



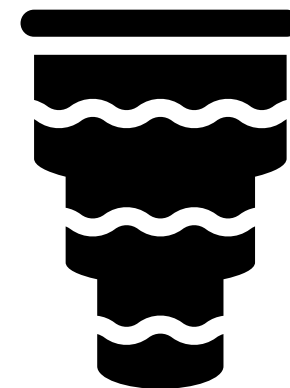
*FEDERATION SUISSE DE VOL A VOILE*  
*FEDERAZIONE SVIZZERA DI VOLO A VELA*

# Airspace Refresher 2024



# Contents

- Swiss air space structure
- Electronic conspicuity
- Restricted areas for gliders
- Cloud distance minima
- TMA Zurich and tango sectors Bâle
- Airspace infringements
- Changes as of 21. March 2024



This presentation has been prepared with great care. Nevertheless, mistakes may occur. In any case, the official publications on the current aeronautical charts, VFR manual and NOTAM are authoritative.

### References:

- eVFR Manual as of 22.02.2024
- Standardized European Rules of the Air (SERA) as of February 2023
- Verfügung des BAZL betreffend Änderung der Luftraumstruktur 2024 vom 24. Januar 2024

I am happy to receive any feedback.

Flurin Schwerzmann

Airspace Delegate, Segelflugverband der Schweiz

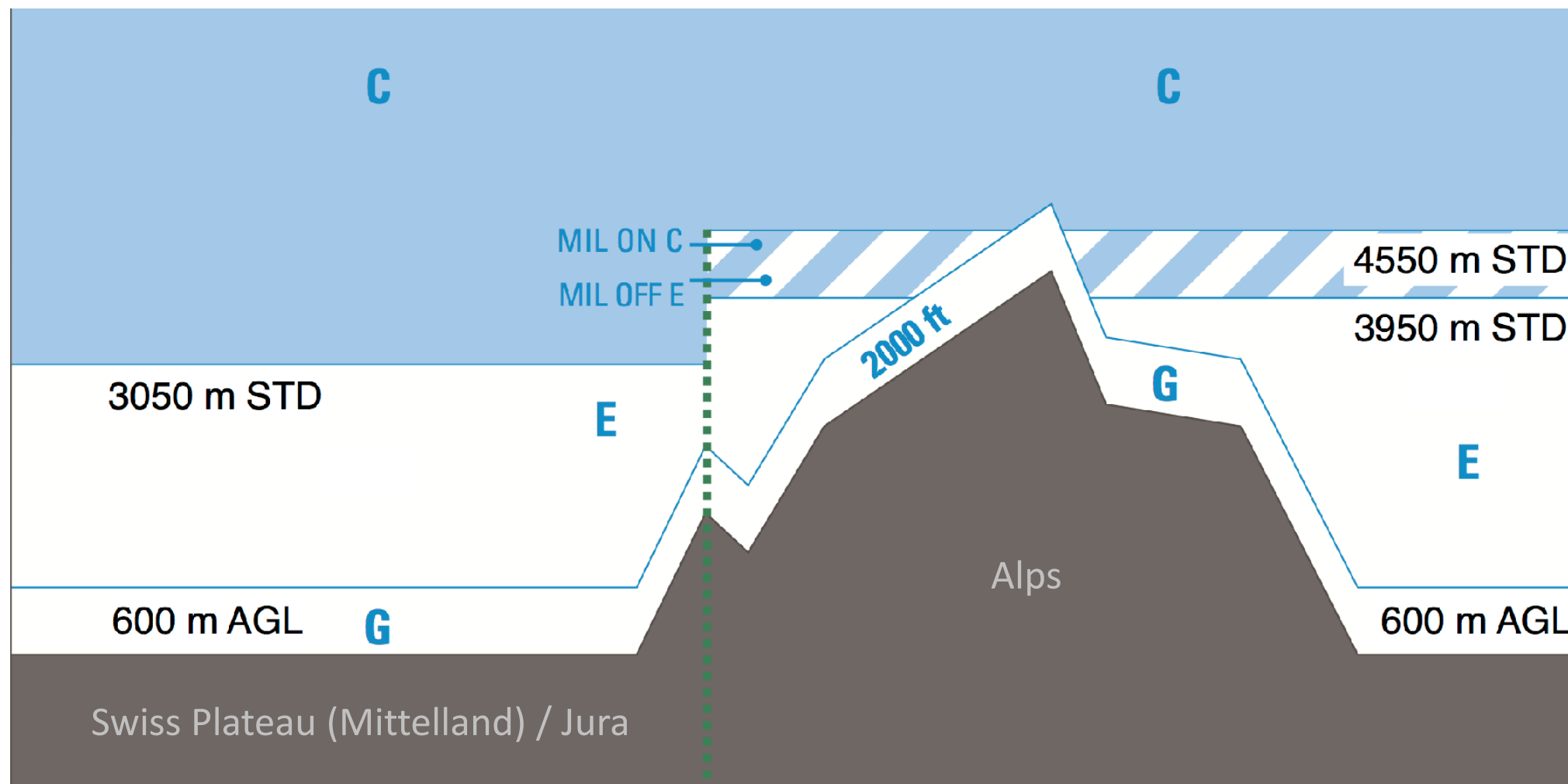
[airspace@sfvs-fsvv.ch](mailto:airspace@sfvs-fsvv.ch)

# Airspace Classification

ICAO/EASA	ATC Clearance	Flight Rules
<b>C</b>	Required	VFR and IFR
<b>D</b>		
<b>E</b>	Not required	VFR only*
<b>G</b>		

\*IFR with FOCA approval

# Swiss Air Space Structure





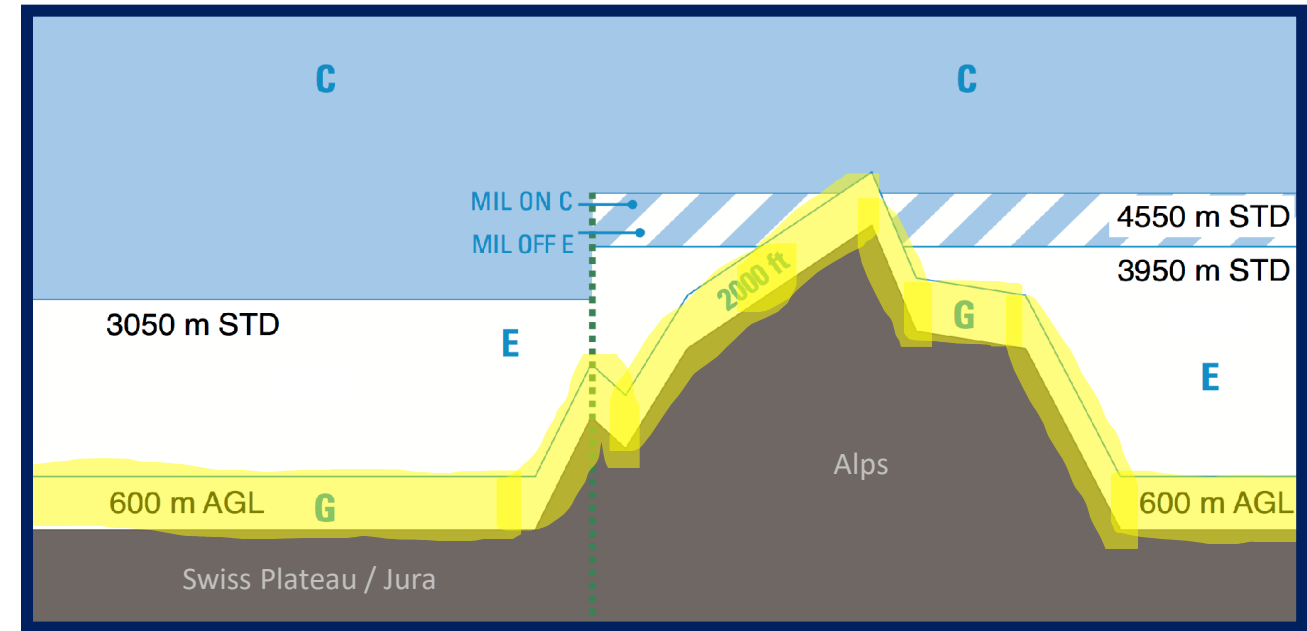
# Airspace Golf



Everywhere (except CTR)

GND up to 600m AGL

- Uncontrolled
- VFR and IFR
- No ATC clearance required
- Outside of clouds
  - > 300m AGL with transponder ON



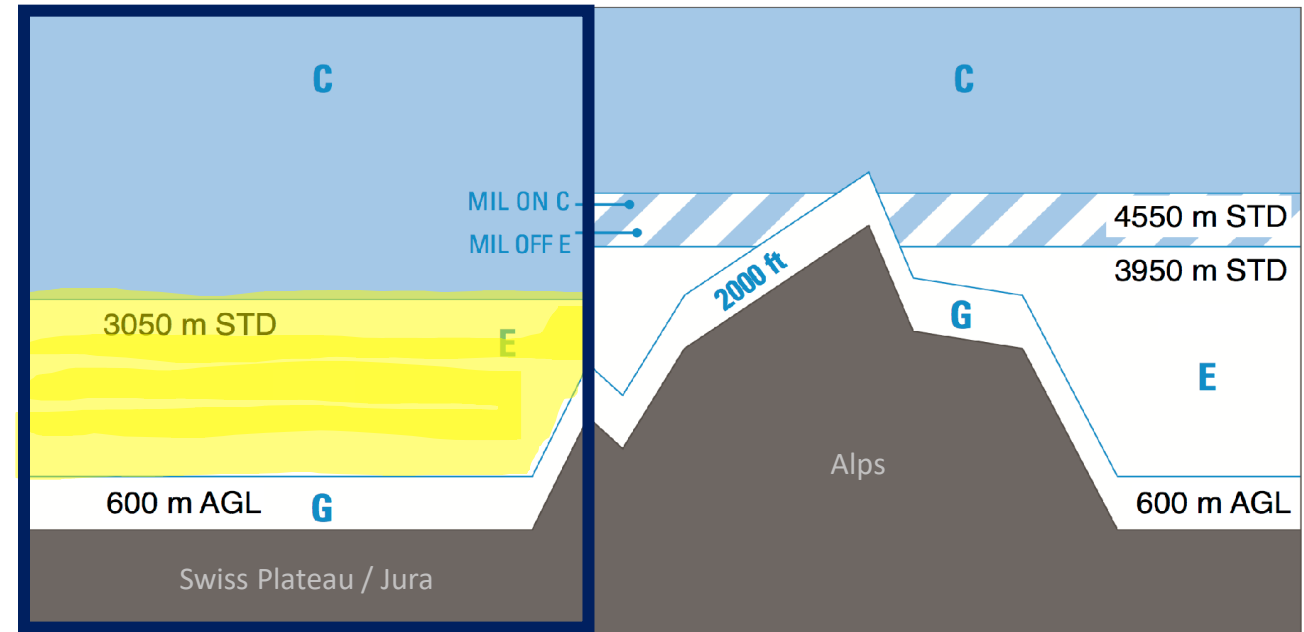
# Airspace Echo



## Swiss Plateau/Jura

600m AGL up to 3050m STD

- Controlled
- VFR and IFR
- No ATC clearance required
- Large cloud distance minima



