

GEN 3.5 METEOROLOGICAL SERVICES

1. Responsible service

- 1.1 The meteorological forecast and warning services for civil aviation are provided by:

The Israel Meteorological Service (Meteorological Watch office & Aerodrome Meteorological office)

P.O. Box 25

Bet-Dagan 50250, Israel

Tel: 972-3-9403116

Fax: 972-3-9604065

AFS: LLBDYMYX

- 1.2 The meteorological observations at the airports are provided by:

The Israel Airport Authority (Aerodrome Meteorological stations)

Ben-Gurion International Airport 70100, Israel

Tel: 972-3-9750140

Fax: 972-3-9731650

AFS: LLBGYDYX

The service is provided in accordance with the provisions contained in the following ICAO documents:

Annex 3 - *Meteorological Service for International Air Navigation*

Doc 7030 - *Regional Supplementary Procedures*

2. Area of responsibility

Meteorological service is provided within the Tel-Aviv FIR.

3. Meteorological observations and reports

Table GEN 3.5.3 Meteorological observations and reports

<i>Name of station/Location indicator</i>	<i>Type & frequency of observation/ automatic observing equipment</i>	<i>Types of MET reports & availability of trend forecasts</i>	<i>Observation System & Site(s)</i>	<i>Hours of operation</i>	<i>Climatological information</i>
1	2	3	4	5	6
TEL-AVIV/ Ben-Gurion LLBG	Half hourly plus special observation	METAR, SPECI, TREND	Main meteorological mast measuring wind, temperature and humidity: See AD chart Two wind masts: See AD chart Pressure sensor and manual visibility assessment at the Meteorological Station: see AD chart RVR systems: see AD chart Ceilometers: see AD chart	H24	Climatological tables AVBL upon request
Eilat/Ilan and Asaf Ramon LLER	Hourly plus special observation	METAR, SPECI	Northern & Southern meteorological mast with wind, temperature and humidity: see AD chart Pressure sensor: see AD chart Manual visibility assessment: MET Station Ceilometer: see AD chart	Sun-Thu: 0530-2330 Fri & holiday eve: 0600-1800 Sat & holidays: 0700-2330 (Local Time)	Climatological tables AVBL upon request
Haifa LLHA	Hourly plus special observation	METAR, SPECI	Main meteorological mast: with wind, temperature and humidity: see AD chart Additional wind mast: see AD chart Pressure sensor: MET Station	Sunday, Monday, Wednesday, Thursday 0700-2000 Tuesday 0700-2230 Friday 0600-1900 Saturday 0600-2200 (Local Time)	Climatological tables AVBL upon request

4. Types of services

4.1. At all airports, a briefing of the Meteorological Watch Office can be established, via telephone, in the aerodrome meteorological station.

4.2. Folders containing relevant MET data are available at all airports at the aerodrome meteorological station.

At each aerodrome meteorological station there is also a meteorological information terminal, which provides the following information:

- Valid warnings and updated OPMET data
- SIGWX and T+W charts
- Weather Radar online display/animation
- Satellite images online display/animation
- Upper Air temperature & wind profiles derived from Israeli radiosonds and AMDAR reports
- 4 days weather outlooks for the international airports

4.3. The Israel Meteorological Watch office is issuing low level area forecasts of in-flight conditions from the surface and up to 15 000 ft, covering Israel and its vicinity in a form of Low Level SIGWX and Wind/Temperature Forecast Charts. The charts are available at all aerodrome meteorological stations and in the following web page:

http://www.ims.gov.il/IMSEng/All_tahazit/Aviation/

4.3.1. Routine Low Level Charts Schedule

The date and time of each low level chart is shown at the header of the Low-Level SIGWX and at the bottom of the Wind/Temperature chart. The routine schedule and validity times of the charts are listed in the following Tables A and Table B.

Table A. Routine Low-Level SIGWX charts

Issue time (UTC)	Validity time (UTC)
00	18
06	00
12	06
18	12

Table B. Routine Wind/Temperature Low-Level Charts

Time of Base Model (UTC)	Issue Time (UTC)	Validity time (UTC)
00Z	06	12 (+12h), 18 (+18h), 00 (+24h)
12Z	18	00 (+12h), 06 (+18h), 12 (+24h)

4.3.2.

