Report of the 2026 CAP Implementation Workshop and Training

Background

The U.K. Environment Agency, the OASIS Open standards organization, and Alert-Hub.Org CIC hosted the 2026 Common Alerting Protocol (CAP) Implementation Workshop. The Workshop was held 7-8 October at The Priory Rooms in Birmingham, England. The Workshop followed a day of CAP Training on 6 October at the same venue. A Zoom Webinar was offered for those who could not participate in person.

The Workshop was a technical meeting intended solely for information sharing among experts. Accordingly, Workshop participants represented themselves; they did not formally represent any organizations with which they were affiliated.

The Workshop and Training events had over 900 persons registered as participants. They were from143 countries/territories, and many international organizations, commercial companies, academic institutions, or other non-governmental organizations. About 65 people participated in person. The photo below shows most of the in-person participants on 7 October.

Recordings of the 2026 CAP Workshop and Training Webinars are at the following links. Enter the given passcode when prompted.

Training Day: 6 October Passcode: &^f850&w

Workshop Day One: 7 October Passcode: XGB*Y3eC

Workshop Day Two: 8 October Passcode: ?TF!u6##

The following other documents might be also of interest:

- The Programme lists all of the Workshop agenda topics and links to the presentations;
- The list of Speakers includes speaker biographies, portraits and links to the presentations;
- The list of Participants gives name and organizational affiliation of registered participants.

Offers to Host the Next CAP Implementation Workshop

Workshop participants were invited to put forward offers for the location of a future CAP Implementation Workshop. The likely time frame for a 2027 Workshop is September-October

and it is likely to be near Kuala Lumpur in Malaysia, hosted by the Universiti Teknologi Malaysia, Kuala Lumpur (UTMKL), the Meteorological Department of Malaysia, the National Disaster Agency Malaysia (NADMA), the All Party Parliamentarians Group-Disaster Risk Management (APPGM-DRM), and related agencies of the national government of Malaysia. Beyond 2027, there are now three tentative hosting offers: Georgia, Mexico, and North Macedonia.

Report Process

At the Workshop, participants agreed on the process for producing this Workshop Report. The Workshop Chair, Eliot Christian, produced a draft Report. The draft was shared among Workshop participants for one week, with the Chair making revisions based on any participant comments received. Thereafter, the Chair published the final Workshop Report and linked to it from the 2026 CAP Implementation Workshop website.

Presentation Summaries by Agenda Item

Training: CAP Basic Training [video 94 MB]
Speaker: Eliot Christian

Eliot Christian, Chief Executive Officer of Alert-Hub.Org CIC, gave a CAP Basic Training presentation, covering what CAP is and how to create CAP alerts using the cloud-based CAP Editor freeware. He also surveyed the diverse "last mile media" that can leverage CAP to reach everyone in harm's way.

Training: Exploratory Meeting – Proposal for an IGF DC-VPA
Background: What do we mean by Voluntary Public Alerting? [video 18 MB]
Process Description: Requesting IGF Secretariat Recognition of the DC-VPA [video 55 MB]
Founding Document: Internet Governance Forum Dynamic Coalition on VPA [video 32 MB]
Speaker: Eliot Christian

An Exploratory Meeting was held on 6 October 2026 for a UN Internet Governance Forum (IGF) Dynamic Coalition on Voluntary Public Alerting (DC-VPA). The meeting approved the DC-VPA Founding Document, which sets out the DC-VPA rationale, scope, multistakeholder approach, working methods, transparency commitments and initial deliverable[s]. The Founding Document lists 113 Founding Participants.

The Founding Document was provided in a request to IGF Secretariat for IGF recognition of the DC-VPA, submitted on October 11, 2026.

Training: A Communications/Media Perspective on CAP [video 181 MB]
Speaker: Russell Isaac

The presentation emphasizes that no one should lose access to life-critical warnings because communication technology changes. It identifies five major challenges facing the Common Alerting Protocol (CAP) and its implementation: cross-sector fragmentation, gaps in geocoding harmonization, verification hurdles, institutional and governance issues, and human and operational shortfalls. Addressing these interconnected challenges is essential to ensuring that authoritative public warnings reach people reliably and inclusively across diverse communication platforms and sectors.

