



Programa Nacional de Pesquisa em Geoquímica Ambiental e Geologia Médica PGAGEM

Literatura recomendada:

<http://home.swipnet.se/medicalgeology/>

A COMMON Tragedy: History of an Urban River . Edited by Timothy J. Iannuzzi, David F. Ludwig, Jason C. Kinnell, Jennifer M. Wallin, William H. Desvouges, and Richard W. Dunford.
<http://www.aehs.com/publications/asporder.pdf>

ABERNATHY, C.O.; CALDERON, R.L.; CHAPPELL, W.R. (editors). **Arsenic. Exposure and health effects.** Chapman and Hall, 1997.

ADRIANO, D.C. **Trace elements in the terrestrial environment.** Springer Verlag, 1986.

ADRIANO, D.C.; ISKANDAR, A.K.; MURARKA, I.P. (editors). **Contamination of groundwaters.** Science Reviews, 1994.

APPLETON, J.D.; FUGE, R.; MCCALL, G.J.H. (editors). Environmental geochemistry and health with special reference to developing countries. **Geological Society of London. Special Publication**, n. 113, 1996.

ASWATHANARAYANA, U. **Geoenvironment.** Balkema press , 1995.

BANKS, D., REIMANN, C., RØYSET, O. ; SKARPHAGEN, H., Natural concentrations of major and trace elements in some Norwegian bedrock groundwaters.- **Applied Geochemistry**, 10: 1-16, 1995

BANKS, D.; FRENGSTAD, B.; MIDTGÅRD, Aa.; KROG, J.R.; STRAND, T. (in press) **The Chemistry of Norwegian Groundwaters:** I. The Distribution of Radon, Major and Minor Elements in 1604 Crystalline Bedrock Groundwaters. *Science of the Total Environment.*

BANKS, D., MIDTGÅRD, Aa. K.; FRENGSTAD, B. ; KROG, J.R. ;STRAND, T. (in press). **The Chemistry of Norwegian Groundwaters:** II. The Chemistry of 72 Groundwaters from Quaternary Sedimentary Aquifers. *Science of the Total Environment.*

BJORVATN, K.; THORKILDSEN, A.H.; HOLTEBERG, S. Sesongmessige variasjoner i fluoridinholdet i sør og vestnorsk grunnvann.(Seasonal variations of the fluoride content in south and west Norwegian groundwaters - in Norwegian) - Den norske tannlegeforenings tidende, 102, p. 128-33,1992:



Programa Nacional de Pesquisa em Geoquímica Ambiental e Geologia Médica PGAGEM

Literatura recomendada:

Cont.

BJORVATN, K.; BÅRDSEN, A. ; THORKILDSEN, A.H.; SAND, K. Fluorid i norsk grunnvann - en ukjent helsefaktor. (Fluoride in Norwegian groundwater - an unknown health factor - in Norwegian).- Vann nr.2 1994, p. 120-128, 1994.

BØLVIKEN, B., Geomedisin. (Geomedicine - in Norwegian with an English summary). In: AASE, A. (ed.): **Geographisk epidemiologi. Norsk Journal Epidemiol.** 8/1: 29-39,1998.

BØLVIKEN, B. ; LÅG, J.. Natural heavy metal poisoning of soils and vegetation: an exploration tool in glaciated terrain. **Applied earth science**, 86: B173-180, 1977

BØLVIKEN, B., VIVÅS, H.J. ; ØYEN, Ø. Sammenligning av kreft og miljøkjemi i Norge (Comparison of cancer and environmental geochemistry in Norway, in Norwegian). In: Lyberg-Beckmann, S and Storvik, H.: Epidemiologisk forskning om sammenhengen mellom milø og helse. **Norges foskningsråd**, Oslo: 319-328, 1994.

BØLVIKEN, B.;NILSEN, R. ;UKKELBERG. A new method for spatially moving correlation analysis in geomedicine. **Environmental Geochemistry and Health**, 19: 143-153,1997.

BOSTRÖM, H.; LJUNGSTEDT, N. (editors) .**Trace elements in health and disease**. Almqvist och Wiksell International, Stockholm, 1985.

BOWIE, S.H.U., WEBB, J.S., **Environmental geochemistry and health**. London: Royal Society, 1980. 216 p.

BOWIE, S.H.U.;THORNTON, I, (editors). **Environmental geochemistry and health**. D. Reidel Publishing Company.

CHAPPELL, W.R., ABERNATHY, C.O., COTHERN, C.R. (editors), 1994. **Arsenic. Exposure and health**. Science and technology letters.