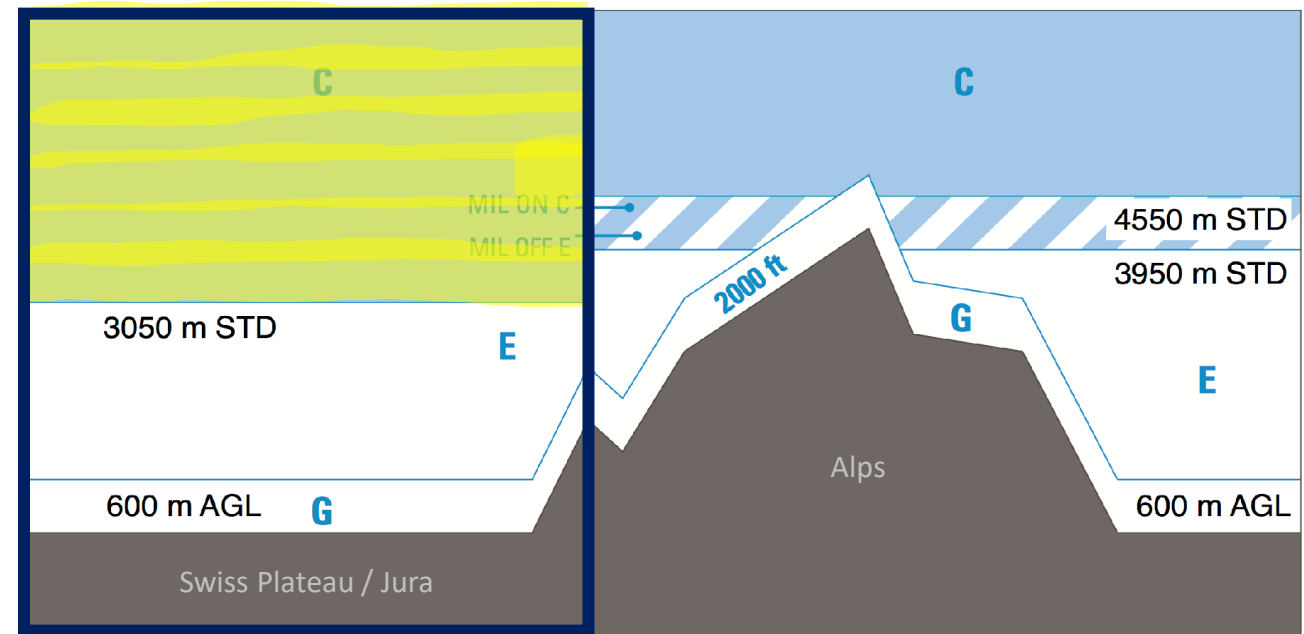
# Airspace Charlie



## Swiss Plateau/Jura

Above 3050m STD

- Controlled
- VFR and IFR
- ATC clearance required
- Large cloud distance minima





# Airspace Echo

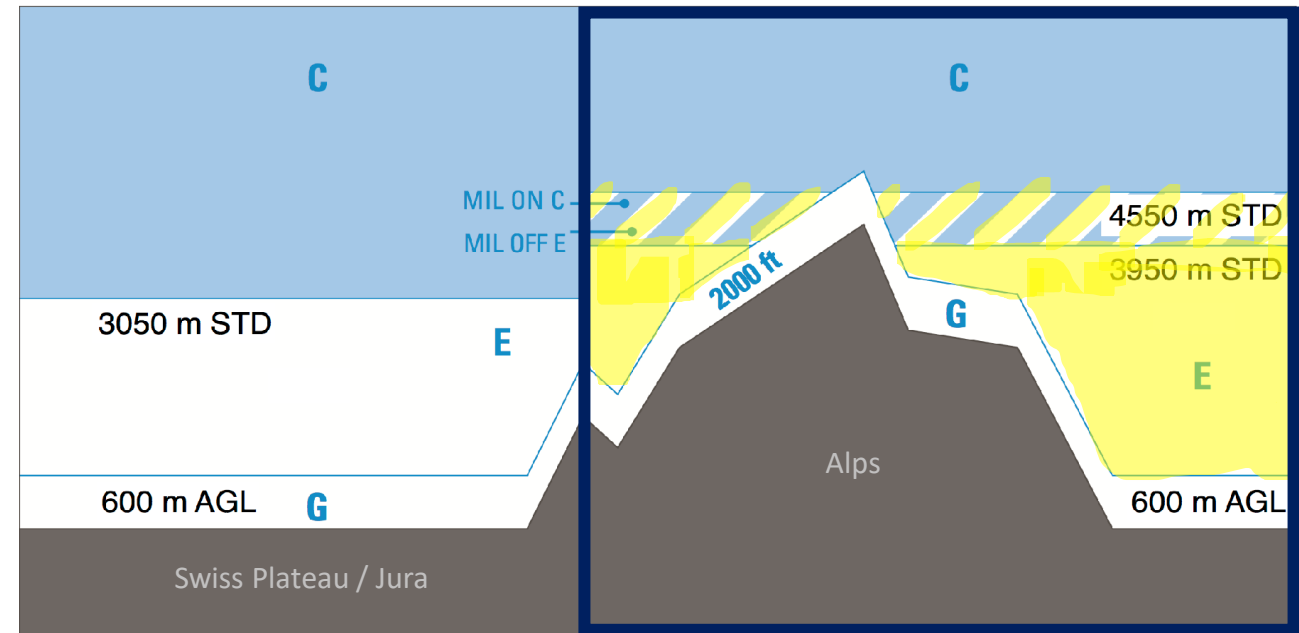


## Alps

*Mil ON*: 600m AGL up to 3950m STD

*Mil OFF*: 600m AGL up to 4550m STD

- Controlled
- VFR and IFR
- No ATC clearance required
- Large cloud distance minima



# Airspace Charlie

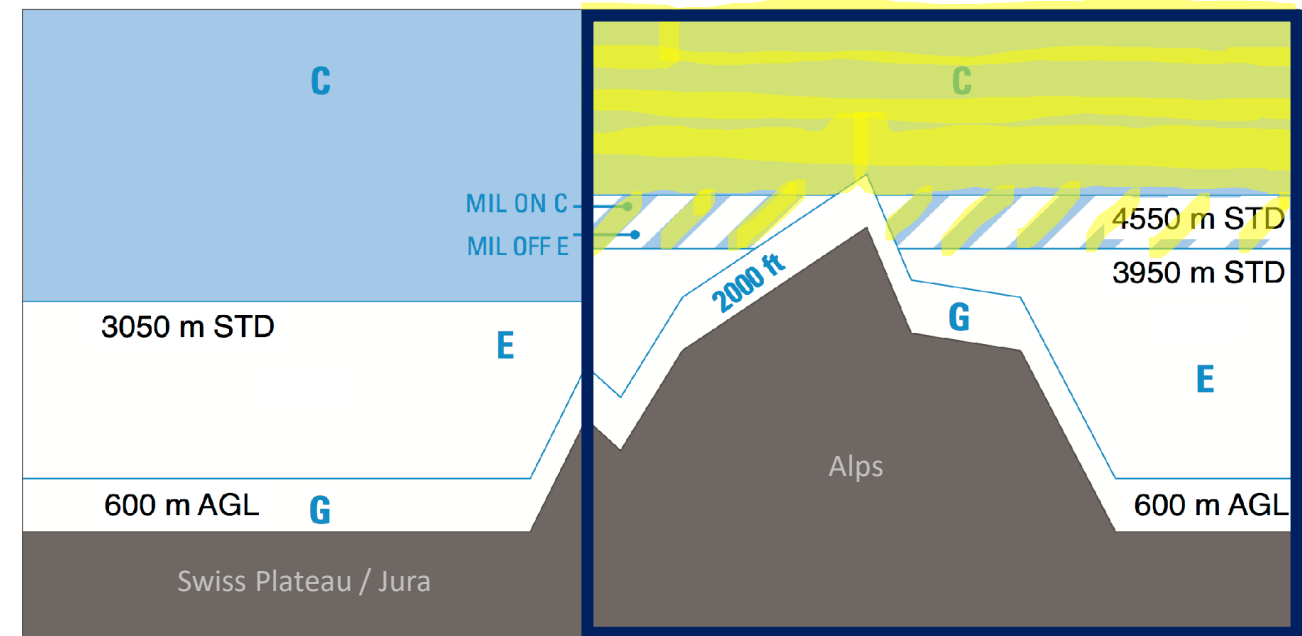


## Alps

*Mil ON* – Above 3950m STD

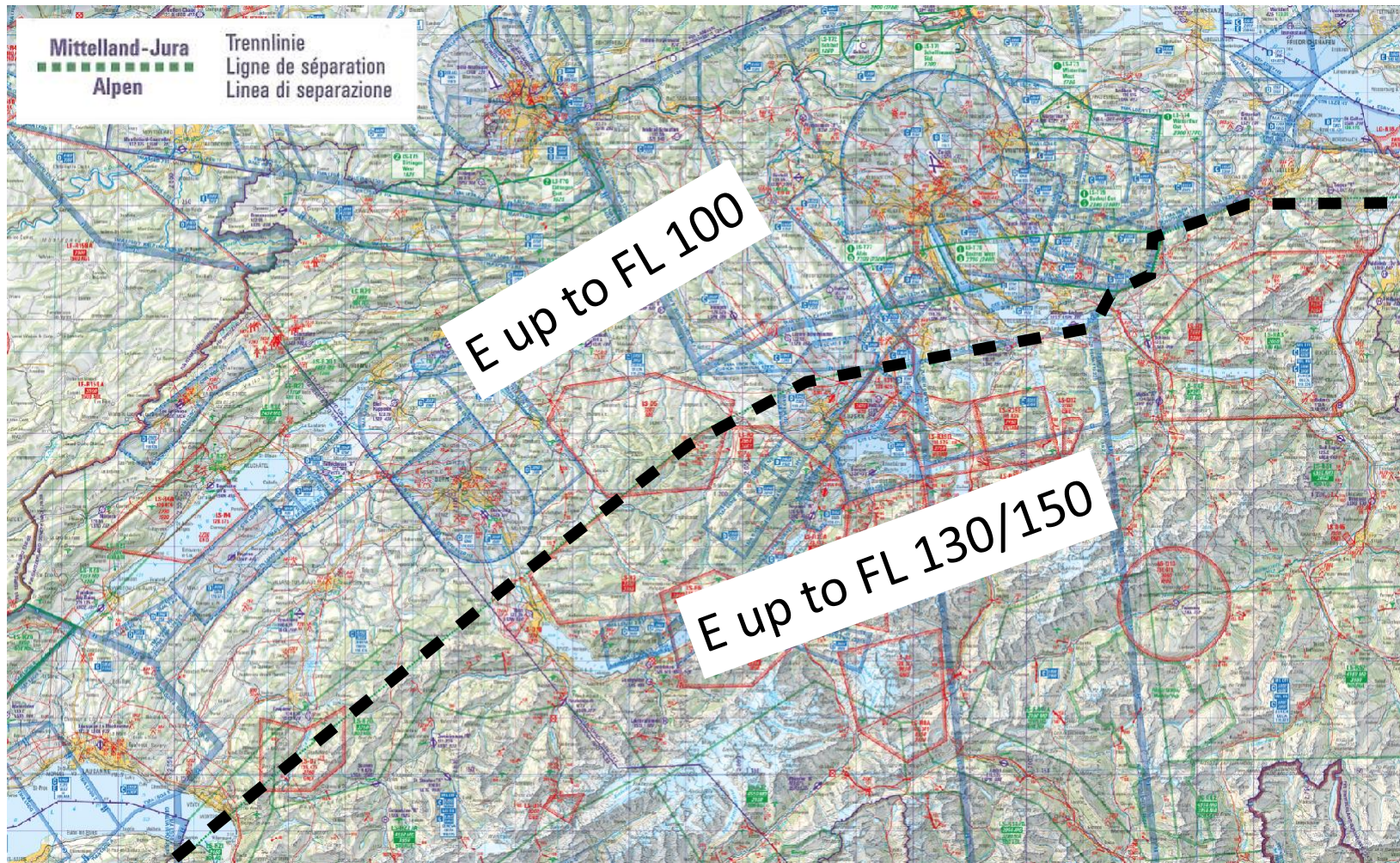
*Mil OFF* – Above 4550m STD

- Controlled
- VFR and IFR
- ATC clearance required
- Large cloud distance minima





