

# 11.0 GeoCommunicator Use Cases

## 11.1 Overview of GeoCommunicator Use Cases

The use cases for GeoCommunicator (GC) are intended to describe the various business processes necessary to search, access, and maintain spatial information in an Internet web-enabled environment. Spatial information, in the GeoCommunicator context, includes metadata, the data itself, and events pertaining to data, having a geographic component. The GeoCommunicator combines the concepts of Data Warehouse and Data Clearinghouse with the Field-to-Fabric concept in which events from raw data collection to final integrated data set may be identified and communicated. The initial focus of the GeoCommunicator site might be limited to the communication and exchange of data, events and information for the surveying community. However, it is intended that GeoCommunicator would grow to provide an implementation framework that would readily support numerous other data sets and information themes in the future.

The ***GC-01 Conduct Search*** and ***GC-02 Browse Search Results*** use cases provide tools for the Browser actor seeking spatial information. The Browser specifies the 'where' (spatial extent), the 'what' (data or event category), and the 'when' (time-frame) in a spatial query and views/downloads the results. This actor may become a Subscriber through the ***GC-07 Manage Subscriber Account*** use case where flags, defined by a spatial query, are set that trigger automatic notification (e-mail).

Actors intending to provide information apply through the ***GC-05 Manage Provider Account*** use case and, if approved, utilize tools and procedures described in the ***GC-06 Submit Data*** and ***GC-03 Submit Event*** use cases. Event Providers submit descriptions of planned activities, the location (spatial extent), and duration (calendar). Data Providers may submit spatial data (that meets content standards) to be integrated into seamless map themes. Data Providers may provide links to locally-stored data that does not meet the standard. Where data from several Providers does not match, the areas of data discrepancy may be highlighted and targeted for resolution.

The ***GC-10 Post Comment*** use case provides for communication among GeoCommunicator actors. Browsers and Subscribers may join a topical forum or e-mail group. They may communicate with Providers concerning their data and events (identify errors, ask questions, etc.). They may post an Information Notice describing available information, but not accessible through the GeoCommunicator. They may post an Information Request (data call) for information not found through the ***GC-02 Browse Search Results*** process.

The remaining use cases are designed for an Administrator actor to manage accounts, to manage the on-site data and links to the off-site data, to monitor the events calendar, to trouble-shoot communication problems, and to maintain the GeoCommunicator web site.

## 11.2 GeoCommunicator Use Case Analysis

This section presents the individual GeoCommunicator use cases. GeoCommunicator functionality is available system-wide - i.e. NILS users performing Survey, Measurement or Parcel Management would have access to Geocommunicator.

Table 11.1 lists the GeoCommunicator use cases. Figure 11.1 shows the relationship of these use cases to the other NILS use cases.

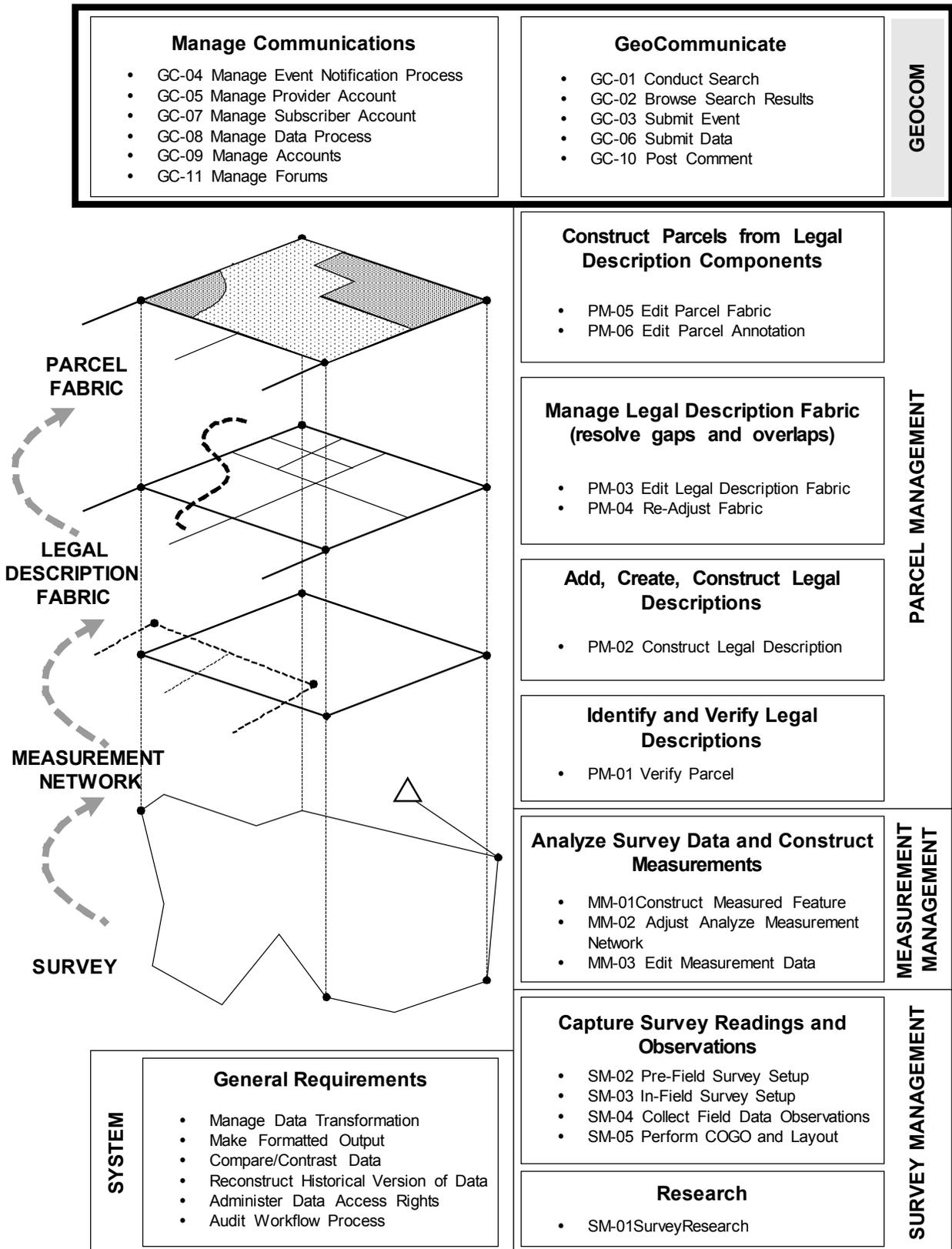
**Table 11.1. GeoCommunicator Use Cases**

Use Case	Section	Description
GC-01 Conduct Search	11.3	<p>Process to find <i>data</i>, <i>reference document</i> and <i>events</i>.                      Establish or modify search parameters that define a <i>research scope</i> and submit query. Example parameters include:</p> <ul style="list-style-type: none"> <li>▪ <i>data category</i>;</li> <li>▪ <i>event category</i>;</li> <li>▪ <i>spatial extent</i>;</li> <li>▪ <i>logical operators</i>;</li> <li>▪ <i>temporal constraints</i>;</li> <li>▪ <i>reference document</i></li> </ul> <p>Subscriber may opt to save search parameters for re-use at a later time.</p>
GC-02 Browse Search Results	11.4	<p>View, evaluate, and/or remove items (<i>data</i>, <i>reference document</i> and <i>events</i>) returned in the <i>research results</i>.                      The Actor may retrieve data from provider storage locations to local disk.</p>
GC-03 Submit Event	11.5	<p>Process to submit an event and/or add a new <i>event category</i>.                      NOTE: Specific events may be automatically triggered by other system events. Event Providers submitting events would have their account information pre-populated into the event submission form. (Any Actor can become an Event Provider by establishing a provider account).</p>
GC-04 Manage Event Notification Process	11.6	<p>System administration of errors related to events and triggered notifications including the resolution of errors involving subscription and event notification. Also resolve failed e-mail notification and remove outdated events. Approve requests for new event categories.                      NOTE: System automatically:</p> <ul style="list-style-type: none"> <li>▪ creates a list of subscribers to be notified (by event category and spatial extent) by matching key criteria from the event and subscriber databases;</li> <li>▪ sends e-mail notification to the appropriate subscribers; and</li> <li>▪ logs communications and produces an event/notification error list.</li> </ul>
GC-05 Manage Provider Account	11.7	<p>Process to establish or modify a <i>data provider account</i> or an <i>event provider account</i> (provider information).</p>

