT +49 69 6333-263, [igs-ip@bkg.bund.de](mailto:igs-ip@bkg.bund.de)  
[http://igs.bkg.bund.de/index\\_ntrip.htm](http://igs.bkg.bund.de/index_ntrip.htm)  
[http://igs.bkg.bund.de/root\\_ftg/NTRIP](http://igs.bkg.bund.de/root_ftg/NTRIP)

## Contributors to www.igs-ip.net

- Addis Ababa University - Ethiopia (2)
  - Agencia Spaziale Italiana - Italy (1)
  - Agricultural University of Wroclaw - Poland (1)
  - Astrogeodynamical Observatory - Poland (1)
  - Astronomy and Space Science Institute - Korea (2)
  - Brazilian Institute of Geography and Statistics - Brazil (2)
  - Bucharest Technical University of Civil Engineering - Romania (1)
  - Bundesamt fuer Eich- und Vermessungswesen - Austria (2)
  - Clark Fortune McDonald & Associates - New Zealand (1)
  - Croatian Geodetic Institute - Croatia (2)
  - DIST Universita di Cagliari - Italy (1)
  - Department of Sustainability and Environment Victoria - Australia (1)
  - FOMI Satellite Geodetic Observatory - Hungary (1)
  - Federal Agency for Cartography and Geodesy - Germany (30)
  - Finnish Geodetic Institute - Finland (2)
  - Florida International University Miami - U.S.A. (1)
  - GOP Research Inst. Geod. Topogr. Cartogr. - Czech Republic (1)
  - GPS Solutions Inc. - U.S.A. (1)
  - Geodetic Institute University Warszawa - Poland (1)
  - Geoscience Australia - Australia (30)
  - IBGE/DGC/Braz. Institute of Geography and Statistics - Brazil (6)
  - Institut Geographique National - France (2)
  - Instituto Geografico Portugues - Portugal (1)
  - Instytut Geodezji i Kartografii Warszawa - Poland (1)
  - Istanbul Technical University - Turkey (1)
  - Istituto Nazionale di Ricerca Metrologica I.N.R.I.M. - Italy (1)
  - L'equipe du reseau Baniar - New Caledonia (2)
  - NASA Stennis Space Center - U.S.A. (1)
  - NERC Space Geodesy Facility - United Kingdom (1)
  - NOAA-NGS - USA (1)
  - National Geographic Information Institute - Korea (1)
  - National Land Survey - Sweden (6)
  - Natural Resources - Canada (10)
  - Naval Observatory - U.S.A. (1)
  - Point Inc. - Canada (2)
  - Puget Sound Reference Network - U.S.A. (1)
  - Reg. Centre Mapping of Resources for Development - Kenya (1)
  - Reg. Centre for Training in Aerospace Surveys - Nigeria (1)
  - Rocco V. D'Andrea Inc. - USA (1)
  - Royal Observatory - Belgium (1)
  - Scriptis Orbit and Permanent Array Center - U.S.A. (1)
  - Solucoes em Posicionamento Global SPG - Brazil (1)
  - Survey Research Institute HARAM SRI - Egypt (1)
  - Surveys and Mapping - South Africa (2)
  - SwissTopo - Switzerland (1)
  - Technical University Prague - Czech Republic (1)
  - Teodoniel - Brazil (1)
  - Trinhouse Ltda - Brazil (1)
  - UNAVCO - U.S.A. (1)
  - Universidade Estadual Paulista UNESP/FCT - Brazil (4)
  - Universidade da Baira Interior UBI/CGUL/IDL - Portugal (1)
  - University New South Wales - Australia (1)
  - University Padova - Italy (2)
  - University of New Brunswick - Canada (1)
- Total: 145 Streams

