UNIVERSITETET I TROMSØ UiT

High North Research Documents –

A Thematic Overlay Service of Open Access Documents

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Aleutian Islands
PACIFIC OCEAN
Petropavlovsk-Kamchatsky
Kamchatka
Bering Sea
10° C July Isotherm
Sea of Okhotsk
Gulf of Alaska
Koryaks Mts.
Amur
Magadan
Anadyr
Okhotsk
Anchorage
Yukon River
Alaska Range
Juneau
ALASKA (USA)
Bering Straight
Kolyma Mountains
Kolyma River
Aldan
Whitehorse
Fairbanks
Teslin
Dawson
Brooks Range
Chukchi Sea
Chersky Range
Yakutsk
Rocky Mountains
Mackenzie Mountains
Barrow
Prudhoe Bay
Verkhoyansk Ridge
Lena River
Calgary
Edmonton
Mackenzie River
Inuvik
East Siberian Sea
Verkhoyansk
Great Bear Lake
Great Slave Lake
Yellowknife
Canada Basin
New Siberian Islands
Tiksi
Lake Baikal
Saskatchewan R.
Lake Athabasca
Banks Island
Laptev Sea
Central Siberian Upland
CANADA
Victoria Island
ARCTIC OCEAN
Lake Winnipeg
Makarov Basin
Taymyr Peninsula
Churchill
Arviat
Rankin Inlet
Resolute
Alpha Ridge
Lomonosov Ridge
North Land
RUSSIAN FEDERATION
Yenisey
Amundsen Basin
Nansen-Gakkel Ridge
Norilsk
Hudson Bay
Naujat
Ellesmere Island
Alert
Yenisey River
Foxe Basin
Franz Josef Land
Ob River
Novosibirisk
Qaanaaq
Nansen Basin
West Siberian Plain
James Bay
Baffin Island
Novaya Zemlya
Kara Sea
Salekhard
Baffin Bay
Iqaluit
SVALBARD (NORWAY)
Longyearbyen
Khanty-Mansiysk
Omsk
Irtysh
Ob River
Vorkuta
Labrador
Ilulissat
Fram Strait
Barents Sea
Naryan-Mar
GREENLAND (DENMARK)
Sisimiut
Davis Strait
Bjørnøya
ARCTIC CIRCLE
Ural Mountains
Yekaterinenburg
Chelyabinsk
Nuuk
Greenland Sea
Syktyvkar
Kama River
Perm
Ufa
Murmansk
Ammassalik
Jan Mayen
Tromsø
Kola Peninsula
Arkhangelsk
N. Dvina
White Sea
Norwegian Sea
Kazan
ICELAND
Lake Onega
Volga River
Reykjavik
10° C July Isotherm
NORWAY
SWEDEN
FINLAND
Lake Ladoga
Helsinki
St. Petersburg
Moscow
Gulf of Bothnia
Baltic Sea
Tallinn
FAROE ISLANDS (DENMARK)
Torshavn
Oslo
Stockholm
Riga
ATLANTIC OCEAN
Minsk
Vilnius
North Sea
Copenhagen
Kiev
Warsaw
Dublin
Berlin
London
Amsterdam
Brussels

High North Research Documents

Outline

- What is High North Research Documents?
- Why High North Research Documents?
- How did we build High North Research Documents?
  - Making use of BASE
  - Extracting relevant documents
  - A brief look from the technical side
- What we have achieved
- What we have learned

High North Research Documents – why?

- The Norwegian government has emphasized the importance of the northern areas
- The north is also of interest on an international level:
  - Politically and strategically
  - Environmental and climate change issues
  - Resource utilization
  - The northern sea route to the Pacific

High North Research Documents – why?

- The University of Tromsø (UiT) is the northernmost university in the world
- UiT want to profile itself as a key research institution on questions on the north
- A natural thing to do for the library at UiT to develop services around litterature on the north

Research litterature – the access issue

- The north is of interest to many parties
  - Politicians and governments – international, national and local
  - Business owners and executives
  - Interest groups and NGOs
  - Indigenous people
  - Interested laymen
- Access to research litterature is often restricted by publishers' barriers

High North Research Documents – the idea

- Open Access research litterature
  - Free access for anyone
  - The metadata are free to utilize

- What if we take advantage of this freedom, to extract all the OA research documents, relevant to the north?

