ADIF Processor

Available through the shorter link: https://bit.ly/adifproc.

Also available in PDF format as adif-processor.pdf.

Release History

Date	New Features
07-SEP-2021	Support for Castles on the Air Activity References
18-SEP-2021	Supports Tropospheric Ducting & QO-100 Satellite Contacts
23-SEP-2021	Support for Lighthouses & Railways on the Air
26-SEP-2021	Initial Geolocation support via Nominatim
15-OCT-2021	Improved location accuracy reporting, COORD as a comment option
26-OCT-2021	Support for Lanzarote HEMA summits
10-NOV-2021	IOTA incorporated as an activity. Bearings now generated in KML contact info and listing file
05-FEB-2022	LEO Satellite preliminary support, Long Path HF contact support
13-FEB-2022	Support for Global Mountain Activity References
16-APR-2022	Version 1.0.24 - Much improved satellite support and now generates zippped KML files to save space
06-MAY-2022	Version 1.0.31 - Handles Log4OM Lat/Long format in ADIF input file
07-MAY-2022	Version 1.0.32 - Support for Irish Grid references in the coordinate converter
07-MAY-2022	Version 1.0.33 - Input files with your callsign undefined for some records processed
08-MAY-2022	Version 1.0.38 - Add support for Aeronautical Mobile including altitude
10-MAY-2022	Version 1.0.39 - rewrite altitude support to use an ADIF application defined field
05-JUN-2022	Version 1.0.45 - SOTA database refresh as of 14-MAY-2022 - UK Jubilee secondary locator callsign support - ADIF coordinate format converter support
12-JUN-2022	Version 1.0.48 - Support for ADIF Spec 3.1.3 read/write includes new MY_WWFF_REF/WWFF_REF fields

Introduction

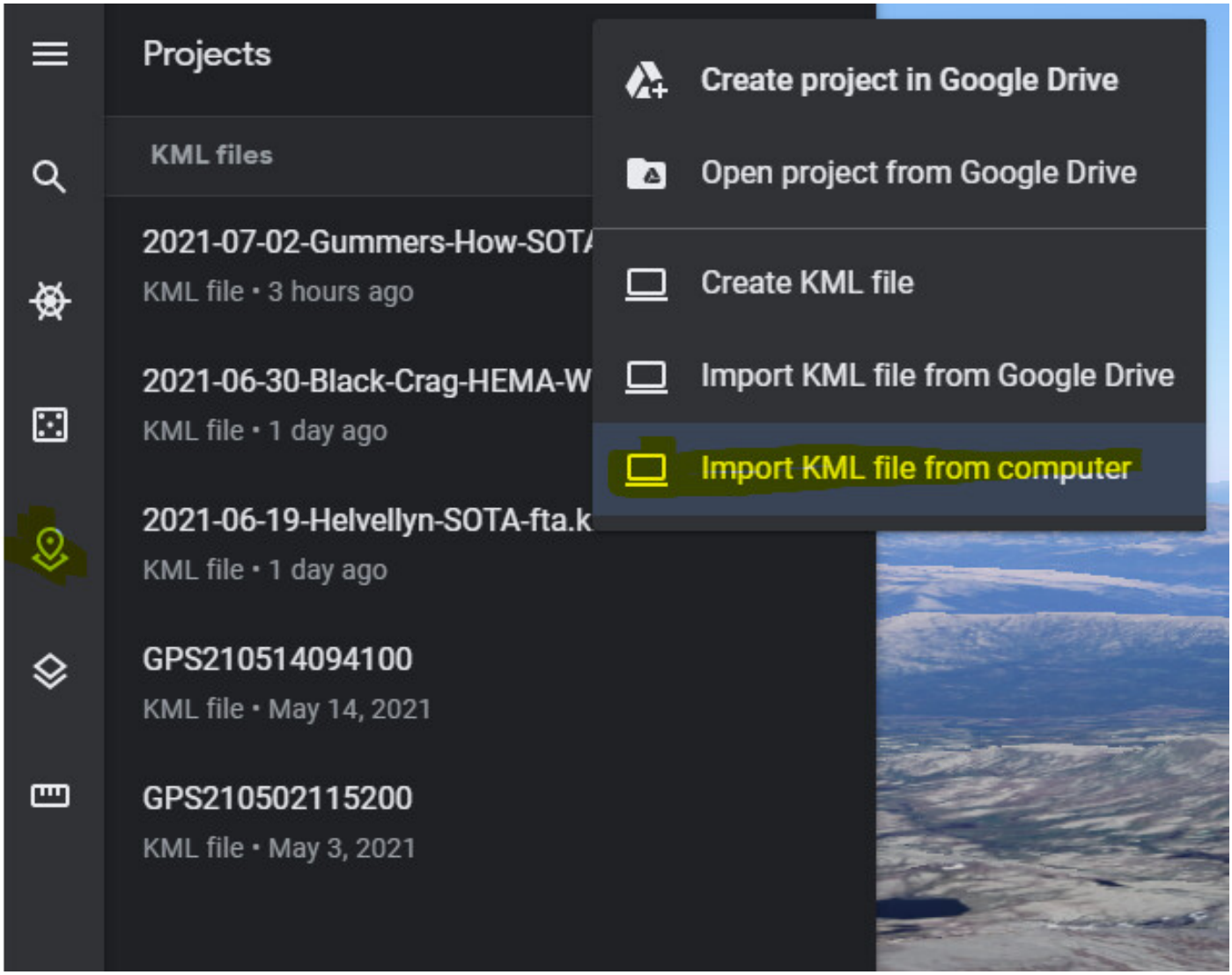
The ADIF Processor is an online application that visualizes amateur radio contacts from an ADIF log file using Google Earth. SOTA CSV log files are also supported.

The processor looks for specially formatted comments in your input file which are transposed into the correct ADIF fields in your output file.

The processor also produces Markdown contact lists.

To see your QSOs on the desktop browser based Google Earth use *Import KML file from computer* via the map pin icon. In Android Google Earth simply click on the downloaded ADIF file.

In a lot of cases you simply select your ADIF file and process it, no other options are required.

