

The purpose of this document is to show how to use the weather model soarGFS at the soaringmeteo.ch website. SoarGFS is a synoptic scale weather model. It is specific to the forecasts of thermal soaring. It provides forecasts for 7 days.

SoarGFS

Jean Oberson – soaringmeteo.ch - © 2013.

SoarGFS draws its data from the famous American model GFS, (global forecast system), global and macroscale. Its horizontal resolution is 0.5 degrees.





Soaringmeteo.ch: Météorologie pour pilote

[Home](#) - [soarGFS 0.5°>](#) - [soarWRF résolution 2K init 06Z>](#) - [soarWRF résolution 2K init 18Z>](#) - [Docs perso>](#)

Let us visit the main page of the website.

Bienvenue sur la page principale de Soaringmeteo.ch !

Auteur et responsable du site web : Jean Oberson, pilote et instructeur OFAC de parapente.

Vous trouverez ici des [soarGFS 0.5 degree](#) conditions de vol de soaring thermique (parapentes, deltas et planeurs) sur les Alpes. Il y a aussi de nombreux documents originaux pour comprendre la météo du vol de soaring et l'utilisation du parapente. La notion de **couche convective**, appelée aussi couche limite atmosphérique diurne, "boundary layer" en anglais, abrégée CC en français et BL en anglais, habituellement non enseignée lors de la formation de pilote, est ici omniprésente.

Ce site Web a été optimisé pour les navigateurs Internet récents. Il ne fonctionne pas avec MS-Internet Explorer 7 et 8 (MS-Windows XP). Pour celles et ceux qui ont XP, installez les excellents navigateurs Google Chrome et Mozilla Firefox, c'est gratuit.

Pour fonctionner de façon optimale, l'écran devrait avoir une hauteur d'au moins environ 1000 pixels, la fenêtre de votre navigateur devrait être ouverte aux dimensions maximales et les barres d'outils du navigateur, situées en haut, devraient être les plus minces et les moins nombreuses possible ! Si nécessaire, débloquez les fenêtres popup et activez Javascript dans les menus "options" ou "préférences".

NEWS :

RASP est mort, vive soa

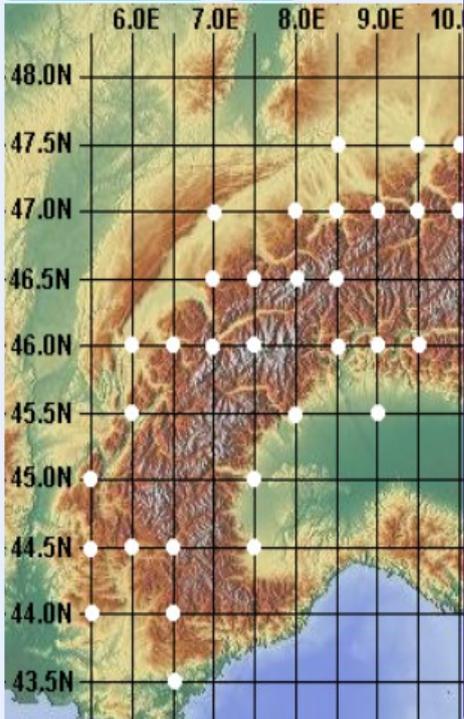
Le créateur de RASP, le D utilisait le modèle WRF (V laissé les sources de son de ce très fameux WRF (p tourne sur des serveurs d facilement. Progressivem de prévisions par jour, pr

Actuellement je me conce WRF, résolution 2Km sur

Le 13 mai prévisions soarGFS 0.5°, ressemblant, du point de ressemblent le plus aux j %) de ressemblance. Si p région, il seront affichés d'ascendance et le gain d

Prévisions GFS de la nuit, disponible vers 00:35Z, pour les 7 jours suivants, initialisation à 18Z la veille

Vue globale du ThQ dMSLP



You will now see 4 sketch maps of the Alps. Each of these four maps respectively represents each of the four cycles of forecasts. The most recent cycle is designated by a date and time written in red and bold. Always check the forecast date. **!!! In case of doubt do not hesitate to refresh the web page !!!**

At the top left are the available forecasts at about 2:00Z, that is to say, 3 a.m, winter time, or 4 a.m, summer time. The starting data were initialized at 18 Z at the day before. Forecasts are valid for the current day and for the next 6 days. To reminder Z means universal GMT, or UTC, that is to say, for simplicity, the time of Britain.

At the top right are the forecasts available at around 6:00Z, that is to say, 7 a.m in the morning, winter time, or 8 a.m., summer time. The starting data were initialized at midnight Z. Forecasts are valid for the current day and for the next 6 days.

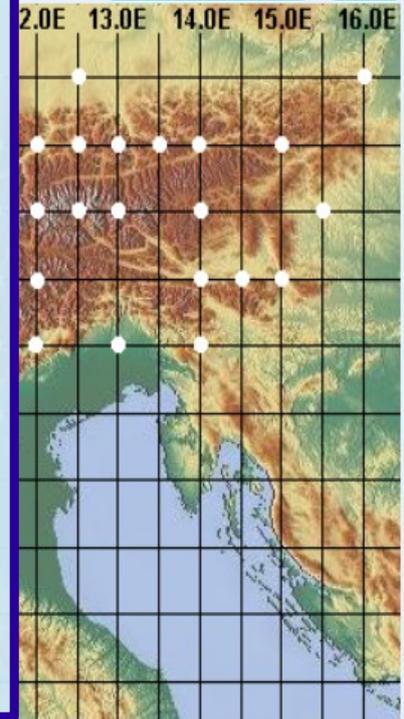
At the bottom left are the forecasts available at around 12:00Z, that is to say, 1 p.m., winter time, or 2 p.m., summer time. The starting data were initialized at 6Z. Forecasts are valid for the next 7 days.

At the bottom right are forecasts available at around 18:00Z, that is to say, 7 p.m., winter time, or 8 p.m., summer time. The starting data were initialized at 12Z. The forecast is valid for the next 7 days.

Each of these four maps are used in the same way.

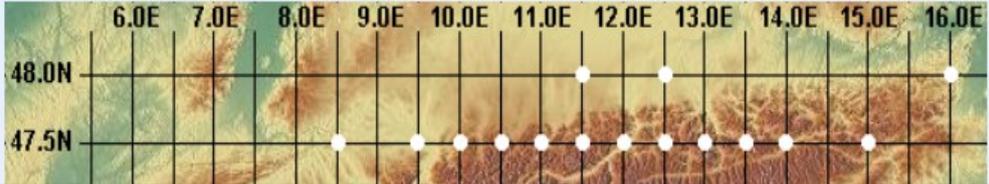
pour le jour courant puis les 6 jours suivants, initialisation à 00Z

Vue globale du ThQ dMSLP



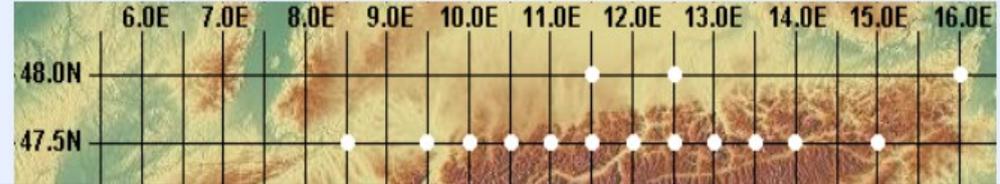
Prévisions GFS de l'après-midi, disponible vers 10:35Z, pour les 7 jours suivants, initialisation à 06Z

Vue globale du ThQ dMSLP



Prévisions GFS du soir, disponible vers 16:35Z, pour les 7 jours suivants, initialisation à 12Z

Vue globale du ThQ dMSLP





Consider for example the map at the top left, this one of the first cycle of prediction of the day. You can observe here three kinds of links:

Prévisions GFS de la nuit, disponibles les 6 jours suivants, initialisation à 18Z la veille

First link, dMSLP, which means differential mean sea level pressure, or the transalpine horizontal pressure difference at sea level.

Vue globale du ThQ **dMSLP**

The second link is: overview of THQ. This THQ or Thermal Quality is an overall assessment of the conditions for thermal soaring.

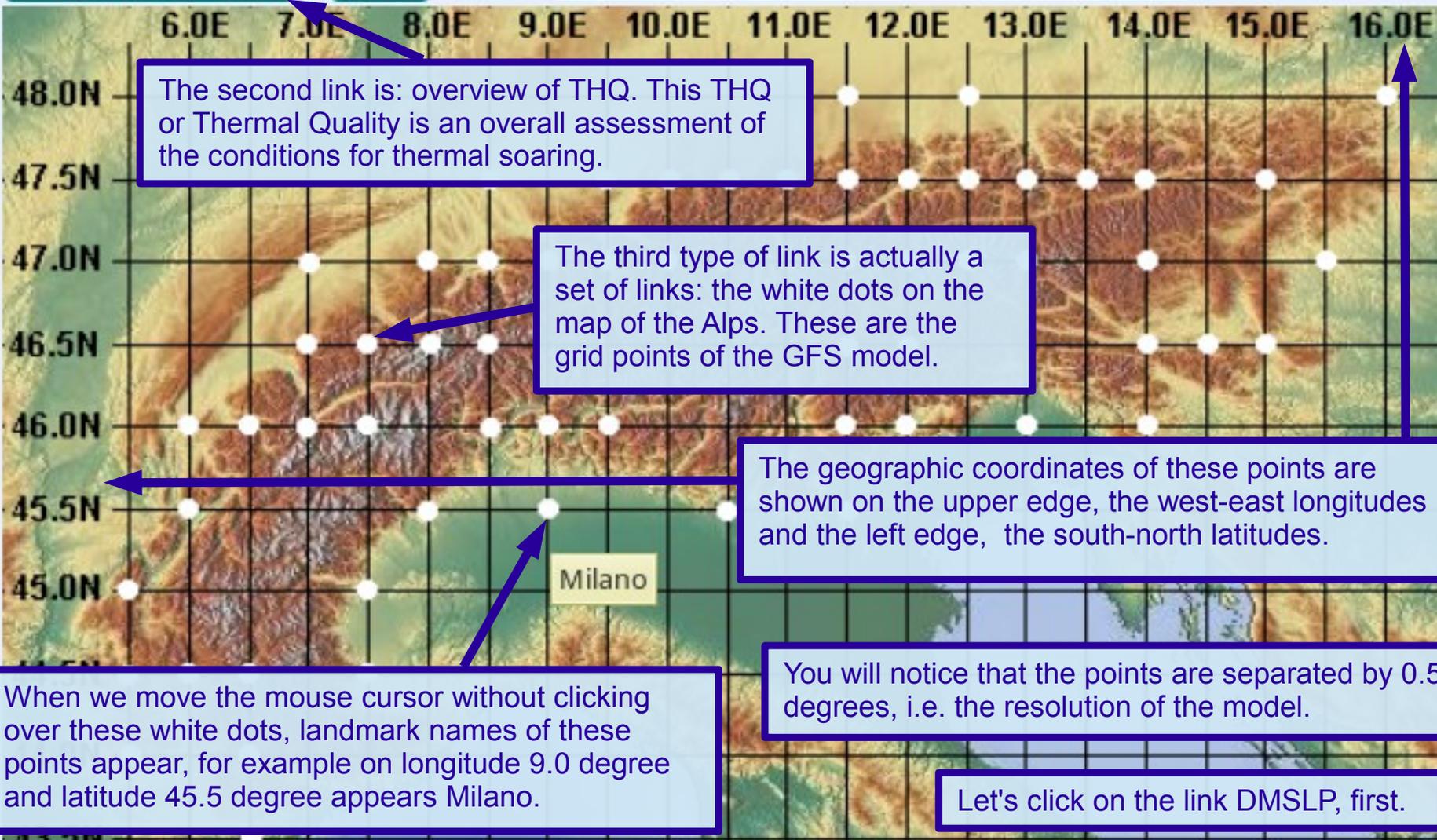
The third type of link is actually a set of links: the white dots on the map of the Alps. These are the grid points of the GFS model.