Use Case	Section	Description
GC-06 Submit Data	11.8	<p>Process to submit <i>geo-referenced data</i>, <i>geo-related data</i> and/or <i>reference documents</i> to GeoCommunicator.</p> <p>This includes:</p> <ul style="list-style-type: none"> <li>▪ data {or link to location/path};</li> <li>▪ relevant <i>data catalog</i> information such as meta data and/or links to related data;</li> <li>▪ date;</li> <li>▪ access restrictions;</li> <li>▪ spatial reference; and</li> <li>▪ spatial extent.</li> </ul> <p>NOTE: Provider may monitor product availability, restrictions, and subscriptions with the data catalog.</p> <p>NOTE: Some data may be submitted for warehousing, and some providers will supply references to data housed in remote storage locations. This use case may include some security administration for restricted-access data sources.</p>
GC-07 Manage Subscriber Account	11.9	<p>Process to establish or modify subscriber account including:</p> <ul style="list-style-type: none"> <li>▪ Actor information;</li> <li>▪ Actor preferences; and</li> <li>▪ subscription/notification parameters (spatial extent, event categories, scheduling).</li> </ul> <p>NOTE: Browser may elect to become a new subscriber and pass current <i>research scope</i> information into the account setup.</p>
GC-08 Manage Data Process	11.10	<p>System administration to:</p> <ul style="list-style-type: none"> <li>▪ quality control (QC);</li> <li>▪ insert new/replacement data;</li> <li>▪ modify data catalog; or</li> <li>▪ delete data from the system.</li> </ul> <p>NOTE: Some data may be submitted for warehousing, and some providers will supply references to data housed in remote storage locations.</p> <p>NOTE: Data submissions will be automated where possible.</p>
GC-09 Manage Accounts	11.11	<p>System administration of subscriber and provider accounts including:</p> <ul style="list-style-type: none"> <li>▪ certifying new accounts;</li> <li>▪ resolving errors; and</li> <li>▪ managing account-related issues.</li> </ul>

Use Case	Section	Description
GC-10 Post Comment	11.12	Process to handle <i>communication events</i> to: <ul style="list-style-type: none"><li>▪ a topical forum (via e-mail);</li><li>▪ e-mail group (e.g. to review proposed data);</li><li>▪ data provider (e.g. to report errata);</li><li>▪ publish an information notice (e.g. an RFP, a Public Notice, or data discrepancy); or</li><li>▪ publish an information call (e.g. data request, reference request or event request).</li></ul> NOTE: Browsers may have limited communication access. Subscribers may have enhanced access to forums
GC-11 Manage Forums	11.13	The System Administrator: (1) sets up and closes communication forums, e-mail groups; (2) monitors content; and (3) manages errors.

Figure 11.1



## 11.3 GC-01 Conduct Search

### 11.3.1 GC-01 Conduct Search Analysis

**Context** The initial purpose of the GeoCommunicator is to facilitate access to survey-related information for survey information stakeholders.

The purpose of *GC-01 Conduct Search* is to provide a standard tool for professional surveyors and users of survey data to submit a request for survey information using geographic, temporal or categorical parameters.

Surveyors will potentially use the information provided by the GeoCommunicator to facilitate:

- short and long-term survey project program planning;
- pre-field research for specific survey projects;
- accessing specific information while conducting a survey project.

Users of survey data cover a very wide spectrum however the primary focus will be providing continual access to desired (and authorized) data meeting general land parcel inquiries (with a goal of reducing the number of across the counter requests).

**Concepts** *Data.* Any and all non-event information, regardless, of format or medium, that is searchable by GeoCom Actors.

- Geo-Referenced Data-Raster or vector data that contain world coordinates.
- Geo-Related Data-Data that is associated or linked to a point or area entity (spatial objects). Examples: Survey Plat of a township; Patents and deeds linked to a parcel by legal descriptions.
- Reference Document Helpful technical information related to events or data. May have no direct relationship with a spatial data set (e.g. manuals, RFIs, reports, etc.).

Data may be packaged as a set of associated data elements from various categories. Data categories that have a spatial extent (footprint) can be displayed and searched for spatially. Categories of data include spatial layers, tabular, images, reference documents, data discrepancies and proposed layers, etc. Some reference documents may have no direct relationship with a specific spatial data set (e.g. manuals, RFIs, reports, etc.).

**Reference Documents.** Helpful technical information related to events or data. May have no direct relationship with a spatial data set (e.g. manuals, RFIs, reports, etc.).

**Event.** Any activity, data submission, or communication that might trigger a notification.

- **Activity Event.** Any activity on the land submitted through the SubmitEvent (manual) process by the Event Provider.
- **Data Event.** Any data submitted through the **GC-06 SubmitData** process that automatically sets a flag to trigger a notification.
- **Communication Event.** Any creation of a discussion forum, e-mail group, information notice, sending an e-mail, or information call submitted through the **GC-10 PostComment** process.

An *activity event* (e.g. data collection) may result in a *data submission event*.

**Research scope.** Potentially includes combinations of the following parameters - data categories (types of data ex. cadastral, wildlife, hydrology), event categories (ex. data submission, data call, industry activities or events, general or specific communication), spatial extent (ex. latitude/longitude coordinate box, drawn polygon, administrative boundary, address), data quality (i.e. data integrity, data consistency, measurement type), temporal constraints (time periods or ranges). Search is conducted based on search criteria and Actor's access level.

**Category.** Indicate the lumping together of similar individual data sets, activity events, reference information, or communication events to facilitate the **GC-01 Conduct Search** process.

**Data/Event Categories.** Indicates an item to query or an item to subscribe to or an item to submit for e-mail notification. Examples include: Data Category, Activity Event Category, Reference Information Category, Forum Category, E-mail Group Category, Information Notice Category, Information Request Category.

**Spatial extent.** Location on the ground (footprint). Includes any method for describing a point or area. Examples include Lat/Long, PLSS, minimum bounding rectangle, boundaries (admin, other).

**Logical operators.** Conditions, parameters of a query.

**Temporal constraints.** Date and time range parameters.

**Research Results.** Maps and/or tabular views indicating available reference document, data and events items are generated based on

the research scope search criteria.

***Search Parameter Form.*** GeoCommunicator form for Actors to enter search parameters.

***Default Spatial Extent.*** Actor's profile will provide the option to define an initial spatial extent for example specific state or county.

***Map view.*** Displays symbology and geo-referenced spatial extents (footprints) of returned items. Tabular view potentially displays item category(s), description, timeframes and status (availability, restrictions, cost, location, etc.).

The Actor groups of ***GC-01 Conduct Search*** are Browser and Subscriber.

### **Key Features- Functionality**

Through a graphical (map and icon) and/or textual (pull-down menu(s), selection box(es) or input form) interface, define a query to fulfil the business mandate. The research scope will most likely be a combination of geographic, category or temporal parameters.

The query will run against a (FGDC format standard) Master Catalog (and index) and return a list of items that fulfill the research scope. The list will provide a direct path to data available for immediate viewing or a web-link or contact name to a data provider(s) site(s) where additional pertinent information is offered. The Actor may want to communicate with a data/event/reference document provider.

If the research results, viewed in ***GC-02 Browse Search Results***, do not meet the business needs the Actor can change the research scope (search criteria) and resubmit the search. If the results meet the business needs the data itself can be viewed and/or downloaded (saved) to the local system.

Subscribers can also save the search parameter form as a template for future searches.

The GeoCommunicator Actor is provided with contact information for further communication with data, event and/or reference document providers.

<b>Application Integration</b>	<p><b>GC-01 Conduct Search</b> functionality is closely linked with the following GeoCommunicator use cases:</p> <p><b>GC-02 Browse Search Results</b> providing Actors with the tools to review and evaluate the information returned by the <b>GC-01 Conduct Search</b> process,</p> <p><b>GC-07 Manage Subscriber Account</b> allowing <i>Browser</i> Actors to request a <i>Subscriber</i> Account,</p> <p><b>GC-10 Post Comment</b> providing Actors the ability to communicate directly with the provider(s) of a data set(s).</p>
<b>Development Implications</b>	<p><b>GC-01 Conduct Search</b> functionality is closely linked with <b>GC-02 Browse Search Results</b> and therefore will be developed in parallel as the highest priority GeoCommunicator functionality.</p>

### 11.3.2 GC-01 Conduct Search Overview

Use Case:	GC-01 Conduct Search
<b>Description</b>	<p>Process to find <i>data</i>, <i>reference document</i> and <i>events</i>.</p> <p>Establish or modify search parameters that define a <i>research scope</i> and submit query. Example parameters include:</p> <ul style="list-style-type: none"> <li>▪ <i>data category</i>;</li> <li>▪ <i>event category</i>;</li> <li>▪ <i>spatial extent</i>;</li> <li>▪ <i>logical operators</i>;</li> <li>▪ <i>temporal constraints</i>;</li> <li>▪ <i>reference document</i></li> </ul> <p>Subscriber may opt to save search parameters for re-use at a later time.</p>
<b>Actors</b>	Browser, Subscriber
<b>Pre-Condition</b>	The Actor wishes to conduct a search for available data, reference document, and events. If Actor is a subscriber the login process is completed.