Training: AI-Assisted CAP guidance based on Google Flood Hub [video 30 MB]
Speaker: Eliot Christian

This presentation introduces a system that converts AI-assisted hydrological forecasting from Google Flood Hub into CAP files. These are unofficial "Guidance" products, as distinct from official public alerts. Because Google Flood Hub operates on a continuous database, a custom tool was developed to continuously generate discrete CAP files and link them via an RSS feed. Using CAP Editor freeware, official alerting authorities can seamlessly import these predictive flood polygons to initialize, edit, and publish official public warnings.

Training: Tool for Analyzing the Alert-Hub Archive [video 29 MB]
Speaker: Ian Ibbotson

Ian Ibbotson, Chief Technical Officer of Alert-Hub.Org CIC, introduced methods for analyzing the CAP ecosystem. He outlined four key analytical components:
• Collection Reliability: Monitoring feed health diagnostics, error tracking, and 24-hour rolling telemetry.
• Vocabulary Use: Evaluating standard event terms (OASIS), highlighting a high concentration in select codes like air quality.
• Keyword Exploration: Investigating cross-field terminology, search constraints, and sender metrics.
• Monthly Reports: Analyzing dataset volume changes over time windows, tracking publisher frequencies, and connecting aggregated statistics back to individual source feeds.

Ian invited CAP community involvement in suggesting new features and improvements.

Training: Dealing with Removal of XSLT from Web Browsers [video 28 MB]
Speaker: Ian Ibbotson

In this presentation by Ian Ibbotson (CTO of Alert-Hub.org) the deprecation of browser-side XSLT is discussed. (This change is scheduled for November 17, 2026). While CAP XML survives, publishers must explicitly own the presentation layer at the CAP server. The presentation outlines transition architecture strategies, including:
• HTTP Content Negotiation: Serving machine-readable XML or human-readable HTML via headers like Accept and Vary.
• Server-Side Rendering: Shifting existing XSLT stylesheets or templates to render directly on the server.
• Migration Steps: Finding dependencies, establishing defaults, and rehearsing failures.

Ian invited CAP publishers to contact Alert-Hub.Org if we can be of any assistance.

Training: CAP-to-Cell Broadcast Integration: Challenges and Solutions part 1 and
CAP-to-Cell Broadcast Integration: Challenges and Solutions part 2 [video 96 MB]
Speakers: Tom Wood and Norm Paulsen

Tom Wood, with Disaster Relief Communications Foundation (DRCF) detailed how mobile networks solve network overload during disasters because cell broadcasting uses passive control channels instead of individual phone numbers. Among his Key topics were:

• CB Limitations: Addressing data transfer caps, overreach/bleed, and the lack of an inbuilt feedback loop.
• The proposed OASIS Open Cell Broadcasting (OOCB) Layer: Standardizing optional <parameter> extensions to streamline direct XML transformations.
• The MAP Report: Tracking international framework summaries.
• Direct-to-Cellular Networks (DTC): Extending CAP interoperability to low-earth orbit satellite networks.

Norm Paulsen, an Alerting Systems Analyst and retired Meteorologist from Environment Canada, gave a presentation focusing on strategies for customizing CAP to integrate with Cell Broadcast (CB) systems. The core concepts divide standard CAP data elements into audience presentation, behavior control, and system execution types. To bypass technical constraints without breaking baseline XML interoperability, the session proposes the OASIS Open Cell Broadcasting (OOCB) Layer. This modular layer groups optional, specialized <parameter> extensions—covering device-based geo-fencing, handset message formats, and broadcast behavior control. Ultimately, establishing documented operating profiles allows multi-agency jurisdictions to streamline upstream data practices while preserving downstream machine compatibility.

3.1 Continuous 24/7 Broadcast Television as a CAP Delivery Surface: Implementation Experience from the Meteo24 Channel [video 78 MB]
Speaker: Teimuraz Tsagareishvili

Teimuraz Tsagareishvili, from the MTÜ Green Media Foundation, introduced CAP24, a prototype mapping CAP alerts onto linear television screens via IP networks. Using Georgia's 24/7 Meteo24 weather channel as a proof-of-concept, his presentation demonstrated how alert metadata—such as sender, severity, instructions, and languages—can render directly on-screen. The presentation emphasizes that IPTV middleware inherently possesses screen-overlay capabilities, which can target geographical warnings directly to the household level. Crucially, the system remains non-automated, fully respecting governmental authority over the emergency trigger.

