FME by Safe Software

June 25-26, 2025 | Washington D.C. Metro

CDAO Government

Data Driven Integration and Automation Workflows

More Effectively Support Policy Implementation, Government Responsiveness and Efficient Public Services

Safe Software

Dean Hintz

Product Manager,
Open Standards
Safe Software

Agenda

Safe Software

- Introduction
- Principles for Data Driven Automation and Integration Workflows
- Data strategy alignment with policy goals and priorities
- Results driven data flows maximizing value across agencies
- Agile information synthesis through model based integration
- Application Examples
- Conclusions

1.
Introduction

Safe Software

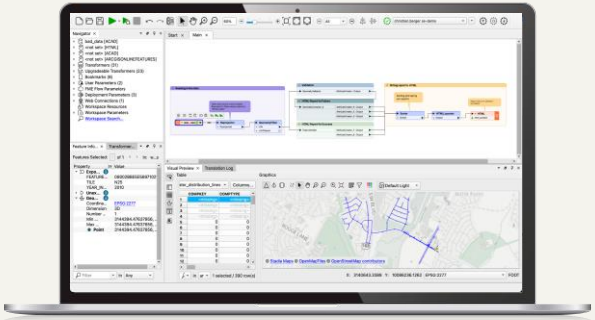
Safe Software

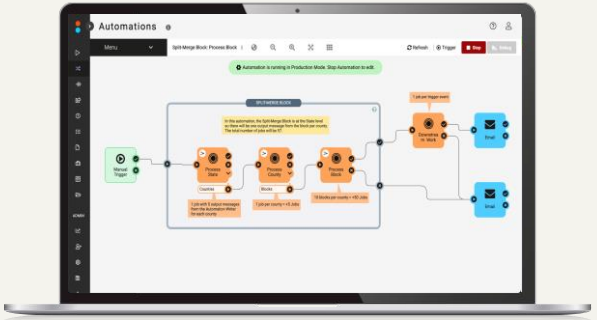
FME empowers federal agencies to access reliable data, streamline operations, and serve citizens and their communities.

Safe Software

FME Enterprise Integration Platform

One platform, two technologies





FME Form

Data Movement and transformations (“ETL”) *workflows* are built here.

FME Flow

Brings life to FME Form *workflows*

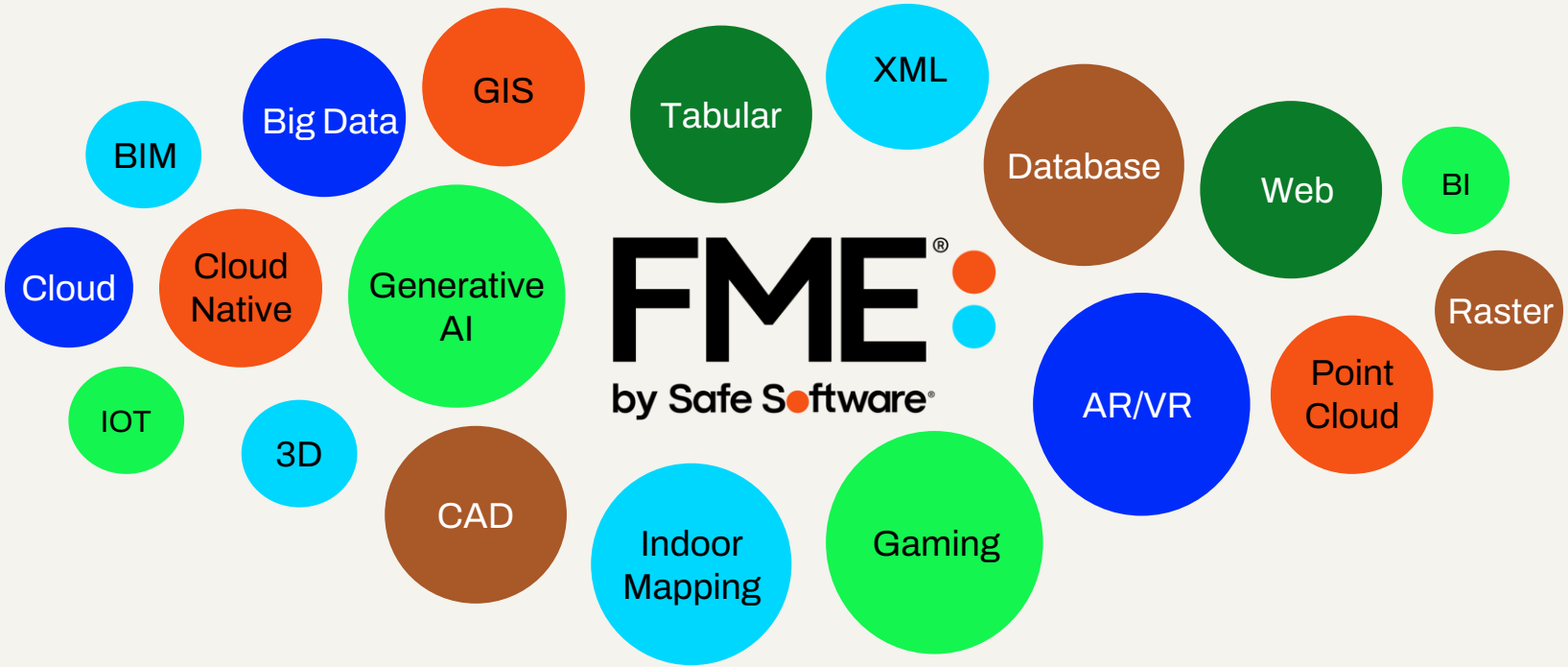
FME Flow Hosted

Safe Software managed FME Flow

fme.safe.com/platform

Unrivalled Data Support

All Data, Any AI.



With 500+ supported data types in FME.

Safe Software

37K+
FME Community members

128
countries with FME customers

30+
years of solving data challenges

25K+
organizations worldwide

170+
global partners with FME services

200K+
users worldwide

Principles for Data Driven Automation and Integration Workflows

Safe Software

- Data strategy alignment with policy goals and priorities: governance
  - NG911, EU INSPIRE
- Results driven data flows maximizing value across agencies to support decision making
  - Powerlink
- Agile information synthesis through model based integration
  - NYC Extreme heat, Agentic AI, Pacific Disaster Center, German Disaster Agency

Safe Software

2. Data Alignment Strategy

Data Alignment Strategy to Support Policy

Safe Software

- To be effective, a data strategy needs to support policy goals and priorities

- Effective data strategy requires governance structures and metrics to ensure it is implemented

- Governance are supported by
  - Data standards, policies
  - Best practices
  - Education / Training

Safe Software

Data Governance: Defined

Data governance *is the process of managing the availability, usability, integrity and security of the data in enterprise systems, based on internal data standards and policies that also control data usage.*

IT governance *involves the processes and actions required to manage the planning, design, implementation, and on-going innovative use and maintenance of Information Technology systems.*

Data Governance Plan: Components

- Standardized data structure
- Policy
  - Standards enforcement and procedures
  - Storage, backup, destruction
  - Security, distribution, handling
- Roles and responsibilities
- Data maintenance and procedures, metrics
- Training and Education
- Governing organization

FME and Data Governance: Data Management

- Upload & Update
- Processing
- Lineage
- Sharing & Distribution
- Standards
- Validation
- Reporting

FME by Safe Software

Data Governance Plan: Benefits

3.
Open Standards

Safe Software

Safe and OGC Open Standards: Vision

Safe Software

- Improved data sharing helps us address both global and local challenges
- FAIR: findable, accessible, interoperable, reusable
- Community based open standards supports collaboration & rapid data integration
- Support for > 30 OGC open standards: (Geopackage, GML, WMS, WFS, CityGML, CSW, COG, STAC)
- **Open Data standards**
  - Fosters data **democratization**
  - Fuels data flow **automation**
  - Foundational to **governance, analytics & AI**
  - Furthers **adaptability, agility & modularity**

Open Geospatial Consortium

Safe Software

Standards Example: Metadata

- ISO 19115, 19139
- OGC CSW
- STAC
- Dublin core
- Esri shp.xml
- FGDC / NIEM
- EU INSPIRE

Supports data management, quality and automation

Open Geospatial Consortium

FGDC
FEDERAL GEOGRAPHIC DATA COMMITTEE

INSPIRE: Infrastructure for Spatial Information in Europe

NENA
THE 9-1-1 ASSOCIATION

```
<idCitation>
  <resTitle Sync="FALSE">Bike Paths Long</resTitle>
  <presForm>
    <PresFormCd value="005" Sync="TRUE"/>
  </presForm>
</idCitation>
<spatRpType>
  <SpatRepTypCd value="001" Sync="TRUE"/>
</spatRpType>
<dataExt>
  <geoEle xmlns="">
    <GeoBndBox esriExtentType="search">
      <exTypeCode Sync="TRUE">1</exTypeCode>
      <westBL Sync="TRUE">-123.186010</westBL>
      <eastBL Sync="TRUE">-123.077520</eastBL>
      <northBL Sync="TRUE">49.314338</northBL>
      <southBL Sync="TRUE">49.261307</southBL>
    </GeoBndBox>
  </geoEle>
</dataExt>
<idPurp>Data for Bike Paths that are over xx km long</idPurp>
<idCredit>City of Vancouver Open Data Portal</idCredit>
<searchKeys>
  <keyword>Long Bike paths</keyword>
</searchKeys>
</dataIdInfo>
<mdLang>
  <languageCode value="eng" Sync="TRUE"/>
  <countryCode value="CAN" Sync="TRUE"/>
</mdLang>
<mdChar>
  <CharSetCd value="004" Sync="TRUE"/>
</mdChar>
<distInfo>
  <distFormat>
    <formatName Sync="TRUE">Shapefile</formatName>
```

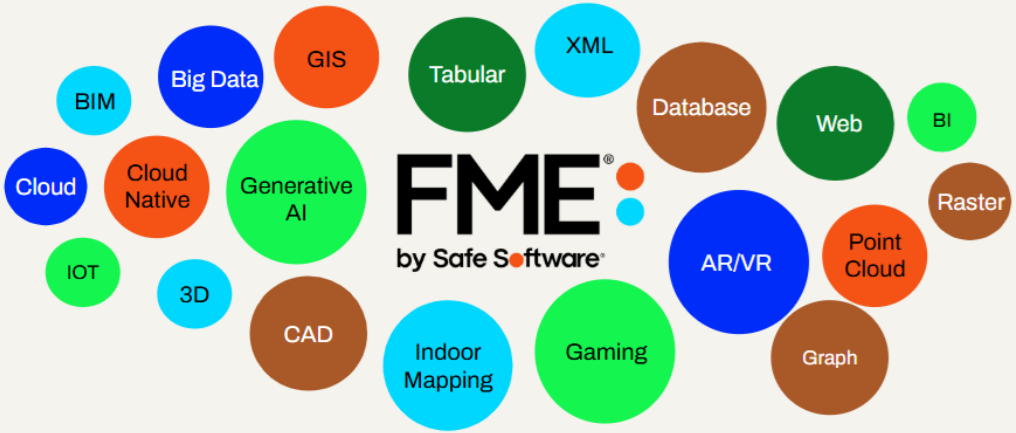
Safe Software

Standards Selection

Purpose?:

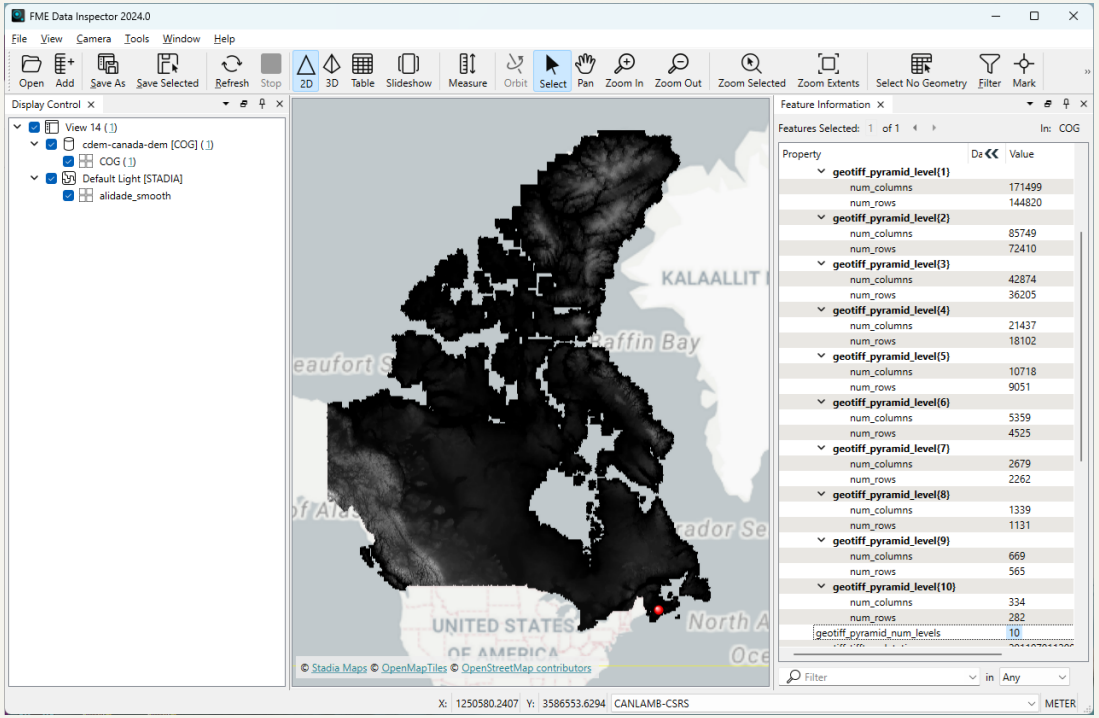
- Data exchange: XML, CityGML
- Storage: Geopackage, SQLServer
- Presentation: PDF, HTML
- Access: STAC, COG
- Messaging: JSON