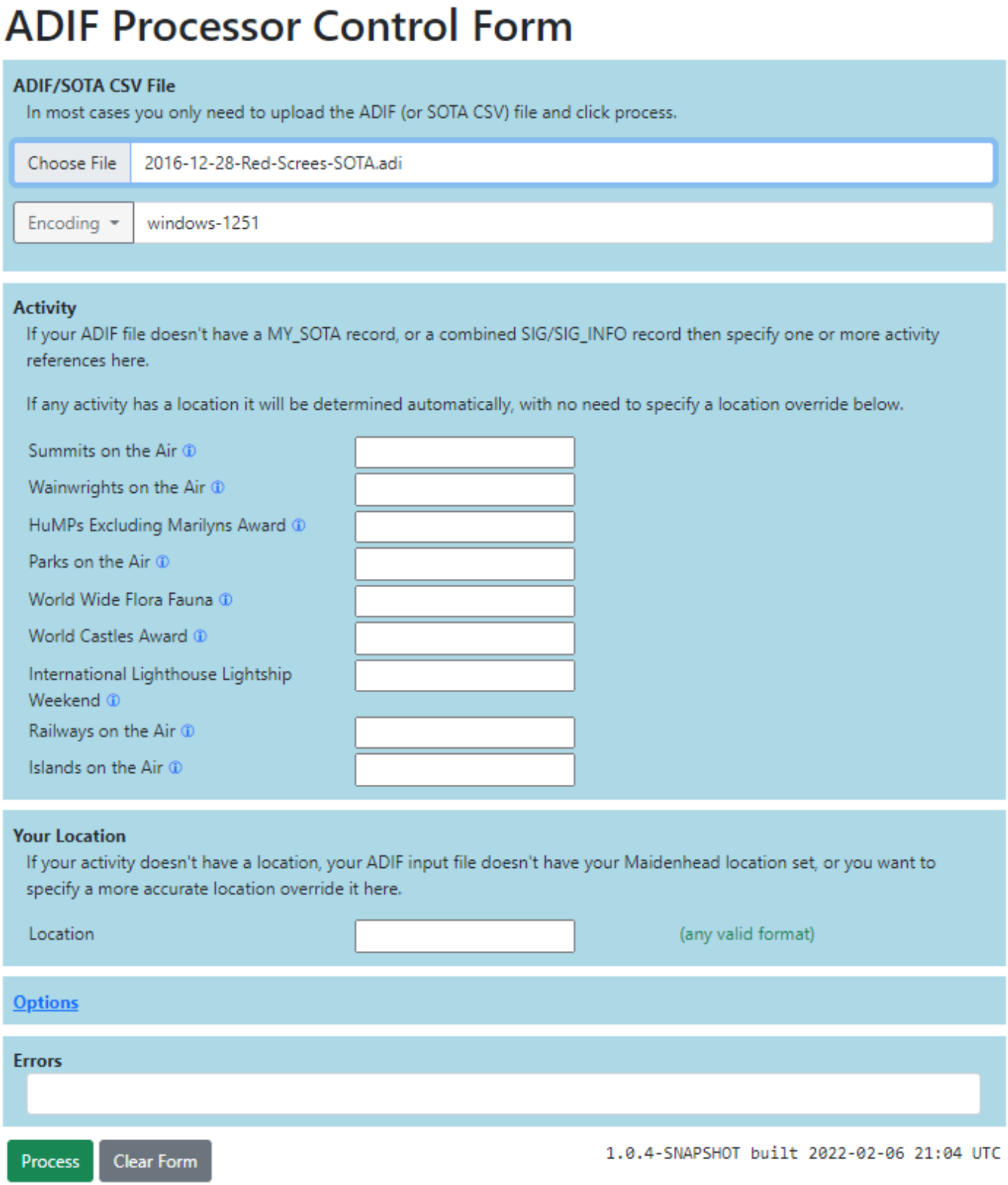


Desktop/Browser Google Earth Project Menu

I recommended following the Quick Start section below to get a feel for the tool, then have a look at the advanced options based on your requirements.

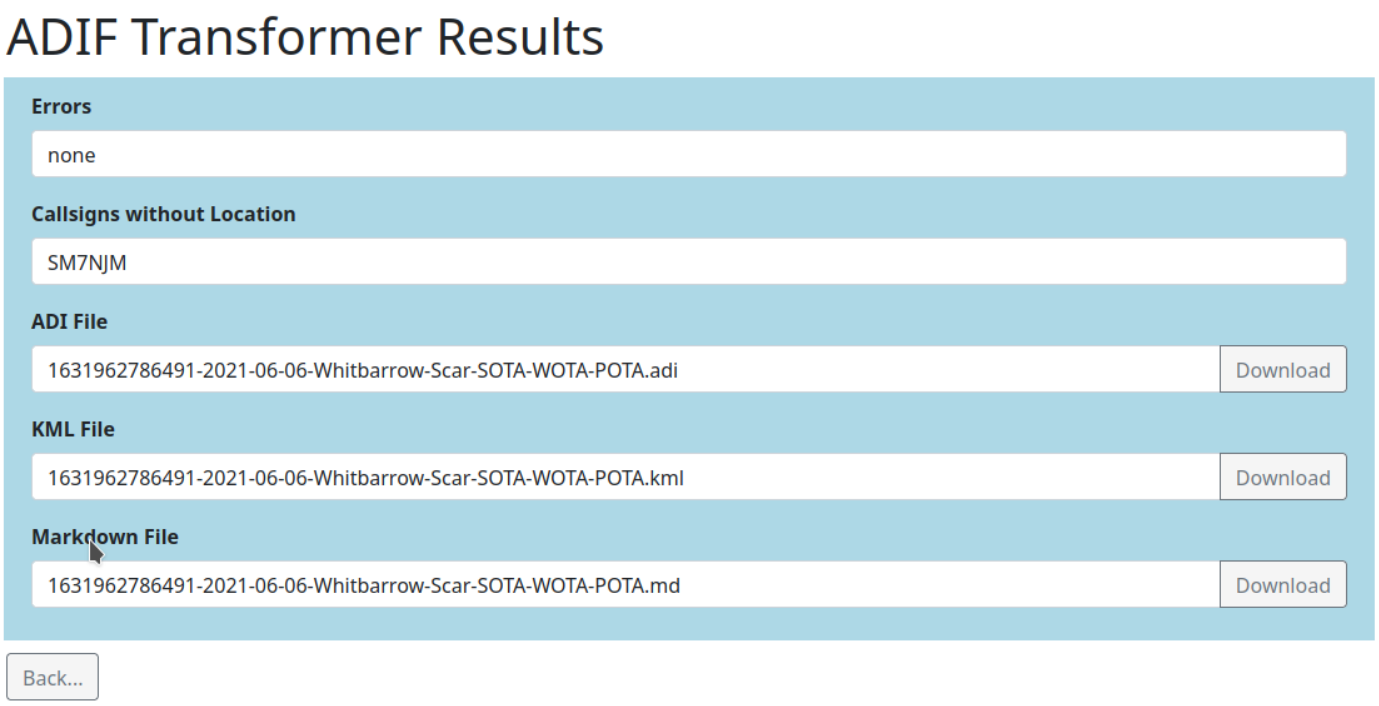
Quick Start

Select your ADIF file on the ADIF Processor upload form and click `Process...`



Simple Use Case

You will be presented with three files to download, as required: - a Google Earth Project (KML) file. - an enhanced ADIF file - a contact list in either Markdown or plain text format - Any processing errors are displayed in the `Errors` text box. Any callsigns for which a location could not be determined are shown in the `Callsigns without Location` text box.



Example Result Form

If the ADIF Processor cannot determine your location then you specify it using any common location format in the *Location* text field.

TIP: An easy way to find your location is to right-click on Google Maps and select the Latitude & Longitude value which will copy the value onto the clipboard. This can then be pasted directly into the `Location` text box.

What is an activity? - any of the supported contests/challenges listed on the ADIF Processor form, such as Summits on the Air for example.

If you're logging one of the supported activities you should enter the activity reference. Your location will be determined from the activity if possible.

More Infomation about ADIF Processor

Virtually all Ham Radio Logging programs have the ability to produce ADIF files. ADIF stands for *Amateur Radio Interchange Format* and was designed to allow logging applications to export and import contacts without loosing any information. As such it supports a large number of fields designed to capture every aspect of a QSO.

You may have connected your logging application to QRZ.COM. If you have an XML Subscription membership contact details can be automatically pulled from QRZ.COM.

However, if you use a standalone program such as Fast Log Entry then the data that you enter as part of the QSO log will be the total information available in the ADIF export.

The ADIF Processor will to add information from QRZ.com. Activity references pull are used to locate portable operators and add information about the activity.

Using specially-formatted information in the `COMMENT` field you can populate the correct fields in the output ADIF file.

This works really well for Fast Log Entry with only limited support for ADIF fields built into the application.

How the ADIF Processor Works

There are a number of steps the ADIF Processor performs as it turns your ADIF file into a Google Earth KML project file. Key is identifying a location for each end of a contact.

Determining Your Station Location

Lots here depends on whether you are operating from a fixed location or portable.

If you are fixed the simplest solution is to ensure your QRZ.COM entry has a latitude & longitude for the most accurate location.

If you aren't a fan of QRZ.COM you can override your location on the form either by specifying a latitude or longitude, or alternatively a Maidenhead Locator.

If you want to obscure your location then specify a 6 or 8 character locator rather than the most accurate 10 character version.

If your location isn't fixed (/P, /M, /A) use one of the following to let the ADIF processor know where to place you:

- ADIF input file contains a `MY_SOTA` reference,
- Use an activity reference in `SIG` `SIG_INFO` that has a location
- Specify `MY_GRIDSQUARE` or `LATITUDE` & `LONGITUDE`.

If none of these are an option for you then let the processor know where you are via the form, either by specifying an activity reference, or directly entering your location.

The *Location* field on the form supports any of the coordinate formats you can use in the Coordinate Converter, for example:

- Latitude and Longitude, eg: 54.3709 -2.9099 or 54° 22.260' N, 3° 5.403' W
- Maidenhead Locator (4/6/8/10 character), eg: IO84NI
- Activity Reference in the SOTA/WOTA/LOTA/POTA/ROTA/COTA/WWFF programmes eg: G/LD-050
- An OSGB36 British National Grid Reference, 4 or 5 digit, eg: SD 40891 97674
- An OSGB36 British National Grid Easting/Northing, eg: E 332222, N 527763
- A street address for geocoding

Determining Other Station Locations

For each of your hard earned contacts ADIF Processor attempts to determine a location. It does this using a number of techniques, in order of accuracy:

1. A `LATITUDE` and `LONGITUDE` in the ADIF file.
2. Their Activity location (in the `SIG` and `SIG_INFO` or `SOTA_REF` fields of the ADIF input file).
3. Location in QRZ.com, preferring Latitude & Longitude if set over Maidenhead locator.
4. A maidenhead locator in the ADIF file `GRIDSQUARE`.
5. A Geocoding lookup is made via Nominatim and the OpenStreetMap database using any QRZ.com address data.

