Detailed information on the data published on the CLEO database web

(http://www.slu.se/cleo/data) Version 4.0

Content:

Information on the files online: 9 reference catchments

Hydrology

File: Runoff for all sites - database

SOURCE: IVL, SLU, SMHI

Content: observed runoff data (m3/s Dygnsmedelvattenföring)

Time series:

Gårdsjön F1: 25.7.1979 - 31.12.2009
Gårdsjön G2: 1.10.1992 – 31.12.2005
Berg: 1.1.1985 - 31.12.2008
Aneboda: 1.1.1997 – 31.12.2008
Stubbetorp 18.6.1985 – 31.1.1997
Kindla: 1.1.1997 – 31.12.2008
Sniptjärn: 1.1.1977 – 21.6.1997
Svartberget: 1.1.1981 – 31.12.2008
Ammarnäs Skog: 1.1.1985 – 31.12.2000

Chemistry

File: Vattenkemi CLEO prio 1 – database

SOURCE: IVL, SLU, SMHI

Measured and calculated parameter for site Gårdsjön F1, Gårdsjön G2, Kindla, Aneboda, Ammarnäs skog (Lillbäcken), Berg (Pipbäcken Nedre), Sniptjärn, Svartberget, Stubbetorp (not all parameters included for the respective sites):

Content: X_RAK, Y_RAK, Flodmr., Län, Typ, Stn_IdNr, År, Månad, Dag, Nivå, Siktdjup, Temp, Syrgas, Vattenst., pH, Kond_25/m25, Kond20 µS/cm20, Kond mS/m25, Ca mekv/l, Mg mekv/l, Na mekv/l, K mekv/l, Alk./Acid, SO4_IC mekv/l, SO4_Mack mekv/l SO4 mekv/l, Cl mekv/l, Flourid mg/l, Katjoner, Anjoner, Jon-Diff %, NH4-N µg/l, NO2-N µg/l, NO2+NO3 µg/l, NO3-N µg/l, Kjeld_N µg/l, Org.-N µg/l, Tot_N_ps µg/l, Tot-N_TNb µg/l, Tot-N_sum µg/l, Tot-N µg/l, PO4-P µg/l, Övr.-P µg/l, Tot-P µg/l, Abs_OF 420 nm/5cm, Abs_F 420 nm/5cm, Abs Diff 420/5cm, Färg mgPt/l, KMnO4 mg/l, Si mg/l, Slamhalt mg/l, TOC mg/l, DOC mg/l, Fe µg/l, Mn µg/l, Cu µg/l, Zn µg/l, Al_s µg/l, Al_ICP µg/l, Al_ICPAES µg/l, Cd µg/l, Pb µg/l, Hg ng/l, MeHg ng/l, Cr µg/l, Ni µg/l, Co µg/l, As µg/l, V µg/l, Mo µg/l, Se µg/l, W µg/l, SiO2 µg/l, Kfyll mg/l, Al-tot mg/l, Al-tot mg/l, Al-inorg mg/l, ANC, NOx, In-N, Org-N_ps, Org-N TNb, Abs OF, Abs F, TurbDiffcalc, Org C, SVA, CN (TOC/orgN) - orgN-Kjeld, CN (Corg/orgN) – orgN-Kjeld

Time series:

Gårdsjön F1: 10.1.1989 – 31.3.2009
Gårdsjön G2: 20.1.1989 – 31.3.2009
Kindla 20.3.1994 – 14.12.2009
Sniptjärn: 7.4.1976 – 10.11.2008
Svartberget: 15.10.1986 – 15.12.2009
Ammarnäs skog 12.7.1984 – 15.3.2000
Berg (Pipbäcken Nedre) 10.4.1984 – 14.12.2009
Aneboda: 2.7.1996 – 14.12.2009
Stubbetorp: 17.5.1983 – 5.1.1997

Climate

1) *File: Precipitation_temperature PTHBV*

SOURCE: SMHI

Content (Tab 1):

PTHBV modeled precipitation:
modeled daily precipitation data (mm) for Gårdsjön F1, Aneboda, Kindla, Stubbetorp, Sniptjärn, Vindeln Svart, Gårdsjön G2, Amma skog, Berg,
Time series 1.1.1961 – 31.12.2009

Content (Tab 2):

PTHBV modeled Temperature
modeled daily air temperature data (°C) for Gårdsjön F1, Aneboda, Kindla, Stubbetorp, Sniptjärn, Vindeln Svart, Gårdsjön G2, Amma skog, Berg
Time series 1.1.1961 – 31.12.2009

2) *File: RH,wind speed Cleo prio1 – database*

SOURCE: SMHI

Content:

Observed data of RH (relative Humidity, %) and Wind speed (m/s) for Ammarnäs, Svartberget, Sniptjärn, Kindla, Stubbetorp, Gårdsjön, Berg, Aneboda, from different climate stations (with X_RAK, Y_RAK)

Time series:

Ammarnäs:
1.6.1965 – 8.7.2008 HEMAVAN 15594
1.1.2008 – 31.12.2009 HEMAVAN FLYGPLATS 15597
Svartberget:
1.1.1961 – 28.2.1989 - Klimastation HÄLLNÄS-LUND 14916
1.3.1989 – 31.12.2009 - Klimastation VINDELN-SUNNANSJÖNÄS 14912
Sniptjärn
1.1.1967 – 30.11.1995 - Klimastation DELSBO 11648
1.12.1995 – 31.12.2009 - Klimastation DELSBO A 11649
Kindla:
1.2.1967 – 30.4.2000 - Klimastation STÄLLDALEN 9458
1.8.1995 – 31.12.2009 - Klimastation DAGLÖSEN A 9439
Stubbetorp
1.1.1961 – 31.12.2009 - Klimastation NORRKÖPING-SÖRBY 8637
1.7.1993 – 31.12.2009 Klimastation NORRKÖPING-SMHI 8634
Gårdsjön
1.7.1972 – 31.12.2009 - Klimastation GÖTEBORG 7142
Berg
1.12.1972 - 31.7.2008 Klimastation TORUP 6360
1.1.2008 – 31.12.2009 Klimastation TORUP A 6359
Aneboda
1.1.1961 - 14.11.1995 - Klimastation VÄXJÖ 6452
1.8.1995 – 31.12.2009 - Klimastation VÄXJÖ A 6451

3) *File: Gårdsjön+Aneboda metrological data – database*

SOURCE: IVL

Content Gårdsjön:

Air humidity (%) and temperature (°C) measured at site Gårdsjön G2
Precipitation (mm/d) measured at Gårdsjön F1
Global radiation (W/m2), Air temperature at 175 cm (degree), Air humidity (%), Wind speed (m/s), Wind direction (0-360 degrees) daily observed data from mast station in Gårdsjön

Time series:

Air temp and humidity for site G2 – 29.5.2000 – 10.09.2007
Precipitation (Gårdsjön F1): 1.6.1979 – 31.12.2009
Various metrological data from mast station: 1.3.1990 – 17.8.2010

Content Aneboda:

X, Y, Year, Month Day, air temperature (°C, 200 and 400 cm), average wind speed (m/s, 400 and 1000 cm), max wind speed (m/s, 400 and 1000 cm), wind direction (degree, 400 and 1000 cm), relative humidity (%, 200 and 400 cm), net radiation (W/m2, 200 and 400 cm), rainfall TB (mm, 150 cm), rainfall AA (mm, 150 and 400 cm) <- TB and AA are different collectors, global radiation (W/m2, 200 and 400 cm)

Time series:

7.11.95 – 1.3.2010

4) *File: SOL radiation files - database*

SOURCE: SMHI

Content:

Hourly based values of: ULGH- global strålning mot horisontell yta (W/m2), UINH – Direkt strålning för vinkelrätt infall (W/m2), ULH – Långvågig strålning (W/m2), UREL – relative fruktighet (%)

Time series:

Göteborg 7142 **(**associated with Berg, Gårdsjön when modeled**)**
1.1.1983 – 31.12.2009 UGLH
1.1.1983 – 31.10.2006 UINH
No data for ULH
1.1.1983 – 31.3.2006 UREL
Borlänge 10528 (associated with Kindla, Sniptjärn when modeled**)**
1.4.1985 – 31.12.2009 UGLH
1.4.1985 – 31.12.2007 UINH
1.3.1990 – 30.11.1998 ULH
26.5.1987 – 31.3.2006 UREL
Gunnarn 14765 **(**associated with Ammarnäs when modeled**)**
1.1.1983 – 31.8.1986 UGLH
1.1.1983 – 31.8.1986 UINH
No data for ULH
1.1.1983 – 31.8.1986 UREL
Norrköping 8665 **(**associated with Stubbetorp when modeled**)**
1.1.1983 – 31.12.2009 UGLH
1.1.1983 – 31.12.2007 UINH
1.7.2008 – 31.12.2009 ULH
1.1.1983 – 31.3.2006 UREL

Umea 14061 **(**associated with Svartberget, Sniptjärn when modeled**)**
1.1.1983 – 31.12.2009 UGLH
1.1.1983 – 31.12.2007 UINH
No data for ULH
1.1.1983 – 30.5.2006 UREL
Växjö 6456 **(**associated with Aneboda when modeled**)**
1.1.1983 – 31.12.2009 UGLH
1.1.1983 – 31.12.2007 UINH
No data for ULH
1.1.1983 – 31.3.2006 UREL

Deposition

File: Deposition-database

Tab 1 "MATCH-model all sites"

SOURCE: SMHI

Content:

TotS, TotNO3N, TotNH4N, TotCa, TotMg, Tot Na, Totk, TotCl (mg/m2) for Site Gardsjön F1, Gårdsjön G2, Stubbetorp, Aneboda, Kindla, Sniptjärn, Svartberget, Ammarnäs Skog, Berg

Time: 2006, 2007, 2008

Tab 2 "Gårdsjön open field" and Tab 3 "Gardsjön throughfall"

SOURCE: IVL

Open field and throughfall deposition

Content:

År+mån, År, Månad, Station, Kommun, Län, Mät program, Nederbörd mm, ph, H+, Cl (mg/l), NO3-N (mg/l), SO4 (mg/l), NH4-N (mg/l), Ca (mg/L), Mg (mg/l), Na (mg/l), Kond mS/m, DOC (mg/l), KJN (mg/l), N-tot (mg/l), Org-N (mg/l), P-tot (mg/l), Fe (µg/l), Al (µg/l), Pb (µg/l), Cd (µg/l), Cu (µg/l), Zn (µg/l), Cr (µg/l), Ni (µg/l), Co (µg/l), Mn (µg/l), V (µg/l), As (µg/l), Se (µg/l), Mo (µg/l), Hg-tot (ng/l), MeHg (ng/l)