The geographic coordinates of these points are shown on the upper edge, the west-east longitudes and the left edge, the south-north latitudes.

When we move the mouse cursor without clicking over these white dots, landmark names of these points appear, for example on longitude 9.0 degree and latitude 45.5 degree appears Milano.

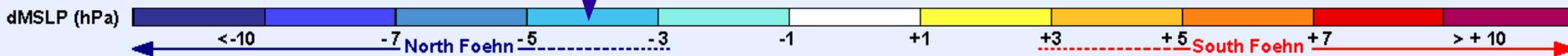
You will notice that the points are separated by 0.5 degrees, i.e. the resolution of the model.

Let's click on the link DMSLP, first.



On the top of the new page, there is a color scale. On the left, with increasingly dark blue, are the negative values of pressure difference. In the middle, in white, values are zero or nearly so. On the right, with yellow then red becoming darker, there are increasing positive values of pressure difference. By convention in soarGFS, blue negative values correspond to the north foehn, that is to say to a overpressure in the northern of the Alps, while red positive values correspond to the south foehn, that is to say, overpressure in the southern of the Alps.

Horizontal transalpine mean sea level pressure difference evolution during 7 days, from GFS 0.5° weather model :



Under this scale, there are four tables, corresponding to four areas of pressure difference.

Forecast date	Monday 03 June 2013			Tuesday 04 June 2013			Wednesday 05 June 2013			Thursday 06 June 2013			Friday 07 June 2013			Saturday 08 June 2013			Sunday 09 June 2013		
Initialization date and time: 02.jun.2013 18Z	+15h	+18h	+21h	+39h	+42h	+45h	+63h	+66h	+69h	+87h	+90h	+93h	+111h	+114h	+117h	+135h	+138h	+141h	+159h	+162h	+165h
Forecast time	09Z	12Z	15Z	09Z	12Z	15Z	09Z	12Z	15Z	09Z	12Z	15Z	09Z	12Z	15Z	09Z	12Z	15Z	09Z	12Z	15Z
Horizontal MSLP difference (hPa)	-5.3	-5.2	-5.9	-2.1	-1.5	-1.9	0.7	1.0	0.3	1.3	1.4	0.3	0.4	0.3	-0.3	0.7	0.8	0.6	1.9	1.2	2.0
Horizontal MSLP difference icon	Blue	Blue	Blue	Light Blue	Light Blue	Light Blue	White	Yellow	White	Yellow	Yellow	White	White	White	White	White	White	White	Yellow	Yellow	Yellow

Between N47-E8.5 (Zürich area) and N46-E9 (Lugano area)

Forecast date	Monday 03 June 2013			Tuesday 04 June 2013			Wednesday 05 June 2013			Thursday 06 June 2013			Friday 07 June 2013			Saturday 08 June 2013			Sunday 09 June 2013		
Initialization date and time: 02.jun.2013 18Z	+15h	+18h	+21h	+39h	+42h	+45h	+63h	+66h	+69h	+87h	+90h	+93h	+111h	+114h	+117h	+135h	+138h	+141h	+159h	+162h	+165h
Forecast time	09Z	12Z	15Z	09Z	12Z	15Z	09Z	12Z	15Z	09Z	12Z	15Z	09Z	12Z	15Z	09Z	12Z	15Z	09Z	12Z	15Z
Horizontal MSLP difference (hPa)	-6.3	-7.0	-7.7	-3.5	-2.5	-2.8	-0.3	0.2	0.1	-0.1	0.3	-0.3	-0.9	-0.5	-0.7	-0.3	0.2	0.2	1.3	0.2	0.6
Horizontal MSLP difference icon	Blue	Blue	Blue	Light Blue	Light Blue	Light Blue	White	White	White	White	White	White	White	White	White	White	White	White	Yellow	White	White

Between N48-E11.5 (München area) and N45.5-E11.5 (Vicenza)

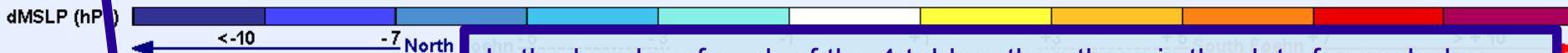
Forecast date	Monday 03 June 2013			Tuesday 04 June 2013			Wednesday 05 June 2013			Thursday 06 June 2013			Friday 07 June 2013			Saturday 08 June 2013			Sunday 09 June 2013		
Initialization date and time: 02.jun.2013 18Z	+15h	+18h	+21h	+39h	+42h	+45h	+63h	+66h	+69h	+87h	+90h	+93h	+111h	+114h	+117h	+135h	+138h	+141h	+159h	+162h	+165h
Forecast time	09Z	12Z	15Z	09Z	12Z	15Z	09Z	12Z	15Z	09Z	12Z	15Z	09Z	12Z	15Z	09Z	12Z	15Z	09Z	12Z	15Z
Horizontal MSLP difference (hPa)	-7.1	-8.0	-9.1	-4.2	-3.1	-2.9	-0.4	0.4	0.1	-0.4	-0.2	-0.5	-1.4	-0.9	-1.0	-0.8	-0.2	-0.3	1.6	2.1	1.6
Horizontal MSLP difference icon	Blue	Blue	Blue	Light Blue	Light Blue	Light Blue	White	White	White	White	White	White	Light Blue	White	White	White	White	White	Yellow	Yellow	Yellow

Between N44.5-E5.5 (Valdrôme area) and N44.5-E7.5 (Cuneo area)

Forecast date	Monday 03 June 2013			Tuesday 04 June 2013			Wednesday 05 June 2013			Thursday 06 June 2013			Friday 07 June 2013			Saturday 08 June 2013			Sunday 09 June 2013		
Initialization date and time: 02.jun.2013 18Z	+15h	+18h	+21h	+39h	+42h	+45h	+63h	+66h	+69h	+87h	+90h	+93h	+111h	+114h	+117h	+135h	+138h	+141h	+159h	+162h	+165h
Forecast time	09Z	12Z	15Z	09Z	12Z	15Z	09Z	12Z	15Z	09Z	12Z	15Z	09Z	12Z	15Z	09Z	12Z	15Z	09Z	12Z	15Z
Horizontal MSLP difference (hPa)	-5.3	-5.2	-5.9	-2.1	-1.5	-1.9	0.7	1.0	0.3	1.3	1.4	0.3	0.4	0.3	-0.3	0.7	0.8	0.6	1.9	1.2	2.0
Horizontal MSLP difference icon	Blue	Blue	Blue	Light Blue	Light Blue	Light Blue	White	Yellow	White	Yellow	Yellow	White	White	White	White	White	White	White	Yellow	Yellow	Yellow

The upper first table, for example, corresponds to the pressure difference between the region of Neuchâtel (western Swiss Plateau) and the region of Ivrea (Piedmont). In general, higher the pressure difference is, in one direction or another, more turbulent or dangerous the flight conditions are. It is up to everyone to decide, according to his flying experience, what maximal values can be supported. But we must also take into account the winds aloft, obviously. The pressure difference is only one of the parameters we have to take into account.

Horizontal transalpine mean sea level pressure difference evolution during 7 days, from GFS 0.5° weather model :



In the header of each of the 4 tables, then there is the date for each day ...

Between N47-E7 (Neuchâtel area) and N45.5-E8 (Ivrea area)

Forecast date	Monday 03 June 2013			Tuesday 04 June 2013			Wednesday 05 June 2013			Thursday 06 June 2013			Friday 07 June 2013			Saturday 08 June 2013			Sunday 09 June 2013		
Initialization date and time: 02.jun.2013 18Z	+15h	+18h	+21h	+39h	+42h	+45h	+63h	+66h	+69h	+87h											
Forecast time	09Z	12Z	15Z	09Z	12Z	15Z	09Z	12Z	15Z	09Z											
Horizontal MSLP difference (hPa)	-5.3	-5.2	-5.9	-2.1	-1.5	-1.9	0.7	1.1	0.3	1.3											
Horizontal MSLP difference icon																					

... 9Z, 12Z and 15Z forecast periods, forming columns that contain dMSLP values.

Between N47-E8.5 (Zürich area) and N46-E9 (Lugano area)

Forecast date	Monday 03 June 2013			Tuesday 04 June 2013			Wednesday 05 June 2013			Thursday 06 June 2013			Friday 07 June 2013			Saturday 08 June 2013			Sunday 09 June 2013		
Initialization date and time: 02.jun.2013 18Z	+15h	+18h	+21h	+39h	+42h	+45h	+63h	+66h	+69h	+87h	+90h	+93h	+111h	+114h	+117h	+135h	+138h	+141h	+159h	+162h	+165h
Forecast time	09Z	12Z	15Z	09Z	12Z	15Z	09Z	12Z	15Z	09Z	12Z	15Z	09Z	12Z	15Z	09Z	12Z	15Z	09Z	12Z	15Z
Horizontal MSLP difference (hPa)	-6.3	-7.0	-7.7	-3.5	-2.5	-2.8	-0.3	0.2	0.1	-0.1	0.3	-0.3	-0.9	-0.5	-0.7	-0.3	0.2	0.2	1.3	0.2	0.6
Horizontal MSLP difference icon																					

Between N48-E11.5 (München area) and N45.5-E11.5 (Vicenza)

Forecast date	Monday 03 June 2013			Tuesday 04 June 2013			Wednesday 05 June 2013			Thursday 06 June 2013			Friday 07 June 2013			Saturday 08 June 2013			Sunday 09 June 2013		
Initialization date and time: 02.jun.2013 18Z	+15h	+18h	+21h	+39h	+42h	+45h	+63h	+66h	+69h	+87h	+90h	+93h	+111h	+114h	+117h	+135h	+138h	+141h	+159h	+162h	+165h
Forecast time	09Z	12Z	15Z	09Z	12Z	15Z	09Z	12Z	15Z	09Z	12Z	15Z	09Z	12Z	15Z	09Z	12Z	15Z	09Z	12Z	15Z
Horizontal MSLP difference (hPa)	-7.1	-8.0	-9.1	-4.2	-3.1	-2.9	-0.4	0.4	0.1	-0.4	-0.2	-0.5	-1.4	-0.9	-1.0	-0.8	-0.2	-0.3	1.6	2.1	1.6
Horizontal MSLP difference icon																					

Between N44.5-E5.5 (Valdrôme area) and N44.5-E7.5 (Cuneo area)