High North Research Documents – the motivation

- The North is a cross-disciplinary theme
  - Traditional subject classification does not help us
- Library users have expressed the challenging task of finding research litterature on the north
- Can we extract relevant documents by analysing the freely available metadata?
  - Preferably through automatic algorithms
  - Minimizing the labour needed

Cooperation with BASE

- «The whole world» is available through aggregators like OAIster (OCLC) and BASE (Univ. of Bielefeld)
  - We do not need to do what they have done already
  - Could such services be data providers for us?
- BASE: Has harvested close to 35 mill records
  - From almost 2200 sources world wide
- We contaced BASE to cooperate in our project
- And was met with helpfullminded response

Cooperation with BASE

- All the metadata are free to utilize
- To best do what we intended to do, we were allowed to collect all the metadata records
  - With the help from BASE
- And then we could apply the method of extracting the records that are thematically interesting from a high north perspective

What do the metadata tell us?

- Our hypothesis:
- If our selected keywords are present in the metadata, then the thematic scope of the document is of relevance to the high north

  =>

- We need to carefully select the keywords

Finding the high north relevant documents

- A set of keywords applied on the metadata of the BASE records, to extract relevant records:
  - Geographically
  - Species' names
  - Language and folks (nations)
  - Other key words
- So far, mainly English and Norwegian language keywords, plus Latin species' names
- Aiming to extract documents by automation, minimizing the need of manual selection

The quality of the keywords

- Are the meaning of the keywords unambiguous?
- Words may have different meanings in different languages
  - Examples:
  - The keyword ‘labrador’ is meant to extract documents on the area of Labrador in northeastern Canada. However, the word ‘labrador’ means farmer or peasant in Spanish.
  - The keyword ‘sami’ should refer to the sami people of the north. Sami is also name of a district in Burkina Faso, in Gambia, and in Greece