4.3.3.

4.3.4. Low Level Chart Amendments

- a) Amendments may appear as complete re-issues of the Low-Level SIGWX in which case the validity start time may be different from the routine issue.
- b) An amended chart is indicated by the word AMENDMENT at the top of the form.

4.3.5. The Low Level SIGWX Chart

- c) The fixed time weather charts for Israel and its vicinity are provided in the ICAO model SWL format (ICAO Annex 3, Appendix 1), each chart containing a map of SIGWX location and a table with the SIGWX description.
- d) In the SIGWX location map, zones of distinct significant low level weather are enclosed by continuous lines, each zone being identified by a letter. Surface fronts position forecasted for the chart fixed time are depicted on the chart by the usual symbols. The forecast weather conditions during the period of validity are given in the text to the right of the map, each zone being dealt with separately and completely.
- e) The following items are included in the SIGWX describing text:
 - Widespread mean surface wind speed above 30 KT (SFC WSPD)
 - Widespread areas affected by reduction of visibility to less than 5000 m (SFC VIS). Surface visibility is expressed in meters.
 - MT OBSC (mountains obscured): prevailing visibility less than 1,000 m and/or cloud base below 500 ft AGL in mountainous regions.
 - Weather phenomena: Rain, Thunderstorms, Dust, Mist, Fog, Snow, Mountain Waves, Low level Jet (LOW LEVEL JET implies winds of 30 KT at 1000 ft above ground AND significant low level wind shear).
 - cloud amount is described using the METAR code form, where FEW indicates 1 to 2 oktas, SCT (scattered) indicates 3 to 4 oktas, BKN (broken) indicates 5 to 7 oktas and OVC (overcast) indicates 8 oktas.
 - Cloud type is indicated only if CB or TCU. A forecast of thunderstorm (TS) and/or cumulonimbus (CB) implies hail and severe turbulence and icing;
 - If CB or TCU are expected, the cloud amount is described using the descriptors: ISOL (Isolated), OCNL (Occasional), FRQ (Frequent), EMBD (Embedded).
 - Cloud base, cloud top and freezing level altitudes are in hectofeet above MSL (Flight level). XXX indicates tops above 15,000 feet.
 - Moderate or severe Turbulence in clouds is indicated if forecasted. CAT regions are not indicated.

- Moderate or severe Icing in clouds is indicated if forecasted. Carburetor icing is not indicated.
- SFC WSPD, SFC VIS, MT OBSC, MT OBSC, CLOUDS, TURBULENCE, ICING, FREEZING LEVEL are indicated only if relevant significant weather or clouds are expected.
- Predicted Mediterranean Sea surface temperature, sea state and significant wave height near the Israeli shore.

4.3.6. The Low Level Wind/Temperature chart

Wind and temperature information for Israel and its vicinity is provided for fixed times and for a selected range of flight levels: FL 030, FL 050, FL 100 and FL 180.

4.4. Aerodrome Forecast (TAF)

TAFs are routinely issued each 6 hours with a validity of 24 hours, as listed in Table C.

Table C.

Validity for LLHA,	Validity for LLBG, LLER	Start Time	Approx. Issue Time
00-00	00-00	00Z	23Z
06-06	06-06	06Z	05Z
12-12	12-12	12Z	11Z
18-18	18-18	18Z	17Z

5. Notification required from operators

Notification from operators in respect of briefing, consultation, flight documentation and other meteorological information needed by them (ref. ICAO Annex 3, 2.3) is normally required for new routes of more than 3500 km. Such notification should be received at least 3 hours before the expected time of departure.