<b>Use Case:</b>	<b>GC-01 Conduct Search</b>
<b>Post-Condition</b>	<p>Research results are returned to the Actor as a symbolized map and tabular view indicating available reference document(s), data(s) and event(s) that match the research scope search parameters.</p> <p>The map view displays the available data and events relative to the spatial extent of the defined research scope.</p> <p>The tabular view displays the status (availability, restrictions, cost, location, etc.) and/or category of data, reference document and events.</p> <p>Subscriber may have saved search parameter form as a template for future searches.</p> <p>NOTE: Research Results are returned according to subscriber (group) permissions.</p>
<b>Cross-Reference</b>	GC_BrowseSearchResults; <b>GC-07 Manage Subscriber Account</b> ; <b>GC-10 Post Comment</b>

### 11.3.3 GC-01 Conduct Search Primary Scenario

<b>Actor Action</b>	<b>System Response</b>
1. This use case begins when the Actor launches the conduct search process.	2. Display <i>search parameter form</i> and map with <i>default spatial extent</i> . [Actor is a subscriber] provide choice of pre-saved <i>search parameter forms</i> (query templates).
3. Refine <i>research scope</i> by input to <i>search parameter form</i> and/or by interacting with map view.  [Subscriber] select pre-saved <i>search parameter form</i> .	4. Update values in the <i>search parameter form</i> and update the <i>map view</i> .  NOTE: The <i>spatial extent</i> of the <i>research scope</i> is updated in the <i>search parameter form</i> , as it is changed by the Actor in the map view, and vice-versa.

Actor Action	System Response
5. Submit search.	<p>6. Based on permissions level, process search parameters against the <i>catalog</i> of available data, reference document and events return <i>research results</i> to the Actor as a map view and tabular view.</p> <p>Views use symbols to indicate location, status and category of <i>data, reference document</i> and <i>events</i>.</p> <p>System may indicate:</p> <ul style="list-style-type: none"> <li>▪ available formats and sizes of data to be downloaded and provide estimated time of completion; or</li> <li>▪ specific items are not immediately viewable and must be obtained from the data provider (password/group protection).</li> </ul> <p>Actor is prompted to Save Results, Revise Search, Cancel, Save Search, etc.</p>
7. Choose next action.	<p>8. Process as needed.</p> <p>[Save Results] save resulting information for use in browse</p> <p>[Revise] go to #3</p> <p>[Cancel] quit</p> <p>[Save Search] prompt Actor to name/save search parameter form as a template.</p>

### 11.3.4 GC-01 Conduct Search Secondary Scenarios

Name	Point of Occurrence/Overview
Actor wants to communicate with data/event/reference document provider.	Step #6. Call <b>GC-10 Post Comment</b>

## 11.4 GC-02 Browse Search Results

### 11.4.1 GC-02 Browse Search Results Analysis

<b>Context</b>	<p>The initial purpose of the GeoCommunicator is to facilitate access to survey-related information for survey information stakeholders.</p> <p>The purpose of <b><i>GC-02 Browse Search Results</i></b> is to provide professional surveyors and users of survey data the ability to review the <i>research results</i> of an information request to the GeoCommunicator in order to evaluate geographic, categorical and/or temporal relevance.</p>
<b>New Concepts</b>	<p><b><i>Research Results.</i></b> Map and tabular view of items that match the search parameters of the Research Scope and access permission level in the Conduct Search process.</p>
<b>Key Features-Functionality</b>	<p>The Actors of <b><i>GC-02 Browse Search Results</i></b> are Browser and Subscriber. A Browser has the limited functionality of viewing (reading) or downloading the data based on the research results. In addition to viewing the search results a Subscriber can save search parameters or subscribe to future releases of the data. A Browser can opt to become a Subscriber by requesting a Subscriber Account.</p> <p>Based on the research scope defined in <b><i>GC-01 Conduct Search</i></b> the Actor can manage the research results display by adding, or removing items via the map view or the tabular view. Once the research results list is refined as desired the actual data can be requested, viewed and/or downloaded from provider storage locations to a local disk.</p> <p>If the relevance of the information returned fails to meet the business objectives the Actor has the option of refining the search criteria, initiating a new query, or leaving the search functions of GeoCommunicator.</p> <p>Cadastral data is the focus of the GeoCommunicator prototyping phase, however an open framework will be implemented facilitating the future addition of other data(s). The Actor can review the requested information types that fulfill the research scope criteria. These information types may include:</p> <ul style="list-style-type: none"><li>▪ Data: survey-related mapping (vector or raster), image, attribute and/or meta data;</li><li>▪ Reference Documents: survey support information i.e. field notes, technical or legal documents. This support information</li></ul>

can be geo-referenced (have known coordinates) or geo-related (related to a known location on the Earth);

- Events: display event information including data, activity and communication.

Footprints will graphically depict the geographic extent (size and shape) of item(s) that fulfill the research scope criteria.

Subscribers have the option of saving the research scope query to their local disk.

The data download option will provide a download set up and revision wizard with choices of format, file size, delivery service, etc.

**Application Integration**

**GC-02 Browse Search Results** functionality is closely linked with GeoCommunicator's:

**GC-07 Manage Subscriber Account** allowing Browser Actors to request a Subscriber Account,

**GC-10 Post Comment** providing Actors the ability to communicate directly with the provider(s) of a data set(s),

**GC-01 Conduct Search** providing Actors the ability to modify their *research scope* or search criteria.

**Development Implications**

**GC-02 Browse Search Results** functionality is closely linked with **GC-01 Conduct Search** and therefore will be developed in parallel as the highest priority use cases.

**11.4.2 GC-02 Browse Search Results Overview**

Use Case	GC-02 Browse Search Results
<b>Description</b>	View, evaluate, and/or remove items (data, reference document and events) returned in the research results. The Actor may retrieve data from provider storage locations to local disk.
<b>Actors</b>	Browser, Subscriber
<b>Pre-Condition</b>	The Actor has conducted a search and received the research results. The Actor may wish to open, view and/or download data, reference document, or events.
<b>Post-Condition</b>	Actor has refined the items in the research results. Actor has downloaded and/or viewed the information required.

<b>Use Case</b>	<b>GC-02 Browse Search Results</b>
<b>Cross-Reference</b>	<b><i>GC-07 Manage Subscriber Account; GC-10 Post Comment; GC-01 Conduct Search</i></b>

### 11.4.3 GC-02 Browse Search Results Primary Scenario

<b>Actor Action</b>	<b>System Response</b>
<p>This use case begins when the Actor interacts with items in the <i>research results</i>. The Actor may:</p> <ul style="list-style-type: none"> <li>manage display of the data;</li> <li>view the metadata, images, and event information, or reference document(s); or</li> <li>select items to download.</li> </ul>	<p>2. Process Actor action and display item source information as appropriate. Map view may show spatial extents (initially) and/or actual data (if downloaded).</p> <p>[manage display] add/remove from map view or tabular view</p> <p>[view metadata, image or reference document] retrieve and display</p> <p>[view event] display event information</p>
<p>3. Views items</p>	<p>4. Prompt for options to:</p> <ul style="list-style-type: none"> <li>▪ contact the <i>Data Provider</i>;</li> <li>▪ print;</li> <li>▪ save <i>research results</i>;</li> <li>▪ refine the search;</li> <li>▪ download results; or</li> <li>▪ cancel the search/browse process.</li> </ul>
<p>5. Choose action.</p>	<p>6. Process action.</p> <p>[Contact Data Provider] route to Data Provider</p> <p>[Print] set up and print</p> <p>[Save Research Results] save current <i>research results</i> to an output file.</p> <p>[Cancel] quit;</p> <p>[Download] assist Actor, set up download options (revise selection {choice of available formats, sizes}, ftp service, etc.).</p>

### 11.4.4 GC-02 Browse Search Results Secondary Scenarios

<b>Name</b>	<b>Point of Occurrence/Overview</b>
Need to refine search	Steps #1,3,5 – return to <b><i>GC-01 Conduct Search</i></b>

## 11.5 GC-03 Submit Event

### 11.5.1 GC-03 Submit Event Analysis

**Context** The purpose of *GC-03 Submit Event* is to provide surveyors with a process to share an event (data category, activity, and communication) with professional peers by registering the details of the event on the GeoCommunicator.