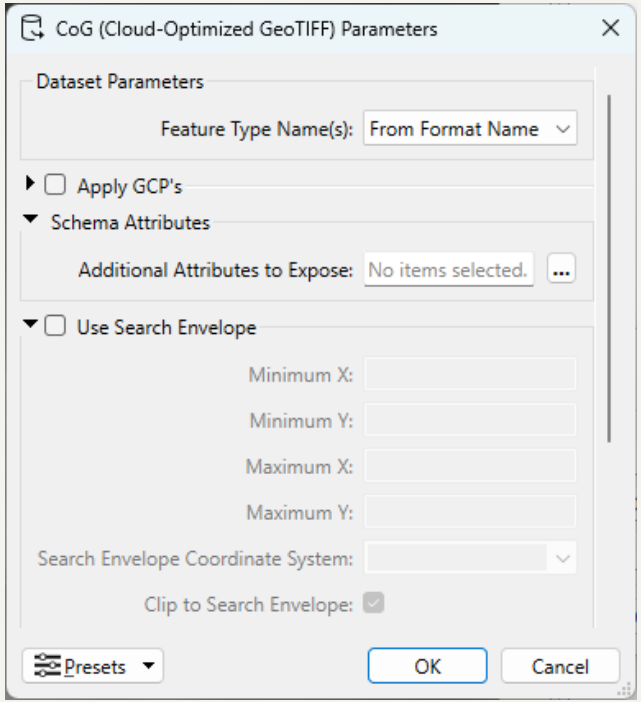
No one standard is ideal for all applications



Data Inspector COG Example: Canada DEM

Safe Software



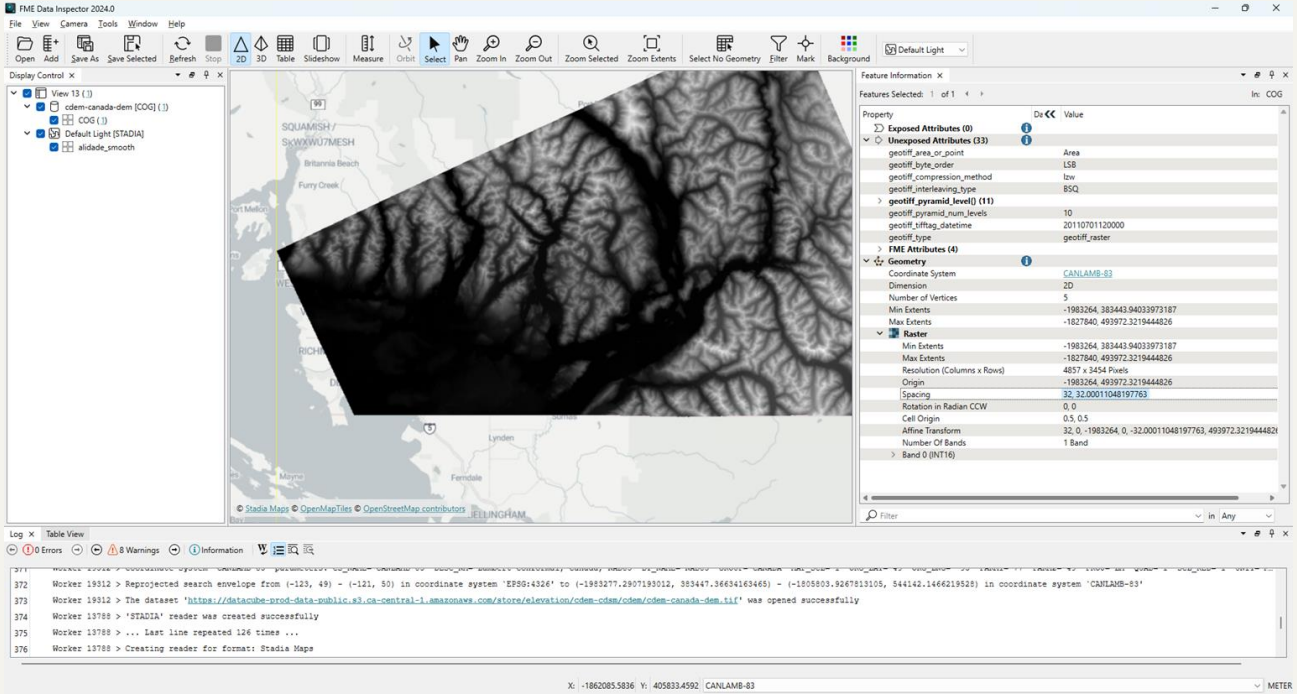


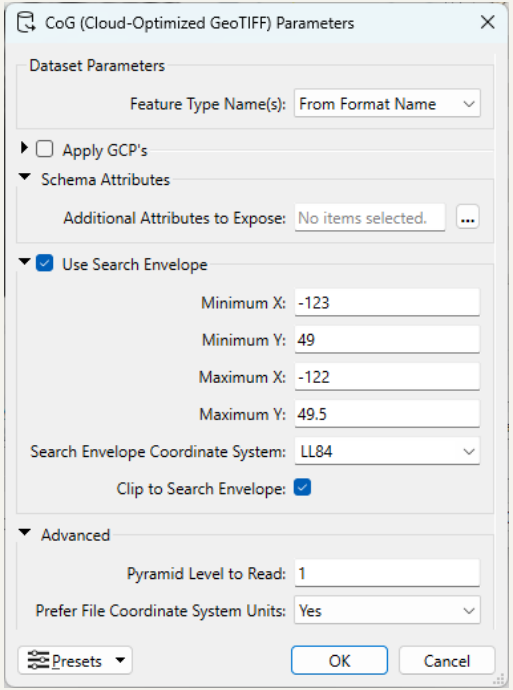
2 seconds to access DEM for all of Canada from 31GB COG source dataset

level 10 = 16 km x 16 km grid cells

Data Inspector COG Example: Canada DEM

Safe Software





4 seconds to access 30m DEM for all Fraser Valley from 31GB COG source dataset

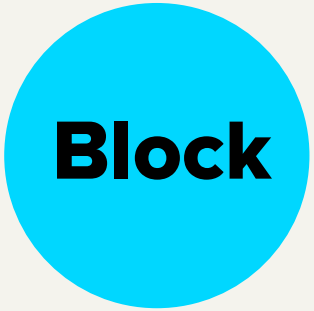
31GB COG dataset - do not open in browser! https://datacube-prod-data-public.s3.ca-central-1.amazonaws.com/store/elevation/cdem-cdsm/cdem/cdem-canada-dem.tif

Safe Software

4. Governance: Next Gen 911, European Environment

Next Gen 9-1-1

Transition 911 systems from analog to digital IP-based, geo-enabled



Consolidate required data; **conform to NENA NG911 standards**

FME data transformation, **validation & update automation** for NG911

Geo enabled digital NG911 will ease integration, **improve emergency response & save lives**

Next Generation 9-1-1: What?

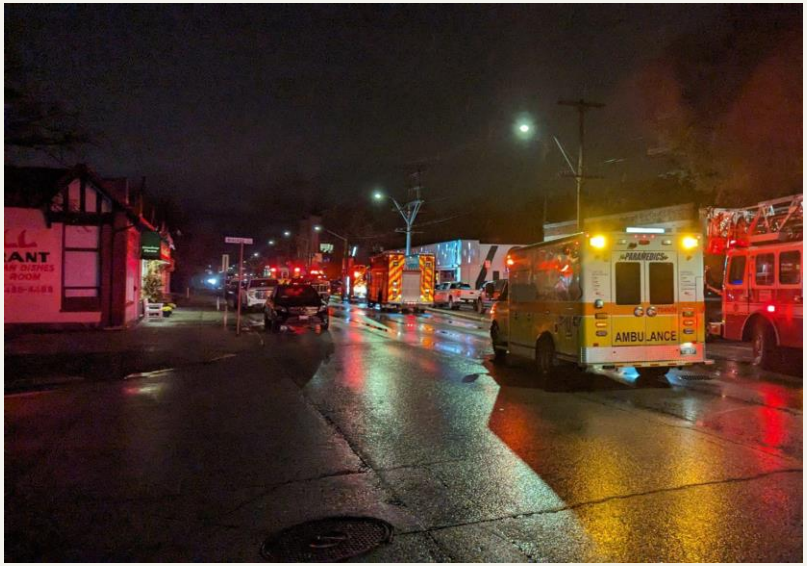
- CRTC: “**update networks from analog to digital** – ready to provide NG9-1-1 voice and text messaging services”
- **IP based system**: support digital communications from public to first responders through the 911 network
- Support for a variety of **digital communications**: real-time text messaging, voice, photos, video (phase 2)
- **Geodetic call routing** - improve response accuracy and speed using GPS and GIS data

https://crtc.gc.ca/eng/phone/911/gen.htm

Next Generation 9-1-1: Why & When

Why

- Goal: **safer, faster and more informed** emergency responses
- Improved **accuracy**
- Existing **analog system** is up to 55 years old
- Needs of the public have changed since analog system was designed: **landlines** > **mobile**



When - Canada

- Decommission analog system: Mar 2025 est
- Geodetic call routing estimated Mar 2027
- USA: varies by state

https://crtc.gc.ca/eng/phone/911/gen.htm

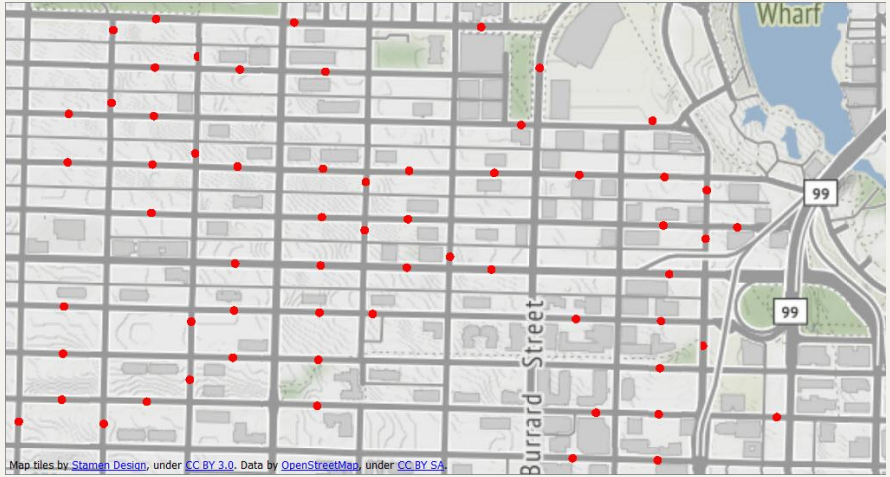
Next Generation 9-1-1: Challenges

- Aggressive regulatory **timelines**
- Rigorous **standards requirements**
- **Foundational change**: from analog to digital, custom to common data models
- **Comprehensive**: affects every administrative region in US and Canada
- Builds on work already done for E911, but vastly improves capability
- Major **geospatial data** requirements
  - **Accuracy** and data integrity (98%+)
  - Continuous **updates** (< 72 hour)

Next Generation 9-1-1: Standards

Agencies

- NENA (National Emergency Number Association)
- CRTC - ESWG (Emergency Services Working Group)
- TIF92 - NG911 mapping and addressing TIF (Task Id Form) working group



NENA Standards

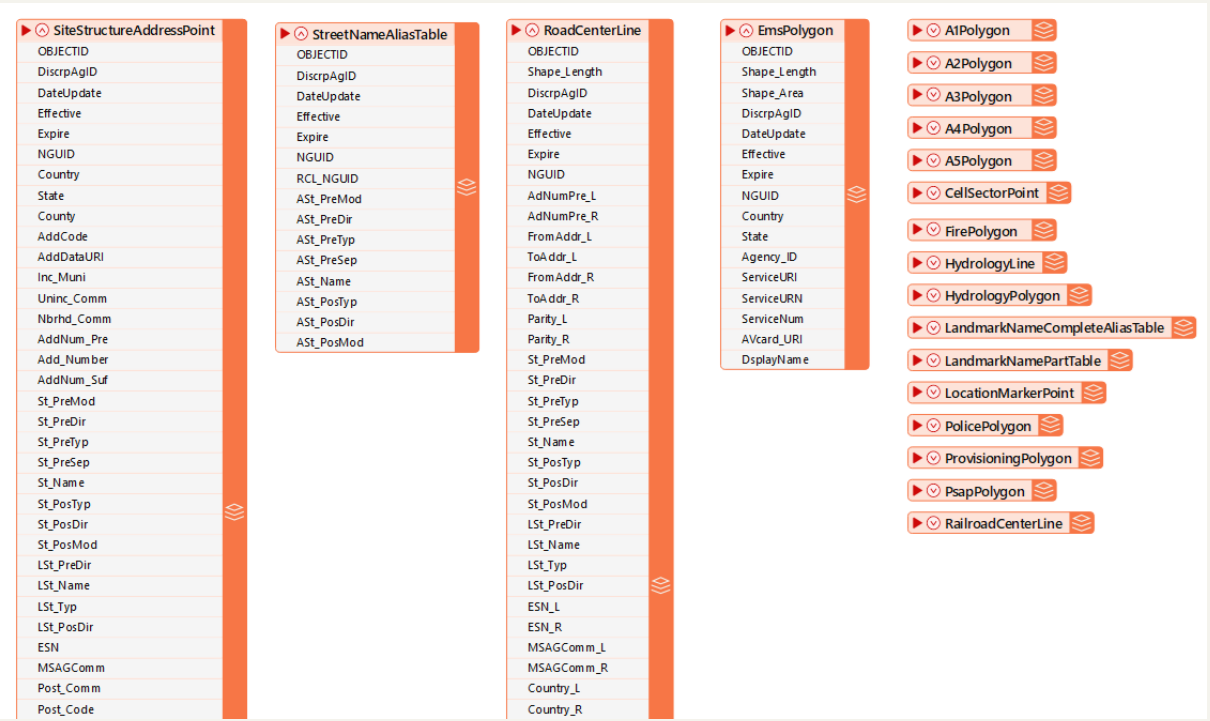
- CLDFX-CA (STA-029) XML
- i3 (STA-010)
- NENA GIS Data model (exportable to)

