Sightseeing the Alps in a C172

This tour will guide you to many of the most famous mountains, valleys, glaciers, snowfields, winter and summer vacation areas, etc. in the European Alps. In addition there are several hints to visit nearby areas of interest. On the tour you will visit Switzerland, Italy and France.

Simulating a C172 in 12.000 feet close to high mountain-peaks present some new challenges! e.g. watch out for "blue sky turbulences", especially near rims and peaks. And do not forget to readjust your Gyro Compass after heavy turbulences, because my course directions are given as indicated magnetic bearings.

The following description is based on FlightGear (with ATLAS) but works also for the MS-FSX. If you try it on both you will discover the superior scenery/terrain-details of the FlightGear!

You need scenery e000n40. See an ATLAS overview of the flight by clicking on
     Part-1 from Buochs to Visp,   this one takes about 50 Min. in air
  and   **Part-2** from Visp to Geneve,   this one takes about 60 Min. in air
I suggest to set the visibility to 30 miles (if your system allows). Other parameters you may see in my   Startup-cmd-file and weather settings..

Synonyms inside German names:

German/Swiss	English	Category	Marked like:
..see	lake	Water	**Name**
..pass, ..luecke ..horn, ..spitz ..gletscher, ..firn	passage, rim peak glacier, snowfield	Mountains	**Name**(meter-feet)
..tal	valley		**Name**
..stadt, ..dorf	city, village	Villages	**Name**

Markings in the following flight description:
➔ marks flight-instructions and the general course. I suggest an altitude of 12,000 feet.
•   marks additional sightseeing informations
ref: marks an interesting link into the Internet. Additionally you may find almost any of the named mountains, villages, etc. in the Internet (e.g. wikipedia.org)
dev: marks an interesting/possible deviation from the proposed tour
Text with yellow background marks changing VOR settings and/or a quick indication of the actual position, like e.g. "MOT 27.5 NM". The later defines the indicated distance in miles form the VOR MOT (frequencies are given in the 2nd column of the table). In these cases the VOR-radial is of no importance (assuming you are in the described valley on the defined course!).

By the way: I am not involved in the tourism business – I am just a German Fan of beautiful landscapes (and Flight-Simulators).

If you do have problems, proposals, questions, comments, etc. → please contact me: j-emmerich@online.de

Buochs (country = **Switzerland)** (Kanton "**Nidwalden**")	N46°58'15 E08°23'24 VORs: KLO 114.85 FRI 110.85	→ ~80°	**START at Buochs** (LSMU-07R) towards **Riggi-Scheideck**(1662-5453) (in MS-FSX: LSMU=LSZC) → **follow the Vierwaldstaettersee (= "Lake Lucerne")** to the right → **start normal climbing to 12000 feet**. VOR FRI will start indicating above 3500. • If you are bored looking on water, watch the parade of mountains on the right and left. *dev: Just NW across the lake is Luzern. Further north you find Zuerich, VOR KLO 114.85* *ref: http://www.airportbuochs.ch/index.php?lang=english (or German)* *ref: http://en.wikipedia.org/wiki/Lake_Lucerne (or ..//ge.wiki..)*

Brunnen
 	
(Kanton "**Uri**",
probably the most
known Swiss Kanton
(in crossword-
puzzles))
	N46°59'11 – E08°34'10
	
	KLO 114.85 176° from 27.9 NM
	FRI 110.85 078° from 57.0 NM
		→ ~170°	→ **Follow the bending of the lake to the right** (now called **Urnersee**) towards
			      Amsteg via **Altdorf** etc.
			ref: http://en.wikipedia.org/wiki/Canton_of_Uri
			• At the inside corner of this bend you see **Seelisberg** with the mountain-meadow "**Ruetli**", the legendary place of the "**Ruetlischwur**". That is comparable to the declaration of independence in the USA (1776) – but already in 1291! The source of many stories all over Europe and all the pride of the Swiss people (besides banking)!!!
			      ref: http://en.wikipedia.org/wiki/Ruetlischwur
			• Straight ahead, at the end of the valley is **Mt.Bristen**(3072-10079)
			• you are now following the E35 towards Italy . That is the Europe-Highway 35, from Amsterdam in the Netherlands (North-See) via Germany and Switzerland all the way to Rom (Italy, Mediterranean See). There you expect lots of vacation traveling!
			      ref: http://en.wikipedia.org/wiki/European_route_E35
			• from KLO 34.0 NM you see far to the left the **Sandalppass** between the very dominant peaks of **Schaerhorn**(3.295-10,810) and **Toedi**(3614-11857)
			• from KLO 37.8 NM: If you are above 7000 you can watch the peak of Mt. **Titlis**(3238-10326) wandering across a nice valley, guarded by the Great- and Small- **Spannort**.
			• half left in the distance there appears the peak of Mt. **Oberalpstock**(3328-10919)
			      ref: http://de.wikipedia.org/wiki/Oberalpstock
			• directly left of **Amsteg** is the Mt**. Windgaellen**(3188-10459)