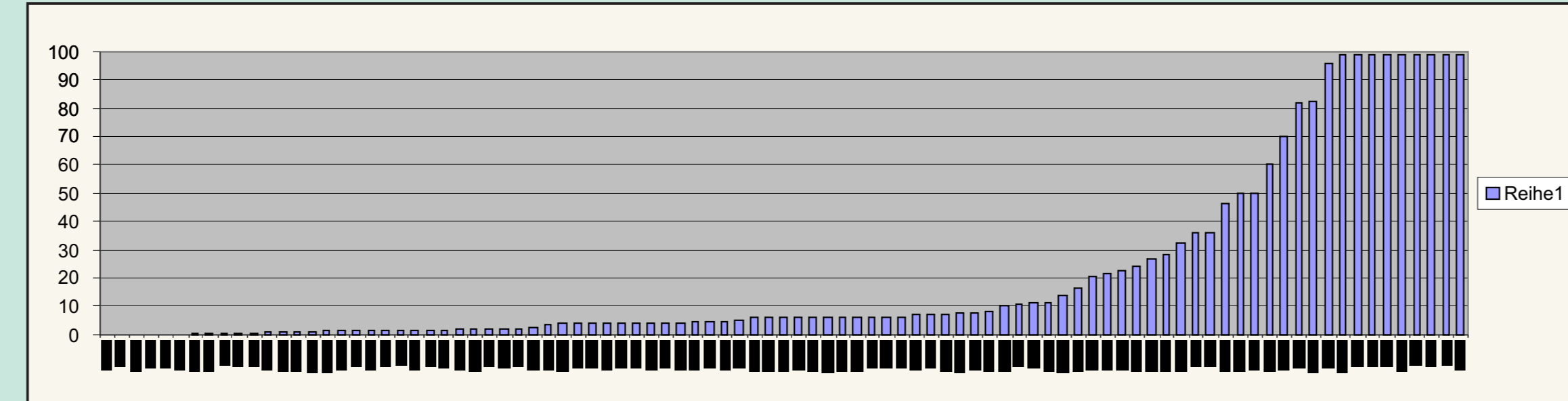
## Monitoring Tool: BKG Ntrip Client



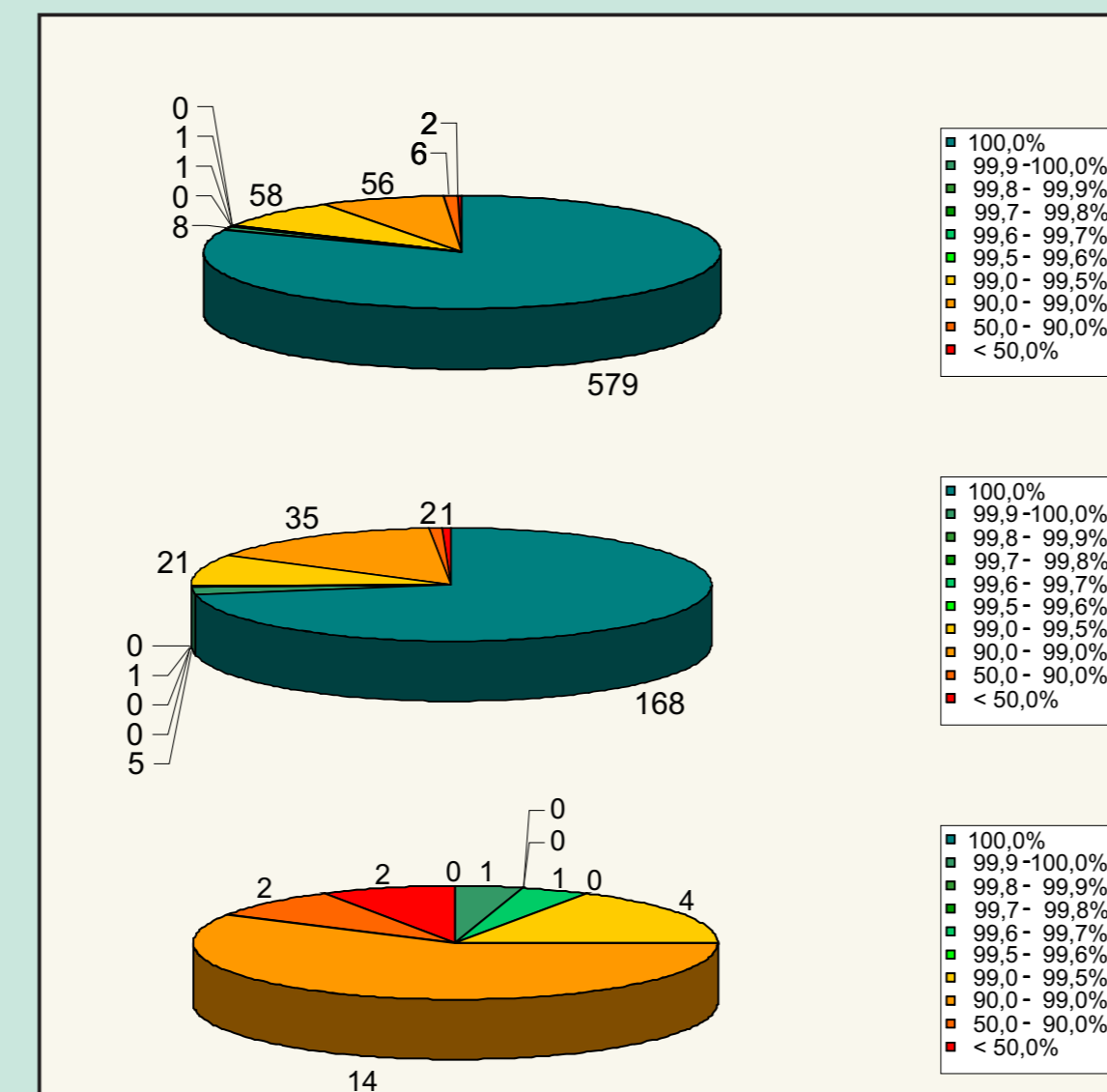
The purpose of BNC is to retrieve real-time GNSS data streams available through NTRIP transport protocol, generate high-rate RINEX Observation and Navigation files to support near real-time GNSS post-processing applications, and/or generate ephemeris and synchronized observations epoch by epoch through an IP port to support real-time GNSS engines, and/or monitor the performance of a network of real-time GNSS reference stations to generate advisory notes.

