



OASIS Committee Note

Event Terms List for Use with the Common Alerting Protocol Version 1.2

Committee Note 01

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Related work:

This document is related to:

- *Common Alerting Protocol Version 1.2*. Edited by Jacob Westfall. 01 July 2010. OASIS Standard. Latest version: <http://docs.oasis-open.org/emergency/cap/v1.2/CAP-v1.2.html>.

Abstract:

The variety of practices employed regarding “event” types in CAP messages makes it difficult to compare messages from different sources. The problem has been presented as an interoperability issue where some consumers of CAP struggle to compare differences in language and meaning of the terms used in the <event> element in CAP.

The <event> element is the focus for this effort as it is the only required element in CAP directly associated with the subject event for a CAP message. Aligning practices surrounding this element, as opposed to other possible candidate elements, is the choice adopted in this work product for addressing this interoperability concern.

However, the <event> element is a free form text element meant to communicate with the final audience and not necessarily for the automated systems that process CAP. The only constraint on it is that it be in the same language as indicated by the element in the block the <event> element is found in. Therefore, for consumers, the ability to rely on this element for uses other than just display is not possible.

With this in mind, the concept of a mapping table where CAP originators and CAP consumers can contribute “event” terms has been conceived. With this table, language terms can be mapped to each other as a reference for client consumers thus allowing some measure of interoperability to be possible.

Status:

This is a Non-Standards Track Work Product. The patent provisions of the OASIS IPR Policy do not apply.

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1 Introduction

2 The OASIS EMTC (the Organization for the Advancement of Structured Information
3 System’s Emergency Management Technical Committee), has developed a list of
4 “event” terms for use in alert messaging systems. The creation of the list is an attempt
5 to put some consistency into an important piece of information found in alert messages
6 – the subject event.

7 A subject event justifies why the message was created in the first place, and it helps the
8 alerting authority anchor the information contained in the message to a specific time and
9 place for the message audience. The subject event is central to alert messages that use
10 the OASIS CAP standard.

11 The EMTC generated the “event” terms list in response to concerns expressed by the
12 Global Disaster Preparedness Center (GDPC), a resource center hosted by the
13 American Red Cross. The GDPC raised concerns that the varied and free form usage of
14 event terms is inconsistent in CAP services making it difficult to compare messages
15 from different originating sources. As consumers of alert messages, they found there is
16 no quick and definitive way to compare the language and meaning of the event terms
17 found in various CAP messages.

18 Understanding this, the EMTC approach to the “event terms list” (referred to as the “list”
19 going forward in this document) has been to focus on “how” the list can help when
20 comparing event terms. The design and management of the list is such that consumers
21 of CAP messages, looking to compare event terms from different originating sources,
22 will have a means to do so.

23 The EMTC also recognizes that many alerting authorities have their own terms; and that
24 these terms, some long established, already work well in the communities they serve.
25 Therefore, with the advent of the list, it is not suggested that alerting authorities change
26 to using the OASIS event terms as listed, it is only suggested that the originating CAP
27 systems for those authorities make a reference to the terms.

28 Essentially, the EMTC defers to each and every alerting authority their choice of terms
29 as those authorities have had many years to create a relationship with their audiences.
30 The goal of this EMTC list is only to facilitate a more interoperable exchange of
31 information to consuming parties. Interoperability means that consumers, even those
32 not associated with alerting authority in any way, should also be able to easily process
33 the information. With the methodology outlined in this document, it is hoped this
34 objective can be accomplished. The OASIS EMTC is asking CAP originators and CAP
35 consumers to play a part in making this happen. Ultimately, OASIS hopes users, like the
36 GDPC, will see the benefits.

37 2 Background - CAP Design

38 CAP is designed as a means to convey information associated to an event of interest. It
39 does this for the purposes of alerting audiences to the impacts of that same event.

40 Identifying an event of interest starts the process of creating an alert with the event
41 becoming the subject of the alert message. Subsequently, CAP is then used to house
42 the pieces of information associated to that alert. Consumers of CAP messages, those
43 considered partners to the alerting authorities generating alerts, help disseminate and
44 present that information to the intended final audience.

45 Before a discussion on conveying information can be made however, additional
46 background on a variety of concepts pertaining to alerting information, including the
47 meaning of the term “event” as it used in CAP, is required.

48 2.1 What is an Event?

49 An event is something that happens in a given place during an interval of time. It is the
50 recognition of some activity that is a deviation from the normal state of things. An event
51 only becomes significant when affected parties observe, or are anticipated to observe,
52 some known measure of impact. On a very basic level, simply existing is enough for an
53 event to generate interest. On a more practical level, authorities, with expertise on the
54 nature of certain hazardous or concerning events, may classify an event as significant
55 based on the real or anticipated impacts of the event.

56 In the case of “Public Alerting”, alerting authorities determine whether the impacts of an
57 “event of interest” is concerning enough to issue a formal alert. This is their
58 responsibility; and they can do this consistently because they have built up a pre-
59 defined and deterministic cause for alarm based on a known set of conditions of similar
60 events. In this situation, the alerting authority has assumed the role of defining the
61 impacts of significance on behalf of the public audience they serve. An event, based on
62 those measures, becomes the subject of an alert.

63 2.2 Interoperability

64 CAP consumers are aware that some of the pieces of information within a CAP
65 message are optional while some of the information is required. The <event> element
66 within a CAP message is a required element. It is the only required element in a CAP
67 message that by definition is directly associated with the subject event. Unfortunately,
68 this has resulted in many CAP consumers attempting to rely on the element as a means
69 of comparing the subject events across messages.

70 However, the <event> element is a free form text element meant to communicate with
71 the final audience and not meant for the automated systems to process and make
72 decisions on. The only constraint on <event> is that it be in the same language as
73 indicated by the <language> element of the <info> block - but even that constraint is not
74 easily confirmed. Therefore, for consumers such as the GDPC, the ability to rely on this
75 element as currently defined, for uses other than display purposes, is not always
76 possible.

77 Consequently, it is understandable that some believe that the varied use of the <event>
78 element contradicts the concept of interoperability. One possible solution might be to

79 have originators standardize use of the <event> element to some standard list of values
80 to overcome this interoperability problem. However, it is the opinion of the EMTC, that
81 the <event> element in CAP should not be re-purposed for this task. The <event>
82 element has been established as an audience element and should remain as such. The
83 EMTC believes other existing CAP elements should be employed to facilitate
84 interoperability.

85 2.3 What is a Type?

86 To “type” something is to declare something (formally, or informally) as sharing similar
87 characteristics to things that went before it. Three key points to be made when “typing”
88 something are...

- 89 1) Who is making the declaration?
- 90 2) How is it formalized?
- 91 3) What pre-existing characteristics are actually being “typed”?

92 CAP makes heavy use of the concept of “type”, but for things like subject events, thwe
93 EMTC doesn’t actually define the characteristics. CAP leaves the typing of events up to
94 the communities that use CAP. Type will figure prominently in the discussions in this
95 document.

96 2.4 What is an Event Type?