Amsteg	N46°46'19 E08°40'07 KLO 114.85 172° from 41.4 NM FRI 110.85 089° from 59.9 NM	→ ~225°	→ **continue to Wassen,** keeping the **Mt. Briston**(3072-10079) on your left • straight aheadp you see already the **Rohnegletscher** (the spring of the **Rhone**-river) with Mt. **Galenstock**(3583-11755), etc. *ref: http://en.wikipedia.org/wiki/Rhone*
Wassen	N46°41'44 E08°36'21 KLO 114.85 176° from 45.8 NM FRI 110.85 095° from 57.5 NM	→ ~195°	→ **Andermatt** via **Goeschenen-Pass**(2318-7605) *dev: Over Wassen you could turn to 290° following the valley Meiental via the Sustenpass(2224-7297) towards Brienzersee etc. (See similar at Furkapass)* *dev: Andermatt is in the 2ⁿᵈ valley after Wassen! The 1ˢᵗ one heads directly across the Rohnegletscher. you could try that by turning to 260° at KLO 47.5 NM, but be sure to be well above 10.000 feet! We then meet again over the Grimselsee.*

Andermatt	`N46°38'34  E08°36'02`
	
	`KLO 114.85 178°` <mark>`from 49.6 NM`</mark>
	`FRI 110.85 099° from 57.4 NM`
		→ ~256°	• Just about 3 miles east of **Andermatt** is **Rossbodenstock** with the spring of the **Rhein**.
			→ **Furkapass**(2431-7975)
			→ keep the **Rhonegletscher** (quell of *the* **Rhone**-river) on the righ.
			• half way the very dominant **Finsteraarhorn**(4274-14022) will appear (*see picture*), just left of the **Rhonegletscher.**
			ref: *http://de.wikipedia.org/wiki/Rhonegletscher (sorry – under "..//de.wiki.." there are much nicer photos and descriptions! Of course you may switch to English!)*
			dev: *Over* **Andermatt** *you could turn into the valley of the (very young)* **Rhein** *at about 70°. You then would get via the* **Oberalppass***(2044-6706) to* **Chur**, **Lichtenstein**, *and finally to the* **Bodensee** *in* **Germany**.
			dev: *About 3 NM after* **Andermatt** *you could turn left, continuing to follow the E35 towards the* **St.Gotthard**-*Pass(2108-6916) towards* **Ariola** *and* **Lake Magiore** *and* **Milano** *in* **Italy**

Furkapass
 	
(Kanton "**Wallis**")
	`N46°34'20  E08°24'38`
	
	<mark>`MOT 115.85`</mark> `246°` <mark>`to   40.8 NM`</mark>
	`FRI 110.85 103° from 51.0 NM`
		→ ~270°	*ref:* *http://de.wikipedia.org/wiki/Furkapass (sorry: on ..//en.. there are less text and pictures!)*
			→ lake **Grimselsee** thru **Grimselpass**(2165-7103)
			dev: ***If you are not above a very minimum of 9500 feet at this point** you better do not go through the* **Grimselpass** *to the lake, but follow the Rhone-valley at the left of the Mountains left of the lake (at ~235°). We then meet you again in Visp, see further down. (Compare ATLAS 1)*
			dev: *Over the* **Grimselpass** *you could take the valley of the* **Aare** *(at ~325°). You then reach the* **Brienersee** *and* **Thunersee** *and the cities of* **Meiringen**, **Brienz**, **Interlaken**, **Spiez, Thun,** *and finally* **Bern**.
			• The **Furkapass** marks the east/west watershed in Europe (e.g **Rhone** → west, **Rhein** → east)
			    ref: *http://en.wikipedia.org/wiki/Rhine ; http://en.wikipedia.org/wiki/Rhone*
			• The **Grimselpass** is one of the earliest south/north paths through the Alps used by human beings

