UNISDR System Documentation

PreventionWeb Exchange Standards

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Table of Contents

Preface

Target Audience

The target audiences of this document are the creative and technical divisions of partner website development teams. After reading this document you will**:**

- ***have a strong understanding of PreventionWeb and ISDR system partners;***

- know the purpose of Controlled Vocabularies in the context of PreventionWeb;

- understand the basics of exchange mechanisms for syndicated content.

Purpose

This document details the various information exchange mechanisms and standards that PreventionWeb uses to exchange information with partner websites.

Related Documents

- *Website Design & Development Guidelines*
- *PreventionWeb Partner Website Hosting Policy*
- *PreventionWeb Mail List Serv Application Form*
- *Prevention Workspace Application Form*

Distribution

This document is distributed via www.preventionweb.net

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1 Introduction

In this section we take a look at PreventionWeb and ISDR system partners and why it is necessary to have clear information exchange standards for partner websites.

1.1 What is PreventionWeb?

PreventionWeb (www.preventionweb.net) has been created to promote and showcase the UNISDR systems' contribution to disaster risk reduction. Technically the site has been designed to link to and feed in and out of partner websites.

The exchange mechanisms employed by PreventionWeb mean that the website offers a high-degree of compatibility with other websites, making it an excellent resource for the reciprocated exchange of Disaster Risk Reduction information.

1.2 ISDR system partners

The main partners of the ISDR system are:

- Academic & Research Institutions
- Networks & Others
- News & Media
- Non-Governmental Organizations
- Private Sector
- Regional Intergovernmental Organizations
- UN & International Organizations

The full list of partners is available at:

http://www.preventionweb.net/english/hyogo/isdr/partners/list.php?pid:21&pil:1

As awareness of disaster risk reduction increases, so too the number of websites dealing with DRR. There are a number of thematically linked websites currently accessible via PreventionWeb. These can be accessed via the Organizations link on PreventionWeb: http://www.preventionweb.net/english/professional/contacts/

1.3 Distributed Disaster Risk Reduction content

There are a variety of content types that PreventionWeb can provide to partner websites. These include email lists documents and calendar functionality (see Section 2).

Our goal is to ensure that all our partner websites that wish to create or update websites that use syndicated content from PreventionWeb site can do so with a minimum of effort.

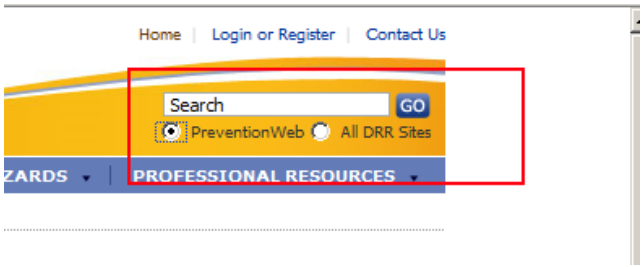
1.4 PreventionWeb exchange standards

1.4.1 Syndication

Syndication is a form of content distribution in which content from a website is made available to multiple other websites. In providing a set of exchange standards, we wish to assist our partners looking to link to the PreventionWeb website, in such a way that disaster reduction information can be syndicated in a meaningful and coherent manner.

1.4.2 The future

Our aim is to make content types and functionality in PreventionWeb available to as wide an audience as possible. For example, one idea we are working on is that of expanding the existing search facility in PreventionWeb so that our partners may use a tailored version on their website.



At present, the PreventionWeb search functionality can be used in partner sites to search the PreventionWeb site or all Disaster Reduction Related sites. Furthermore, search results can be refined according to Themes & Issues, Hazards, Regions & Countries and Organization Types.

In the future we would like to enable our partner websites to include search functionality that allows users to refine searches by topics that are specifically relevant to *their website*. This is achieved through the use of a shared set of controlled vocabularies.

2 Controlled Vocabularies

In this section we take a look at the meaning and purpose of Controlled Vocabularies in the context of PreventionWeb.