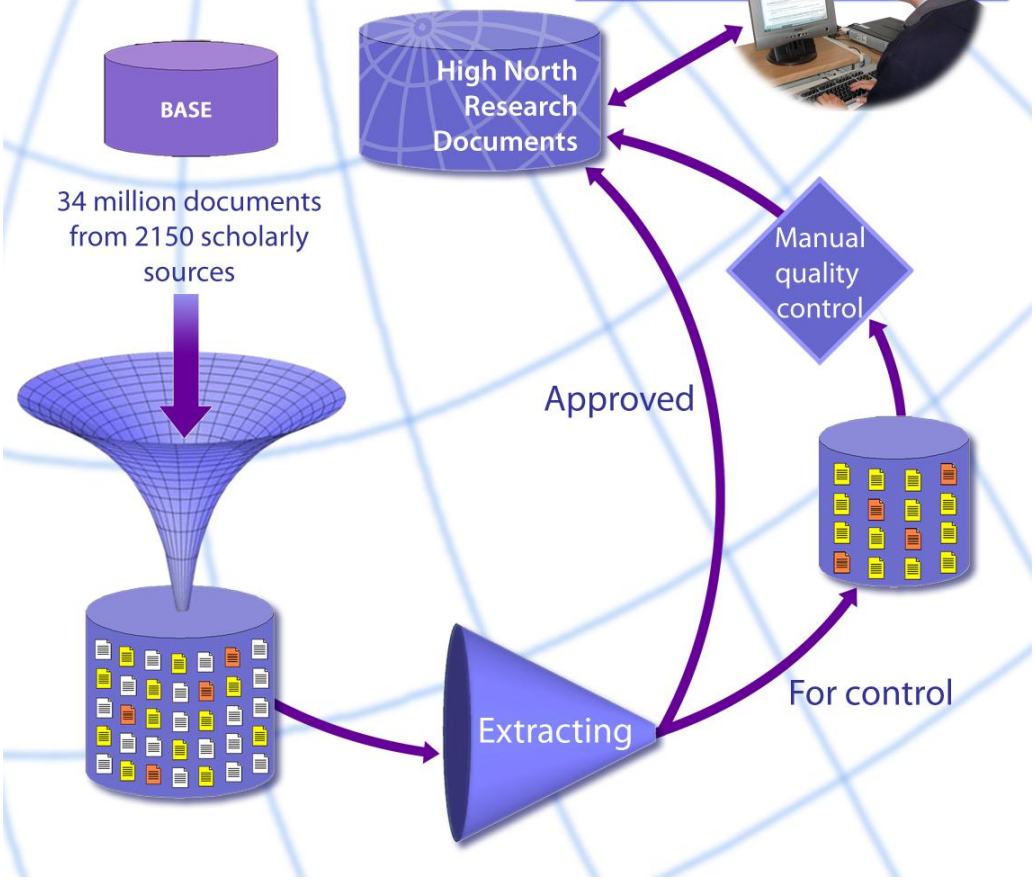
The quality of the keywords

- Keywords may be identical to person names
  - Example:
    - ‘sami’ (people in the north)
    - Sami is a common given name (in Turkey and in Finland). Sami Kama is a researcher at CERN
- Some keywords need to be defined more explicit
  - ‘sami AND language’
  - ‘sami AND people’

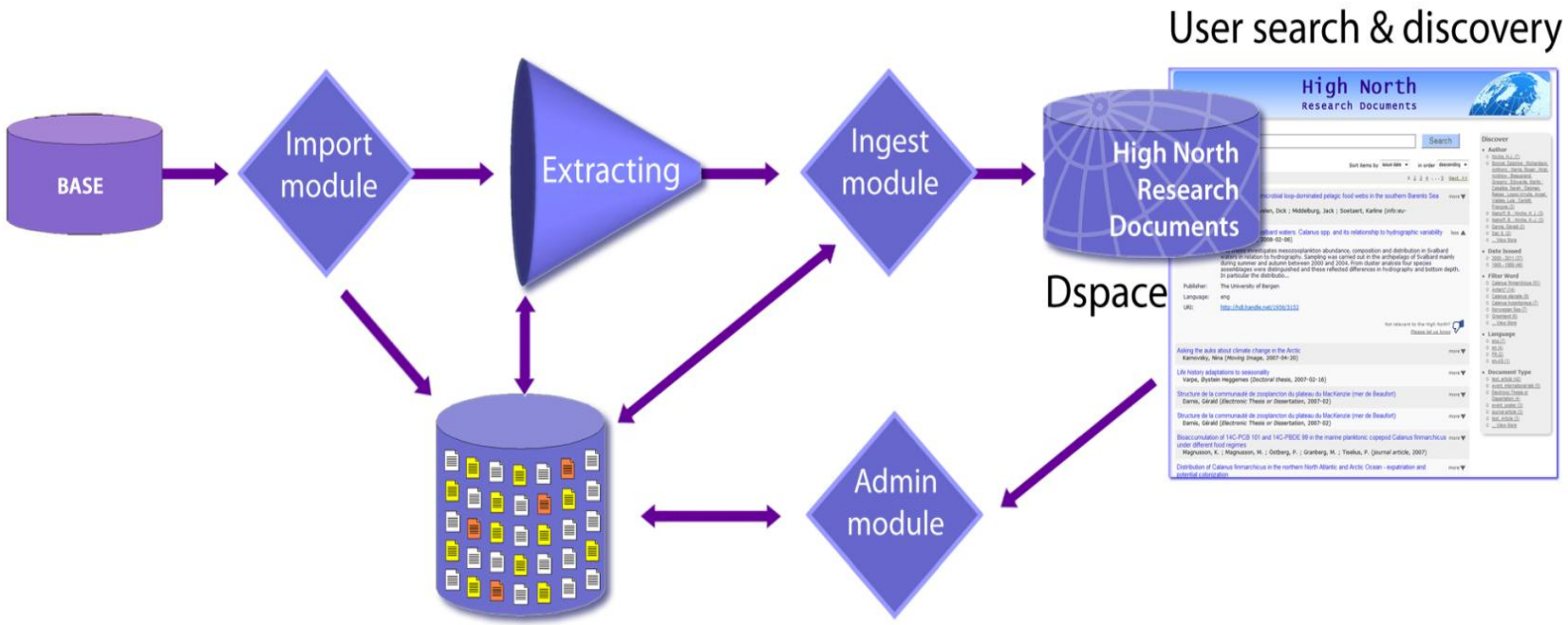
The quality of the keywords

- Geographical names:
- 'Newfoundland' as keyword would mean that we extract all documents with University of Newfoundland as publisher
- We need to do:
  - 'Newfoundland NOT University of Newfoundland'
  - Plus:
  - Records with 'University of Newfoundland' to be checked manually