Time series:

Monthly data from 1/1996 – 12/2011

Tab 4 "Kindla open field" and Tab 5 "Kindla throughfall"

SOURCE: IVL

Open field (öppet fält) and throughfall (krondropp) deposition

Content

År+mån, År, Månad, Station, Kommun, Län, Mät program, Nederbörd mm, ph, H+, Cl (mg/l), NO3-N (mg/l), SO4 (mg/l), NH4-N (mg/l), Ca (mg/L), Mg (mg/l), Na (mg/l), Kond mS/m, DOC (mg/l), KJN (mg/l), N-tot (mg/l), Org-N (mg/l), P-tot (mg/l), Fe (µg/l), Al (µg/l), Pb (µg/l), Cd (µg/l), Cu (µg/l), Zn (µg/l), Cr (µg/l), Ni (µg/l), Co (µg/l), Mn (µg/l), V (µg/l), As (µg/l), Se (µg/l), Mo (µg/l), Hg-tot (ng/l), MeHg (ng/l)

Time series:

Monthly data from 1/1996 – 12/2011

Tab 6 “Ammarnäs open field” and Tab 7 “Ammarnäs throughfall-open field”

SOURCE: IVL (IVL has two sites at Ammarnäs to measures open field deposition)

Open field (öppet fält)

Content:

År+Mån, År, Mån, Station, Stat Id, Kommun, Län, Mät program, Nederbröd (mm), pH, H+ (µekv/l), Cl (mg/l), NO3-N (mg/l), SO4-S (mg/l), NH4-N (mg/l), Ca (mg/l), Mg (mg/l), Na (mg/l), K (mg/l), Kond (mS/m), Anm

Yellow fields: Nederbröd (l/ha), Cl (kg/ha), NO3-N (kg/ha), SO4-S (kg/ha), NH4-N (kg/ha), Ca (kg/ha), Mg (kg/ha), Na (kg/ha). K (kg/ha)

Time series:

Monthly data for 1/1983 – 12/2009

Open field and throughfall deposition (öppet fält, krondropp)

Content:

Projekt, ProvTyp, LokalKod, Träd Text, LokNamn, X_Koord, Y_Koord, Status, Streck, ProvKod, StartDatum, ProvDatum, Månad, Trattradi_(cm), Exponerings Tid, AntalTrattar, ProvVolym_(ml), Nb_mm, pH, Hplus_mekv/l, Hplus_gha, Alk_mekv/l, Alk_gha, SO4-S_mg/l, SO4-S_gha, SO4_Sex_mg, SO4_sex_gha, Cl_mg/l, Cl_gha, NO3-N_mg/l, NO3_gha, NH4-N_mg/l, NH4_gha, Kond_(mS/m), Ca_mg/l, Ca_gha, Mg_mg/l, Mg_gha, Na_mg/l, Na_gha, K_mg/l, K_gha, Mn_mg/l, Mn_gha, KjN_mg/l, KjN_gha, TOC_mg/l, TOC_gha, AntUppsk, AntUD

Time period:

Öppet fält: Monthly data from 5/1991 – 12/2000

Krondropp: Monthly data from 5/1991 – 9/2009

Tab 8 “Aneboda open field” and Tab 9 “Aneboda throughfall”

SOURCE: IVL

Open field (öppet fält)

Content

År+mån, År, Månad, Station, Kommun, Län, Mät program, Nederbörd mm, ph, H+, Cl (mg/l), NO3-N (mg/l), SO4 (mg/l), NH4-N (mg/l), Ca (mg/L), Mg (mg/l), Na (mg/l), Kond mS/m, DOC (mg/l), KJN (mg/l), N-tot (mg/l), Org-N (mg/l), P-tot (mg/l), Fe (µg/l), Al (µg/l), Pb (µg/l), Cd (µg/l), Cu (µg/l), Zn (µg/l), Cr (µg/l), Ni (µg/l), Co (µg/l), Mn (µg/l), V (µg/l), As (µg/l), Se (µg/l), Mo (µg/l), Hg-tot (ng/l), MeHg (ng/l)

Time series:

Monthly data from 1/1983 – 12/2011

Throughfall (krondropp)

Content

År+mån, År, Månad, Station, Kommun, Län, Mät program, Nederbörd mm, ph, H+, Cl (mg/l), NO3-N (mg/l), SO4 (mg/l), NH4-N (mg/l), Ca (mg/L), Mg (mg/l), Na (mg/l), Kond mS/m, DOC (mg/l), KJN (mg/l), N-tot (mg/l), Org-N (mg/l), P-tot (mg/l), Fe (µg/l), Al (µg/l), Pb (µg/l), Cd (µg/l), Cu (µg/l), Zn (µg/l), Cr (µg/l), Ni (µg/l), Co (µg/l), Mn (µg/l), V (µg/l), As (µg/l), Se (µg/l), Mo (µg/l), Hg-tot (ng/l), MeHg (ng/l)

Time series:

Monthly data from 1/1996 – 12/2011

Tab 10 ” Berg open field” (site BOA – Berg)

SOURCE: IVL

Open field (öppet fält)

Content:

År+Mån, År, Mån, Station, Stat Id, Kommun, Län, Mät program, Nederbröd (mm), pH, H+ (µekv/l), Cl (mg/l), NO3-N (mg/l), SO4-S (mg/l), NH4-N (mg/l), Ca (mg/l), Mg (mg/l), Na (mg/l), K (mg/l), Kond (mS/m), Status, Anm