2.1 What is a controlled vocabulary?

A controlled vocabulary is a list of carefully selected disaster reduction related words and phrases that are used on PreventionWeb to tag pieces of content, making it easier to find that when searching or browsing.

2.2 Why the need for a controlled vocabulary?

The biggest advantage to having a controlled vocabulary is that once we have established a definition for a term, the relevant information under that term can be grouped together in one place. In addition, any synonyms for the term are grouped under that term and so searches using synonyms will return the same result as searches using the main term.

For example – in a controlled vocabulary that includes the word 'car', there could be a subset that includes 'automobile', 'vehicle' and 'station wagon'. A search using the term 'automobile' will return results for 'car' and so - 'vehicle' and 'station wagon'.

PreventionWeb uses the following controlled vocabularies:

- Regions & Countries
- Themes & Issues
- Hazards
- Organization Types

Note *- We welcome contributions from our partners and encourage open dialogue on the current lists.*

2.3 PreventionWeb controlled vocabulary: Countries

The country list on PreventionWeb reflects the current standardized list of recognized countries. The PreventionWeb countries API is available at:

http://www.preventionweb.net/api/countries/

2.4 PreventionWeb controlled vocabulary: Themes

At present there are 28 themes on the PreventionWeb website. These are:

- Capacity Development
- Civil Society/NGOs
- Climate Change

- Community-based DRR
- Complex Emergency
- Critical Infrastructure
- Disaster Risk Management
- Early Warning
- Economics of DRR
- Education & School Safety
- Environment
- Gender
- GIS & Mapping
- Governance
- Health & Health Facilities
- Indigenous Knowledge
- Information Management
- Media
- Private-public Partnerships
- Recovery
- Risk Identification & Assessment
- Risk Transfer & Insurance
- Social Impacts & Resilience
- Space Technology
- Structural Safety
- Urban Risk & Planning
- Vulnerable Populations
- Water

The API for the PreventionWeb themes is available at: http://www.preventionweb.net/api/themes/

2.5 PreventionWeb controlled vocabulary: Hazards

At present there are 16 hazard types listed on PreventionWeb:

- Avalanche
- Cold Wave
- Cyclone
- Drought
- Earthquake
- Epidemic
- Flood
- Heat Wave
- Insect Infestation
- Land Slide
- Storm Surge
- Technical Disaster
- Tornado
- Tsunami
- Volcano
- Wild Fire

The API for the PreventionWeb hazards list is available at:
http://www.preventionweb.net/api/hazards/

3 Syndication Technologies: PreventionWeb

In this section we take a look at the various aspects of the PreventionWeb that may be syndicated to and from our partner websites. In addition, we look at the exchange mechanisms behind the syndicated content.

3.1 What is syndication?

Syndication of content or functionality from PW to partner websites means that users can stay on a partner website whilst viewing content or use functionality from PreventionWeb.

3.2 What feed types does PreventionWeb currently use?

PreventionWeb can systematically interact with partner websites, using a structured framework with a controlled vocabulary. To achieve this PreventionWeb uses various syndication types:

- **JSON**

  JSON (JavaScript Object Notation) is a 100% language independent data-interchange format that is human readable and can be generated and parsed by machine. Further information on Json is available at: http://www.json.org/

- **RSS**

  RSS (Really Simple Syndication) is a variation of XML. All RSS files must conform to the XML 1.0 specification, as published on the World Wide Web Consortium (W3C) website. Further information on RS is available at: http://www.rssboard.org/

- **ATOM**

  Atom is an XML-based file format. Atom was designed to be a universal publishing standard for frequently updated content. Further information on ATOM is available at: http://tools.ietf.org/html/rfc4287

- **PHP**

  PHP (Hypertext Preprocessor is a very common scripting language used to create dynamic web pages.) Further information on PHP is available at: http://www.php.net/

- **Embedded Content (Widgets)**

  A widget is a stand-alone application that can be embedded into third party sites by any user on a page where they have rights of authorship (e.g. a webpage, blog, or profile on a social media site).