CRTC Canada

NENA THE 9-1-1 ASSOCIATION

Next Generation 9-1-1: NENA GIS Data Model

Safe Software



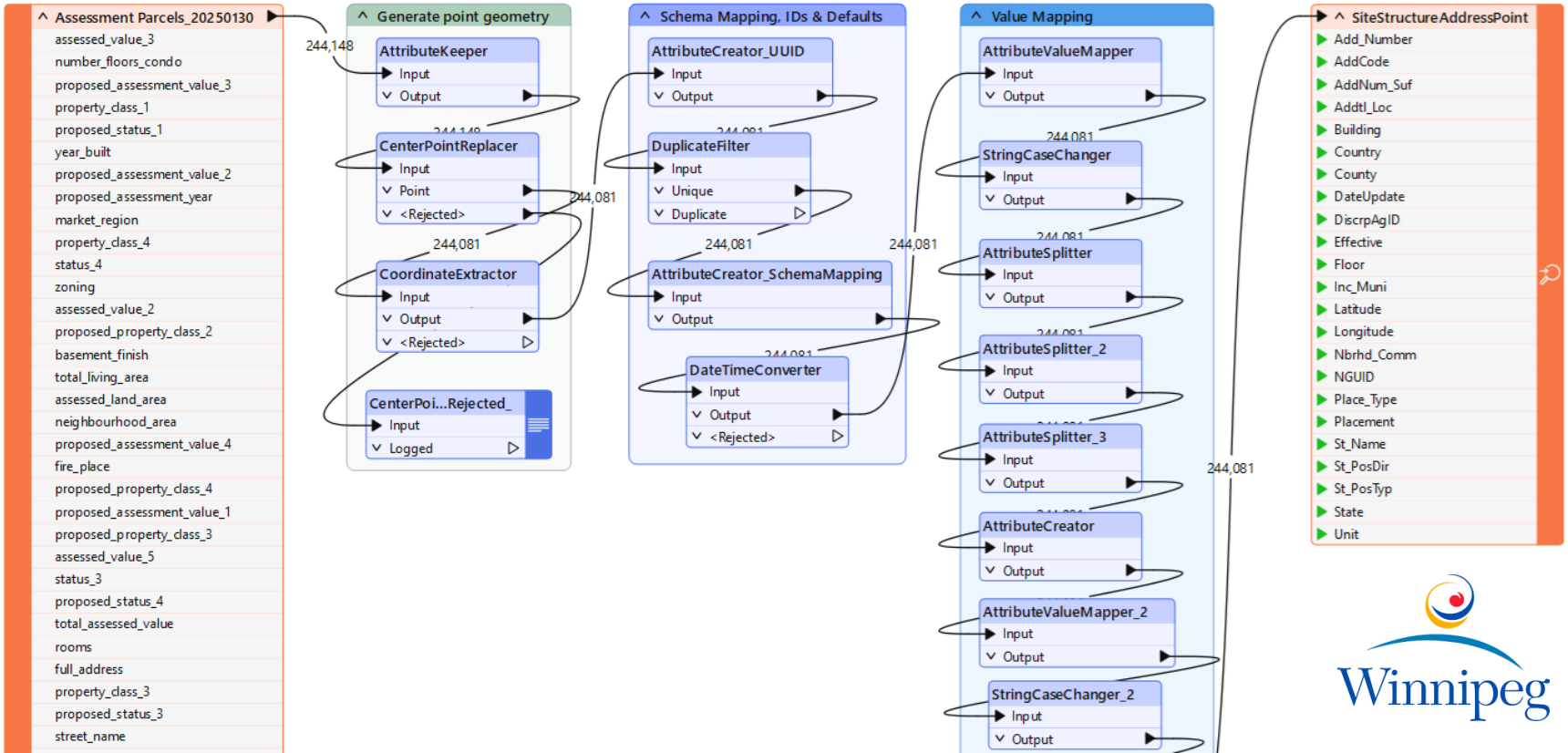
- Site Structure Address Points
- Street Centerlines
- Service Boundaries - PSAPs
- Service Boundaries - Emergency Services (Police, Ambulance, Fire)
- Provisioning Boundaries
- Water ways, bodies

github.com/NENA911/NG911GISDataModel/tree/main/esri_geodatabase

Safe Software

Next Generation 9-1-1: NENA GIS Database Loader

City of Winnipeg Open Data Portal Parcels –> NG911 Database



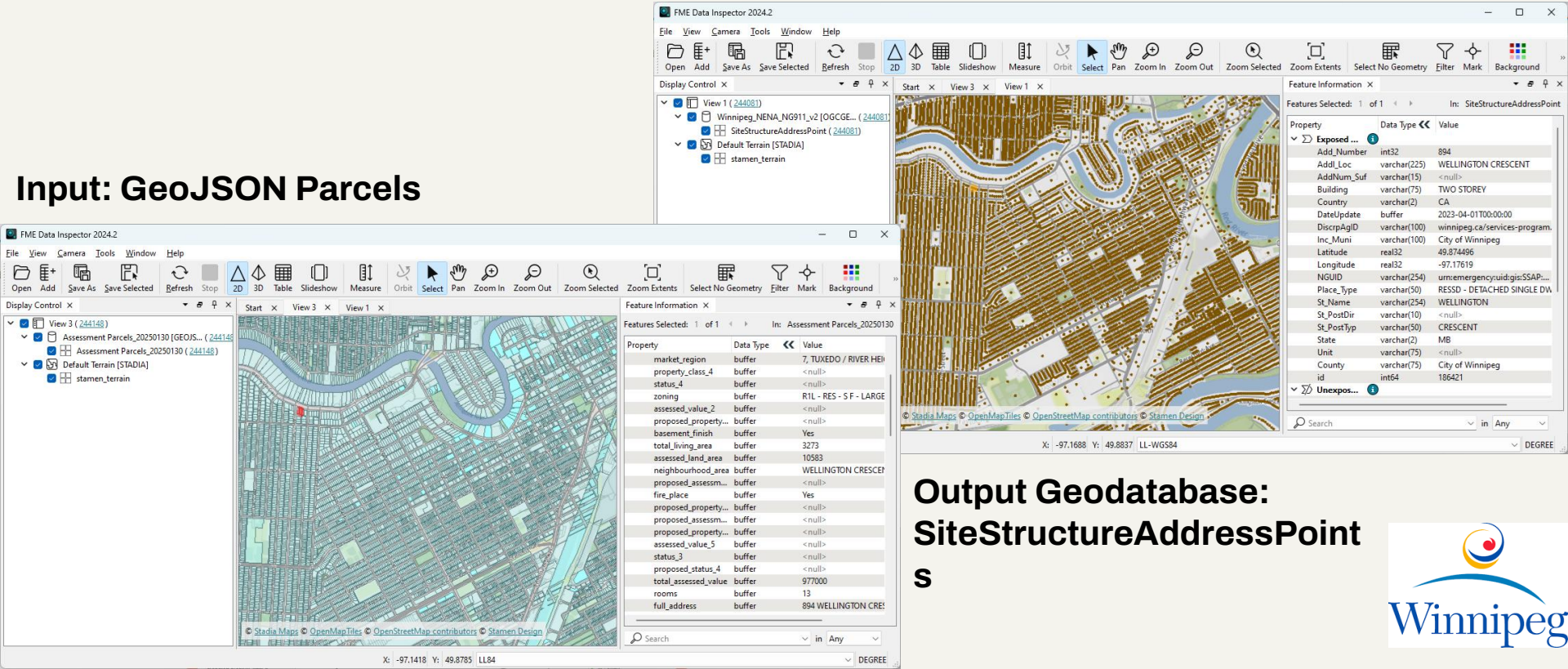
Winnipeg

Safe Software

Next Generation 9-1-1: NENA GIS Database Loader

City of Winnipeg Open Data Portal Parcels –> NG911 Database

Input: GeoJSON Parcels



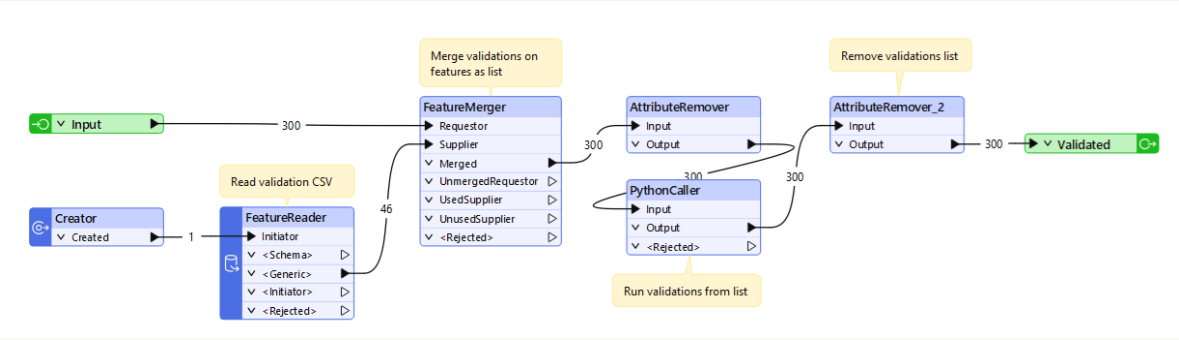
Output Geodatabase: SiteStructureAddressPoints

Winnipeg

Next Generation 9-1-1: Validation

Requirements:

- 98% synchronization across related GIS datasets (roads, addresses)
- Discrepancies need to be resolved - naming, addressing, ids etc



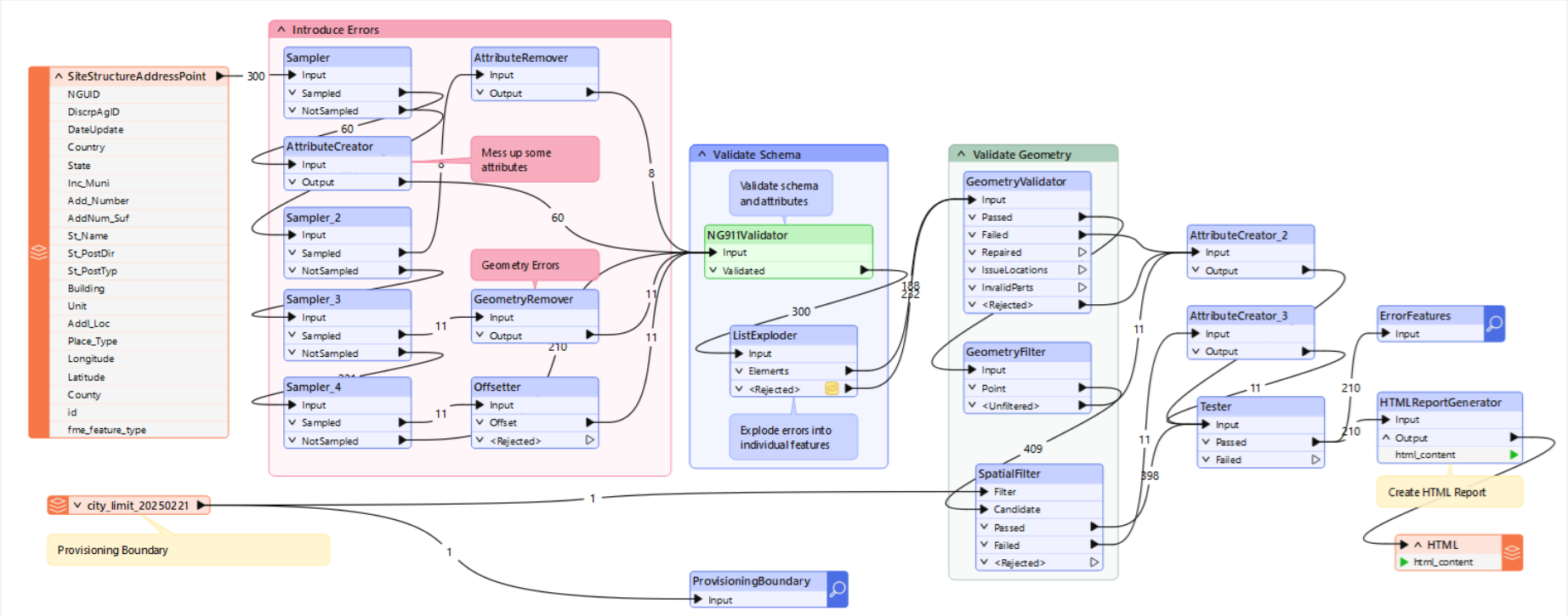
Uses extraction of schema business rules from spec as csv files

Checks (some examples):

- Incomplete, incorrect data
- Duplicate ids
- Road centrelines
  - Topology gaps / overlaps
  - Break at boundaries
  - Segments flow with increasing address range
- Addresses
  - Overlaps in ranges, odd / even consistent
  - Duplicate points
- Provisioning boundaries - within, gaps, overlaps

Safe Software

Next Generation 9-1-1 Validation: Schema and Geometry



Shelby County 9-1-1

Project

Faced with new and evolving standards, Shelby County 9-1-1 sought to automate their GIS data processes **to help achieve NG9-1-1 compliance**.

Solution

Using FME, Shelby County 9-1-1 has reduced manual processes and now creates error-free, tailored datasets to help comply with NG9-1-1 standards. Dealing with data volumes across different sources, FME has become a valuable (QA/QC) tool for NG911.

Results

- Enabled the integration and sharing of multimedia information, including text, photos, and videos.
- Enhanced situational awareness and improved emergency response capabilities for nearly 1 million residents.
- Shelby County 9-1-1 is **positioned to scale and support evolving NG9-1-1 standards**.

"The time savings from FME have been immensely beneficial for preparing for NG9-1-1. Automating this process has freed up time to focus on other projects and improved overall productivity."

