



A state-of-the-art of Italian National Research Council (CNR) activities in the area of terminology and thesauri

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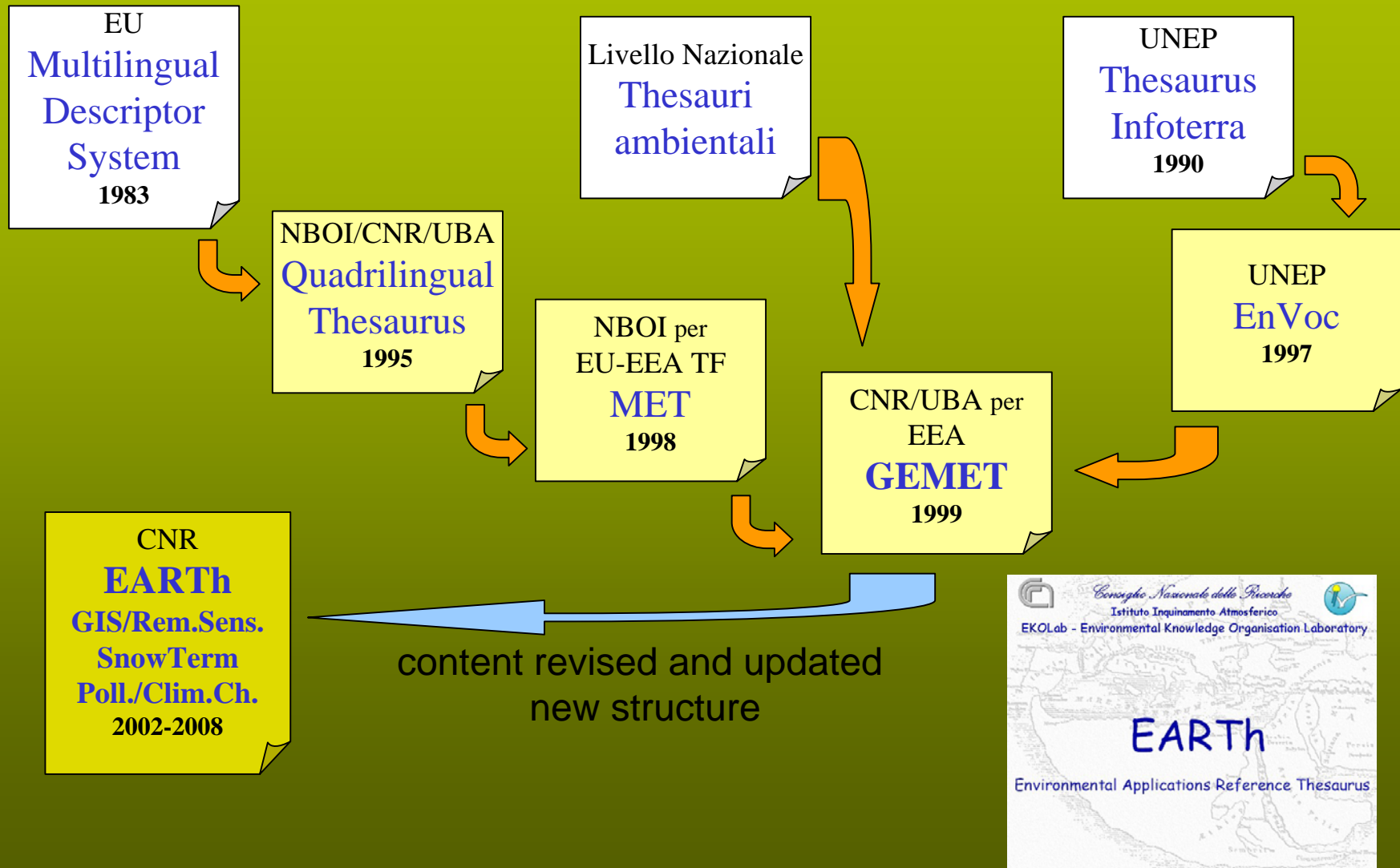
*Italian National Research Council
Institute for Atmospheric Pollution
Environmental Knowledge Organisation Laboratory*