97 When an event is identified as a subject event, it is helpful if the alerting authority and
98 audience have some pre-existing knowledge of the expected impacts of the event. That
99 prior knowledge comes from associating the subject event to a type of event. When an
100 alerting authority classifies an event based on a set of conditions of other similar events,
101 they are effectively categorizing a type of event. All events that meet that set of
102 conditions are categorized to that type. Knowing what the impacts for a certain type of
103 event are, assists in communicating the impacts of any single subject event.

104 The <event> element, as defined in CAP, is described as... “the text denoting the type
105 of the subject event of the alert message”. This means that the authority is not actually
106 citing the specific subject event in the <event> element, only its type. The most common
107 way to classify a type of event is by a term given to describing the environmental
108 conditions associated to the event. For example, a subject event like “hurricane
109 Katrina”, would have an event type classification of “hurricane” as hurricane is the term
110 given to events with weather conditions characteristic of a hurricane.

111 However, other typing schemes may work off of other aspects of an event. For example,
112 alerting authorities may “type” an event based on its duration (short / medium / long), or
113 its severity (extreme / severe / moderate / etc.), or its scale (EF0 through EF5 as with
114 tornado events) or use proxy terms such as in color based systems (red / orange /
115 yellow), etc. The EMTC list is primarily based on the most common typing classification
116 – an event’s “physical” characteristics – but other typing terms are present.

117 2.5 What is an Alert?

118 An alert is a transmitted “signal” to heighten attention and/or initiate preparation for
119 action. For this attention and preparation to be meaningful, a real or anticipated subject

120 event is necessary. As stated, it is by reference to this subject event that the alert ties
121 the message found in the alert to a time and place.

122 For many alerting authorities, an event, simply by its event type definition, is an alert-
123 able event. For example, a “dangerous animal” is an alert-able event simply because of
124 what its event type definition is. For other authorities, the event is only significant and
125 alert-able when a marked set of environmental conditions define its type. For example,
126 an authority may declare a “wind” event an alert-able event based on a certain wind
127 speed level marker. Regardless of how the need for an alert was determined, the
128 authority went through a subjective analysis identifying event types. All this so that the
129 subject event for any given alert message has a type classification that aids in
130 constructing alert messages for an audience.

131 2.6 What is an Alert Type?

132 Identifying events and event types is often not enough. Organizing an alert message
133 and using meaningful terms for communicating hazardous or concerning impacts to an
134 audience is just as important. This is the social aspect of alerting and this is where the
135 concept of an alert type arises.

136 An alert type is usually just the type of event transposed to also being the type of alert.
137 For example, a “blizzard event”, of event type “blizzard”, would often lead to a “blizzard
138 alert” of alert type “blizzard”. Since an alert message requires a subject event to center
139 the message on, it is natural to make this simple transposition of event types to alert
140 types. This transposition activity holds true for other event type schemes as well (i.e. a
141 “Red event” becoming a “Red alert”, etc.).

142 However, the practice of setting an alert type for alerting authorities is just as
143 inconsistent around the world as is setting event types. For example, a “hot dry
144 weather” event, conducive to the possibility of bush fires, may result in alerts such as
145 “bushfire emergency” or “red flag warning”. The alert types here are “bushfire” and “red
146 flag”, two terms not necessarily or immediately understood to mean similar things –
147 especially across different communities. Secondly, is the event type considered to be
148 “bushfire” or “dry weather”?

149 Regardless of the what the event terms used actually signify, the overall social aspect of
150 alerting has been established within existing communities that uses those terms.
151 Furthermore, for this exemplified case, it should be pointed out that the alert terms
152 “emergency” and “warning” are not uncommon variations for the choice of term for an
153 alert. Nevertheless, the conclusion is that the practice of using terms for naming events
154 and alerts can vary considerably making comparisons difficult.

155 Ultimately, public alerting is not meaningful if the message is not understood.
156 Regardless of the term assigned to the event or alert, the social responsibility of an
157 alerting authority is to effectively communicate the hazards and concerns associated to
158 a subject event. In each case, representatives of the alerting authorities that chose
159 these terms felt the chosen term was the correct one for that situation. OASIS is not
160 claiming any jurisdiction over the choice of terms in public alerting or in CAP.

161 2.7 Event terms

162 Since defining what event types are alert-able is a “community of users” decision; and
163 since properly referencing subject events to an event type is an aspect of effective
164 communication, picking the best term (display label) for known event types can’t
165 possibly be done centrally by one group. To be successful in such an exercise, there
166 are a number of additional considerations regarding an event that all parties need to
167 understand. The list below is not a complete list but the list does demonstrate various
168 aspects of the larger event term problem.

- 169 1) The same event can affect different communities differently. For example, a
170 smoke event can affect one community concerned with Air Quality and Health
171 while at the same time it can affect another community concerned with
172 Transportation.
- 173 2) The same event can affect a national community in one way and a local
174 community in other ways. For example, a forest fire can affect logistical
175 firefighting exercises on a large scale but cause evacuation activities on a
176 smaller scale.
- 177 3) The same event may be easy to describe in one language but not another. For
178 example, the term “AMBER alert” is well known in the English language but its
179 direct translation may not easily survive into another language.
- 180 4) An event may be composed of many smaller events and the communication of
181 many smaller events simultaneously may require the use of a broader term to get
182 the message across. For example, storm surge, heavy rain, strong winds, coastal
183 flooding, tornadoes, etc... may all be part of a hurricane event but a message full
184 of references to the many smaller events may not be effective as they could
185 overwhelm the audience. However, any of these smaller events occurring on
186 their own could easily make up the subject event of a separate alert.
- 187 5) An event often comes with descriptors that authorities have used for many years
188 for alerts based on a how the subject event was viewed in the past. The use of
189 these descriptors can create confusion. For example, a “Thunderstorm” event
190 and a “Severe Thunderstorm” event. “Severe” is one of several allowable CAP
191 values used by agents to filter CAP alert messages but if the value is set to
192 “Extreme” and the event is still termed as a “Severe Thunderstorm” confusion
193 can arise.
- 194 6) An event may be described differently in cause and effect situations. For
195 example, an earthquake event that spawns a possible tsunami event may result
196 in different originators referencing either event type in a CAP message. The alert
197 is “Tsunami Warning” for an anticipated tsunami event but the cause event was
198 the “Earthquake” event. Alerting Authorities could focus on one, or the other, or
199 the combination of the two, as the subject event of the CAP alert message
- 200 7) An event may be considered a trigger event by an alerting authority causing the
201 authority to issue an alert focusing on a secondary event that they themselves
202 want to initiate. For example an “Evacuation Order” that contains a message that
203 talks about the act of evacuating, and may involve very little discussion to the
204 trigger event that spawned the order in the first place.