- Bruno Blanco, GIS Engineer, Shelby County 9-1-1

Santa Clara County

Project

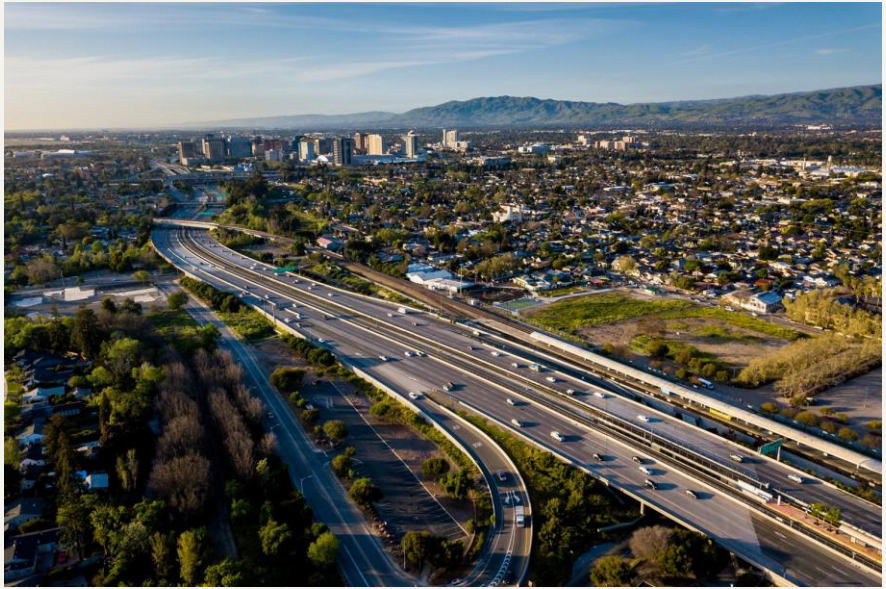
Improve 911 dispatch system with a map of city-sourced address points, each with different source schemas.

Solution

Integrated 17 city datasets, covering the entire county, performed QA, and generated multiple output formats.

Results

- Regional address maps that cities contribute addresses to on a quarterly basis.
- **50% increase** in the number of known addresses.
- Improved emergency response time and location accuracy.



"FME allowed me to make fast iterative changes to workflows as each city's data turned out to be a discovery process where something unexpected always occurred. This flexibility better prepares me for upcoming changes that may be necessary for Next Generation 911."

- Steven Hong, Santa Clara County

Alberta Health Services

Project

Enhance the accuracy and efficiency of GIS data for emergency dispatch maps, serving over 4 million people.

Solution

FME automates the data validation process, allowing for nightly checks to ensure data integrity and timeliness.

Results

- Decreased map update delays from one month to a daily error-checking process.
- Automated validations ensure error-free dispatch maps for precise emergency responses.

"FME is one of the most reliable applications I've ever used. I would most definitely suggest FME to people if they are looking for a solution for their data."

- Julia Rozema, GIS Coordinator, Alberta Health Services

ICI Society

INTEGRATED CADASTRAL INFORMATION SOCIETY
ICIS

Safe Software

Long time FME customer - uses FME extensively to support BC parcel and address data management workflows.

Project

Support validation of BC municipal data prior to loading into NENA NG911 geodatabase data model

Challenge

- Source datasets of **varying type, structure and quality**
- Numerous **complex validation rules**
- Significant **manual effort** to diagnose and correct data problems

Approach

- Use FME to **automate data extraction, transformation and loading** into NENA data model
- Develop FME workflows to automate data validation and reporting to reduce manual effort involved with generating NENA compliant datasets - **validate early & often**

icisociety.ca

Summary

- **Next Gen 9-1-1:** Improve emergency response with automated address standardization and validation (analog to digital).
- **Challenges**: Fast regulatory timelines, geospatial standards compliance
- **FME: transform, validate & automate** for NENA standards
- **Automate Compliance:** Save time on data QA/QC.
- ***Next Gen 911 deadline*** *approaching, key priority for all public safety & municipal organizations.*

https://www.peacearchnews.com/news/white-rock-pier-damaged-by-storm/

European Environment Agency

European Environment Agency

Project

33 Countries continuously contribute vast volumes of data in a diverse array of formats and structures: Excel, Shape, Access, GML, CSV, OGC geopackage, geodatabase

Solution

Build streamlined workflows to transform data, harvest reports and databases, catalogue metadata, perform QA/QC, and deliver dashboards and datasets

Results

- Office 365 integration, calendar and tasks for Administrators
- Deliver complex dataset to Tableau for BI user consumption
- Improved operational efficiency with automated data validation.
- Improved authoritative data sharing among federal departments and agencies and increased government transparency.

European Environment Agency: Data Management

The Task

Manage INSPIRE related data submitted from across EU member states.

Validate and process it to support INSPIRE SDI and data services

The Problem

Vast volumes of data continuously arrives in a diverse array of formats and structures: Excel, Shape, Access, GML, CSV, OGC geopackage, geodatabase

The Solution

Comprehensive automated, ETL based data processing platform

Extract -> QA/QC -> Clean -> Conform -> Deliver

The Result

FME platform with 16 engines processing about 11,000 jobs a day

High degree of automation providing a rich array of timely data services

European Environment Agency

Next step: ReportNet3 - moving from files to APIs

Data exchange and harvesting - e-Reporting and thematic portals

SWECO

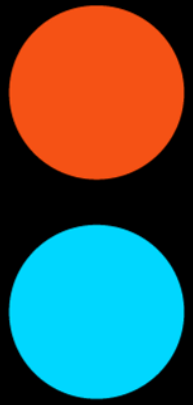
Safe Software

5. Results Driven Data Flows & Cross Agency Integrations: Public Safety

Results Driven Data Flows

Safe Software

- Maximize the value of available data
- Efficient cross agency integration
- Decision support for stakeholders
  - Relevant
  - Timely
  - Actionable



FME empowers public safety services to access reliable data, streamline operations, and protect communities when every second counts.

Common Challenges: Public Safety Data Integration

- **Siloed Data:** Difficulty connecting information across departments & systems when time is of the essence.
- **Manual Processes & Limited Resources:** Hours lost on tasks that could be automated.
- **Privacy & Accuracy:** Balancing compliance with trustworthy, secure data.
- **Legislative & Technological Advancements:** Upgrading to Next Gen 911 can be complex

Safe Software

Tackle these challenges with FME! Simplify data integration, automate workflows, and ensure information is secure & accurate so your public safety team can focus on what matters most: protecting communities.

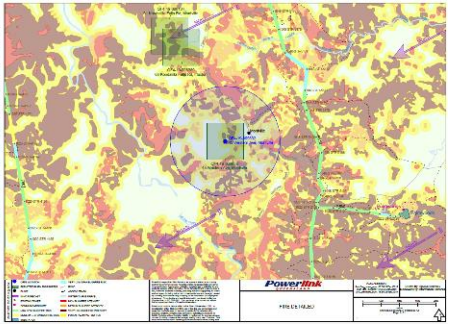
Powerlink

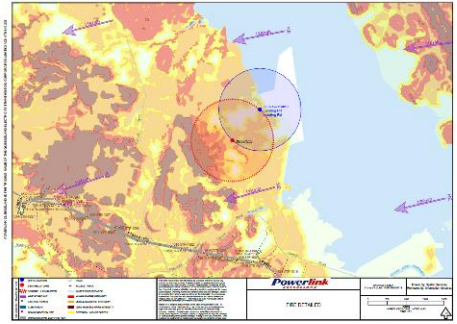
Project
Create a fully automated, data-driven Emergency Management system for natural disasters.

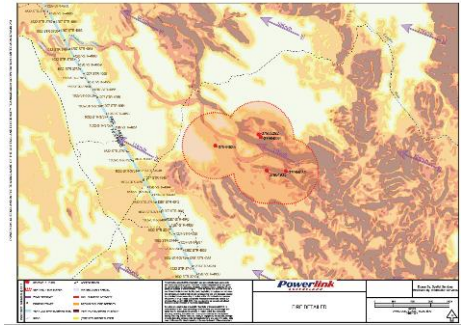
Solution
Use FME to monitor for events and distribute reports with maps when infrastructure is at risk.

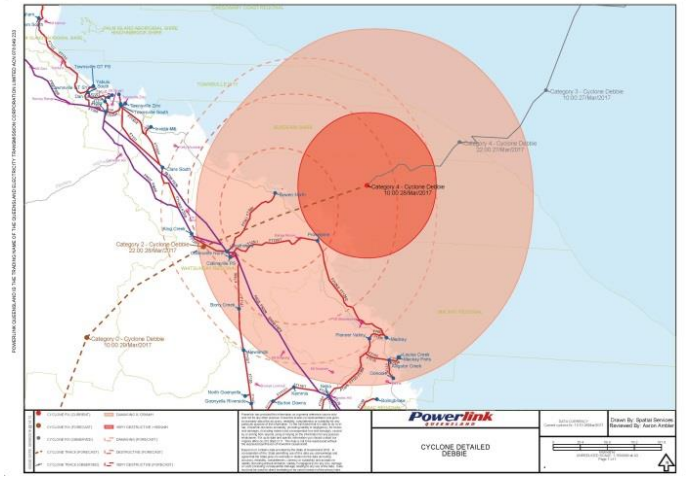
Results

- Notifications are sent to stakeholders when emergency criteria are met.
- Reports contain informative, layered maps in accessible formats like PDF.
- Time spent by staff on emergency event handling has been reduced from days to hours.

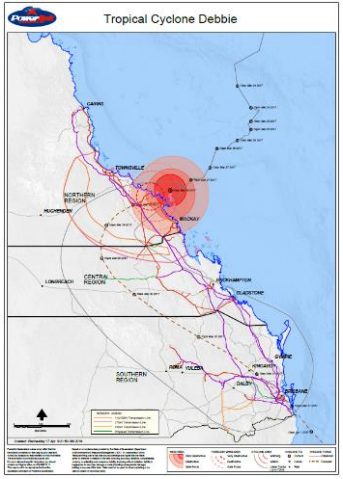


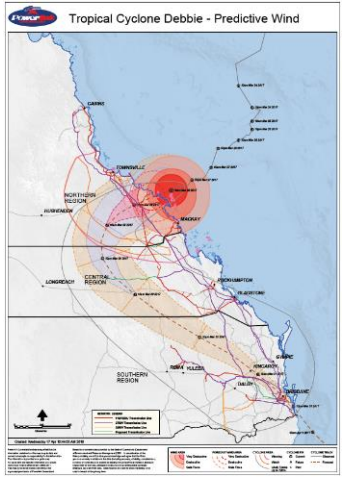







Fire Overview


Tropical Cyclone Debbie


Tropical Cyclone Debbie - Predictive Wind


Catchment Flood Warning Overview

Emergency Management Data Systems Journey

Pre 2010 — No internal emergency data or Information Support

2011 — Introduced manual reactive mapping & data retrieval & creation

2013 — Full automation of data downloads FME Server

2015 — Development of FME mapping automation

Patent Pendin g

2017 — Expanded data access to increase reliability

2018 — Optimised data & information management

2019 — **Fully Automated, Data driven approach to Emergency awareness**

Powerlink QUEENSLAND

Safe Software

6. Model Based Data Integration Pipelines: Extreme Heat Alerts

Model Based Data Integration Pipelines

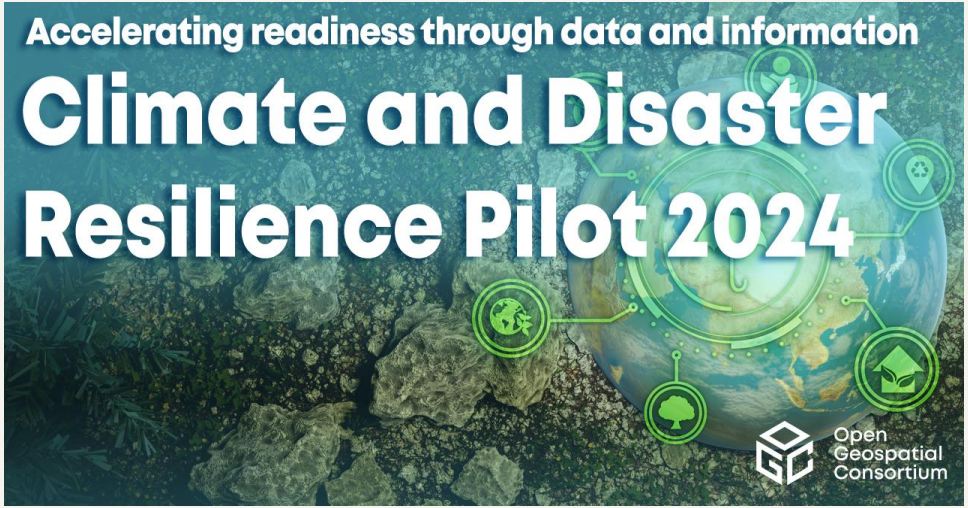
Safe Software

- Automated integration workflows
- Agile data synthesis and analysis
- Integration across data
  - Types
  - Volumes
  - Velocities
  - Sources: analog, digital, AI

Climate & Disaster Resilience Pilot 2024

- The Climate and Disaster Resilience pilot: Jan-Sep 2024
- 18 participating organizations

- **Main motivation**: Need for new methods, tools, and systems to better understand, predict, and address (natural) phenomena, including
  - intensification and changing patterns of typhoons
  - landslides
  - flooding
  - **extreme heat events**



Open Geospatial Consortium

Urban Heat Island Effect - Challenge

- **Heat: deadliest natural hazard**
- **Urban areas experience greater heat extremes** due to the heat absorbent artificial landscapes, lack of cooling vegetation and water
- Cities experience temperature increases > 7C
- 80% of US population lives in cities
- **No current real time warnings exist that incorporate localized UHI effect information**

"The urban heat island effect is a measurable increase in ambient urban air temperatures resulting primarily from the replacement of vegetation with buildings, roads, and other heat-absorbing infrastructure."