European Conference of the Czech Presidency of the Council of the EU
TOWARDS eENVIRONMENT

Workshop W4 – eEnvironment Terminology - Thursday - March 26, 2009

CNR contribution to environmental terminology: EARTH development flow



From 1983 to 2001: Istituto Tecnologie Biomediche
From 2002: Istituto Inquinamento Atmosferico

Environmental Research and Documentation Unit (resp. B. Felluga)
Environmental Knowledge Organisation Laboratory (resp. P. Plini)

Evolution of the Thesaurus

From

GEMET

1999

General
Multilingual
Environmental
Thesaurus

To

EARTH

2000-2009

Environmental
Applications
Reference
Thesaurus



GEMET

- **GEMET - General Multilingual Environment Thesaurus**
 - GEMET as delivered to EEA in 1999 was the result of the merging and conceptual analysis of 5 Thesauri and one Lexicon:
 - UBA-UDK selection from UBA Umwelt-Thesaurus
 - CNR Thesaurus Italiano per l'Ambiente
 - EEA-NBOi-CNR Thesaurus for the Environment
 - MOPTMA Thesaurus de Medio Ambiente
 - UNEP-Infoterra Thesaurus of Environmental Terms
 - Lexique Planète - Ministère de l'Environnement



GEMET 1999

6562
Terms

Activities carried out:

1. Base of Terms & Revision of Concepts

- Quality assessment on GEMET
- Deletion of around 300 Incorrect Terms
- Assessment of English Concept Representation vs. Source Language(s): around 200 Term Representations Changed
- Revision of Synonyms
- Introduction of new Terms
- Removal of 1000 Terms potentially useful for Specific Lists
- Revision of English and Italian Definitions: **200 Definitions Changed**

2. **New Hierarchical Setup**

3. **Revision of Associative Relations (RT)**

EARTH 2009

~ 12.000
Terms



EARTH



- [-] ■ **EARTH**
 - [-] ● ENTITIES
 - [-] ● IMMATERIAL ENTITIES
 - [-] ● MATERIAL ENTITIES
 - [-] ● ATTRIBUTES
 - [-] ● COMPOSITION
 - [-] ● <STRUCTURE AND MORPHOLOGY>
 - [-] ● PROPERTIES
 - [-] ● DYNAMIC ASPECTS
 - [-] ● PROCESSES
 - [-] ● CONDITIONS
 - [-] ● ACTIVITIES
 - [-] ● <EFFECTS AND SINGLE EVENTS>
 - [-] ● DIMENSIONS
 - [-] ● TIME
 - [-] ● ACCESSORY TERMS
 - [-] ● GENERAL TERMS



Structural View [1] > THESAURUS [1]

Show Field Term.English

Sort Fjeld hier_ord

Type:

- <environmental conditions>
 - pollution
 - <pollution type>
 - chemical pollution
 - ionic pollution
 - organic pollution
 - photochemical pollution
 - physical pollution
 - noise pollution
 - thermal pollution
 - radioactive pollution
 - electromagnetic pollution
 - composite pollution
 - biological pollution
 - genetic pollution
 - accidental pollution
 - <pollution by source>
 - <pollution by location or context>
 - soil pollution
 - atmospheric pollution
 - water pollution

Select Term

Locate Term

| ID | Term |
|-------|-----------------------------|
| 61870 | bacteriological pollution |
| 63500 | lake pollution |
| 25450 | land-based marine pollution |
| 10830 | rain water pollution |
| 57480 | radioactive pollution |
| 55070 | water pollution |
| 58780 | genetic pollution |
| 34160 | sea pollution |
| 63640 | chemical pollution |
| 32860 | shore pollution |
| 62670 | thermal pollution |
| 63130 | thermic pollution |
| 51250 | air pollution |
| 65690 | air pollution damage |
| 55650 | diffuse pollution |
| 32870 | littoral pollution |
| 36820 | mineral pollution |
| 61930 | electropollution |
| 64830 | electromagnetic pollution |

