

1. What is eCityRisk's Field Reconnaissance Service?

eCityRisk's Field Reconnaissance Service helps re/insurers to rapidly obtain answers to the following basic questions about any disaster- What areas did the event affect? How severe is the damage? What are our losses likely to be?

eCityRisk Field Reconnaissance Service collects 'Visual Business Intelligence (VBI)' or observed damage data, captured as GPS-referenced high-definition (HD) photographs or video in near-real time after the event. This data provides an objective visual assessment of the post-disaster situation, supporting ground-up loss estimation based on real-world observations. eCityRisk's geographically-based catalogue of damage photos and videos helps disaster response teams to inventory affected assets and assess the likely financial impact within days of the event. It also provides an independent check against modeled losses, avoiding undue reliance on (what in recent years have proved to be unreliable) cat modeled results when issuing initial public figures.

eCityRisk's field reconnaissance services currently span events within the US and Europe. They are and are based on two core technologies: (1) data collection using aerial or ground-based GPS-linked cameras and (2) visualization of damage and impacts within a geospatial environment such as Google Earth or GIS software. Data is collected by eCityRisk field teams using the VIEWS™ system. This is a proprietary data capture technology that combines high definition/digital video with location information and rapid data processing and delivery protocols.

For facultative contracts or where high-value facilities are of interest, clients may choose specific areas to be covered during the deployment. For treaty reinsurance, an overview mission may be preferred, where the general damage state across the region or within particular neighborhoods is recorded.

Reconnaissance data may be delivered direct for in-house viewing, or interpreted by eCityRisk's team of expert engineers and remote sensing technicians for delivery as a GIS data layer of damage states (individual buildings) or boundaries (e.g. flood boundary).

Data can be viewed using free, hosted and desktop systems. For online viewing, eCityRisk's reconnaissance data can be delivered in Google Earth or Virtual Earth (Bing) format. For clients integrating VBI into existing analytical processes, it can also be displayed within the Virtual Disaster Viewer (VDV) system (for further details, see web-GIS services on the eCityRisk website). For desktop viewing, eCityRisk offers a desktop CatVIEWER visualization platform, and free online viewers are also available.

2. Technical specifications for field reconnaissance service (aerial and ground-based collects)

Service	Format	Specification
1. Photos + GPS track	HD Photos: JPG GPS Trail: SHP, KML	<p>HD Photos: 1920 x 1080 pixel resolution 1 HD photo / second of video 3,600 photos per hour* or 1 frame per second captured from HD video Each photo has an associated GPS point.</p> <p>GPS Trail: Log of GPS data points of data collection trail 1 GPS coordinate per second GPS Coordinates in Latitude/Longitude with WGS 84 datum</p> <p>Accuracy: Photos can be tied to specific facilities on ground. GPS trail accuracy is within 3m with WAAS availability, within 15 m in general.</p> <p>Coverage: Coverage is available by block, neighborhood, ZIP or citywide.</p> <p>Attributes: Photo: Photofilename GPS: PhotoID, Lat/Long of GPS, comment</p>
2. Video (HD) + GPS trail	HD video: M2T GPS Trail: SHP, KML	<p>HD video: 1440 x 1080 Full HD resolution</p> <p>GPS Trail: Log of GPS data points of data collection trail 1 GPS coordinate per second GPS Coordinates in Latitude/Longitude with WGS 84 datum</p> <p>Accuracy: Video can be tied to specific facilities on ground. GPS trail accuracy is within 3m with WAAS availability, 15 m in general GPS trail has time stamps and corresponds to time stamp on video.</p> <p>Coverage: Coverage is available by block, neighborhood, ZIP or citywide.</p> <p>Attributes: Video: videofilename GPS: PhotoID, Lat/Long of GPS, comment</p>
3. Video (digital) + GPS trail	Digital Video: MPEG GPS Trail: SHP, TAB, KML	<p>Digital Video: 640 x 480 digital video resolution</p> <p>GPS Trail: Log of GPS data points of data collection trail 1 GPS coordinate per second GPS Coordinates in Latitude/Longitude with WGS 84 datum</p> <p>Accuracy: Video can be tied to specific facilities on ground. GPS trail accuracy is within 3m with WAAS availability, 15 m in general. GPS trail has time stamps and corresponds to time stamp on video.</p> <p>Coverage: Coverage is available by block, neighborhood, ZIP or citywide.</p> <p>Attributes: Video: videofilename GPS: PhotoID, Lat/Long of GPS, comment</p>

3. Data viewing options

A number of data viewing options are available, including free tools and custom eCityRisk tools. These are:

1. **Free online tools- Google Earth:** HD Photos + GPS (item 1) trail can be viewed within Google Earth by setting up a simple internal web service. Digital video (item 3) may be viewed within Google Earth. GPS trail (item 3) is time stamped to correspond to video time. The user can review video of a particular location, by finding the GPS time stamp and jumping to that time on the video file.
2. **Hosted services- MS Virtual Earth based viewer (Virtual Disaster Viewer):** These services provide the option of securely hosting the HD Photos + GPS trail (item 1) on a server. Users can view data using a web browser by logging into a password-protected website. eCityRisk can host this service or can set it up on client server.
3. **Free desktop tools:** Raw HD/ digital video files (items 2 and 3) may be played back using free media players such as Windows Media Player, VLC media player.
4. **Desktop viewer- CatVIEWER:** CatVIEWER™ desktop mapping and analysis system allows viewing of HD photos and GPS trail (item 1), Digital Video and GPS trails (item 3). CatVIEWER also lets users compare pre- and post-disaster images.

4. Data delivery mechanism

Data (items 1, 2, or 3: HD photos, HD/ Digital video, and GPS trail) is uploaded to password protected servers for clients to download via FTP transfer. All field reconnaissance data is provided within 24-48 hrs following data collection. Interpreted damage intelligence is provided within 1-2 days of collection.

5. Contact us

If you want someone to offer guidance on field reconnaissance data collection, consider eCityRisk. Reach us via e-mail at sg@ecityrisk.com or bj@ecityrisk.com. We offer the following services:

Field Reconnaissance Service: We handle all aspects of data collection for independent loss calculations. We cover a complete range of perils, including flood, earthquake, hurricane wind, storm surge and tsunamis, tornado and wildfire. For further information, please download our brochure at found here: www.ecityrisk.com/brochures/

Consulting and in-house support: Our Visual Business Intelligence (VBI) experts can provide your organization with valuable training or on-the-ground support to help with your response activities. Call us at 01372 278777 (UK) or 562 628 1675 x228 (US).