- 205 8) An event may be described by using a proxy term. For example, “red flag” is a
206 term that can be used to describe an event where a triggering weather event is
207 underway that is conducive to a secondary fire event occurring. Much like a
208 tsunami event prompted by an earthquake event, the possible fire event is
209 prompted by an existing weather event. However, in this case, the term “red flag”
210 is a proxy term generalizing the possibility of several fire events.
- 211 9) Two event terms may have the same core term but use different adjectives to
212 qualify the event, thus creating two different and independent event types solely
213 based on the choice of adjective. For example, a “bush fire” and a “chemical fire”.
214 While related due to the core term “fire”, they are actually quite different event
215 terms only connected through the broader term “fire”.
- 216 10) An event term may not even be an event at all. For example, an “air quality”
217 event is an incomplete definition as air quality is actually a continuous state. It is
218 only implied that the true event is a “poor air quality” event. The repeated usage
219 of the term “air quality”, for the purpose of issuing alerts for “poor air quality”, has
220 led to a subtle training of the audience over time to interpret “air quality” as “poor
221 air quality” when associated with a public alert.
- 222 11) An event term choice may be subject to the behaviors and constraints of the
223 presentation systems in play. For example, the idea of keeping messages short
224 for a particular presentation medium, or only including a short attention grabbing
225 <headline>. For example, “highway alert”.
- 226

227 Consequently, for an event terms list to successfully accommodate all interested
228 parties, users of the list have to recognize that the EMTC list of terms will be large to
229 accommodate a variety of interpretations. Any community that contributes new event
230 terms will likely be adding to an ever-growing list. Luckily, there are ways to engineer
231 solutions to such problems.

232 2.8 CAP Event Type Codes

233 One strategy to help automated systems that auto-process the delivery of the alert
234 message to the final audience is to codify values for certain pieces of information in the
235 message. Coded values, if formatted properly, can alleviate the dimension of language
236 as an issue to resolve when processing an alert. Applying a code to each item in a list is
237 desirable for automated systems and systems that deal across languages.

238 Codifying event types is also helpful for applying advanced processing in alerting
239 systems. For example, a coded value for a pre-defined event type allows consumers to
240 have a pre-defined response to any alert message identifying to that event type. That
241 response could be for simple tasks such as routing or filtering or it could be for more
242 advanced tasks such as creating a unique presentation for a certain type of event. In
243 CAP, codifying event types is facilitated by originators populating the <eventCode>
244 element.

245 2.9 CAP-XML User groups

246 A group is a collection of participants that share a common trait. In the case of XML, a
247 language based messaging protocol, there are two basic user groups. One group is the
248 final intended audience (the end clients of the information contained within the XML
249 message), and the other is the partner group (the agents along the path of distribution
250 that source the XML for decision making information). Both these groups are served by
251 the same CAP-XML alert message.

252 There are elements in the CAP schema that are intended for one group or the other. For
253 example, many of the free form elements in the CAP-XML schema are intended for the
254 final audience, while many of the enumerated elements are intended for agents along
255 the path of distribution. As stated, the <event> element is free form and conveys an
256 event type to the final audience. Conversely, the <eventCode> element is a pre-
257 determined element with managed values, and conveys an event type to agents along
258 the path, allowing them to set up something specific in advance such as filtering or
259 routing.

260 2.10 CAP <category>

261 There is one additional event-based decision-making element in CAP. Unfortunately,
262 like <event>, it does not come with much guidance on how to use it properly and
263 existing practices with this element are as varied as the <event> element itself. Besides,
264 it is a very general element and is not specific enough for consumers to use for most
265 event comparison purposes. This element is the <category> element.

266 Like the <event> element, the CAP standard defines a <category> element to broadly
267 categorize subject events referenced in CAP messages. The <category> element is a
268 required element with a set of pre-defined values for this element. Automated
269 processing on the consumer side could potentially use <category> to filter to some sort
270 of subset list of events of interest. Unfortunately, consumers have to rely on the
271 originators upstream to set the values appropriately and consistently if interoperability is
272 the goal.

273 Usually, originators just include one <category> for the hazardous or concerning event
274 of interest in a CAP message, and that assignment usually just aligns with the
275 jurisdiction of the alerting authority. This defeats the purpose of <category>. For
276 example, an alert issued for a “volcanic ash” event may have a <category> assignment
277 of only “Health” if a health agency issued the alert, whereas it may have a <category>
278 assignment of only “Met” if a meteorological agency issued the alert. The recommended
279 use of <category> is to have multiple instances of the <category> element present in
280 the CAP message - one instance for each category that applies. The CAP consumer
281 could then reliably use a filter to look for the categories that interest them and then just
282 present the <event> value as is to the intended audience. If an alerting authority added
283 a new event type to their list of alert-able events, a consumer could build a system
284 filtered to <category> and not miss any new type of alert that the authority added.

285 OASIS is not intending to promote <category> as a solution to the <event> issue stated
286 in the outset of this document, but understanding <category> and its traits as compared
287 to <event>, will help us address the event issue. The two important traits are re-listed
288 here.

- 289 1) <category> allows for multiple instances of the element in a single CAP
290 message. Therefore, CAP does not constrain events to being in only one
291 category. The <event> element however is constrained to one value.
292 2) <category> is a broad categorization, not enough to inform on the full nature of
293 the event. Therefore, consumers can use it to filter alerts only at the broad scale.
294 The <event> element however can be either broad or narrow as needed for the
295 audience of interest

296 These two differences figure in the methodology to solve the event type comparison
297 issue discussed in this document.

298

3 Event Term Spectrums

299 As mentioned earlier, the social aspect of alerting is a primary concern for alerting
300 authorities. The chosen terms used in the message exist for the purposes of
301 communicating effectively with an audience. However, when inspecting the terms used
302 across various systems, not surprisingly, a wide range of terms are used. Upon further
303 inspection, the terms are not just similar terms for the same thing, but terms that span a
304 range of terms across one or more spectra of terms. This happens both at the event
305 level and the alert level and even authorities themselves sometimes have a hard time
306 interpreting one another's choice of terms.

307 The following is discussion on terms across spectrums, which will factor into the
308 decisions made regarding what event terms may make it into the list.

3.1 Broad to Narrow Spectrum

310 Terms can be very specific or very general depending on the information that needs to
311 be conveyed. This is especially true for public alerting. For example, usually the term
312 used for the event is often the same term used for the alert (i.e. a "wind" event leading
313 to a "wind warning"). However, some alerting authorities generalize the type of alert by
314 using broader terms (i.e. a "wind" event leading to a "weather warning").

315 Furthermore, if a combination of certain events tends to occur at the same time due to
316 the nature of the events, broader terms are quite often used as a catch all for the
317 individual events (i.e. a "wind" event, plus a "rain" event, plus a "storm surge" event all
318 leading to a "tropical storm" alert). From any one physical location affected by all the
319 individual events, using "tropical storm" makes sense as a catch all, but for a segment
320 of the audience affected by only a subset of the events, such as those on higher
321 ground, should they be subjected to the "storm surge" aspect of the catch all alert type?

322 The example below shows a simple example of "Wind". There may be many broad to
323 narrow spectrums that include the term wind, but for this discussion the spectrum that
324 includes the CAP category "Met" is used.