An event may also be registered automatically as a result of an event trigger from another NELS sub-process (i.e. a specific, pre-defined field survey event).

**New Concepts** The data event(s) must have a *spatial extent*. The activity and communication events may or may not have a spatial extent.

**Category.** Indicate the lumping together of similar individual data sets, activity events, reference information, or communication events to facilitate the Submit and Search processes.

**Event Submission Form.** A GeoCommunicator form for submitting an event.

**Event Catalog.** A listing of data by category type (Data, Activity Event, Communication Event, etc.) that may contain any or all of the following: metadata (description), current-to date, location/path to local storage, access restrictions, spatial reference, spatial extent, duration dates, data events (notification flags), activity events or communication medium events. Also called Catalog Information.

**Event Provider Forms.** Will automatically be pre-populated from account information when events are being submitted.

Browsers can submit a request to become an Event Provider by applying for an account with the event provider designation. Subscribers and Data Providers can become an Event Provider by requesting the event provider designation be added to their current account.

This process pertains to the Event Provider Actor.

**Key Features-  
Functionality**

Event Notification is triggered by the submission of a category event. Actors subscribing to that category of event (and spatial extent if applicable), will be notified of an update to the Master Catalog pertaining to that Area Of Interest.

Event catalog interaction will allow:

- list current events;
- add new events;
- update existing events;
- delete existing events; and
- add new event categories.

The Data Provider is prompted for Event submission meta data and details about the Event itself during an event submission itself through an event submission interface (form). This form may include mandatory submission fields including the name and e-mail address of the event provider, spatial extent, event submission category(s), event period timeframe, and associated documents.

New event forms provides a means for Event Providers to request that new event categories be added to the GeoCommunicator system.

Event submission form details loaded into Master Catalog when verified by automated submission integrity controls.

Upon submission completion, or in a nightly batch process, a review of the event notification database occurs and notifications are sent to pertinent GeoCommunicator event subscribers.

**Application  
Integration**

***Submit Event*** functionality is closely linked with GeoCommunicator's:

***Submit Data*** process to submit geo-referenced data, geo-related data and/or reference documents and relevant data catalog information such as meta data to GeoCommunicator,

***Manage Event-Notification Process*** providing system administration of errors related to subscriber event notifications,

***Manage Provider Account*** allowing Browsers or Subscribers to establish or modify data provider, event provider account information.

**Development  
Implications**

***Submit Event*** is a high-priority function to improve project-related and general communications within the survey industry.

### 11.5.2 GC-03 Submit Event Overview

Use Case	GC-03 Submit Event
<b>Description</b>	Process to submit an <i>event</i> and/or add a new <i>event category</i> . NOTE: Specific <i>events</i> may be automatically triggered by other system events. <i>Event providers</i> submitting events would have their account information pre-populated into the <i>event submission form</i> . (Any Actor can become an <i>event provider</i> by establishing a provider account).
<b>Actors</b>	Event Provider
<b>Pre-Condition</b>	Existing event provider wants to create an event.
<b>Post-Condition</b>	Event has been submitted. System automatically processes events once they are submitted.
<b>Cross-Reference</b>	<b>GC-06 Submit Data; GC-04 Manage Event Notification Process; GC-05 Manage Provider Account</b>

### 11.5.3 GC-03 Submit Event Primary Scenario

Actor Action	System Response
1. This use case begins when an <i>event provider</i> launches the event management process.	2. Display interactive <i>event catalog</i> (e.g. list, add, update, or delete activity events, or add activity event categories) with account information pre-populated.
3. Input to <i>event catalog</i> . Select add, update/modify, or delete event activity. May add activity event category (test support for this in proof-of-concept).	4. Display appropriate add, update, or delete sub-forms. Event provider must specify event category, date, and its <i>spatial extent</i> , etc.
5. Submit.	6. Process event and insert into database. Trigger notifications as required. The current event calendar is updated and re-published.  The GeoCommunicator automatically generates a subscriber notification list by matching key criteria ( <i>event category</i> and <i>spatial extent</i> ) from the event and subscriber databases. The system then sends e-mail notification to the list of subscribers.

### 11.5.4 GC-03 Submit Event Secondary Scenarios

Name	Point of Occurrence/Overview
New Event Category	Step#3. Provide new event request form and route to administrator for approval along with event information.
Browser wants to submit event	Step #2. Establish an account and collect required Actor information.

## 11.6 GC-04 Manage Event Notification Process

### 11.6.1 GC-04 Manage Event Notification Process Analysis

<b>Context</b>	The purpose of the GeoCommunicator <i>GC-04 Manage Event Notification Process</i> is to provide the site Administrator with an administration interface (tool) to resolve errors related to event and notification processes.
<b>Concepts</b>	<p><b>Event Category.</b> Any activity, data submission, or communication that may trigger a notification.</p> <p><b>Activity Event.</b> Any activity on the land submitted through the SubmitEvent (manual) process by the Event Provider.</p> <p><b>Data Event.</b> Any data submitted through the SubmitData process that automatically sets a flag to trigger a notification.</p> <p><b>Communication Event.</b> Any creation of a discussion forum, e-mail group, information notice, sending an e-mail, or information call submitted through the PostComment process.</p> <p>An activity event (e.g. data collection) may result in a data submission event.</p> <p><b>Spatial Extent.</b> Location on the ground (footprint). Includes any method for describing a point or area. Examples include Lat/Long, PLSS, minimum bounding rectangle, boundaries (admin, other).</p> <p>An event management and notification process logs event notification errors for Administrator follow-up.</p>
<b>Key Features-Functionality</b>	<p>A need for an Administrator interface (tools) to facilitate:</p> <ul style="list-style-type: none"><li>▪ event notification (e-mail) problem resolution;</li><li>▪ removal of outdated events from the GeoCommunicator; and</li><li>▪ approval requests for new <i>event categories</i>.</li></ul> <p>The GeoCommunicator automatically generates a subscriber notification list by matching key criteria (<i>event category</i> and <i>spatial extent</i>) from the event and subscriber databases. The system then sends e-mail notification to the list of subscribers.</p> <p>A list of 'to be resolved' event and notification transactions including unresolved errors, unresolved notifications (e-mail addresses), new <i>event category</i> requests, and expired events is displayed to GeoCommunicator Actors logging on with Administrator group level privilege.</p>

Administrator tools (wizards) will assist processing the error, updating the error transaction list(s), and updating databases as needed. Processing may require that an account be temporarily disabled.

As problems are resolved the Administrator can delete each from this list which will trigger the notification process to resend the notification(s).|

**Application Integration**

'Manage Event-Notification Process' functionality is closely linked with GeoCommunicator's:

**GC-07 Manage Subscriber Account** allowing Browsers to request a Subscriber Account,

**GC-03 Submit Event** process to submit a *data category event*, *activity event*, or *communication event* to GeoCommunicator since an event may result in a new or updated data set submission.

**11.6.2 GC-04 Manage Event Notification Process Overview**

Use Case	GC-04 Manage Event Notification Process
<b>Description</b>	System administration of errors related to events and triggered notifications including the resolution of errors involving subscription and event notification. Also resolve failed e-mail notification and remove outdated events. Approve requests for new <i>event categories</i> .  NOTE: System automatically: <ul style="list-style-type: none"> <li>▪ creates a list of subscribers to be notified (by <i>event category</i> and <i>spatial extent</i>) by matching key criteria from the event and subscriber databases;</li> <li>▪ sends e-mail notification to the appropriate subscribers; and</li> <li>▪ logs communications and produces an event/notification error list.</li> </ul>
<b>Actors</b>	Administrator
<b>Pre-Condition</b>	An event notification issue must be managed.
<b>Post-Condition</b>	Event notification issue is resolved.
<b>Cross-Reference</b>	<b>GC-07 Manage Subscriber Account; GC-03 Submit Event</b>

### 11.6.3 GC-04 Manage Event Notification Process Primary Scenario

Actor Action	System Response
1. This use case begins when the Administrator launches the 'manage notification process'	2. Display unresolved errors, unresolved notifications, requests for new <i>event categories</i> , and expired events.
3. Select an item to resolve.	4. Provide tools to handle errors, check e-mails, check event database, and approve/create new <i>event category</i> .
5. Use tools to resolve item.	6. Process item, update error lists (clear item), and update databases as needed. Send notifications upon resolving item (confirming fix and attempting to re-send {potentially} undelivered notifications)

### 11.6.4 GC-04 Manage Event Notification Process Secondary Scenarios

Name	Point of Occurrence/Overview
E-mail error	Notify Subscriber, temporarily disable subscriber account (route interim communication to holding area) and resolve communication error.