U.S. Environmental Protection Agency

https://www.climatecentral.org/climate-matters/urban-heat-islands-2023

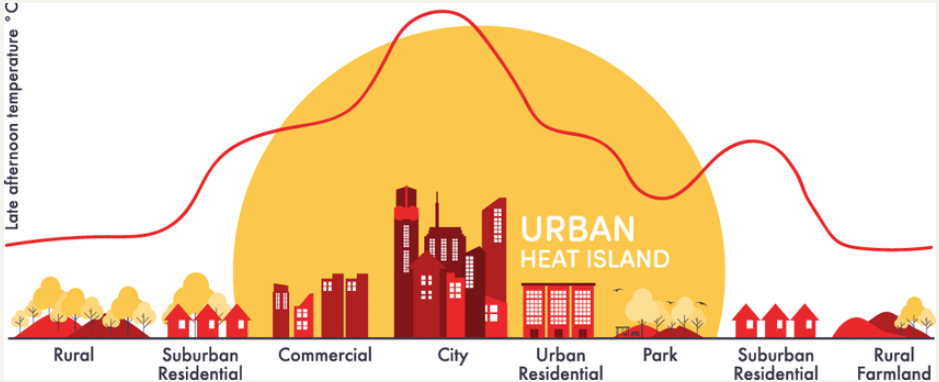
Safe Software

CDRP24: NYC Urban Heat Island Alerts

Objectives:

- Survey available Urban Heat Island data and models
- Evaluate and prioritize primary urban heat island factors
- Develop experimental urban heat models for 2D and 3D using high resolution localized data to produce more targeted estimates (DRI)
- Provide urban heat effect temperature deltas for warnings and for health hazard assessments (ARD)

https://community.wmo.int/en/activity-areas/urban/urban-heat-island



Safe Software

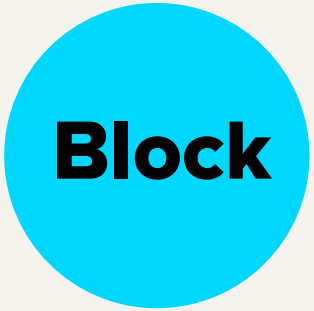
Estimate of Temperature in Northern Manhattan During Extreme Heat Wave

• Highest Temperature Reading In Central Park	100 degrees F. (NWS)
• Average Heat Island Effect (Climate Central)	+ 8 F.
• Measured Temperature on Residential Streets	**108 degrees F.**
• Estimated Humidity at Hottest Time of Day 40%	+22 degrees (NWS)
• **Heat Index "Felt" Temperature degrees F.**	**130**
• Interior Temp: Top Floor/South Exposure (TBD	+ 1 to +10 degrees F.
Max Interior Temperatures	**> 130 degrees F.**

As temperatures decline during late afternoon through the night and early morning, humidity levels rise, maintaining high felt temperatures

Urban Heat Island Estimates and Alerts

Need more accurate extreme heat alerts for urban areas



Currently no alerts that take into account urban heat island effects

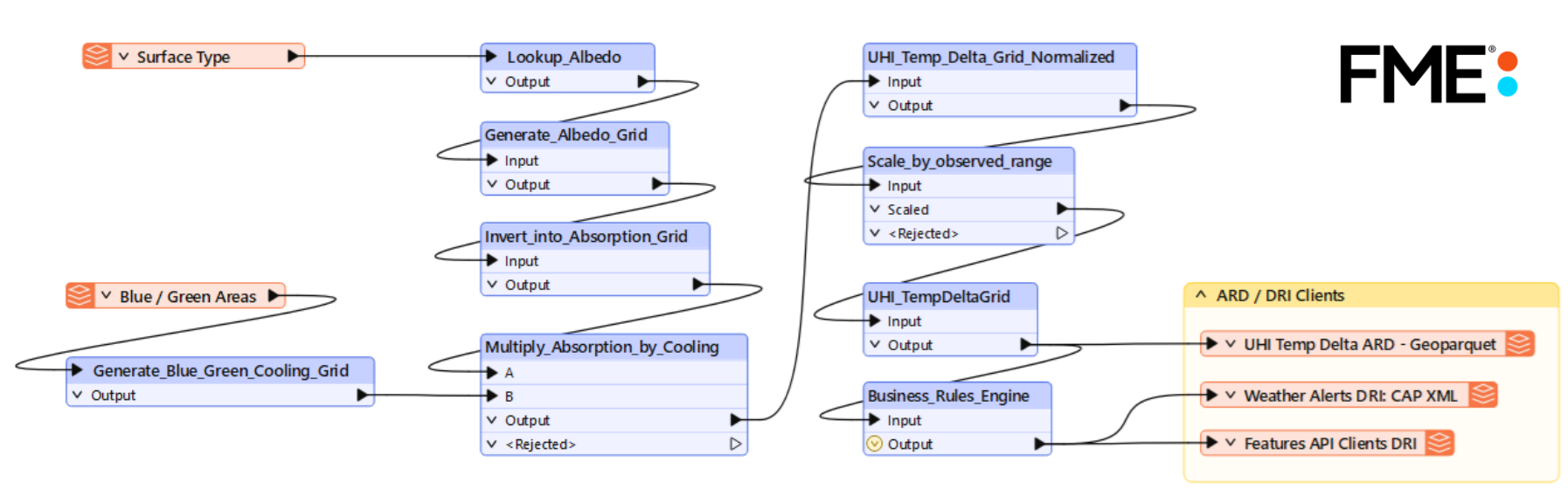
Use FME to estimate urban heat effects based on surface type data and combine this with real time NWS forecasts

Prototype urban heat alerts taking into account localized environmental conditions

Urban Heat Grid Estimate

Input Data: NYC Open Data Surface Type & Impervious surfaces

Safe Software

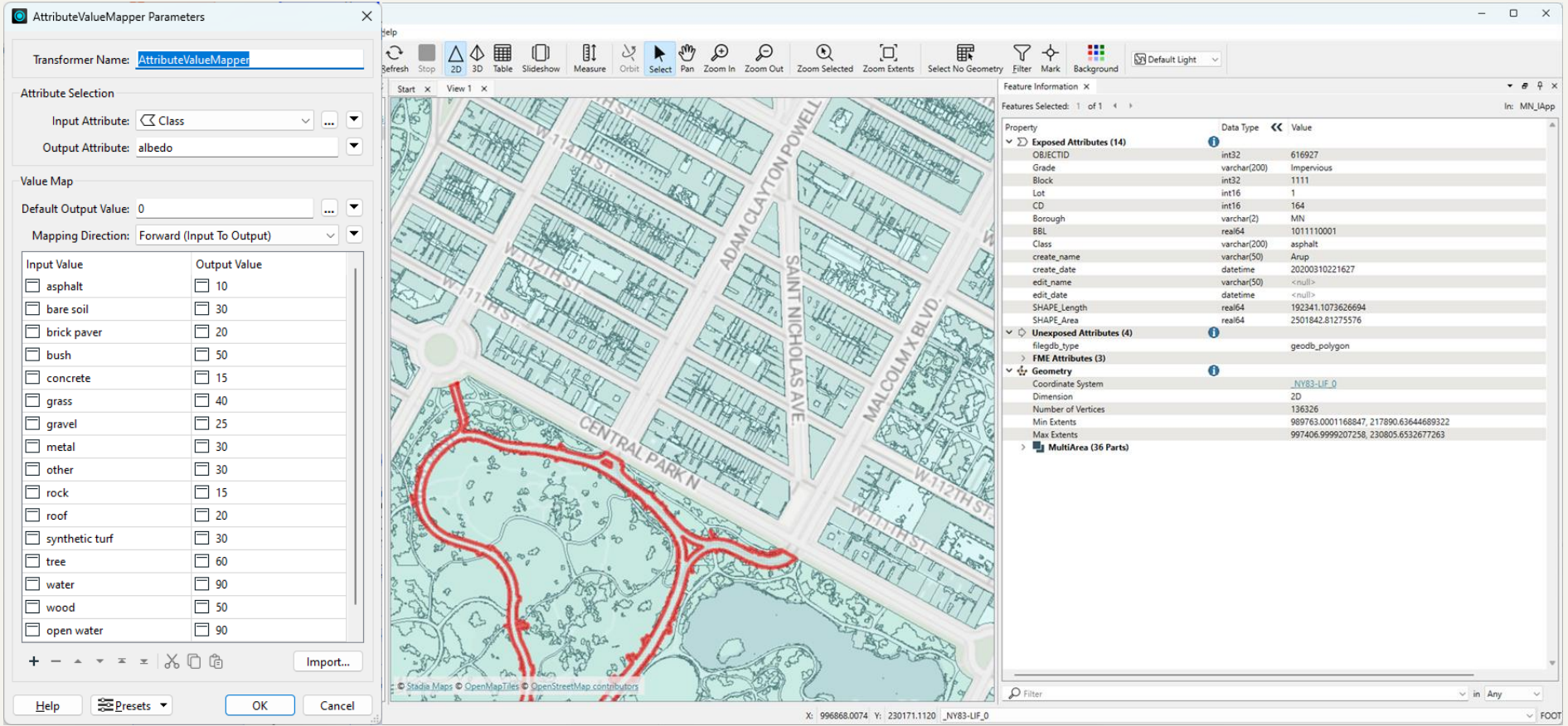


Urban Heat Island Delta Grid FME Workflow:

1. Generate albedo grid
2. Invert to absorption grid
3. Multiply by cooling grid
4. Normalize grid
5. Scale by observed UHI temp range

Urban Heat Grid Estimate

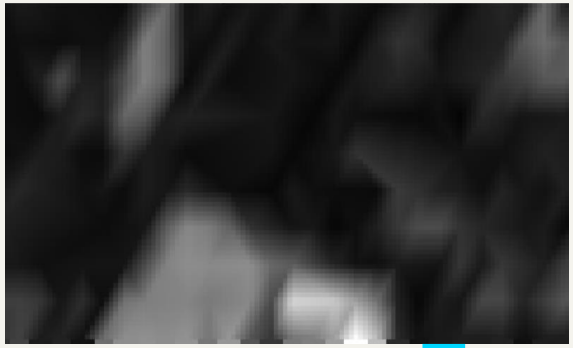
Input Data: NYC Open Data Surface Type



Urban Heat Grid Estimate

Safe Software

Raster Algebra Workflow to generate normalized UHI Temperature Delta Grid from Absorption and Cooling Grids