Spectrum = Wind / Met



325
326

327 An authority could elect to use the broad event term "weather" or the narrow term "small
328 craft wind" when naming an event. For example, the following combination of CAP
329 elements is possible

330 <event> = "weather"
331 <category> = "Met"

332 as well as...
333 <event> = "wind"
334 <category> = "Met"

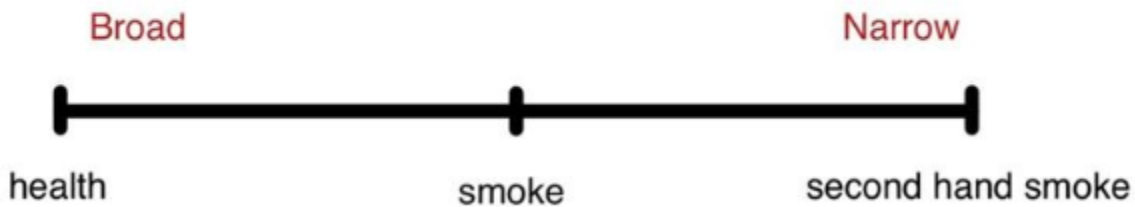
335 or even...
336 <event> = "small craft wind"
337 <category> = "Met"

338 and so on.

339 Additionally, reference terms can appear on more than one broad to narrow spectrum.
340 This is one area where the <category> discussion above is relevant. For example, using
341 the "smoke" example from earlier, smoke is a broad term that one can narrow to either
342 "dense smoke", affecting Transportation, or "second hand smoke", affecting Air Quality
343 and Health.

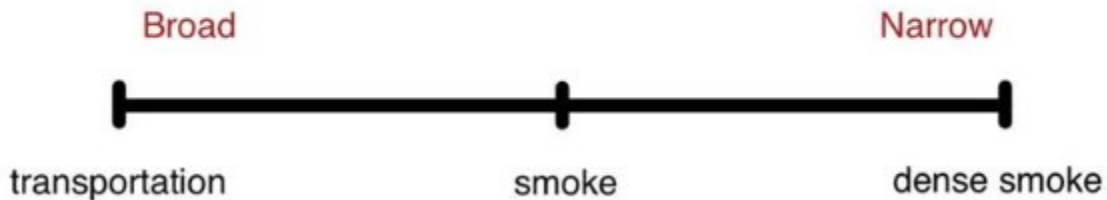
344

Spectrum = Smoke / Health



345

Spectrum = Smoke / Transportation



346

347

348 The impacts of a smoke event could be associated to two different CAP <category>
349 values, "Health" and "Transport". In this case, the broad term would need more context
350 if there is a consumer that wants to filter for alert messages in just one of either
351 category.

352 Furthermore, if the "dense smoke" is from a chemical fire, and the alerting authority is
353 issuing an alert for this smoke with both the Health and Transport communities in mind,
354 do they issue two messages or one? Do they issue a general alert message discussing
355 both impacts or two alert messages discussing the impacts in each category separately
356 knowing there is an specific audience for each category? Practices are many and varied
357 and often go to how the authority conveys the impacts in the message. OASIS has no

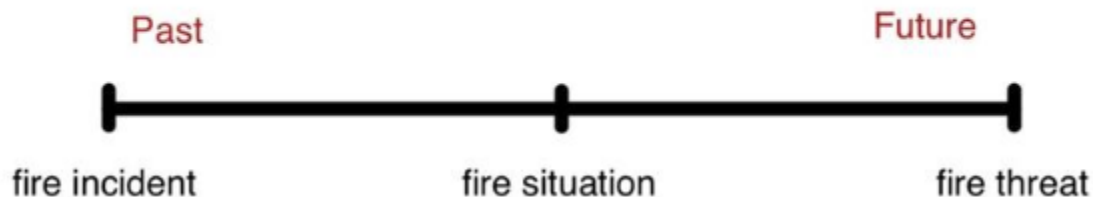
358 jurisdiction over such alerting practices leaving that up to the authorities themselves, but
359 the practices affect the terms used.

360 3.2 Past, Present and Future Spectrum

361 Alerts can be used to alert audiences to events of interest that have happened, are
362 presently happening, or are expected to happen in the future. If an event is moving,
363 such as a “storm”, it can be considered happening now to some and happening in the
364 future to others. Furthermore, if an event is only anticipated to happen, it may end up
365 not happening if the conditions leading up to the event change before the event
366 happens. All this can affect the chosen terms used to describe an event across the time
367 spectrum.

368 Consider for a moment a term like “forest fire”. Since a forest fire is an event by its
369 nature, something that deviates from the normal condition of no fire, the term “forest
370 fire” is an acceptable event type term. However, if an authority wants to define forest
371 fires types for existing forest fires and future forest fires, how is that accomplished?
372 Terms such as “forest fire situation” or “forest fire threat” come to mind, along with many
373 others similar terms. When inspecting these choice of terms however, a sense of timing
374 can be inferred by the additional qualifying term. The term “situation” suggests a current
375 event and the term “threat” suggests a future event. For completeness, an example of
376 an additional qualifying term representing the past could be “incident”.

Spectrum = Fire / Time

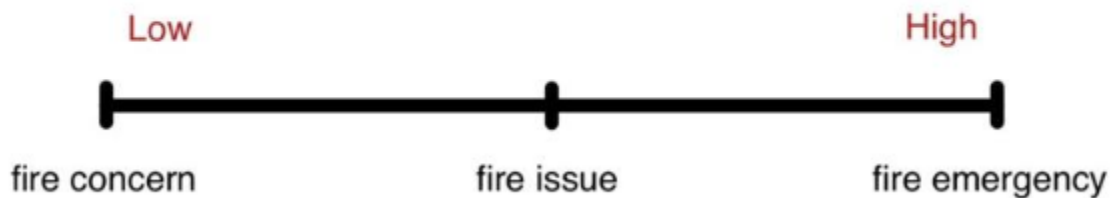


377
378 Another observation about terms like...threat, situation and incident, is that they
379 themselves can also be considered a thing of interest. They are abstract things as
380 opposed to real things, but they can be a subject event of a message (i.e. a message
381 that says “we have a threat”). They can be “typed” (i.e. a threat of type “forest fire”), and
382 they do convey a sense that something is happening that is a deviation from the normal
383 state, so they can also be classified as events. NOTE: As a language construct, the
384 term “forest fire threat” is made up of the noun “threat” and a noun adjunct “forest fire”.
385 A noun adjunct is also a noun, but has been related to adjunct status by its usage as a
386 qualifier. A noun adjunct is not the subject or object of a sentence.

387 3.3 Urgency Spectrum

388 Alerts can be used to alert audiences to events of interest that are minor, major, or
389 anywhere in between. If an additional qualifying term is used for an event term that
390 infers an urgency, such as “concern”, “problem”, “issue”, “warning”, “emergency”, etc...
391 there is an urgency based qualifying term present.

Spectrum = Fire / Urgency



392
393 Another observation about urgency based qualifying terms is that they themselves can
394 also be considered a thing of interest and can be typed. Just like past, present and
395 future qualifying terms, they are nouns and the same interpretation applies.