## 11.7 GC-05 Manage Provider Account

### 11.7.1 GC-05 Manage Provider Account Analysis

**Context** The purpose of *GC-05 Manage Provider Account* is to provide Data Providers a process to request and manage their account (including profile). This is to authorize providing new, or updated, data, events and/or communications to the GeoCommunicator.

There is also an option for an Actor to delete their Provider Account.

**Concepts** *Data Provider Form.* Captures input from a Data Provider resulting in the creation or modification of Data Provider account information in the Manage Provider Account use case.

*Event Provider Form.* Captures input resulting in an event category from an Event Provider in the Submit Event process.

The Provider actor will manage this process.

**Key Features-Functionality** Provider Accounts are assigned to those Actors interested in submitting new, or updates of, information on a managed basis. As new Data (*GC-06 Submit Data*) or new events (*GC-03 Submit Event*) are provided to the GeoCommunicator a data or event entry is submitted to the Master Catalog.

When information about new data (or events) is posted to a category of the GeoCommunicator Catalog, a process is initiated to generate notification to GeoCommunicator Actors having indicated interest by subscribing to that category.

If the Actor is a Browser (not yet a Data Provider) they can submit a request for a Provider account at any time during a GeoCommunicator session. New provider account requests are routed to the account administrator for verification, creation with a userID/password pair and assigned group (role) privileges.

Mandatory information will be required to become a Data Provider to the GeoCommunicator. At a minimum this will include contact information and metadata elements.

Each provider will have an account profile with an interface (form) providing the ability to change personal information and Actor preferences.

Upon submission, the Provider's account information is automatically verified for mandatory fields and range values and then routed to the GeoCommunicator Administrator.

Provider user-ID/password will be assigned to uniquely identify the new Data Provider Actor for individual profile and access privilege purposes.

**Application Integration**

*Manage Provider Account* functionality is closely linked with GeoCommunicator's:

*GC-09 Manage Accounts* providing the GeoCommunicator Administrator with tools to manage Subscriber and Provider accounts.

**11.7.2 GC-05 Manage Provider Account Overview**

<b>Use Case:</b>	<b>GC-05 Manage Provider Account</b>
<b>Description</b>	Process to establish or modify provider account information.
<b>Actors</b>	Data Provider, Event Provider
<b>Pre-Condition</b>	Provider needs to establish or modify provider account.
<b>Post-Condition</b>	Provider account is updated.
<b>Cross-Reference</b>	<b><i>GC-09 ManageAccounts</i></b>

**11.7.3 GC-05 Manage Provider Account Primary Scenario**

<b>Actor Action</b>	<b>System Response</b>
1. This use case begins when the Actor launches the data provider account management process.	2. Prompt for account/password NOTE: see new data provider account option below.
3. Enter account/password	4. Display <i>data provider form</i> , populates with existing values
5. Input/modify <i>data provider form</i> . Enter/update provider details; may cancel provider account. Then submit.	6. Process changes to <i>data provider</i> account  [delete account] prompt for confirmation
7. Actor confirms selections	8. Route to account administrator.

**11.7.4 GC-05 Manage Provider Account Secondary Scenarios**

<b>Name</b>	<b>Point of Occurrence/Overview</b>
New <i>data provider account</i>	Step #2. Presents blank <i>data provider form</i> and assist Actor to establish account.

## 11.8 GC-06 Submit Data

### 11.8.1 GC-06 Submit Data Analysis

<b>Context</b>	The purpose of <i>GC-06 Submit Data</i> is to provide surveyors with a process to share <i>geo-referenced data</i> , <i>geo-related data</i> and/or <i>reference documents</i> with others by registering the data/data sets on the GeoCommunicator.
<b>New Concepts</b>	<p>Data may be packaged as a set of associated data elements from various categories. Data categories that have a spatial extent (footprint) can be displayed and searched for spatially. Categories of data include spatial layers, tabular, images, <i>reference documents</i>, <i>data discrepancies</i> and proposed layers, etc. Some <i>reference documents</i> may have no direct relationship with a specific spatial data set (e.g. manuals, RFIs, reports, etc.).</p> <p><b>Data Catalog.</b> A listing of data by category type (Data, Activity Event, Communication Event, etc.) that may contain any or all of the following: metadata (description), current-to date, location/path to local storage, access restrictions, spatial reference, spatial extent, duration dates, data events (notification flags), activity events or communication medium events. Also called Catalog Information.</p> <p><b>Spatial Reference.</b> Projection(s), coordinate system(s), datum used. Listed in Data Catalog.</p> <p>Actor must be authorized as a Data Provider to submit data sets.</p>
<b>Key Features-Functionality</b>	<p>Data may be submitted for warehousing or providers may supply references to data housed in remote storage locations. Submissions may include spatial (vector and raster having a spatial extent or footprint), imagery, and scanned documents such as Plats or field notes.</p> <p>Browsers can submit a request to become a Data Provider by applying for an account with the Data Provider designation. Subscribers and Event Providers can become a Data Provider by requesting the Data Provider designation be added to their current account. Data Provider forms will automatically be pre-populated from account information when new data sets are being submitted.</p> <p><i>Data catalog</i> forms will include data provider details, access control settings, a data quality indicator, reference paths to data source(s), etc.. It should also indicate "new data" event notification parameters (keywords) for the catalog.</p>

*Data catalog* interaction will prompt for one of the following:

- list current items (entries);
- add new items - display blank *data catalog* form, capture *data catalog* information and indicate new data set source;
- modify (update/replace) existing items (by data set owner only) - display appropriate *data catalog* page and capture changes to the catalog information;
- delete existing items (by data set owner only) - display appropriate *data catalog* page and flag for delete. A database management batch process will be run on a regular basis to find and remove (possibly archive) these items.

This interaction will be followed by a 'complete submission activity', which will route the transaction request to the GeoCommunicator administrator for follow-up action. If the Administrator cannot complete the requested they will send an e-mail to the Data Provider describing the problem.

During a data set submission the Data Provider will be prompted to supply descriptive data (metadata) about the data set through a data set submission interface (form). This form may include mandatory submission fields including the name and e-mail address of the data provider, spatial extent, data category(s), data collection timeframe(s) and potentially the quality of the measurement process and the access category of the data set.

The result will be an updated *data catalog* that can be queried to list the data items by source-id, data provider name, date, category, etc.

New data notification: triggered by the submission of a category data set. Actors subscribing to that category of event (and spatial extent if applicable), will be notified of an update to the Master Catalog pertaining to that area of interest.

**Application  
Integration**

***GC-06 Submit Data*** functionality is closely linked with GeoCommunicator's ***GC-03 Submit Event*** process to submit a *data category event, activity event, or communication event* to GeoCommunicator since an event may result in a new or updated data set submission.

**Development  
Implications**

Initial data provision will be for prototypes.