From above lake
Grimselsee
 	
(Kanton "**Bern**")
	`N46°33'52  E08°19'02`
	
	`MOT 115.85 244° to` <mark>`37.0 NM`</mark>
	`FRI 110.85 106° from 47.0 NM`
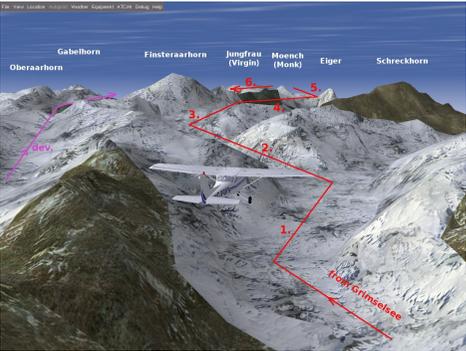	
	(Mouse-Click to size up)
		→ ~275°	*dev:* *If you are in a hurry, you could instead of following the 7 items below follow the* **Oberaargletscher** *(the valley at the left side (see pink "dev." arrow in picture)) leading directly to the passage just left of the* **Finsteraarhorn** *– after that you cross the* **Jungfraufirn** *and head straight towards the valley to the* **Loetschenluecke**. *(See next table-item).*
			→ **Visiting the Virgin and her Monk** *(compare picture on the left)*
			   ref: *http://en.wikipedia.org/wiki/Jungfrau*
			1. follow the **Unteraargletscher** on 275° just between **Hinder Stock** (3307-10845) right and **Scheuchzerhorn**(3452-11325) left
			2. at <mark>MOT ~33.0 NM</mark> follow the **Finsteraargletscher** to the left on 245°, straight towards the dominant **Finsteraarhorn**(4274-14022). Follow the higher glacier directly beneath the **Finsteraarhorn** to the right
			   ref: *http://en.wikipedia.org/wiki/Finsteraarhorn*
			3. then <mark>steer ~290°</mark>, alongside the **Fiescherhoerner**
			4. at ~MOT radial 237 follow the glacier **Fieschergletscher** at ~280° towards the rim between **Moench** (*monk*) (4099-13448) left and **Eiger**(3970-13025) right. stay close to the **Eiger**. (The rim is **11800** feet – so you might wish to be a little **above 12000 feet!!**)

			• If you have time above the rim, look straight ahead: In 4 NM there is **Wangen** with the **Lauberhorn** (2472-8110), you may know it from the FIS Worldcup Skiracings. *dev: You also could go outside around the **Eiger** - but that's boring!* 5. over the rim (~MOT 26.1) turn sharp left to 220°, then around the **Moench** to ~135°, passing through the **Jungfraujoch**(3475-**11401,** watch your altitude) • keeping the **Jungfrau** (*virgin*) on our right(4158-13642). 6. Follow the **Jungfraufirn** until intercepting Radial MOT 240°. • This is a famous area for summer-skiing. • Passing **Fiescherhoerner** and **Gruenhorn**, now on the left. 7. turn right between **Gletscherhorn**(3983-13068) left and **Dreieckhorn** (3811-12503) right. • Follow the Radial MOT 240°, i.e. the "**Aletschfirn**" towards the **Lötschenluecke** into the **Lötschental** • Just behind yourself you may see again the dominant **Finsteraarhorn**. • Directly at the left of the **Loetschenluecke** is the **Aletschhorn**(4195-13743)

Loetschenluecke
 	
(Kanton "**Wallis**")
	`N46°28'27  E07°57'47`
	
	`MOT 115.85 240° to  21.4 NM`
	`FRI 110.85 120° from 38.6 NMp`
		→ ~245°	→ **Visp**
			Follow the **Langgletscher** into the valley **Loetschental.**
			On the way you may look for the following mountains:
			
			| VOR MOT from ... NM
				On the left	On the right

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~21.4	**Aletschhorn** (4195-13743)	**Grosshorn** (3762-12343)
~20.0	**Schinhorn** (3797-12457)	**Breithorn** (3782-12408)
~17.6	**Nesthorn** (3824-12546)	**Birghorn** (3243-10640)
~16.0	**Bietschorn** (3934-12907)	**Sackhorn** (3212-10538)
~14.5	**Wilerhorn** (3307-10850)	**Hockenhorn** (3293-10804)
~13.8	**Hohgleifa** (3279-10758)	**Rinderhorn** (3454-11332)	 → **At MOT 12.4 NM turn to 180°** *Dev: If at this point you turn to 310° instead, you reach the famous FIS world-cup skiing area of Adelboden after about 10 NM.* → **intercept radial MOT 94° from** towards the east.
dev: Before **Visp** you may take a break at **SION** (VOR SIO 112.15 (just a little behind VOR MOT), **LSGS** at 1578 feet, Rwy 8L-26R, Twr. 118,275) (see picture Part 2) *dev:* If you descent early enough, you could also take a coffee just before **Visp** at **Turtmann** (**LSTA**, 2051 feet, Rwy 09-27, VOR-MOT from 90° at 13 NM). Then starting in LSTA • and continuing to **Zermatt** may become interesting, because you probably have to circle over **Zermatt** in order to climb to 12000 feet prior to heading for the rim!! • *or dev:* You could follow the valley to **Brig** (MOT 20.0 NM at 90°) and turn to ~150°, following the E62 (European Highway, *ref:* http://wapedia.mobi/en/European_route_E62) via the **Simplonpass**(2005-6578), passing the **Lagginhorn**(4010-13156) to **Italy** and the **Lago Maggiore** with **Ascona**, **Locarno**, etc. You then could follow latitude 46° eastward heading for **Lago di Como** via **Lago di Lugano**. Finally you could land in **Lugano** (LSZA, 912 feet, Rwy 01-19, Twr. 119.7, VOR LUG 111.50) – or other famous cities. But **caution:** Finding your (simulated) way across the **Simplonpass** is a little tricky! You need a good chart and always know exactly where you are!!			