3.2 From eCall to RTTI to CAP and TPEG EAW Building Trust for In-Vehicle Driver Information [video 103 MB]
Speaker: Danny Woolard

Representing the Traveller Information Services Association (TISA), this presentation by Danny Woolard focused on building trust for in-vehicle driver information by connecting technology streams like eCall and TPEG Emergency Alerts and Warnings (EAW). Key insights included:
• eCall Data Integration: Utilizing crash-triggered data packets (Minimum Set of Data) based on the CAP protocol to dynamically generate real-time warnings.
• The TPEG-EAW Standard: Conversions of public authority CAP messages into over-the-air connected navigation protocols to safely route travelers away from immediate danger.
• The 5-Star Quality Framework: An open assessment framework evaluating data availability, accuracy, and timeliness to avoid alert fatigue and maintain public trust.

3.3 Operationalizing the Common Alerting Protocol in Nepal: From CAP Composer Installation to Automated Multi-Channel Alert Dissemination [video 41 MB]
Speaker: Saroj Pudasainee

This presentation by Saroj Pudasainee from the Nepal Meteorological Department outlines the national roadmap to operationalize the Common Alerting Protocol (CAP) to mitigate intensifying extreme weather events. Nepal's framework introduces the CAP Composer platform to transition from manual, inconsistent warning workflows to a centralized, machine-readable format. Current achievements include standardizing 13 hazard types and establishing targeted SMS polygon alerting across local boundaries. Near-term strategy focuses on formalizing standard operating procedures and expanding pilots for automated multi-channel gateways—including cell broadcast, social media, radio, and local sirens—to ensure immediate, nationwide emergency dissemination.

3.4 This presentation that had been scheduled was canceled.

3.5 CAP implementation in Australia [video 41 MB]
Speaker: Richard Hammond

Richard Hammond from the Australian Bureau of Meteorology described the regulatory landscape and governance framework for the Common Alerting Protocol Australia Profile (CAP-AU). Since the 2020 Royal Commission, cross-border interoperability and national consistency have driven the rollout of a unified Australian Warning System across states and territories. Custodianship of the CAP-AU standard belongs to the Bureau of Meteorology, supported by specialized stakeholder and technical reference groups. A comprehensive standard review launched in July 2026 focuses on strengthening governance mechanisms, updating event codes, tightening baseline data elements, and aligning messaging with the upcoming AusAlert system.

3.6 Weather Ready Pacific Programme on CAP [video 48 MB]
Speaker: Raveen Das

This presentation by Raveen Das from New Zealand MetService highlights the implementation of CAP across several Pacific Island nations, including the Republic of the Marshall Islands, The Federated States of Micronesia, Kiribati, Niue, Papua New Guinea and Naoero. Delivered under the Weather Ready Pacific Programme and in collaboration with the World Meteorological Organization, the initiative advanced multi-sector engagement and training to enhance early warning capabilities for meteorological and other hazards. Key outcomes show a marked increase in practical drafting skills, the setup of national standard operating procedures, and automated dissemination channels via RSS feeds and social media. Ultimately, long-term success requires sustained technical infrastructure investment tailored to Pacific-specific communication channels and regional connectivity limitations.

3.7 From CAP Alerts to Actionable Decisions: AI-Powered Geospatial Decision Support with EvacSafely [video 121 MB]
Speaker: Nazih Fino

Nazih Fino, Founder and Developer of Global Nomad GIS Services and EvacSafely, presented an AI-powered geospatial emergency intelligence platform designed to bridge the “warning-to-action gap.” Built on authoritative Common Alerting Protocol (CAP) alerts, EvacSafely combines deterministic GIS analysis, real-time hazard information, evacuation zones, road and trail

networks, and shelter locations to deliver personalized, location-aware emergency guidance. Through its Intelligent Messaging System, EvacSafely generates individualized alerts and recommendations based on each recipient's geographic relationship to hazards, available routes, and potential safe destinations. Routing recommendations account for available data and changing conditions rather than guaranteeing safety. Beyond public notifications, EvacSafely supports emergency managers and responders with AI-assisted geospatial intelligence while preserving CAP authority, interoperability, and transparency.