Yellow fields: Nederbröd (l/ha), Cl (kg/ha), NO3-N (kg/ha), SO4-S (kg/ha), NH4-N (kg/ha), Ca (kg/ha), Mg (kg/ha), Na (kg/ha). K (kg/ha)

Time series:

Monthly data 1/1983 – 2/2004

Tab 11 and 12: Svartberget open field deposition (volume weighted bulking of daily samples)

SOURCE: SLU

Open field (öppet fält)

Content (Tab 11 “Svartberget open field 83-97”):

Vol. Wt. conc/Precipitation, conduct, pH, Cl (mg/l), NO3 (mg/l), PO4 (mg/l), SO4 (mg/l), NH4 (mg/l), N_tot kg/ha (mg/l), Mg (mg/l), Ca (mg/l), NA_23 kg/ha (mg/l), K_39 kg/ha (mg/l), Alk 5.4 (mg/l), Alk 4.5 (mg/l), O18

Time series:

Annual deposition values from 1983 – 1997

Open field (öppet fält)

Content (Tab 12 “Svartberget open field 02-07”):

Löp-nummber, Tidigarde beteckning, År, Månad, Precipitation (mm), Mg (mekv/l), Ca (mekv/l), Na (mek/l), K (mekv/l), Florid (mekv/l), Klorid (mekv/l), Sulfat (mekv/l), SO4 (mg/l), NH4-N (µg/l), NO2+NO3-N (µg/l), Tot-N (µg/l), Tot-P (µg/l), PO4-P (µg/l), TOC (mg/l), Fe (µg/l), Mn (µg/l), Al (µg/l), Cu (µg/l), Zn (µg/l), Pb (µg/l), Cd (µg/l), Cr (µg/L), Co (µg/l), Ni (µg/l), As (µg/l), V (µg/l), Si (µg/l), SO4 (kg/ha, monthly, annual, winter)

Time series:

Monthly data from 1/2002 – 5/2007

Annual calculations for open field deposition

Content:

NO3, NH4, Tot-N, PO4, TOC (in g/m2/yr)

Time series:

1988 – 2007

Soil (some soil data contain some inconsistencies – marked in the respective files in a separate tab)

Soil/water temperature, moisture and groundwater level

File: Soil_water temp_groundwater_streamwater level - database

SORUCE: SLU

- Tab 1: Kindla fys ("fys" station at the catchment outlet)

Fys=

Content:

X, Y (RT-90), soil temperature (°C) at 0, 5, 10, 20, and 35 cm, ground water temperature (°C, 268 cm), stream water temperature (°C, 0 cm), ground water level (°C, 268), surface water level (cm, 0 cm)

Time series:

Soil temp (not at 0 cm): 1.6.1997 – 20.4.2010
Ground water temp/stream water temp/ground water level: 11.10.1996-20.4.2010
Surface water level: 4.3.1997 - 20.4.2010
Soil temp (0 cm): 16.5.2002 - 20.4.2010

- Tab 2: Aneboda fys ("fys" station at the catchment outlet)

Content:

X, Y (RT-90), air temperature (°C, 200 cm), soil temp (°C) at 32, 44, and 58 cm, ground water temperature (°C, 200 cm), stream water temperature (°C) at 0 and 1 cm), ground water level (°C, 200 cm), surface water level (cm, 0 cm), conductivity (mS/m, 0 cm)

Time series (not always full months recorded):

Air temp: 8.4.1999 – 1.3.2010
Soil temp: 8.11.1995 – 1.3.2010
Ground water temp: 29.5.1996 - 1.3.2010
Stream water temp (at 0 cm): 24.7.1996 - 1.3.2010
Stream water temp (at 1 cm): 24.7.1996 -26.7.1997
Ground water level: 18.2.1996 – 1.3.2010
Surface water level: 8.12.1996 – 16.3.2009
Conductivity: 25.1.1996 – 19.6.1996

- Tab 3: Aneboda fys skog ("fys" station at the catchment outlet)

Content:

Soil temperature (°C) at 10. 20, 30 and 50 cm, ground water temperature (°C, 0 cm), ground water level (cm, 0 cm)

Time series:

Soil temp: 6.10.2009 – 19.5.2010
Ground water temp: 6.10.2009 – 19.5.2010
Ground water level: 6.10.2009 – 19.5.2010

- Tab 4: Gårdsjön

Content:

Gärdsjön G2:

Soil temperature O horizon (°C), soil temperature base of O horizon (°C), soil temperature 15 cm in mineral soil (°C), soil moisture O horizon, soil moisture base of O horizon, soil moisture 15 cm in mineral soil
Gårdsjön F1:
Soil temperature (°C) at 5, 15 and 30 cm
Time series:
Soil temp (G2): 29.5.2000 – 10.9.2007
Soil temp (F1): 10.1.1992 – 1.6.2010
Soil moisture (G2): 23.6.200 - 10.9.2007

Soil chemistry

File: soil chemistry Aneboda Kindla Gardsjön database

- Tab 1: Bulk density

Content:
Bulk density (g/cm3) calculations for Aneboda and Gardsjön, explanations in Swedish and English to problems with the calculations

- Tab 2: layer thickness

Content:
Average value and coefficient of variation for Ao and E horizon thickness for Aneboda, Kindla and Gardsjön