396 NOTE: the CAP-XML standard already has an element that handles urgency. The
397 <urgency> element is to help consuming systems process the alert message when
398 there is a need to present the message differently based on the <urgency> setting. The
399 <urgency> value is meant for automated systems and is not initially meant for the final
400 audience. Any sense of urgency for the final audience should be handled in the
401 <headline> or <discussion> elements, but since the <event> element is also meant for
402 the final audience, many alerting authorities have chosen to add urgency based
403 qualifying terms there.

404 3.4 Intersecting Spectrums

405 The intersection of spectrums becomes important only when trying to compare terms
406 from across spectrums. For example, if one alert message uses an event term that
407 includes a time qualifying term at the narrow end of the broad to narrow spectrum, and
408 another alert message includes an urgency qualifying term at the broad end of the
409 broad to narrow spectrum, how difficult is it for automated systems to relate the two
410 terms when they should be related (i.e. an event term like “weather threat” as compared
411 to “hurricane emergency”).

412 Furthermore, there are cases where individual event terms incorporate two spectrum
413 terms (i.e. “fire threat emergency”), or incorporate an abstract term on its own (i.e.
414 “emergency”). When this occurs, the terms used are very difficult to compare with other
415 terms. Again, OASIS has no jurisdiction over such alerting practices leaving that up to
416 the authorities themselves, but the varied practices do result in a wide range of terms
417 used making comparisons difficult.

418 4 Spectrum Concept

419 Keeping all of the discussions in mind, a sub-committee of the EMTC has attempted to
420 compile a reference list of subject event type terms that alerting authorities and
421 originators can use or reference in CAP alert messages. The concept of terms being
422 part of a spectra of terms was established as it factors into the ongoing task of
423 processing and managing new terms over time. Users of the list will not necessarily
424 have to be familiar with this spectrum concept, but it will help. Contributors to the list
425 however will have a better understanding of how their submission is being treated if they
426 understand the spectrum concept.

427 A spectrum, in the context used here, where a grouping of terms is brought together
428 under one defined range, provides a means of comparing terms. With that, a number of
429 spectrum concepts arise and are introduced here and discussed below.

430 4.1 Related terms

431 For every event term, there are other related event terms that others may feel are better
432 terms to use. This is of course a matter of opinion but in a spectrum approach, the
433 EMTC can show a given term as relatable to other terms, even across the different
434 spectrums the term is a part of. If a reference term falls onto one or more broad to
435 narrow spectrums, all terms on those spectra are considered related terms.

436 4.2 Narrow terms

437 How narrow (or specific) do event terms need to be? For example, a term for every
438 intensity rating on the Enhanced Fujita Scale (EF0 tornado to EF5 tornado), each based
439 on the likely damage expected with a tornado event, could arguably help consumers
440 better deliver alert messages to their audiences. If an <eventCode> existed for each
441 narrow term, the audience experience could be enhanced as the narrower term
442 increases the precision of the message.

443 In the example given, the term is actually the code itself (i.e. "EF0"). However, for other
444 scales, such as a marine scale for wind speeds where a qualifying term is used (i.e.
445 small craft wind = 15-19 knots, strong wind = 20-33 knots, gales = 34-47 knots, etc...),
446 the discussion remains relevant.

447 In such cases however, it is usually only smaller subset audiences that have a need for
448 such specificity. The EMTC purposely does not venture into the very narrow edge of the
449 spectrum feeling that the general public would be better served, as with the first
450 example, by the event term "tornado", or in the second example, by the event term
451 "wind". For those looking for more specificity of scale, the "Other Lists" section below
452 offers up a complimentary solution that CAP easily accommodates.

453 4.3 Terms vs. Preferred terms

454 Preferred terms, within a spectrum of terms, is a matter of opinion. The EMTC will not
455 concern itself with choosing a preferred term. Alerting authorities are free to choose
456 their preferred term when considering their audiences. The list however makes it
457 possible to compare the terms used with other terms preferred by other authorities.

458 4.4 Other language terms

459 Other language terms are considered to be in the same spectrum. Spectrums are
460 language independent. If a term is used in one identified language, and it has an
461 equivalent term in another identified language, it is a related term. Filters by language
462 can be used to when working in one language (viewing the list), or when using the list to
463 translate from one language to another (processing CAP with the help of the list).

464 4.5 Other Lists

465 CAP has the facility to house term references from more than one list in any single CAP
466 message. The <eventCode> element is a multi-instanced element in CAP, specifically
467 defined to allow for codes from many different lists to be simultaneously incorporated
468 into a message. For that reason, the EMTC has decided not to include terms and codes
469 based on preferences or specificity of scale, leaving that exercise up to sub-
470 communities of users to define their own list.

471 Any such community is welcome to define and publish additional event term codes.
472 Those additional codes, if necessary, can easily cover the narrow edge of the broad to
473 narrow spectrum. For an alert message that goes out to a multitude of consumers,
474 serving both specific and general audiences, an additional event code could convey the
475 preferred or specific details to subset audiences and the EMTC code could convey
476 general details to general audiences.

477

5 Event Terms List

478 As mentioned in the outset, the EMTC has developed a list of “event” terms for use in
479 alert messaging systems. There was no shortage of challenges with this initiative.
480 Determining how to build and structure the list first meant understanding the bulk of the
481 problems the list was intended to solve. Also, stewards of the list, as well as users of the
482 list, would each have their own objectives when working with the list. Furthermore, how
483 to apply and present the list afterwards to all users was also difficult since many existing
484 alerting practices are already underway and had to be accommodated for in the
485 methods chosen.

486 For users, the EMTC list was developed to be open-ended. An open-ended approach is
487 considered evergreen – the resulting material retains its relevance by growing
488 continuously to meet the needs of a community. For the sub-committee, managing an
489 open-ended reference list, where new terms can be submitted over time, is possible, but
490 only when a solid process for upkeep is established. This is possible with the concept of
491 spectrums.

492 Secondly, strategies such as a thesaurus approach emerge. With a thesaurus
493 approach, each term is related to other similar terms and by selecting one term, other
494 similar or related terms can be found using the various spectra the term can be found in.
495 The thesaurus then leads the user down a path where the user can choose for
496 themselves the best term as they deem appropriate for the situation. Through the
497 spectrum approach, the EMTC will be able to list related terms for any given reference
498 term when using a thesaurus.

499 **For consumers** of CAP, the <event> element is free form, and consumer systems
500 should already be accepting free form values for this element. The terms in the EMTC
501 list should not require any refactoring in those consuming systems if those terms appear
502 in CAP messages. This of course assumes consumers use the <event> element for
503 what it was intended – as a display element only.