Note that a number of locations are regarded as *dubious* or *invalid* based on them being the default grid or latitude/longitude location in QRZ.com. In these cases unless an override location is specified in the input ADIF file a Geocoding lookup is made to determine the station location.

Stations without a location

Where no location can be determined a warning is issued, and the station isn't added to the Google Earth KML file. You can correct this by adding an activity for the station, or by specifying their `LATITUDE` and `LONGITUDE` in the ADIF input file or their `GRIDSQUARE` reference.

Adding Station Information from QRZ.COM

In order to enrich the ADIF output file, and provide more information when you click on a station icon in Google Earth, a lookup is made for additional station information from QRZ.COM.

The initial lookup is for the callsign as logged, but for some callsigns more work is required to determine the information.

The worst case is a portable operator abroad. It is unlikely the operator has created a specific QRZ.COM page for this callsign. I'll use examples to show how the application tries to determine the most accurate information.

When operating on holiday in Spain I used the callsign `EA7/M0NOM/P`. If you had a contact with me and used the ADIF Processor it would check QRZ.COM for the following callsign variants in order:

- `EA7/M0NOM/P`
- `EA7/M0NOM`
- `M0NOM/P`
- `M0NOM`

The UK complicates this a little more, as a Scottish operator MM0XRT activating a HEMA summit in Wales would be MW0XRT/P. In this case QRZ.COM would be queried with UK country callsign variants:

- MW0XRT/P
- MW0XRT
- M0XRT/P
- M0XRT
- MM0XRT/P
- MM0XRT
- MI0XRT/P
- MI0XRT
- MD0XRT/P
- MD0XRT
- MG0XRT/P
- MG0XRT

As soon as a variant matches in QRZ.COM the search stops. I've almost certainly only scratched the surface on this process!

Station Icons in Google Earth

Each station in the Google Earth project file has an icon. The icon used depends on the callsign suffix or if a station has been recorded doing an activity.

Here are the possible icons:

Icon	Suffix	Activity	Description/Link
	none or /A		At home or alternate address
	/P		Portable
	/MM		Maritime Mobile
	/AM		Aeronautical Mobile
	/M		Mobile
	/P	SOTA	Summits on the Air
	/P	GMA	Global Mountain Activity
	/P	HEMA	HuMPs Excluding Marilyns Award
	/P	POTA	Parks on the Air
	/P	COTA	World Castles Award Programme
	/P	WOTA	Wainwrights on the Air
	/P	WWFF	World Wide Flora & Fauna in Amateur Radio
		LOTA	International Lighthouse & Lightship Weekend
		ROTA	Railways on the Air

Stations are selectable on the Google Earth map, or by selecting the station in the project list. When you do this a panel of information about the station is displayed. If the operator has a picture on QRZ.COM this is displayed together with details of activity the station was participating in and the frequency and mode of contact.

The communication paths between stations are also selectable directly from the line drawn on the Google Earth visualization (noting that a 'shadow' dark gray line is also drawn to help with the visualization) or from the project list.

When you select a communication path a panel of information is displayed that contains both station callsigns, together with the date and time of the contact and the propagation mode. For SKYWAVE contacts the number of reflections is displayed together with the bounce height, length of contact across the surface of the earth as well as the distance the predicted path of communication took.

Visualizing a QSO

ADIF Processor uses a simple propagation visualization technique based on an ideal antenna. For HF signals this gives an idea of the minimum number of hops your QSO would have needed to reach the target station.

The Propagation Model

This is a very simple model designed to map both HF and VHF/UHF contacts.

It supports predicting SKYWAVE, GROUNDWAVE and SPORADIC_E propagation modes. You can specify TROPOSPHERIC_DUCTING for contacts identified as using this propagation.

Where the distance between two stations using HF is short it is assumed that the communication path is GROUNDWAVE.

This is the logic applied in determining the propagation mode. Note that there can be considerable improvements made to this model, but any model is only ever going to be a 'best guess'.

Frequency	Distance	Classification
$f > 50$ MHz	< 400 km	GROUNDWAVE
$f > 50$ MHz	> 400 km	SPORADIC-E
7 MHz > $f > 50$ MHz	< 400 km	GROUNDWAVE
$f < 7$ MHz	>= 400 km	SKYWAVE

This is a very, very rough approximation. A future enhancement will make the model configurable, and ideally would be able to take into account propagation measurements and conditions at the time of the contact to help improve the accuracy of the visualization.

VHF Contacts

For Groundwave VHF+ contacts the model applies an algorithm to determine a nominal 'bounce height' which is a very crude approximation of the curved signal paths that take place in reality. The algorithm defines the bounce height as 6 x the distance between two contacts in km, and if possible takes into account the height of the stations if that is available from any activities taking place. In general this ensures that the visualization of the signal path between two stations using GROUNDWAVE is visible above the earth that runs underneath the path. This isn't always the case where a contact is made from a high to low point or where there is terrain in-between.

Tropospheric Ducting

In order to visualize a contact that has been via tropospheric ducting you must set the PROPAGATION_MODE to TR in the ADIF input file for that contact. If you are using Fast Log Entry to create your ADIF file add the comment PROP_MODE: TR.

The model used is a duct at height 2,000m and a duct width of 500m, so the signal bounces in a duct between 2,250m and 1,750m. These value represent an 'average' duct height and width.

HF Contacts

HF contacts are modelled using a reflection angle that is frequency dependent. In the *Options* pane you can choose from a number of different antenna models, with different angles of radiation.

Antenna	Radiation Angle
Vertical	15°
YAGI	10°
Dipole	20°
Inverted-V	25°

This is a very crude approximation of the reality. It affects the number of calculated reflections, with many more reflections for example when using an Inverted-V compared to an HF YAGI.

Long Path HF Contacts

If you want to visualize long path contacts specify either the ANTPATH ADIF parameter as L in the ADIF input file, or specify PATH: L in the COMMENT field of the ADIF input file.

Long path contacts are visualized using a path that is 180 degrees reversed from the shortest path azimuth. The antenna direction specified in the ADIF input file isn't currently used during modelling.

Activities

The ADIF Processor knows about *activities*. The term *Activity* is used to describe a special activity that you or the contacted station are participating in. For example: Summits on the Air or Parks on the Air. For each activity the ADIF Processor loads the database of activity references. The totals are currently:

- 30 Railways on the Air
- 34,621 Parks on the Air
- 1,178 Islands on the Air
- 29,727 Global Mountain Activity
- 3,329 Humps on the Air
- 51,138 World Wide Flora & Fauna
- 157,201 Summits on the Air
- 330 Wainwrights on the Air
- 65,912 Castles on the Air
- 1,706 Lighthouses on the Air

Satellite Support

Satellite Support is documented on a separate page.

The ADIF format 30 second Primer

ADIF *Amateur Data Interchange Format* is a text file representation for Amateur radio contacts. It is a popular output format for logging programs. The ADIF specification describes the valid content of the header and record fields.

An ADIF file consists of two sections:

- header
- records

Fields in an ADIF file

Each field in the file is proceeded by a field name separated by the length of the field value with a colon. For example: `<PROGRAMID:3>FLE` indicates the field is `PROGRAMID` and the text contained in the field is `3` characters long with a value of `FLE`.

Header

The header contains information about the program that generate the file and the ADIF version, for example:

```
ADIF Export for Fast Log Entry by DF3CB
<PROGRAMID:3>FLE
<ADIF_VER:5>3.1.0
<EOH>
```

The header is terminated with the `<EOH>` marker.

Records

Each record captures all the details of a QSO for both the recording station and the contacted station. A record is terminated by the `<EOF>` marker.

Here is an example entry in a Fast Log Entry input file:

```
40m ssb 7.090
1258 g7las/p 7.188 <OP: Rob, PWR: 50, GRID: IO81LC, HEMA: G/HWB-026>
```

This is the ADIF record generated by Fast Log Entry. These are typically stored on one line. In this case I’ve separated each field of a record into a single line:

```
<STATION_CALLSIGN:7>M0NOM/P
<CALL:7>G7LAS/P
<QSO_DATE:8>20210522
<TIME_ON:4>1258
<BAND:3>40m
<MODE:3>SSB
<FREQ:5>7.188
<RST_SENT:2>59
<RST_RCVD:2>59
<COMMENT:47>OP: Rob, PWR: 50, GRID: IO81LC, HEMA: G/HWB-026
<QSLMSG:44>Thx for QSO from Winter Hill io83ro G/SP-010
<MY_SOTA_REF:8>G/SP-010
<OPERATOR:5>M0NOM
<MY_GRIDSQUARE:6>IO83ro
<EOR>
```

Note that the QSO has a `<STATION_CALLSIGN:7>` (me) and a `<CALL:7>` G7LAS/P who is on the other end, a date and time, frequency, band, mode, signal reports, my SOTA reference `<MY_SOTA_REF:8>`, the operator (basically my callsign without any modifiers) and my Maidenhead Locator in `<MY_GRIDSQUARE:6>`.