- Tab 3: all sites conc and storage

Content:
Concentrations: pH-H20, pH-KCl, exchangeable acidity (µEq/g), Ca exchangeable (µEq/g), Mg exchangeable (µEq/g), Na exchangeable (µEq/g), K exchangeable (µEq/g), Mn exchangeable (µEq/g), Al exchangeable (µEq/g), Fe exchangeable (µEq/g), CEC (µEq/g), V base saturation (%), P (mg/g), S (mg/g), N (mg/g), C (%), C/N-ratio, Fe (µg/g), Mn (µg/g) in different layer depths for Aneboda (1996), Gardsjön F1 (1995) and Kindla (1997)
Storage: template bulk density (g/cm3), volume (L/m2), layer weight (kg/m2), exchangeable acidity (eq/g), Ca exchangeable (g/m2), Mg exchangeable (g/m2), Na exchangeable (g/m2), K exchangeable (g/m2), Mn exchangeable (g/m2), Al exchangeable (g/m2), Fe exchangeable (g/m2), P (g/m2), S (g/m2), N (g/m2), C (kg/m2), Fe (g/m2), Mn (g/m2) for Aneboda, Gardsjön F1 and Kindla

- Tab 4: Aneboda (Sampling September 1996)

Content:
Sampling Intensivyyta (pooled and individual samples) at different depths (Ao, 0-5 cm, 5-20 cm, 20-40 cm, 80 cm): pH-H20, pH-KCl, exchangeable acidity (µEq/g), Ca exchangeable (µEq/g), Mg exchangeable (µEq/g), Na exchangeable (µEq/g), K exchangeable (µEq/g), Mn exchangeable (µEq/g), Al exchangeable (µEq/g), Fe exchangeable (µEq/g), CEC (µEq/g), V base saturation (%), P (µg/g), S (mg/g), N (%), C (%), C/N-ratio, Fe (µg/g), Mn (µg/g)

Sampling across the whole catchment (cirkelytor) at Ao, E horizon, B(10 cm): pH-H20, pH-KCl, exchangeable acidity (µEq/g), Ca exchangeable (µEq/g), Mg exchangeable (µEq/g), Na exchangeable (µEq/g), K exchangeable (µEq/g), Mn exchangeable (µEq/g), Al exchangeable (µEq/g), Fe exchangeable (µEq/g), CEC (µEq/g), V base saturation (%), P (µg/g), S (mg/g), N (%), C (%), C/N-ratio, Fe (µg/g), Mn (µg/g)

Average values of the above stated sampling locations: intensivyta at Ao, 0-5 cm, 5-20 cm, 20 – 40 cm, ca. 80 cm and the average values of the layers whole catchment area at Ao, E-Horizon, B-Horizon

- Tab 5: Gardsjön F1 (Sampling October 1995)

Content:

Sampling Intensivyyta (pooled and individual samples) at different depths (Ao, 0-5 cm, 5-20 cm, 20-40 cm, 60-80 cm): pH-H20, pH-KCl, exchangeable acidity (µEq/g), Ca exchangeable (µEq/g), Mg exchangeable (µEq/g), Na exchangeable (µEq/g), K exchangeable (µEq/g), Mn exchangeable (µEq/g), Al exchangeable (µEq/g), Fe exchangeable (µEq/g), CEC (µEq/g), V base saturation (%), P (µg/g), S (%), N (%), C (%), C/N-ratio, Fe (µg/g), Mn (µg/g)

Sampling across the whole catchment (cirkelytor) at Ao, B(10 cm): pH-H20, P (µg/g), S (mg/g), N (%), C (%), C/N-ratio, Fe (µg/g), Mn (µg/g)

Sampling peat transect along a stream in the middle of the catchment at 0-5 cm, 5-20 cm and 20-40 cm: pH-H20, pH-KCl, exchangeable acidity (µEq/g), Ca exchangeable (µEq/g), Mg exchangeable (µEq/g), Na exchangeable (µEq/g), K exchangeable (µEq/g), Mn exchangeable (µEq/g), Al exchangeable (µEq/g), Fe exchangeable (µEq/g), CEC (µEq/g), V base saturation (%), P (µg/g), S (%), N (%), C (%), C/N-ratio, Fe (µg/g), Mn (µg/g)

Average values of the above stated sampling locations: intensivyta at Ao, 0-5 cm, 5-20 cm, 20 – 40 cm, 80 60-cm, average values of the layers whole catchment area at Ao, B-Horizon and stream peat at 0-5 cm, 5-20 cm, 20-40 cm

- Tab 6: Kindla (Sampling XXX 1997)

Content:

Sampling Intensivyyta (pooled and individual samples) at different depths (Ao, 0-5 cm, 5-10 cm, 10-20 cm, 20-30 cm, 30-60 cm, ca. 70 cm): pH-H20, pH-KCl, exchangeable acidity (µEq/g), Ca exchangeable (µEq/g), Mg exchangeable (µEq/g), Na exchangeable (µEq/g), K exchangeable (µEq/g), Mn exchangeable (µEq/g), Al exchangeable (µEq/g), Fe exchangeable (µEq/g), CEC (µEq/g), V base saturation (%), P (µg/g), S (mg/g), N (%), C (%), C/N-ratio

