

[Coastal Hazard Events Driven Automated Data Aggregation, Processing, and Delivery](#) [1]

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Abstract:

Event-driven data delivery (ED3), aggregation, and processing is being used to automate the access and processing of data for situational awareness in a hazardous event that could potentially become a disaster. The University of Alabama in Huntsville (UAH), is refining the utility of the ED3 functionality for response to coastal hazards. ED3 is in the process of being integrated with decision support systems, used by NASA SERVIR and state agencies in Alabama, to help define the capabilities that will best suit the end users for a variety of disaster events. This poster depicts the ED3 system and its usage in the NGCHC coastal hazards collaboratory. This use case involves tropical storm events that trigger data collection and subsequent workflow. The workflow processes and prepares data for a situational awareness and visualization tool. The tool will allow more rapid decisions based on possible conditions, which could help mitigate the effects of coastal hazards. The reusability and flexibility of the components in ED3 allow for its applicability in various hazardous events and in support of multiple decision support systems and end users.

Collaboration Area: [Decisions](#) [3]

Coastal Hazard Events Driven Automated Data Aggregation, Processing, and Delivery
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Abstract
Event-driven data delivery (ED3), aggregation, and processing is being used to automate the access and processing of data for situational awareness in a hazardous event that could potentially become a disaster. The University of Alabama in Huntsville (UAH), is refining the utility of the ED3 functionality for response to coastal hazards. ED3 is in the process of being integrated with decision support systems, used by NASA SERVIR and state agencies in Alabama, to help define the capabilities that will best suit the end users for a variety of disaster events. This poster depicts the ED3 system and its usage in the NGCHC coastal hazards collaboratory. This use case involves tropical storm events that trigger data collection and subsequent workflow. The workflow processes and prepares data for a situational awareness and visualization tool. The tool will allow more rapid decisions based on possible conditions, which could help mitigate the effects of coastal hazards. The reusability and flexibility of the components in ED3 allow for its applicability in various hazardous events and in support of multiple decision support systems and end users.

Packaging and Delivery of Results
The results of a subject event workflow may include a variety of observations. The end user or system will be able to select observations for delivery necessary for the decision process of the end user processing, modeling, etc.

NGCHC Use Case
Create a workflow subscription based on tropical storm events.
Configure the workflow subscription from the ED3 web portal interface.
Assign a workflow manager to manage the workflow.
Assign a workflow manager to manage the workflow.
Assign a workflow manager to manage the workflow.

Event Notification
ED3 is an event-driven data delivery system that can be used to subscribe to a variety of data sources and deliver the data to a user-defined destination. The system is designed to be flexible and scalable, allowing users to subscribe to a variety of data sources and deliver the data to a user-defined destination. The system is designed to be flexible and scalable, allowing users to subscribe to a variety of data sources and deliver the data to a user-defined destination.

ED3 Architecture
The ED3 architecture consists of several components: Data Sources, Data Ingestion, Data Processing, Data Storage, and Data Delivery. The Data Sources provide the raw data, which is then ingested into the system. The Data Processing component handles the data, and the Data Storage component stores the processed data. Finally, the Data Delivery component makes the data available to the end user.

Subscriptions and Workflow Manager
The ED3 Subscriptions Manager allows users to create and manage subscriptions to data sources. The Workflow Manager allows users to create and manage workflows that process the data from the subscriptions. The Subscriptions Manager and Workflow Manager are integrated, allowing users to create subscriptions and workflows in a single step.

Processing Subscribed Workflows
The Workflow Manager automatically processes data subscriptions for the user. The user can define the workflow to be executed, and the system will automatically execute the workflow when the data is received. The user can also define the output of the workflow, such as the format of the data and the destination of the data.

Decision Support/Situational Awareness
ED3 provides a decision support system for users. The system allows users to view the data from the subscriptions and workflows, and to use the data to make decisions. The system also provides a situational awareness tool, which allows users to view the data in a map and to use the map to make decisions.

ED3 Subscriptions Interface
The ED3 Subscriptions Interface is a web portal that allows users to create and manage subscriptions and workflows. The interface is user-friendly and easy to use, allowing users to create subscriptions and workflows in a few minutes.

Storage and Data Sources
ED3 uses a variety of data sources and storage options. The system is designed to be flexible and scalable, allowing users to use a variety of data sources and storage options. The system is designed to be flexible and scalable, allowing users to use a variety of data sources and storage options.

Coastal Events Based Automated Data Visualization and Situational Awareness Environment
This system automatically collects and organizes ED3 workflow manager data to provide situational awareness for tropical storm events. The system is designed to be flexible and scalable, allowing users to use a variety of data sources and storage options.

Logos: UAH, NASA, ITSC

Images:

[4]

Attachments for download:  [NGCHC-ED3-final.pdf](#) [5]

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