3.8 Leveraging CAP in a Telecaller that Disseminates Heat Warnings [video 45 MB]
Speaker: Rohan Trivedi

This presentation by the All India Disaster Mitigation Institute (AIDMI) outlines field lessons from an automated AI voice early-warning telecaller pilot targeting heat-exposed small businesses across India. Operating in four local languages—Hindi, Gujarati, Odia, and Malayalam—the automated voice agent reached low-literacy populations, including those without smartphones, by delivering personalized, context-specific heat-safety actions. Post-pilot analysis revealed high user trust and immediate adoption of protective behaviors but also highlighted challenges related to scaling delivery and speech recognition accuracy. A proposed future architecture introduces a standards-based pipeline to systematically ingest authoritative Common Alerting Protocol (CAP) XML feeds, automate geographic targeting, manage alert lifecycles, and maintain human oversight.

3.9 Public Warning of Volcano Hazards and CAP [video 160 MB]
Speaker: Gari Mayberry

This presentation explains how the U.S. Geological Survey’s Volcano Hazards Program warns the public about volcano hazards. It describes the five regional observatories, the four alert levels (Normal, Advisory, Watch, Warning) and the matching aviation color codes. It also covers the notification types and how they feed into the Common Alerting Protocol (CAP) through an RSS feed. Civil authorities, not USGS, handle evacuations. The talk concludes that CAP works well domestically but lacks an international volcano alert standard, so it urges coordination through groups like WOVO and IAVCEI.

3.10 CAP Composer and CAP Aggregator [video 45 MB]
Speaker: Marta Baraibar

The presentation focuses on AlertWise, an intuitive, cloud-based tool designed to simplify the creation and publication of CAP alerts. Recognizing that many National Meteorological and Hydrological Services face technical barriers when configuring standard XML syntax, AlertWise provides a user-friendly graphical interface that automates compliant payload generation. The system ensures seamless cross-platform distribution by simultaneously pushing alerts to public-facing channels and institutional repositories. By abstracting backend programming complexities, it empowers local operators to rapidly disseminate authoritative emergency warnings, bridging critical technical infrastructure gaps during active disaster events. (Editor's Note: The slide presentation was not available at the time of drafting.)

3.11 Google Public Alerts 101 [video 76 MB]
Speaker: Emily Reinstein

The presentation introduced Google's Crisis Resilience tools, including Public Alerts, AI model-based features for flood and cyclone prediction, Android Earthquake Early Warnings, and wildfire tracking; working towards a north star of world where no one is surprised by a natural hazard. You can learn more about Google's Crisis Resilience efforts here, as well as access their El Niño Preparedness Hub with links to many of these tools here. The presenter sketched Google's mission to surface critical, timely information in emergencies and support users when they need it most across Google Search, Maps and Android devices. The presentation offered practical guidance about Google's alerting capabilities, CAP feed integration, and how critical CAP alerts can reach users through Google products. [Chair note: Google requirements for CAP Alerts and Feeds are included in the Common Policies and Practices document.]

3.12 Specifying a CAP Definition for Cell Broadcast [video 204 MB]
Speakers: Mark Wood and Peter Sanders

Peter Sanders of Everbridge argued that CAP v1.2, designed to describe events rather than to act as a point-to-point communications protocol, is too loosely specified for governments connecting to mobile operators' Cell Broadcast Centres. Each country therefore writes its own CAP-to-Cell-Broadcast mapping document, forcing vendors to build country-specific systems. After a default mapping failed, Everbridge turned to OASIS, which helped create a CB Layer specification. It keeps CAP's one-message-for-all-media concept, lets vendors build a single product everywhere, and removes the profile document from the project's critical path.

The presentation by Mark Wood sheds light on the translation process needed for a Cell Broadcast Center to interface with CAP messaging. Unfortunately, these translations are performed differently across Cell Broadcast implementations, and a proposal is made to have a systematic mapping that would facilitate compatibility. Mark highlighted a work-in-progress OASIS Committee Note, Mobile Alerting Practices (MAP), that will discuss practices and variations for Cell Broadcast in several countries. Overall, the presentation emphasized: leveraging all available infrastructure; the unique strengths of Cell Broadcast for mass alerting; and the importance of CAP as the glue that enables consistent, multi-channel alerting.