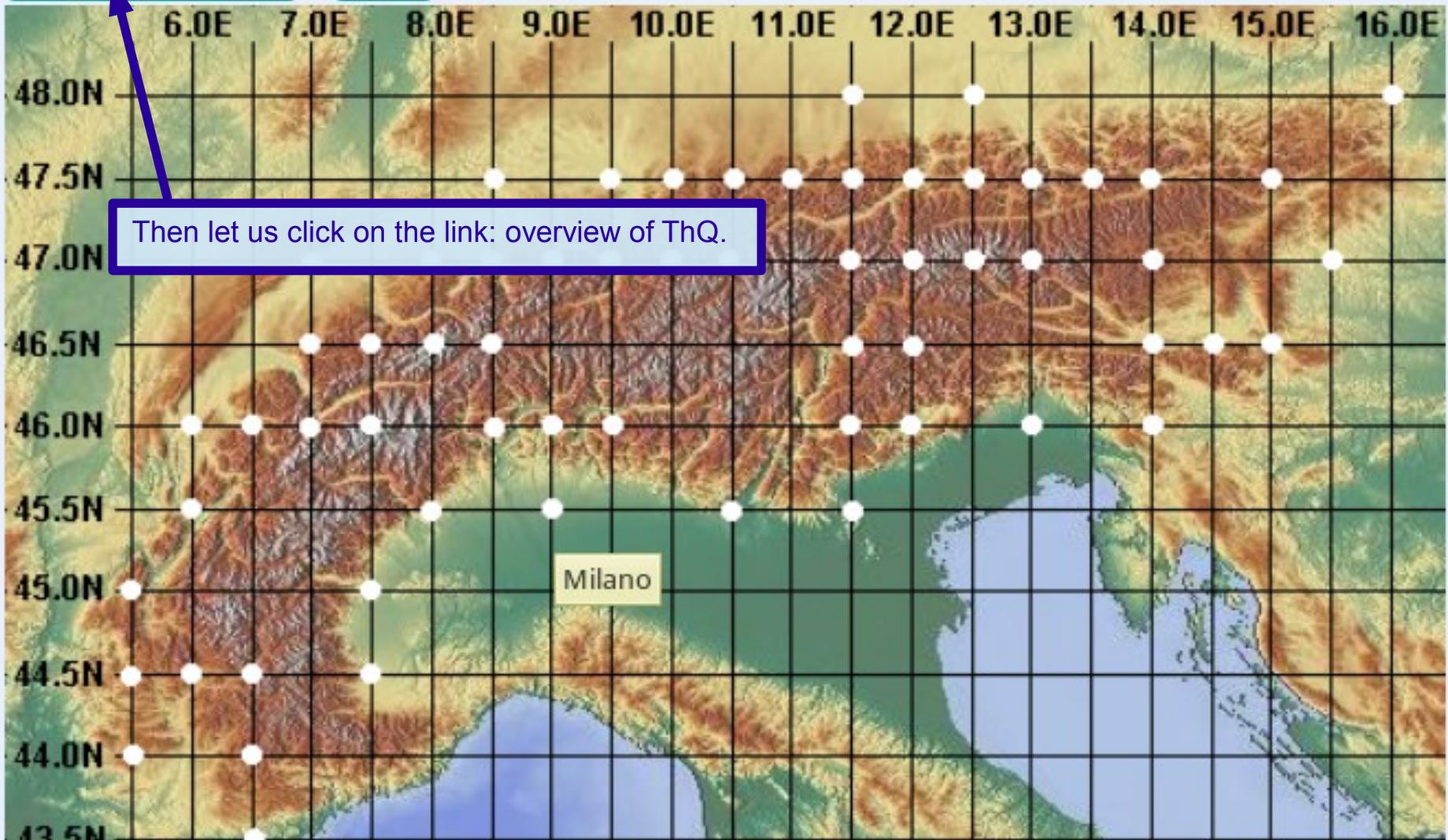
Forecast date	Monday 03 June 2013			Tuesday 04 June 2013			Wednesday 05 June 2013			Thursday 06 June 2013			Friday 07 June 2013			Saturday 08 June 2013			Sunday 09 June 2013		
Initialization date and time: 02.jun.2013 18Z	+15h	+18h	+21h	+39h	+42h	+45h	+63h	+66h	+69h	+87h	+90h	+93h	+111h	+114h	+117h	+135h	+138h	+141h	+159h	+162h	+165h
Forecast time	09Z	12Z	15Z	09Z	12Z	15Z	09Z	12Z	15Z	09Z	12Z	15Z	09Z	12Z	15Z	09Z	12Z	15Z	09Z	12Z	15Z
Horizontal MSLP difference (hPa)	-0.3	-0.4	0.5	0.2	0.6	-0.5	0.9	0.6	-0.3	1.1	1.0	0.5	0.8	0.1	-0.5	0.7	0.2	-0.3	1.8	1.5	1.0
Horizontal MSLP difference icon																					

Let us return to the main page of soarGFS.



Prévisions GFS de la nuit, disponible vers 00:35Z, pour le jour courant puis les 6 jours suivants, initialisation à 18Z la veille

[Vue globale du ThQ](#) [dMSLP](#)



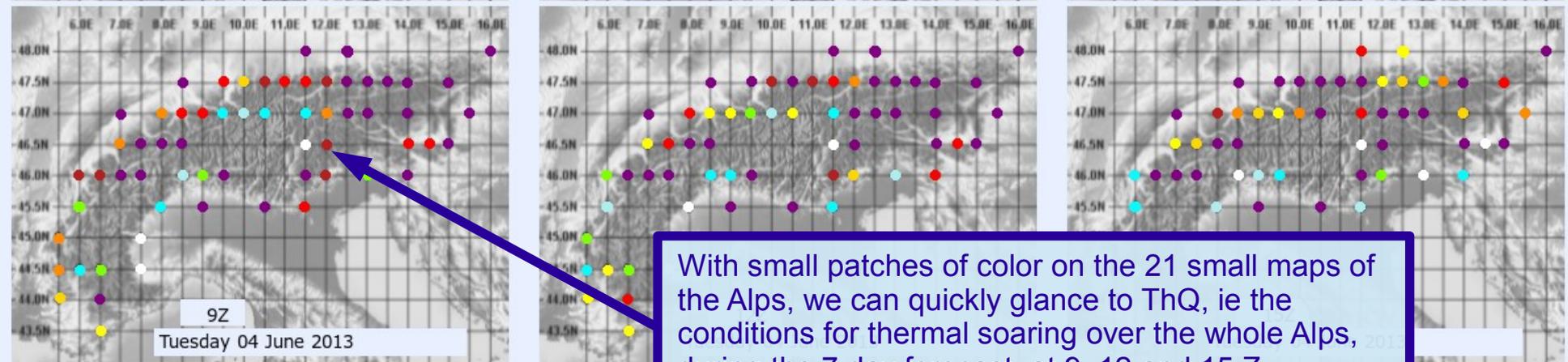
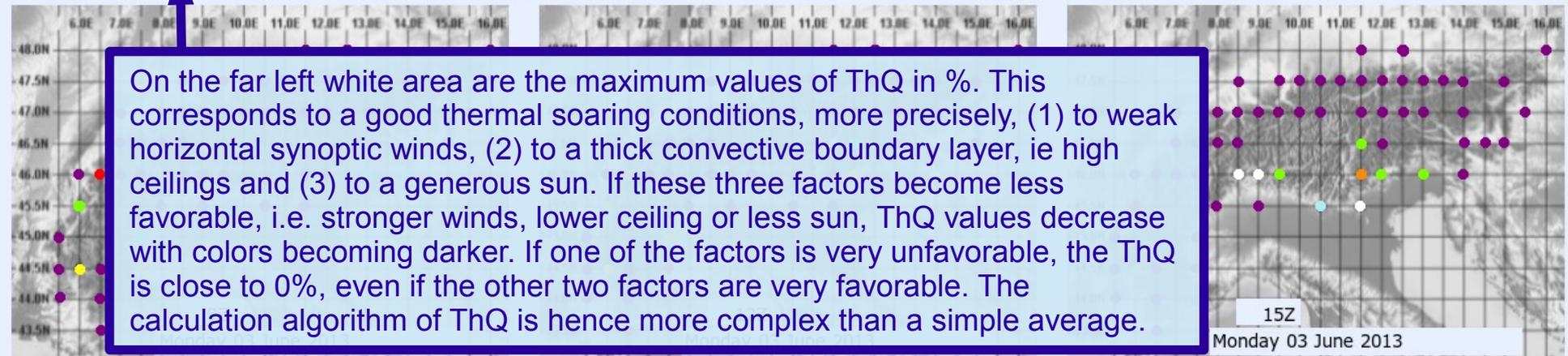


On the top of the new page, there is a scale in color.

Global view of of the thermal Quality parameter distribution over the Alps during 7 days :



On the far left white area are the maximum values of ThQ in %. This corresponds to a good thermal soaring conditions, more precisely, (1) to weak horizontal synoptic winds, (2) to a thick convective boundary layer, ie high ceilings and (3) to a generous sun. If these three factors become less favorable, i.e. stronger winds, lower ceiling or less sun, ThQ values decrease with colors becoming darker. If one of the factors is very unfavorable, the ThQ is close to 0%, even if the other two factors are very favorable. The calculation algorithm of ThQ is hence more complex than a simple average.

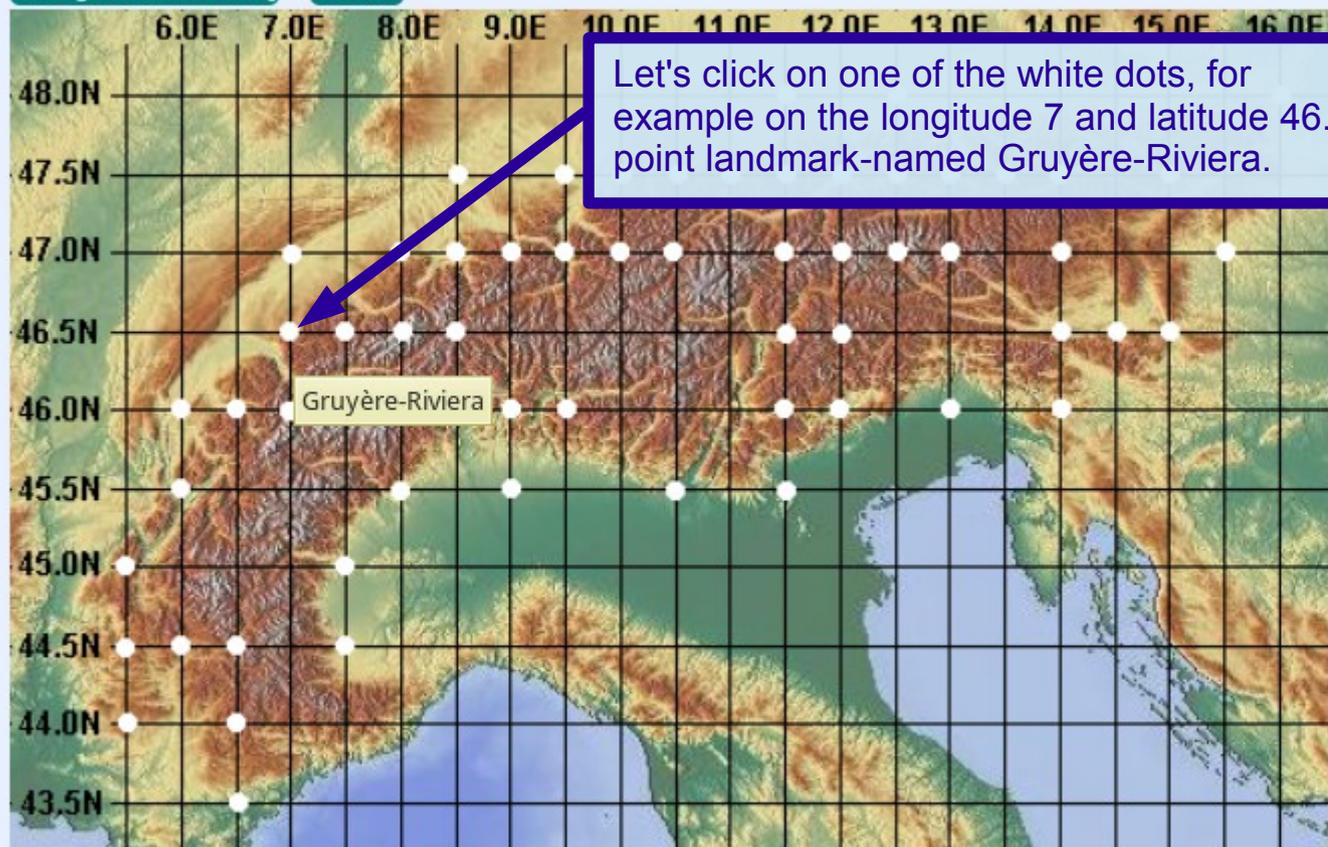


With small patches of color on the 21 small maps of the Alps, we can quickly glance to ThQ, ie the conditions for thermal soaring over the whole Alps, during the 7 day forecast, at 9, 12 and 15 Z.