6. Aircraft reports

6.1. Special aircraft observations should be made by commercial aircraft pilots whenever the following conditions are encountered or observed:

- Moderate or severe turbulence;
- Moderate or severe icing;
- Severe mountain wave;
- Thunderstorms that are obscured, embedded, widespread or in squall lines;
- Heavy dust storm or heavy sandstorm;
- Volcanic ash cloud;
- Pre-eruption volcanic activity or a volcanic eruption

6.2. When other meteorological conditions not listed under 6.1, e.g. wind shear, are encountered and, in the opinion of the pilot-in command, may affect the safety of other aircraft operations, the pilot-in-command should advise the appropriate air traffic service unit as soon as practicable.

6.3. Aircraft observations should be reported during flight at the time the observation is made or as soon thereafter as is practicable

6.4. Special aircraft observations should be reported to the appropriate air traffic service unit by voice communications, in the following special air-report format:

- AIREP SPECIAL
- AIRCRAFT IDENTIFICATION: the aircraft radiotelephony call sign.
- POSITION: position in latitude (degrees as 2 numerics or degrees and minutes as 4 numerics, followed by “North” or “South”) and longitude (degrees as 3 numerics or degrees and minutes as 5 numerics, followed by “East” or “West”), or as a significant point identified by a coded designator (2 to 5 characters), or as a significant point followed by magnetic bearing (3 numerics) and distance in nautical miles from the point (e.g. “4620 North 07805 West”, “HADDY” or “DUB 180 DEGREES 40 MILES”).
- TIME: time in hours and minutes UTC (4 numerics). The time reported should be the actual time of the aircraft at the position and not the time of transmission of the report.
- FLIGHT LEVEL OR ALTITUDE: flight level by 3 numerics (e.g. “FLIGHT LEVEL 310”), when on standard pressure altimeter setting. Altitude in feet followed by “FEET”, when on QNH.
- PHENOMENON PROMPTING A SPECIAL AIR-REPORT: “Turbulence Moderate or Turbulence Severe”, “Icing Moderate or Icing Severe”, “Mountainwave Severe”, “Thunderstorm or Thunderstorm With Hail”, “Duststorm or Sandstorm Heavy”, “Volcanic Ash Cloud”, “Pre-Eruption Volcanic Activity or Volcanic Eruption”

6.5. Special and non-routine aircraft observations received by the air traffic control tower at the aerodrome are relayed to the aerodrome meteorological station which issues a SPECI containing the report as a RMK (e.g. REP AT 2130z 900FT-WIND 120/35kt).

6.6. Where wind shear conditions in the climb-out or approach phases of flight were reported or forecasted but not encountered, the pilot-in-command should advise the appropriate air traffic services unit as soon as practicable unless the pilot-in-command is aware that the appropriate air traffic service unit has already been so advised.

6.7. Post-flight report of volcanic activity should be delivered to the aerodrome meteorological station by the air operator or a flight crew member without delay, on the arrival of the flight to the aerodrome.

7. VOLMET service

Table GEN 3.5.7 VOLMET service

VOLMET info available by dialing 972-3- 9730699

<i>Name of station</i>	<i>CALL SIGN Identification (EM)</i>	<i>Frequency</i>	<i>Broadcast period</i>	<i>Hours of service</i>	<i>Aerodromes/ Heliports included</i>	<i>Contents & format of REP and FCST & Remarks</i>
1	2	3	4	5	6	7
BEN GURION	BEN GURION	126.800 MHZ	Updated at least once an hour at H+50min	H24	TEL-AVIV/Ben Gurion	METAR,TREND,SPECI,TAF
					Eilat/Ilan and Asaf Ramon	METAR,SPECI,TAF
					Haifa	TAF
				Daytime Only	Haifa,	METAR,SPECI
			As long as valid	H24	TEL-AVIV FIR	SIGMET
			The latest report is broadcasted when AVBL	When AVBL	LCLK OJAI	METAR METAR

8. SIGMET and AIRMET service

Table GEN 3.5.8 SIGMET and AIRMET Service

<i>Name of MWO/ location indicators</i>	<i>Hours</i>	<i>FIR or CTA served</i>	<i>Type of SIGMET/validity</i>	<i>Specific procedures</i>	<i>ATS unit served</i>	<i>Additional information</i>
1	2	3	4	5	6	7
Israel Meteorological Service issues SIGMET/AIRMET to TEL-AVIV FIR	H24	TLV FIR	SIGMET/AIRMET 4HR	NIL	Tel-Aviv ACC	NIL

8.1. General

For the safety of air traffic, an area meteorological watch and warning service is operated by the Israeli Meteorological Service. This service consists of a continuous weather watch within the lower and upper FIR and the issuance of appropriate area warnings (SIGMET/AIRMET). Furthermore, the Israeli Meteorological service forecasting center is also serving as the aerodrome meteorological office and thus is issuing aerodrome warnings (AD WRNG) and wind shear warnings (WS WRNG) for all Israeli aerodromes.

