



Air Navigation Race Subcommittee Meeting

2023 FAI GAC Meeting – Lausanne SUI

17th of February 2023

AGENDA

Air Navigation Race subcommittee



Friday, 17th February 2023

Welcome and roll call of the members and guests

ANR Rules & Regulations Suggestions and Amendements 2023

How you can check the accuracy of your competition map

Up-coming Events / Reports

...and for sure Coffe breaks!



Welcome of the members and guests



Please fill in the attendance list. Merci!



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Welcome of the members and guests



Firstname	Lastname	Country	email
Maurice	Ducret	Switzerland	maurice.ducret@gmail.com
Armin	Züger	Finland	armin.zuger@bilot.fi
Heinrich	Schawalder	Switzerland	he.schawalder@bluewin.ch
Katarina	Pohankova	Slovakia	pohankovakatarina@gmail.com
Ann-Sophie	Tersmeden	Sweden	annso.tersmeden@gmail.com
Andreas	Solomon	Cyprus	info@caf.org.cy

Excused:
Jesus Mas

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ANR Rules & Regulations Suggestions and Amendments 2023



- **Judge flying outside altitude limits**, Håkan Carlsson, Swedish GAC delegate

"After WPFC in Albi I think we must discuss how to judge flying outside altitude limits, see attached document. Now when we just start to use this rule it is important, we all judge in the same way."



Microsoft
Word-Dokument

- **ANR sub comm decision:** No change to the ANR R&R this year (planned for Edition 2024) but will taken up into the ANR "bucket list" (Excel sheet, Decision Action List, ANR R&R to be implemented into A.8.1.4). -> *It's up to the organizer to apply a technical margin of minimum 100ft (but already considered for WANRC Slovakia 2024).*

- **ANR Decision Action list 2023:**



ANR_R&R_History
Decision

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ANR Rules & Regulations Suggestions and Amendments 2023



- **Landing appendix.** Written together in the PP-file picked from the proposals of France and Poland (sent from Allan).



Microsoft
PowerPoint-Präsentation



FRANCE_proposal amendments- v3.pdf



POLAND_proposal for Amendments to Resolutions and Early Rules for 2023 .pptx

- **ANR sub comm decision:** Will be discussed and decided in the combined Sub comm meeting.

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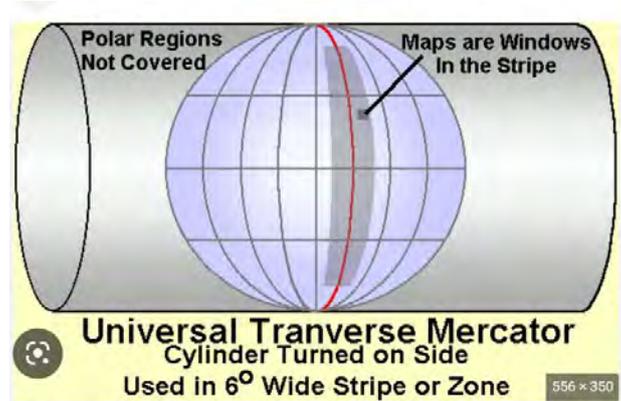
Coordinate reference system (CRS)

- Different maps have different coordinate reference systems (CRS)
- There are many, many country-specific projections
- Projections can be identified by EPSG code (e.g. EPSG : 4326)
- EPSG = European Petroleum Survey Group

UTM

- In aviation, we often assume that a coordinate system means degrees, minutes, seconds...
- Many national coordinate systems use directly (or are derived from) an UTM (Universal Transverse Mercator) coordinate system
- **The UTM coordinate reference system uses meters (or kilometers) as a unit (distance from Meridian). "Easting", "Northing"**

UTM



UTM



The UTM system is a global coordinate system. It divides the earth's surface into 6° wide vertical zones, which are individually leveled with the most favorable transverse Mercator projection and covered with a Cartesian coordinate system.

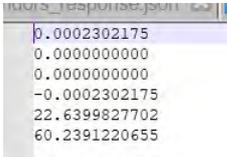
Geo-referencing

- Geo-referenced image

- An additional small text file that comes together with the image
- This additional file “links” coordinates with the pixels of the file (corner points of the file)
- The file extension of the world file depends on the image file:

- *.jpg => jwg

- *.tif => twf



```
0.0002302175  
0.0000000000  
0.0000000000  
-0.0002302175  
22.6399827702  
60.2391220655
```

WGS 84 Coordinate reference system (CRS)