3.3 Specific examples by feed type

Examples of content that can be syndicated from PreventionWeb include documentation, updates and newsfeeds. The following are some syndicated content examples by syndication technology type that are currently being syndicated from the PreventionWeb site:

3.3.1 JSON

Example 1

The following link points to an example of a live data feed (a publication list/bibliography) developed for the UN Brussels website: http://www.preventionweb.net/api/unisdr-europe/index.html

The following is the code required to implement this feed:

<!-- 1. load CSS to HTML head -->

```
<script type="text/javascript" src="http://www.preventionweb.net/api/unisdr
```

```
europe/unbrussels publications head.js"></script>
```

<!-- 2. pull data feed from PreventionWeb -->

```
<script type="text/javascript" src="http://www.preventionweb.net/api/unisdr europe/unbrussels publications json.js"></script>
```

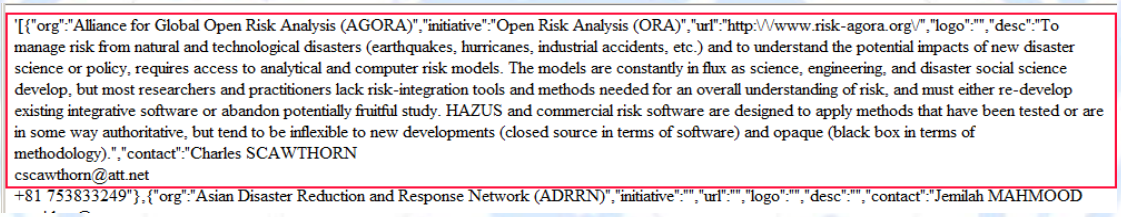
<!-- 3. render Json feed -->

```
<script type="text/javascript" src="http://www.preventionweb.net/api/UNISDR
        europe?format=json&content type=publications&limit=3&callback=JS_render"></script>
```

Example 2

The following links provide examples (from DRH) of a RAW data feed using JSON:

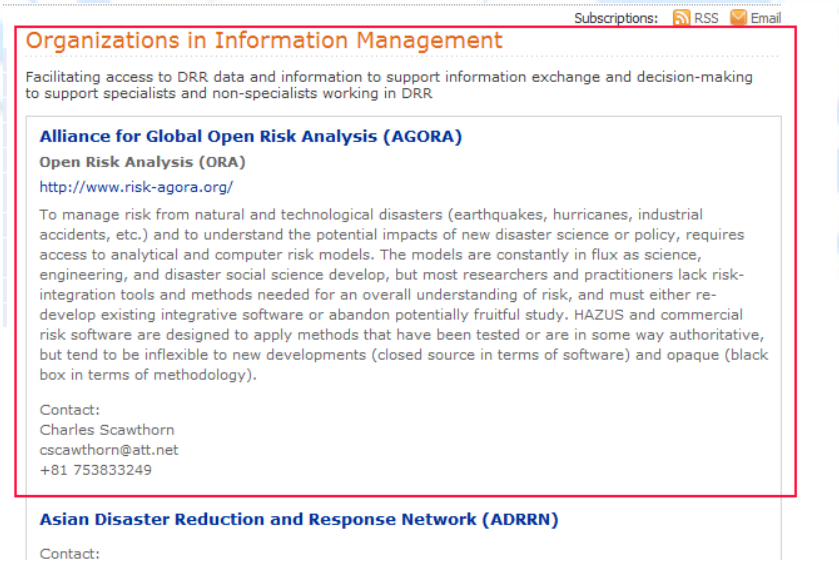
http://www.preventionweb.net/english/api/?tid=40&type=json