Tabular View - THESAURUS [1]

| ID | Status | Term.English | Term.Italian |
|-------|--------|----------------------------------|---|
| 63640 | BT | chemical pollution | inquinamento chimico |
| 63650 | BT | chemical pesticides industry | industria dei pesticidi chimici |
| 63660 | BT | industrial estate | immobili industriali |
| 63670 | BT | social service | servizi sociali |
| 63680 | BT | dry cleaning | pulitura a secco |
| 63690 | BT | desulphurisation | desolforazione |
| 63700 | BT | environmental protection officer | funzionari per la protezione ambientale |
| 63710 | BT | soot | fuliggine |
| 63720 | BT | pollution liability | responsabilità per l'inquinamento |
| 63730 | BT | good management | amministrazione corretta |
| 63740 | BT | processed sludge | fanghi trattati |
| 63750 | BT | forest exploitation | sfruttamento forestale |
| 63760 | BT | residual product | materiali residui |
| 63770 | BT | decree | decreto |
| 63780 | BT | water policy | politica delle acque |
| 63790 | BT | instrumentation | strumentazioni |
| 63810 | BT | inflatable boom | barriere gonfiabili |
| 63820 | BT | oxygen deficiency | povero di ossigeno |
| 63830 | BT | oxygen-rich | ricco di ossigeno |
| 63840 | ND | substance | sostanze |
| 63850 | BT | road construction material | materiali per costruzioni stradali |
| 63860 | BT | non-biodegradable material | materiali non biodegradabili |
| 63870 | BT | fuel | combustibili |
| 63880 | BT | fertiliser law | leggi sui fertilizzanti |
| 63890 | | project variation | variante di progetto |
| 63900 | BT | paper industry | industria della carta |
| 63910 | BT | amateur fishing | pesca amatoriale -> |
| 63920 | BT | refuse | immondizia |
| 63930 | BT | aerobic stabilisation | stabilizzazione aerobica |
| 63940 | BT | meteorological aircraft | aerei per ricognizioni meteorologiche |
| 63950 | BT | jet aircraft | aerei a reazione |

Tabular View - Themes [1] > THESAURUS [1]

| ID | SortFi... | Abbrev | Theme.English | Theme.Italian | Theme.Danish |
|-----|-----------|--------|------------------|---------------|--------------|
| 250 | 25 | POL | pollution | | |
| 50 | 5 | HEA | health/nutrition | | |
| 190 | 19 | IND | industry | | |

EARTH

Structural List Editor



Types for NT-Relations

<class>

<hier>

D-gene

D-inst

D-part

TT

Types for RT-Relations

antonym

cau/eff

dis/obj

mat/prd

obj/mea

...