# Higher Airspace



*Echo up to FL100*

Mil ON

*Echo up to FL130*

Monday – Friday

0730LT – 1205LT

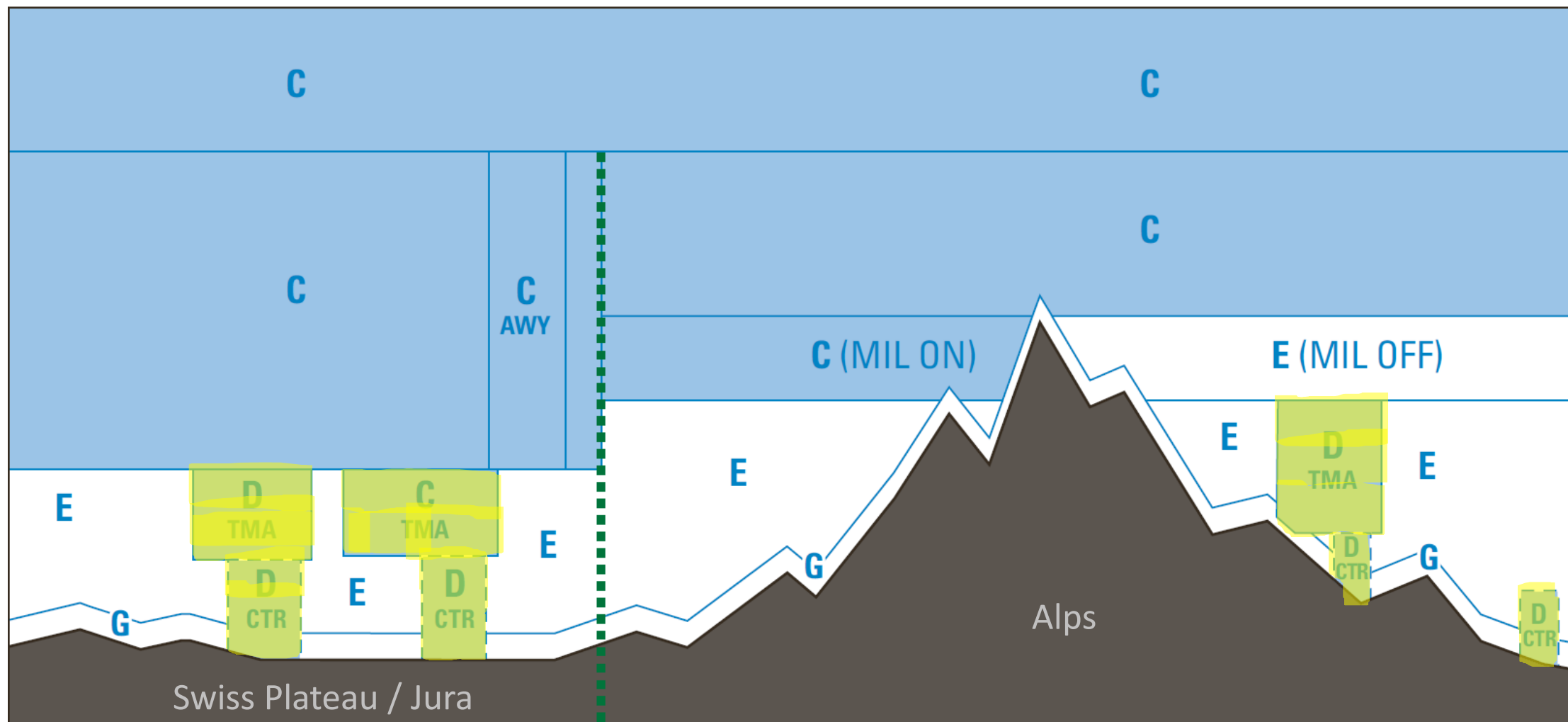
1315LT – 1705LT

Mil OFF

*Echo up to FL150*



# Air Space Structure with CTR/TMA



D

## CTR & TMA

CD

### Control Zone (CTR)

*GND to upper limit*

- Controlled
- VFR and IFR
- ATC clearance required
- Large cloud distance minima

### Terminal Control Area (TMA)

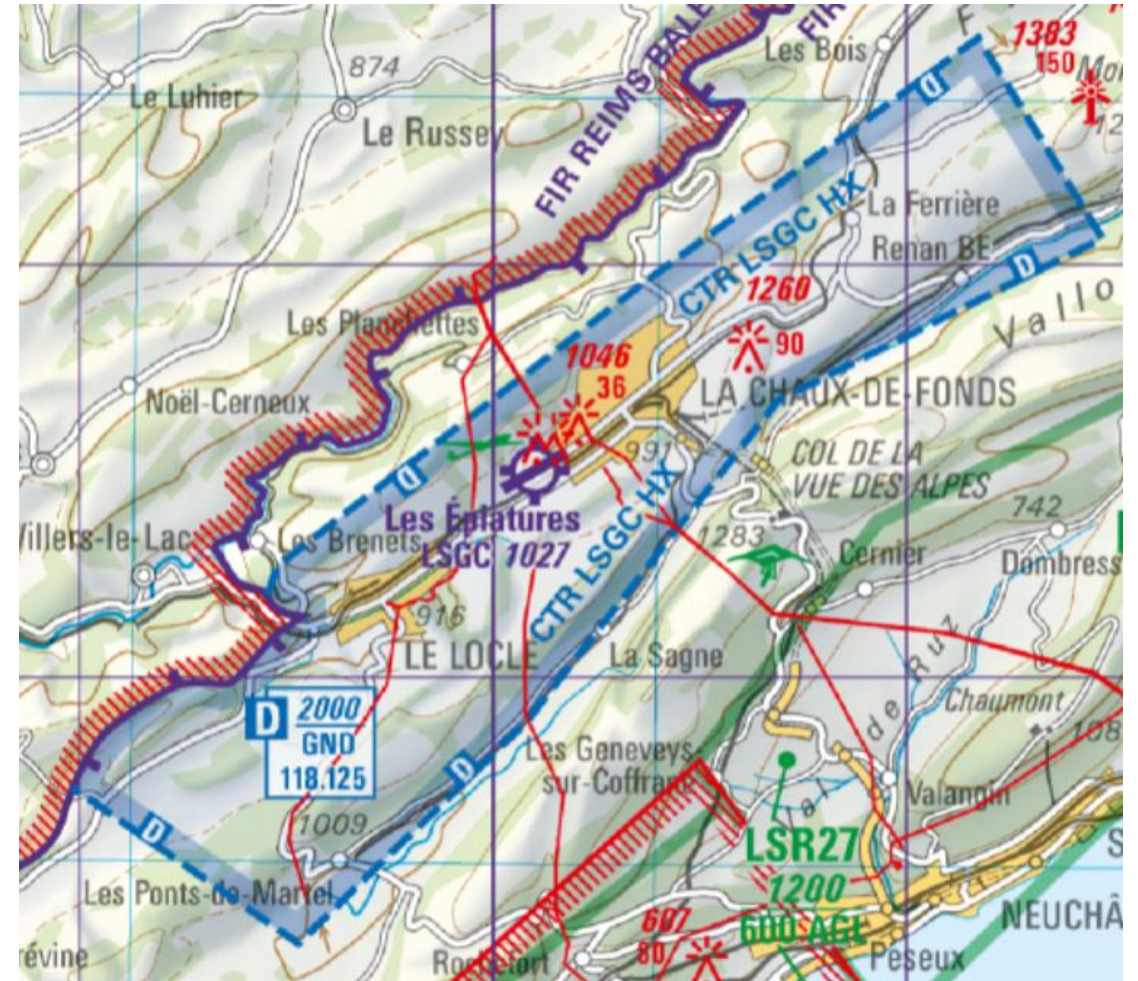
*Lower to upper limit*

- Controlled
- VFR and IFR
- ATC clearance required
- Large cloud distance minima

# Glider Chart

## CTR LSGC

- Lower limit: *GND*
- Upper limit: *2000m AMSL*
- Activation: *HX (occasionally)*
- ATC Frequency: *118.125*
- Classification: *Delta*

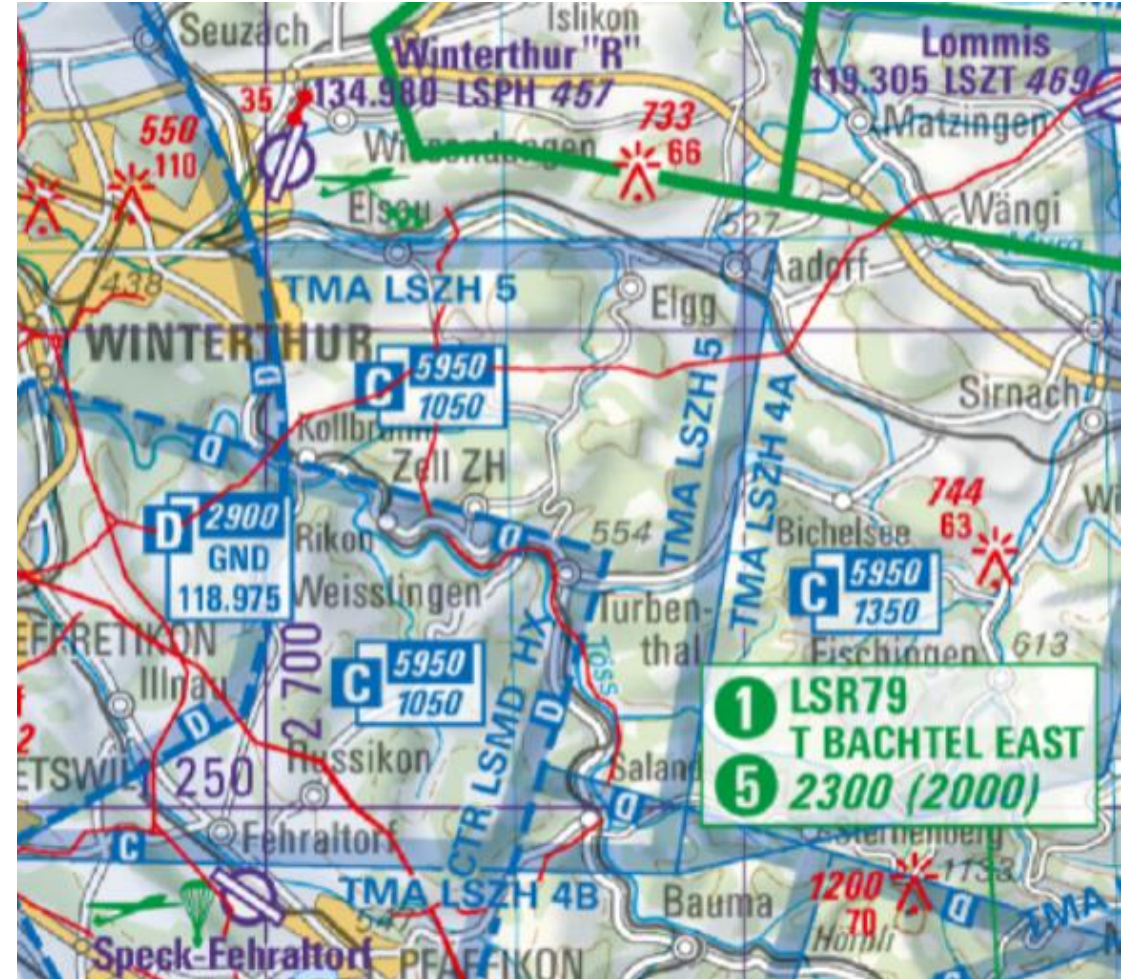




## Glider Chart

### TMA LSZH 5

- Lower limit: *1050m AMSL*
- Upper limit: *5950m STD*
- Activation: *Permanent*
- ATC frequency: *124.700*
- Classification: *Charlie*

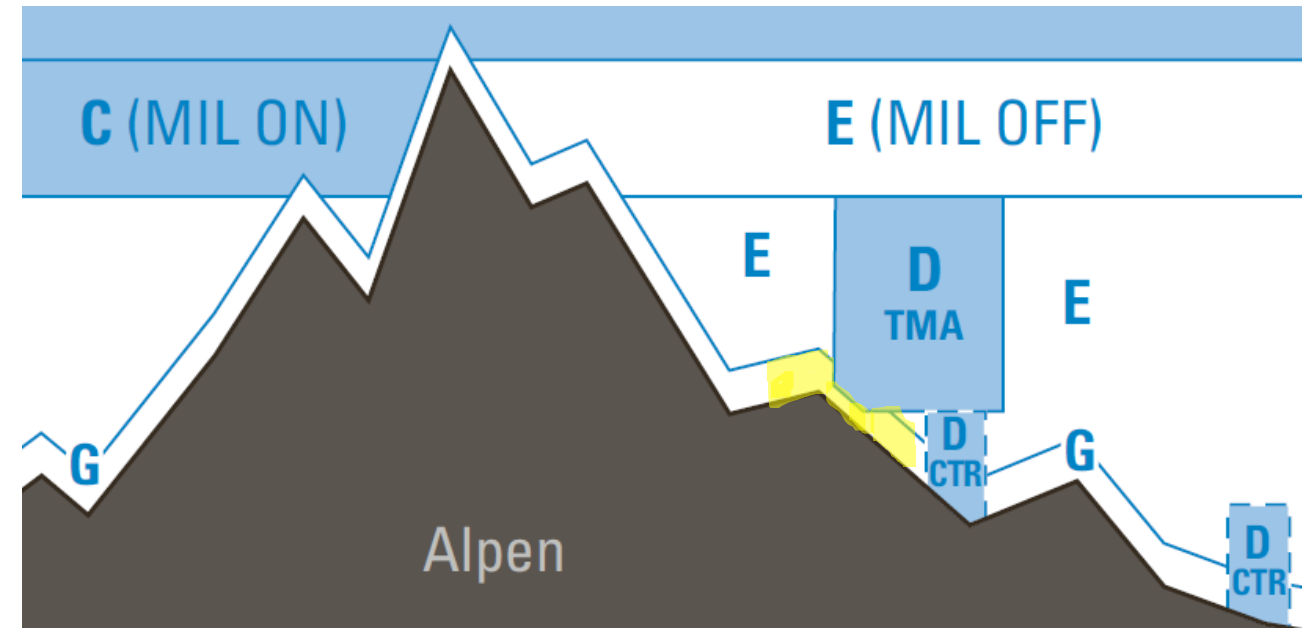




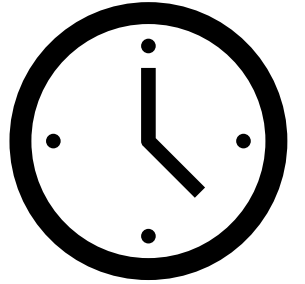
# Airspace Golf below TMA

## Alps

- Golf from GND up to 300m AGL
- Typically MIL TMA
- Only south of separation line Swiss Plateau/Alps!