Of interest is the comment line, which we will examine further, as this is one of the key features of post-processing. In the comment line:

```
<COMMENT:47>OP: Rob, PWR: 50, GRID: IO81LC, HEMA: G/HWB-026
```

You will notice that it consists of a number comma-separated key-value pairs. For example, the first pair key is `OP` with value `ROB`, then `PWR` value `50` etc.

The Comment Field in your ADIF file

The ADIF Processor looks carefully for keyword/value pairs in the comment field in your ADIF input file. The keyword should be followed by a colon, and a comma may optionally separate each key/value pair. If the ADIF Processor recognises a keyword then it acts on the key/value pair to add additional information to the ADIF output file in the correct ADIF field.

For example a comment like: `HEMA: G/HLD-001, OP: Mark, RIG: FT-817, PWR: 5` would be processed one key/value pair at time and would result in the following ADIF fields being set:

ADIF Field	Value
SIG	HEMA
SIG_INFO	G/HLD-001
NAME	Mark
RIG	FT-817
RX_PWR	5

Supported Comment Name/Value pairs

In the table below the `Comment Key` column shows the keyword you should specify if you want to add additional information in the ADIF output file. See the `Sample Value` column for an example of the data to be provided. Activity references must use the correct syntax. The `Target ADIF Field` column show where the data will be located in the ADIF output file.

In each case (unless noted) these values refer to the contact station information.

For activity references specifying a reference that has an associated location will also set their `LAT` & `LONG` value for the location associated with the activity reference (unless that location has been overriden explicitly).

Description	Comment Key	Sample Value(s)	Target ADIF Field
Altitude (in metres)	`ALT`	30000 ft, 9000m, 9000	`APP_APROC_ALT`
My Altitude (in metres)	`MY_ALT`	30000 ft, 9000m, 9000	`APP_APROC_MY_ALT`
Their Antenna	`ANT`	Dipole @ 10m	`APP_APROC_ANT`
Age	`AGE`	52	`AGE`
Coordinate†	`COORD`	50°50’56“N 14°38’49”E	`LATITUD`

Description	Comment Key	Sample Value(s)	Target ADIF Field
Castles on the Air	COTA	DL-03609	SIG/SIG_INFO
Fists No	FISTS	18162	FISTS
Home/Location	QTH	Windermere	QTH
Humps on the Air Ref.	HEMA	G/HLD-001	SIG/SIG_INFO
Islands on the Air Ref.	IOTA	E-145	IOTA
Latitude	LAT	50.153	LATITUDE
Longitude	LONG	2.345	LONGITUDE
Maidenhead Locator	GRID	IO84MJ (4/6/8/10 char)	GRIDSQUARE
Notes	NOTES	Must take a look at their qrz.com page	NOTES
Operator Name	OP	Mark	NAME
Parks on the Air Ref.	POTA	G-0190	SIG/SIG_INFO
Propagation	PROP	TD	ANT_PATH
QSL Status	QSL	D/B	QSL_DATE/SQL_SENT
Rig Model	RIG	IC-7100	RIG
Power	PWR	50	RX_PWR
Serial No Received	SRX	0034	SRX
Serial No Transmitted	STX	0045	STX
SKCC No	SKCC	19250	SKCC
Summits on the Air Ref.	SOTA	G/LD-001	SOTA_REF
Wainwrights on the Air Ref.	WOTA	LDW-001	SIG/SIG_INFO
Worldwide Flora Fauna Ref.	WWFF	GFF-0233	SIG/SIG_INFO
Lighthouses on the Air Ref.	LOTA	UK0019	SIG/SIF_INFO
Railways on the Air Ref.	ROTA	GB4LHR	SIG/SIG_INFO
Additional Comment	COMMENT or NOTE	WX: 12 degC Sunny	COMMENT

†Coordinate can be specified in most latitude/longitude formats including decimal, degrees minute seconds, degrees decimal minutes etc.

When using Fast Log Entry, format your comment next to your QSO record between angle brackets, for example:

```
2111 g7tcq/m  59 59 <QTH: M6 J11 N. Birmingham, PROP: TR> #IO82xq
2118 g4iog    55 52 <OP: Bob, QTH: N. Kent, RIG: FT-991, PWR: 50w, QTH: Sittingborne, PROP: TR>
```

Note that each keyword **must** be followed by a colon and each pair **may** be followed by a comma. If you are specifying a latitude/longitude pair you can use comma separated values (for example when pasted in from Google Maps).

To add information to go in the COMMENT field of the ADIF file directly use a key of COMMENT, or use a key of NOTES to specify information to go in the ADIF NOTES field. Try to avoid using commas in arbitrary text to avoid confusing the parser.

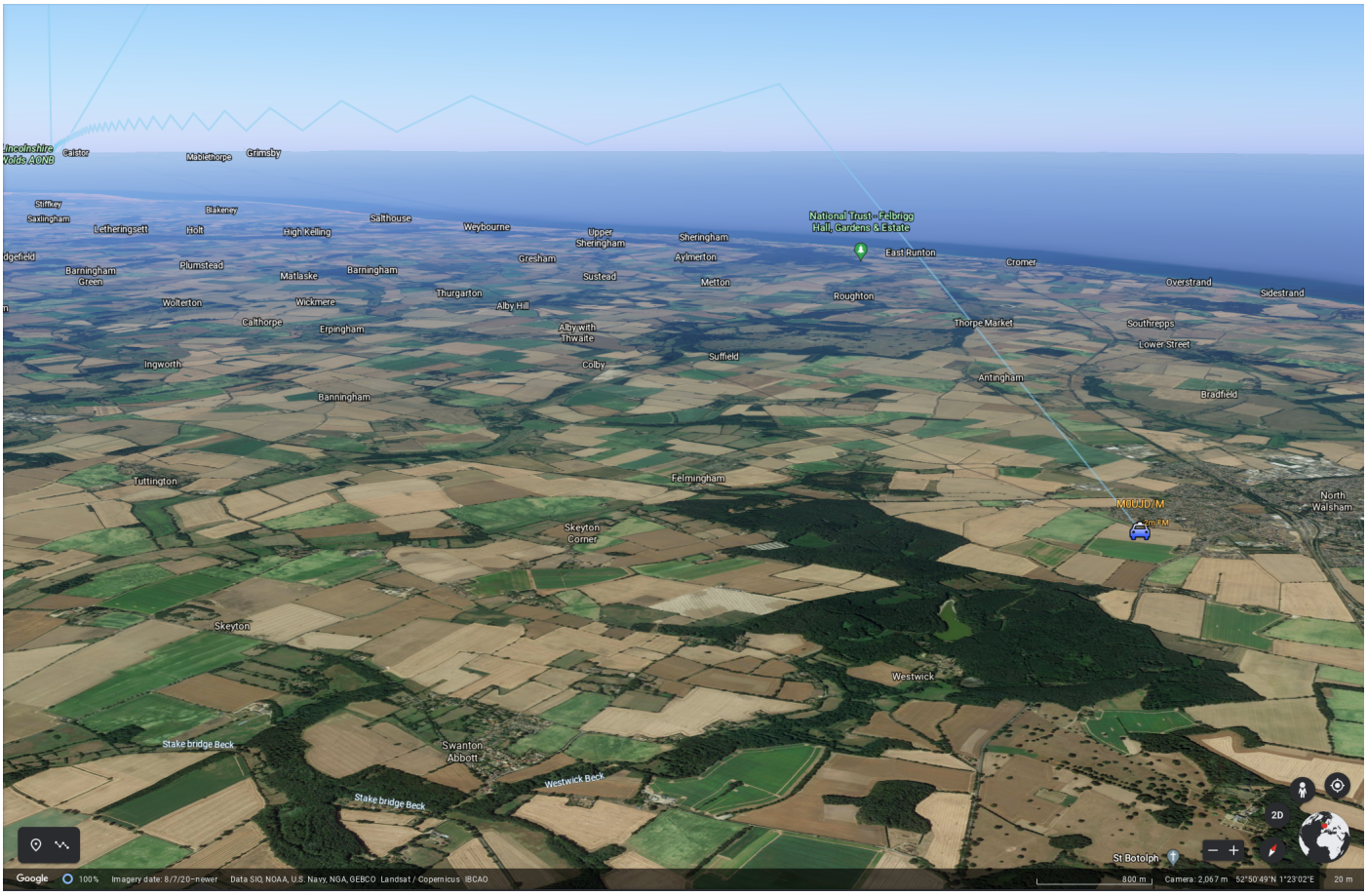
I will accept requests to map additional fields - these are the most frequently fields used by me, and there are a log of them!