Conference Proceedings

<<http://www.aehs.com/publications/catalog/proceedings.htm>>

Contaminated Soils, Volume 1

Proceedings of the 1995 Tenth Annual Conference on Contaminated Soils, held at the University of Massachusetts at Amherst

<<http://www.aehs.com/publications/catalog/soil1.htm>>



**Programa Nacional de Pesquisa em Geoquímica Ambiental e Geologia Médica
PGAGEM**

Literatura recomendada:

Cont.

Contaminated Soils, Volume 2

Proceedings of the 1996 Eleventh Annual Conference on Contaminated Soils, held at the University of Massachusetts at Amherst

<<http://www.aehs.com/publications/catalog/soil2.htm>>

Contaminated Soils, Vol. 3

Proceedings of the 1997 Twelfth Annual Conference on Contaminated Soils

<<http://www.aehs.com/publications/catalog/soil3.htm>>

Contaminated Soils, Volume 4

<<http://www.aehs.com/publications/catalog/soil4.htm>>

Hydrocarbon Contaminated Soils, v. 2

Proceedings of the 1991 Sixth Annual Conference on Hydrocarbon Contaminated Soils

<<http://www.crcpress.com/>>

Hydrocarbon Contaminated Soils, Vol. 3

Proceedings of the 1992 Seventh Annual Conference on Contaminated Soils

<[Hydrocarbon Contaminated Soils, Vol. 4](#)>

Hydrocarbon Contaminated Soils, Volume 5

Proceedings of the 1994 Ninth Annual Conference on Contaminated Soils, University of Massachusetts at Amherst

<<http://www.aehs.com/publications/catalog/5.htm>>

Proceedings of the 1993 Eighth Annual Conference on Contaminated Soils

<<http://www.aehs.com/publications/catalog/4.htm>>

<<http://www.aehs.com/publications/asporder.pdf>>

DRINKING water and health. National Academy of Sciences, Washington D.C. 1977.

DWYER, F.J., DOANE, T.R., HINMAN, M.L. (editors). **Environmental Toxicology and Risk Assessment: Modeling and Risk Assessment**. ASTM, 1997.

FERGUSSON, J.E. **The heavy elements: Chemistry, environmental impact and health effects**. Pergamon Press, 1990.

FLATEN, T.P. A nation wide survey of the composition of drinking water in Norway. **The Science of the Total Environment**, 102:35-73, 1991.



Programa Nacional de Pesquisa em Geoquímica Ambiental e Geologia Médica PGAGEM

Literatura recomendada:

Cont.

FLATEN, T.P. ; BØLVIKEN, B. Geographical associations between drinking water chemistry and the mortality and morbidity of cancer and some other diseases in Norway. **The Science of the Total environment**, 102: 75-100, 1991.

FOSTER, H.D. **Health, disease and the environment**. CRC Press, Boca Raton, 1992. 516 p.

FRANKEBERGER, W.T.; BENSON, 1994. (editors). **Selenium in the environment**. Marcel Dekker Inc

FRANKENBERGER, W.T.; ENGBERG, R.A. (editors). **Environmental chemistry of selenium**. Marcel Dekker Inc ,1998.

Geomedicine Literature <<http://www.soils.org/issss/history/newslet9.html>>.

HUTCHINSON, T.C., MEEMA, K.M. **Lead, mercury, cadmium and arsenic in the environment**. John Wiley and Sons, 1987.

JIANAN, T. **The atlas of endemic diseases and their environments in the People's Republic of China**. Science press, 1989.

JIANAN, T., PETERSON, P.J., RIBANG, L., WUYI, W., (editors). **Environmental life elements and health**. Science Press, Beijing, 1990.

KABATA-PENDIAS, A, PENDIAS, H. **Trace elements in soils and plants**. Third edition. Boca Raton, USA: CRC Press, 2001.

KOPFLER, F.C., CRAUN, G.F. **Environmental epidemiology**. Lewis publishers inc. 1991.

LÅG, J. (editor). **Geomedicine**, CRC Press, 1990.

LÅG, J. (ed.). **Geomedical aspects in present and future research**. Universitetforlaget, Oslo, Norway, 1980. 226p.

LÅG, J. (ed.). **Geomedical research in relation to geochemical registrations**. Universitetforlaget, Oslo, Norway, 1984. 189p.



**Programa Nacional de Pesquisa em Geoquímica Ambiental e Geologia Médica
PGAGEM**

Literatura recomendada:

Cont.

LÅG, J. (ed.). **Geomedical consequences of chemical composition of freshwater.** Universitetforlaget, Oslo, Norway, 1987^a 201p.