High North Research Documents

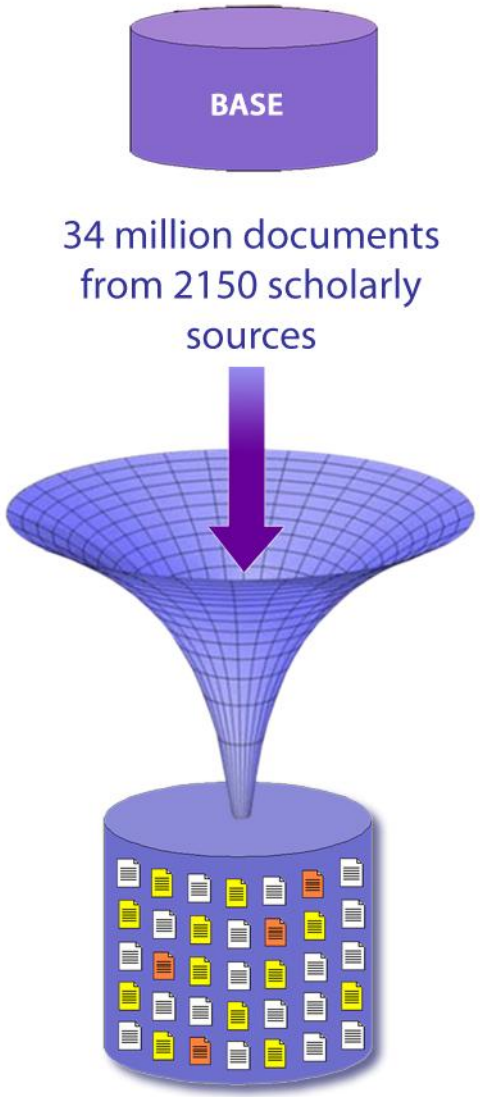


High North System Model



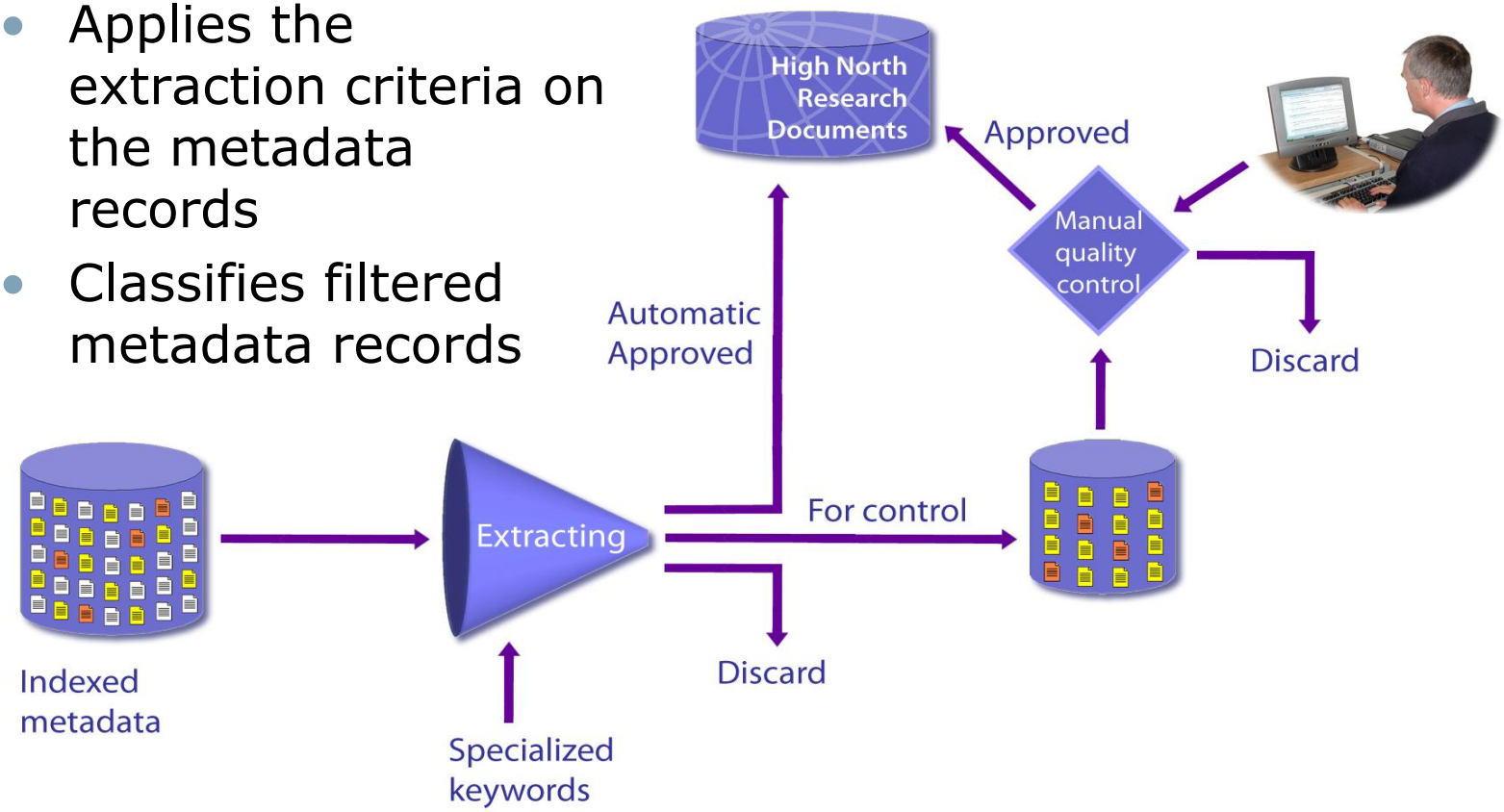
Import Module

- Gets metadata records from BASE using SSH based protocol, *rsync for* large one-time data transfer
- Stores and indexes all records in database using full-text properties of the database, MySQL



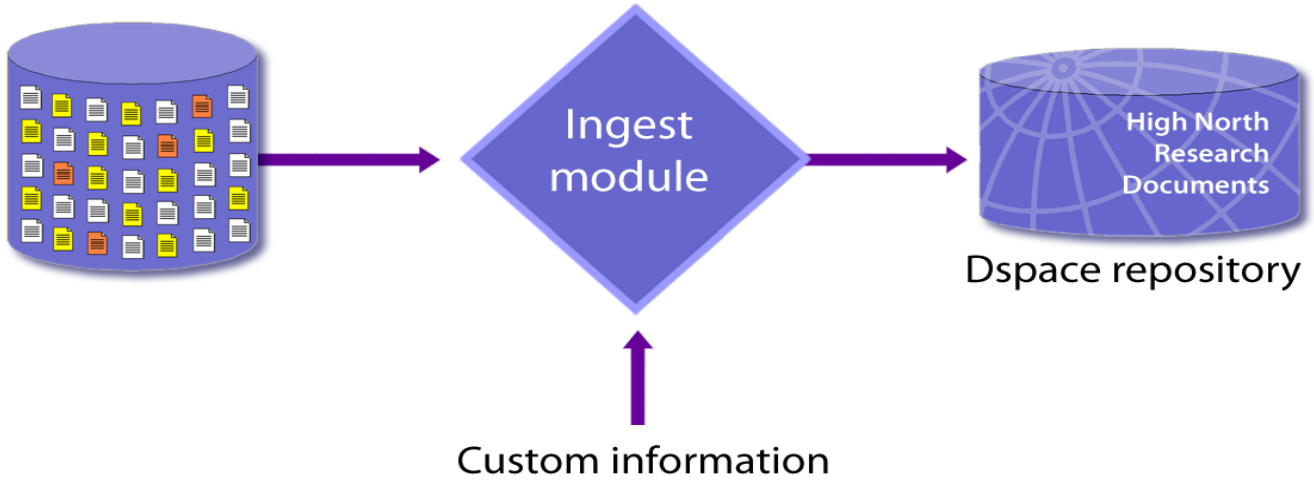
Extract Module

- Applies the extraction criteria on the metadata records
- Classifies filtered metadata records



Ingest Module

- Transforms metadata records relevant to the high north into DSpace XML format
- Imports them into a DSpace repository
- Options to add custom information to records:
  - Information that facilitates building of facets, etc



Admin Module

- Uses to add, edit, or display all filtering words (keywords)
- Uses to edit or search the status of a record or records:
  - Blacklist / Reject
  - Approved
  - Manual control
- By clicking on a keyword, we can get all the records that this keyword has a match on
- Etc

Search and Discovery Interface - Why Dspace?