Types for ND-Relations

L-sp_irre

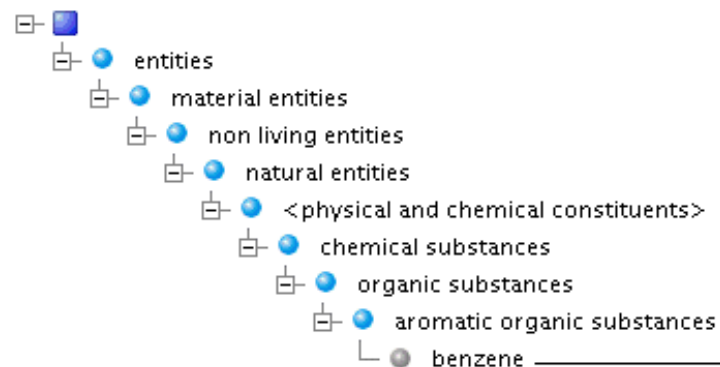
L-sp_regu

L-stemvar

S-com/trd

S-cultnat

S-cultres



| | |
|------------|------------------------|
| AIR | air |
| CLI | climate |
| COS | cosmos |
| ECO | ecosystems |
| LAN | land, landscape |
| ORG | organisms |
| SOC | society |
| SOI | soil |
| URB | urban areas |
| WAT | water |
| AGR | agriculture |
| CON | construction |
| ECN | economy |
| ENE | energy |
| FIS | fishery |
| FOR | forestry |
| HEA | health, nutrition |
| HUS | husbandry |
| IND | industry |
| INF | information, education |
| LGS | legislation |
| MIL | military issues |
| NUC | nuclear issues |
| PLC | policy |
| POL | pollution |
| REC | leisure activities |
| RES | research |
| SAF | safety |
| SER | services |
| TRA | transport |
| WAS | wastes |

Remote Sensing and GIS Thesaurus

- error
 - RMS error
 - bit error
 - topological error
 - dangle
 - overshoot
 - undershoot
 - dangling node
 - errors of omission
 - errors of commission
 - absolute location error
- chroma
- exposure
- currency
- contrast
- distance
 - snapping distance
 - Euclidean distance
 - Mahalanobis distance
 - Bhattacharyya distance
- far range
- emittance
 - thermal emittance
 - microwave emittance

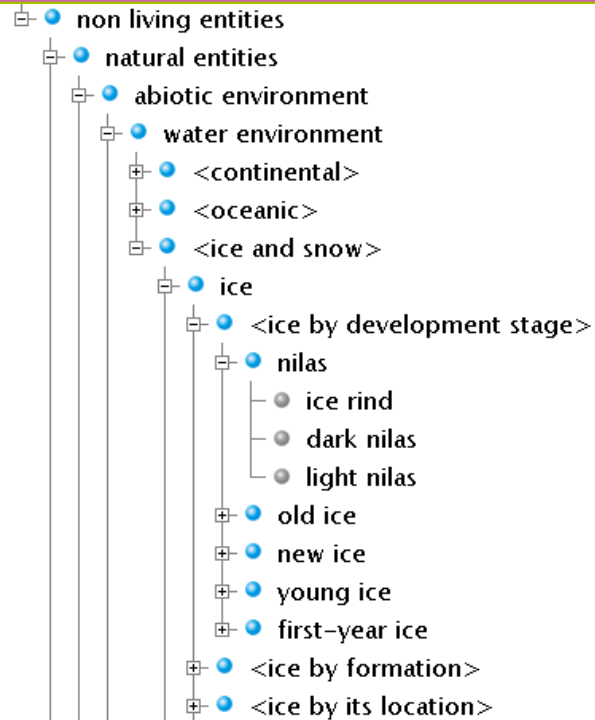
More than 3.500 terms
4 languages (partially available)
Presented in 2005 at the EnviroInfo Conf.
Distributed in 2008 in English (PDF)
Soon available through a web service
Potenzial users:

- ✓ Research Institutions
- ✓ Environmental Agencies
- ✓ Libraries

| Rel | Type | ID | Field |
|-----|-------------------|--------|-------------------------------|
| RT | altitude | 109160 | 705 km |
| RT | inclination | 110480 | 98.2° |
| RT | orbit | 103190 | sun-synchronous orbit |
| RT | repeat cycle | 109090 | 16 d |
| RT | revolution period | 109120 | 98.9 min |
| RT | sensor | 108990 | enhanced thematic mapper plus |
| RT | service_life | 111240 | 1999 - operational |

| Type: | |
|-------|-----------------------------------|
| | satellite |
| | <satellites by name> |
| | ADEOS |
| | Corona |
| | Cosmos |
| | ENVISAT |
| | ERS 1 |
| | ERS 2 |
| | Earth Probe |
| | Earth Resources Technology Satell |
| | High Resolution Visible |
| | IRS-1C |
| | Ikonos-2 |
| | JERS |
| | Landsat |
| | Landsat 1 |
| | Landsat 2 |
| | Landsat 3 |
| | Landsat 4 |
| | Landsat 5 |
| | Landsat 7 |

SnowTerm



More than 3.700 terms

10 languages (partially available)