504 Secondly, for consumers that want more – that want the ability to auto-process and
505 compare event types across systems and platforms – the EMTC is suggesting an
506 alternative procedure requiring the cooperation of CAP originators and consumers alike.
507 The EMTC is asking originators to populate one instance of the <eventCode> element
508 with a code value from the list – the value that most closely represents the event type
509 used by the alerting authority. For example, if the alerting authority has an established
510 event term that closely mirrors an EMTC term, the following should be placed into any
511 associated CAP message file.

```
512     <eventCode>  
513         <valueName>OET:v1.0</valueName>  
514         <value>OET-537</value> --a coded value for the closest EMTC event term  
515     </eventCode>
```

516 If a term does not closely resemble any EMTC term, then following is requested.

```
517     <eventCode>  
518         <valueName>OET:v1.0</valueName>  
519         <value>OET-000</value> --a coded value for the EMTC event term “other event”  
520     </eventCode>
```

521 **For alerting authorities**, if one does not already have their own list, one may freely use
522 the terms from the EMTC list. If one already has their own event terms list, the EMTC
523 requests a mapping of those terms to equivalent terms in the EMTC list by the CAP
524 originator when generating an alert message (as exemplified above). The sub-committee
525 will periodically expand the list and release updated versions.

526 Secondly, the EMTC is also asking authorities to submit terms for inclusion into the list.
527 As mentioned, the sub-committee will periodically expand the list but will only do so
528 acting as a custodian for the list rather than the subject matter experts for the terms on
529 the list. If there is a situation where the “other issue” coded value is used in a CAP alert
530 message, then the event type used in that message is a candidate for inclusion on the
531 EMTC list going forward.

532 5.1 Submitted Event Terms

533 The following is the general procedure used when considering a new term for inclusion
534 into the list.

- 535 - An event term to be supplied by an interested party
- 536 - The event term to be associated to one or more CAP categories by the interested
537 party (to set the broad edge of the spectra of interest)
- 538 - An assessment of whether it truly is an event term or not
- 539 - A confirmation of whether it truly fits the Spectrum or not
- 540 - Once accepted the term will be added to the list
 - 541 ○ It will be roughly ordered within the indicated broad to narrow spectra
 - 542 ○ It will be assigned a new EMTC event terms code if it has no sibling term
 - 543 ○ It will be assigned an existing EMTC event terms code if it has a sibling
544 term
- 545 - All other terms in the associated spectra will be considered related terms
- 546 - Suggestions for other language terms will be accepted and added
 - 547 ○ Equivalent other language terms will be considered sibling terms

548 The sub-committee will only review the terms as indicated above. For that, we need the
549 help of the submitting agency - either the alerting authority itself or an agency on behalf
550 of an alerting authority.

551 5.2 What Event Terms OASIS Will Accept?

552 The list below demonstrates what OASIS will accept...

- 553 1) event terms that convey a sense of time and space.
- 554 2) event terms that fall within a broad to narrow spectra of terms.
- 555 3) multiple event terms in different languages for a single event type.
- 556 4) event terms that are used to service multiple user communities, regardless of the
557 number of authorities it affects.
- 558 5) event terms that are regional event terms (i.e. “monsoon”).
- 559 6) event terms that are proxy terms (i.e. “AMBER Alert”), if the proxy term is well
560 associated to an event type.

- 561 7) event terms that are multi-word terms (i.e. “falling rock”) where the multi-words
562 are needed to convey the concept of an event.
- 563 8) event terms that collectively subsume a number of smaller events (i.e. “tropical
564 storm” which may subsume “wind”, “rain”, “high seas”, “flood”, etc...).
- 565 9) event terms that are secondary event terms when the secondary event is truly
566 the subject event (e.g., “boil water advisory”, “evacuation order” or “AMBER
567 alert”). The secondary event is what the alerting authority is truly directing the
568 attention of the audience (for AMBER Alert, that secondary event is the search
569 for the missing child, as opposed to the original abduction event that triggered
570 the AMBER Alert).
- 571 10) new mappings to related terms (i.e., adding terms to other spectrums).

572 5.3 What event terms OASIS will not accept?

573 The list below is not a complete list of ideas applicable to the process of not accepting
574 event terms, as new ideas may emerge, but the list does demonstrate what OASIS will
575 not accept...

- 576 1) terms not associated to an event (i.e., “terrorism”).
- 577 The term “terrorism” is not associated to an event, it is an ideology. It could however
578 be associated to an event with an additional qualifying term that convey a sense
579 of time and space, such as “active terrorism”. Regardless of whether such terms
580 are good terms to use or not, the additional word in the examples creates the
581 notion of possible event type. NOTE: “terrorist incident” is in the event terms list
582 as an event type, not the ideological concept. NOTE: This explanation is not
583 necessarily directly applicable in all languages however the intent still applies.
- 584 2) terms that are actually alert terms (i.e. “thunderstorm warning”).
- 585 The term “thunderstorm warning” is actually a secondary event term. It is a term that
586 refers to the act of issuing a warning, not the real or anticipated presence of a
587 thunderstorm event. Such secondary events are not what the CAP elements,
588 <severity>, <onset>, etc. were all created address. In this case, the term
589 “thunderstorm” will suffice. EXCEPTION: Some alert terms are actually adopted
590 as a way to describe secondary events where the secondary event is truly the
591 subject event (i.e. AMBER Alert). The term AMBER Alert was chosen to
592 represent the secondary event of a “coordinated child search”. The term AMBER
593 Alert was adopted to use the term alert to heighten the awareness of the
594 secondary event. Over time, it has become a well-known term associated to that
595 secondary event. It has effectively taken on a meaning of more than just what the
596 term on its own suggests and therefore is an acceptable event type term.
- 597 3) terms that are multi-word terms that use a subjective qualifier that only try to
598 classify an event by scale rather than distinguish the event from another event by
599 its nature (i.e., “gale force winds” and “hurricane force winds” are derived terms
600 based on a level marker). However, terms like “chemical fire” and “forest fire”
601 would each be accepted separately as the nature of the two events are quite
602 different. Therefore, the terms “gale force wind” and “hurricane force wind” are
603 considered too narrow for the OASIS event terms list, but the term “wind” is
604 acceptable. NOTE: Communities, such as marine based communities, are

605 welcome to establish a set of terms and codes for scale based terms with the
606 recommendation that the terms be mapped to the closest OASIS term (and
607 associated event code), and include a reference to the OASIS event code in one
608 instance of the multi-instanced CAP <eventCode> element.

609 4) terms that are multi-word terms where the subjective qualifier is scale based but
610 not necessarily tied to a known level marker from the perspective of the intended
611 audience. For example, “severe thunderstorm”, which has an implied level
612 marker based on the word “severe” but by its use only implies an event more
613 hazardous than normal”. Therefore, the term “severe thunderstorm” is considered
614 too narrow for the OASIS event terms list, but the term “thunderstorm” is
615 acceptable. NOTE: Communities, such as meteorological based communities,
616 are welcome to establish a set of terms and codes for scale based terms with the
617 recommendation that the terms be mapped to the closest OASIS term (and
618 associated event code), and include a reference to the OASIS event code in one
619 instance of the multi-instanced CAP <eventCode> element.

620 5) accept proxy terms that are otherwise not event terms (i.e., “Red”).
621 Red is not an event on its own, it is a quality. “Red” may be used by the authority in
622 the <headline>, <description>, <parameter> or other elements as an alerting
623 authority based preferred term but as an event these terms do not convey the
624 idea of an event. Multi-word terms that try to make an event out of a proxy event
625 (i.e., “red event”) are also not accepted. Turning the proxy event into an event in
626 this manner provides no context to the term event.