Propagation Modes

These are the valid values for the propagation modes that the ADIF Processor currently supports that can be specified in the ADIF field PROP_MODE or via the Fast Log Entry comment key PROP:

Value	Mode
empty	Predict
TR	Tropospheric Ducting
ES	Sporadic E
F2	F2 Reflection

If the mode isn't specified then it is predicted. Note that the prediction model doesn't include Tropospheric Ducting, you need to specify that manually. The distance achieved by UHF/HVF contacts varies enormously based on location, antenna and mode so long-distance point-to-point contacts are entirely feasible.



Example of Tropospheric Ducting Visualization

Background of the Project

The ADIF Processor started as a project to allow me to add additional information in the comment field of a Fast Log Entry input file. This meant I could specify things like operator name, rig, their power and activity references, that couldn't be populated directly from Fast Log Entry.

As I like to record the contacted station location as accurately as possible I then decided to add support for up-to 10 character Maidenhead Locator references and at that point stumbled across the idea of visualizing QSOs using Google Earth. There isn't much support for 10 character Maidenhead locators in the mapping tools currently available. The aprs.fi site allows 10 character Maidenhead locators to be entered. When out in the field I use the HamGPS Android application to determine my 10 character Maidenhead locator.

Source Code

ADIF Processor is written in Java as a Spring Boot Application. It makes use of the following separate GitHub projects.

ADIF Library

A fork of the ADIF library by Martin Sivák. I have made some corrections and enhancements to the original library.

The adif-processor

The adif-processor contains the main functionality of ADIF Processor.

All the code to generate the enhanced ADIF file, interact with QRZ.COM, load the activity databases, generate the KML file and generate the Markdown file is contained in this project.

The adif-processor contains a standalone, command-line based main application file, so it can be used directly from the command line without a web interface.

There is a comprehensive set of command line options. See the project README.md for more information.

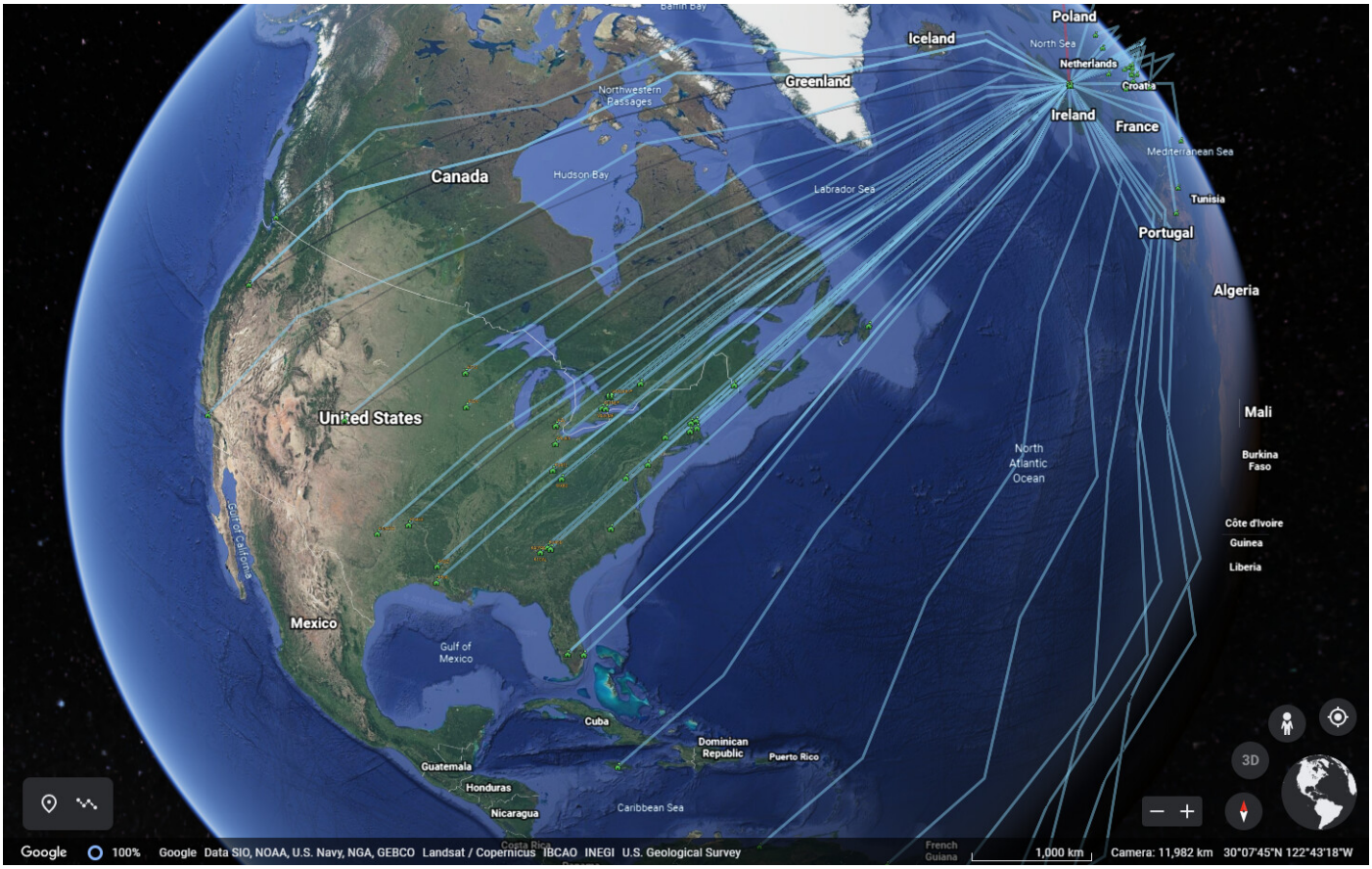
The ADIF Web Front end

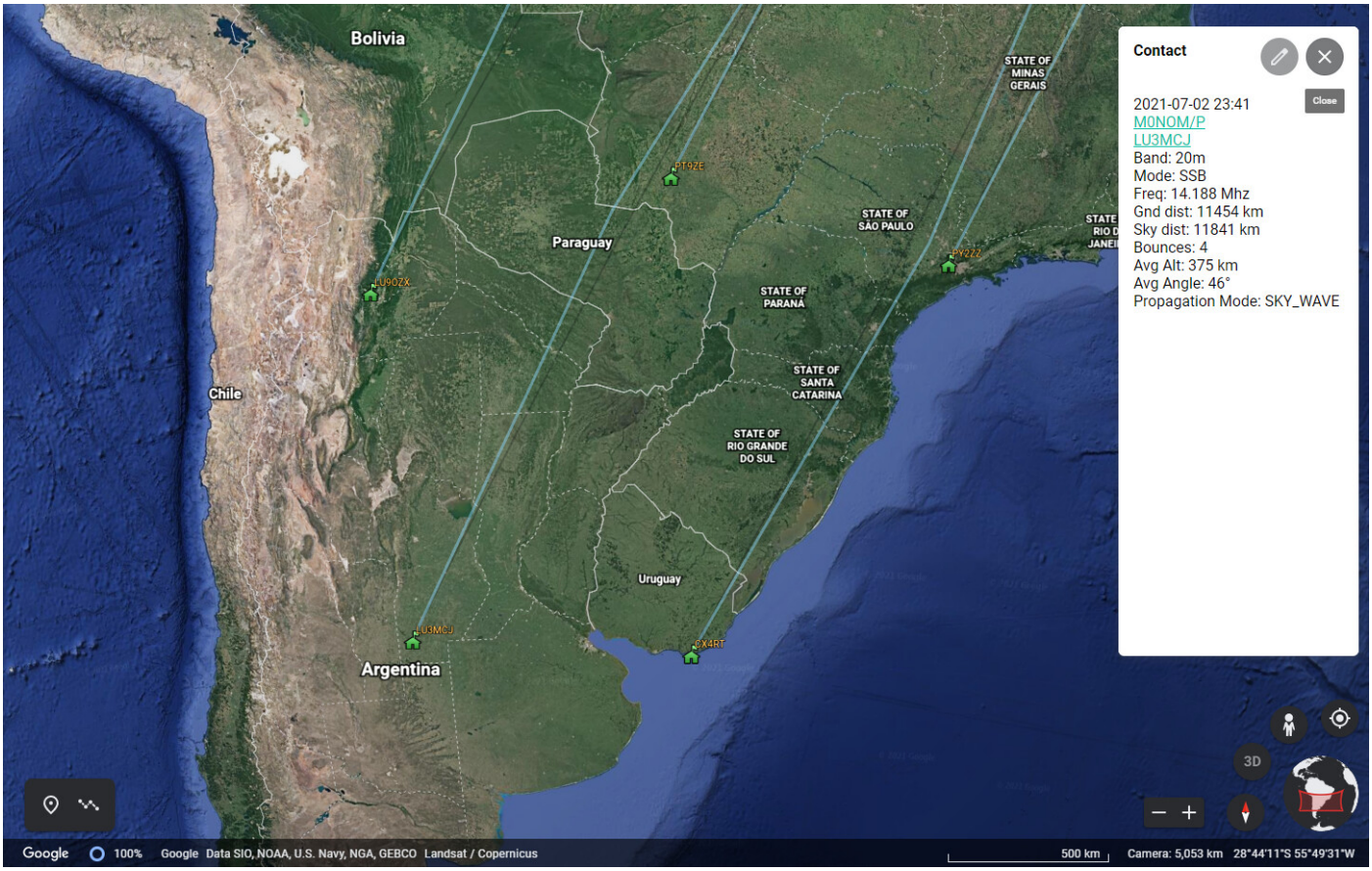
The adifweb project contains the web-based interface to the adif-processor. The version you are using is a Bootstrap based spring-boot web application that is hosted as an AWS Elastic Beanstalk project.