Visp	N46°17'31 E07°52'09 MOT 115.85 94° `from 14.9 NM` FRI 110.85 126° from 39.6 NM (Mouse-Click to size up) The "Guards" alongside the Swiss – Italian border at Zermatt	→ ~190° → ~225° → ~195°	→ **Zermatt** **ref:** http://en.wikipedia.org/wiki/Zermatt and http://en.wikipedia.org/wiki/Matterhorn →**Follow Vispertal and Mattertal** On the way you may look for mountains at about radial 330° from FRI:

Table under Zermatt column:

VOR FRI from ... NM	On the left	On the right
~46.0	**Festihorn**(3090-10138)	**Faerichhorn**(3290-10794)
~47.5	**Barrhorn**(3610-11844)	**Breithorn**(3178-10427)
~48.5	**Brunegghorn**(3838-12592)	**Nadelhorn**(4327-14197)
~49.0	**Weisshorn**(4505-14780)	**Dom** (Cathedral)(4545-14911)
~49.5	**Zinalrothorn**(4221-13848)	**Alphubel**(4208-13806)
~50.8	**Ober Gabelhorn**(4063-13330)	**Rimpfischhorn**(4199-13776)
Depending on your altitude the famous **Matterhorn**(4478-14692) will be visible sooner or later and guide you to **Zermatt**. (Compare picture on left)		

Zermatt	N46°00'13 E07°42'53
	MOT 115.85 155° from `20.7 NM`
	FRI 110.85 155° from 50.8 NM
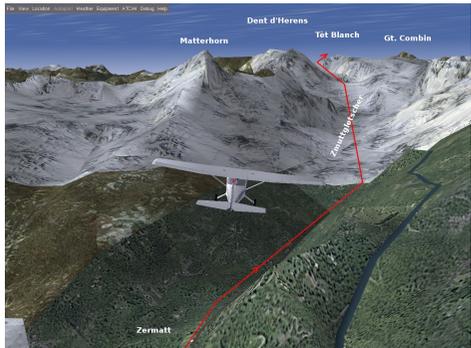	
	(Mouse-Click to size up)
		→ ~270°
		→ ~240°
			→ **To the Rim:**
			  → At `MOT 20.7` turn right to 270°.
			  → Then at `MOT 160°` turn to heading 230°.
			Of course you may take a more direct way to the rim – but do not underestimate the side drifts by wind etc.! Between high mountain-peaks the air might behave different than expected! (Even in a Simulator (as good as FGFS)).
			
			→ **Follow the Glacier Zmuttgletscher** just right of the **Matterhorn** - all the way to the rim between **Dent d'Herens**(4171-13684) left and **Tét Blanch**(3724-12218) right.
			
			Watch your height! Should be 12000 feet minimum!

| Above the rim **after Zermatt**
 	
(now following the border **Switzerland**/**Itally**)
	N45°58'20 E07°35'34
	
	MOT 115.85 `170° from` 20.9 NM
	FRI 110.85 162° from 50.7 NM
		→ ~265°	→ **Head towards the center** between the 2 very dominant Mt.'s in the half right distance, on the left **Mont Blanc**(4808-15771) and on the right **Gt. Combin** (4314-14154).
			Watch out for:
			  • on the right: **M.Collon**(3838-12592)
			  • on the left: **La Singla**(3714-12185) and **Gd. Tète de By**(3588-11772)
			We now pretty much follow the **Swiss/Itallien** border towards **France** – so keep your Passports handy!