LÅG, J. (ed.). **Commercial fertilizers and geomedical problems.** Universitetforlaget, Oslo, Norway, 1987. 156p.

LÅG, J. (ed.). **Health problems in connection with radiation from radioactive matter in fertilizers, soils and rocks.** Universitetforlaget, Oslo, Norway, 1988. 175p.

LÅG, J. (ed.). **Excess and deficiency of trace elements in relation to human and animal health in Arctic and subarctic regions.** Universitetforlaget, Oslo, Norway, 1990. 225p.

LÅG, J. (ed.). **Geomedicine.** CRC press, Bocca Raton, USA, 1990. 278p.

LÅG , J. (ed.). **Human and animal health in relation to circulation processes of selenium and cadmium.** Universitetforlaget, Oslo, Norway, 1991. 224p.

LÅG, J. (ed.). **Chemical climatology and geomedical problems.** Universitetforlaget, Oslo, Norway, 1992. 253p.

LÅG , J. (ed.). **Geomedical problems related to aluminium, iron and manganese.** Universitetforlaget, Oslo, Norway, 1994. 210p.

LÅG, J. (ed.). **Chemical data as a basis of geomedical investigations.** Universitetforlaget, Oslo, Norway, 1991. 217p.

LÅG, J. ;BØLVIKEN, B. Some naturally heavy-metal poisoned areas of interest in prospecting, soil chemistry, and geomedicine. **Norges geologiske undersøkelse Bull.** 304: 73-96,1974.

LÅG, J. ;STEINNES, E. Regional distribution of halogens in Norwegian forest soils. **Geoderma**, 16: 317-325, 1976.

LÅG, J. ;STEINNES, E. Regional distribution of selenium and arsenic in humus layers of Norwegian forest soils. **Geoderma**, 20, 3-14, 1978.



Programa Nacional de Pesquisa em Geoquímica Ambiental e Geologia Médica PGAGEM

Literatura recomendada:

Cont.

LANGEDAHL, M. Helserisikovurdering av metaller i jord i bysamfunn: eksempel for nikkel og bly i utedmiljøet i Trondheim. (Health risk evaluation for metals in city soils: A case study of nickel and lead in the city of Trondheim – in Norwegian). Rapport nr. 97/04, Trondheim kommune miljøavdelingen, Norway, 1997.

LANGEDAHL, M. ;HELLESNES, I. Innhold av tungmetaller i overflatejord og bakterier i sandkasser i barnehagene i Trondheim: Helserisikovurdering. (Content of heavy metals in surface soils and bacteria in sandboxes of the kindergartens in Trondheim: health risk evaluation. - in Norwegian). Rapport nr. 97/03, Trondheim kommune miljøavdelingen, Norway, 1997.

The Norwegian Academy of Science and Letters has published several proceedings from symposia on geomedicine. Editor of all these books are prof Jul Låg:

- Geomedical aspects in present and future research, 1980*
- Geomedical research in relation to geochemical registrations, 1984*
- Geomedical consequences of chemical composition of freshwater, 1987*
- Commercial fertilizers and geomedical problems, 1987*
- Health problems in connection with radiation from radioactive matter in fertilizers, soils and rocks, 1988*
- Excess and deficiency of trace elements in relation to human and animal health in Arctic and Subarctic regions, 1990*
- Human and animal health in relation to circulation processes of selenium and cadmium" 1991*
- Chemical climatology and geomedical problems, 1992*
- Geomedical problems related to aluminium, iron and manganese, 1994*
- Chemical data as a basis of geomedical investigations, 1996*
- Some geomedical consequences of nitrogen circulation processes , 1997*
- Geomedical problems in developing countries, 2000*

NATURAL ionizing radiation and health" 2001 (editor Björn Bölviken)

MERIAN, E. (editor).**Metals and their compounds in the environment.Occurrence, analysis and biological relevance**. VCH, 1991.

MERTZ, W (editor). **Trace elements in human and animal nutrition.** Academic Press Inc., 1987.



Literatura recomendada:

Cont.

MISLIN, H., RAVERA, O, (editors) **Cadmium in the environment**. Birkhauser Verlag. 1986.

MIDTGÅRD, A.K.; FRENGSTAD, B.; BANKS, D. Drinking waters from wells in rock - not just H₂O. Annual Report 1997. **Geological Survey of Norway, Trondheim**, 1998..p 10-11.

NEW Technologies for Soil Reclamation and Desert Greenery

(Proceedings of the Joint KISR – PEC Symposium) Edited by Nader M. Al-Awadhi and Faisal K. Taha
<http://www.aehs.com/publications/asporder.pdf>

NRIAGU, J.; NIEBOER, E. (editors). **Chromium in the natural and human environments**. John Wiley and Sons. 1988.