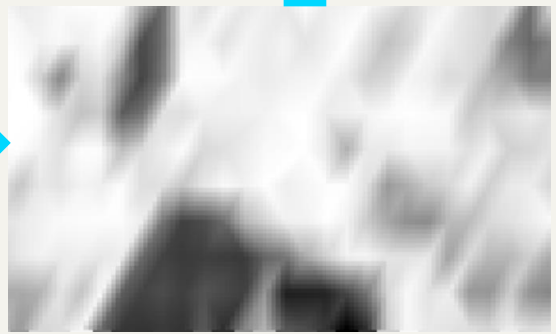


Albedo Grid

1 - X

Absorption Grid

X



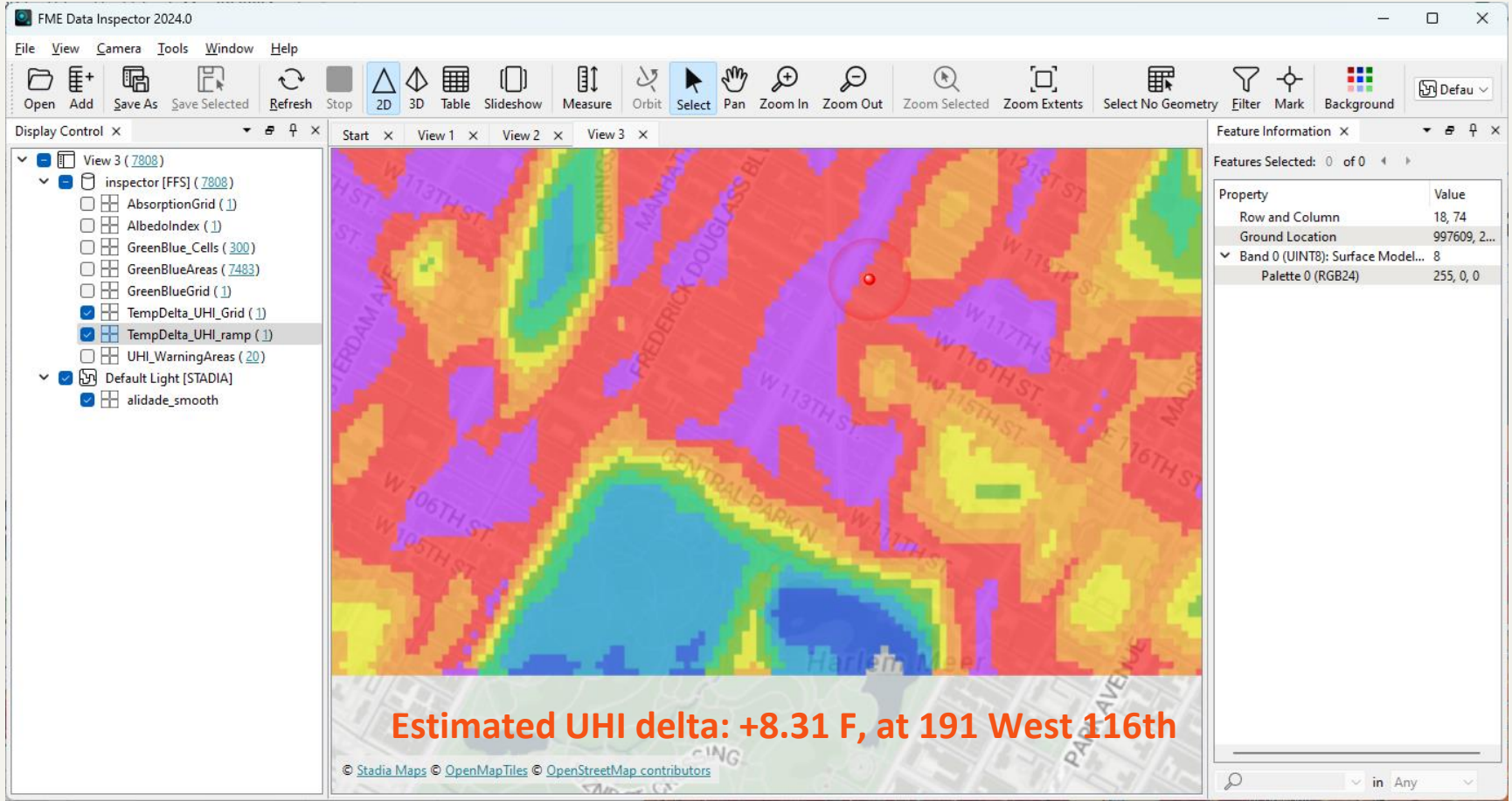
Blue / Green Cooling Grid

UHI Temperature Delta Grid

Urban Heat Grid Estimate

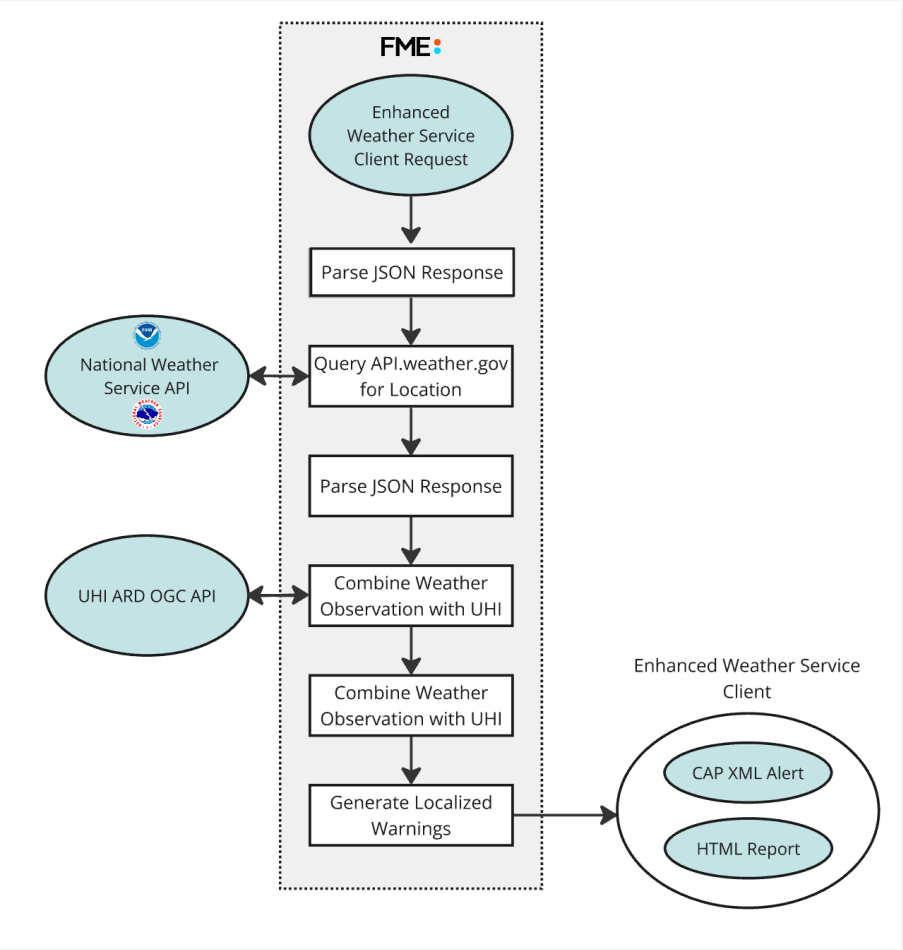
UHI Grid ARD Scaled by Observed Heat Island Temperature Range (+11 F)

Safe Software



Weather Service Real Time Data Feeds: FME Approach

- Goal: Extract weather event metrics and combine them with urban heat island estimates, to provide localized weather information to users via weather alerts.



Heat Grid Depiction for Central Harlem

UHI Grid ARD Scaled by Observed Heat Island Temperature Range (11 F)

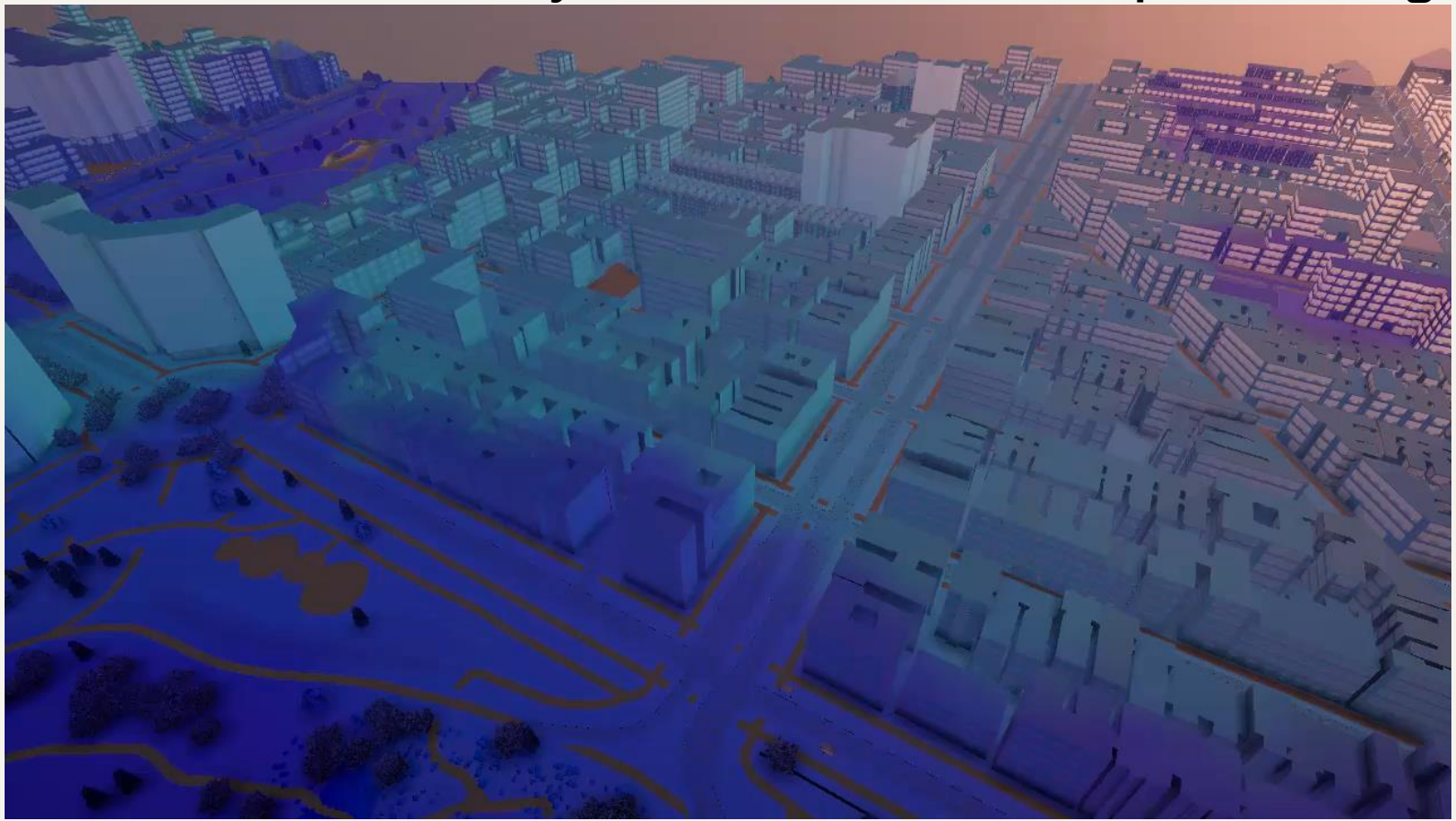
Estimated UHI delta at 191 West 116th: 9:00 am: 85.2 F

Open Geospatial Consortium

Urban Heat Grid Estimate

UHI ARD Grid Scaled by Observed Heat Island Temperature Range

Safe Software

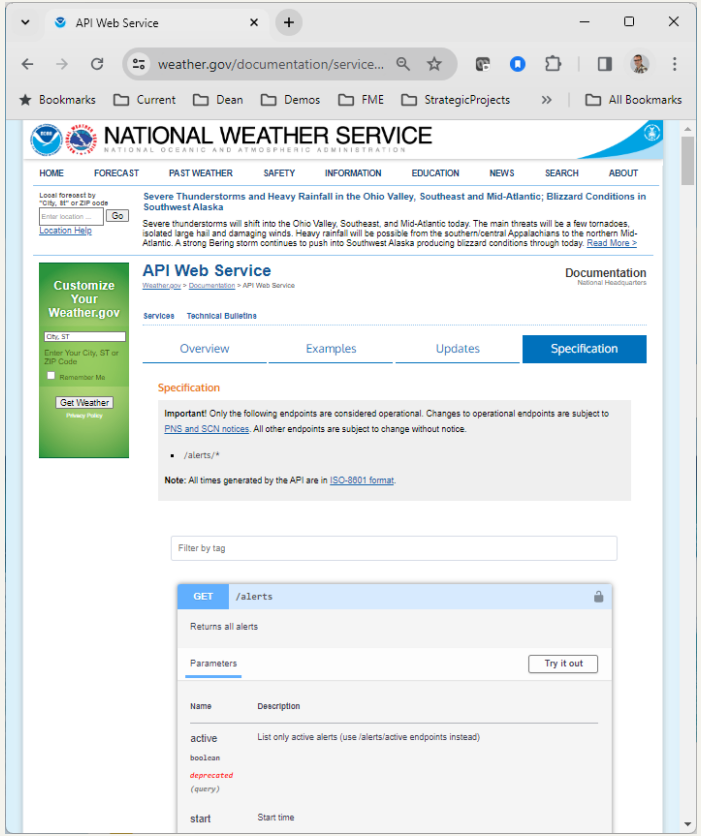


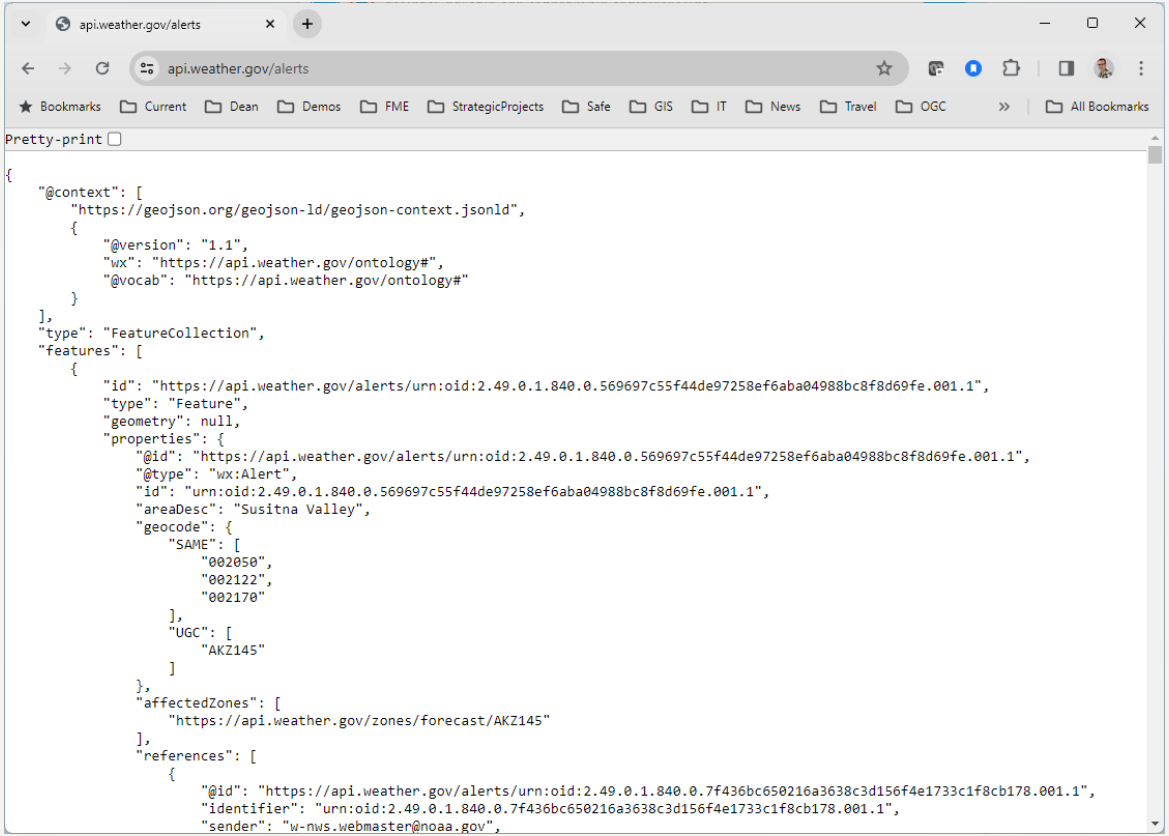
Navteca

FME by Safe Software

Estimated UHI delta: 12 hour daytime animation by Navteca using UHI ARD from FME

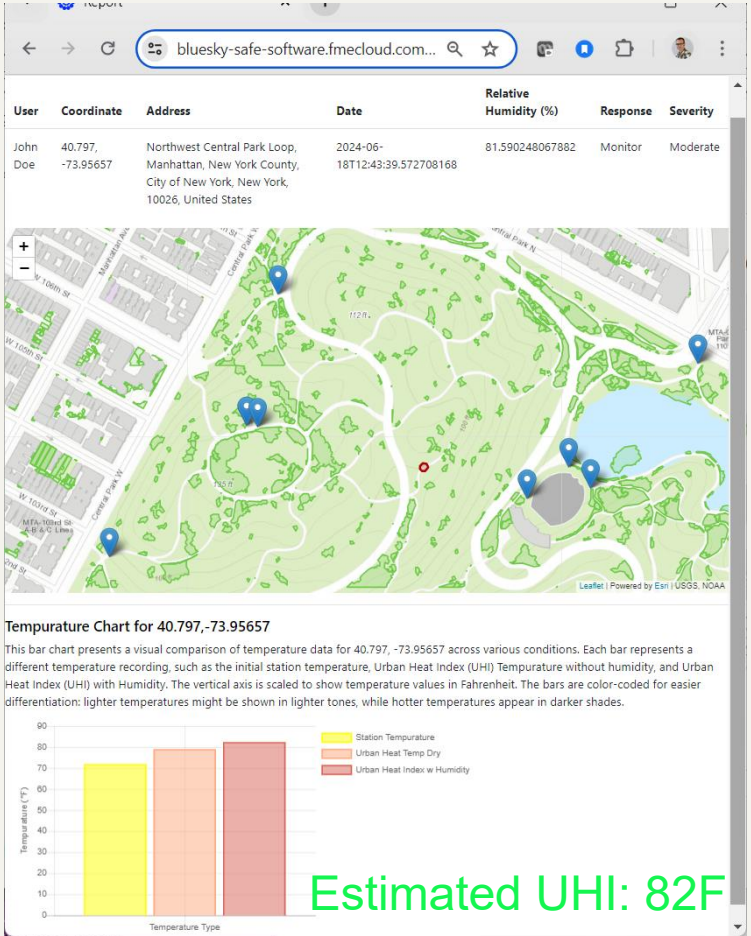
National Weather Service API: api.weather.gov