Examples

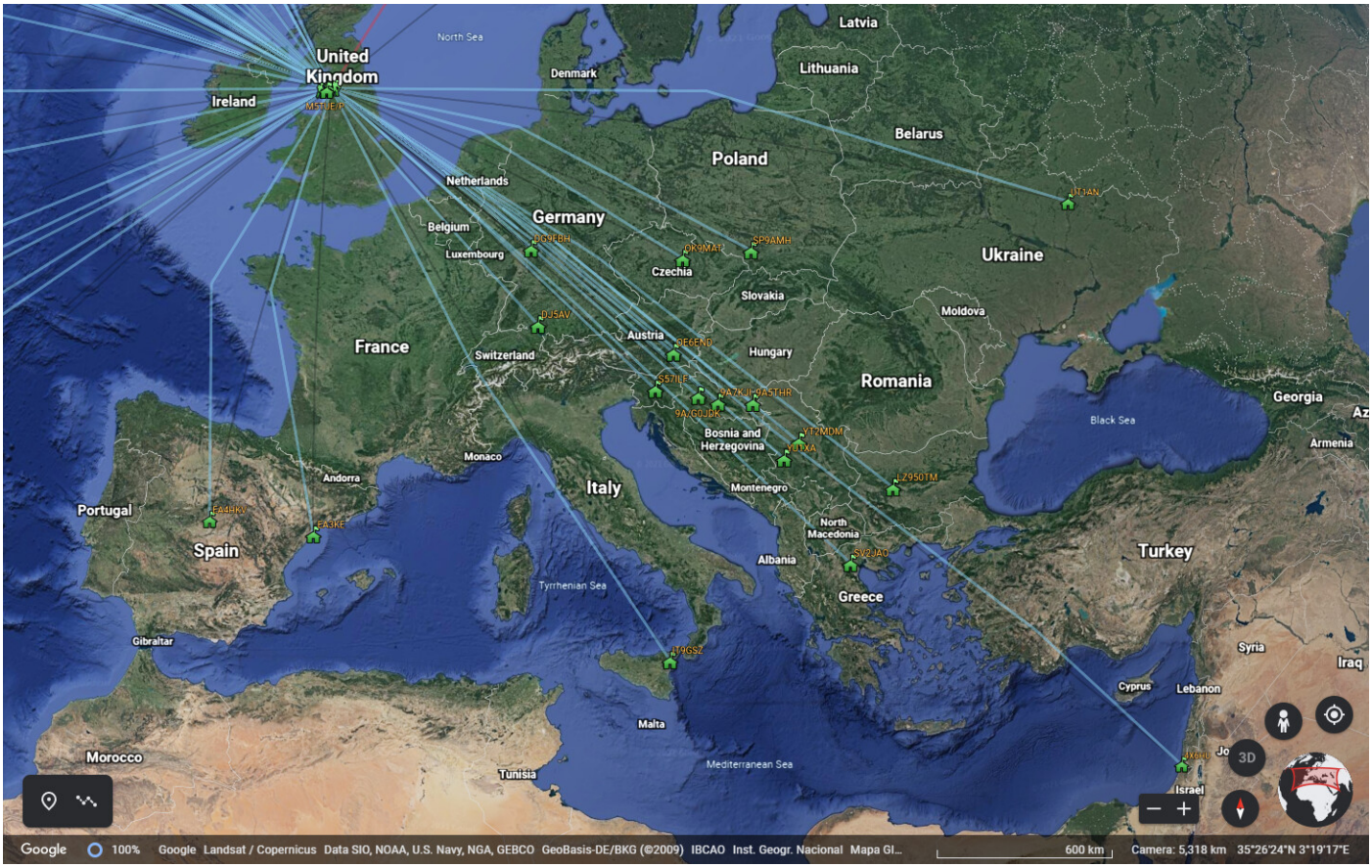
Google Earth KML Project Images

Here are some example Google Earth images from an evening activation of SOTA Summit Gummer's How G/LD-050.