Sampling across the whole catchment (cirkelytor) at Ao, E horizon, B(10 cm): pH-H20, pH-KCl, exchangeable acidity (µEq/g), Ca exchangeable (µEq/g), Mg exchangeable (µEq/g), Na exchangeable (µEq/g), K exchangeable (µEq/g), Mn exchangeable (µEq/g), Al exchangeable (µEq/g), Fe exchangeable (µEq/g), CEC (µEq/g), V base saturation (%), P (µg/g), S (mg/g), N (%), C (%), C/N-ratio

Average values of the above stated sampling locations: intensivyta at Ao, 0-5 cm, 5-10 cm, 10-20 cm, 20-30 cm, 30-60 cm, ca. 70 cm and the average values of the layers whole catchment area at Ao, E-Horizon, B-Horizon

- Tab 7: Lotta Pers – Hype input soil

Content:

Calculated soil input variables from the data in this excel sheet for Hype model input

Soil physics

File: Soil physics Aneboda Kindla – database

- Tab 1: Sample ID explanation

Content:
Information on sampling IDs, X, Y, N, E

- Tab 2: Particle size

Content:
Level over (cm), level under (cm), clay (%), fine silt (%), coarse silt (%), fine sand (%), middle sand fraction (%), coarse sand (%), gravel (%), loss of ignition (%), wilting point (%)

- Tab 3: Hydr cond (hydraulic conductivity)

Content:
Level under (cm), level over (cm), k-1 hour (cm/h), k-24 hours (cm/h)

- Tab 4: Water holding cap – pF

Content:
Level over (cm), level under (cm), material volume (%), pore volume (%), Pressure (P) at 0,05, 0,2, 0,5, 1, 2, 6 m, water content (volume-%), specific weight (kg/dm3), bulk density (kg/dm3), wilting point (weight-%), horizon

- Tab 5: Lotta Pers HYPE input pF

Content:
Calculated pore volume (%) and wilting point for HYPE model input

Soil water chemistry

File: Soil water chemistry - database

- Tab 1: Soil water Aneboda Kindla

Content:
Nivå (cm), D_Mineral/Depth in mineral soil (cm), D_Mark/Depth in soil (cm), År, Mån, Dag, Lys.nr, Volume of Sample (ml), pH, Ca (µekv/l), Mg (µekv/l), Na (µekv/l), K (µekv/l), SO4 (µekv/l), Klorid (µekv/l), NH4-N (µg/l), NO2-N (µg/l), NO2+NO3-N (µg/l), Al_s (µg/l), TOC (mg/l), Fe (µg/l), Mn (µg/l), Kond (mS/m), Si (mg/l), Tot_N_ps (µg/l), Alk. (µekv/l), Kj.d-N (µg/l), PO4-P (µg/l), Tot-P (µg/l), Cu (µg/l), Pb (µg/l), Cd (µg/l), Zn (µg/l), V (µg/l), Cr (µg/l), Ni (µg/l), Co (µg/l), As (µg/l), Se (µg/l), Mo (µg/l), Al_ICP (µg/l), Al_ICPAES (µg/l), Al_ICPKJB (µg/l)
Time series:
Kindla: 9.6.1994 – 22.10.2009
Aneboda: 15.9.1994 – 2.11.2009

- Tab 2: Soil water Gårdsjön

Content:
Site, Depth (cm), Date, pH LAB, H+ Lab (mEq/l), Alk (mmol/l), Color (mg Pt/l), Cond (mS/m), Ca (mg/l), Mg (mg/l), Na (mg/l), K (mg/l), Fe (mg/l), Mn(mg/l), Al-tot (mg/l), Al-org (mg/l), Al-inorg (mg/l), Cl (mg/l), SO4-S (mg/l), NO3-N (µg/l), NH4-N (µg/l), KJ-N (µg/l), TOT-N (µg/l), Org-N

(µg/l), DOC (mgC/l), Si (mg/l), B (mg/l), Tot-Hg (ng/l), MeHg (ng/l), Cu (µg/l), Zn (µg/l), Pb (µg/l), Cd (µg/l), Se (µg/l), Al (µg/l), Fe (µg/l), Mn (µg/l), Cr (µg/l), Co (µg/l), Ni (µg/l), As (µg/l). V (µg/l)

Time series:

Gårdsjön Lysimeter 1: 30.5.1996 – 28.4.2010

Gårdsjön Lysimeter 2: 30.5.1996 – 28.4.2010

G*round water chemistry*

File: Ground water chemistry

- Tab 1: Groundwater Aneboda Kindla

Content:

Name, Area, Station, Year, Month, Date, X, Y, N, E, Program, Temperature, pH_falt, Conductivity_falt (mS/m), Syre_insitu (mg/l), Redoxpotential_falt (V), Redoxpotential_lab (V), pH_lab, conductivity_lab (mS/m), Na (µeq/l), K (µeq/l), Ca (µeq/l), Mg (µeq/l), SO4 (µeq/l), Cl (µeq/l), NO3 (µeq/l), ANC, BC (µeq/l), MA (µeq/l), Aln+, IS (mmol/l), SO4 (mg/l), Cl (mg/l), F (mg/l), TOC (mg/l), NO3 (mg/l), Total N (mg/l), PO4 (mg/l), Total P (mg/l), NH4 (mg/l), Na (mg/l), K (mg/l), Ca (mg/l), Mg (mg/l), Fe (mg/l), Mn (mg/l), SiO2 (mg/l), Al (µg/l), Cd (µg/l), Cr (µg/l), Cu (µg/l), Pb (µg/l), Zn (µg/l), Hg (ng/l), Total Hg (ng/l), MeHg (ng/l), As (µg/l), Se (µg/l), Ni (µg/l), Co (µg/l), V (µg/l), Alkalinitet (mg HCO3/l), Aciditet (mg HCO3/l)