BNC has been written under GNU General Public License (GPL). Binaries for BNC are available for Windows, 32-bit Linux, 64-bit Linux, Solaris, and Mac.

## Stream outages



## Completeness of 1Hz RINEX from Streams



Completeness of 711 hourly high-rate RINEX files from RTCMv3 streams coming in via NTRIP/TCP

Completeness of 233 hourly high-rate RINEX files from RTCMv2 streams coming in via NTRIP/TCP

Completeness of 24 hourly high-rate RINEX files from RTIGS streams coming in via udpRelay

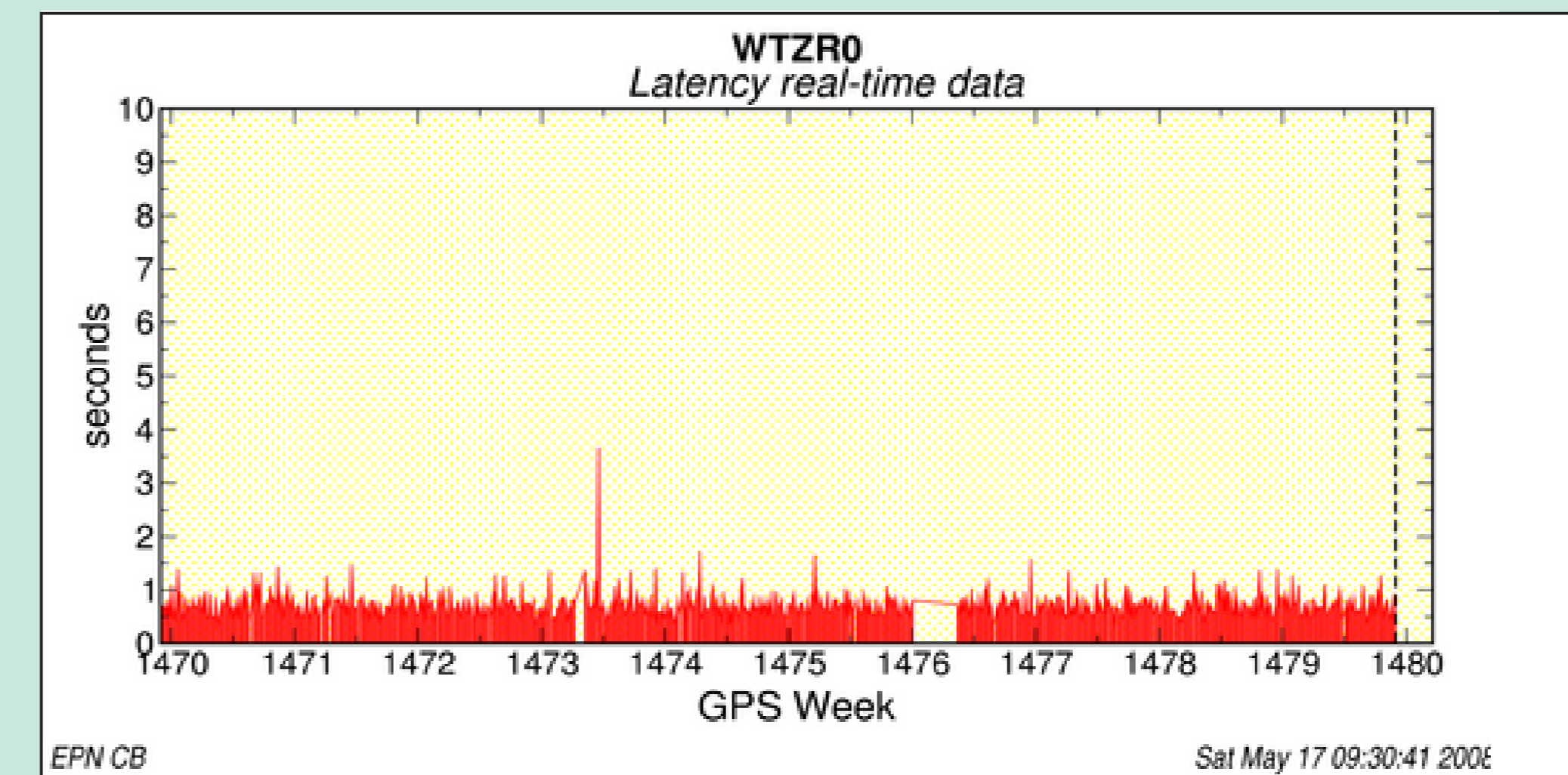
## Monitor Homepage: <http://www.igs.oma.be/real-time/>