- WGS = World Geodetic System
- Most online maps, such as Open Street Map, Google Maps, Google Earth use the WGS 84 coordinate reference system (EPSG 4326)
- maps in a national CRS (not WGS 84) usually require reprojection
- = conversion from source CRS to WGS 84 CRS, using software

Additional documentation

- More documentation about maps / reprojection:
[https://github.com/ArminZ/ANR Scoring And Visualisation/releases/tag/v2.1.0](https://github.com/ArminZ/ANR_Scoring_And_Visualisation/releases/tag/v2.1.0)
- [Basics: Maps and map conversion \(UPDATED 2020\)](#)
- [Maps: scan and import your own maps \(UPDATED 2020\)](#)
- [Route generation with Google Earth](#)

Checking how well your Map fits

- Open source data is available from many countries
- Usually already georeferenced
- Needs conversion (reprojection) to WGS 84 CRS

If your map image is

- in WGS 84 Coordinate reference system
- is geo-referenced

...then you can create an **overlay in Google Earth**

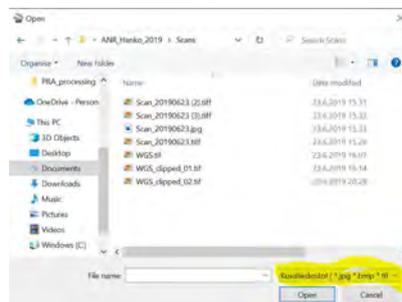
Overlay in Google Earth

- Image file and world-file must have the same name
 - (file extension is different)
- Both must be in same folder
- Example below

 WGS_clipped_02.tfw	23.6.2019 20:29
 WGS_clipped_02.tif	23.6.2019 20:29

Overlay in Google Earth

- Google Earth: Open...
- Set File Selector to "Image files"
- Select the image file (which has a corresponding world-file)



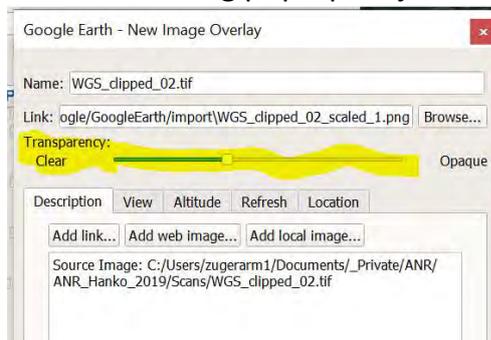
Overlay in Google Earth

- Google Earth: Open...
- Set File Selector to "Image files"

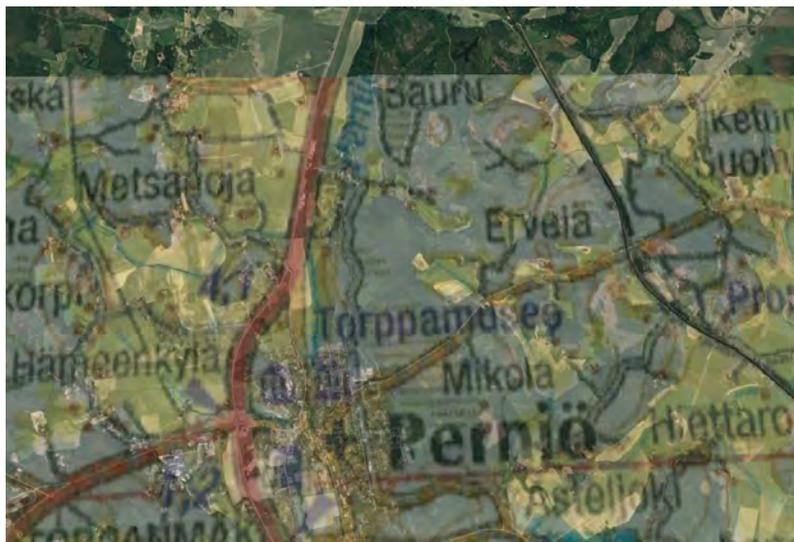


Overlay in Google Earth

- In the following pop-up, adjust the transparency



Overlay in Google Earth



Summary

- The message is:

If your map image is

- in WGS 84 Coordinate reference system
- Is geo-referenced

...then you can create an **overlay in Google Earth**

And check how well the image matches Google Earth details

Useful Links

Software releases (latest version first)

https://github.com/ArminZ/ANR_Scoring_And_Visualisation/releases

all following links can be found on the same page when you scroll a bit down

Documentation (including instructions and sample data)

https://github.com/ArminZ/ANR_Scoring_And_Visualisation/releases/download/v2.2.0/Documentation_2021_07_27.zip

Youtube videos:

Basics: Maps and map conversion (UPDATED 2020)