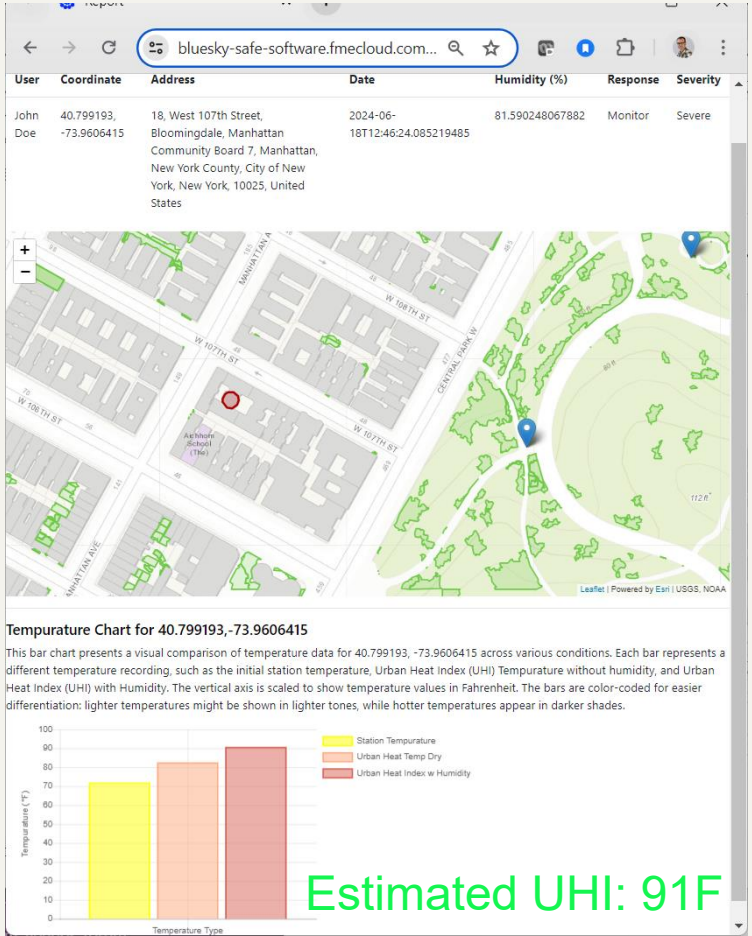




DRI Example: Urban Temperature HTML Report

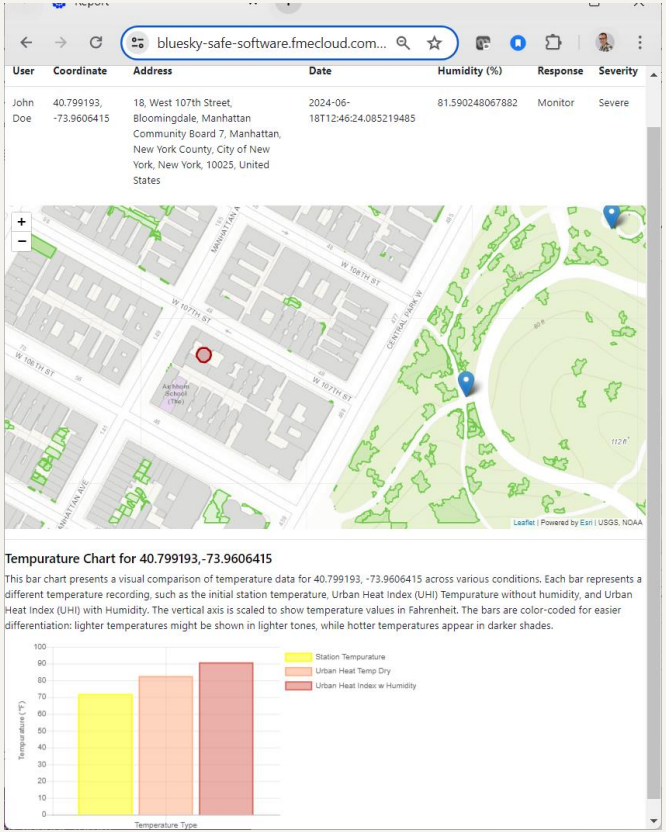
Safe Software





Key Takeaways

- Most weather warnings do not yet include urban heat island effects
- Urban heat island models can support more accurate and localized heat hazard warnings based on local conditions & feed impact estimates
- FME: can automate integration of weather data with high-res local models for real-time insights
- Need more local observations to better track urban heat effects over time in order to calibrate models



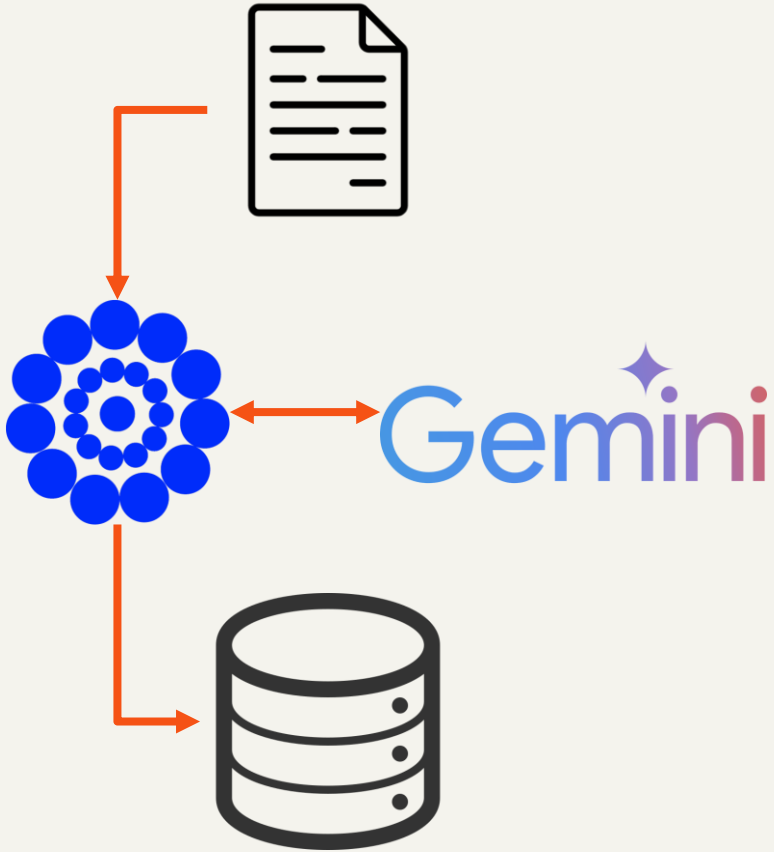
6b. Model Based Data Integration Pipelines: Bonus - Agentic AI Schema Mapping

Safe Software

Safe Software

Agentic AI Schema Mapping

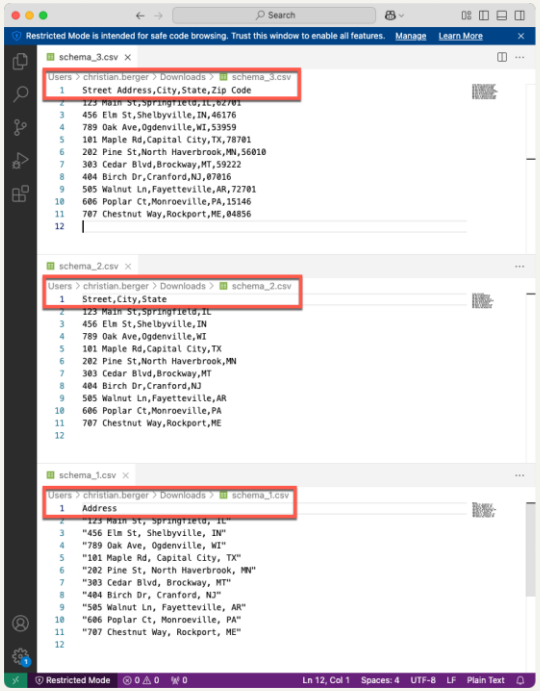
- Leverage Google Gemini for intelligent parsing and structuring of highly variable address data.
- FME's dynamic workspace capabilities enable seamless integration.
- Outputs are standardized, ready for downstream use.



Safe Software

Schema Variability Challenge

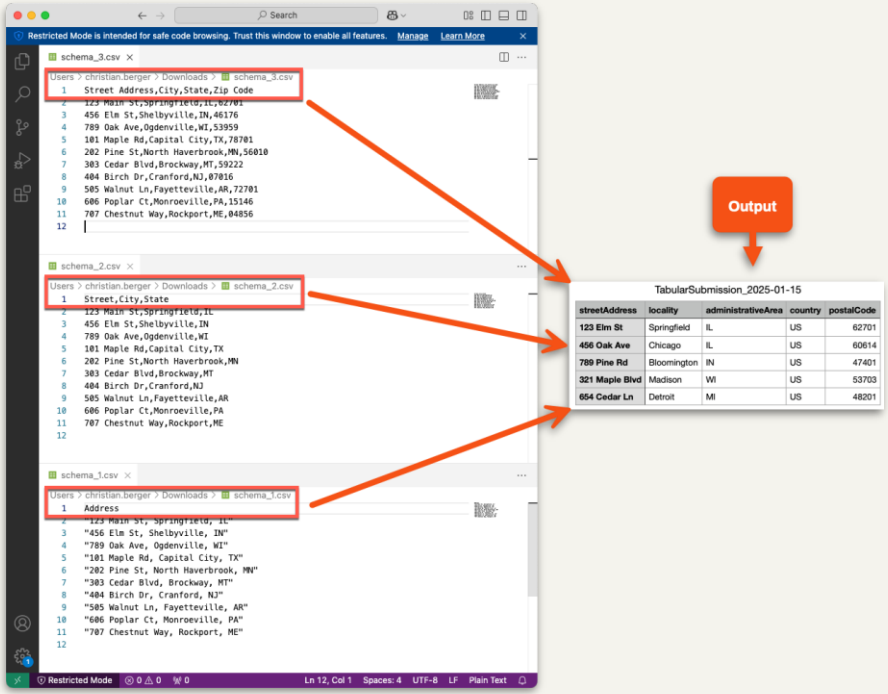
- Data providers deliver address datasets with inconsistent schemas, data types, and in various data formats.
- Variability makes it difficult to integrate data into downstream processes.
- Manual efforts to standardize data are time-consuming and prone to errors.



Safe Software

Schema Variability Solution

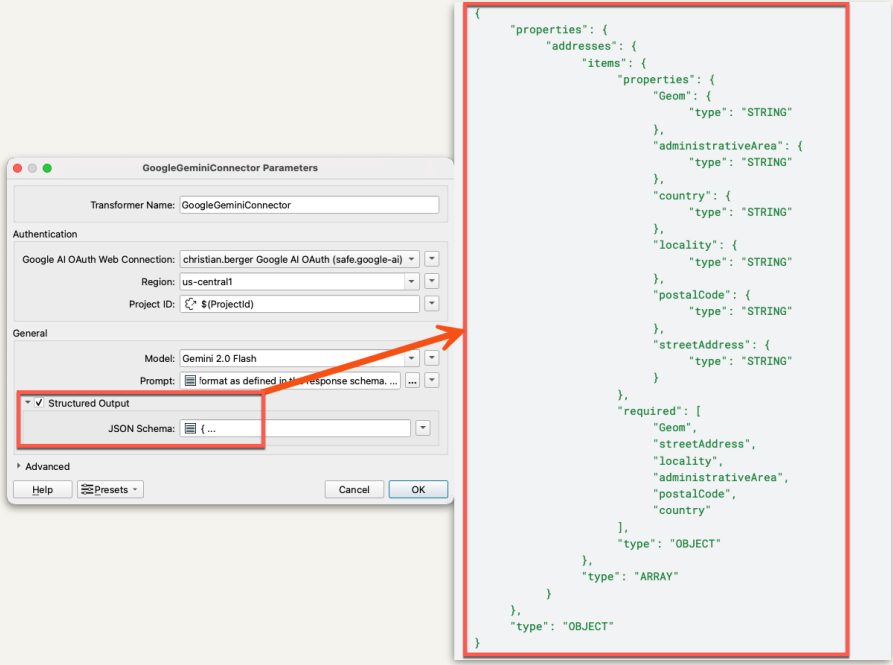
- **AI Processing:** Use Gemini to:
  - Identify key attributes (e.g., street name, number, postal code).
  - Concatenate or parse fields dynamically.
  - Resolve inconsistencies with Structured Outputs
- **Output:** Standardized attributes for seamless downstream use



Safe Software

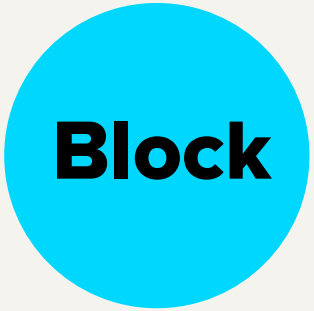
Schema Variability Solution

- **AI Processing:** Use Gemini to:
  - Identify key attributes (e.g., street name, number, postal code).
  - Concatenate or parse fields dynamically.
  - Resolve inconsistencies with Structured Outputs
- **Output:** Standardized attributes for seamless downstream use



Agentic Data Integration

Transform provided data into standard schema.