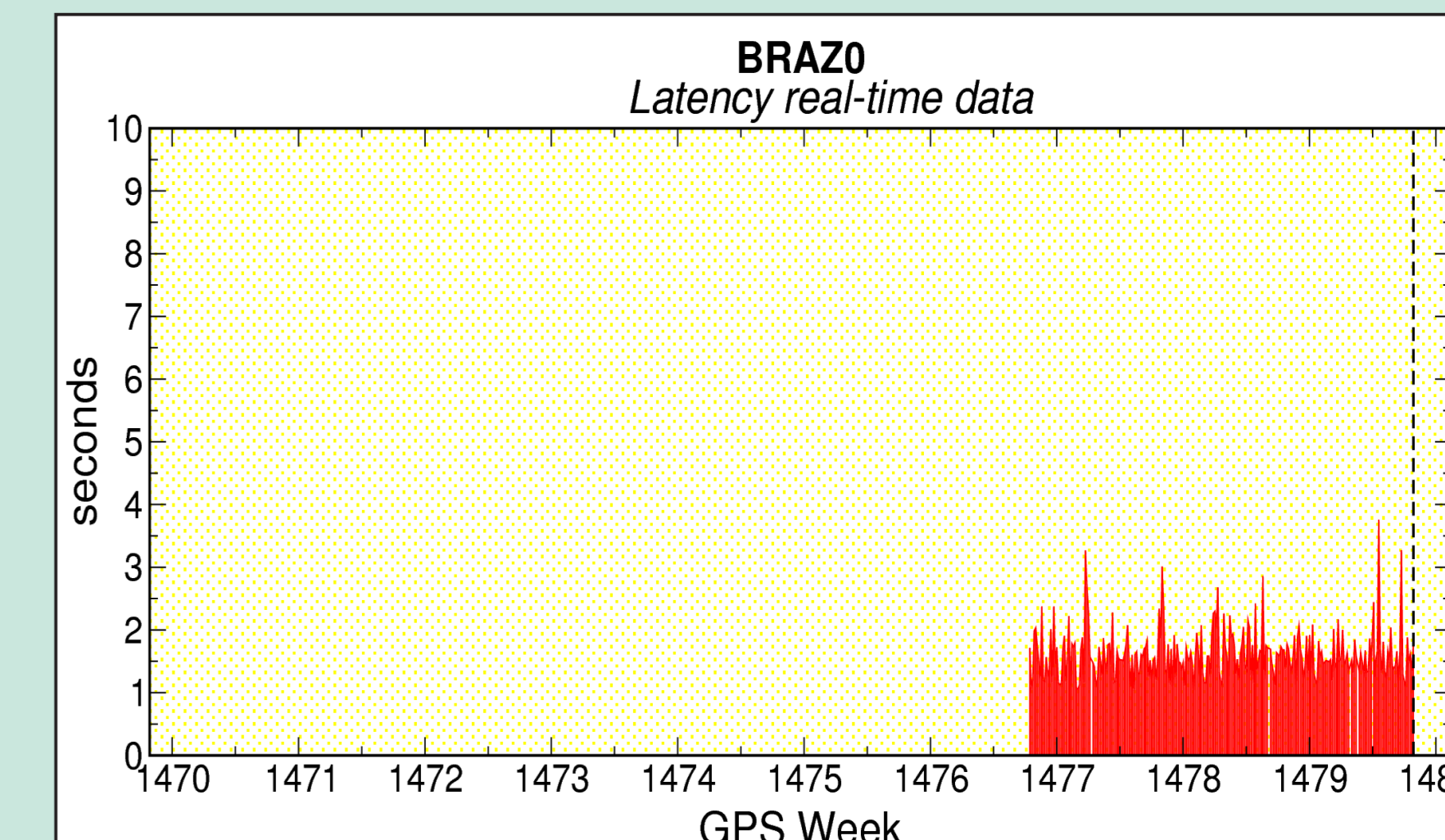
## Search for Stream Attributes



## Stream Latency WTZR



## Stream Latency BRAZ



## Detailed Stream Table

Stream	City	Country	RTCM 3.0	Format	Receiver	Latency	Operator	Bitrate	System
AD130	Addis Ababa	ETHIOPIA	1004(1),1006(1),1007(1),1011,1020	RTCM 3.0	JPS LEGACY	3.8s	BKG	1300	GPS+GLO
AD131	Addis Ababa	ETHIOPIA	1011,1015,1020(5)	RTCM 3.0	JPS LEGACY	3.8s	BKG	1300	GPS+GLO
ALH8R	Victoria	Canada	RTCM 3.0	RTCM 3.0	AOA BENCHMARK ACT	3.2s	BOC	1300	GPS
ALB00	ALBONQUIN PARK	CANADA	RTCM 3.0	RTCM 3.0	AOA BENCHMARK ACT	3.1s	HR Can / GSD	1300	GPS
AL100	Alice Springs	Australia	1004(1),1006(1),1008(1),1012(1)	RTCM 3.0	LEICA BRIL2000PRO	3.6s	GA	1600	GPS+GLO
AD134	Anuna	USA	RTCM 2.2	RTCM 2.2	TRIMBLE NETRS	3.8s	UNAVCO	2500	GPS
AD130	Berowa Gora	Poland	RTCM 2.1	RTCM 2.1	JPS_L_GSD	3.2s	IGK	4000	GPS+GLO
RO150	Borowiec	Poland	1113,1101,1101(1),1101(1),1101(1),1101(1)	RTCM 2.1	TRIMBLE NETRS	3.2s	BR PAS	2400	GPS
BR62Z	Brasilia	Brazil	1004(1),1005(5),1008(5)	RTCM 3.0	TRIMBLE NETRS	3.5s	DGFI	5000	GPS
BR17Z	Brest	France	RTCM 3.0	RTCM 3.0	LEICA BRIL2000PRO	3.8s	IGN	2000	GPS
BR150	Brussels	Belgium	1004(1),1006(1),1008(1),1012(1)	RTCM 3.0	ASHTECH 2-1117	3.6s	ROB	1300	GPS
BR150	Bucuresti	Romania	RTCM 3.0	RTCM 3.0	ASHTECH 2-1117	2.0s	BOC	6300	GPS
BR290	Bolzano - Bozen	Italy	RTCM 2.3	RTCM 2.3	LEICA BRIL2000PRO	3.3s	gebr2	3600	GPS+GLO