'[{"org":"Alliance for Global Open Risk Analysis (AGORA)","initiative":"Open Risk Analysis (ORA)","url":"http:\/\/www.risk-agora.org\/","logo":"","desc":"To manage risk from natural and technological disasters (earthquakes, hurricanes, industrial accidents, etc.) and to understand the potential impacts of new disaster science or policy, requires access to analytical and computer risk models. The models are constantly in flux as science, engineering, and disaster social science develop, but most researchers and practitioners lack risk-integration tools and methods needed for an overall understanding of risk, and must either re-develop existing integrative software or abandon potentially fruitful study. HAZUS and commercial risk software are designed to apply methods that have been tested or are in some way authoritative, but tend to be inflexible to new developments (closed source in terms of software) and opaque (black box in terms of methodology).","contact":"Charles SCAWTHORN
cscawthorn@att.net
+81 753833249"},{"org":"Asian Disaster Reduction and Response Network (ADRRN)","initiative":"","url":"","logo":"","desc":"","contact":"Jemilah MAHMOOD

The following link shows what the same data looks like when implemented:

http://www.preventionweb.net/english/themes/organizations.php?tid=40



Subscriptions: RSS Email

Organizations in Information Management

Facilitating access to DRR data and information to support information exchange and decision-making to support specialists and non-specialists working in DRR

Alliance for Global Open Risk Analysis (AGORA)

Open Risk Analysis (ORA)

http://www.risk-agora.org/

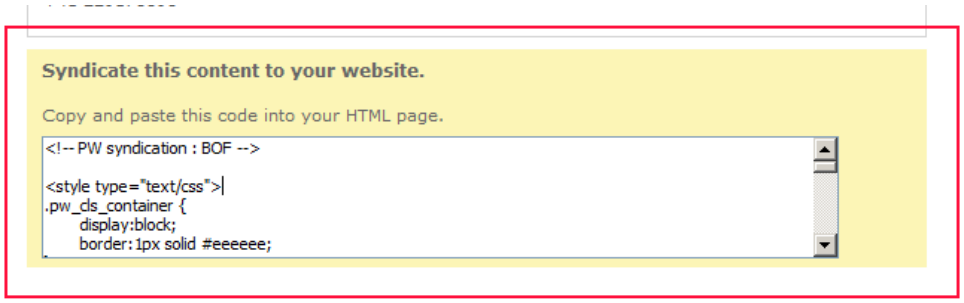
To manage risk from natural and technological disasters (earthquakes, hurricanes, industrial accidents, etc.) and to understand the potential impacts of new disaster science or policy, requires access to analytical and computer risk models. The models are constantly in flux as science, engineering, and disaster social science develop, but most researchers and practitioners lack risk-integration tools and methods needed for an overall understanding of risk, and must either re-develop existing integrative software or abandon potentially fruitful study. HAZUS and commercial risk software are designed to apply methods that have been tested or are in some way authoritative, but tend to be inflexible to new developments (closed source in terms of software) and opaque (black box in terms of methodology).

Contact:
Charles Scawthorn
cscawthorn@att.net
+81 753833249

Asian Disaster Reduction and Response Network (ADRRN)

Contact:

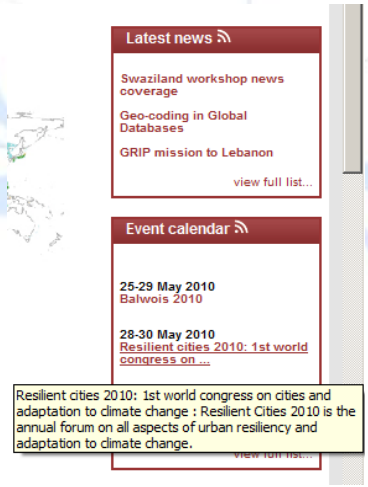
*(**Note** – This web page also includes instructions on how to consume the feed.)*



3.3.2 RSS

The following link opens the Global Risk Identification Programme (GRIP) homepage featuring an RSS feed from Prevention Web: http://www.gripweb.org/grip.php?ido=1000

Clicking on any of the links on the events calendar brings you to a metadata page from the **GRIP** site:



On the metadata page, you can click any of the links.

Example 2

The following link opens a webpage where the latest published current and upcoming event for the UNISDR are displayed as an RSS feed:

http://www.preventionweb.net/english/rss/feed.php?id=5&org_id=1171.

