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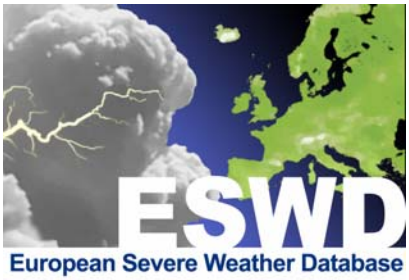
ESSL

European Severe Storms Laboratory e.V.

European Severe Weather Database

ESWD



Data format description

Version 01.40

As of: 11/07/2006 Revision: [1]

ESSL – European Severe Storms Laboratory e.V.		
Dissemination Level		
PU	Public	**X**
PO	Restricted to members and partner organizations (including the Advisory Council)	
RE	Restricted to a group specified by the Executive Board (including the Advisory Council)	
CO	Confidential, only for members of the Executive Board (including the Advisory Council)	

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ESWD project web site:

http://essl.org/projects/ESWD/

ESWD database web site:

http://essl.org/ESWD/ or http://eswd.eu

ESWD data format description: (*this document*)

http://essl.org/projects/ESWD/pdf/ESWD-dataformat-1-40.pdf

Table of contents

ESWD data format, version 01.40

1. General remarks

The database format is designed for the documentation of severe weather occurrence in Europe. The current version primarily deals with severe events associated with deep, moist convection and can be expanded in future to encompass more types of severe weather.

1.1. Recording events vs. recording observations

The format is generally *observation-based*. This means that it is designed to handle observations rather than *events*. For example, when multiple reports of a hailstorm are received, all should be recorded in the database rather than combining them in one record. In this way, the amount of subjectivity that can be added by the managers of the database is minimized. The concept behind is that most interpretation of the data is left to the researchers who want to use them. The general rule therefore is:

"Each observation gets its own record in the database..."

Exceptions to this rule are made in case of *TORNADOES (or waterspouts), GUSTNADOES, FUNNELS,* and *DEVILS*. These are phenomena that can better be described per event than per observation. In these cases observations are combined in one record if they concern the same weather event.

"...except when observations address the same tornado (or waterspout), gustnado, funnel or devil."

If no evidence is present that two reports address the same event, the two reports should be retained separately. When two tornado or waterspout reports are closer than 5 kilometres in place and 30 minutes in time, it will likely be reports of the same tornado or waterspout, so that they can be merged into one database record. When there are indications that the reports indeed concern two separate events, they should not be merged. Any merging of reports should be documented in the INFO group.

1.2. Merging of multiple reports of different events

In cases with more than one *TORNADO, GUSTNADO, FUNNEL,* or *DEVIL* vortex occurring, these may be merged into one report. This can be done, for example, when a number of waterspouts are observed at the same time, while no specific information about each of the waterspouts is known. The following conditions must be satisfied for multiple events to be combined into one record:

- the events are less than 30 minutes separated in time,
- the events are less than 5 kilometres away from each other
- there is no information available about each individual event, but only for the set of events.

2. Severe weather types: Definitions

The types of severe weather covered by this version of the data format are:

DEVIL - dust- or sand devil (land devil) or steam devil (water devil)

A vortex not associated with a convective storm, typically between a few metres to a few tens of metres in diameter, extending upward from the earth's surface but not reaching any cloud, visible by material that is lifted off the earth's surface or by water droplets.

Remark: Devils (lesser whirlwinds) result from temperature differences between the surface and the air above. Whirls in the lee of objects, which may meet the criteria above are dynamically driven and are not considered devils.

FUNNEL - funnel cloud

A vortex, typically between a few metres to a few tens of metres in diameter, extending downward from a convective cloud but not reaching the earth's surface, that is visible by condensation of water vapour, normally having a cone or tube shape.

Remark: Funnel clouds and weak tornadoes can be easily confused if the tornado funnel does not fully extend to the ground, e.g. due to lack of boundary-layer moisture. If there is any evidence that the vortex had ground contact, the event should be reported as a tornado.

GUSTNADO - gust front vortex (gustnado)

A vortex occurring along the gust front of a convective storm and being visible by material that is lifted off the earth's surface, typically between a few metres to a few tens of metres in diameter, extending from the earth's surface upward but not extending to a cloud.