Just after the rim between right **Gd.Combine** and left **Gd.Tète de By**	N45°54'08 E07°14'12 MOT 115.85 `203° from` 27.0 NM FRI 110.85 180° from 52.6 NM	→ ~255°	→ **Towards Mont Blanc**(4808-15771), the highest mountain in the Alps and 2nd highest in Europe! Higher is only the **Elbrus**(5642-18510) in the Russian Caucasus. → **Intercept `MOT 218° From`** and follow it into the valley towards south. *dev: From this rim you also could turn to 310° into the valley of the Drance, to eventually hit the Rohne-valley with Martigny, St.Maurice, and finally Montreux at the Genever See.*
In the valley east of **Mont Blanc**	N45°46'38 E06°52'58 MOT 115.85 218° from `41.3 NM` `GVA 115.75 310° to` 42.5 NM	→ ~310°	→ **to the rim** between on the left **Dome du Miage**(3671-12044) and on the right **Mont Blanc**(4808-15771) *ref: http://en.wikipedia.org/wiki/Mont_Blanc* *dev: You could follow the valley, cross the St. Bernadino Pass to Aosta, Italy, Milano, etc.* *dev: 22 Miles south from here is Val d'Isér, another famous FIS Worldcup Skiing area.*
Rim between **Dome du Miage** and **Mont Blanc** (entering "**France**")	N45°49'24 E06°48'51 MOT 115.85 224° from 41.2 NM GVA 115.75 `312° to` `38.5 NM`	→ ~325°	→ **Cut between les Dents Blanches**(2752m) right and **les Avoudrues**(2666-8747). → **Start descend**, **not below 6500**. → **Intercept `Radial GVA 302°` to Geneve** (at ~24 NM) • Have a look backward to the **Mont Blanc:** It looks even more impressive from this side.! *dev: You could make a steep descend to land in LFHZ (Mt.Blanc, 1755 feet, Rw. 35-17, no Tower etc.). But I like to land in Cointrin like all the political and banking big-shots. May be even do some ILS-training at LSGG.*