Let us return to the main page soarGFS.

Prévisions GFS de la nuit, disponible vers 00:35Z, pour le jour courant puis les 6 jours suivants, initialisation à 18Z la veille

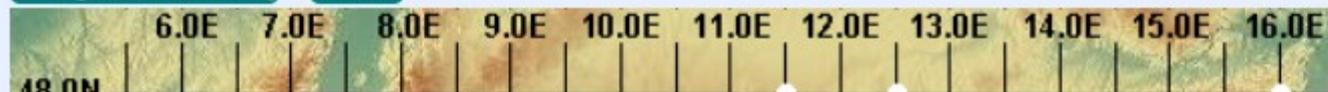
Vue globale du ThQ dMSLP



Prévisions GFS de

Prévisions GFS de l'après-midi, disponible vers 10:35Z, pour les 7 jours suivants, initialisation à 06Z

Vue globale du ThQ dMSLP



Prév

48.0N

48.0N

GFS 0.5° forecast about 10-25 Km around N46.5-E7. Landmark name: Gruyère-Riviera. Mean macroscale ground level elevation: 1016 m. Html file generated on 2013-Jun-03 at 00:53:48Z.

Forecast time and soundings links	09Z>	12Z>	15Z>	09Z>	12Z>	15Z>	09Z>	12Z>	15Z>	09Z>	12Z>	15Z>	09Z>	12Z>	15Z>	09Z>	12Z>	15Z>			
Forecast date and similar days links	Monday 03 June 2013>			Tuesday 04 June 2013>			Wednesday 05 June 2013>			Thursday 06 June 2013>			Friday 07 June 2013>			Saturday 08 June 2013>			Sunday 09 June 2013>		
	45h	+63h	+56h	+69h	+87h	+90h	+93h	+111h	+114h	+117h	+135h	+138h	+141h	+159h	+162h	+165h					
Wind dir. & speed at 700 hPa (° Kmh)	44 26	58 13	83 6	114 6	162 10	194 10	166 7	133 10	259 8	106 7	163 7	262 7	51 4	288 2	292 8	201 7	234 14	231 16	263 3	1 3	60 15
Wind direction Icon at 700 hPa																					
Wind dir. & speed at 750 hPa (° Kmh)	33 6	106 7	149 6	249 5	62 5	270 1	292 6	181 7	236 10	214 9	355 2	41 5	70 12								
Wind direction Icon at 750 hPa																					
Wind dir. & speed at 800 hPa (° Kmh)	39 5	105 4	18 2	335 4	83 3	349 5	343 6	176 5	276 5	310 4	105 3	77 7	91 8								
Wind direction Icon at 800 hPa																					
Wind dir. & speed at 850 hPa (° Kmh)	45 25	36 25	39 25	33 16	17 14	225 4	227 14	227 8	17 4	244 6	226 8	2 5	246 8	227 8	245 2	18 9	335 8	144 6	85 9	88 4	
Wind direction Icon at 850 hPa																					
Wind dir. & speed at 900 hPa (° Kmh)	35 21	26 22	30 22	30 22	30 22	30 22	30 22	30 22	30 22	30 22	30 22	30 22	30 22	30 22	30 22	30 22	30 22	30 22	30 22	30 22	30 22
Wind direction Icon at 900 hPa																					
Wind dir. & speed at 10m AGL (° Kmh)	30 17	20 18	25 18	25 18	25 18	25 18	25 18	25 18	25 18	25 18	25 18	25 18	25 18	25 18	25 18	25 18	336 8	127 4	69 7	51 2	
Wind direction Icon at 10m AGL																					
Total cloud cover (%)	50	40	31	16	10	1	0	0	43	0	3	49	1	4	66	0	5	24	99	95	78
Low level cloud cover (%)	1	1	30	0	0	1	0	0	0	0	1	0	1	1	0	0	0	1	1	1	2
Middle level cloud cover (%)	8	17	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	98	90	77
High level cloud cover (%)	49	39	2	16	10	1	0	0	43	0	0	49	1	4	66	0	5	24	99	94	24
Convective cloud cover (%)	0	0	10	0	0	2	1	61	67	0	16	11	0	0	2	0	0	0	0	0	0
Boundary layer cloud cover (%)	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
3h accum. total precipitation (mm)	0	0	0	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0
3h accum. convective precipitation (mm)	0	0	0	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0
K-index thunderstorm probability (%)	22	37	36	38	49	57	55	61	68	56	60	63	56	60	62	42	37	33	47	56	60

We come across a large table. In the header there is information on the location of the selected GFS grid point as geographic coordinates, average mean ground elevation, date and time of the automatic table generation.

Then there are three daily periods 9z, 12z and 15 Z and ...

... the date of the 7 forecast day. There is therefore 21 periods in all. The times and dates are in the form of link. We'll see right away what these links. The times and dates are indicators of columns containing predicted weather parameters as ...

GFS 0.5° forecast about 10-25 Km around N46.5-E7. Landmark name: Gruyère-Riviera. Mean macroscale ground level elevation: 1016 m. Html file generated on 2013-Jun-03 at 00:53:48Z.

Forecast time and soundings links	09Z>	12Z>	15Z>	09Z>	12Z>	15Z>	09Z>	12Z>	15Z>	09Z>	12Z>	15Z>	09Z>	12Z>	15Z>	09Z>	12Z>	15Z>	09Z>	12Z>	15Z>
Forecast date and similar days links	Monday 03 June 2013>			Tuesday 04 June 2013>			Wednesday 05 June 2013>			Thursday 06 June 2013>			Friday 07 June 2013>			Saturday 08 June 2013>			Sunday 09 June 2013>		
Initialization date : 02.jun.2013 at 18Z	+15h	+18h	+21h	+39h	+42h	+45h	+63h	+66h	+69h	+87h	+90h	+93h	+111h	+114h	+117h	+135h	+138h	+141h	+159h	+162h	+165h
ThQ (%) (Thermal Quality)	0	0	0	34	56	54	91	74	37	94	95	57	94	84	11	94	87	76	0	0	0
Wind dir. & speed at 600 hPa (° Kmh)	88 17	29 11	176 7	136 8	162 10	164 8	151 4	162 6	175 6	148 5	221 8	266 12	223 9	214 16	223 20	196 14	229 14	59 10			
Wind direction Icon at 600 hPa	↙	↙	↗	↙	↗	↗	↙	↗	↗	↙	↗	↗	↙	↗	↗	↗	↗	↗	↗	↗	↙
Wind dir. & speed at 650 hPa (° Kmh)	30 28	29 14	59 11	92 10	154 11	196 11	150 6	184 10	220 6	117 6	155 7	204 6	102 2	248 4	284 10	218 8	214 14	222 18	207 6	253 6	49 14
Wind direction Icon at 650 hPa	↘	↘	↙	↙	↗	↗	↙	↗	↗	↙	↗	↗	↙	↗	↗	↗	↗	↗	↗	↗	↙
Wind dir. & speed at 700 hPa (° Kmh)	106 7	163 7	262 7	51 4	288 2	292 8	201 7	214 14	231 16	263 3	1 3	60 15									
Wind direction Icon at 700 hPa	↙	↗	→	↙	↘	↘	↗	↗	↗	→	↘	↙									
Wind dir. & speed at 750 hPa (° Kmh)	106 7	149 6	249 5	62 5	270 1	292 6	181 7	206 10	214 9	355 2	41 5	70 12									
Wind direction Icon at 750 hPa	↙	↗	↗	↙	→	→	↗	↗	↗	↘	↙	↙									
Wind dir. & speed at 800 hPa (° Kmh)	58 27	51 22	56 21	132 6	27 8	33 11	175 5	346 6	339 5	105 4	18 2	335 4	349 5	343 6	176 5	276 5	310 4	105 3	77 7	91 8	
Wind direction Icon at 800 hPa	↙	↙	↙	↙	↘	↘	↗	↘	↘	↙	↘	↘	↙	↘	↗	→	↘	↙	↙	↙	↙
Wind dir. & speed at 850 hPa (° Kmh)	45 25	36 25	39 25	33 10	8 14	17 14	325 4	337 11	337 8	17 4	344 6	336 8	3 5	340 9	337 8	315 3	310 8	335 8	144 6	85 9	88 4
Wind direction Icon at 850 hPa	↙	↙	↙	↙	↘	↘	↘	↘	↘	↙	↘	↘	↙	↘	↘	↘	↘	↘	↙	↙	↙
Wind dir. & speed at 900 hPa (° Kmh)	35 21	26 22	30 22	8 12	NA	NA	330 7	NA	327 8	350 6	337 7	331 8	346 7	335 9	329 8	325 6	317 9	NA	NA	NA	NA
Wind direction Icon at 900 hPa	↙	↙	↙	↙	↘	↘	↘	↘	↘	↘	↘	↘	↘	↘	↘	↘	↘	↘	↘	↘	↘
Wind dir. & speed at 10m AGL (° Kmh)	30 17	30 17	30 17	30 17	30 17	30 17	330 7	343 6	333 9	327 7	325 6	318 8	336 8	127 4	69 7	51 2					
Wind direction Icon at 10m AGL	↙	↙	↙	↙	↙	↙	↘	↘	↘	↘	↘	↘	↘	↙	↙	↙					
Total cloud cover (%)	50	40	31	16	10	1	0	0	43	0	3	49	1	4	66	0	5	24	99	95	78
Low level cloud cover (%)	1	1	30	0	0	1	0	0	0	1	0	0	1	1	0	0	0	1	1	1	2
Middle level cloud cover (%)	8	17	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	98	90	77
High level cloud cover (%)	49	39	2	16	10	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Convective cloud cover (%)	0	0	10	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Boundary layer cloud cover (%)	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
3h accum. total precipitation (mm)	0	0	0	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0
3h accum. convective precipitation (mm)	0	0	0	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0
K-index thunderstorm probability (%)	22	37	36	38	49	57	55	61	68	56	60	63	56	60	62	42	37	33	47	56	60

... the ThQ, ...

... the synoptic winds (directions and speeds) at different levels ...

... the amount of clouds of different types, ...

... the amount of precipitation (total and convective = thunderstorm) and an index of thunderstorm trend.