HAIL - severe hailfall

Hailstones observed having a diameter (in the longest direction) of 2.0 centimetres or more, or smaller hailstones that form a layer of 2.0 centimetres thickness or more on flat parts of the earth's surface.

Remark: The hailstones of a hail layer should not have been accumulated because of transport by water, wind or by any other means.

PRECIP - heavy precipitation

Damage caused by excessive precipitation is observed, or no damage is observed but precipitation amounts exceptional for the region in question have been recorded, or one of the following limits of precipitation accumulation is exceeded: 30 mm in 1 hour, 60 mm in 6 hours, 90 mm in 12 hours, 150 mm in 24 hours.

TORNADO - tornado, waterspout

A vortex, typically between a few metres to a few kilometres in diameter, extending between a convective cloud and the earth's surface, which may be visible by condensation of water vapour or by material (e.g. dust or water) being lifted off the earth's surface.

WIND - severe wind gust

Measured wind speeds of 25 m/s or higher, or wind damage inflicted by winds that were likely stronger than 25 m/s.

3. Structure of the data format

The structure of the data format can be summarized by the following hierarchy:

FILES contain RECORDS that contain GROUPS that contain FIELDS

3.1. Files and records

- A database file consists of a number of records.
- Each record contains information about one event or various events of the same type that occurred simultaneously at the approximately same place.
- Records are separated by a # and two new lines.

3.2. Records and groups

- A record consists of several groups, each marked by a group code.
- Each group starts on a new line.
- Every record contains **three** or **four** groups: INFO (record information), TIME&PLACE (general time and location), the event group and, possibly a path group.

3.3. Groups and fields

- A group consists of a number of fields. Every first field of a group is the group identifier and the second contains the group length.
- Fields are separated by the character | (ASCII character 124).
- A field contains one physical quantity or one type of information.
- Fields can be *required* (req.) or *optional* (opt.). *Required* means that if the field is left empty, the data does not comply with the data format, which may cause errors in decoding. Events of which required information is not available should not be added to the database. In case *optional* information is not available, the respective field should be left empty. Optional information should be given when available. Entering the number 0 indicates that the value of a field is zero, not that no information is available.

3.4. Field formats

Fields can contain data in the following formats. It is important to comply with this in order to be able to decode the data automatically.

char	alphabetic characters, spaces, all punctuation symbols except | and #, and numbers
paragraph	a combination of n times char, with n <= 1024
word	a combination of n times char, with n <= 64
integer	1 to 5 numerical characters constituting a positive integer number (max. 32767)
numb.	a numerical character
x numb.	x times a numerical character (this differs from integer because its length is not variable and leading zeroes are therefore retained, but can be read by a program as an integer).
float	numbers that may contain a decimal point.

4. Description of the groups

4.1 Group INFO - record information, source, revisions (req.)

field number	name	form/length		description
1	group identifier	word	req.	**INFO**
2	group length	integer	req.	number of fields in group 10
3	record version	word	req.	In version 1.40 this is V01.40
4	record length	integer	req.	number of groups of the entire record including group INFO
5	QC level	word	req.	one of the following: **QC0** raw data, no quality check by a database manager **QC1** marginal quality check by a database manager (i.e. the data is not obviously untrue) **QC2** quality check completed
6	information sources	word	req.	choose all that apply (separated by a space): The database record is based on... **NWSP** a report by a newspaper **WWW** a report on a web page **EMAIL** a report received by e-mail **TV** a television or radio broadcast **WXSVC** a report by a weather service **SPTR** a report by a trained spotter (or spotter organisation) **LIT** a report in peer-reviewed scientific literature **OLIT** a report in other literature **EYEWTN** a report by an eye-witness of the actual event **DMGEYEWTN** a report by an eye-witness of the inflicted damage **EVTPHOTO** photograph(s)/video footage of the event **DMGPHOTO** photograph(s)/video footage of the inflicted damage **DMGSVY** a damage survey by a severe weather expert
7	source name(s)/	paragr	req.	contact (e-mail)
8	no. of revisions	integer	req.	>= 1 (1 = first submission to database)
9		word	req.	last name and organisation of person doing the revision, e.g. Dotzek, ESSL
10	year, month, day	8 numb.	req.	yyyymmdd