On radial VOR GVA 302° **Geneve** is again in **Switzerland**	N46°02'43 E06°48'50 GVA 115.75 `302°` **LSGG** at 1411 feet ATIS = 124.75 Tower = 118.70 ILS/DME 05L = 110.90 ILS/DME 23R = 109.90	→ Radial 302°	→ **Follow the Radial to Geneva** Airport International Cointrin → **After passing Mt.les Molè**(1869-**6132**) (`GVA 15.8 NM`) you may descend to 2500. Do not misinterpret the LFLI (Annemasse) with LSGG. Cointrin is on the other side of the lake! *ref: http://en.wikipedia.org/wiki/Geneve* *ref: http://en.wikipedia.org/wiki/Geneva_Cointrin_International_Airport for general Infos and http://worldaerodata.com/wad.cgi?id=SZ35465&sch=LSGG for details.*
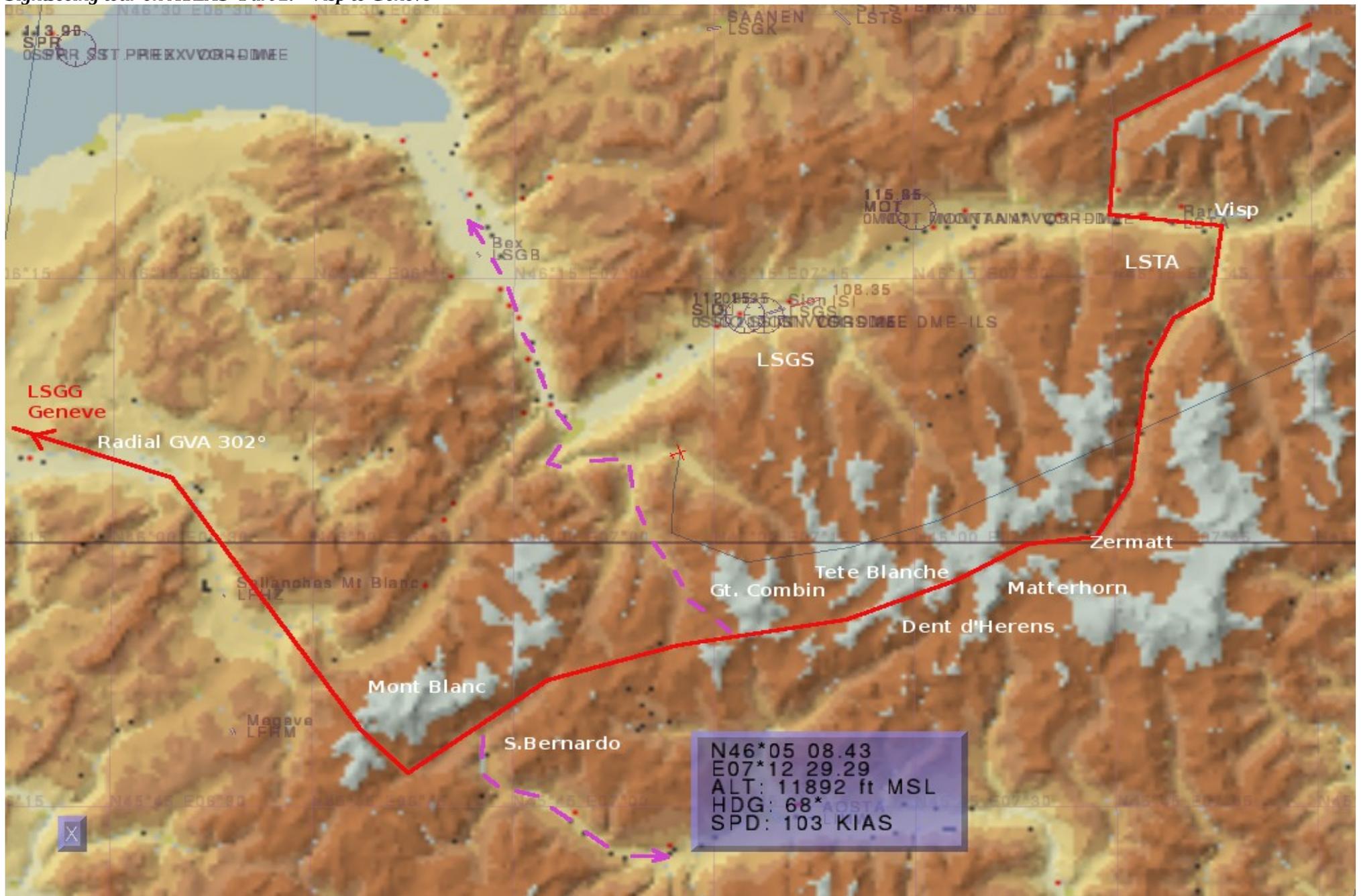
Sightseeing tour: Visiting the Virgin
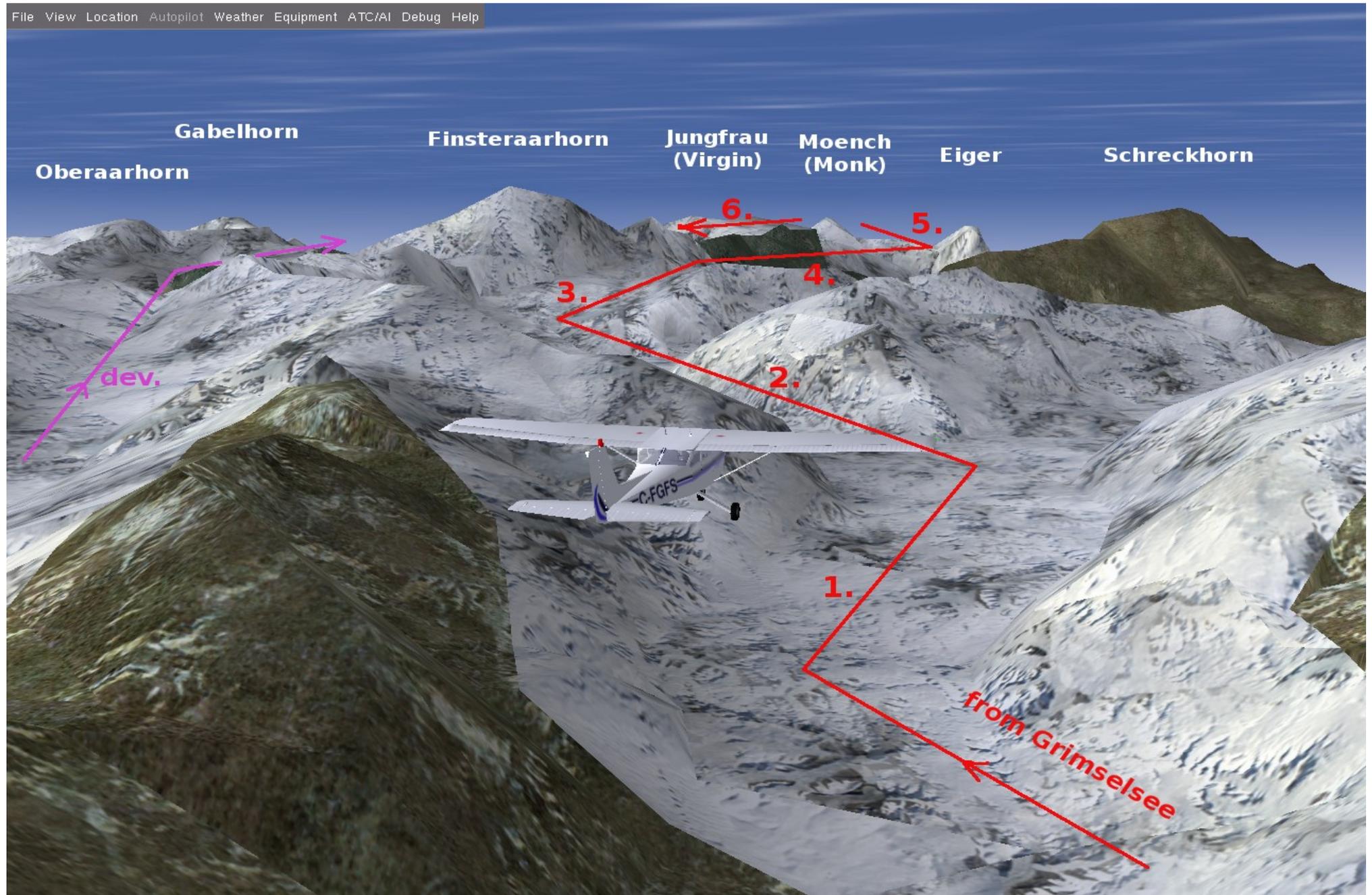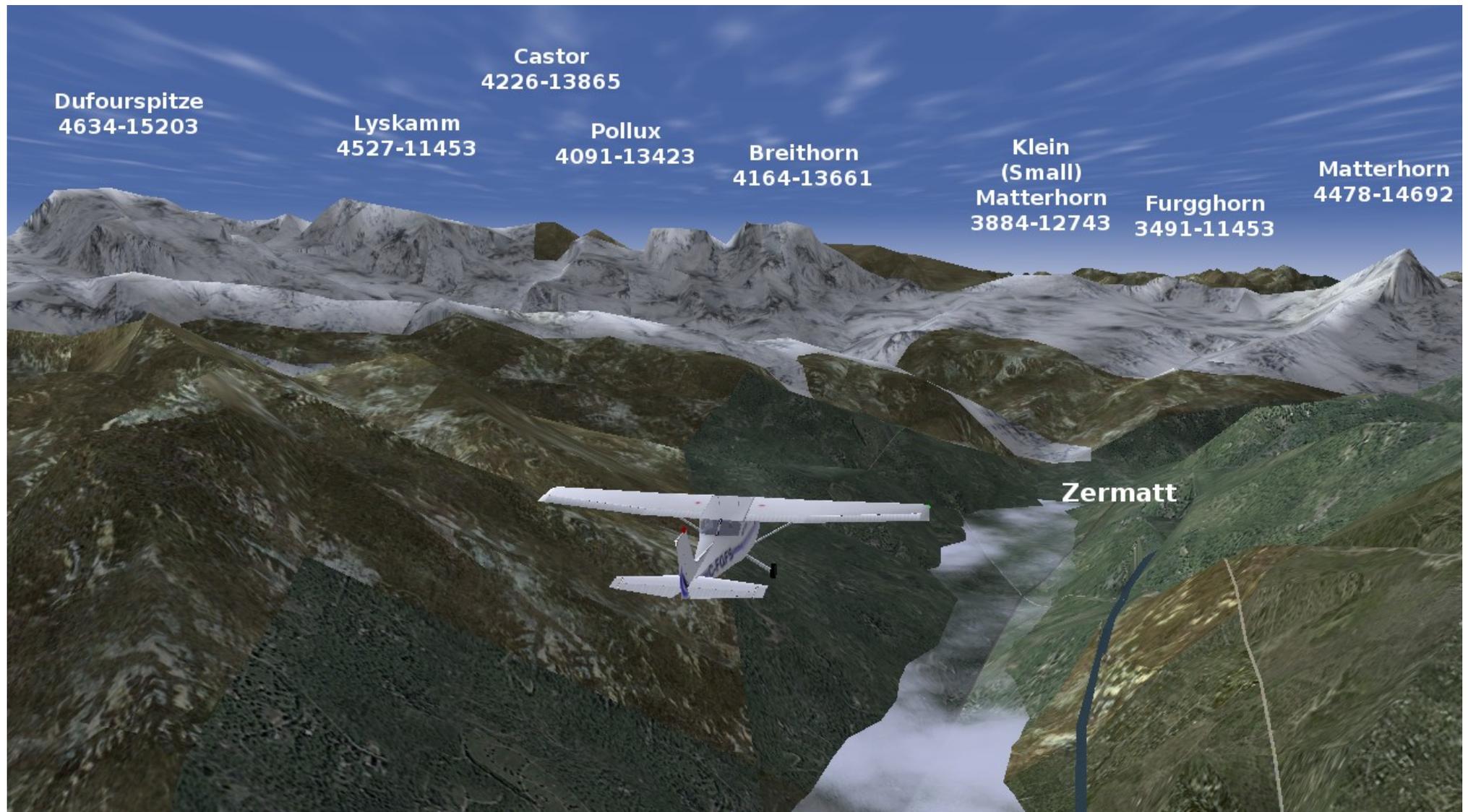
*Sightseeing tour: The Matterhorn Pass through*