Example 3

The following link opens a webpage where the latest published current and upcoming events for UNISDR-BKK are displayed as an RSS feed:

http://www.preventionweb.net/english/rss/feed.php?id=5&org_id=3016

Note – As the BKK is a child organization of the UNISDR, the RSS feed has been tailored specifically for the BKK.

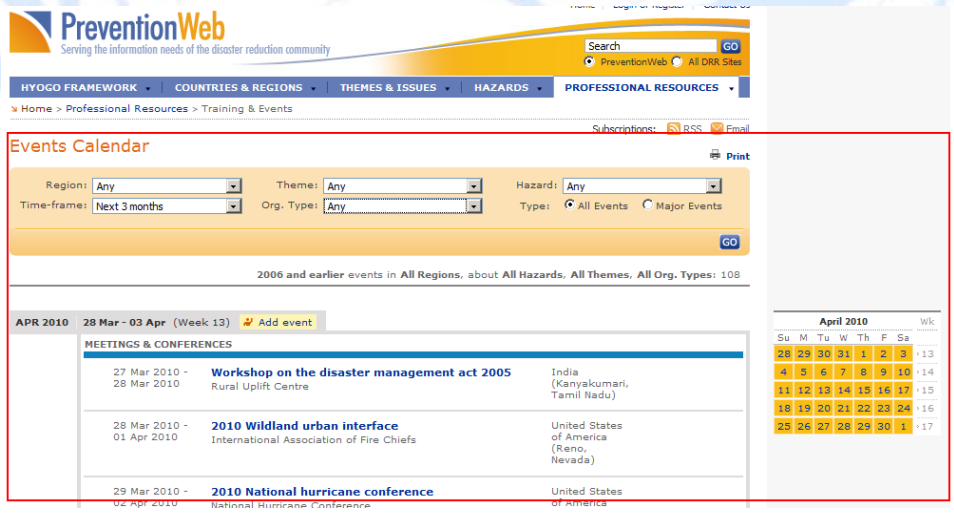
3.3.3 ATOM

The following link opens an example of an ATOM feed is the Prevention shared (or 'controlled') vocabularies: http://www.preventionweb.net/api/countries/

3.3.4 Embedded Content (Widgets)

An example of PreventionWeb content that can be embedded in partner websites is the Events Calendar:

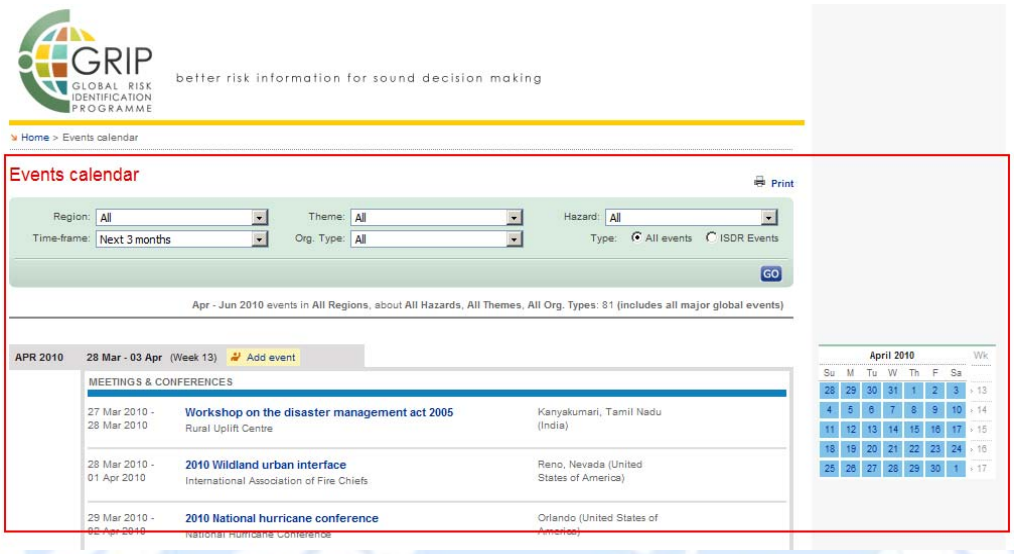
http://www.preventionweb.net/english/professional/trainings-events/events/