4.2 Group TIME&PLACE - time and place of initial event occurrence (req.)

field number	name	form/length		description
1	group identifier	word	req.	**TIME&PLACE**
2	group length	integer	req.	number of fields in group. In version 01.40 this number is 19
3	year	4 numb.	req.	yyyy
4	month	2 numb.	req.	mm
5	day	2 numb.	req.	dd
6	weekday	word	opt.	**MON**, **TUE**, **WED**, **THU**, **FRI**, **SAT**, **SUN**
7	hour	2 numb.	req.	hh (UTC / GMT)
8	minutes	2 numb.	req.	mm
9	time accuracy	word	opt.	estimate of accuracy of the time given in fields 7 and 8. The time of the event is likely within ... of the time given. **1M** 1 minute **5M** 5 minutes **15M** 15 minutes **1H** 1 hour **3H** 3 hours **6H** 6 hours **12H** 12 hours **1D** 1 day **GT1D** date not certain
10	country	word	req.	two-character country code (upper case, see Appendix 1)
11	state/province	word	opt.	national code for state/province These codes are to be determined nationally.
12	place	word	req.	name of nearest town/settlement/observing station
13	detailed location description	paragr	opt.	
14	nearest larger city	word	opt.	location in words (preferably w/ respect to the nearest larger city) (e.g. 5 km S of Amsterdam, 10 km SSE of Stuttgart, near Basle)
15	latitude	float	req. after QC	decimal degrees north (e.g. 50.0000 instead of 50°00'00")
16	longitude	float	req. after QC	decimal degrees, west(-)/east(+)
17	orography	word	opt.	one or more of the following (separated by a space): **FLAT** flat, definition: local terrain height variation <= 50 m **HILLS** hilly, definition: local terrain height variation > 50 m and <= 500 m **MTS** mountainous, definition: local terrain height variation

```
                                                > 500 m

18 character of earth's surface at the initial eventlocation
                         word    opt.    one of the following
                                          (separated by a apace):
                                          LAND   land, not specified
                                          WATER  water, not specified
                                          RURAL  rural (crops, grassland, both
                                                  or unknown)
                                          CROPS  rural, crops.
                                          GRASS  rural, grassland (pastures)
                                          SAND   sand, (semi-)desert, beach,
                                                  soil covered with very little
                                                  vegetation)
                                          WILD   wilderness (steppe, dunes,
                                                  soil covered with some
                                                  vegetation)
                                          SWAMP  swamp
                                          ROCKS  rocks
                                          URBAN  urban, built-up zone
                                          FOREST forest
                                          ICE    ice (Glacier or ice-covered
                                                  water)
                                          RIVER  river, canal
                                          SEA    sea, ocean
                                          LAKE   lake
19 all types of earth's surface crossed by the event
                         word    opt.    choose one or more of the types
                                         described above, separated by a space
```

4.3 Group DEVIL - dust- or sand devil, water devil

Definition: A vortex not associated with a convective storm, typically between a few metres to a few tens of metres in diameter, extending upward from the earth's surface but not reaching any cloud, visible by material that is lifted off the earth's surface or by water droplets.

Remark: Devils (lesser whirlwinds) result from temperature differences between the surface and the air above. Whirls in the lee of objects, which may meet the criteria above are dynamically driven and are not considered devils.

Provide an F- or T-scale rating only when a reasonably accurate estimate can be given.

field number	name	form/length		description
1	group identifier	word	req.	**DEVIL**
2	group length	integer	req.	number of fields in group. In version 01.40 this number is 17
3	no. of whirlwinds	integer	opt.	blank implies 1 choose 1 except when see section 1.2
4	F-scale	integer	opt.	max. intensity on the Fujita-scale
5	T-scale	integer	opt.	max. intensity on the TORRO-scale
6	F/T rating basis	word	opt.	the rating is based on... **DMGEYEWTN** an eye-witness report of the inflicted damage **DMGSVY** a damage survey by a severe weather expert **DMGPHOTO** photograph(s)/video footage of the inflicted damage **DMGTEXT** a written account of the damage (e.g. in a newspaper) **WIND** the measured wind speed
7	wind speed	float	opt.	in m/s (if actually measured)
8	total event duration	float	opt.	in minutes
9	path length	float	opt.	in kilometres
10	max. path width	float	opt.	in metres
11	direction of movement	word	opt.	(from-to) N-S, NNE-SSW, NE-SW etc.
12	property damage	word	opt.	in EUR (preferred) or other quantity e.g. "EUR 100000"
13	crop/forest damage	word	opt.	in EUR (preferred) or other quantity
14	total damage	word	opt.	in EUR (preferred) or other quantity,
15	no. of people injured	integer	opt.	
16	no. of people killed	integer	opt.	
17	event description/ type of damage/ remarks	paragr	opt.	

