The main source of meteorological information in VATSIM is code METAR, which can be obtained through the ATIS, pilot client or on the web.

METAR is an international code that gives the current weather conditions every half an hour and consist of important weather information. It looks this way:

**UKBB 021500Z 16004MPS 4000 DRSN FEW010 M17/M23 Q1013 NOSIG RMK 18420157**

**UKBB1** - ICAO code of the airport of observation

**021500Z2** – date and time of observations (the 2th 15:00 Zulu)

**16004MPS3** – wind direction and speed (160 degrees, 4 meters per second)

**40004** – surface visibility (4000 meters = 4 kilometers)

**DRSN5** – weather phenomena (DR – drizzle, SN - snow)

**FEW0106** – type of clouds and cloud base (FEW – fewer clouds, ceiling 010 – 1000 feet)

**M17/M237** – temperature and dew point, (M17 - temperature -17oC ,M23 - dew point -23oC )

**Q10138** – air pressure QNH in hectopascals (Q1013 – 1013 hPA )

**NOSIG9** – «no significant change»

**RMK10** – «remark» additional information

**1842015711** – runway conditions (18 – runway in use, 4 – surface covered with dry snow, 2 – percentage 11-25%, 01 – thickness 1 mm, 57 – breaking coefficient 0.57)

Here is more information about the code and what it can tell:

1. In the beginning, there is always an ICAO code of the airport, where the observations had taken place.
2. Next goes date of current month and UTC time (for Ukraine, it is: in summer local time – 3 hours, in winter local time – 2 hours).
3. One of the crucial information is surface wind direction and wind speed. Usually wind direction rounded to tens, and when the direction of the wind changes rapidly and can’t be determined abbreviation VRB is used (i.e. **VRB04MPS**), in this case as an extra information can be indicated sector in which wind changes it’s direction, this is stated through **V** sign (**VRB04MPS** **100V160)**. The two digits after the wind direction indicates wind speed followed by measurement unit, for example **MPS** – meters per second. If the wind speed changes from time to time this changes filled through **G** sign that means “gusts” (**VRB04G10MPS)**. Sometime though the wind is calm and METAR code filled with the next information **00000MPS**.
4. Vertical visibility measured in meters, **9999** – stated for visibility more than 10 kilometers.
5. Weather phenomena that can be observed divided into next categories:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CODE** | **DESCRIPTION** | **CODE** | **DESCRIPTION** | **HOW IT IS USED** |
| Precipitations | Other phenomena |
| DZ | Drizzle  | TS | Thunderstorm  | Used as: TSRA, TSSN, TSPE, TSGR, TSGS etc. If there is a thunder observed, but no precipitations an airfield TS stated. |
| RA | Rain  |
| SN | Snow | SH | Shower  | SHRA, SHSN, SHPE, SHGR, SHGS etc. Shower rains can be also stated as VCSH. |
| SG | Snow grains  |
| PE | Ice pellets  | FZ | Freezing  | Used only in addition with FG, DZ and RA. |
| GR | Hail  |
| GS | Snow pellets  | BL | Blowing  | Used with DU, SA and SN, bring precipitations up to 2 meters above the ground. BLSN – blizzard. |
| Visibility deterioration |
| FG | Fog | DR | Low drifting  | Used with DU, SA and SN up to 2 meters above the ground. |
| BR | Mist |
| SA | Sand | MI | Shallow  | MIFG with RVR < 1000 m in the layer below 2 meters and more than 1000 meters outside the layer. |
| DU | Dust |
| HZ | Haze | BC | Patches  | Ridge fog or aerodrome is partly covered with fog, RVR < 1000 m till the altitude below 2 m above the ground.  |
| FU | Smoke |
| SQ | Squall | + / - | Heavy / Light | Used with any weather phenomena to indicate the heavy/light state of it. |
| DS | Dust storm  |

1. Clouds are filled by means of type and ceiling altitude. Types of clouds:
* **FEW** –fewer clouds, 1-2 octant
* **SCT** – scattered clouds, 3 – 4 octant
* **BCN** –broken clouds, 5 – 7 octant
* **OVC** –overcast clouds, 8 octant
* **SKC** – clear sky

The type is followed with 3 digits corresponding to the ceiling altitude in hundreds of feet - **FEW010** fewer clouds with the ceiling at the altitude of 1000 feet. If the cumulonimbus clouds are present, the identifier **CB** is used (i.e. **OVC050CB**).

When the sky cannot be seen through the weather phenomena vertical visibility is used and filled by symbols **VV** (i.e. **VV010** – vertical visibility is 1000 feet).

1. Temperature and dew point in degrees of Celsius, the M determine the temperature below 0 degrees.
2. Air pressure in hectopascals.
3. Expected changes of the weather can be stated in the next ways:
* **BECMG** – stable changes of the weather that might become constant.
* **TEMPO** – expected changes in the weather that will take place no more than 1 hour.
* **NOSIG** – no significant changes are expected.
1. **RMK** – extra field that may contain less relevant information.
2. Runway state **18420157­­**

Runway in use

|  |  |  |  |
| --- | --- | --- | --- |
| Runway deposits: | Extent of contamination: | Depth of deposit: | Friction coefficient: |
| 0 – dry | 0 – 0% | 00 – below 1 mm | 28 – friction coefficient 28% |
| 1 – damp | 1 – 10% | 01 – 1 mm | 35 – friction coefficient 35% |
| 2 – wet | 2 – 11-15% | 02 – 2 mm | … |
| 3 – rime or frost | 3 – 26-50% | ... | 91 – braking action poor |
| 4 – dry snow | 9 – 51-100% | 92 – 10 cm | 92 – braking action med/poor |
| 5 – wet snow | / - not reported | 93 – 15 cm | 93 – braking action medium |
| 6 – slush |  | 94 – RWY is not used | 94 – braking action med/good |
| 7 – ice |  | 99 – RWY is closed | 95 – braking action good |
| 8 – compacted snow |  | // - not reported | 99 – figures unreliable |
| 9 – frozen ruts or ridges |  |  | // – not reported |

Additional information:

In case of visibility of more than 10 km and now clouds with ceiling below 5000 feet, no precipitations, fog etc. – instead of visibility group (4), weather phenomena (5), clouds information (6) **CAVOK** is indicated.