627 Appendix A. Acknowledgments

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630 Participants:

631

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680		

681 **Appendix B. OASIS Event Terms**

682 The OASIS event *code* value is for use in the `cap.alertInfo.eventCode.value` element

683 Note: "OET" represents "OASIS Event Term"

684 The version of the OASIS Event Terms list that the OASIS event code is taken from is indicated in the
685 `cap.alertInfo.eventCode.valueName` element.

686 Note: It is of the form "OET:*m.n*", where "*m.n*" is the major.minor version of this document.

687 The OASIS event *term* is for use in the `cap.alertInfo.event` element

688 Note: The OASIS Event Term is supporting material for comparison purposes and for systems that have
689 no Event term list.

690 The "Grouping" column is used to indicate other CAP Event terms which are related.

691 Note: Most often, the grouping term is a broad grouping term on the broad to narrow spectrum, where
692 the term on the row is a more specific term on the same spectrum. The Grouping term can lead to other
693 related terms if the given Event term "doesn't quite fit" the situation.

694 The CAP Category Code(s) value is for use in the `cap.alertInfo.category` element

695 Note: The "CAP Category Code(s)" column, lists the known CAP Categories the OASIS Event term is
696 associated, and OASIS recommends all values listed should be included in the multi-instanced
697 `cap.alertInfo.category` element in a CAP message.

698

OASIS Event Code	OASIS CAP Event Term	Grouping	CAP Category Code(s)
OET-000	other event	other	Other
OET-001	active shooter situation	criminal activity	Safety; Security
OET-002	administrative activity	testing & system activity	Other
OET-003	air hazard	aviation hazard	Meteorological; Transport
OET-004	air quality	health hazard	Environmental; Health
OET-005	air search	safety hazard	Meteorological
OET-006	air stagnation	air hazard	Meteorological
OET-007	aircraft crash	aviation hazard	Transport
OET-008	aircraft incident	aviation hazard	Transport
OET-009	airport closure	aviation hazard	Transport
OET-010	airspace closure	aviation hazard	Transport
OET-011	airspace restriction	aviation hazard	Transport
OET-012	ambulance	health issue	Health
OET-013	animal disease	health issue	Health
OET-014	animal feed	health issue	Health
OET-015	animal health	health issue	Health
OET-016	arctic outflow	temperature hazard	Meteorological
OET-017	ashfall	air hazard; marine; aviation	Geological; Health; Meteorological; Safety; Transport
OET-018	avalanche		Geological
OET-019	aviation hazard	aviation hazard	Transport
OET-020	aviation security	aviation hazard	Transport; Security
OET-021	beach hazard	marine	Safety
OET-022	biological	biological hazard	CBRNE
OET-023	blizzard	winter weather	Meteorological
OET-024	blood supply	health issue	Health
OET-025	blowing dust	air hazard	Meteorological
OET-026	blowing snow	winter weather	Meteorological
OET-027	blue-green algae	water hazard	Environmental

OASIS Event Code	OASIS CAP Event Term	Grouping	CAP Category Code(s)
OET-028	bomb threat	criminal activity	CBRNE
OET-029	bridge closure	road hazard	Transport
OET-030	bridge collapse	road hazard	Transport
OET-031	building collapse	infrastructure issue	Infrastructure
OET-032	building structure hazard	earthquake	Geological
OET-033	bush fire	fire	Fire
OET-034	cable service issue	utility issue	Infrastructure
OET-035	canal	utility issue	Infrastructure
OET-036	chemical fire	fire	CBRNE; Fire
OET-037	chemical hazard		CBRNE
OET-038	child abduction	criminal activity	Safety; Security
OET-039	civil	civil issue	Security
OET-040	civil protest	civil issue	Safety
OET-041	coal gas	utility issue	Infrastructure
OET-042	coastal flood	flood	Meteorological
OET-043	cold	temperature hazard	Meteorological
OET-044	cold weather	winter weather	Meteorological
OET-045	communications service disruption	utility issue	Infrastructure
OET-046	contagious disease	health hazard	Health
OET-047	contaminated water	health hazard	Health
OET-048	contamination		CBRNE; Health
OET-049	criminal activity	criminal activity	Safety
OET-050	cybercrime threat	criminal activity	Safety; Security
OET-051	cyclone	tropical storm	Meteorological
OET-052	dam break	flood	Geological; Meteorological
OET-053	dam issue	infrastructure issue	Infrastructure
OET-054	dangerous animal	civil issue	Safety
OET-055	dangerous person threat	criminal activity	Safety
OET-056	debris flow	geophysical	Geological
OET-057	demonstration	testing & system activity	Other

OASIS Event Code	OASIS CAP Event Term	Grouping	CAP Category Code(s)
OET-058	dense fog	air hazard	Meteorological
OET-059	dense smoke	air hazard	Meteorological
OET-060	diesel fuel issue	utility issue	Infrastructure
OET-061	disease	health issue	Health
OET-062	disease outbreak	health issue	Health
OET-063	drought	weather	Meteorological
OET-064	drug safety	public health	Health
OET-065	drug supply	public health	Health
OET-066	dust storm	air hazard	Meteorological
OET-067	dyke break	flood	Meteorological
OET-068	earthquake	earthquake	Geological
OET-069	electronic infrastructure	infrastructure issue	Infrastructure
OET-070	emergency responder incident	criminal activity	Safety
OET-071	emergency responder threat	criminal activity	Safety
OET-072	emergency support facilities incident	infrastructure issue	Infrastructure
OET-073	emergency support services incident	infrastructure issue	Infrastructure
OET-074	emergency telephone outage	infrastructure issue	Infrastructure
OET-075	environmental issue	environment	Environmental
OET-076	explosion threat	civil issue	CBRNE
OET-077	falling object	safety hazard	Safety
OET-078	fire	fire	Fire
OET-079	flash flood	flood	Meteorological
OET-080	flash freeze	winter weather	Meteorological
OET-081	flood	flood	Meteorological
OET-082	fog	air hazard; winter weather	Meteorological
OET-083	food contamination	biological hazard	Health
OET-084	food safety	public health	Health
OET-085	food supply	public health	Health
OET-086	forest fire	fire	Fire

OASIS Event Code	OASIS CAP Event Term	Grouping	CAP Category Code(s)
OET-087	freeze	winter weather	Meteorological
OET-088	freezing drizzle	winter weather	Meteorological
OET-089	freezing rain	winter weather	Meteorological
OET-090	freezing spray	winter weather; marine	Meteorological
OET-091	frost	winter weather	Meteorological
OET-092	fuel issue	utility issue	Infrastructure
OET-093	geophysical issue	geological	Geological
OET-094	grass fire	fire	Fire
OET-095	hail	severe weather	Meteorological
OET-096	hazardous seas	marine	Transport
OET-097	health issue	health issue	Health
OET-098	heat	temperature hazard	Meteorological
OET-099	heating oil issue	utility issue	Infrastructure
OET-100	high seas	marine	Meteorological
OET-101	high surf	marine	Meteorological
OET-102	high tide	marine	Transport
OET-103	high water	utility issue; marine	Infrastructure; Transport
OET-104	home crime	criminal activity	Safety
OET-105	humidity issue	temperature hazard	Meteorological
OET-106	hurricane	tropical storm; tropical cyclone	Meteorological
OET-107	ice	winter weather	Meteorological
OET-108	ice pressure issue	ice issue	Meteorological
OET-109	ice storm	winter weather	Meteorological
OET-110	iceberg	ice issue	Meteorological
OET-111	industrial crime	criminal activity	Safety
OET-112	industrial facility	safety hazard	Safety
OET-113	industrial fire	fire	Fire
OET-114	infrastructure	infrastructure	Infrastructure
OET-115	internet service	utility issue	Infrastructure
OET-116	lake effect snow	winter weather	Meteorological