Inconsistent schemas and various data formats

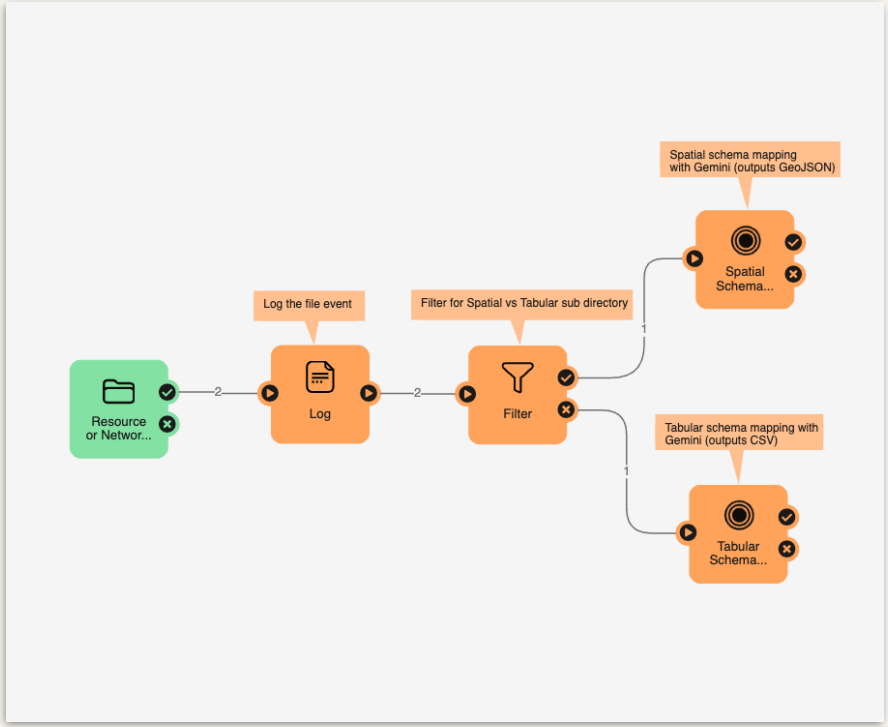
Leverage AI Agents using Structured Outputs

Standardized schema that is ready for downstream processes

Safe Software

Key Benefits

- **Efficiency:** Dramatically reduces processing & QA time.
- **Accuracy:** Handles complex data ambiguities with precision.
- **Scalability:** Processes large volumes of data with ease.
- **Cost-Effective:** Reduces manual intervention and associated costs.



Safe Software

Future of AI in Data Pipelines

- AI Agents will further enhance automation and scalability.
  - *See Peak of Data Integration to learn more!*
- Integration with emerging AI technologies will unlock new possibilities.
- Focus on making all-data pipelines faster, smarter, and more intuitive.

Safe Software

7. Additional Examples: Public Safety

Pacific Disaster Center (PDC)

Project

Enhance disaster monitoring for an emergency and disaster management platform, DisasterAWARE.

Solution

FME aggregates hazard data feeds and integrates them into a PostGIS database. The data is then transformed into an accessible map to be fed into the platform.

Results

- The critical information they provide is always reliable.
- Anyone new at PDC to DisasterAWARE can quickly get up to speed and the barrier to entry is greatly reduced.

“There’s an immediate benefit where folks can get up to speed and be productive a lot faster using FME compared to the application we had before.”

- Jorma Rodieck, Project Manager/Developer, Kontur

New Zealand Police

Project

A centralized solution to support major events and enhance operational effectiveness.

Solution

Creation of the Major Events Support Dashboard, which pulls information from multiple disparate data sources.

Results

- Successfully operable across a number of high-profile events.
- Comprehensive spatial awareness of event sites.
- Key in decision-making across resource allocation, event management, and deployment strategies.

"The dashboard has reduced manual effort and improved operational efficiency in the handling of major event data by more than 30%. Where we had previously relied on multiple sources of disparate data, we now have a single source of real-time intelligence."

- Sarah Hodgson, Manager Geospatial Intelligence, NZ Police

New Zealand Police

Project

Effective coordination and handling of emergency calls and data collection during Cyclone Gabrielle.

Solution

A dataset capturing and analyzing calls, real-time data aggregation, and integration of communication and resource deployment.

Results

- Uninterrupted data updates, providing vital insights for informed decision-making and optimal resource allocation.
- Streamlined emergency call handling and police station coordination.

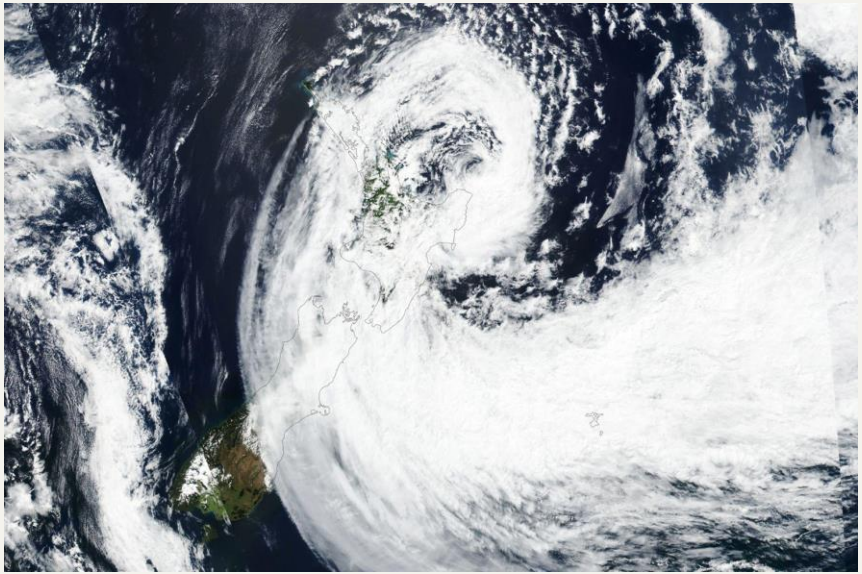


Image by NASA Earth Observatory

"The availability of key datasets, enabled by FME integration, provided critical insights, allowing our people on the ground to respond quickly and effectively to what was a rapidly evolving national emergency."

- Sarah Hodgson, Manager Geospatial Intelligence, NZ Police

Ignis Technologies

Project

Enhance firefighting intelligence with an efficient application for firefighters to access critical real-time data.

Solution

FME consolidates information ranging from fire incidents to weather conditions from ~25 datasets, ensuring data is updated and accurate.

Results

- The Ignis app was launched three months ahead of schedule.
- New data is viewable in the application within 30 seconds.
- Streamlined data accessibility for firefighters.

"When you're trying to develop an app to pilot test and get into the market, you have limited amounts of time. Time is a valuable resource, and FME has really helped us so we can shift our focus to other problems that don't have an easy solution like FME."

- Andrew Dixon, Co-Founder, Ignis Technologies

Federal Office of Civil Protection and Disaster Assistance - Covid Dashboard

Federal Office of Civil Protection and Disaster Assistance

The Problem:

- COVID-19: Crisis situation
- Latest data needed by stakeholders (government, crisis teams)
- Diversity of data sources
- Product delivery at the crack of dawn

FME UC Presentation**: Common and Timely Situational Awareness with FME and GIS**
https://www.safe.com/presentations/common-timely-situational-awareness-fme-gis/

The Solution

FME processing steps

Streamlining heterogenous data into meaningful information creates new and timely insights.

Safe Software

The Solution

Read data

ArcGIS Feature Services

World Health Organization

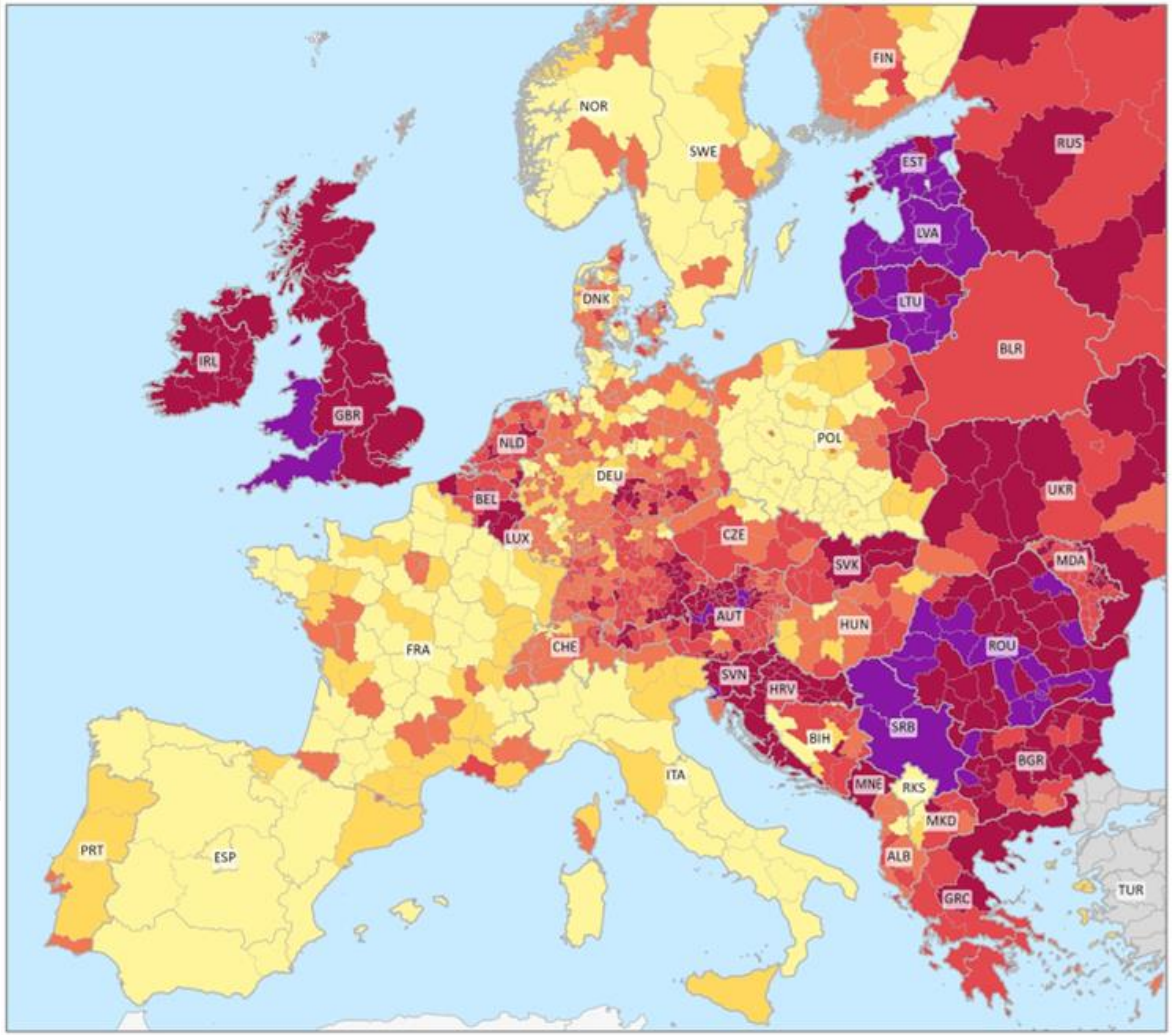
CSV File(s) Download

Our World in Data

Excel File(s) Download

HTML-Table (Website)

The Output



Federal Office
of Civil Protection and
Disaster Assistance

Legende

COVID-19 Inzidenzen
Fälle der letzten 7 Tage/100.000 EW

- 0
- >0-5
- >5-35
- >35-50
- >50-100
- >100-200
- >200-500
- >500
- Daten älter als 10 Tage

Datenstand und Ebene*

Staat	Stand	Ebene (EU / National)
Belgien:	19.10.2021	NUTS2 / Provinz
Dänemark:	20.10.2021	LAU / Kommune
Deutschland:	21.10.2021	NUTS3 / Kreis
Frankreich:	17.10.2021	NUTS3 / Département
Luxemburg:	20.10.2021	-
Niederlande:	20.10.2021	NUTS3 / COROP-Region
Österreich:	19.10.2021	- / Bezirk
Polen:	18.10.2021	NUTS3 / Unterregion
Schweiz:	20.10.2021	NUTS3 / Kanton
Tschechien:	19.10.2021	NUTS3 / Region
weitere Staaten**:	15.10.2021-20.10.2021	NUTS1 - NUTS3

* *Aufgrund der unterschiedlichen Verfügbarkeit von Daten der Anrainerstaaten wurde die jeweils beste verfügbare und passende administrative Ebene zur Darstellung gewählt.*

** *Der Datenstand und die Ebene der weiteren Staaten ist abhängig von der genutzten Quelle (u.A. WHO-EURO (Subnational Explorer), Gesundheitsministerium Türkei).*

Datenquellen

Basisdaten: © EuroGeographics bzgl. der Verwaltungsgrenzen, GeoBasis-DE / BKG (2020), Natural Earth
Inzidenzen: s. ergänzende Produkt-information

Kartenerstellung

© BBK 2021
Geokompetenzteam (GKT)
Erstellt am: 21.10.2021

8. Conclusions

Safe Software

Conclusions

- To be effective, **a data strategy** needs to align with policy goals and priorities through **governance:** appropriate **standards, best practices**
  - **Next Gen 9-1-1:** Improve emergency response with automated validation.
- **Results driven data flows maximize value across agencies** to support decision making
  - Powerlink emergency management
- ***Agile information synthesis through model based integration*** *NYC Extreme heat, Agentic AI, German Disaster Agency*
  - **Disaster Alerts:** Automate localized extreme heat alerts for proactive response.

FME empowers federal agencies to access reliable data, streamline operations, and serve citizens and their communities

9. Resources

Safe Software

Safe Software

Get our Ebook

Spatial Data for the Enterprise

fme.ly/gzc

FME Academy

Guided learning experiences at your fingertips

academy.safe.com

Knowledge Base

Check out how-to's & demos in the knowledge base

support.safe.com

Webinars

Upcoming & on-demand webinars

safe.com/webinars

Resources

- Leveraging Data Integration for Strategic GIS Governance
- The importance of the OGC & open standards
- Data-Driven Public Safety: Reliable Data When Every Second Counts
- Shelby County NG911 with FME
- Santa Clara County NG911 with FME
- NG911 Loader and Validator Tutorial
- Using Data Integration to Deliver Intelligence to Anyone, Anywhere
- AI Data Integration: Unlocking insights with FME & Google Gemini

https://www.peacearchnews.com/news/white-rock-pier-damaged-by-storm/

Thank You

Safe Software

Next Steps

1 Follow us on LinkedIn!
2 Contact us

3 Experience the FME Accelerator

Contact

dean.hintz@safe.com