The following is a sample list of websites that use the 'syndicated' calendar content from PreventionWeb:

- gripweb.org - http://www.unisdr.org/gripweb.org/events/
- gfdrr.org - http://www.unisdr.org/gfdrr.org/events/

- safehospitals.info - http://www.unisdr.org/safehospitals.info/events/gripweb.org



*(**Note** – The above list shows only those websites that reside on the UNISDR domain. Going forward, thematic partner websites will be required to be registered on their own domains. In addition, the events calendar is not an example of true syndication, but is an example of how a PreventionWeb tool can be embedded in a partner website.)*

3.3.5 Tagged Content

With the tagging facility on PreventionWeb you can create specific tagged content urls that will take users to wherever you direct them, be it to a list of documents on a topic of your choice or list of events relevant to a particular area of Disaster Risk Reduction. The following are some of the ways that you can distribute tagged content from PreventionWeb simply by including a link:

- *Emails*
- *Websites*
- *Documents*
- *Workspaces*

The following is an example of a tagged content list from PreventionWeb:

http://www.preventionweb.net/english/professional/publications/tags/index.php/irinalaw/DRR%20global%20legislations/

3.4 Pulling content from partner sites

In the future, PreventionWeb will be able to receive, not just manually uploaded content, but automatically syndicated content also. Ideally, content that is supplied to PreventionWeb should

fit under thematic areas provided in the PreventionWeb Controlled Vocabulary. There currently two exceptions to this – syndication by email and CRED data.

3.4.1 Syndication by email

At present, inbound content to the PreventionWeb system is invisible to most users of the PreventionWeb system. This is because PreventionWeb includes an Early Warning Early Action workspace created for a number of UN agencies. One such agency is UNICEF.

UNICEF alerts

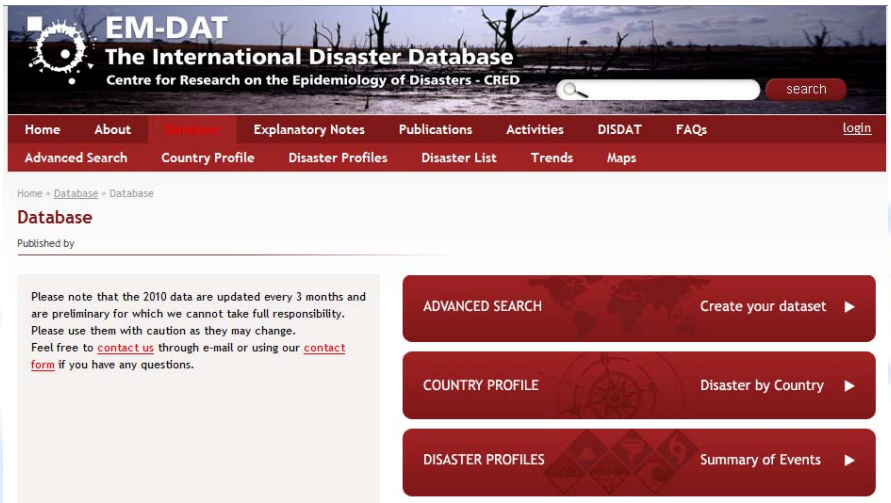
UNICEF alerts are sent to a dedicated PreventionWeb email address using a special xml file format that can be transmitted via email. The PreventionWeb backend automatically parses all incoming emails to this dedicated address.

