

Arctic Science and Technology Information System

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ADVISOR REVIEWS—STANDARD REVIEW

Arctic Science and Technology Information System

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Composite Score: ★★★★★

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Abstract

ASTIS offers over 83,000 records that provide freely available access to publications, including research and research projects, about Canada's north. This database is a product of the Arctic Institute of North America at the University of Calgary, Alberta, Canada which also maintains subsidiary regional, subject, and initiative-based databases. The subsidiary databases are all housed within and accessible through the main ASTIS database. Examples of the smaller databases include: ArcticNet Publications Database, the Nunavik Bibliography, and the Northern Granular Resources Bibliographic Database. ASTIS offers the ability to browse through its access points, including its own thesauri, thus permitting users to select and use a variety of free-text and controlled search terms.

Pricing Options

ASTIS records are openly accessible and are therefore freely searchable to the public.

Product Overview/Description

ASTIS is a small, institutionally managed database, which is a product of the Arctic Institute of North America (AINA) at the University of Calgary, Alberta, Canada. The AINA also maintains subsidiary regional, subject, and initiative-based databases. A unique information resource, more a repository than a database, ASTIS offers over 83,000 records that provide record-level access to publications, including research and research projects, about Canada's North. The subsidiary databases are all housed within and accessible through the main ASTIS database. Examples of the smaller databases include: ArcticNet Publications Database, the Nunavik Bibliography, and the Northern Granular Resources Bibliographic Database. While an excellent resource, this database does not provide exhaustive access to literature about Canada's North. Especially for access to peer reviewed and other scholarly publications, the user would need to turn to GEOSCAN, GEORef, and other broader academic databases such as Science Direct.

The primary purpose of the Arctic Science and Technology Information System is to provide extensive access to records, including grey literature and ephemera, exclusively about all facets of northern Canadian Arctic science and industry information. This includes earth and life sciences, engineering and technology, and mining and environmental sciences. The vast majority of publications within ASTIS date from 1978.

The geographic scope of the ASTIS database covers the Canadian north from the southernmost limit of discontinuous permafrost and their adjacent marine areas including James Bay and Davis Strait and the waters of the Arctic Archipelago. Yukon, Nunavut, and the Northwest Territories are extensively included, more so than the northern

provinces. Some coverage is provided of non-Canadian arctic spaces, but this is minimal.

Of its 83,000 plus records, flagged by the tag "Research Project," approximately 17,000 are descriptions of research and trade materials that cover all three of Canada's territories. Research project information covers publications from all major research licensing bodies including Yukon Scientists and Explorers Licenses, Nunavut Research Licenses, the Northern Science Research Database, and the Northwest Territories Wildlife Research Permits.

Many Canadian institutes, agencies, and government bodies have donated their holdings in this subject area to this unique resource: they are publicly unavailable anywhere else. Examples of these donors include the Society of Naval Architects and Marine Engineers, Trans-Canada Pipelines, and the Polar Continental Shelf Project. Growth of ASTIS database depends largely upon continuing sponsorships and donations by these and many other bodies.

The ASTIS database maintains statistics on user log-ons, searches, records viewed, and database opens.

User Interface/Navigation/Searching

ASTIS is developed, hosted, and dynamically operated using the MINISIS software. Use of MINISIS facilitates ASTIS' ability to preserve, manage, and provide access to the materials housed within. Special features of this package identify file formats for preservation, and, over time, these same settings continuously identify and convert older file formats to newer formats.

ASTIS features cataloguing and search fields that are aligned with both Dublin Core standards and the Open Access Initiative, also allowing the coordination of ASTIS' holdings with subscribers' collection management software. It can also function independently as a standalone database.

Simple Search affords direct access hyperlinks via personal and corporate author search terms, geographic terms, subject codes, geographic codes and subject terms. Each of these is hyperlinked and will search the entire database for the word or string entered. The Simple Search interface offers the standard feature that all access points use Boolean AND (see Figure 1). It is also possible to restrict a search by document type (e.g., to research reports, simple citations). Of particular interest to academic searchers is the ability to search by subject code via a drop-down list. Because ASTIS is highly interdisciplinary, the materials housed within are uniformly catalogued with more than one subject code, and all are accessible through each subject link. Advanced Search offers four additional access points that are particularly helpful for researchers seeking known items (see Figure 2). Also useful to physical geographers and other Canadian Northern specialists is the search by geographic code feature, which allows one to search by more than one area, also through a drop-down

FIGURE 1 ASTIS Simple Search options

ASTIS Arctic Science and Technology Information System

SISTA Système d'information sur les sciences et les technologies arctiques

Simple Search

Your search will find records that satisfy **all** the conditions you specify.

Record Type Publications and Research Projects

All of these words in the Title or Abstracts

Any of these words in the Title or Abstracts

All of these words in the Title

Author

(Examples: hart, e.j.; hart, e; hart,; joint secretariat)

Subject Code All Subjects

Geographic Code All Geographic Regions

Year All Years

ASTIS Record Number

Library All Libraries

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FIGURE 2 ASTIS Advanced Search options

Advanced Search

This page allows you to search twelve ASTIS fields or field combinations. Detailed instructions are given on the [Using Advanced Search](#) page, but here are a list of field names and some examples of what can be done.