Forecast time and soundings links	09Z>	12Z>	15Z>	09Z>	12Z>	15Z>	09Z>	12Z>	15Z>	09Z>	12Z>	15Z>	09Z>	12Z>	15Z>	09Z>	12Z>	15Z>	09Z>	12Z>	15Z>
Forecast date and similar days links	Monday 03 June 2013>			Tuesday 04 June 2013>			Wednesday 05 June 2013>			Thursday 06 June 2013>			Friday 07 June 2013>			Saturday 08 June 2013>			Sunday 09 June 2013>		
Initialization date : 02.jun.2013 at 18Z	+15h	+18h	+21h	+39h	+42h	+45h	+63h	+66h	+69h	+87h	+90h	+93h	+111h	+114h	+117h	+135h	+138h	+141h	+159h	+162h	+165h
ThQ (%) (Thermal Quality)	0	0	0	34	56	54	91	74	37	94	95	57	94	84	11	94	87	76	0	0	0
Wind dir. & speed at 600 hPa (° Kmh)	19 33	22 16	64 17	88 17	129 11	176 7	136 8	122 10	164 8	151 4	162 6	175 6	148 5	221 8	266 12	223 9	214 16	223 20	196 14	229 14	59 10
Wind direction Icon at 600 hPa	↙	↙	↙	←	↖	↑	↖	↖	↖	↑	↑	↑	↑	↗	→	↗	↗	↗	↗	↗	↖
Wind dir. & speed at 800 hPa (° Kmh)	155 7	204 6	102 2	248 4	284 10	218 8	214 14	222 18	207 6	253 6	49 14										
Wind direction Icon at 800 hPa	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖
Wind dir. & speed at 850 hPa (° Kmh)	45 25	36 25	39 25	33 10	8 14	17 14	325 4	337 11	337 8	17 4	344 6	336 8	3 5	340 9	337 8	315 3	31 8	335 8	144 6	85 9	88 4
Wind direction Icon at 850 hPa	↙	↙	↙	↙	↓	↙	↙	↓	↓	↙	↓	↓	↓	↓	↓	↓	↓	↓	↖	←	←
Wind dir. & speed at 900 hPa (° Kmh)	35 21	26 22	30 22	8 12	NA	NA	330 7	NA	327 8	350 6	337 7	331 8	346 7	335 9	329 8	325 6	31 9	NA	NA	NA	NA
Wind direction Icon at 900 hPa	↙	↙	↙	↓			↙		↙	↙	↙	↙	↙	↙	↙	↙	↙				
Wind dir. & speed at 10m AGL (° Kmh)	30 17	20 18	25 18	3 11																9 7	51 2
Wind direction Icon at 10m AGL	↙	↙	↙	↓																↙	↙
Total cloud cover (%)	50	40	31	16	10	1	0	0	43	0	3	49	1	4	66	0	5	24	99	95	78
Low level cloud cover (%)	1	1	30	0	0	1	0	0	0	0	1	0	1	1	0	0	0	1	1	1	2
Middle level cloud cover (%)	8	17	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	98	90	77
High level cloud cover (%)	49	39	2	16	10	1	0	0	43	0	0	49	1	4	66	0	5	24	99	94	24
Convective cloud cover (%)	0	0	10	0	0	2	1	61	67	0	16	11	0	0	2	0	0	0	0	0	0
Boundary layer cloud cover (%)	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
3h accum. total precipitation (mm)	0	0	0	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0
3h accum. convective precipitation (mm)	0	0	0	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0
K-index thunderstorm probability (%)	22	37	36	38	49	57	55	61	68	56	60	63	56	60	62	42	37	33	47	56	60

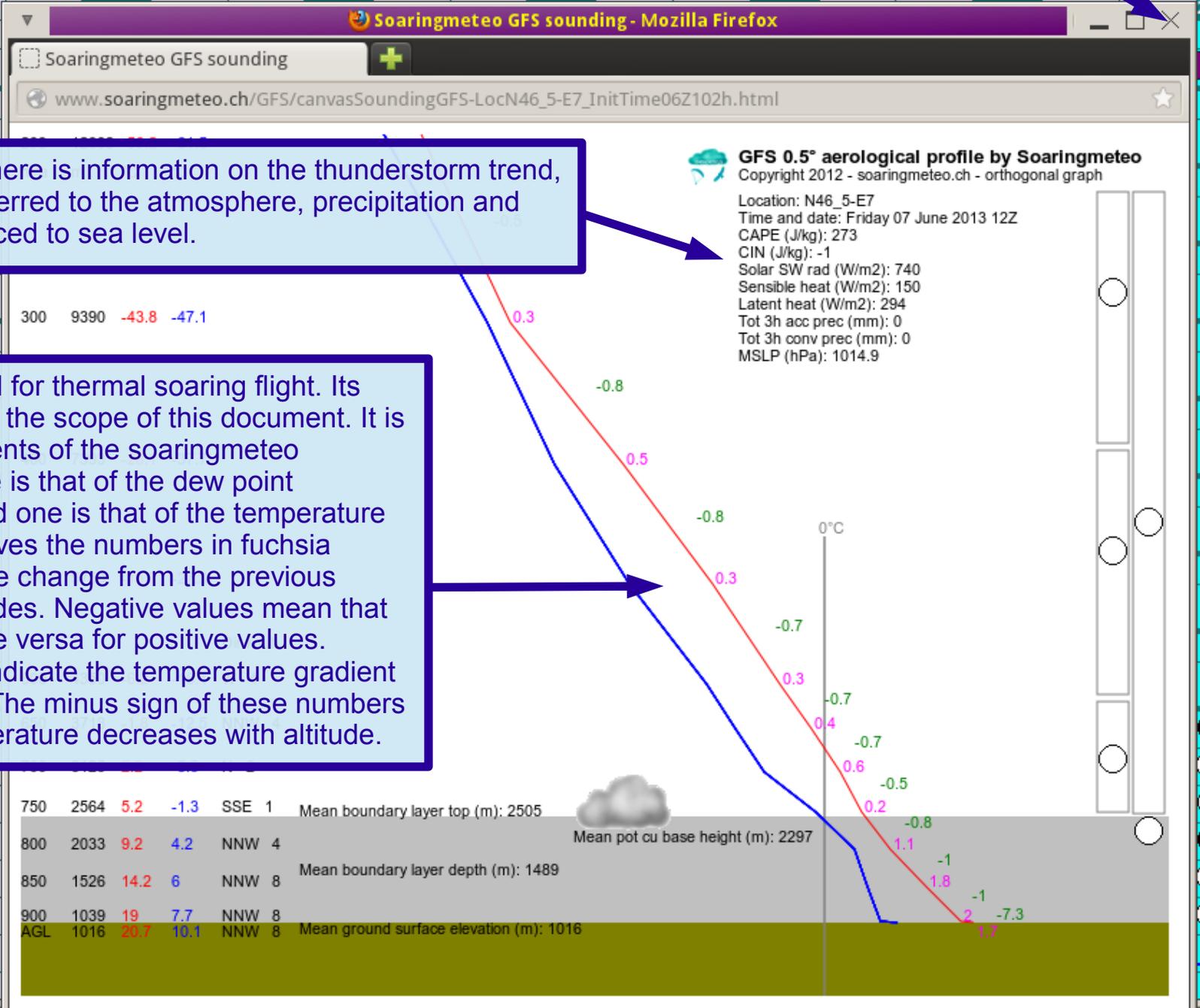
On this line, there is a sequence of numbers with a + sign. They represent the elapsed time between each forecast period and the time of initialization. In general greater this elapsed time is, less reliable predictions are. But sometimes a previous cycle gives better predictions than the most recent cycle.

Now let's click on one of the 21 links. For example, a period with interesting ThQ that is for example 12Z Friday, June 7, 2013.

A new window opens. There is a diagram showing the upper air profile of the selected location and many other weather information for this location.

Just under the title, there is information on the thunderstorm trend, sunshine, heat transferred to the atmosphere, precipitation and the pressure air reduced to sea level.

This profile is here ideal for thermal soaring flight. Its interpretation is beyond the scope of this document. It is treated in other documents of the soaringmeteo website. The blue curve is that of the dew point temperature and the red one is that of the temperature of the air. Along the curves the numbers in fuchsia indicate the temperature change from the previous period at different altitudes. Negative values mean that there is cooling and vice versa for positive values. The numbers in green indicate the temperature gradient in degrees per 100 m. The minus sign of these numbers indicates that the temperature decreases with altitude.



300 9390 -43.8 -47.1

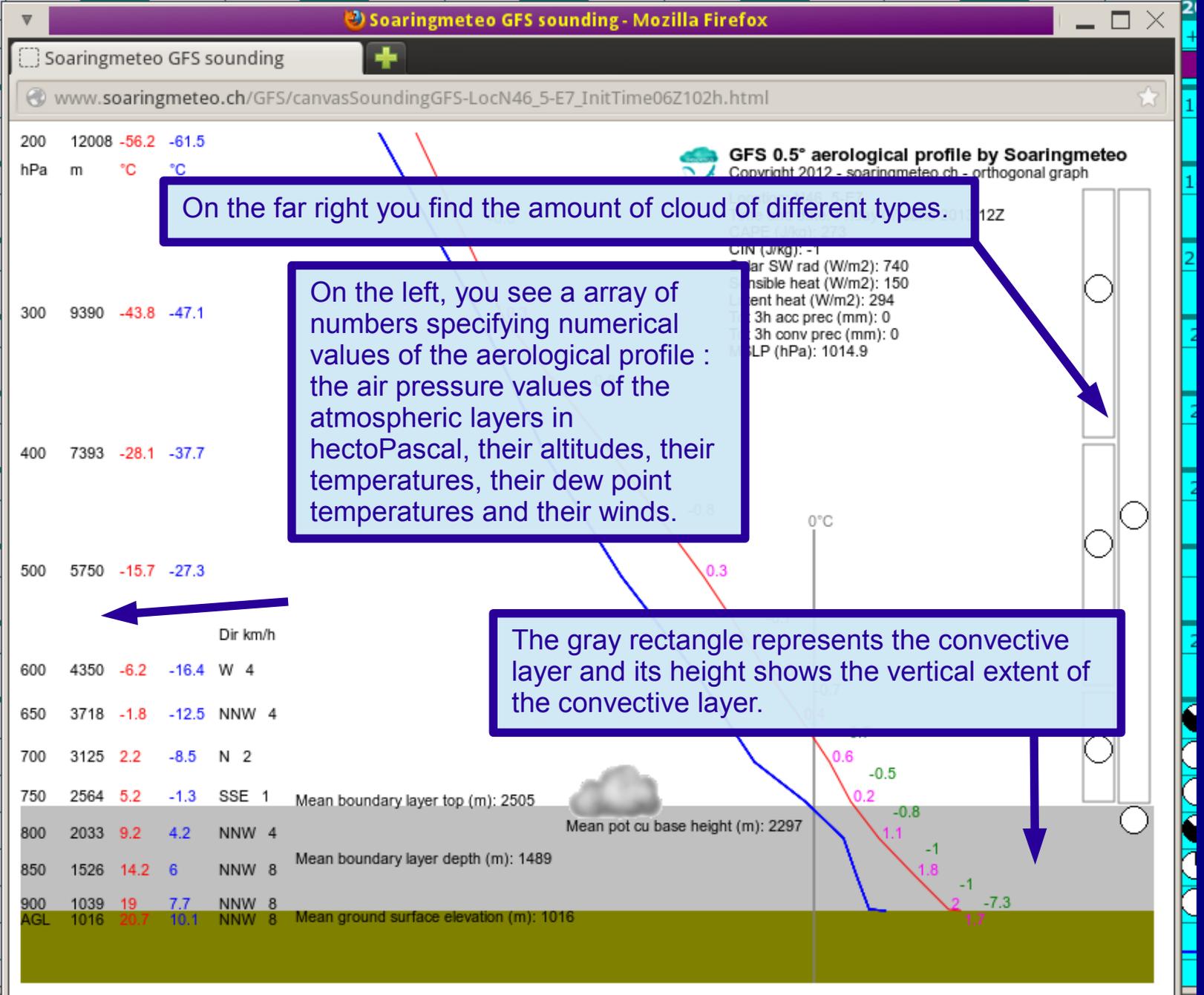
750	2564	5.2	-1.3	SSE	1	Mean boundary layer top (m): 2505
800	2033	9.2	4.2	NNW	4	Mean pot cu base height (m): 2297
850	1526	14.2	6	NNW	8	Mean boundary layer depth (m): 1489
900	1039	19	7.7	NNW	8	
AGL	1016	20.7	10.1	NNW	8	Mean ground surface elevation (m): 1016

0.5° forecast about 10-25 Km around N46.5-E7. Landmark name: **Gruyère-Riviera**. Mean macroscale ground level elevation: 1016 m. Html file generated

Time and soundings links: **09Z>** **12Z>** **15Z>** **09Z>** **12Z>** **15Z>**

Date and similar days links: **Tuesday 04 June** **Wednesday 05 June** **Thursday 06 June** **Friday 07 June** **Saturday 08 June** **Sunday 09 June**

Thermal Quality
Wind speed at 600 hPa (° Kmh)
Wind direction Icon at 600 hPa
Wind speed at 650 hPa (° Kmh)
Wind direction Icon at 650 hPa
Wind speed at 700 hPa (° Kmh)
Wind direction Icon at 700 hPa
Wind speed at 750 hPa (° Kmh)
Wind direction Icon at 750 hPa
Wind speed at 800 hPa (° Kmh)
Wind direction Icon at 800 hPa
Wind speed at 850 hPa (° Kmh)
Wind direction Icon at 850 hPa
Wind speed at 900 hPa (° Kmh)
Wind direction Icon at 900 hPa
Wind speed at 10m AGL (° Kmh)
Wind direction Icon at 10m AGL
Cloud cover (%)
Partial cloud cover (%)
Low cloud cover (%)
Medium cloud cover (%)
High cloud cover (%)
Layer cloud cover (%)
total precipitation (mm)
convective precipitation (mm)



On the far right you find the amount of cloud of different types.