4.4 Group FUNNEL - funnel cloud

Definition: A vortex, typically between a few metres to a few tens of metres in diameter, extending downward from a convective cloud but not reaching the earth's surface, that is visible by condensation of water vapour, normally having a cone or tube shape.

Remark: Funnel clouds and weak tornadoes can be easily confused if the tornado funnel does not fully extend to the ground, e.g. due to lack of boundary-layer moisture. If there is any evidence that the vortex had ground contact, the event should be reported as a TORNADO.

field number	name	form/length		description
1	group identifier	word	req.	**FUNNEL**
2	group length	integer	req.	number of fields in group. In version 01.40 this number is 7
3	no. of funnel clouds	integer	opt.	blank implies 1 choose 1 except when see section 1.2
4	total event duration	float	opt.	in minutes
5	max. vertical development	integer	opt.	in percentage of distance between cloud-base and ground. 50 is down to half this distance.
6	average direction of movement	word	opt.	(from-to) N-S, NNE-SSW, NE-SW etc.
7	event description/ remarks	paragr	opt.	

4.5 Group GUSTNADO - gust front vortex (gustnado)

Definition: A vortex occurring along the gust front of a convective storm and being visible by material that is lifted off the earth's surface, typically between a few metres to a few tens of metres in diameter, extending from the earth's surface upward but not extending to a cloud.

Remark: In case of uncertainty whether a gustnado really has occurred, do not use this group. If it is certain that either a tornado or a gustnado occurred, use the TORNADO group. If a straight-line wind gust could have occurred instead, choose the WIND group.

Provide an F- or T-scale rating only when a reasonably accurate estimate can be given.

field number	name	form/length		description
1	group identifier	word	req.	**GUSTNADO**
2	group length	integer	req.	number of fields in group. In version 01.40 this number is 20
3	no. of gustnadoes	integer	opt.	blank implies 1 choose 1 except when see section 1.2
4	F-scale	integer	opt.	max. intensity on the Fujita-scale
5	T-scale	integer	opt.	max. intensity on the TORRO-scale
6	F/T rating basis	word	opt.	the rating is based on... **DMGEYEWTN** an eye-witness report of the inflicted damage **DMGSVY** a damage survey by a severe weather expert **DMGPHOTO** photograph(s)/video footage of the inflicted damage **DMGTEXT** a written account of the damage (e.g. in a newspaper) **WIND** the measured wind speed
7	wind speed	float	opt.	in m/s (if actually measured)
8	total event duration	float	opt.	in minutes
9	type of precipitation	word	opt.	All types of precipitation that are known to have occurred within 5 minutes of the event time and within 3 kilometres distance of the event. one or more of the following: **+RAIN** heavy rain **-RAIN** light or moderate rain **LGHAIL** hail >= 2.0 cm in diameter **HAIL** hail < 2.0 cm, but >= 0.5 cm in diameter **GRAINS** hail < 0.5 cm in diameter, snow pellets or snow grains **+SNOW** heavy snow **-SNOW** light or moderate snow **DUST** dust or sand particles raised by the wind reducing visibility **DRY** no precipitation, dust or sand
10	size of accompanying hail	float	opt.	in centimetres (the hail should have occurred within 5 minutes of the event time and within 3 kilometres distance of the event)

11	path length	float	opt.	in kilometres
12	mean path width	float	opt.	in metres
13	max. path width	float	opt.	in metres
14	average direction of movement	word	opt.	(from-to) N-S, NNE-SSW, NE-SW etc.
15	property damage	word	opt.	in EUR (preferred) or other quantity e.g. "EUR 100000"
16	crop/forest damage	word	opt.	in EUR (preferred) or other quantity, e.g. m^3 of wood
17	total damage	word	opt.	in EUR (preferred) or other quantity,
18	no. of people injured	integer	opt.	
19	no. of people killed	integer	opt.	
20	event description/ type of damage/ remarks	paragr	opt.	