# TEMPO vs. HX



## TEMPO

- Chart: Thin bright blue ribbon
- Activation via DABS/NOTAM
  - Generally not active!

*Alpnach TMA 2 and 4*

*Sion TMA 1, 2 and 3*

## HX

- No specific working hours
- Check status before entry
- Maintain listening watch
- Deactivation: Same as surrounding airspace G and E



# Altitude Limits on Glider Chart

*STD*: Inverted and italic

- 1013 hPa (transponder display)

*AMSL*: Italic

- QNH (or GPS)

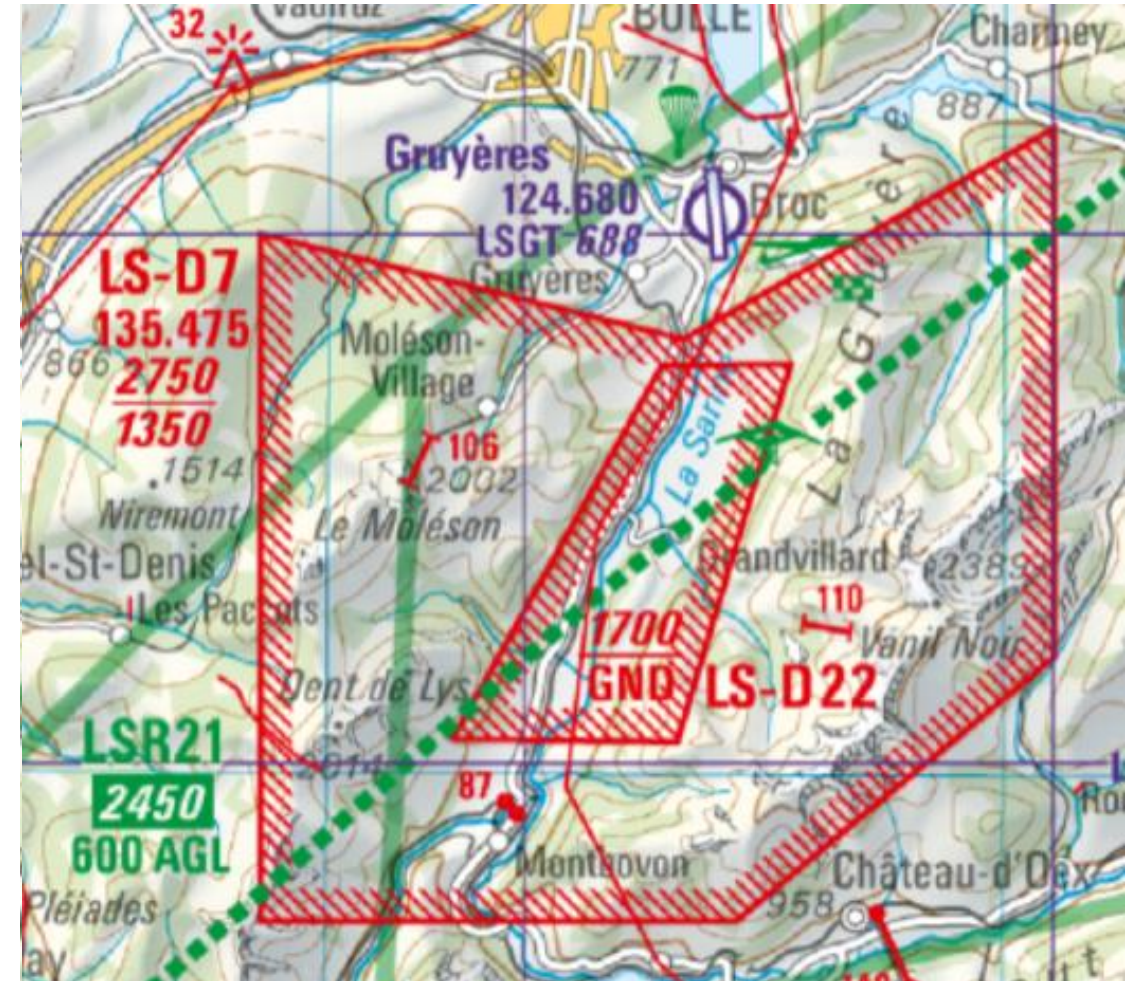
*AGL*: Height above ground

- QNH (visual estimate or GPS)



## Danger Area

- Activities dangerous for aircraft
- No specific working hours
- Activation via DABS/NOTAM
- Entry not recommended
  - Legally allowed











## Radio Mandatory Zone

- Blind transmission before entry, maintain listening watch
- Separation is pilot's responsibility
  - «see and avoid»
- Airspace class remains Golf

*Grenchen (without ATC)*

*Various airports in Germany!*





## Transponder Mandatory Zone

- Entry only with transponder ON
  - Mode S (i.e. ALT)

### *Switzerland: TMZ North East*

- Without listening watch: Code 7000
  - Visible to ATC, no traffic information
- With listening watch: Code 2677
  - Frequency 119.925
  - Traffic information by ATC



- Extent like TMA
- Entry only with transponder ON
  - Mode C or S (i.e. ALT), Code 4404
- Listening watch on 129.450
  - No radio contact required!
  - Traffic information by ATC





# Electronic Conspicuity

*There is no mandate for non-motorized aircraft to carry and operate an SSR transponder in Switzerland.*

## Obligation to operate:

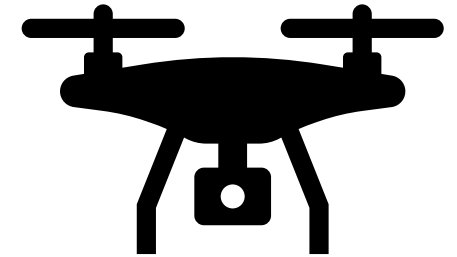
- Aircraft is transponder equipped
  - Sufficient supply of electrical power
- Turn on your transponder!

In practice, a transponder is often required to obtain an ATC clearance for controlled airspace.



## U-Space

- Zone for unmanned aerial systems (UAS/drones)
- Automated air traffic control services
- Electronic conspicuity of manned aircraft
  - ADS-B transponder
  - ADS-L to be implemented on FLARM devices
- Operationally like TMZ



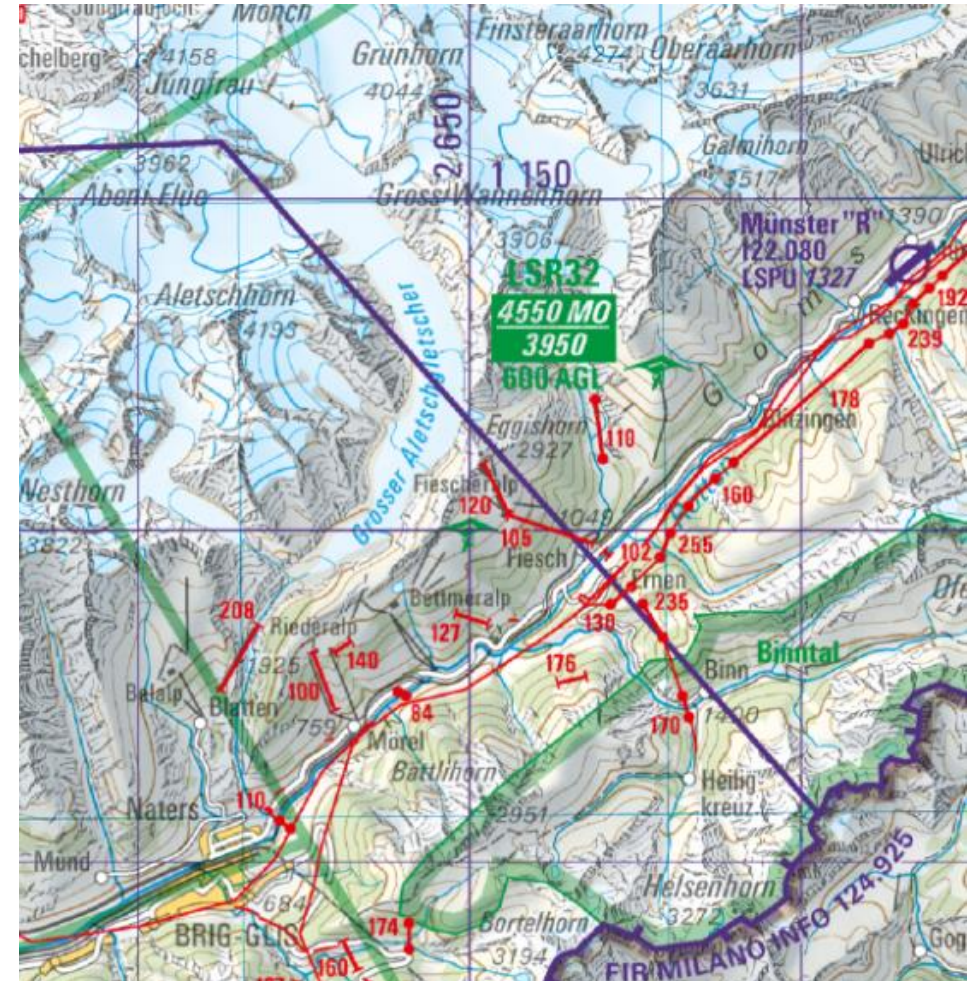
*Implementation planned within CTR Zurich (2025)*