### 11.8.2 GC-06 Submit Data Overview

<b>Use Case:</b>	<b>GC-06 Submit Data</b>
<b>Description</b>	<p>Process to submit <i>geo-referenced data</i>, <i>geo-related data</i> and/or <i>reference documents</i> to GeoCommunicator.</p> <p>This includes:</p> <ul style="list-style-type: none"> <li>▪ data {or link to location/path};</li> <li>▪ relevant <i>data catalog information</i> such as metadata and/or links to related data;</li> <li>▪ date;</li> <li>▪ access restrictions;</li> <li>▪ <i>spatial reference</i>; and</li> <li>▪ <i>spatial extent</i>.</li> </ul> <p>NOTE: Provider may monitor product availability, restrictions, and subscriptions with the <i>data catalog</i>.</p> <p>NOTE: Some data may be submitted for warehousing, and some providers will supply references to data housed in remote storage locations. This use case may include some security administration for restricted-access data sources.</p>
<b>Actors</b>	Data Provider
<b>Pre-Condition</b>	An authorized data provider needs to submit <i>data</i> , modify data catalog, replace data, or delete data.
<b>Post-Condition</b>	Data provider's <i>data catalog</i> information has been input and (new) data has been submitted for addition, replacement or deletion.
<b>Cross-Reference</b>	<b>GC-03 Submit Event</b>

### 11.8.3 GC-06 Submit Data Primary Scenario

<b>Actor Action</b>	<b>System Response</b>
1. This use case begins when a data provider launches the submit data process	2. Prompt for data provider account number/password
3. Enter the account number/password	4. Verify account. If valid, display an interactive <i>data catalog</i> that lists the data sources the data provider has registered. The <i>data catalog</i> displays all relevant information (source-id, meta data, etc.). Prompt for disposition options (e.g. Add New, Modify data catalog, Update, Delete)

Actor Action	System Response
<p>5. Interact with the <i>data catalog</i>. May select an item from the <i>data catalog</i> and select an action.</p>	<p>6. Process action.</p> <p><i>Data catalog</i> forms include:</p> <ul style="list-style-type: none"> <li>▪ access settings;</li> <li>▪ security settings;</li> <li>▪ reference to data source;</li> <li>▪ etc.</li> </ul> <p><i>Data catalog</i> form may include specification of "new data" event notification parameters/flag(s) for the system.</p> <p>[Add New] Display blank <i>data catalog</i> form and capture <i>data catalog</i> information and indicate new data source</p> <p>[Modify <i>data catalog information</i>] Display appropriate data catalog page and capture changes to <i>data catalog</i> information</p> <p>[Replace] Display appropriate data catalog page and capture changes to <i>data catalog</i> information and indicate new data source</p> <p>[Delete] Display appropriate data catalog page and flag for delete</p>
<p>7. Input to <i>data catalog</i> forms, verify and submit</p>	<p>8. Process submittal. Route to data administrator for action, notify administrator, and track in workflow management.</p>

## 11.9 GC-07 Manage Subscriber Account

### 11.9.1 GC-07 Manage Subscriber Account Analysis

<b>Context</b>	<p>The purpose of 'Manage Subscriber Accounts' is to provide Actors with a process to request, manage their Actor account (and profile) for subscribing to new, or updated, data, events and/or communications on the GeoCommunicator. There is also an option for an Actor to delete their Subscriber Account.</p>
<b>New Concepts</b>	<p><b><i>Subscriber Account.</i></b> Those interested in receiving updates of information on a managed basis. When new data is posted for a category, a notification will be sent to those who have previously indicated interest by subscribing to that category of information. This notification process may be on a scheduled basis where a subscriber has requested notification updates at preset times or an ad hoc basis where notification is immediately triggered as an event occurs. As this indicates Subscribers have options they can change in their account profile. They also have the capability of saving <i>research scope</i> inquiries for use at future logins.</p> <p><b><i>Subscriber Account Form.</i></b> This form is displayed, populated with currently held values for that subscriber along with current dates. If not yet a Subscriber, (or Provider), a blank form is displayed.</p> <p>This process will be managed by the Subscriber Actor.</p>
<b>Key Features- Functionality</b>	<p>There will be mandatory Actor information to be a subscriber to GeoCommunicator. At a minimum this will include contact information and metadata elements.</p> <p>Each subscriber will have an account profile with an interface (form) providing the ability to change personal preferences and subscription/notification parameters such as <i>spatial extent</i>, event categories and scheduling.</p> <p>Subscriber userID/password pair: to uniquely identify the Actor for individual profile, notification and access privilege purposes.</p> <p>Upon submit the Subscriber account form is automatically verified for mandatory fields and range values and then routed to the GeoCommunicator Administrator.</p> <p>If the Actor is a Browser (not yet a Subscriber) they can submit a request for a Subscriber account at any time during a GeoCommunicator session. New Subscriber account requests are routed to the account administrator for verification, creation with an userID/password pair and assigned group (role) privileges.</p>

As new data (***GC-06 Submit Data***) or new events (***GC-03 Submit Event***) are provided to the GeoCommunicator a data or event entry will be added to the Master Catalog. Although all GeoCom Actors will have the option of viewing a calendar of most recent events from the GeoCommunicator Subscribers will also be sent notification on specified spatial extents. On a regular basis, possibly nightly, a module will be launched to determine which subscribers, and in what timeframe each of these subscribers, need to be notified of each new event.

**Application Integration**

'Manage Subscription Account' functionality is closely linked with GeoCommunicator's:

***GC-01 Conduct Search*** providing Actors the ability to modify their *research scope* or search criteria,

***GC-02 Browse Search Results*** providing Actors with the tools to review and evaluate the information returned by the Conduct Search process,

***GC-09 Manage Accounts*** providing the GeoCommunicator Administrator with tools to manage Subscriber and Provider accounts,

'Manage Event-Notification Process' providing the GeoCommunicator Administrator with an interface to manage and resolve problems related to events and notifications.

**Development Implications**

***GC-07 Manage Subscriber Account*** capabilities are not necessary to perform the highest priority functions ***GC-01 Conduct Search*** and ***GC-02 Browse Search Results***.

**11.9.2 GC-07 Manage Subscriber Account Overview**

Use Case	GC-07 Manage Subscriber Account
<b>Description</b>	Process to establish or modify <i>subscriber account</i> including: <ul style="list-style-type: none"> <li>▪ Actor information;</li> <li>▪ Actor preferences; and</li> <li>▪ subscription/notification parameters (<i>spatial extent</i>, event categories, scheduling).</li> </ul> NOTE: Browser may elect to become a new subscriber and pass current <i>research scope</i> information into the account setup.
<b>Actors</b>	Subscriber
<b>Pre-Condition</b>	Subscriber needs to establish or modify <i>subscriber account</i> or subscription/notification parameters.
<b>Post-Condition</b>	<i>Subscriber account</i> or subscription/notification parameters are updated.

<b>Cross-Reference</b>	<b><i>GC-01 Conduct Search; GC-02 Browse Search Results; GC-09 Manage Accounts; GC-04 Manage Event Notification Process</i></b>
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### 11.9.3 GC-07 Manage Subscriber Account Primary Scenario

<b>Actor Action</b>	<b>System Response</b>
1. This use case begins when the Actor launches the manage subscription process	2. Prompts for account/password (see new subscriber option)
3. Enters account/password	4. Display <i>subscriber account form</i> populated with current values.
5. Input/modify <i>subscriber account form</i> . Enter/update subscriber information Select/update event notification category, its spatial extent, and its notification frequency Selects cancel subscription option, if desired Verify and submit.	6. Process changes to <i>subscriber account form</i> . Route to account administrator for certification when secure access is required. [delete account] prompt for confirmation
7. [Delete] Confirm selection	8. Delete subscriber account.

### 11.9.4 GC-07 Manage Subscriber Account Secondary Scenarios

<b>Name</b>	<b>Point of Occurrence/Overview</b>
New subscriber account	Step#2. Assist Actor to establish new account. Route to account administrator for certification when secure access is required.

## 11.10 GC-08 Manage Data Process

### 11.10.1 GC-08 Manage Data Process Analysis

<b>Context</b>	The purpose of <i>GC-08 Manage Data Process</i> is to provide the GeoCommunicator site Administrator with a system administration interface (tools) to manage the <i>data catalog</i> and data warehouse.
<b>Concepts</b>	<p>A Data Provider submits an actual data set for inclusion into the data warehouse or the Administrator has received a message indicating an error with a data warehouse process.</p> <p>The data set(s) will be loaded into a temporary table allowing all data quality checking to be performed off-line. When the data is flagged for production readiness it will be added to the Production data warehouse on a regular data-loading schedule.</p> <p>The GeoCommunicator Actor Administrator has the responsibilities of performing:</p> <ul style="list-style-type: none"><li>▪ quality control on data sets submitted for inclusion in the data warehouse;</li><li>▪ inserting new/replacement data into the data warehouse;</li><li>▪ deleting replaced or outdated data from the data warehouse;</li><li>▪ troubleshoot a problem with either the data quality checking or data insertion process. This may result in a data problem message to the Data Provider.</li></ul> <p>Tools (wizards) will be provided to view, verify and process data submittals.</p>
<b>Key Features-Functionality</b>	<p>Quality control on data sets submitted for inclusion in the data warehouse. A data insertion process will check for mandatory fields, data ranges and format(s), and spatial integrity, extent and projection. There may still need to be a manual check by the Administrator for reasonableness and relevancy. The process will perform a key match on the data warehouse and insert the new record if the key does not yet exist. If the key does exist a message will be appended to the error log and the insertion will not take place.</p> <p>Inserting new data into the data warehouse while ensuring a corresponding data set source reference is added to the Master Catalog. A data insertion date will be appended to each record added to the data warehouse.</p>

Inserting replacement data to replace a previous version of a source reference in the master index and replace data and catalog information in the data warehouse. A key match is performed to delete existing records and then insert the new records.