- We have local expertise in the house
- Provides end user with both a regular search interface and faceted search
- Provides for the creation of individual, customized repository interfaces

http://dspace.org

Search and Discovery Interface

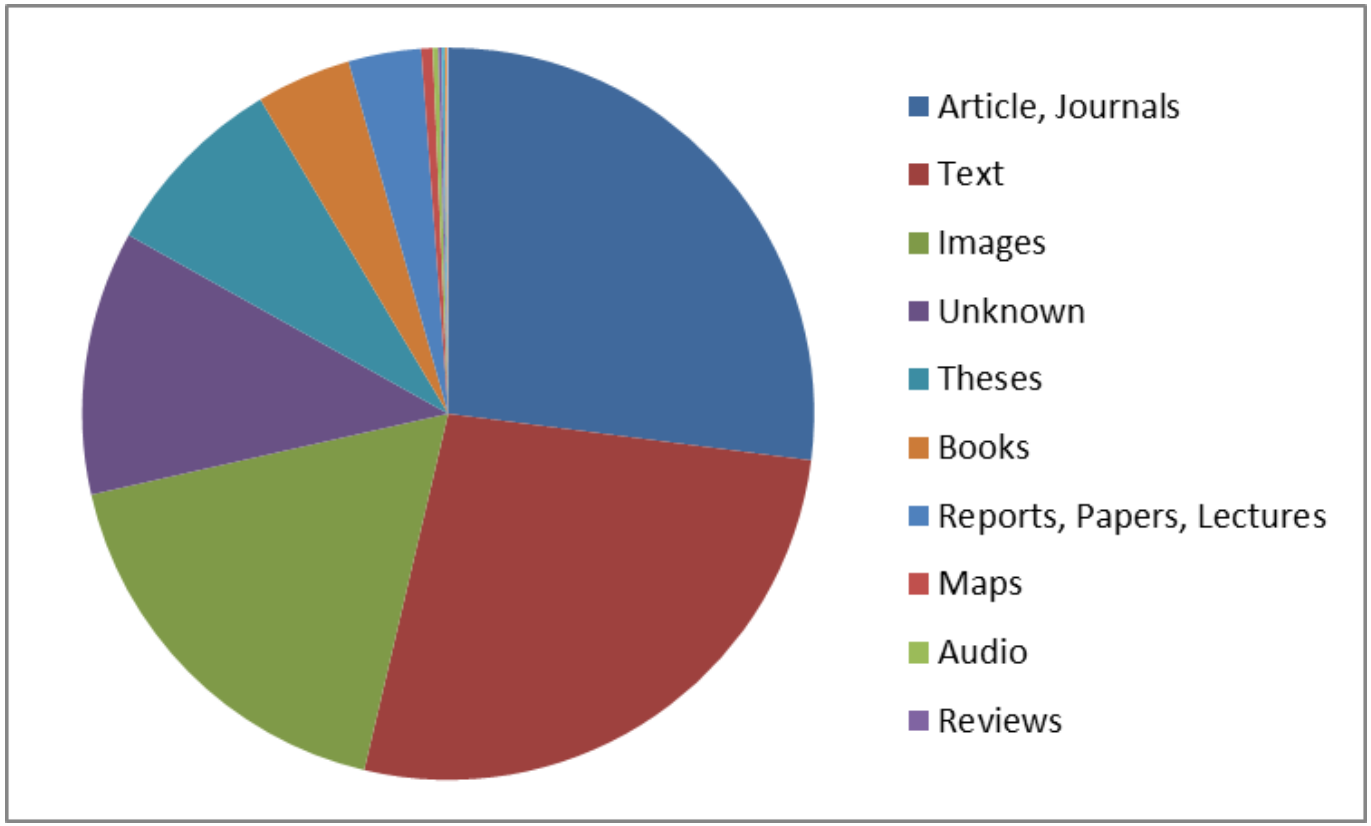
highnorth.uit.no

- We extended DSpace to provide feedback mechanism such that end users can:
  - Enter suggestions on how to improve the system
  - Inform us about an irrelevant metadata record
  - Inform us about non-existing URL