## LSR for Gliders Outside TMA

### Outside TMA

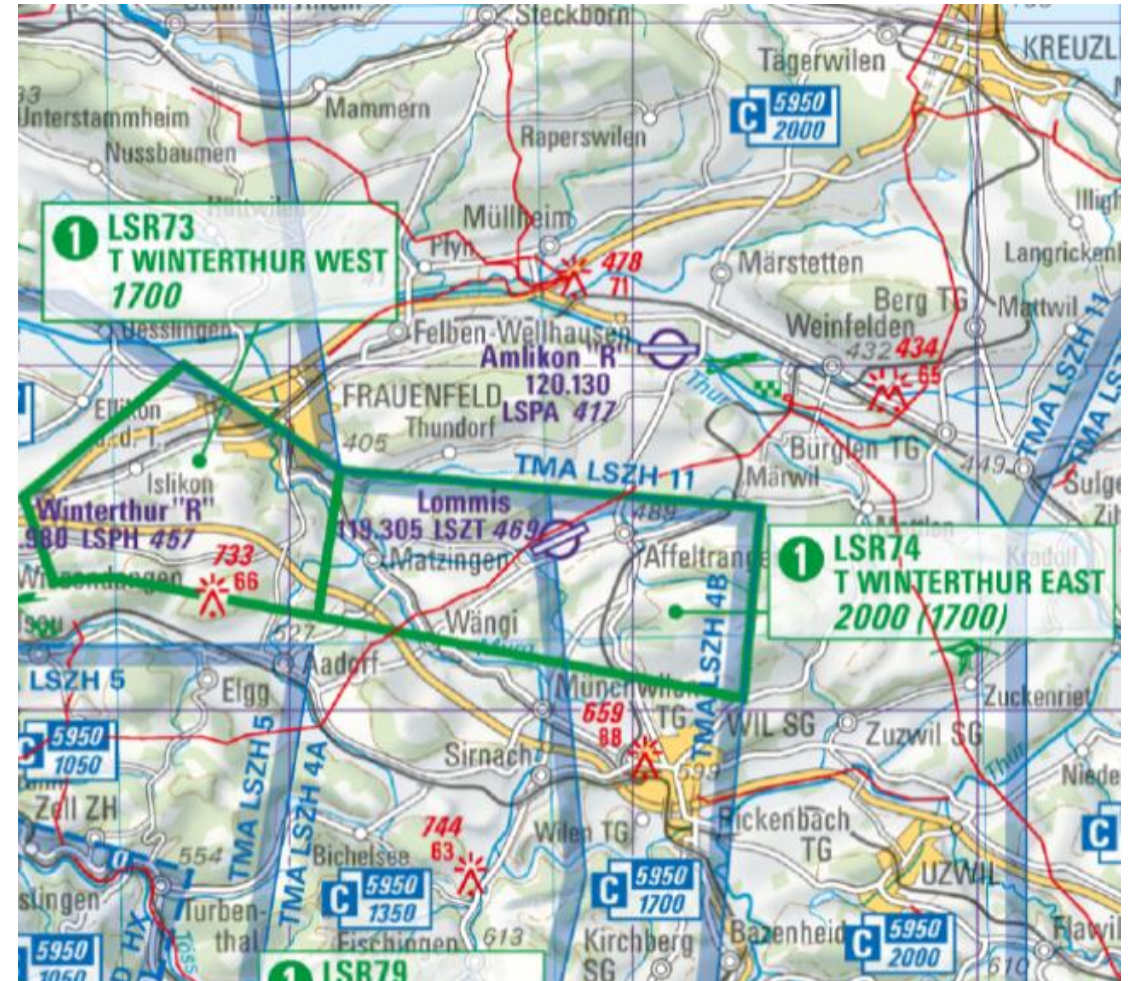
- Reduced cloud distance minima
  - 100 m lateral, 50 m vertical
- Active from 1. March until 31. October
  - SR to SS
  - Mil OFF without approval
  - Mil ON only with specific approval



## LSR for Gliders Within TMA

### Within TMA

- No ATC clearance required
  - Only for gliders and tow planes
- Rules of airspace class Echo
  - Large cloud distance minima!
- Activation: See glider chart
- Maintain listening watch



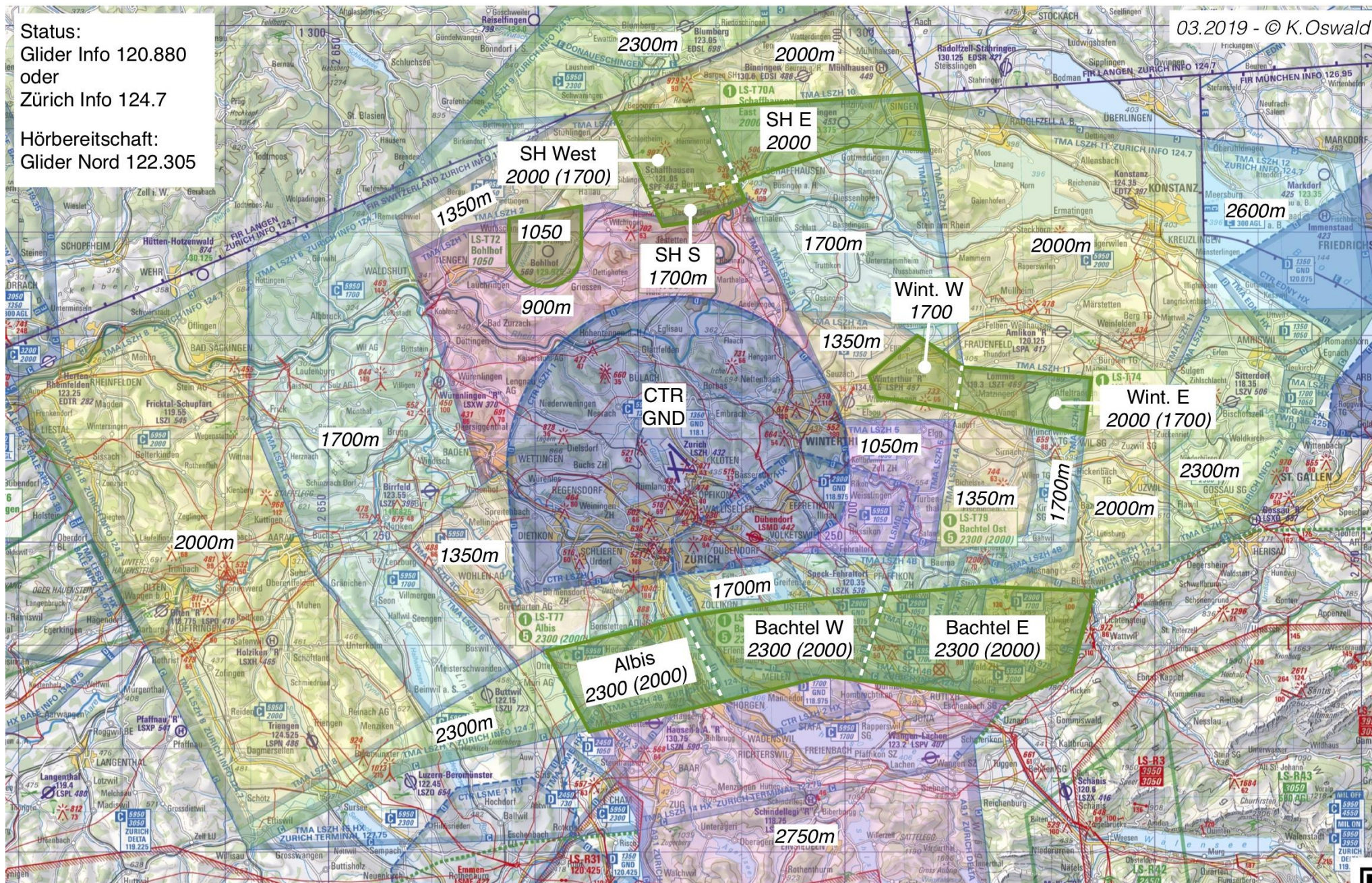


# TMA Zurich with LSR for Gliders

Status:  
Glider Info 120.880  
oder  
Zürich Info 124.7

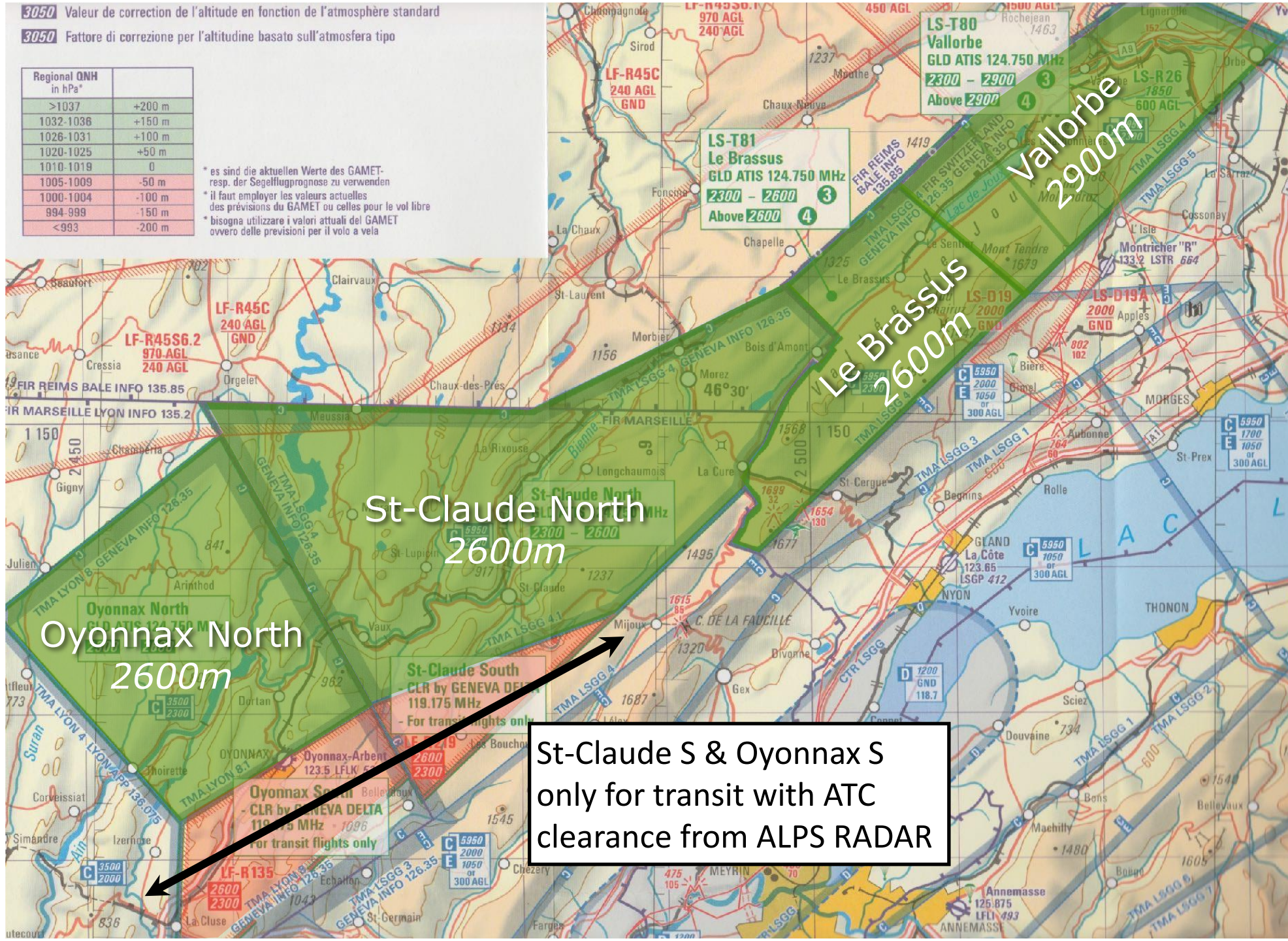
Hörbereitschaft:  
Glider Nord 122.305

03.2019 - © K. Oswald





# TMA Genève with LSR for Gliders





Designation	MAX ALT <i>m</i> STD Altimeter (FL)	Operator/User TEL NR	Remarks and time of ACT Conditions of use
1	2	3	4
LSR80 T VALLORBE  a)	<del>2900</del> <del>2300</del>	+41 (0) 22 747 13 91 GLD ATIS 124.755 MHz	If not active: Advise Geneva DELTA 119.175 MHz If sector activated: Continuous listening watch on FREQ 125.030 MHz ③
	above <del>2900</del>	+41 (0) 22 747 13 91 GLD ATIS 124.755 MHz	If not active: Clearance by Geneva DELTA 119.175 MHz required. ④ If sector activated: Continuous listening watch on FREQ 119.175 MHz
LSR81 T LE BRASSUS  a)	<del>2600</del> <del>2300</del>	+41 (0) 22 747 13 91 GLD ATIS 124.755 MHz	If not active: Advise Geneva DELTA 119.175 MHz If sector activated: Continuous listening watch on FREQ 125.030 MHz ③
	above <del>2600</del>	+41 (0) 22 747 13 91 GLD ATIS 124.755 MHz	If not active: Clearance by Geneva DELTA 119.175 MHz required. ④ If sector activated: Continuous listening watch on FREQ 119.175 MHz
TMA GENEVE 4.1 ST-CLAUDE NORTH  b)	<del>2600</del> <del>2300</del>	+41 (0) 22 747 13 91 GLD ATIS 124.755 MHz	If classified: Advise Geneva DELTA 119.175 MHz  If declassified: Continuous listening watch on FREQ 125.030 MHz
LF-R 219 ST-CLAUDE SOUTH	<del>2600</del> <del>2300</del>	c)	Clearance by Geneva DELTA 119.175 MHz required. For transit flights only
TMA LYON 8.1 Oyonnax North  b)	<del>2600</del> <del>2300</del>	+41 (0) 22 747 13 91 GLD ATIS 124.755 MHz	If classified: Advise Geneva DELTA 119.175 MHz  If declassified: Continuous listening watch on FREQ 125.030 MHz
LF-R 135 Oyonnax South	<del>2600</del> <del>2300</del>	c)	Clearance by Geneva DELTA 119.175 MHz required. For transit flights only