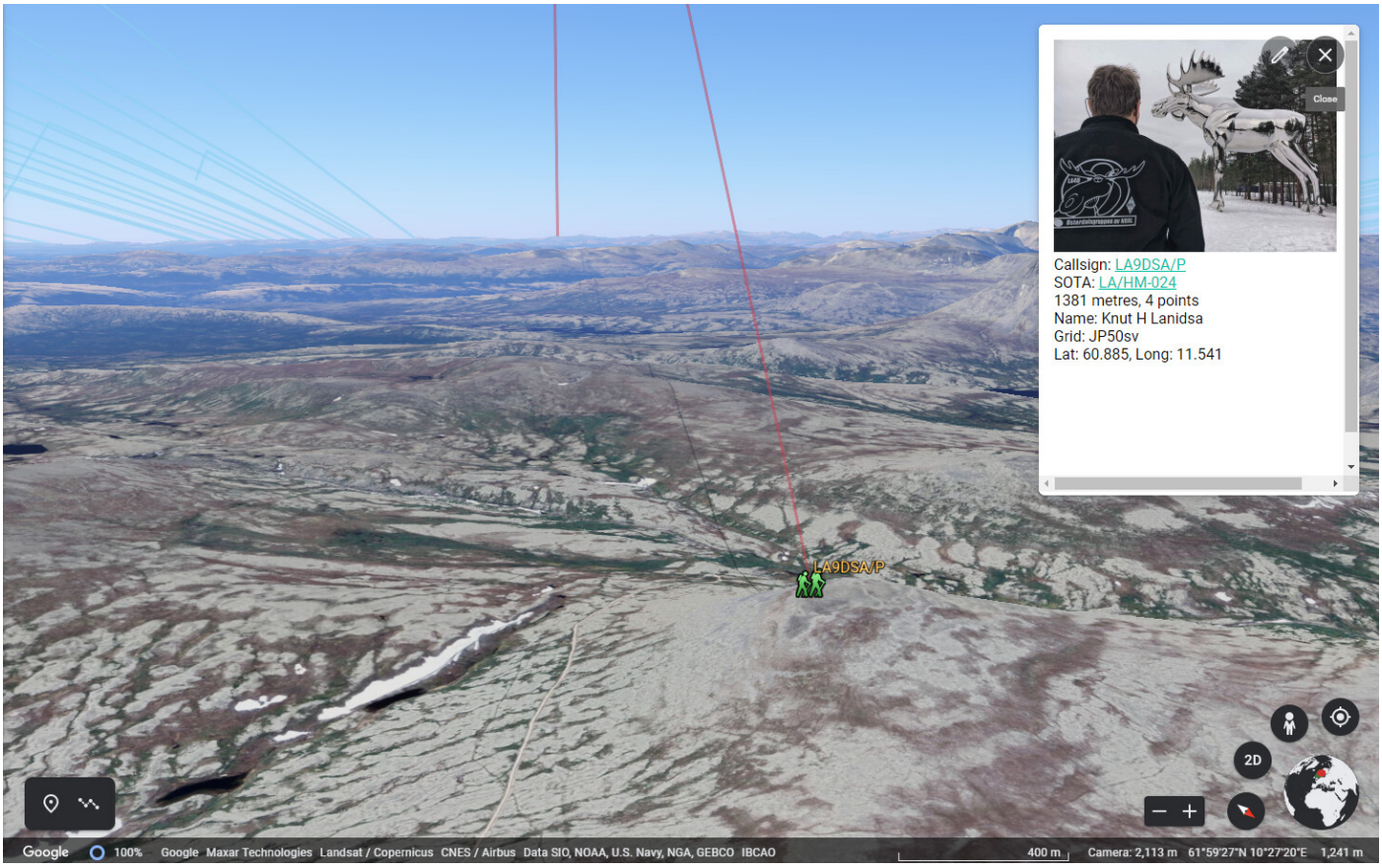



Contact
Close
2021-07-02 23:41
M0NOM/P
LU3MCJ
Band: 20m
Mode: SSB
Freq: 14.188 Mhz
Gnd dist: 11454 km
Sky dist: 11841 km
Bounces: 4
Avg Alt: 375 km
Avg Angle: 46°
Propagation Mode: SKY_WAVE
Bolivia
Paraguay
Chile
Argentina
Uruguay
STATE OF MINAS GERAIS
STATE OF SÃO PAULO
STATE OF PARANÁ
STATE OF SANTA CATARINA
STATE OF RIO GRANDE DO SUL
PT9ZE
PY2ZZ
LU9OZX
LU3MCJ
CX4RT
3D
Google
100%
Google Data SIO, NOAA, U.S. Navy, NGA, GEBCO Landsat / Copernicus
500 km
Camera: 5,053 km 28°44'11"S 55°49'31"W


W6FDR
Close
Santa Rosa Valley, California
United States of America
Callsign: W6FDR
Name: MELVIN J LADISKY
Grid: DM04mg
Lat: 34.251, Long: -118.921
VE3CNF
NW7E
W6FDR
N1FSX
WASHINGTON
NORTH DAKOTA
MONTANA
SOUTH DAKOTA
IDAHO
WYOMING
NEVADA
UTAH
COLORADO
KANSAS
MISSOURI
CALIFORNIA
OKLAHOMA
ARKANSAS
ARIZONA
NEW MEXICO
United States
3D
Google
100%
Google Landsat / Copernicus Data SIO, NOAA, U.S. Navy, NGA, GEBCO Data LDEO-Columbia, NSF, NOAA INEGI
400 km
Camera: 3,852 km 39°06'12"N 127°36'25"W


United Kingdom
Ireland
North Sea
Denmark
Latvia
Lithuania
Belarus
Poland
Netherlands
Germany
Belgium
Luxembourg
Czechia
Slovakia
Ukraine
Moldova
France
Switzerland
Austria
Hungary
Romania
Georgia
Black Sea
Armenia
Bosnia and Herzegovina
Monaco
Andorra
Italy
Montenegro
Portugal
Spain
North Macedonia
Albania
Turkey
Greece
Tyrrhenian Sea
Gibraltar
Syria
Iraq
Cyprus
Lebanon
Malta
Morocco
Tunisia
Mediterranean Sea
Israel
3D
Google
100%
Google Landsat / Copernicus Data SIO, NOAA, U.S. Navy, NGA, GEBCO GeoBasis-DE/BKG (©2009) IBCAO Inst. Geogr. Nacional Mapa GI...
600 km
Camera: 5,318 km 35°26'24"N 3°19'17"E


Tripoli
Lebanon
Beirut
Damascus
Tyre
Haifa
Irbid
Zarqa
Tel Aviv-Yafo
4X6HU
WEST BANK
Jerusalem
Port Said
Mansoura
GAZA STRIP
Jordan
Al Qurayyat
Turaif
Beer Sheva
4X6HU
ISRAEL
AMATEUR RADIO
STATION
Close
Callsign: 4X6HU
Name: RAMI SZTERNFELD
Grid: KM72ja
Lat: 32.009, Long: 34.751
3D
Google
100%
Landsat / Copernicus Data SIO, NOAA, U.S. Navy, NGA, GEBCO Mapa GISrael
100 km
Camera: 921 km 31°51'34"N 31°43'48"E 319 m



Example Markdown Contacts List

DATE	TIME	CALLSIGN	FREQ	BAND	MODE	RST	RST	SOTA-TX	SOTA-RX	OPERATOR	SOTA REF	COMMENT	MHL
2021.08.01	0913	0G6AEK/M	145.452	2m	FM	59	59	G/LD-050		Molyneux			IO83lw
2021.08.01	0913	22W1PJE/P	145.452	2m	FM	58	59	G/LD-050	GW/NW-015	Peter	SOTAGW/NW-01	SOTA: GW/NW-015	IO82DS
2021.08.01	0913	7M0YCJ/P	145.402	2m	FM	55	57	G/LD-050	G/NP-010	Colwny	SOTAG/NP-010	SOTA: G/NP-010	IO84VD
2021.08.01	0915	7G0UOK/P	145.402	2m	FM	59	59	G/LD-050	G/NP-004	Dutton	SOTAG/NP-004	SOTA: G/NP-004	IO84TF
2021.08.01	0915	8M7SHZ/P	145.402	2m	FM	59	59	G/LD-050	G/NP-004	Sharon	SOTAG/NP-004	SOTA: G/NP-004	IO84TF
2021.08.01	0915	9G5ZX/P	145.402	2m	FM	59	59	G/LD-050	G/NP-004	Steve	SOTAG/NP-004	SOTA: G/NP-004	IO84TF
2021.08.01	1011	6MW7DTE/P	145.475	2m	FM	59	59	G/LD-050	GW/NW-006	Evans	SOTAGW/NW-00	SOTA: GW/NW-006	IO83AC
2021.08.01	1012	0G4OBK/P	7.118	40m	SSB	59	59	G/LD-050	G/NP-009	Catterall	SOTAG/NP-009	SOTA: G/NP-009	IO84XE
2021.08.01	1013	5CT2HOV/P	14.290	20m	SSB	57	57	G/LD-050	CT/BA-010	Pereira Go	SOTACT/BA-01	SOTA: CT/BA-010	IN51WA
2021.08.01	1013	7G6PJZ/P	145.525	2m	FM	55	43	G/LD-050	G/TW-003	Clift	SOTAG/TW-003	SOTA: G/TW-003	IO94LM
2021.08.01	1014	5SP9MA/P	10.114	30m	CW	559	599	G/LD-050	SP/SS-012	Jarek	SOTASP/SS-01	SOTA: SP/SS-012	JO80BT
2021.08.01	1015	6G8TMV/P	5.398	60m	SSB	59	59	G/LD-050	G/WB-015	TUCKLEY	SOTAG/WB-015	SOTA: G/WB-015	IO82OL
2021.08.01	1016	04F4HPV/P	14.280	20m	SSB	57	59	G/LD-050	F/AM-396	michel	SOTAF/AM-396	SOTA: F/AM-396	JN33HR
2021.08.01	1017	1WKN/P	14.288	20m	SSB	57	59	G/LD-050	I/PM-148	SERA	SOTAI/PM-148	SOTA: I/PM-148	JN34NH
2021.08.01	1011	1MS0TA/P	7.150	40m	SSB	57	59	G/LD-050	GM/WS-242	Scotland	SOTAGM/WS-24	SOTA: GM/WS-242	IO76NL