Emails that do not contain the correct xml file format, the email is logged but the content is not published. If the incoming mail contains the correct xml file format, the information in the required fields in the XML file is published on the Early Warning, Early Action workspace. The following is a sample of the XML file format:

```
<ROOT>
        <AUTHENTICATION></AUTHENTICATION>
        <ENTRY>
                <CountryISO3>cri</CountryISO3>
                <CountryName>Costa Rica</CountryName>
                <HumanitarianIssues><![CDATA[]]></HumanitarianIssues>
                <Description><![CDATA[]]></Description>
                <Triggers><![CDATA[]]></Triggers>
                <DateWatch><![CDATA[]]></DateWatch>
                <RiskLevel>[Red, Orange, Yellow, White]</RiskLevel>
                <RiskLevelComments><![CDATA[]]></RiskLevelComments>
                <LevelOfPreparedness>[Increased, Sustained]</LevelOfPreparedness>
                <ResponseCapacity><![CDATA[]]></ResponseCapacity>
                <DateOfInformation>[YYYY-MM-DD]</DateOfInformation>
        </ENTRY>
        <ENTRY>
                <CountryISO3>cri</CountryISO3>
                <CountryName>Costa Rica</CountryName>
                <HumanitarianIssues><![CDATA[]]></HumanitarianIssues>
                <Description><![CDATA[]]></Description>
                <Triggers><![CDATA[]]></Triggers>
                <DateWatch><![CDATA[]]></DateWatch>
                <RiskLevel>[Red, Orange, Yellow, White]</RiskLevel>
                <RiskLevelComments><![CDATA[]]></RiskLevelComments>
                <LevelOfPreparedness>[Increased, Sustained]</LevelOfPreparedness>
                <ResponseCapacity><![CDATA[]]></ResponseCapacity>
                <DateOfInformation>[YYYY-MM-DD]</DateOfInformation>
        </ENTRY>
        ....
</ROOT>
```

3.4.2 CRED Data

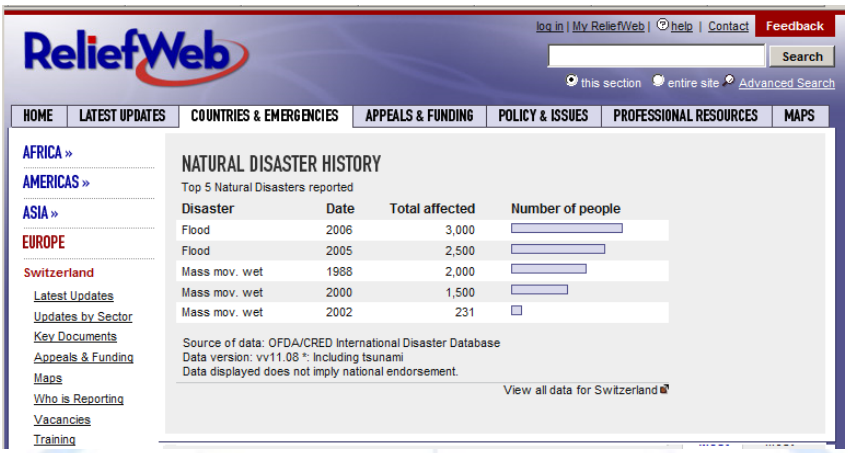
Every six months, PreventionWeb publishes disaster statistics data that are supplied by OFDA/CRED International Disaster Database (Université catholique de Louvain, Brussels in Belgium) also known as Em-Dat.



The statistics are supplied as PHP files and are republished in a clear, graphical format on PreventionWeb.

This process is semi-automated and involves the upload of the **PHP files** to the PreventionWeb servers. PreventionWeb then runs a PHP script and the new CRED data is automatically viewable on the PreventionWeb site. **(*Note* -** *The future will see the introduction of an API to automatically handle this process*.)

In turn, **PreventionWeb** feeds the disaster statistics into the **ReliefWeb** website – where the information is accessed by a wide user base - providing an excellent example of a true syndication mechanism, with there is no repetition of effort to compile or create the same data.



As the dataset on relief web is tailored for the needs of that 'market', for further information on the disaster statistics, **ReliefWeb** features a link that brings the user directly to the PreventionWeb site, where more thorough statistics are available.