8.2. Area Warnings

The area meteorological watch service is performed by the following Meteorological Watch Office: Israel Meteorological Service MWO (LLBD).

8.2.1. The Israel Meteorological Service MWO issues information in the form of SIGMET messages about the occurrence or expected occurrence of one or several of the following significant meteorological phenomena:

- thunderstorms¹
- severe turbulence
- severe icing
- severe mountain waves
- heavy sand storm/dust storm
- volcanic ash cloud

The SIGMETs are issued using ICAO abbreviations and are numbered consecutively for each day commencing at 0001. Their period of validity is limited to less than 4 hours.

SIGMET warnings are disseminated in the AFTN and in the VOLMET transmissions.

8.2.2. The Israel Meteorological Service MWO issues AIRMET warnings about the occurrence or expected occurrence of one or several of the following significant meteorological phenomena below flight level 150:

- Widespread surface wind speed above 30kt
- Widespread reduction of surface visibility to less than 5000 meter, including widespread mountain fog causing mountain obscuration
- Isolated and/or occasional CB/TCU/TS
- Widespread areas of broken/overcast clouds with height of base less than 1000ft AGL.
- moderate icing
- moderate turbulence
- moderate mountain wave

The AIRMETs are issued using ICAO abbreviations and are numbered consecutively for each day commencing at 0001. Their period of validity is limited to less than 4 hours.

8.3. Aerodrome and Windshear Warnings

Warnings relevant for the safety of arriving and departing aircraft, for the protection of parked and moored aircraft, or for the protection of other equipment at the airport are issued by the Israel Meteorological Service MWO, if one or several of the following phenomena are expected to occur at any of the Israeli airports:

- Wind Shear (typically issued when indication of a low level jet is received)
- Wind: issued when the mean speed of the surface wind is expected to exceed 20 kts or when in excess of 25 kts gusts.
- thunderstorm
- hail
- frost²
- sand/dust storm
- snow
- Visibility: reduction of surface visibility to less than 5000 meter at the aerodrome

The warnings are generally issued in English and are distributed to operators and aerodrome services in accordance with a pre-defined distribution list. In order to guarantee rapid dissemination of the warnings, the distribution list to be used shall, as far as possible, contain only one recipient for an interested group; this recipient will be responsible for the further dissemination of the warning within the group.

8.4. Warning RSS feed

Aviation warning RSS feed for the Tel-Aviv FIR is available at the following electronic address:

http://www.ims.gov.il/ims/rss/alert_feed12.xml

Warnings in this feed are issued in English.

¹Area of widespread cumulonimbus clouds or cumulonimbus along a line (squall line) with little or no space between individual clouds, or cumulonimbus embedded in cloud layers or obscured by haze.

²A “frost warning” will be issued when the air temperature is expected to fall below 0°C on those dates when protective measures have generally not yet been taken and also when a substantial deposit of hoarfrost, e.g. on wing surfaces, is expected.

9. Other automated meteorological services

9.1. Meteorological information for pre-flight planning is available on the Israel meteorological Service aviation page: http://www.ims.gov.il/IMSEng/All_tahazit/Aviation/ .

9.2. Nevertheless, users should be aware of the risks of using the public internet in this regard. This includes, but not limited to, a browsers' cache facility not providing the user with the very latest information; delays to, or irregular update, of the internet site; or the receipt of falsified data purporting to have come from a legitimate provider.

9.3. Users should ensure, wherever possible, that the data is updated and consistent with the general weather situation.

GAFOR AREAS - TBD