# Caption

## *Glider TMA Genève*

*Vallorbe & le Brassus:*

a) LSR for Gliders

*St-Claude North & Oyonnax North:*

b) Declassified to airspace Golf

*St-Claude South & Oyonnax South:*

c) LF-R – transit only, clearance required

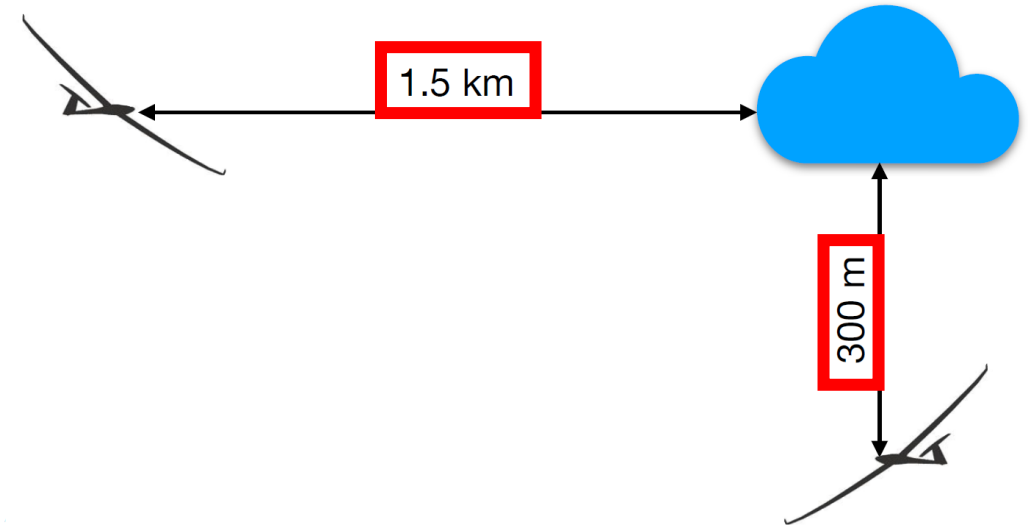
# Large Cloud Distance Minima

## *Airspace classes:*

- Charlie, Delta, Echo
  - LSR for gliders within TMA
- Golf > 300m AGL (transponder OFF)

## *Visibility:*

- 8km above FL100 (3050m STD)
- 5km below FL100 (3050m STD)





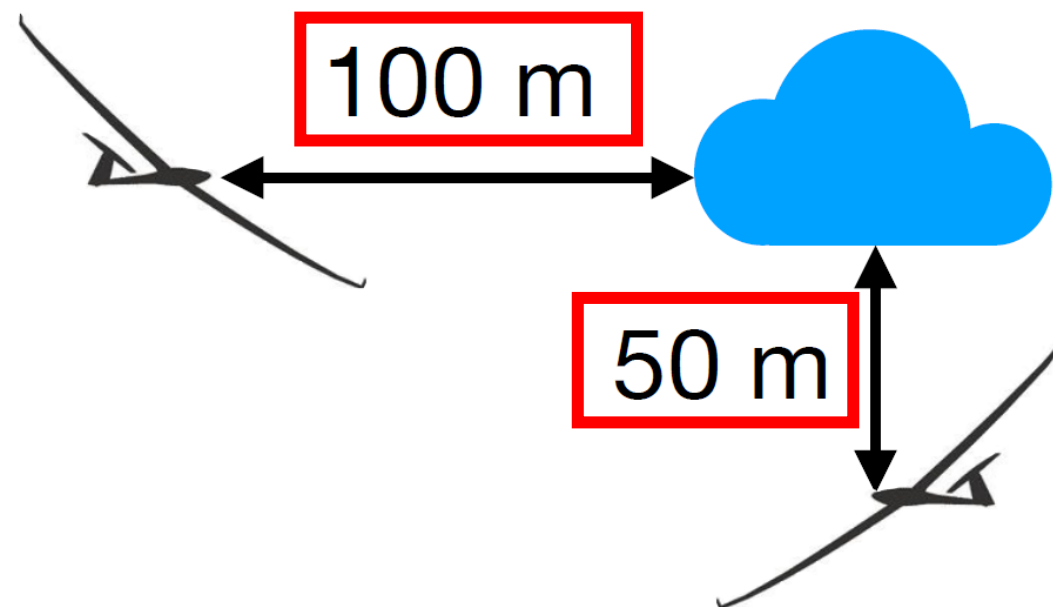
# Reduced Cloud Distance Minima

*Airspace class:* Echo

- LSR for gliders outside TMA

*Visibility:*

- 8km above FL100 (3050m STD)
- 5km below FL100 (3050m STD)



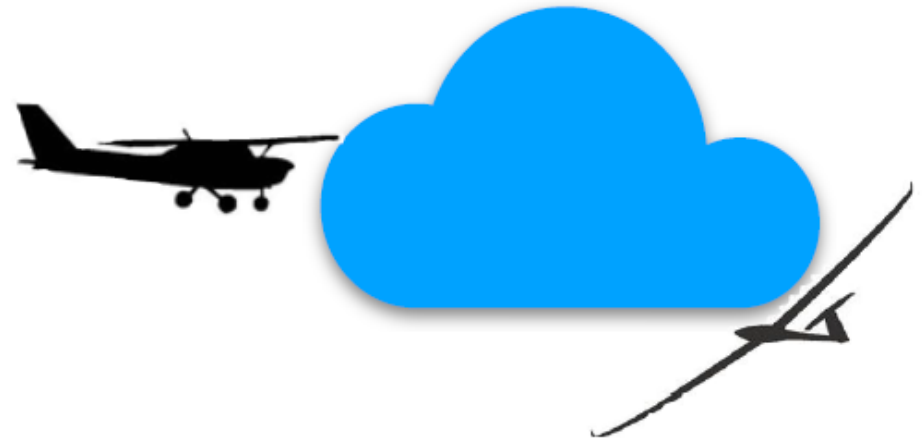
# No Cloud Distance Minima

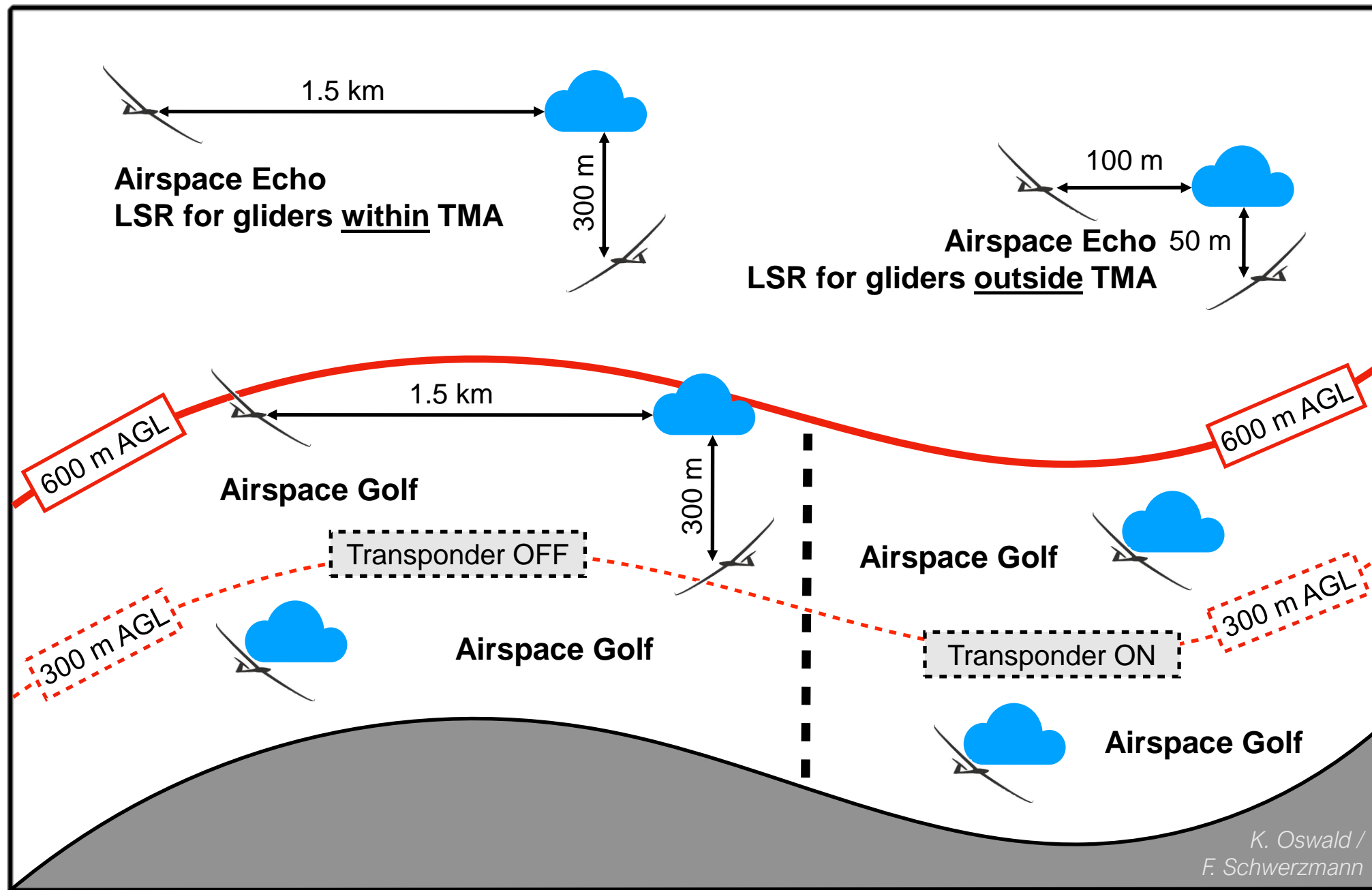
*Airspace class: Golf*

- GND up to 300m AGL
- 300m to 600m AGL (transponder ON)

*Visibility:*

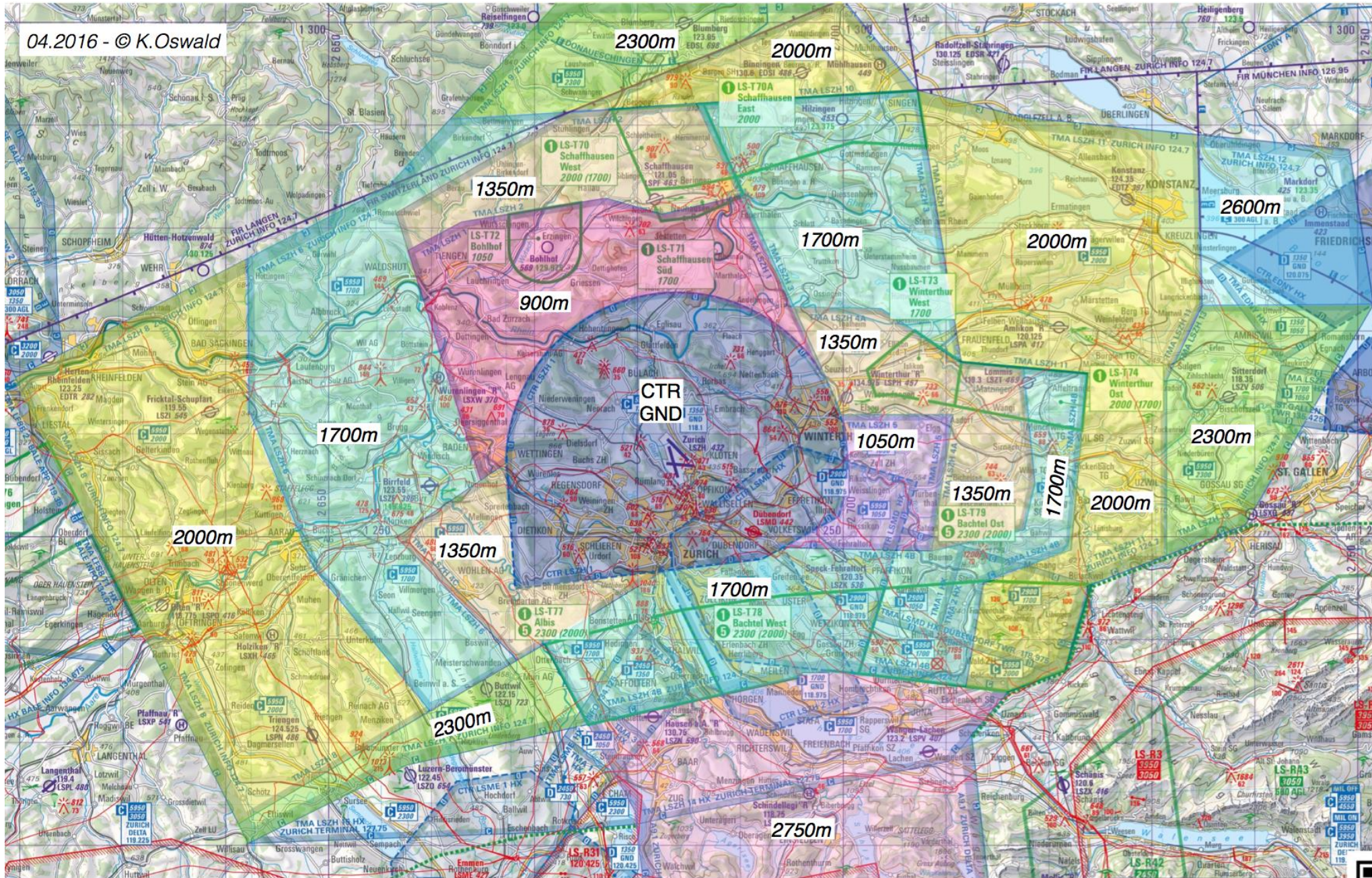
- 5km
- 1.5km, traffic avoidance ensured
  - Ground surface in sight
  - Max. 140 knots