Sightseeing the Alps in a C172
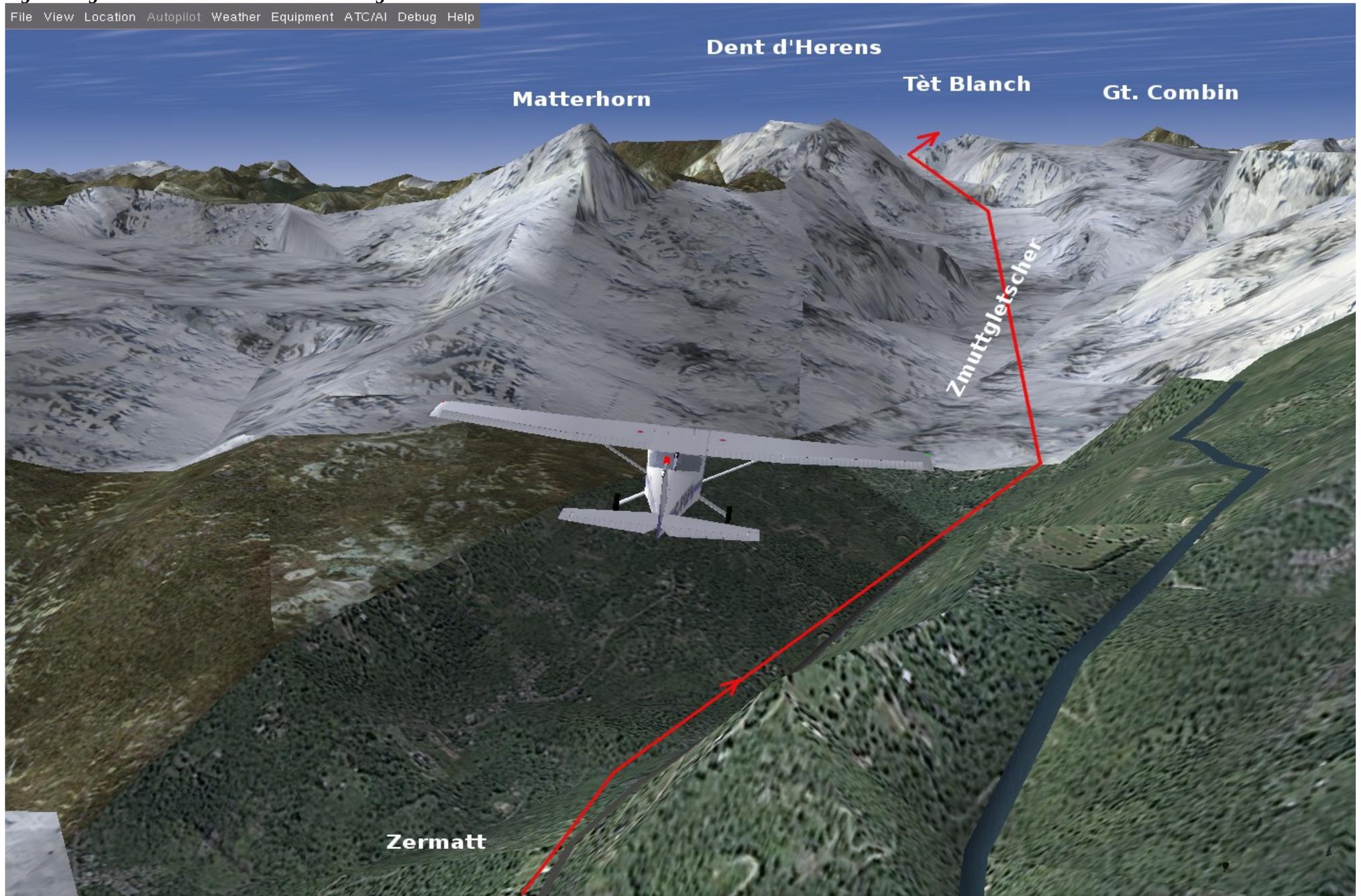
My FGFS-Start-File   (I use UBUNTU)

```
#!/bin/bash

fgfs    --aircraft=c172p \
        --prop:/sim/sound/voices/enabled=true \
        --airport=LSMU \
        --runway=07R \
        --com1=119.625 \
        --com2=118.7 \
        --nav1=178:114.85 \
        --nav2=078:110.85 \
        --dme=nav2 \
        --heading=80 \
        --nmea=socket,out,0.5,,5500,udp \
        --enable-sound \
        --httpd=5400 \
        --log-level=info \
        --enable-fullscreen \
        --fog-disable \
        --disable-real-weather-fetch \
        --visibility-miles=30 \
        --start-date-sys=2009:01:01:10:00:00 \
        --callsign=JE111 \
```

The Weather Conditions during my Flights (= Standard settings)

Weather Conditions

Aloft (All Elevations ASL)

Layer	Elev (ft)	Wind Dir	Wind Spd	Turb	Vis (m)	Temp (C)	Dewpt (C)	Alt (inHg)
5								
4								
3	9000	320	30		48280.3			
2	6000	310	20		48280.3			
1	3000	300	10		48280.3			29.92

Boundary Layer (All Elevations AGL)

Layer	Elev (ft)	Wind Dir	Wind Spd	Turb	Vis (m)	Temp (C)	Dewpt (C)	Alt (inHg)
3								
2	500	280	6		48280.3			
1	0	270	3		48280.3	15.0	5.0	29.92

Boundary transition depth   500

Compare: FlightGear Menu → Weather → Weather Conditions