Time series (depending on station):

Aneboda: 6.6.1996 – 16.11.2009

Kindla: 4.3.1997 – 16.11.2009

- Tab 2: Groundwater level Aneboda Kindla

Content:

Name, Area, Station, Date, cm from the groundwater level to the upper edge of the tube, m over sea level, m from groundwater level to the soil surface

Time series (depending on station):

Aneboda: 13.8.1996 – 15.11.2004

Kindla: 4.3.1997 – 18.8.2003

- Tab 3: GW stations Aneb_Kindla info

Content:

Background information to the sampling stations at Aneboda and Kindla

- Tab 4: Groundwater Gårdsjön F1

Content:

Plot, date, year, month, distance from the groundwater level to the upper edge of the tube (cm), distance from the groundwater level to the soil surface (cm), pH lab, H+ lab (mg/l), Alk (mmol/l), color (mgPt/l), color (420 nm), Kond 25 (mS/m), Ca (µeq/l), Mg (µeq/l), Na (µeq/l), K (µeq/l), SO4 (µeq/l), Cl (µeq/l), NO3 (µeq/l), BC (base cations, µeq/l), MA (Mineral Acid anions (Cl-, NO3- and SO42-, µeq/l), ANC (acid neutralizing capacity, µeq/l), Ali (µeq/l), IS (ionic strength, mmol/l), Ca (mg/l), Mg (mg/l), Na (mg/l), K (mg/l), Fe (mg/l), Mn (mg/l), Ali*3/Alt, Al-tot (mg/l), Al-org (mg/l), Al-inorg (mg/l), Cl (mg/l), SO4-S (mg/L), NO3-N (µg/l), NH4-N (µg/l), Kj-N (µg/l), tot-N (µg/l), Org-N (µg/l), P-tot (µg/l), DOC (mg/l), Si (mg/l)

Time series: GW 4 14.07.1975 – 27.04.2006

GW 5 24.07.1975 – 27.04.2006

GW 8 24.07.1975 – 27.04.2006

GW 9 24.07.1975 – 27.04.2006

Detailed information on soil water and groundwater

File: Details to groundwater and soilwater sampling
Content:
Site, sample type, code, hydrology, soil, horizon.

Soil chemistry Svartberget

File: soil chemistry Svartberget - database
Content:
Site description, PSA code, Depth (cm) Particle size analysis (%), Moistre content (%), pH, NH4-N (mg/g), NO3-N (mg/g), dry matter (%), Air dried moisture (%), Loss on ignition (%), % Org C, Extractable Al (mg/g), Extractable Fe (mg/g), Extractable Orthophosphate (mg/g), EOC (% organic C), Carbonate Carbon (%), Extractable Na (mg/g), Extractable K (mg/g), Extractable Ca (mg/g), Extractable Mn (mg/g) + more detailed information on the sampling sites
Time series: Sampling took place October 1996

Soil data from the S-transect/Svartberget

1) File: S-transect Svartberget - database

Content:
Loss on Ignition data from S-transect
Sampling time: 1995

2) File: Hydr. Conductivity Svartberg - database

Content:
Hydr. Conductivity data from S-transect
Sampling time: 1995

3) File: Particle size distribution Svartberget - database

Content:
Particle size distribution of various points of the S-transect
Sampling time: 1995

4) File: pf-curve Svartberget - database

Content:
0, 0.03, 0.07, 0.3, 0.7, 2.0, 6.0 and 150 mvp at different sites and depths at the S-transect
Sampling time: 1995

Litterfall:

File: Litterfall_yearlychemistry -database

Content:
Forest litter weight (g/m2/year), C (g/m2/year), N (g/m2/year), Al (g/m2/year), Ca (g/m2/year), Fe (g/m2/year), K (g/m2/year), Mg (g/m2/year), Mn (g/m2/year), Na (g/m2/year), P (g/m2/year), S (g/m2/year) for Kindla and Aneboda
Time series: yearly values from 1998 - 2009

Catchment information:

1) *File: Map of the location of the 9 sites in Sweden*

The 9 sites are represented by the priority code 1

2) *File: Maps soil, sampling location, topography (powerpoint)*

SOURCE: http://info1.ma.slu.se/IM/IMeng.html
Content:
Maps with information on soil, topography, bedrock, sampling locations for Kindla, Aneboda and Gårdsjön

3) *File: Svartberget catchment*

Content:
Maps with information on soil type, vegetation, and overview over the catchment for Svartberget

4) *File: Catchment information – database1*

Content:
Various catchment information for all sites, e. g. program, geographic location, different codes, X, Y, N, E, vegetation

Vegetation:

SOURCE: Most data has been produced by the Department of Aquatic Sciences and Assessment at the Swedish University of Agricultural Sciences, (SLU) corresponding to the Swedish environmental monitoring programme.

All files contain a comprehensive explanation of column headings. Aneboda, Gårdsjön, and Kindla maps are included within the files where data from these catchments are available.

1) *File: Algae and lichens on young spruce*

Content: Presence, quantity and time for establishment of epiphytic aerial algae and lichens on needles and branches of about 20 small spruces per site. Data for: Aneboda (1997-98; 2000-06; 08-09), Gårdsjön (1992-93; 95; 97-98; 2000-08), and Kindla (1997-2009).