Deleting replaced or outdated data including removing source reference from the *Master Catalog* and deleting data from the data warehouse.

While the above processes are transacted a data quality and data insertion transaction log will be maintained.

The list of 'to be resolved' transactions is displayed to Actor(s) logging on with the Administrator group level privilege. As troubleshooting is performed the Administrator can remove the transaction from the 'to be resolved' list.

Completing one of the processes above will trigger the notification process. Subscribers to the category(s) and spatial extents of the loaded data will be sent notification based on their specified spatial extent(s). On a regular basis, possibly nightly, a module will be launched to determine which subscribers, and in what timeframe each of these subscribers, need to be notified of this new data.

## **Application Integration**

***GC-08 Manage Data Process*** functionality is closely linked with GeoCommunicator's:

***GC-06 Submit Data*** process to submit *geo-referenced data, geo-related data* and/or *reference documents* and relevant *data catalog information* such as metadata to GeoCommunicator,

***GC-09 Manage Accounts*** providing the GeoCommunicator Administrator with tools to manage Subscriber and Provider accounts,

The system utility, 'Compare/Contrast Data' providing a graphic or textual comparison of new/proposed data sets with existing data sets and provide a report of the contrasts;

***GC-10 Post Comment*** providing Actors the ability to communicate directly with the provider(s) of a data set(s).

### 11.10.2 GC-08 Manage Data Process Overview

Use Case	GC-08 Manage Data Process
<b>Description</b>	System administration to: <ul style="list-style-type: none"> <li>▪ quality control (QC);</li> <li>▪ insert new/replacement data;</li> <li>▪ modify <i>data catalog</i>; or</li> <li>▪ delete data from the system.</li> </ul> NOTE: Some data may be submitted for warehousing, and some providers will supply references to data housed in remote storage locations. NOTE: Data submissions will be automated where possible.
<b>Actors</b>	Administrator
<b>Pre-Condition</b>	Data Provider has: <ul style="list-style-type: none"> <li>▪ submitted new/replacement data;</li> <li>▪ modified <i>data catalog</i>;</li> <li>▪ requested deletion of data; or</li> <li>▪ the Administrator has received a communication indicating an error in the data catalog information.</li> </ul>
<b>Post-Condition</b>	Data and catalog has been checked for relevant and required information including: <ul style="list-style-type: none"> <li>▪ format;</li> <li>▪ storage locations/path;</li> <li>▪ <i>spatial reference</i>;</li> <li>▪ <i>spatial extent</i>;</li> <li>▪ metadata; and</li> <li>▪ access restrictions.</li> </ul> Qualified data reference has been loaded, indexed, and made available for searching. Event notification has been triggered.
<b>Cross-Reference</b>	<b><i>GC-06 Submit Data; GC-09 Manage Accounts; GC-10 Post Comment</i></b>

### 11.10.3 GC-08 Manage Data Process Primary Scenario

Actor Action	System Response
1. This use case begins when the data administrator receives notification of a submittal and launches the data management process.	2. Display a list of new submittals.
3. Select a submittal	4. Display <i>data catalog</i> information for selected submittal. Provide QC tools to verify and process submittal. Assist Administrator in testing catalog and viewing data (wizard?).
5. Perform QC process on data and <i>data catalog</i> information. Verify.	6. Provide controls for transaction on main database including: <ul style="list-style-type: none"> <li>▪ delete;</li> <li>▪ replace;</li> <li>▪ add;</li> <li>▪ modify;</li> <li>▪ catalog</li> </ul>
7. Choose transaction.	8. Process transaction. Update transaction log. Trigger the event notification process on the transaction. [Delete] Remove source reference from index and delete data and catalog information from main database. [Add] Create source reference to index and insert data and catalog information to main database. [Replace] Delete and Add. Replace previous version of source reference in master index and replace data and catalog information in main database. [Modify Catalog Information] Modify source reference to index and insert data and catalog information to main database.

### 11.10.4 GC-08 Manage Data Process Secondary Scenarios

Name	Point of Occurrence/Overview
Error on QC	Step #5. Notify Data Provider.

## 11.11 GC-09 Manage Accounts

### 11.11.1 GC-09 Manage Accounts Analysis

<b>Context</b>	<p>Subscriber and Provider accounts need to be managed for new account certification, account error/issue resolution.</p> <p>The purpose of <i>GC-09 Manage Accounts</i> is to provide the GeoCommunicator Administrator with the necessary tools (system management utilities) to resolve any issues and requests relating to Actor accounts.</p>
<b>New Concepts</b>	<p>The Actor group of <i>GC-09 Manage Accounts</i> is Administrator. The Administrator account is assigned to the person or persons responsible for managing the GeoCommunicator system.</p>
<b>Key Features-Functionality</b>	<p>A list of 'to be resolved' account transactions is made available to an Actor logging on with Administrator group level of privileges. As changes are made the Administrator can remove the transaction from the 'to be resolved' list.</p> <p>Examples of transactions the Administrator must perform include:</p> <ul style="list-style-type: none"><li>▪ assign account name and password to a new account request. The password must meet minimum good practice password formatting;</li><li>▪ verify Actor status with data provider by testing e-mail address submitted, and determine and assign the Actor to an access group;</li><li>▪ delete Actor account includes a process to remove the Actor from e-mail groups and transfer or delete forums managed by that Actor.</li></ul> <p>An account management interface (form) will be available for Administrators to fulfill this function.</p>
<b>Application Integration</b>	<p><i>GC-09 Manage Accounts</i> functionality is closely linked with the following GeoCommunicator use cases:</p> <p><i>GC-07 Manage Subscriber Account</i> allowing Browsers to request a Subscriber Account,</p> <p><i>GC-05 Manage Provider Account</i> allowing Browsers or Subscribers to establish or modify data provider, event provider account information.</p>
<b>Development Implications</b>	<p><i>GC-09 Manage Accounts</i> will move higher in priority as more Browsers request GeoCommunicator Provider and Subscriber accounts.</p>

### 11.11.2 GC-09 Manage Accounts Overview

Use Case	GC-09 Manage Accounts
Description	System administration of Subscriber and Provider accounts including: <ul style="list-style-type: none"> <li>▪ certifying new accounts;</li> <li>▪ resolving errors; and</li> <li>▪ managing account-related issues.</li> </ul>
Actors	Administrator
Pre-Condition	An account-related issue must be managed.
Post-Condition	Account-related issue is resolved.
Cross-Reference	<b><i>GC-07 Manage Subscriber Account; GC-05 Manage Provider Account</i></b>

### 11.11.3 GC-09 Manage Accounts Primary Scenario

Actor Action	System Response
1. This use case begins when the administrator launches the manage accounts process	2. Display unresolved account transactions.
3. Select transaction to manage.	4. Display account management form. Provide tools to: <ul style="list-style-type: none"> <li>▪ assign account and password;</li> <li>▪ verify Actor status with data provider;</li> <li>▪ assign Actor to a group;</li> <li>▪ delete account;</li> <li>▪ etc.</li> </ul>
5. Select tools and apply.	6. Process changes to account.

### 11.11.4 GC-09 Manage Accounts Secondary Scenarios

Name	Point of Occurrence/Overview
Cancel Subscription	Step #5/6. Search for associated forums, e-mail groups, etc. and delete Actor.

## 11.12 GC-10 Post Comment

### 11.12.1 GC-10 Post Comment Analysis

**Context** The initial objective of the GeoCommunicator is to facilitate access to survey-related information, and communication(s) between, survey information stakeholders.

The purpose of the *GC-10 Post Comment* function is to provide data providers an effective and efficient means of communicating survey industry events to industry peers.

**New Concepts** *Communication Event.* Any creation of a discussion forum, e-mail group, information notice, sending an e-mail, or information call submitted through the *Post Comment* process.

*Information Notice Form.* Captures input resulting in request to publish which is sent to the Administrator in the *Post Comment* use case.

E-mail event form. Captures input resulting in an e-mail which is sent to the Administrator in the *Post Comment* use case.

*Information Request Form.* Captures input resulting in a publish request which is sent to the Administrator in the *Post Comment* use case.

*Data Discrepancy.* Data sets of the same category in the same spatial extent whose positions (coordinates) and/or attributes do not match.