On the left, you see a array of numbers specifying numerical values of the aerological profile : the air pressure values of the atmospheric layers in hectoPascal, their altitudes, their temperatures, their dew point temperatures and their winds.

The gray rectangle represents the convective layer and its height shows the vertical extent of the convective layer.

GFS 0.5° forecast about 10-25 Km around N46.5-E7. Landmark name: Gruyère-Riviera. Mean macroscale ground level elevation: 1016 m. Html file generated on 2013-Jun-03 at 00:53:48Z.

Forecast time and soundings links	09Z>	12Z>	15Z>	09Z>	12Z>	15Z>	09Z>	12Z>	15Z>	09Z>	12Z>	15Z>	09Z>	12Z>	15Z>	09Z>	12Z>	15Z>	09Z>	12Z>	15Z>
Forecast date and similar days links	Monday 03 June 2013>			Tuesday 04 June 2013>			Wednesday 05 June 2013>			Thursday 06 June 2013>			Friday 07 June 2013>			Saturday 08 June 2013>			Sunday 09 June 2013>		
Initialization date : 02.jun.2013 at 18Z	+15h	+18h	+21h	+39h	+42h	+45h	+63h	+66h	+69h	+87h	+90h	+93h	+111h	+114h	+117h	+135h	+138h	+141h	+159h	+162h	+165h
ThQ (%) (Thermal Quality)	0	0	0	34	56	54	91	74	37	94	95	57	94	84	11	94	87	76	0	0	0
Wind dir. & speed at 600 hPa (° Kmh)	19 33	22 16	64 17	88 17	129 11	176 7	136 8	162 10	164 8	151 4	162 6	175 6	148 5	22 8	266 12	223 9	214 16	223 20	196 14	229 14	59 10
Wind direction Icon at 600 hPa	↙	↙	↙	←	↖	↑	↖	↖	↖	↑	↖	↖	↖	↖	→	↖	↖	↖	↖	↖	↙
Wind dir & speed at 650 hPa (° Kmh)	30 28	29 14	59 11	92 10	154 11	196 11	150 6	184 10	220 6	117 6	155 7	204 6	102 2	24 4	284 10	218 8	214 14	222 18	207 6	253 6	49 14
Wind direction Icon at 650 hPa	↙	↙	↙	←	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↙
Wind dir. & speed at 700 hPa (° Kmh)	44 26	58 13	83 6	114 6	162 10	194 10	166 7	193 10	259 8	106 7	163 7	262 7	51 4	28 2	292 8	201 7	214 14	231 16	263 3	1 3	60 15
Wind direction Icon at 700 hPa	↙	↙	←	←	↖	↖	↖	↖	↖	↖	↖	→	↙	↙	↙	↖	↖	↖	→	↓	↙
Wind dir. & speed at 750 hPa (° Kmh)	56 31	83 15	101 10	130 6	154 8	201 4	173 8	178 6	273 6	106 7	140 6	240 5	63 5	27 1	303 6	181 7	206 10	214 9	355 2	41 5	70 12
Wind direction Icon at 750 hPa	↙	↙	↙	↙	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↙
Wind dir. & speed at 800 hPa (° Kmh)	58 27	83 15	101 10	130 6	154 8	201 4	173 8	178 6	273 6	106 7	140 6	240 5	63 5	27 1	303 6	181 7	206 10	214 9	355 2	41 5	70 12
Wind direction Icon at 800 hPa	↙	↙	↙	↙	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↙
Wind dir. & speed at 850 hPa (° Kmh)	45 25	83 15	101 10	130 6	154 8	201 4	173 8	178 6	273 6	106 7	140 6	240 5	63 5	27 1	303 6	181 7	206 10	214 9	355 2	41 5	70 12
Wind direction Icon at 850 hPa	↙	↙	↙	↙	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↙
Wind dir. & speed at 900 hPa (° Kmh)	35 21	83 15	101 10	130 6	154 8	201 4	173 8	178 6	273 6	106 7	140 6	240 5	63 5	27 1	303 6	181 7	206 10	214 9	355 2	41 5	70 12
Wind direction Icon at 900 hPa	↙	↙	↙	↙	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↙
Wind dir. & speed at 10m AGL (° Kmh)	30 17	20 18	25 18	3 11	354 12	4 11	330 7	330 10	326 7	346 6	335 7	330 7	343 6	333 9	327 7	325 6	318 8	336 8	127 4	69 7	51 2
Wind direction Icon at 10m AGL	↙	↙	↙	↓	↓	↓	↓	↓	↘	↓	↓	↓	↓	↓	↓	↓	↓	↓	↖	↖	↖
Total cloud cover (%)	50	40	31	16	10	1	0	0	43	0	3	49	1	4	66	0	5	24	99	95	78
Low level cloud cover (%)	1	1	30	0	0	1	0	0	0	0	1	0	1	1	0	0	0	1	1	1	2
Middle level cloud cover (%)	8	17	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	98	90	77
High level cloud cover (%)	49	39	2	16	10	1	0	0	43	0	0	49	1	4	66	0	5	24	99	94	24
Convective cloud cover (%)	0	0	10	0	0	2	1	61	67	0	16	11	0	0	2	0	0	0	0	0	0
Boundary layer cloud cover (%)	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
3h accum. total precipitation (mm)	0	0	0	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0
3h accum. convective precipitation (mm)	0	0	0	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0
K-index thunderstorm probability (%)	22	37	36	38	49	57	55	61	68	56	60	63	56	60	62	42	37	33	47	56	60

We find our great table back. Let's choose and click on one of the dates, for example on June 7, 2013. We will find an original function. This is to compare the current predicted weather with the weather of old archived days (days of 2007-2011, currently available). If similarities are found, any eventual traces of thermal flights during these archived days will be displayed.

GFS 0.5° forecast about 10-25 Km around N46.5-E7. Landmark name: **Gruyère-Riviera**. Mean macroscale ground level elevation: 1016m. Html file generated on 2013-Jun-03 and similar archived periods of old days during the years 2007 to 2011 (comparisation between GFS current forecast and GDAS archived data). Links to possible thermal soaring flights

Date and time period	Global coefficient of similarity and possibles links	T°C 2m	Td°C 2m	Spread°C 2m	BLDm sfc	RelH% 700hPa	RelH% 500hPa	RelH% 300hPa	T°C 500hPa	WDir° 850hPa	SpdKmh 850hPa	WDir° 800hPa	SpdKmh 800hPa	WDir° 750hPa	SpdKmh 750hPa
Current GFS forecast period: Friday 07 June 2013 09Z		18.7	10.2	8.5	981	62	40	77	-16.3	3	4.9	83	3.2	62	
1st GDAS similar period: 2009-09-07 15Z	77% - No recorded thermal soaring flight	18.1	7.5	10.6	914	46	19	76	-12.9	24	5.2	58	9.1	49	
2nd GDAS similar period: 2007-06-08 12Z	67% - No recorded thermal soaring flight	17.3	13.9	3.4	857	81	31	43	-12.1	337	3.1	67	2.4	71	
3rd GDAS similar period: 2007-04-07 09Z	64% - 2 recorded thermal soaring flight(s)	9.6	5.4	4.2	685	42	33	81	-20.7	35	5.7	52	5.9	47	
4th GDAS similar period: 2009-09-24 12Z	62% - 14 recorded thermal soaring flight(s)	16.2	10.5	5.7	667	68	38	50	-15.5	344	10.9	326	9.4	315	
5th GDAS similar period: 2007-04-20 15Z	52% - 2 recorded thermal soaring flight(s)	14.1	6.2	7.9	1219	51	26	46	-17.8	342	7.0	330	9.8	315	
-															
Current GFS forecast period: Friday 07 June 2013 12Z		20.5	10.7	9.8	1363	60	50	93	-18.6	338	9.1	333	9.4	321	
1st GDAS similar period: 2007-04-07 12Z	79% - 21 recorded thermal soaring flight(s)	10.0	5.4	4.6	685	42	33	81	-20.7	35	5.7	52	5.9	47	
2nd GDAS similar period: 2011-05-01 15Z	68% - 2 recorded thermal soaring flight(s)	13.6	8.0	5.6	930	85	96	100	-18.6	338	9.1	333	9.4	321	
3rd GDAS similar period: 2007-04-24 12Z	63% - 6 recorded thermal soaring flight(s)	17.4	10.1	7.3	966	81	92	93	-17.4	342	7.0	330	9.8	315	
4th GDAS similar period: 2008-06-14 12Z	47% - No recorded thermal soaring flight	9.6	5.4	4.2	685	42	33	81	-20.7	35	5.7	52	5.9	47	
5th GDAS similar period: 2011-05-11 12Z	41% - No recorded thermal soaring flight	17.4	10.1	7.3	966	81	92	93	-17.4	342	7.0	330	9.8	315	
-															
Current GFS forecast period: Friday 07 June 2013 15Z		19.5	12.2	7.3	1074	61	77	100	-18.6	338	9.1	333	9.4	321	
1st GDAS similar period: 2011-05-11 12Z	91% - No recorded thermal soaring flight	17.4	10.1	7.3	966	81	92	93	-17.4	342	7.0	330	9.8	315	
2nd GDAS similar period: 2011-05-11 15Z	91% - No recorded thermal soaring flight	15.9	11.1	4.8	750	77	94	98	-15.5	344	10.9	326	9.4	315	
3rd GDAS similar period: 2011-07-15 12Z	90% - 76 recorded thermal soaring flight(s)	14.8	6.0	8.8	744	49	91	95	-15.5	344	10.9	326	9.4	315	
4th GDAS similar period: 2011-05-17 15Z	84% - 12 recorded thermal soaring flight(s)	13.6	8.0	5.6	930	85	96	100	-18.6	338	9.1	333	9.4	321	
5th GDAS similar period: 2008-05-03 12Z	83% - 28 recorded thermal soaring flight(s)	14.0	6.2	7.8	1334	74	79	79	-17.8	342	7.0	330	9.8	315	

On this page, a new table is presented in three parts. Each part corresponds to the period 9, 12, 15 Z of the selected predicted day.

On the top line, you will find the list of weather parameters used to compare days between them. There are the air temperature T and the dew point temperature Td over the ground, the spread, that is, the difference T-Td (greater the spread, drier the air is and vice versa), the thickness of the convective boundary layer BLDm, the relative humidity in three layers of high atmosphere, the air temperature at 500 hPa and the direction and strength of winds at different altitudes. Each parameter specifies the column in which there are values for similar archived and current predicted periods.