4.6 Group HAIL - severe hailfall

Definition: Hailstones observed having a diameter (in the longest direction) of 2.0 centimetres or more, or smaller hailstones that form a layer of 2.0 centimetres thickness or more on flat parts of the earth's surface.

Remark: The hailstones of a hail layer should not have been accumulated because of transport by water, wind or by any other means.

field number	name	form/length		description
1	group identifier	word	req.	**HAIL**
2	group length	integer	req.	number of fields in group. in version 01.40 this number is 14
3	max. hail diameter	float	opt.	in centimetres
4	max. hailstone weight	float	opt.	in grams
5	average hail diameter	float	opt.	in centimetres
6	thickness of accumulated hail layer	float	opt.	in centimetres (measured on a flat surface, not influenced by flowing water, wind etc.)
7	hail stone characteristics	word	opt.	one or more of the following (separated by a space) **AGGR** aggregates observed (aggregates formed while in air) **CLEAR** hail stones clear ice observed **CONE** cone-shaped hail stones **OBLATE** oblate ("squeezed ball") **POROUS** porous (white ice) hail stones **RINGS** rings of white and clear ice **SPIKES** spiky stones observed
8	local event duration	float	opt.	how long a particular place was affected by hailfall, in minutes
9	property damage	word	opt.	EUR (preferred) or other quantity e.g. "EUR 100000"
10	crop/forest damage	word	opt.	EUR (preferred) or other quantity
11	total damage	word	opt.	EUR (preferred) or other quantity
12	no. of people injured	integer	opt.	
13	no. of people killed	integer	opt.	
14	event description/ type of damage/ remarks	paragr	opt.	

4.7 Group PRECIP - heavy precipitation

Definition: Damage caused by excessive precipitation is observed, or no damage is observed but precipitation amounts exceptional for the region in question have been recorded, or one of the following limits of precipitation accumulation is exceeded: 30 mm in 1 hour, 60 mm in 6 hours, 90 mm in 12 hours, 150 mm in 24 hours.

field number	name	form/length		description
1	group identifier	word	req.	**PRECIP**
2	group length	integer	req.	number of fields in group. in version 01.40 this number is 14
3	precipitation amount	float	opt.	in millimetres (when measured)
4	duration of accumulation of the amount mentioned in field 3	float	req. if	field 3 provided in hours (when measured)
5	max. 6 hour accumulated precipitation	float	opt.	(during the 0-6, 6-12, 12-18, or 18-0 UTC interval in which the time given in group TIME&PLACE falls. If the time given is exactly 0, 6, 12 or 18 UTC, the previous 6 hour period is meant) in millimetres (if known)
6	max. 12 hour accumulated precipitation	float	opt.	(same, for 12 hour period) in millimetres (if known)
7	max. 24 hour accumulated precipitation	float	opt.	(same, for 24 hour period) in millimetres (if known)
8	convective?	word	opt.	Was the precipitation due to deep moist convection? one of the following: **CONV** convective **PARTLYCONV** partly convective **NONCONV** nonconvective **UNCERTAIN** a blank field implies this has not been determined
9	property damage	word	opt.	EUR (preferred) or other quantity
10	crop/forest damage	word	opt.	EUR (preferred) or other quantity, e.g. m^3 of wood
11	total damage	word	opt.	EUR (preferred) or other quantity
12	no. of people injured	integer	opt.	
13	no. of people killed	integer	opt.	
14	event description/ type of damage/ remarks	paragr	opt.	

4.8 Group TORNADO - tornado, waterspout

Definition: A vortex, typically between a few metres to a few kilometres in diameter, extending between a convective cloud and the earth's surface, which may be visible by condensation of water vapour or by material (e.g. dust or water) being lifted off the earth's surface.

Remark: Use this group for events that have most likely been caused by tornadoes or by either tornadoes or gustnadoes. If a straight-line wind gust could have occurred instead, choose the WIND group. For events that clearly have not been tornadoes but gustnadoes, use the group GUSTNADO.