This process can be requested by all Actors including: Browser; Subscriber; Data Provider; Event Provider; and Administrator.

**Key Features-Functionality** These additions/changes may be generated by a number of events. Examples may include survey project milestone completion, industry-related discussions or requests, specific forum decisions, other NILS process triggers or general survey industry communications.

Display *communication event* options (listed above).

The *GC-10 Post Comment* interface will provide the following major functions:

- assist Actor to input information, including spatial extent as appropriate, when posting a comment;
- a wizard to assist Actors to participate in selected e-mail groups or discussion forums;

- a wizard driven interface to assist Actors to prepare topical e-mail to GeoCommunicator Actors including the Administrator. This event form, (with intelligent event parameters automatically populated), interfaces to an industry standard e-mail system;
- a wizard to assist Actors to publish information notice(s) or data call(s). A request form is provided to indicate notice or request type, spatial extent, dates, etc.;
- provide a request form to handle submission, setup and notification of new e-mail groups or discussion forums.

Browser Actor's will have the opportunity to establish a Subscriber or Provider account, a prerequisite to being able to 'Post Comments'.

### **Application Integration**

**GC-10 Post Comment** functionality is closely linked with GeoCommunicator's:

- **GC-11 Manage Forums** process for the system administrator to manage communication forums and e-mail groups.
- **GC-03 Submit Event** process to submit a *data category event*, *activity event*, or *communication event* to GeoCommunicator since an event may result in a new or updated data set submission,
- **GC-04 Manage Event Notification Process** providing system administration of errors related to subscriber event notifications,
- **GC-09 Manage Accounts** providing the GeoCommunicator Administrator with tools to manage Subscriber and Provider accounts.

### 11.12.2 GC-10 Post Comment Overview

Use Case	GC-10 Post Comment
<b>Description</b>	Process to handle <i>communication events</i> to: <ul style="list-style-type: none"> <li>▪ a topical forum (via e-mail);</li> <li>▪ e-mail group (e.g. to review proposed data);</li> <li>▪ data provider (e.g. to report errata);</li> <li>▪ publish an information notice (e.g. an RFP, a Public Notice, or data discrepancy); or</li> <li>▪ publish an information call (e.g. data request, reference request or event request).</li> </ul> NOTE: Browsers may have limited communication access. Subscribers may have enhanced access to forums
<b>Actors</b>	Browser, Subscriber, Data Provider, Event Provider, Administrator
<b>Pre-Condition</b>	Actor wishes to communicate information.
<b>Post-Condition</b>	Actor has sent or published information.
<b>Cross-Reference</b>	<b><i>GC-11 Manage Forums; GC-03 Submit Event; GC-04 Manage Event Notification Process; GC-09 Manage Accounts</i></b>

### 11.12.3 GC-10 Post Comment Primary Scenario

Actor Action	System Response
1. This use case begins when the Actor launches the post comment process.	2. Display <i>communication events</i> options. Options may include: <ul style="list-style-type: none"> <li>▪ request new e-mail group or discussion forum;</li> <li>▪ participate in e-mail group or discussion forum (join if first time);</li> <li>▪ send e-mail;</li> <li>▪ publish information notice; or</li> <li>▪ publish information call.</li> </ul>

<p>3. Select option.</p>	<p>4. Prompt Actor to input necessary information and request confirmation. Assist Actor to establish <i>spatial extent</i> of <i>communication event</i> where/when appropriate.</p> <p>[Request new e-mail group or discussion forum] Display request form, handle submission, setup and notice.</p> <p>[Participate in e-mail group or discussion forum] Display group selection form, establish communications. If first time Actor, establish subscriber account.</p> <p>[Send e-mail] Display e-mail event form (intelligent event parameters populated, group and administrator address information provided as appropriate).</p> <p>[Publish information notice] Display information notice form (to input type of notice, spatial extent, dates, etc.)</p> <p>[Publish information call] Display information request form (to input type of request, spatial extent, dates, etc.)</p>
<p>5. Input information, confirm and submit.</p>	<p>6. Process request – verify information provided and setup as needed.</p>

### 11.12.4 GC-10 Post Comment Secondary Scenarios

Name	Point of Occurrence/Overview
Error with information input, Actor permissions, etc	Step #6. Notify Actor and return to #5.

## **11.13 GC-11 Manage Forums**

### **11.13.1 Analysis of GC-11 Manage Forums**

<b>Context</b>	The GeoCommunicator will provide a means for surveyors and users of survey data to discuss an industry-related topic or issue. (An example of a topic forum may be a data discrepancy with a spatial extent, perhaps a disputed corner post location).  The purpose of 'Manage Forums' is to provide the GeoCommunicator site Administrator with an administration interface (tool) to manage the GeoCommunicator discussion forums.
<b>New Concepts</b>	The 'Manage Forum' Actor group is Administrator. The Administrator account is assigned to the person or persons responsible for managing the GeoCommunicator system.

**Key Features-  
Functionality**

Actors have 'read access' and 'post-access' (via e-mail ) to a forum. All posts must include data of posting, e-mail address of poster and a subject line indicating Forum topic. Individual forums may require additional posting requirements.

A description of how to create and manage a forum will be available on the GeoCommunicator.

A Forum submission form will require a forum category, description and forum manager contact information. When this form is complete the request is routed to the site Administrator who will create the forum to the specifications and send an e-mail to the Forum initiator.

A list of 'to be resolved' Forum transactions is displayed to an Actor logging on with Administrator group level privilege. As changes are made the Administrator can delete the transaction from the 'to be resolved' list and send notifications as appropriate.

If an Actor account is to be deleted from a GeoCommunicator system a process will first ensure that Actor is not a Forum manager. The Forum may need to be reassigned prior to the Actor account deletion.

A process will be necessary to check the last modified date of the contents of each Forum. If a Forum is dormant for a predefined period of time, (ex. 6-months), an e-mail will be sent to the Forum manager requesting authorization to archive the forum. A copy of that e-mail is also sent to the GeoCommunicator Administrator.

Each forum must have a Forum manager(s) (initiator and content manager which may or may not be the same person).

The forum manager will have the on-going responsibility of notifying the Administrator when changes, beyond a new e-mail posting, are needed to the forum. They should also notify the Administrator when the Forum has reached a resolution and can be archived from the GeoCommunicator.

All GeoCommunicator Actors have access to a Forum unless the Forum initiator requests access level constraints.

**Application  
Integration**

*GC-11 Manage Forums'* functionality is closely linked with the following GeoCommunicator use cases:

- *GC-04 Manage Event Notification Process'* providing system administration of errors related to subscriber event notifications,
- *GC-10 Post Comment* providing Actors the ability to communicate directly with the provider(s) of a data set(s).

**Development  
Implications**

The intent is to use industry standard products to provide the forum functionality. *The GC-11 Manage Forums* functionality and utilities will be somewhat defined by the selected product.

### 11.13.2 Overview of GC-11 Manage Forums

Use Case	GC-11 Manage Forums
<b>Description</b>	The System Administrator: (1) sets up and closes communication forums, e-mail groups; (2) monitors content; and (3) manages errors.
<b>Actors</b>	Administrator
<b>Pre-Condition</b>	Administrator has received request for new forum/e-mail group. Administrator receives system error on communications.
<b>Post-Condition</b>	Communications are setup, closed, monitored and managed as needed.
<b>Cross-Reference</b>	<b><i>GC-10 Post Comment; GC-04 Manage Event Notification Process</i></b>

### 11.13.3 GC-11 Manage Forums Primary Scenario

Actor Action	System Response
1. This use case begins when the administrator launches the manage forums process.	2. Display: <ul style="list-style-type: none"> <li>▪ forum/e-mail group errors;</li> <li>▪ requests for new forums and e-mail groups;</li> <li>▪ requests for adding Actors to forum or e-mail group; and</li> <li>▪ lists of active forums and e-mail groups.</li> </ul>
3. Select an item to resolve.	4. Provide appropriate management tools based on selection.
5. Use tools to research and resolve error or forum/e-mail group request. May access previous communications to monitor content.	6. Process actions include: <ul style="list-style-type: none"> <li>▪ update system and database(s);</li> <li>▪ clear item from unresolved list; and</li> <li>▪ send notification(s) on resolution.</li> </ul>

### 11.13.4 GC-11 Manage Forums Secondary Scenarios

Name	Point of Occurrence/Overview
New forum or e-mail group	Step #5/6. Treat as a type of event and trigger notifications as appropriate