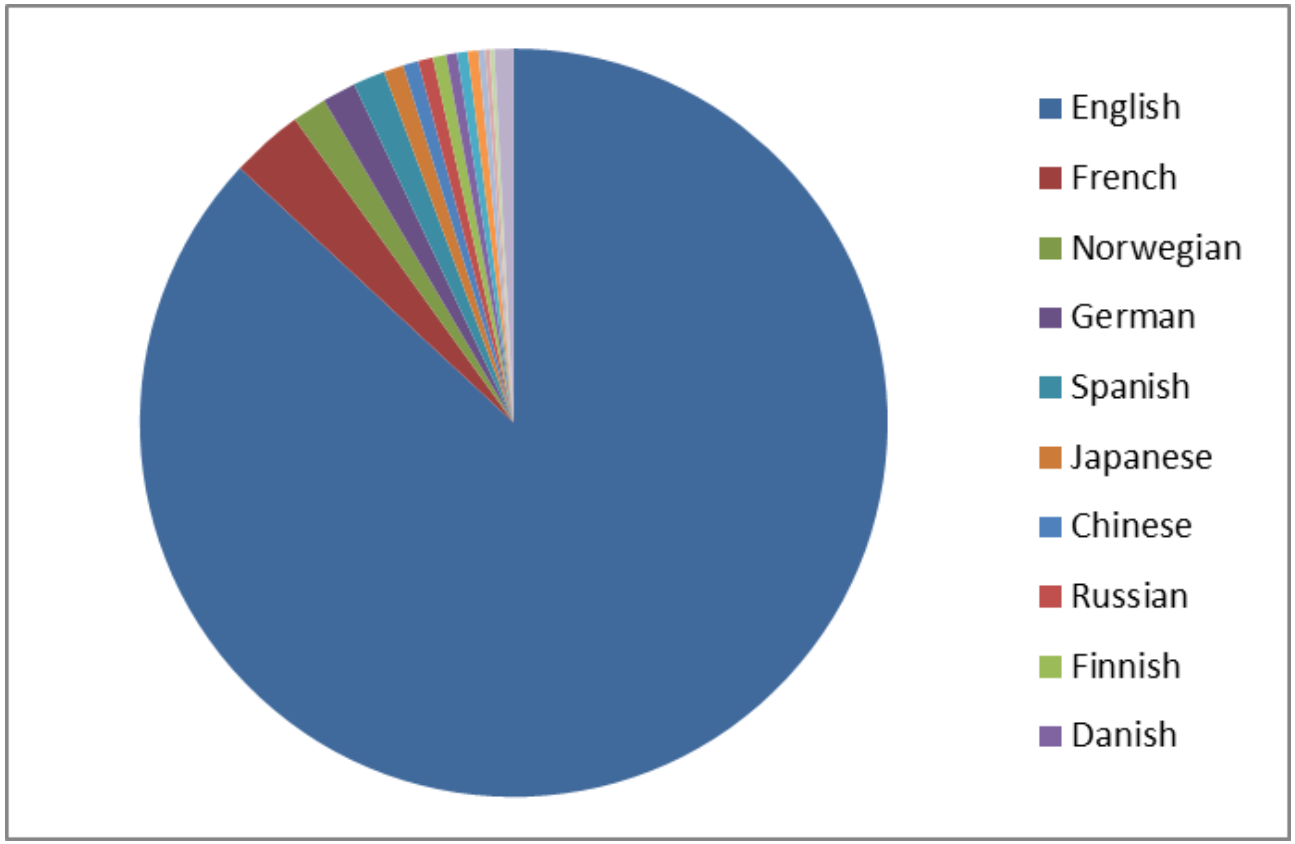
High North RD v 1.0

- 142 000 documents extracted
  - From more than 50% of the sources appearing in BASE – and from all over the world
  - Many different languages
    - Even if we apply mainly English and Norwegian and Latin in the filtering process
  - Any subject, but weight on the hard sciences
- Developing the list of key words is a priority
  - More and better key words (and phrases)
  - Translating the list to more languages

Document types



Language distribution



Am 26.01.2012 20:30, schrieb Amanda Graham:
> This looks like it's going to be a superb resource. As a northern and circumpolar studies instructor, and on behalf of my students, I'm thrilled.
>
> Amanda Graham
> Yukon College