2) File: Circular plots: Soil

Content: Slope, exposition, soil depth, soil moisture, seepage and superficial boulder content was estimated for the whole plot, other soil conditions in three pits, evenly distributed outside the border of the tree plot. Data for: Aneboda (1996), Gårdsjön (1995), and Kindla (1998).

3) File: Circular plots: Trees

Content: Information about trees. One living tree per 10 cm diameter class was selected objectively, being the first in the class, irrespective of species, encountered when searching clockwise beginning in the north. Data for: Ammarnäs (1983; 1989), Aneboda (1996; 2001; 06), Gårdsjön (1991; 95; 2000; 05), and Kindla (1998; 2003; 08).

4) File: Circular plots: Trees (basal area)

Content: Basal area of each tree species using a relascope in the center of the circular plot. Data for: Ammarnäs (1983; 1989), and Gårdsjön (1991).

5) File: Circular plots: Trees (small trees)

Content: Information on small trees (less than 5-10 cm). Data for: Ammarnäs (1983; 1989), and Gårdsjön (1991).

6) File: Circular plots: Vegetation layers

Content: Cover/abundance, sexual organs and sociability of the individual species of all layers on the circular plots. Data for: Ammarnäs (1983; 1989), Aneboda (1996; 2006), Gårdsjön (1991; 2005), and Kindla (1998; 2003; 08).

7) File: Intensive plots: Trees

Content: On the intensive plot all trees >0 cm diameter at breast height (130 cm above ground) and windthrows and stumps ≥5 cm diameter are measured regarding a number of variables. Data for: Ammarnäs (1983-84; 88; 93), Aneboda (1982-83; 87; 92; 99; 2002; 07), Gårdsjön (1995; 2000; 07), and Svartberget (1983; 88).

8) File: Intensive plots: Understorey vegetation

Content: Information on cover of the field and bottom layers as wholes and of their individual species on subplots. Data for: Ammarnäs (1983-88; 90; 93; 96), Aneboda (1982-87; 89; 91; 97-99-2001; 04; 07), Gårdsjön (1995; 98-2001; 03-04; 07), Kindla (1996; 98-2005; 07-08), and Svartberget (1982-86; 89; 91).

9) File: Forest damage

Content: Forest damage on Norway spruce and Scots pine. The central variable is defoliation expressed as per cent needles left of an imagined fully needled state of the tree. Data for: Gårdsjön (1997-2001), and Kindla (1998-2001).

10) File: Tree cover on intensive plots

Content: Cover, i.e. the projection of the tree crown onto the ground of living trees in the tree (T >5 m) and shrub (B 1-5 m) layers, is measured on intensive plots. Data for: Aneboda (1997), Gårdsjön (1995; 2001), and Kindla (2000).

11) File: Epiphytes on tree trunks

Content: Information on Epiphytes on tree trunks. Data for: Ammarnäs (1983; 88; 93), Gårdsjön (1996; 2001), and Svartberget (1982; 87; 92).

Information on the files online: 215 streams and rivers

Hydrology

File: Runoff S-Hype all sites - database
SOURCE: SLU
Content
S-Hype modeled daily runoff for all sites (m3/s)
Time series:
1990 - 2010
The excel file is split in two tabs Part I and Part II.

Chemistry

File: Water chemistry all sites - database
SOURCE: SLU
Content
Wq_id, Namn, X_Rak, Y_Rak, X_SHMI, Y_SMHI, Typ, Ar, Månad, Dag, Djup m, Skitdjup m, Temp C, Syrgas mg/l, pH, Kond_25 mS/m25, Kond_20 µS/cm20, Ca mekv/l, Mg mekv/l, Na mekv/l, K mkev/l, Alk/Acid mekv/l, SO4_IC mekv/l, SO4_Mack. mekv/l, Cl mekv/l, Flourid mg/l, NH4-N µg/l, NO2-N µg/l, NO2+NO3-N µg/l, Kjeld.-N µg/l, Tot-N_ps µg/l, Tot-N_TNb µg/l, PO4-P µg/l, Tot-P µg/l, Abs_OF 420 nm/5 cm, Abs_F 420 nm/5cm Färg mgPt/l, KMNO4 mg/l, Si mg/l, Slamhalt mg/l, Turb FNU, TOC mg/l, Fe µg/l, Mn µg/l, Cu µg/l, Zn µg/l, Al_s µg/l, Al_ICP µg/l, Al_ICPAES µg/l, Al_ICPKJB µg/l, Al_Ni µg/l, Cd µg/l, Pb µg/l, Hg ng/l, Cr µg/l, Ni µg/l, Co µg/l, As µg/l, V µg/l, Mo µg/l, Se µg/l, W µg/l, Kfyll mg/m3, TOC_excluded_Fluxmaster
Time series:
1990 – 2010

Climate

File: Precipitation and temperature all sites – database
SOURCE: SLU
Content
PTHBV modeled daily temperature (°C) and precipitation (mm) for all sites
Time series:
1990 - 2010
The file is split in two tabs Part I and Part II.

Catchment information

File: Catchment information - database
SOURCE: SLU
Content:

Wq_id, wq_Namn, lat, long, area, elevation, statistics from various parameters (TOC, S-Hype modeled runoff, S_Hype specific runoff, observed specific runoff, air temperature and precipitation), land use data, soil type data, kNN forest data

Overview map

File: Map of the location of the 215 sites in Sweden