3.13 Enhancing Crisis Search with Google's AI Mode [video 131 MB]
Speaker: Adi Mano

The presentation explains how Google is enhancing crisis-related Search through AI Mode and AI Overviews. Google combines authoritative web content, its own models, and official Common Alerting Protocol (CAP) alerts to provide timely crisis information across Search, Maps, Weather, and mobile notifications. AI can improve crisis response by synthesizing conflicting information, connecting cascading hazards (such as earthquakes and tsunamis), and personalizing guidance to users' locations and needs. Google describes safeguards including selective triggering, technical improvements, disclaimers, and grounding responses in trusted sources, particularly official, real-time government CAP feeds.

3.14 MoWaS and Its Multi-Alert Multipliers — In the Context of CAP and Satellite Connectivity [video 74 MB]
Speaker: Kai Roddeck

The presentation describes Germany's national warning system, MoWaS, which enables authorized federal, state and local authorities to distribute public warnings simultaneously across multiple channels using CAP. MoWaS evolved from the satellite-based SatWaS system, launched in 2001, following concerns about the country's diminished siren network and the need for resilient public warning. It connects approximately 400 alert-input stations with a central system that validates and authorizes messages before distributing them to warning channels, including broadcasters, mobile apps, cell broadcast, digital displays, public transport, vehicles and sirens. A central theme is resilience through satellite distribution. Satellite links can deliver alerts simultaneously to more than 200 active sites at media outlets and warning multipliers, reducing dependence on terrestrial infrastructure. The presentation extends this concept to European-wide satellite distribution, emphasizing that resilience requires not only reaching the public during a crisis, but also ensuring that authorities can deliver alerts to dissemination partners when terrestrial networks are disrupted.

3.15 Alerts for All: making CAP alerts accessible at the source [video 155 MB]
Speaker: Emmanuel Jacq

The presentation introduces the Three Senses Alerting Standard, developed by International Deaf Emergency to make public warnings accessible to Deaf, DeafBlind and blind people, and clearer for everyone. The standard carries the hazard family of an alert in a CAP parameter, so a receiving device can render that family as a distinctive rhythm delivered at the same moment through touch (vibration), light (flashing) and sound. Seven hazard families each have their own rhythm, so a person recognizes the kind of danger before reading a word; the original alert text still provides the specific event and the recommended action. The approach builds on existing CAP 1.2 capabilities and requires no schema change. The Deaflare application implements it, receiving live CAP alerts and rendering them in all three senses. The draft specification is published at https://ideafe.org/standard and is open for comment.

3.16 Displaying multi-hazard warnings and combined warnings
Speakers: Håkon Tansem and Helen Korsmo
A communication balancing act: communicating clearly but correctly
Speaker: Jenny Victoria Turton
[video 75 MB]

Norwegian meteorology and water agencies (MET and NVE) describe improving natural-hazard warnings issued through CAP. Using Storm Amy (October 2025) as an example, they explain how public feedback led to a clear-language project that standardized warning structure, headings and wording across Yr and Varsom. This included grouping related consequences and instructions together under distinct subheadings to make it easier for users to quickly understand the most important information. Warning of avalanche danger is more challenging due to the additional thematic information which needs to be displayed to users, and the use of 5 warning levels, following the European Avalanche Warning standard. They also show how linking many CAP files via an “incidents” element, Amy generated 86, helps convey multi-hazard events. However, monitoring and updating many CAP warnings for the same incident, requires good tools for the forecasters.

3.17 Important Public Announcements by Swedish Radio - CAP in practice [video 88 MB]
Speaker: Isabella Alström

Swedish Radio's lead developer explains how Sweden's Important Public Announcement (VMA) system delivers urgent warnings, used about 40 to 50 times yearly. Law obliges Swedish Radio to broadcast them free of charge, and its local P4 stations, with 99.8% terrestrial coverage and high public trust, are where people are told to listen. A custom tool helps broadcast managers draft, translate and publish alerts, including as CAP through an open API. Planned improvements include richer CAP field values and the ability to issue updates.