Provide an F- or T-scale rating only when a reasonably accurate estimate can be given.

field number	name	form/length		description
1	group identifier	word	req.	**TORNADO**
2	group length	integer	req.	In version 01.40 this number is 23
3	no. of tornadoes	integer	opt.	blank implies 1 choose 1 except when see section 1.2
4	F-scale	integer	opt.	max. intensity on the Fujita-scale
5	T-scale	integer	opt.	max. intensity on the TORRO-scale
6	F/T rating basis	word	opt.	the rating is based on... **DMGEYEWTN** an eye-witness report of the inflicted damage **DMGSVY** a damage survey by a severe weather expert **DMGPHOTO** photograph(s)/video footage of the inflicted damage **DMGTEXT** a written account of the damage (e.g. in a newspaper) **WIND** the measured wind speed
7	wind speed	float	opt.	strongest wind speed that is measured with the tornado in m/s (if actually measured)
8	funnel sighted	word	req.	was the a funnel cloud of the tornado visually observed (not necessarily reaching the ground)? one of the following: **FNLOBS** funnel observed **NOFNLOBS** no funnel observed
9	suction vortices observed?	word	opt.	one of the following **SVTCSOBS** suction vortices observed **NOSVTCSOBS** no suction vortices observed
10	type of precipitation	word	opt.	all types of precipitation that are known to have occurred within 5 minutes of the event time and within 3 kilometres distance of the event. one or more of the following:

+RAIN heavy rain
-RAIN light or moderate rain
LGHAIL hail >= 2.0 cm in diameter
HAIL hail < 2.0 cm, but >= 0.5 cm in diameter
GRAINS hail < 0.5 cm in diameter, snow pellets or snow grains
+SNOW heavy snow
-SNOW light or moderate snow
DUST dust or sand particles raised by the wind reducing visibility
DRY no precipitation, dust or sand

11	size of accompanying hail	float	opt.	in centimetres (the hail should have occurred within 5 minutes of the event time and within 3 kilometres distance of the event)
12	possibilities	word	opt.	the following or blank: **POSSGUSTNADO** It is **possible** that the wind damage is caused by a **gustnado**, but there is not enough evidence to confirm this. (please provide information in event description field 23) **POSSDEVIL** It is **possible** that the wind damage is caused by a **devil**, but there is not enough evidence to confirm this. (please provide information in event description field)
13	total event duration	float	opt.	in minutes
14	path length	float	opt.	in kilometres
15	mean path width	float	opt.	in metres
16	max. path width	float	opt.	in metres
17	average dir. of movement	word	opt.	(from-to) N-S, NNE-SSW, NE-SW etc.
18	property damage	word	opt.	in EUR (preferred) or other quantity
19	crop/forest damage	word	opt.	in EUR (preferred) or other quantity, e.g. m^3 of wood
20	total damage	word	opt.	in EUR (preferred) or other quantity
21	no. of people injured	integer	opt.	
22	no. of people killed	integer	opt.	
23	event description/ type of damage/ remarks	paragr	opt.	

4.9 Group WIND - severe wind gust

Definition: Measured wind speeds of 25 m/s or higher, or wind damage inflicted by winds that were likely stronger than 25 m/s.

Remark: Provide an F- or T-scale rating only when a reasonably accurate estimate can be given.

field number	name	form/length		description
1	group identifier	word	req.	**WIND**
2	group length	integer	req.	number of fields in group. In version 01.40 this number is 22
3	F-scale	integer	opt.	max. intensity on the Fujita-scale
4	T-scale	integer	opt.	max. intensity on the TORRO-scale
5	F/T rating basis	word	opt.	the rating is based on... **DMGEYEWTN** an eye-witness report of the inflicted damage **DMGSVY** a damage survey by a severe weather expert or trained spotter **DMGPHOTO** photograph(s)/video footage of the inflicted damage **DMGTEXT** a written account of the damage (e.g. in a newspaper) **WIND** the measured wind speed
6	wind speed	float	opt.	in m/s (if actually measured)
7	10 min. average wind speed	float	opt.	in m/s (if actually measured)
8	local event duration	float	opt.	in minutes
9	convective?	word	opt.	one of the following: **CONV** **NONCONV** **UNCERTAIN** blank implies this is undetermined
10	type of precipitation	word	opt.	All types of precipitation that are known to have occurred within 5 minutes of the event time and within 3 kilometres distance of the event. one or more of the following: **+RAIN** heavy rain **-RAIN** light or moderate rain **LGHAIL** hail >= 2.0 cm in diameter **HAIL** hail < 2.0 cm, but >= 0.5 cm in diameter **GRAINS** hail < 0.5 cm in diameter, snow pellets or snow grains **+SNOW** heavy snow **-SNOW** light or moderate snow **DUST** dust or sand particles raised by the wind reducing visibility **DRY** no precipitation, dust or sand