OLDFIELD, J.E. **Selenium world atlas**. (second edition). 2002.

OTTESEN, R.T. Asbest i veistøv, Trondheim (Asbest in road dust, Trondheim - in Norwegian). Rapport nr. 94/01, Trondheim kommune miljøavdelingen, Norway, 1994.

OTTESEN, R.T.; ALMKLOV, P.G.; TIJHUS, L. Inhold av tungmetaller og organiske miljøgifter i overflatejord fra Trondheim (Content of heavy metals and organic toxic substances in surface soils from Trondheim – in Norwegian). apport nr. TM 95/06. Trondheim kommune, miljøavdelingen, Norway, 1995.

REIMANN, C.; CARITAT, P. **Chemical elements in the environment**. Springer Verlag, 1998.

REIMANN, C.; HALL, G.E.M.; SIEWERS, U.; BJORVATN, K.; MORLAND, G.; SKARPHAGEN, H.; STRAND, T. Radon, fluoride and 62 elements as determined by ICP-MS in 145 Norwegian hardrock groundwaters. **The Science of the Total Environment**, 192: 1-19, 1996.

REIMANN, C.; ÄYRÄS, M.; CHEKUSHIN, V.A.; BOGATYREV, I.; BOYD, R.; CARITAT, P. de; DUTTER, R.; FINNE, T.E.; HALLERAKER, J.H.; JÆGER, Ø.; KASHULINA, G.; NISKAVAARA, H.; LEHTO, O.; PAVLOV, V.; RÄISÄNEN, M. L.; STRAND, T.; VOLDEN, T. Environmental Geochemical Atlas of the Central Barents Region. NGU-GTK-CKE **Special Publication**. **Geological Survey of Norway**, 1998. 745p.

RÜHLING; STEINNES, E. ; BERG, T. **Atmospheric heavy metal deposition in Northern Europe 1995**. Nordic Council of Ministers, Nordic Publishing House, Nord,:37, 1996. 46p.



Literatura recomendada:

Cont.

SÆTHER, O.M. ; FOLLESTAD, B.A., in press. Aluminium precipitates formed downstream of springs in a mountainous environment. **Water, Air, and Soil Pollution.**

SÆTHER, O.M.;BØLVIKEN, B.; LÅG, J. ;STEINNES, E.. Concentration and chemical form of lead during natural transport in groundwater. **Chemical Geology**, 69: 309-319, 1988.

SÆTHER, O.M., REIMANN, C., HILMO, B.O. AND TAUSHANI, E. Chemical composition of hard- and softrock groundwaters from central Norway with special consideration of fluoride and Norwegian drinking water limits. **Environmental Geology**, 26, 3: 147-156, 1995.

SÆTHER, O.M.; ANDREASSEN, B.TH. ;SEMB, A.. Amounts and sources of fluoride in precipitation over Southern Norway. **Atmospheric Environment**, 29/15: 1785-1793, 1995.

SÆTHER, O.M.; STORROE, G.; SEGAR, D. ;KROG, R.. Contamination of soil and groundwater at a former industrial site in Trondheim, Norway. **Applied Geochemistry**, v.12, p. 327-332, 1997.

SALOMONS, W.; FÖRSTNER, U.; MADER, P. (editors). **Heavy metals. Problems and solutions.** Springer Verlag,1995.

SMITH-SIVERTSEN, T.;LUND, E.; THOMASSEN, Y. ;NORSETH, T. Human nickel exposure in an area polluted by nickel refining: **The Sør-Varanger study. Archives of Environmental Health**, v.52, n.6, p. 464-471,1997.

STEINNES, E. Heavy metals in Norwegian wildlife: Contributions from natural and anthropogenic sources. In: LÅG, J. **Chemical data as a basis of geomedical investigations.** Universitetforlaget, Oslo, Norway: 1996. p.101-113.

THORNTON, I. (editor) **Applied environmental geochemistry.** Academic Press.,1983.

THORNTON, I. (editor). **Proceedings of the first international symposium on geochemistry and health.** Science Reviews Ltd. 1985.

THORNTON, I. (editor). **Geochemistry and health.** Science reviews Ltd., 1988.



Programa Nacional de Pesquisa em Geoquímica Ambiental e Geologia Médica PGAGEM

Literatura recomendada:

Cont.

THORNTON, I. **Metals in the global environment: facts and misconceptions.** Ontario: ICME, 1995, 105 p.

THORNTON, I.; CULBARD, E. (editors). **Lead in the home environment.** Science Reviews Ltd. 1987