3.18 From CAP to the End User: MeteoAlarm Demo [video 34 MB]
Speaker: Joseph Siegl

The presentation introduces MeteoAlarm, a European early-warning dissemination system operated by GeoSphere Austria since 2007. MeteoAlarm collects hazard warnings from 44 European alerting authorities. The presentation demonstrated how a CAP warning is created, published, and disseminated to end users through multiple channels, including mobile push notifications, MQTT services, and ATOM feeds. MeteoAlarm promotes harmonized warning content and presentation while expanding its network of authorities and redistributors. More than a website, it provides an established framework for regional replication, contributes to the UN's Early Warnings for All initiative, and offers experience and support for similar efforts beyond Europe.

3.19 From Hazard Awareness to Occupancy Awareness - Enhancing Worldwide CAP Alerts with Real-Time Occupancy Intelligence through CAP-OA [video 159 MB]
Speaker: Harsh Verma

This presentation traces the evolution of CAP Occupancy Alerting (CAP-OA), from global CAP alert visualization and the initial Occupancy Information Profile to collaborative standards development within OASIS EMTC. It demonstrates how privacy-preserving sensing can enrich CAP messages with real-time occupancy information in a backward-compatible manner. The session explores how semantic models, ontologies, and AI-assisted reasoning can improve situational awareness, resource allocation, evacuation planning, and operational decision-making. By extending alerting from hazard awareness to occupancy awareness, CAP-OA aims to provide emergency managers with richer, standardized information while preserving CAP's interoperability and global adoption.

3.20 CAP Alerting Beyond Terrestrial Networks: The Galileo EWSS Opportunity [video 63 MB]
Speaker: Ahmed Lyahou

This presentation introduces Galileo EWSS, the EU's satellite-based Emergency Warning Satellite Service, as a resilient complement to terrestrial alerting. Authorities issue CAP alerts, which providers convert into compact 122-bit CAMF messages broadcast from space. Receivers geofence them and display them in pre-translated languages. The service is in pilot, with initial service hoped for in 2027. Uplink conversion remains unfinished, public CAP feeds are planned, and phones lack built-in reception. Satellite alerts help when infrastructure or power fail, though indoor reach is weak.

3.21 Italian Fire Corps interoperability system: updates on system and services [video 47 MB]
Speaker: Marcello Marzoli

Italy's National Fire Corps (CNVVF) describes its CAP-based interoperability system, adopted 15 years ago. It shares incident data with partners under agreements, including the Carabinieri, which receive about 120,000 CAP messages yearly, and several regional civil protection agencies. A comprehensive architecture overhaul has just been completed, adding central configuration, filtering and user management, while integration with Italy's IT-alert system remains pending. The Fireman app also generates interoperable data flows. Finally, the EU-funded CARES project, kicking off in October 2026, will design and trial adaptive, inclusive emergency and evacuation plans, with alerting central.

3.22 CAP Implementation at Indonesia Meteorology, Climatology, and Geophysical Agency [video 31 MB]
Speaker: Achmad Rifani

Indonesia's meteorological agency, BMKG, describes how it uses CAP. Its impact-based forecasts, which pair hazard with vulnerability to describe risk, were its first CAP product and reach over 10 million infoBMKG app users. It has since built forecaster-supervised thunderstorm nowcast warnings, published as CAP XML per sub-district, with provincial RSS feeds and an open API in Indonesian and English. Applying the risk-based framework to nowcasts is future work. BMKG also provides CAP-based guidance and warning tools to neighboring countries through the Southeast Asia-Oceania severe weather programme.

3.23 OASIS Emergency Management Technical Committee [video 26 MB]
Speaker: Elysa Jones

As chair of the OASIS Emergency Management Technical Committee (EMTC), Elysa Jones noted that EMTC emphasizes global collaboration and the continued importance of CAP for all types of hazard types and dissemination methods. She explained that the EMTC meets monthly and oversees voting-level EMTC Subcommittee work. There are two active EMTC Subcommittees that meet on a bi-weekly basis: the CAP Subcommittee (CAP-SC) and the Reference Information Model (RIM) Subcommittee. The CAP-SC is developing guidance for cell broadcast, including mobile alerting practices, CAP-to-cell-broadcast translations, CAP extensions, CAP layers, and standardized alerting terminology. The RIM Subcommittee is focusing on the Emergency Management Framework. The presentation highlights the importance of global collaboration to strengthen CAP-based crisis communication, emergency response, and resilience. Elysa invited anyone interested in supporting OASIS EMTC work to contact her.