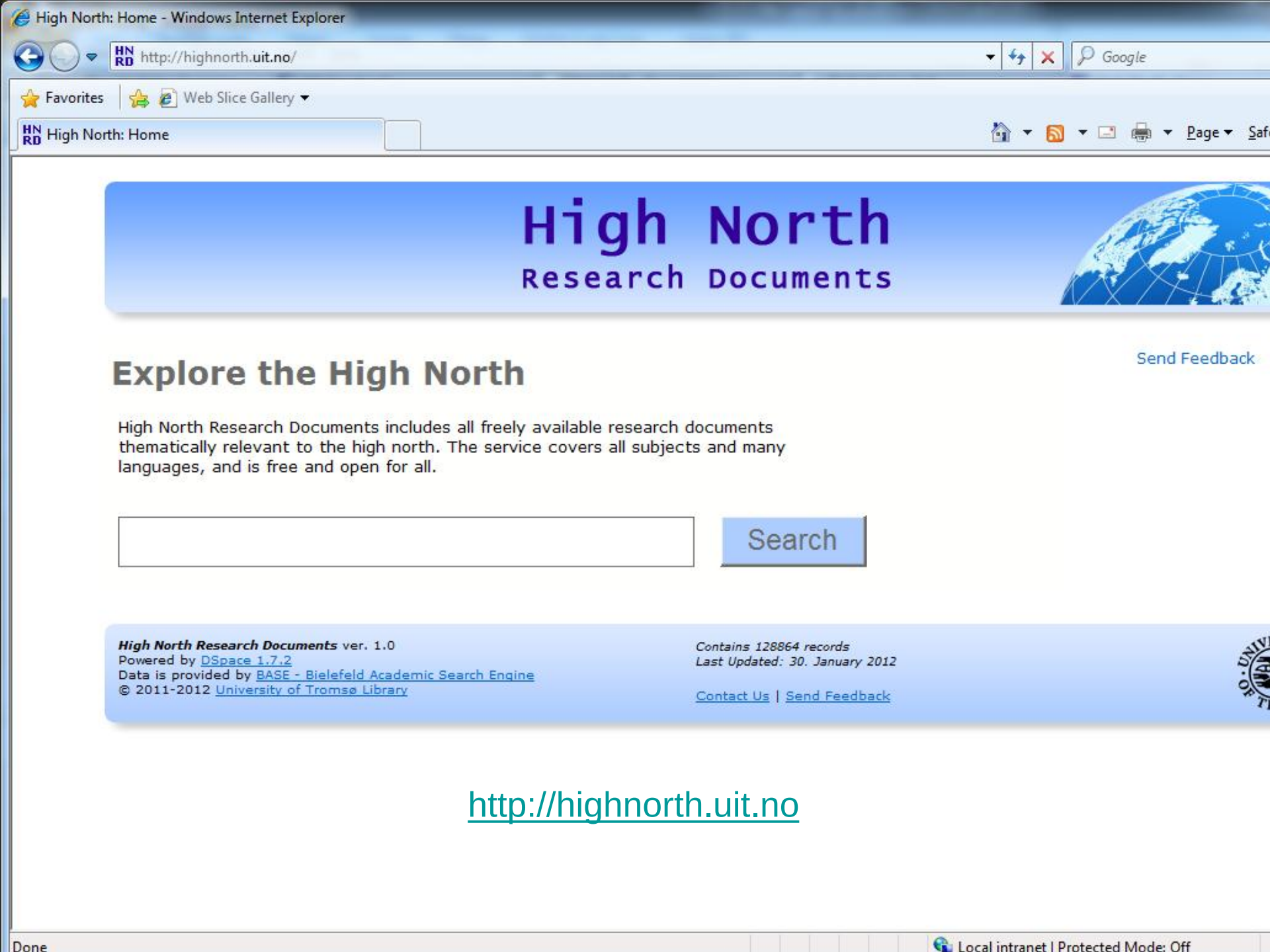
Comments:

Wonderful site! Thank you for putting it together. One problem: The link to the "Handbook for Alaska Legislators" from 1957 is broken. URL: http://hdl.loc.gov/loc.gdc/mtfgc.1016

Date: 1/26/12 6:38 PM
Email: swoodham@alaskadispatch.com

The problem of non-OA records

- Many data providers supply BASE with
  - records with metadata only
  - records where the documents have access restrictions
- This would be OK if these records could easily be identified and omitted from High North (and BASE)
  - dc:rights – should be used to indicate restrictions on access
  - How to identify records without any full text documents?
- We need to weed out many non-OA records from High North RD



http://highnorth.uit.no