TI - Words from Title	SC - Subject Code	AU - Author
AB - Words from English Abstract	GC - Geographic Code	YR - Year
RE - Words from French Abstract	SU - Subject Term	RT - Record Type
WO - Words from TI, AB and RE	GE - Geographic Term	SISR - Record Number

Records with author EBA Engineering containing the words "Uviluk" or "Nerlerk":

au eba eng* and (wo uviluk or wo nerlerk)

Records with the subject terms "Traditional knowledge" and "Climate change":

su traditional knowledge and su climate change

Publications (rt any p) about biology (H - Botany, I - Zoology, J - Ecology) in the Inuvik area:

rt any p and (sc h or sc i or sc j) and ge inuvik*

Research projects (rt any r) in 1991 to 1995 with the phrase (adj) "global warming" in their titles:

rt any r and yr 1991//1995 and ti global adj warming

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list. Another access point that can be selected from drop down lists are searches by year.

Records are retrieved in batches of 10 at a time, and sorting may be customized in either of two ways, either by descending order of author or year. These records and full-text, where provided, are compatible with printing functions of most Web browsers.

When a search yields a list of hits, the navigation features permit full record display in both English and French, depending on the language entered by the searcher. Direct record-to-user translation and bilingual thesauri, however, are not yet available at this time due to funding constraints.

Critical Evaluation

While it is a singular and irreplaceable resource for the specialist Canadian Arctic researcher, ASTIS should not be regarded as a stand-alone resource for information about this area and its development; it does not yet provide access to all grey publications about Northern Canada, although this is its primary strategic goal. As stated above, larger databases such as GEORef, GEOSCAN, and ScienceDirect remain the go-to sources for academic information about the Canadian Arctic.

ASTIS is funded through independent contracts to produce content; these contractors operate separately, which results in an unevenness



ASTIS Review Scores Composite: ★★★★★

The maximum number of stars in each category is 5.

Content: ★★★★★

The content of the ASTIS database is unique with records and physical geographic information that the searcher is unlikely to find elsewhere. The absence of full-text for the majority of these records is somewhat of a set-back although seamless access to content is provided through a direct link to the University of Calgary's efficient document delivery system.

User Interface/Searchability: ★★★★★

Keeping in mind that this is a small, highly specialized database, ASTIS is user friendly and accessible to the novice searcher. One major drawback is the unevenness of coverage across different subject areas. Its system of subject codes and geographic codes, however, are an advanced and useful feature.

Pricing: N/A

Open Access

Purchase/Contract Options: N/A

Open Access

in the concentration of content across its subject and geographic areas. However, for the advanced or specialist searcher, the ASTIS systems of alphabetical subject codes and numerical geographic codes are intuitive, retrieval-rich, and highly navigable. While full-text is limited for many records, seamless access to the University of Calgary's document delivery request processes is built into the database search and retrieval functions.

Competitive Products

Trade and grey literature in the area of Canada's North are underrepresented in larger science databases such as GEOSCAN and GEO-Ref. While some access to research information about the Canadian North and its development is also available through ScienceDirect, there is a gap in the coverage of specialty government and industry reports in this region. ASTIS fills this gap as a primary resource for Canadian Arctic information. For additional research and data specific to snow and ice, the National Snow and Ice Database, with its broader global scope, would also be a useful supplementary tool to which the searcher may usefully turn. ASTIS, then, is a unique database with no direct competitors, although the above databases covers some peer-reviewed literature and special data sets having to do with Canada's north. ASTIS' emphasis is largely upon grey literature including industry and trade reports, government documents and agency briefs.

Free Text Keywords: Arctic Science and Technology Information System | Canadian Arctic | Northern Studies | Physical Geography | Canadian North | Remote Sensing

Primary Category: Science, Technology, Computers, Engineering (including Environment), Mathematics

Target Audience: Secondary; General public; Undergraduate (including community colleges); Graduate/Faculty/Researcher

Access: Open Access (OA); Hybrid (some OA)

Purchase & Contract Provisions

Usage and registration of ASTIS is free to subscribing institutions. ASTIS is funded through government and private sector grants to produce content; these contractors operate separately, independent of each other. As a result, ASTIS is a not-for-profit, Open Access enterprise that has been managed by the University of Calgary since 1978. It is freely accessible online to the public.

Authentication

To protect both internal and external users, the ASTIS database is developed using software that is compatible with all popular and commonly used role-based security features. It also offers a choice of log-on or password-based interfaces. Simple guest log-ins are also facilitated by ASTIS.

About the Author

Jane C. Duffy, BA, MA, MLS, MACT is an academic librarian at MacEwan University in Edmonton, Alberta, Canada. Her current professional areas of practice are in mathematics and engineering librarianship, and her research interests are in digital literacy, student evaluations of post-secondary teaching (SETs), and new media communication in STEM. This past spring, Jane completed her Master of Arts in Communications and Technology (MACT) at the University of Alberta. ■

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