<https://www.youtube.com/watch?v=AxfkdMK2eQ>

Maps: scan and import your own maps (UPDATED 2020)

<https://www.youtube.com/watch?v=PXTeL1Xo4sY>

Route generation with Google earth

<https://www.youtube.com/watch?v=PrMDthexN5M>

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Up-coming Events / ANR News



- 4.-7. May 2023 PFA Training (PF, Rally & ANR) Mengen (GER) www.pfa.ch
- 18.-21. May 2023 57. Int. Allgäuflug 2023 (with ANR parcours) www.fliegergruppe.de/allgaeuflug/
- 10./17. June 2023 ANR Event Biel-Kappelen (SUI) www.pfa.ch

- **3rd FAI World ANR Championship 2024, Slovakia – Final BID**



FINAL BID.pdf

- **ANR sub comm:** *"Great work, well done Slovakia! The ANR sub comm recommends to accept & release the Final BID in the GAC Plenary Meeting!"*

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Report Spain (Jesus Mas)



"Briefly I would like to inform you about the ANR activity in Spain during the last year and for this year 2023: During last year three ANR competitions were held, two of national character and the ANR Spanish Championship 2022. For this year we plan to hold **two competitions, one national and the ANR Spanish Championship 2023 to be held in Castellon - LECN from 20th to 22th October and we intend to make it Open so that pilots from nearby countries can participate and we request that it is Class II FAI.**

We will publish the **Local Rules in May** with. Registration will be **free for the first 5 crews with FAI Licence** (including meals and hotel) (will be informed in the Local Rules that we will publish).

We would like to invite a member of the International Jury, who we would like to be you, to give the competition and at the same time we will be able to establish "in situ" the difference of criteria in Spain regarding the way of penalizing precision landings, for combined classification purposes, in order to discuss it at the next GAC meeting in 2024.

We have been working on **eSports** for some time and since the end of 2022 we have had the **MyANR training tool** for flight simulators operational. By means of a plugin, of our own creation, it records the flight data and sends it to the system for evaluation and subsequent analysis. This allows access to the ANR competition to a large group of flight simulation enthusiasts and introduces them to the world of sporting competition. At the same time it becomes a new training tool for (real) pilots, who through MyANR-virtual can train at home the possible scenarios they will encounter in real competitions.

In **October, during the OPEN test**, together with the new features of the **ANR/COMPETITION** application, we will make the official presentation of **ANR VIRTUAL COMPETITION**.

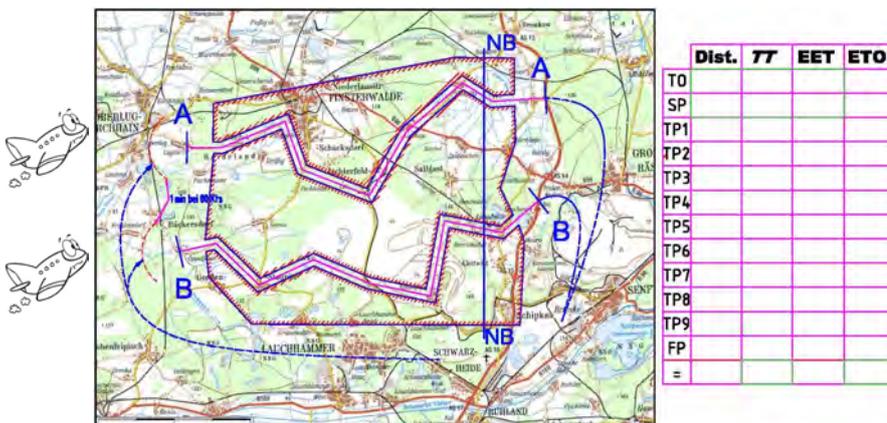
We are convinced that this new modality will allow the creation of virtual competitions and championships all over the world and is set to become a new attraction for aviation fans.

We would like to add that, if there is no country interested in organizing the follow ANR World Championship, Spain would be willing to organize it.

Greetings to all colleagues attending the meeting.
Always at ANR's disposal"

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Open discussion



	Dist.	77	EET	ETO
T0				
SP				
TP1				
TP2				
TP3				
TP4				
TP5				
TP6				
TP7				
TP8				
TP9				
FP				
=				

Airways = 0.4 NM
Time = 12' / 80 Kts
Dist.= 16 NM

2011
Test-Parcour
Schipkau

Scale: 1:200'000
Name: John DUJRET
Date: September 2011
Vroom: Marcia DUJRET

SCHIPKAU

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My coordinates



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... or just 47.05907°N / 7.62792°E ☺