GFS 0.5° forecast about 10-25 Km around N46.5-E7. Landmark name: Gruyère-Riviera. Mean macroscale ground level elevation: 1016m. Html file generated on 2013-Jun-03 a similar archived periods of old days during the years 2007 to 2011 (comparison between GFS current forecast and GDAS archived data). Links to possible thermal soaring flights

Date and time period	Global coefficient of similarity and possibles links	T°C 2m	Td°C 2m	Spread°C 2m	BLDm sfc	RelH% 700hPa	RelH% 500hPa	RelH% 300hPa	T°C 500hPa	WDir° 850hPa	SpdKmh 850hPa	WDir° 800hPa	SpdKmh 800hPa	WDir° 750hPa	SpdKmh 750hPa
Current GFS forecast period: Friday 07 June 2013 09Z		18.7	10.2	8.5	981	62	40	77	-16.3	3	4.9	83	3.2	62	
1st GDAS similar period: 2009-09-07 15Z	77% - No recorded thermal soaring flight	18.1	7.5	10.6	914	46	19	76	-12.9	24	5.2	58	9.1	49	
2nd GDAS similar period: 2007-06-08 12Z	67% - No recorded thermal soaring flight	17.3	13.9	3.4	857	81	31	43	-12.1	337	3.1	67	2.4	71	
3rd GDAS similar period: 2007-04-07 09Z	64% - 2 recorded thermal soaring flight(s) >	9.6	5.4	4.2	685	42	33	81	-20.7	35	5.7	52	5.9	47	
4th GDAS similar period: 2009-09-24 12Z	62% - 14 recorded thermal soaring flight(s) >	16.2												58	
5th GDAS similar period: 2007-04-20 15Z	52% - 2 recorded thermal soaring flight(s) >	14.1												33	

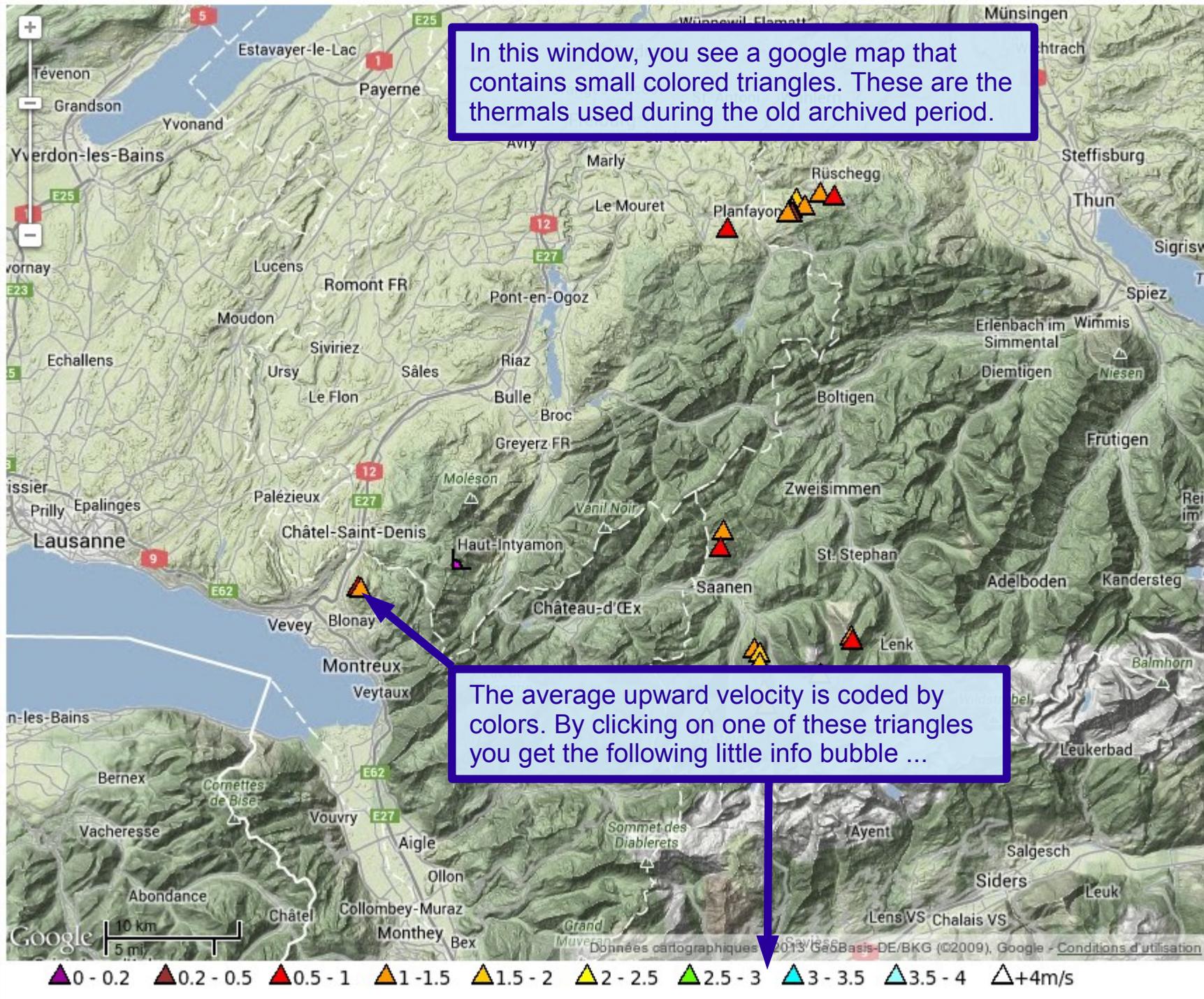
Let us take the middle table, i.e. the one corresponding to the predicted period of 12Z of this Friday, June 7, 2013.

Current GFS forecast period: Friday 07 June 2013 12Z		20.5	10.7	9.8	1262	60	50	83	-16.1	340	8.8	340	5.3	270	
1st GDAS similar period: 2007-04-07 12Z	79% - 21 recorded thermal soaring flight(s) >	10.6												278	
2nd GDAS similar period: 2011-05-01 15Z	68% - 2 recorded thermal soaring flight(s) >	12.5												306	
3rd GDAS similar period: 2007-04-24 12Z	63% - 6 recorded thermal soaring flight(s) >	17.1												290	
4th GDAS similar period: 2008-06-14 12Z	47% - No recorded thermal soaring flight	9.6												294	
5th GDAS similar period: 2011-05-11 12Z	41% - No recorded thermal soaring flight	17.4												312	

Just below is the line of the old archived period, here April 7 2007 12Z, which most closely resembles the forecast current period, i.e. the 12Z of this Friday, June 7, 2013, from the weather view point. For each period (9, 12, 15Z) of the current forecast day, you find the 10 most similar old periods. An overall coefficient of similarity in % can judge if the current forecast weather is much like the old days, or not. These five periods are sorted in descending order of similarity.

Current GFS forecast period: Friday 07 June 2013 15Z		19.5	12.2	7.3	1074	61	77	100	-15.7	337	8.2	343	5.5	292	
1st GDAS similar period: 2011-05-11 12Z	91% - No recorded thermal soaring flight	17.4	10.1	7.3	966	81	83	83	-16.9	334	11.7	325	10.6	312	
2nd GDAS similar period: 2011-05-11 15Z									-16.3	359	7.6	341	5.9	299	
3rd GDAS similar period: 2011-07-15 12Z									-15.5	344	10.9	326	9.4	313	
4th GDAS similar period: 2011-05-17 15Z									-18.6	338	9.1	333	9.4	321	
5th GDAS similar period: 2008-05-03 12Z	83% - 28 recorded thermal soaring flight(s) >	14.0	6.2	7.8	1334	74	79	79	-17.8	342	7.0	330	9.8	315	

If, during the old days, thermal flights were made, a link appears with the number of thermals used. In our example, the 7 April 2007 12 Z, there were 21 thermal flights in the region. Just click on this link to bring up a new window.



In this window, you see a google map that contains small colored triangles. These are the thermals used during the old archived period.

The average upward velocity is coded by colors. By clicking on one of these triangles you get the following little info bubble ...

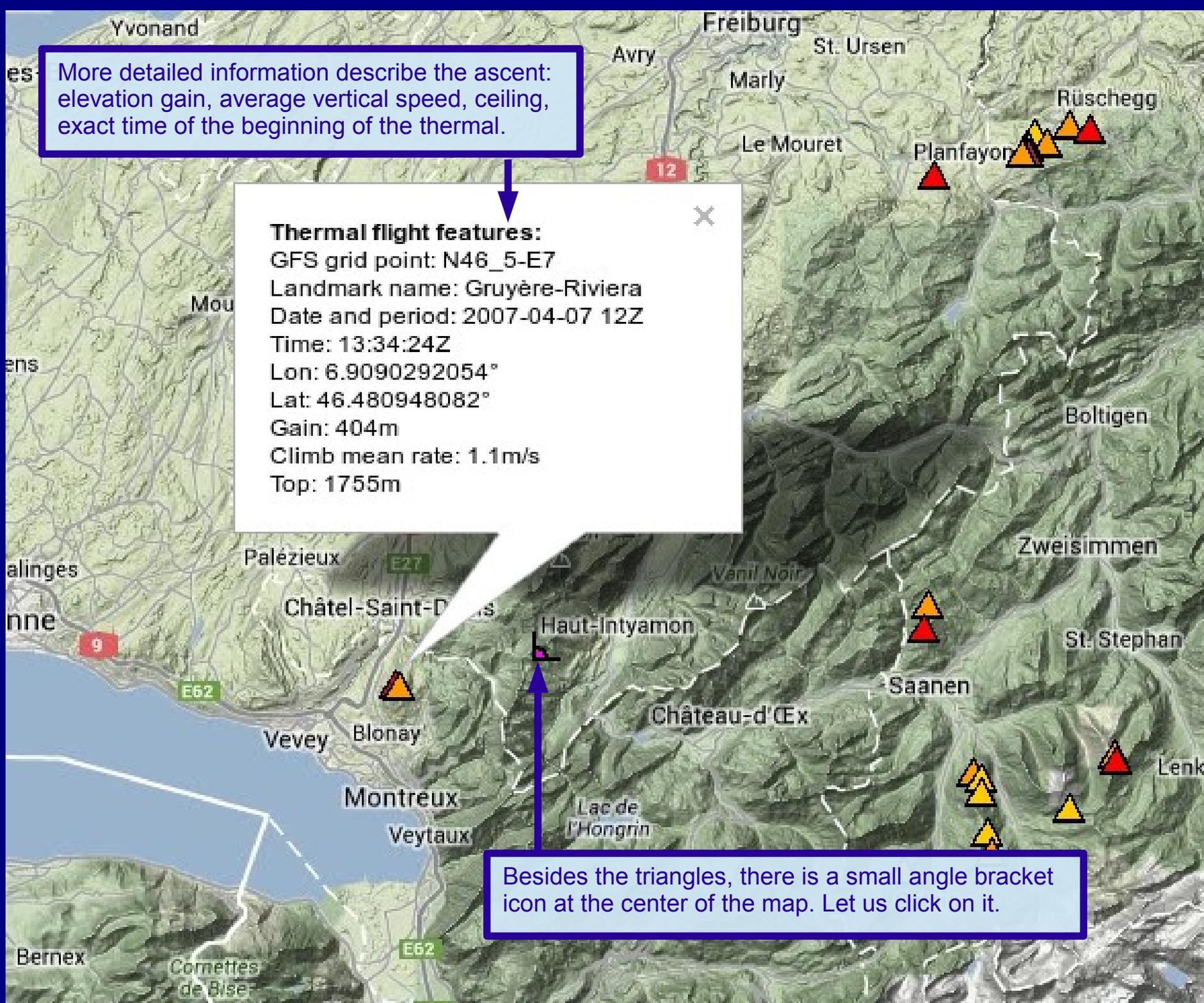
- ▲ 0 - 0.2
- ▲ 0.2 - 0.5
- ▲ 0.5 - 1
- ▲ 1 - 1.5
- ▲ 1.5 - 2
- ▲ 2 - 2.5
- ▲ 2.5 - 3
- ▲ 3 - 3.5
- ▲ 3.5 - 4
- ▲ +4m/s

More detailed information describe the ascent: elevation gain, average vertical speed, ceiling, exact time of the beginning of the thermal.