Presented in 2006 at the Polar Library Colloquy

Distributed in 2008 in English (PDF)

Soon available through a web service

Potenziali utenti:

- ✓ Polar and Glaciology Institutes
- ✓ Avalanche Centres
- ✓ Polar and Mountain Libraries

| | | | | | | | | | | | |
|-------|----------|-------------------|-------------------------|--------------------|-----------------------------------|--------------------------------|---------------------|-----------------------|---|-----------------------------------|--------------------------------|
| 7180 | | fine grained | a grani fini | | | à grains fins | feinkörnig | | dröbnozrnat finozrnat | en granos finos | |
| 7190 | BT | fine grained snow | neve a grani fini | | | neige à grains fins | feinkörniger Schnee | | dröbnozrnat snég | nieve en granos finos | |
| 10610 | BT UF | fine probing | sondaggio di precisione | | | sondage serré | Feinsondierung# | | natáncno sondíranje fino sondíranje | sondeo minucioso | |
| 30090 | | fines | | | | | | | | | |
| 4140 | BT RT | finger rafted ice | ghiaccio embricato | Seongus ladejää | Lomittain päällekkäin ajautunut | glace imbriquée | | Зубчатонаслоенный лед | | hielo sobreescurrido con forma de | Hopskjuten is i sick sack form |
| 4040 | BT RT | finger rafting | rafting embricato | Vaheliti pealenihe | Lomittain päällekkäin ajautuminen | chevauchement avec imbrication | | Зубчатое наслоение | | sobreescurrimie de dedos | Hopskjutning i sick sack form |

Lexicon on Climate Changes

- dust
 - fine dust
- gaseous pollutant
 - atmospheric chlorine
 - carbon monoxide
 - combustion gases
 - exhaust gas
 - exhaust vapour
 - freon
- greenhouse gas
 - carbon dioxide
 - chlorofluorocarbons
- fluorinated gases
 - hydrofluorocarbons
- perfluorinated hydrocarbons
- sulfur dioxide
- methane
- ozone
- water vapour
- industrial combustion
- industrial waste
- motor vehicle
- nitrogen monoxide
- nitrogen dioxide

Around 1.200 terms
 6 languages (partially available)
 Developed in 2006
 More than 6.300 terms (UN source) in standby
 Soon available through a web service

Potential users:

- ✓ Research Institutions
- ✓ Environmental agencies
- ✓ Libraries

| | termine.English | termine.Italian | termine.French | termine.Spanish | termine.German | termine.Danish |
|----------------------|-----------------|--------------------------------|------------------------------------|-----------------------------------|------------------------|----------------------------------|
| utility boiler | | caldaie per riscaldamento | chaudière de centrale | caldera de central electrotérmica | | |
| biomass energy | | energia da biomasse | energie de la biomasse | energía de la biomasa | | biomasse-energi |
| clean air areas | | zone di aria non inquinata | zone d'air pur | zona de aire limpio | | lufttrum uden forurening |
| alternative energies | | energie alternative | | energía alternativa | Alternativenergie | |
| pollutant immission | | immissioni di inquinanti | immission des polluants | inmisión de contaminante | | immission af forurenende stoffer |
| catalytic converters | | marmitte catalitiche | pot catalytique | convertidor catalítico | | katalysator |
| climate | | clima | climat | clima | | klima |
| air circulation | | circolazione dell'aria | | circulación del aire | Luftzirkulation | |
| wet scrubber | | abbattitori ad umido | appareil de dépolluissage par voie | depurador húmedo | | vådudskiller |
| heating plant | | impianti termici | centrale de chauffage | central de calefacción | | varmekraftværk |
| fuel enrichment | | arricchimento dei combustibili | | enriquecimiento del combustible | Brennstoffanreicherung | |

Lexicon on Water Quality

Around 1.800 terms

4 languages (partially available)

Derived from the Environmental Data Exchange Network on Inland Water (EDEN-IW) Project – 5th IST Framework Programme

Started in 2008 - under development



Thanks for your attention!

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