TMA ZRH – CTR 2 & TMA 14/15 not active





# TMA ZRH – CTR 2 & TMA 14/15 active

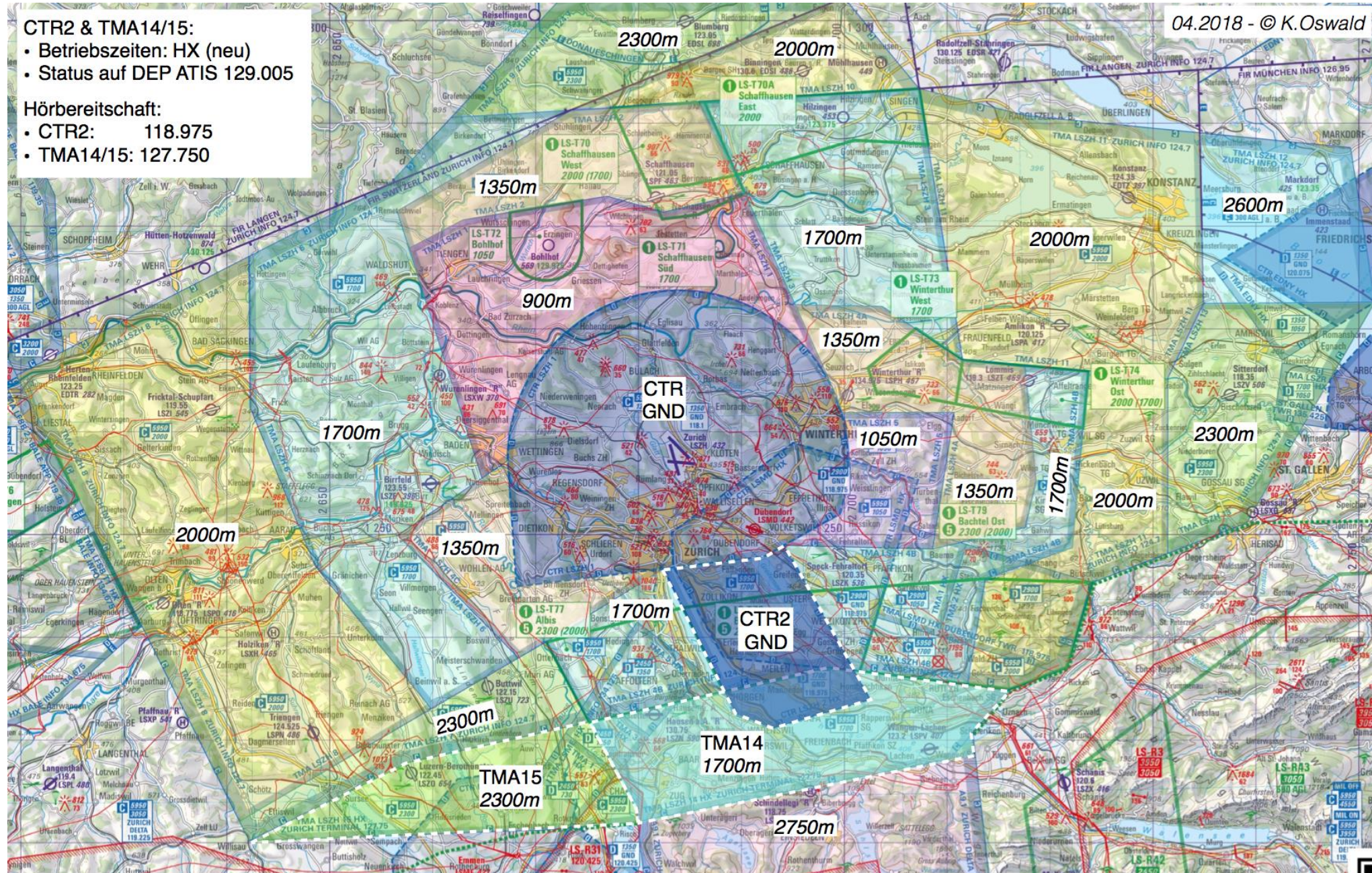
## CTR2 & TMA14/15:

- Betriebszeiten: HX (neu)
- Status auf DEP ATIS 129.005

## Hörbereitschaft:

- CTR2: 118.975
- TMA14/15: 127.750

04.2018 - © K.Oswald





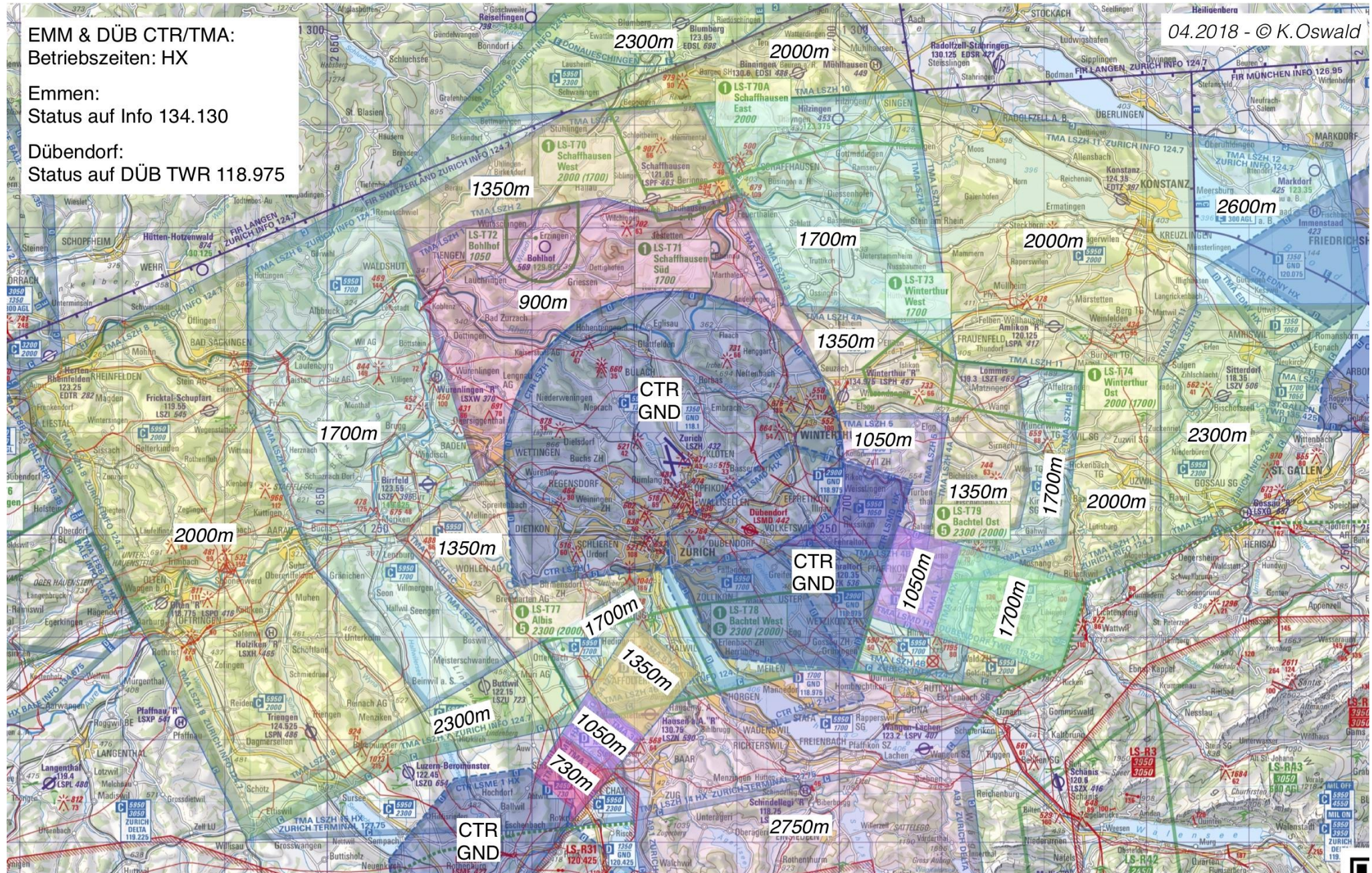
# TMA ZRH – Military LSME & LSMD active

EMM & DÜB CTR/TMA:  
Betriebszeiten: HX

Emmen:  
Status auf Info 134.130

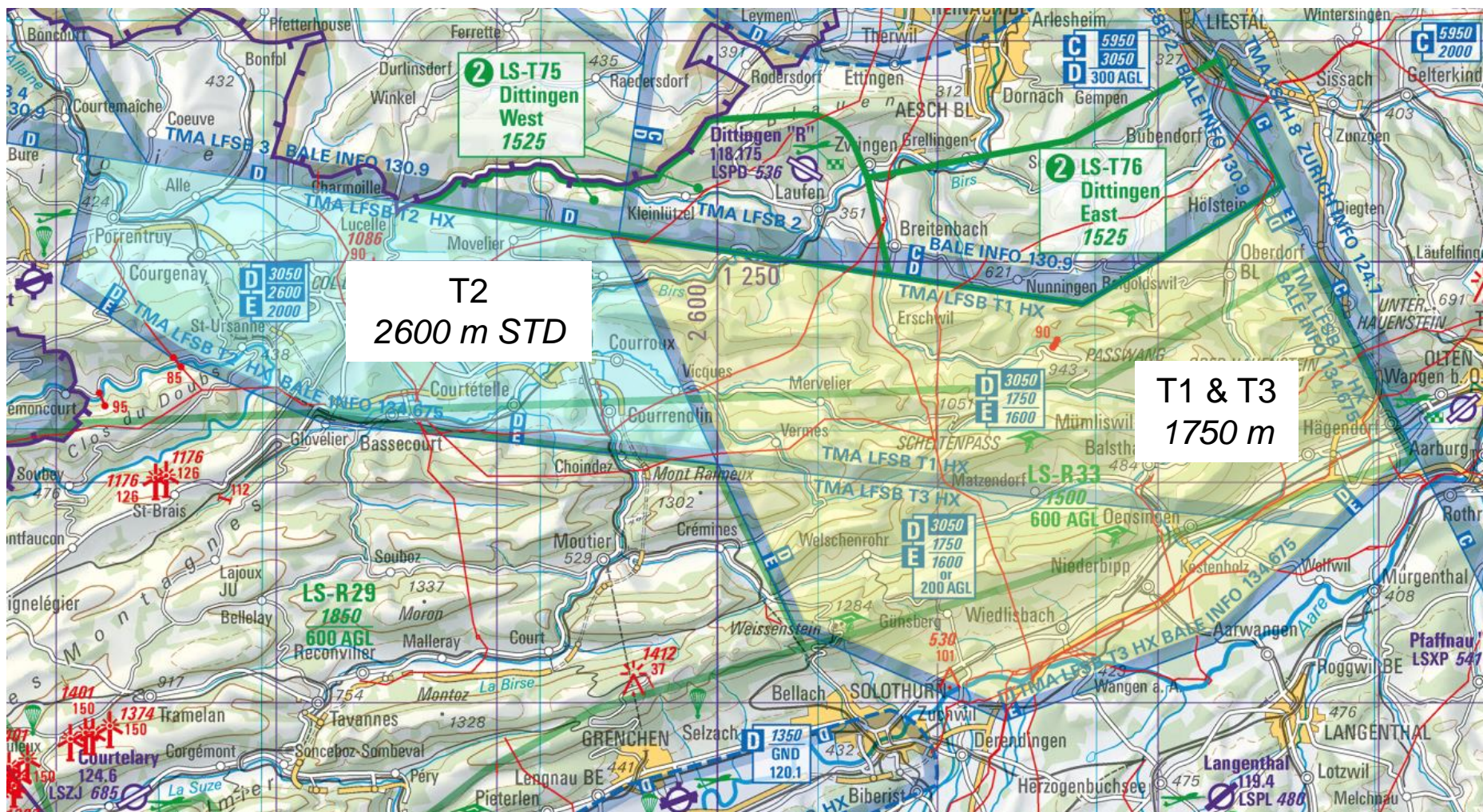
Dübendorf:  
Status auf DÜB TWR 118.975

04.2018 - © K.Oswald





# Tango Sectors Bâle





# Tango Sectors Bâle

- Status HX, frequency 134.680
  - Maintain listening watch

*Bâle TMA Tango sectors not active. Activation announced on frequency 134.680 MHz – Monitoring mandatory.*