DATE	TIME	CALLSIGN	FREQ	BAND	MODE	RST	RST	SOTA-TX	SOTA-RX	OPERATOR	SOTA REF	COMMENT	MHL
2021.08.01	10:11	8SA3IEI/P	14.064	20m	CW	559	559	G/LD-050	SM/JL-057	Beaton	SOTA SM/JL-05	SOTA: SM/JL-057	JP63PD
2021.08.01	10:25	HB9LEK/P	14.286	20m	SSB	55	55	G/LD-050	HB/ZH-015	Neukomm	SOTA HB/ZH-01	SOTA: HB/ZH-015	JN47FK
2021.08.01	10:29	IU0FBK/P	14.220	20m	SSB	58	57	G/LD-050		Marco			JN61fv
2021.08.01	10:40	G3TQQ/P	14.310	20m	SSB	59	59	G/LD-050	G/TW-002	BOTTOMLEY	SOTA G/TW-002	SOTA: G/TW-002	IO94JK
2021.08.01	10:46	G5ZX/P	14.310	20m	SSB	59	59	G/LD-050	G/NP-004	W	SOTA G/NP-004	SOTA: G/NP-004	IO84TF
2021.08.01	10:48	YO8AZQ/P	14.310	20m	SSB	52	55	G/LD-050	YO/EC-227	DONE	SOTA YO/EC-22	SOTA: YO/EC-227	KN27QJ
2021.08.01	10:53	DD2ZN/P	14.280	20m	SSB	59	58	G/LD-050	DM/HE-059	Pralle	SOTA DM/HE-05	SOTA: DM/HE-059	JO40DD
2021.08.01	11:12	2W1PJE/P	145.375	2m	FM	59	59	G/LD-050	GW/NW-007	Peter	SOTA GW/NW-00	SOTA: GW/NW-007	IO82DS
2021.08.01	11:16	EA2CCG/P	14.310	20m	SSB	52	53	G/LD-050	EA2/NV-14	Montoya Ji	SOTA EA2/NV-1	SOTA: EA2/NV-148	IN92AP
2021.08.01	11:19	YO5OTA/P	14.283	20m	SSB	55	52	G/LD-050	YO/WC-225	Pascal	SOTA YO/WC-22	SOTA: YO/WC-225	KN16QN
2021.08.01	11:41	GW7LAS/P	3.776	80m	SSB	59	59	G/LD-050		Rob	HEMA GW/HMW-0	HEMA: GW/HMW-043	IO82JD

Documentation Version: 2022-04-05b

Satellite Support

Introduction

QSOs via the Es'hail 2 / QO-100 and a number of Low Earth Orbit (LEO) satellites can be visualized.

If you specify the satellite name or code (see tables below) in the ADIF input file in the field `SAT_NAME` it will be looked up in the supported list below.

SO-50 Pass *SO-50 Pass*

Where you haven't specified the `SAT_NAME` in the input ADIF file

Expand the Options… tab on the ADIF Processor Form and select the satellite name from the `Satellite Name` dropdown list.

The `Satellite Mode` form field is free text and allows you to specify the content of the ADIF field `SAT_MODE` - this has no effect on the QSO visualisation.

If you have non-Satellite QSOs in the same ADIF input file they can be visualised normally by specifying the up-link band used for the Satellite QSOs in the `Satellite Band` form field.

So for example if you have `13cm` QSOs via `QO-100` and `2m` VHF QSOs locally on a SOTA activation then enter `13cm` in the `Satellite Band` form field.

Only QSOS in the input file with band `13cm` will be visualized as satellite contacts.

Icon	Represents	Label
	Satellite Contact	Time UTC
	Satellite Track	Satellite Name & Date UTC

A worked pass of a satellite is show in Google Earth as a red trace. There is a lead to the trace before the first QSO. Where multiple QSOs are recorded at the same time the times are interpolated based on the order in the input file.

It is recommended that you only visualize one day's activity or a few passes, otherwise the display in Google Earth gets very cluttered.

Limitations

The TLE data is accurate on the day the ADIF file is processed. I am working on the ability to use historic TLE data. As a result if you try and process a file with contacts from a significant time ago the visualization won't be accurate as the TLE data isn't correct for that date.

Supported Satellites

TLE data is loaded from amateur.txt hosted on celestrak.com.

Supported Satellites Sorted By Name

Aliases will be added as required based on what folk have in their input files. Please let me know if your satellites aren't being rendered but they are supported and I'll add an alias.

Name	Code	Aliases
2015-049G		
AAUSAT 4		
BEESAT-1		
BEESAT-2		
BEESAT-3		
BEESAT-4		
BRICSAT2	NO-103	
BY70-2		
BY70-3		
CAS-2T & KS-1Q		
CAS-6	TO-108	
CUBEBUG-2	LO-74	
CUBESAT XI-IV	CO-57	
CUBESAT XI-V		
CUTE-1.7+APD II	CO-65	
CUTE-1	CO-55	
DELFI-C3	DO-64	
DIWATA-2B		
DIY-1	ARDUIQUBE	
DUCHIFAT-1		
DUCHIFAT-3		
ES'HAIL 2		
E-ST@R-II		
EYESAT A	AO-27	
FALCONSAT-3		
FOX-1CLIFF	AO-95	
FOX-1D	AO-92	
FUNCUBE-1	AO-73	
GOMX-1		
HUSKYSAT-1	HO-107	
ISS	ZARYA	ARISS
ITAMSAT	IO-26	
ITASAT 1		
ITUPSAT1		
JAISAT-1		
JAS-2	FO-29	
JUGNU		
JY1SAT	JO-97	
KAITUO 1A		
KAITUO 1B		
KKS-1	KISEKI	
LAPAN-A2		
LILACSAT-2		
LUSAT	LO-19	
MAX VALIER SAT		
M-CUBED & EXP-1 PRIME		
MOZHAYETS 4	RS-22	
NAYIF-1	EO-88	

Name	Code	Aliases
NEXUS	FO-99	
NUDT-PHONESAT		
NUSAT-1	FRESCO	
ORBITAL FACTORY 2		
OSCAR 7	AO-7	
PCSAT	NO-44	
PHASE 3B	AO-10	
PSAT2	NO-104	
QB50P1		
RADFXSAT-2	AO-109	
RADFXSAT	FOX-1B	
RADIO ROSTO	RS-15	
RS-44 & BREEZE-KM R/B		
SALSAT		
SAUDISAT 1C	SO-50	
SEEDS II	CO-66	
SOMP		
SPROUT		
SRMSAT		
STRAND-1		
SWISSCUBE		
TECHSAT 1B	GO-32	
TIANWANG 1A	TW-1A	
UNISAT-6		
UOSAT 2	UO-11	
UVSQ-SAT		
UWE-3		
UWE-4		
XIWANG-1	HOPE-1	
XW-2A		
XW-2B		
XW-2C		
XW-2D		
XW-2E		
XW-2F		
XW-3	CAS-9	
YUBILEINY	RS-30	
ZACUBE-1	TSHEPISOSAT	
ZDPS 2A		
ZDPS 2B		
ZHUHAI-1 01	CAS-4A	
ZHUHAI-1 02	CAS-4B	

Supported Satellites Sorted by Code

Code	Name
AO-109	RADFXSAT-2
AO-10	PHASE 3B
AO-27	EYESAT A
AO-73	FUNCUBE-1
AO-7	OSCAR 7
AO-92	FOX-1D
AO-95	FOX-1CLIFF
ARDUIQUBE	DIY-1
CAS-4A	ZHUHAI-1 01
CAS-4B	ZHUHAI-1 02
CAS-9	XW-3
CO-55	CUTE-1
CO-57	CUBESAT XI-IV
CO-65	CUTE-1.7+APD II
CO-66	SEEDS II

Code	Name
DO-64	DELFI-C3
EO-88	NAYIF-1
FO-29	JAS-2
FO-99	NEXUS
FOX-1B	RADFXSAT
FRESCO	NUSAT-1
GO-32	TECHSAT 1B
HO-107	HUSKYSAT-1
HOPE-1	XIWANG-1
IO-26	ITAMSAT
JO-97	JY1SAT
KISEKI	KKS-1
LO-19	LUSAT
LO-74	CUBEBUG-2
NO-103	BRICSAT2
NO-104	PSAT2
NO-44	PCSAT
RS-15	RADIO ROSTO
RS-22	MOZHAYETS 4
RS-30	YUBILEINY
SO-50	SAUDISAT 1C
TO-108	CAS-6
TSHEPISOSAT	ZACUBE-1
TW-1A	TIANWANG 1A
UO-11	UOSAT 2
ZARYA	ISS

Satellite Modes

Uplink and downlink designations use sets of paired letters following the structure X/Y where X is the uplink band and Y is the downlink band.*

Designator	H	A	V	U	L	S	S2	C	X	K	R
Band	15 m	10 m	2 m	70 cm	23 cm	13 cm	9 cm	5 cm	3 cm	1.2 cm	6 mm
Frequency (General)	21 MHz	29 MHz	145 MHz	435 MHz	1.2 GHz	2.4 GHz	3.4 GHz	5 GHz	10 GHz	24 GHz	47 GHz

So for example the `SAT_MODE` designator for `QO-100` is S/X.

*from Amateur Radio – PEØSAT