OASIS Event Code	OASIS CAP Event Term	Grouping	CAP Category Code(s)
OET-117	lake wind	air hazard	Meteorological
OET-118	landline service	utility issue	Infrastructure
OET-119	landslide	geophysical	Geological
OET-120	law enforcement	civil issue	Security
OET-121	levee break	flood	Meteorological
OET-122	lightning	thunderstorm; severe weather	Meteorological
OET-123	limited visibility	air hazard	Transport
OET-124	low tide	marine	Transport
OET-125	low water	utility issue; marine	Infrastructure; Transport
OET-126	low water pressure	utility issue	Infrastructure
OET-127	meteoroid	space	Transport
OET-128	meteorological issue	meteorological	Meteorological
OET-129	missile threat	national hazard	CBRNE
OET-130	missing person(s)	safety hazard	Safety
OET-131	mobile communication	utility issue	Infrastructure
OET-132	monsoon	weather	Meteorological
OET-133	mudslide	geophysical	Geological
OET-134	natural gas	utility issue	Infrastructure
OET-135	network message notification	testing & system activity	Other
OET-136	nuclear power plant	infrastructure issue	Infrastructure; CBRNE
OET-137	oil leak	beach hazard, environmental	Environmental
OET-138	oil spill	beach hazard, environmental	Environmental
OET-139	over water search	search	Rescue
OET-140	overland flood	flood	Meteorological
OET-141	overland search	search	Rescue
OET-142	pipeline rupture	utility issue	Infrastructure
OET-143	plant health issue	health issue	Health
OET-144	potable water	utility issue; water hazard	Infrastructure
OET-145	power outage	infrastructure issue	Infrastructure

OASIS Event Code	OASIS CAP Event Term	Grouping	CAP Category Code(s)
OET-146	power utility	utility issue	Infrastructure
OET-147	practice	testing & system activity	Other
OET-148	product safety	safety hazard	Safety
OET-149	public facility	infrastructure issue	Infrastructure
OET-150	public health	health issue	Health
OET-151	public service issue	infrastructure issue	Infrastructure
OET-152	public transit issue	infrastructure issue	Transport
OET-153	pyroclastic flow	volcano hazard	Geological
OET-154	radiation	radiological hazard	CBRNE
OET-155	radio transmitter	safety hazard	Infrastructure
OET-156	radioactive material release	radiological hazard	CBRNE
OET-157	radiological fire	fire	CBRNE; Fire
OET-158	railway issue	infrastructure issue	Transport
OET-159	rain	weather	Meteorological
OET-160	rapid ice closing of water passage	ice issue	Transport
OET-161	red tide	health issue; marine issue	Health
OET-162	rescue	rescue	Rescue
OET-163	retail crime issue	criminal activity	Safety
OET-164	rip current issue	beach hazard	Safety
OET-165	road closure	road hazard	Transport
OET-166	road issue	road hazard	Transport
OET-167	road vehicle accident	road hazard	Transport
OET-168	rogue waves	marine	Geological
OET-169	safety	safety hazard	Safety
OET-170	sandstorm	air hazard; weather	Meteorological
OET-171	satellite debris	space	Other
OET-172	satellite service	utility issue	Infrastructure
OET-173	school bus issue	infrastructure issue	Transport
OET-174	school closing	infrastructure issue	Infrastructure
OET-175	school lockdown	infrastructure issue	Infrastructure

OASIS Event Code	OASIS CAP Event Term	Grouping	CAP Category Code(s)
OET-176	search event	search	Rescue
OET-177	security	security	Security
OET-178	sewer	utility issue	Infrastructure
OET-179	shoreline threat	beach hazard	Safety
OET-180	sinkhole	safety hazard	Safety
OET-181	sleet	winter weather	Meteorological
OET-182	snow	winter weather	Meteorological
OET-183	snowstorm	weather	Meteorological
OET-184	space debris	space	Other
OET-185	space weather	space	Other
OET-186	squall	weather; marine	Meteorological
OET-187	storm	weather; marine	Meteorological
OET-188	storm drain	utility issue	Infrastructure
OET-189	storm surge	weather; flood	Meteorological
OET-190	structure fire	fire	Fire
OET-191	swells	marine	Safety; Transport
OET-192	telephone	utility issue	Infrastructure
OET-193	terrorist incident	criminal activity	Safety
OET-194	thunderstorm	weather	Meteorological
OET-195	tornadic waterspout	severe weather	Meteorological
OET-196	tornado	severe weather; tornado	Meteorological
OET-197	toxic plume	contamination hazard	CBRNE
OET-198	toxic spill	contamination hazard	CBRNE
OET-199	traffic	road hazard	Transport
OET-200	transportation	transport	Transport
OET-201	tropical depression	tropical storm; tropical cyclone	Meteorological
OET-202	tropical storm	weather; tropical cyclone	Meteorological
OET-203	tsunami	marine	Geological
OET-204	typhoon	tropical cyclone	Meteorological
OET-205	ultraviolet	safety	Safety

OASIS Event Code	OASIS CAP Event Term	Grouping	CAP Category Code(s)
OET-206	utility	utility issue	Infrastructure
OET-207	vehicle crime	criminal activity	Safety
OET-208	volcanic activity	volcano hazard	Geological
OET-209	volcanic eruption	volcano hazard	Geological
OET-210	volcanic lahar	volcano hazard	Geological
OET-211	volcanic lava	volcano hazard	Geological
OET-212	waste management	utility issue	Infrastructure
OET-213	water	utility issue; water hazard	Geological; Transport
OET-214	water main break	utility issue; water hazard	Infrastructure
OET-215	waterspout	marine	Meteorological
OET-216	weather	weather	Meteorological
OET-217	wildfire	fire	Fire
OET-218	wind	air hazard	Meteorological
OET-219	wind change	air hazard	Meteorological
OET-220	wind chill	temperature hazard	Meteorological
OET-221	wind shear	air hazard	Meteorological
OET-222	winter storm	winter weather	Meteorological
OET-223	winter weather	weather	Meteorological

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Appendix C. Revision History

Revision	Date	Editor	Changes Made
02	09-23-2020	Scott Robertson	Appendix A Acknowledgements added Appendix B Event Terms. added Appendix C Revision History added First Complete Draft
03	10-28-2020	Rex Brooks	First Complete Edited Draft

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