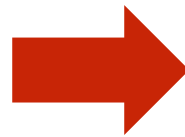
- Activation by ATC Bâle
  - Approaches from the South

*Activation of Bâle TMA  
Tango sectors at 0930  
UTC. Contact Bâle Info on  
130.9 MHz for transit  
clearance in D airspace or  
vacate the airspace.*

# Tango Sectors Bâle

- Call Bâle INFO on 130.9
  - Standard radio call for TMA

*Activation of Bâle TMA  
Tango sectors at 0930  
UTC. Contact Bâle Info on  
130.9 MHz for transit  
clearance in D airspace or  
vacate the airspace.*



- ATC clearance
- Transponder code (squawk)

*Bâle TMA Tango sectors  
active. Clearance and  
radio contact mandatory  
on frequency 130.9 MHz  
for transit in D airspace.*



# Tango Sectors Bâle

- Status HX, frequency 134.680
  - Maintain listening watch

*Bâle TMA Tango sectors active. Clearance and radio contact mandatory on frequency 130.9 MHz for transit in D airspace.*



- Deactivation by ATC Bâle

*Bâle TMA Tango sectors not active. Activation announced on frequency 134.680 MHz – Monitoring mandatory.*

# Airspace Infringement

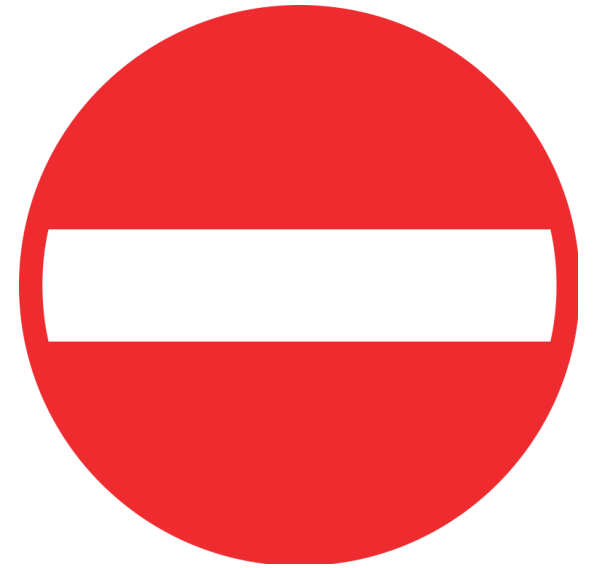
→ **Prohibited!**

*Possible consequences:*

- Fine up to 30'000 Fr.
- Withdrawal of pilot's license
- Charging of costs of investigation and compensation

*Reporting obligation:*

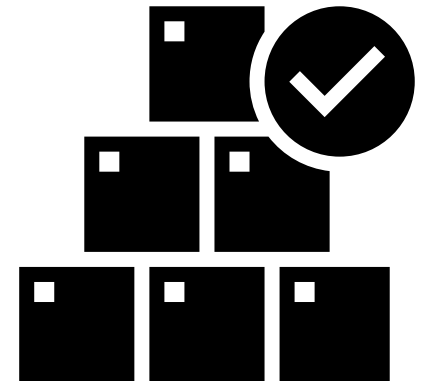
- Just culture
- Impunity for «honest mistake»
  - Intentional acts will always be punished



# Respect Airspace Boundaries

- I know how to operate my navigation instruments.
- I understand the relevant airspace structure.
- I ask for ATC clearance in a timely manner.
- I prepare my flight thoroughly.
- I comply with altitude limits.
- I fly with up-to-date charts.

→ *If necessary*: I report my mistakes.





# Changes as of 21. March 2024

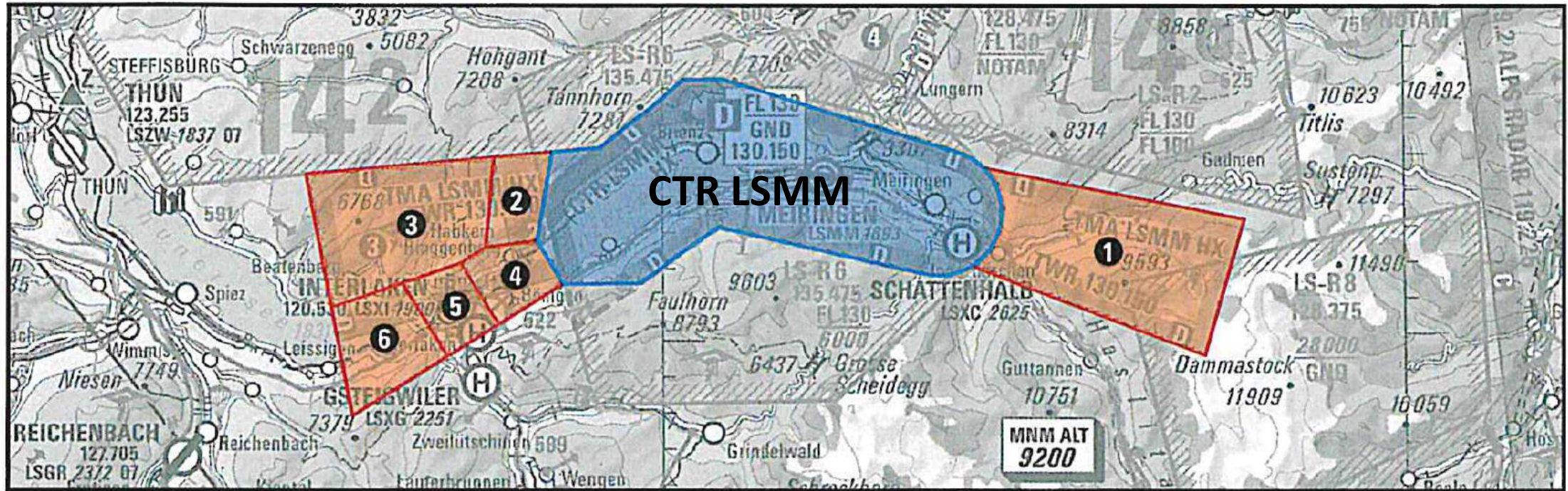
- Adaption of CTR and TMA Meiringen
- Adaption of LSR44 «Oberalp» (LSR for gliders outside TMA)
- Change of naming convention of special use airspace
- Reclassification of glider sector Grenchen (LSR83)

# Adaption CTR & TMA Meiringen

Reason: New IFR approach procedures (MIL RNP 055)

- No specific working hours (HX)
- Negligible changes to current CTR boundaries
- Lower limit of TMA 1 (East) raised from 5400 ft to 5500 ft
- Division of TMA 2 and 3 (West) into five sectors
  - No noticeable extension of controlled airspace during normal operations
  - Southwest sectors only activated for meteorological/operational reasons
  - Result of a compromise with Swiss hang-gliding association

# Adaption CTR & TMA Meiringen



TMA 1: 5500 ft – FL130

TMA 4: 5500 ft – FL130

TMA 2: 7500 ft – FL130

TMA 5: 7500 ft – FL130

TMA 3: 8500 ft – FL130

TMA 6: 9500 ft – FL130

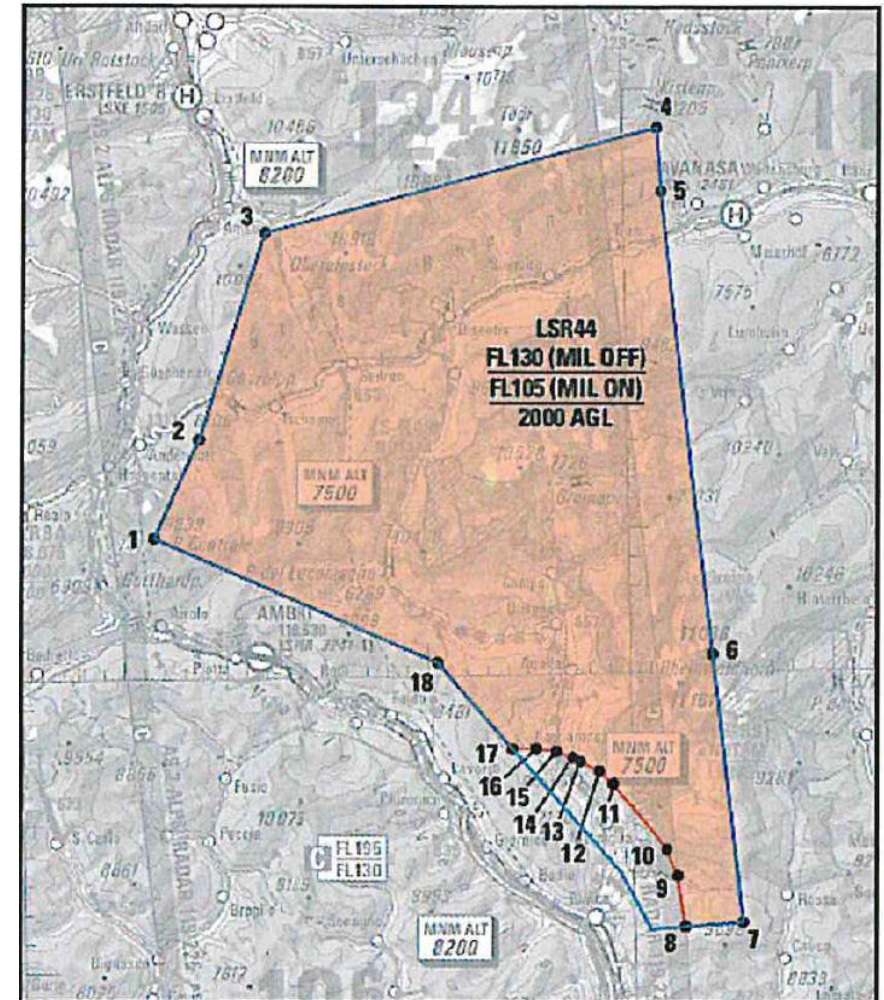


# Adaptation LSR44 «Oberalp»

Reason: Holding pattern for helicopters using the Low Flight Network (LFN)

- Marginal reduction of LSR for gliders
- Usage analysis of holding is planned

→ Minuscule impact on glider flying



# Naming Convention LSR/LSD

Reason: Harmonization with European standards

- Removal of hyphen and spaces
- *LS-R* is now called *LSR*
- *LS-D* is now called *LSD*

→ No impact on glider flying





# Reclassification LSR83 Grenchen

Reason: New legal basis

- Dimensions unchanged
- LSR for gliders within CTR
  - Former «glider sector»
- Usage according agreement
  - Skyguide and local flying clubs

→ No impact on glider flying