CA120	Capoterra	Italy	1113,1101,1101(1),1101(1),1101(1),1101(1)	RTCM 3.0	TPS L_GSD	3.6s	DIST-Cagliari	3900	GPS+GLO
GS110	Caray	Antarctica	RTCM 3.0	RTCM 3.0	ASHTECH UZ-12	3.2s	GA	2000	GPS
GS110	Caduna	Australia	RTCM 3.0	RTCM 3.0	ASHTECH UZ-12	3.2s	GA	1700	GPS
CH100	CHURCHILL	CANADA	RTCM 3.0	RTCM 3.0	AOA SHR-8100	2.2s	HR Can/GSD	1300	GPS

## Frequently Asked Questions

- IGS Real - Time Pilot Project**  
**NTRIP FAQ**
- I already upload my stream to [www.igs-ip.net](http://www.igs-ip.net) using NTRIP - So, what have I to do with this CIP ?
  - What is the RTIGS data policy ?
  - What is NTRIP ?
  - What are the basic options for joining RTIGS with my reference station ?
  - Where can I register my reference station to contribute to RTIGS through NTRIP ?
  - Who contributes to RTIGS through NTRIP ?
  - Which real-time reference stations support RTIGS through NTRIP ?
  - How does the NTRIP architecture for RTIGS look like ?
  - How does the distribution of NTRIP streams for RTIGS look like ?
  - Where can I get NTRIP software ?
  - Where can I register for access to RTIGS streams via NTRIP ?
  - Which stream formats are accepted ?
  - What does RTCM Version 2.x mean ?
  - What does RTCM Version 3.x mean ?
  - Is IGS/RTIGS supported by RTCM formats and NTRIP ?
  - Where/how do I get small batches of high-rate RINEX files ?