11	size of accompanying hail	float	opt.	in centimetres (the hail should have occurred within 5 minutes of the event time and within 3 kilometres distance of the event)
12	possibilities	word	opt.	one or more of the following (separated by a apace): **POSSTORNADO** It is **possible** that the wind damage is caused by a **tornado**, but there is not enough evidence to confirm this. (please provide information in event description field) **POSSGUSTNADO** It is **possible** that the wind damage is caused by a **gustnado**, but there is not enough evidence to confirm this. (please provide information in event description field) **POSSDEVIL** It is **possible** that the wind damage is caused by a **devil**, but there is not enough evidence to confirm this. (please provide information in event description field)
13	path length	float	opt.	in kilometres (if a path was observed at all)
14	mean path width	float	opt.	in metres (if a path was observed at all)
15	max. path width	float	opt.	in metres (if a path was observed at all)
16	average direction of movement	word	opt.	(from-to) N-S, NNE-SSW, NE-SW etc.
17	property damage	word	opt.	in EUR (preferred) or other quantity
18	crop/forest damage	word	opt.	in EUR (preferred) or other quantity
19	total damage	word	opt.	
20	no. of people injured	integer	opt.	
21	no. of people killed	integer	opt.	
22	event description/ type of damage/ remarks	paragr	opt.	

4.10 Group PATH - path of phenomenon (opt.)

Definition: To classify extended damage paths in more detail, local values of intensity or width etc. may be given at characteristic points of the path (e.g. turning points). Specifying PATH will also enable plotting of extended damage swaths.

Remark: Provide an F- or T-scale rating only when a reasonably accurate estimate can be given.

field number	name	form/length		description
1	group identifier	word	req.	**PATH**
2	group length	integer	req.	number of fields in group, in version 1.40 this number is 4 + 6N
3	no. of path points	integer	opt.	N >= 2
4	unit of intensity	word	opt.	unit of intensity used in field 10 **F** Fujita-scale **T** TORRO-scale **M/S** (wind speed) **CM** (diameter of hailstones)
	(Repeat fields 5-10 N times, with N being the number of path points given in field 3, defining the damage path)			
5	latitude	float	req. after QC	decimal degrees north (e.g. 50.0000 instead of 50°00'00")
6	longitude	float	req. after QC	decimal degrees, west(-)/east(+)
7	hour	float	opt.	hour (GMT)
8	minutes	float	opt.	min (GMT)
9	width	float	opt.	in metres
10	max. intensity of the phenomenon at this point of the path	float	opt.	F/T-scale, wind speed, or hail size expressed in units of field 10

Appendix A: Two-character country codes

The two-character codes of countries in Europe, Mediterranean Africa and Asia, Jordan and the Caucasian countries (including WMO Region VI) are given in this list.

AD	Andorra
AL	Albania
AR	Armenia
AT	Austria
AZ	Azerbaijan
BA	Bosnia and Herzegovina
BE	Belgium
BG	Bulgaria
BY	Belarus
CH	Switzerland
CY	Cyprus
CZ	Czech Republic
DE	Germany
DK	Denmark
DZ	Algeria
EE	Estonia
EG	Egypt
ES	Spain
FI	Finland
FR	France
GE	Georgia
GI	Gibraltar
GL	Greenland
GR	Greece
HR	Croatia
HU	Hungary
IE	Ireland
IL	Israel
IS	Iceland
IT	Italy
JO	Jordan
KZ	Kazakhstan
LB	Lebanon
LI	Liechtenstein
LT	Lithuania
LU	Luxembourg
LV	Latvia
LY	Libya
MA	Morocco
MC	Monaco
MD	Republic of Moldova
MK	Former Yugoslav Republic of Macedonia
MT	Malta
NL	Netherlands
NO	Norway (incl. Svalbard and Jan Mayen Islands)
PL	Poland
PT	Portugal and Azores
RO	Romania
RU	Russian Federation
SE	Sweden
SI	Slovenia
SK	Slovakia
SY	Syria
TN	Tunisia
TR	Turkey
UA	Ukraine
UK	United Kingdom
VA	Vatican City State
YU	Serbia and Montenegro