Thermal flight features:

GFS grid point: N46_5-E7
Landmark name: Gruyère-Riviera
Date and period: 2007-04-07 12Z
Time: 13:34:24Z
Lon: 6.9090292054°
Lat: 46.480948082°
Gain: 404m
Climb mean rate: 1.1m/s
Top: 1755m

Besides the triangles, there is a small angle bracket icon at the center of the map. Let us click on it.



A new bubble appears. It contains information about grid point and about weather of the predicted period and the old similar one.

GFS grid point: Coordinates: N46_5-E7.
 Landmark name: Gruyère-Riviera. Mean model ground elevation: 1016m.
 Current GFS forecast period: Friday 07 June 2013 12Z.
 Old similar archived day: 2007-04-07 12Z.

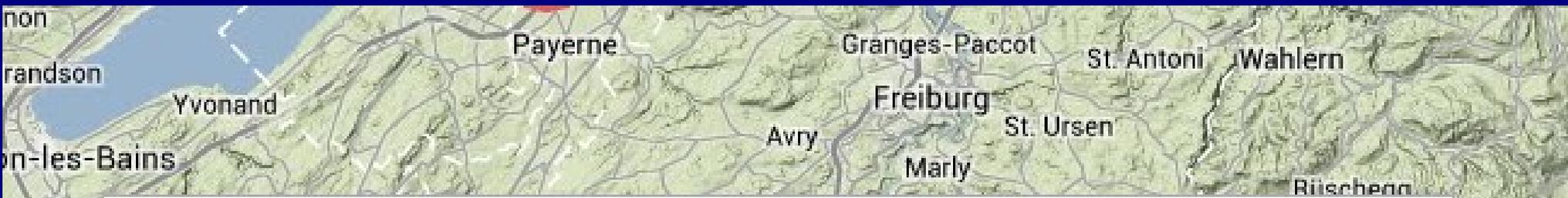
	S2m	BLD	H700	H500	H300	T500	°850	V850	°800	V800	°750	V750	V700	°700
Curr	9.8	1363	60	50	93	-16.1	340	8.8	349	5.2	270	0.7	288	2.4
Old	5.6	940	48	35	82	-20.5	343	5.9	334	4.6	278	4.4	267	7.4
Diff	4.2	423	13	16	12	4.4	2	2.9	15	0.6	8	-3.7	22	-5.0
Good?	+	+	-	0	-	-	0	-	0	0	0	+	0	+

The penultimate line is the difference between the predicted and the old values. For example, if the convective layer of the forecast day is thicker than the one of the archived similar day, the difference is positive, here 423 m. In this case, it will be good

... hence the plus sign on the bottom line. If the wind at 850 hectoPascal is stronger during the predicted period than during the old similar day, the difference is positive again ...

... but in this case it will be unfavorable hence the minus sign. In other words, on the last line, there is a sequence of plus signs or minus signs to indicate if the predicted day looks better, that is to say, it is more favorable, or less good, that is to say less favorable than the archived similar day. The zeros indicate of course a nonsignificant difference.





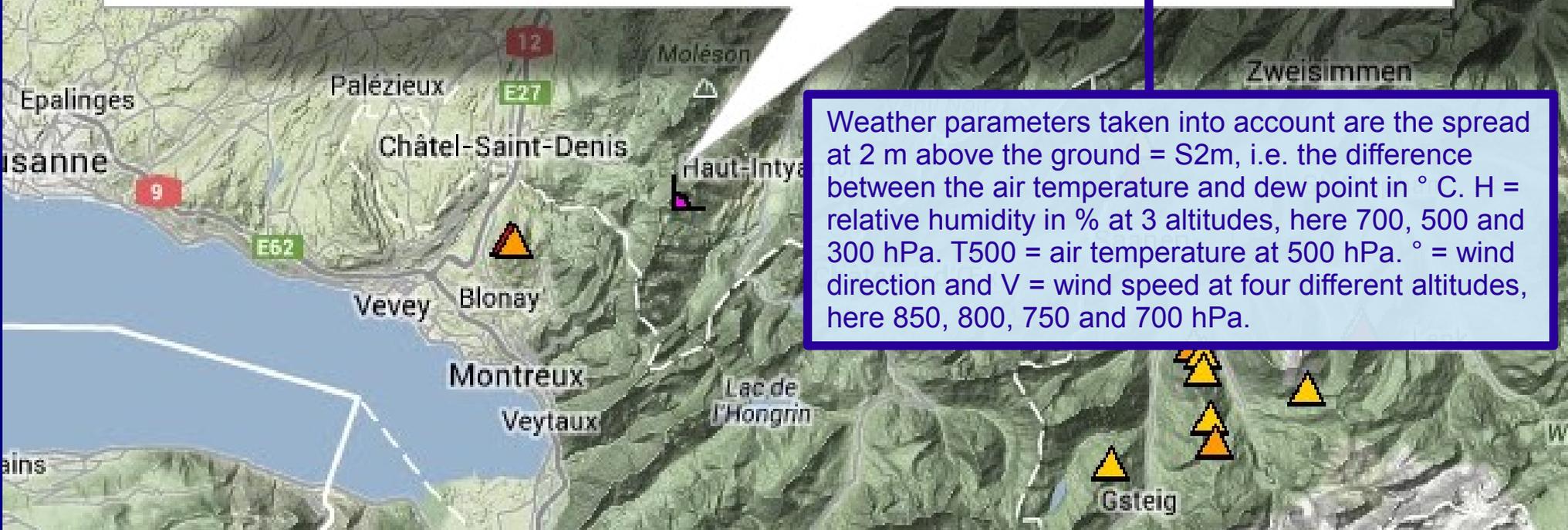
GFS grid point: Coordinates: N46_5-E7.

Landmark name: Gruyère-Riviera. Mean model ground elevation: 1016m.

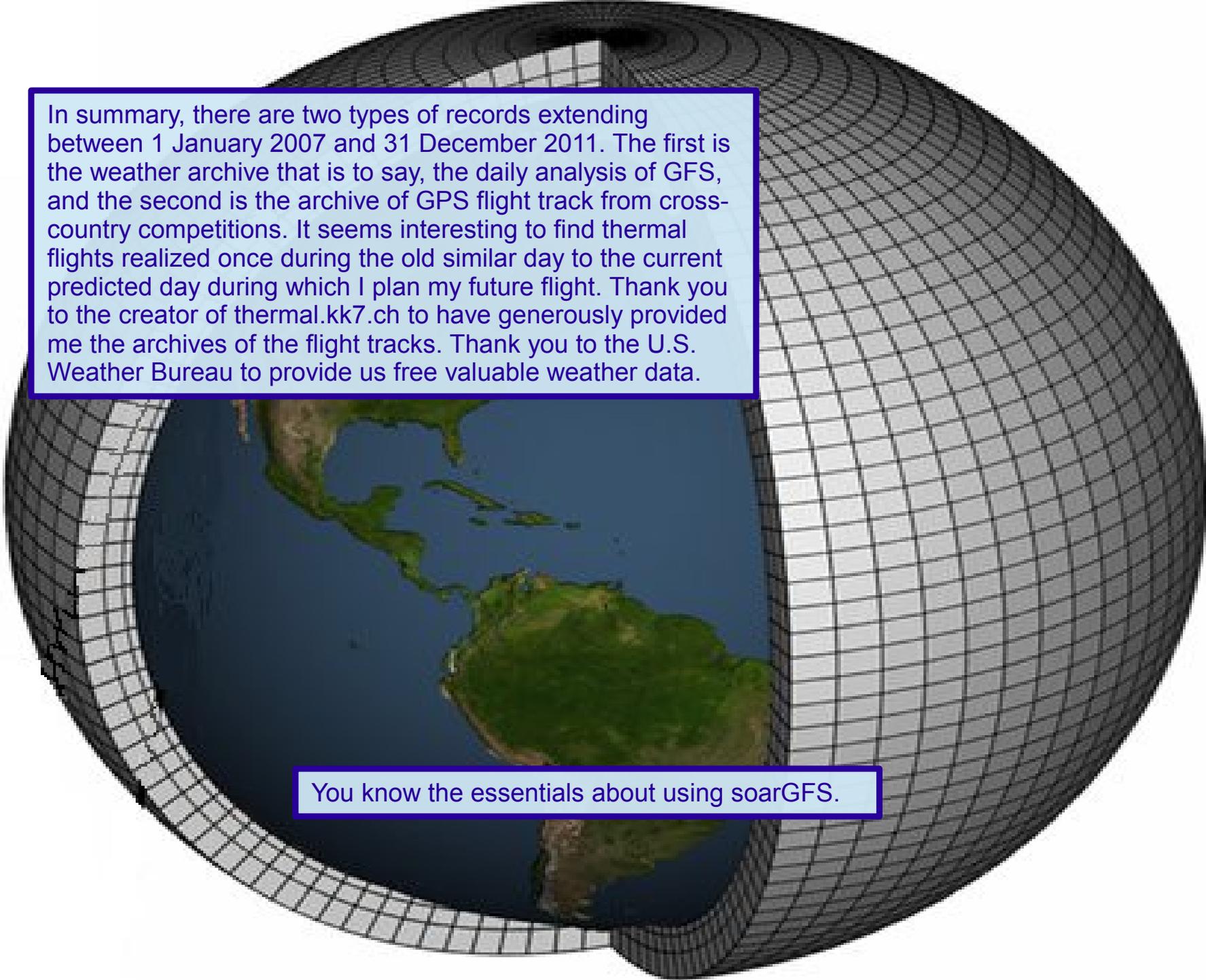
Current GFS forecast period: Friday 07 June 2013 12Z.

Old similar archived day: 2007-04-07 12Z.

	S2m	BLD	H700	H500	H300	T500	°850	V850	°800	V800	°750	V750	V700	°700
Curr	9.8	1363	60	50	93	-16.1	340	8.8	349	5.2	270	0.7	288	2.4
Old	5.6	940	48	35	82	-20.5	343	5.9	334	4.6	278	4.4	267	7.4
Diff	4.2	423	13	16	12	4.4	2	2.9	15	0.6	8	-3.7	22	-5.0
Good?	+	+	-	0	-	-	0	-	0	0	0	+	0	+



Weather parameters taken into account are the spread at 2 m above the ground = S2m, i.e. the difference between the air temperature and dew point in ° C. H = relative humidity in % at 3 altitudes, here 700, 500 and 300 hPa. T500 = air temperature at 500 hPa. ° = wind direction and V = wind speed at four different altitudes, here 850, 800, 750 and 700 hPa.



In summary, there are two types of records extending between 1 January 2007 and 31 December 2011. The first is the weather archive that is to say, the daily analysis of GFS, and the second is the archive of GPS flight track from cross-country competitions. It seems interesting to find thermal flights realized once during the old similar day to the current predicted day during which I plan my future flight. Thank you to the creator of thermal.kk7.ch to have generously provided me the archives of the flight tracks. Thank you to the U.S. Weather Bureau to provide us free valuable weather data.

You know the essentials about using soarGFS.