

CL.Depot_RW - IDAF atmospheric deposition network

General information

Dataset name: CL.Depot_RW - IDAF atmospheric deposition network
Created on: 2006-01-06

Contact(s)

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Period

Date begin (yyyy-mm-jj): 1996-01-01
Date end (yyyy-mm-jj): 2008-01-01

Project(s)

OBSERVATORIES > IDAF-SDT

Data description

Abstract

To study the chemical composition of the atmosphere in Africa : The objective is to document the temporal and spatial evolution of gases and aerosols concentrations, and to analyze weekly, seasonal and inter annual variations => coupled experimental and modelling approach

To study wet and dry atmospheric deposition : deposition quantification using quality controlled measurements at the regional scale of the ecosystems, identification of deposition key regulating processes => Development of new parameterizations for atmospheric chemistry regional and global models (processes scale Meso NH- ORISAM, regional scale with RegCM-ORISAM, global scale TM4- ORISAM).

To study impacts : Aerosol radiative impact at the African scale => using all IDAF sites measurements + models RegCM-ORISAM and TM4- ORISAM and complementary data (AMMA EOP SOP + DEBITS). Impacts on natural ecosystems: water, vegetation, soil => models and data will provide outputs for multidisciplinary impacts studies (soils acidification, nitrogen cycle, hydrology, health).

Observing strategy

The IDAF network is composed of 8 stations, representative of great African ecosystems : 3 in South Africa and 5 in West Central Africa (Cameroon, Benin, Mali, Niger, Côte d'Ivoire). The LA analytical laboratory of chemistry with some collaborators receive sites samples. These laboratories participate to the international assurance quality programme organized by WMO (World Meteorological Organization). The following measurements are also quality controlled with collection and analytical procedures referenced to international standard (WMO, DEBITS, US EPA)

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- Aethalometer: Magee Scientific, AE16 (1 lambda), and/or AE31 (7 lambda) models: Continuous measurements

of BC.

- Carbonaceous aerosols collection on quartz filters (QMA), mineral aerosols on teflon filters (Zéfluor) with two sizes PM2.5 and PM10 low volume (5l/min) : weekly collection, BC/OC (DRI Improve), mineral series (IC) and trace metals (ICP-MS).
- Rain automatic collector: event collection, analysis of organic and mineral composition in Ionic Chromatography.
- Gas passive samplers: monthly gases concentrations (NO₂, NH₃, HNO₃, O₃, SO₂).

Geographic information

atmospheric deposition network

Location name:	atmospheric deposition network
Plateform type:	GROUND STATIONS
West bounding coordinate (°):	8
East bounding coordinate (°):	18.583
North bounding coordinate (°):	15.2
South bounding coordinate (°):	4.443

Measured parameters

Rainfall

Parameter name:	Rainfall
Parameter keyword:	Atmosphere > Precipitation
Unit:	meter - m
Date begin (yyyy-mm-jj):	1996-01-01
Date end (yyyy-mm-jj):	2008-01-01

Na⁺ concentration

Parameter name:	Na ⁺ concentration
Parameter keyword:	Terrestrial Hydrosphere > Water Quality/Water Chemistry
Unit:	Not communicated - N.C
Date begin (yyyy-mm-jj):	1996-01-01
Date end (yyyy-mm-jj):	2008-01-01

Cl⁻ concentration

Parameter name:	Cl ⁻ concentration
Parameter keyword:	Terrestrial Hydrosphere > Water Quality/Water Chemistry
Unit:	Not communicated - N.C
Date begin (yyyy-mm-jj):	1996-01-01
Date end (yyyy-mm-jj):	2008-01-01

Mg++ concentration

Parameter name: Mg++ concentration
Parameter keyword: Terrestrial Hydrosphere > Water Quality/Water Chemistry
Unit: Not communicated - N.C
Date begin (yyyy-mm-jj): 1996-01-01
Date end (yyyy-mm-jj): 2008-01-01

HCO3- concentration

Parameter name: HCO3- concentration
Parameter keyword: Terrestrial Hydrosphere > Water Quality/Water Chemistry
Unit: Not communicated - N.C
Date begin (yyyy-mm-jj): 1996-01-01
Date end (yyyy-mm-jj): 2008-01-01

NO3- concentration

Parameter name: NO3- concentration
Parameter keyword: Terrestrial Hydrosphere > Water Quality/Water Chemistry
Unit: Not communicated - N.C
Date begin (yyyy-mm-jj): 1996-01-01
Date end (yyyy-mm-jj): 2008-01-01

SO4-- concentration

Parameter name: SO4-- concentration
Parameter keyword: Terrestrial Hydrosphere > Water Quality/Water Chemistry
Unit: Not communicated - N.C
Date begin (yyyy-mm-jj): 1996-01-01
Date end (yyyy-mm-jj): 2008-01-01

Black carbon concentration

Parameter name: Black carbon concentration
Unit: Not communicated - N.C
Date begin (yyyy-mm-jj): 1996-01-01
Date end (yyyy-mm-jj): 2008-01-01

SO2 concentration

Parameter name: SO2 concentration
Parameter keyword: Atmosphere > Atmospheric Chemistry > Sulfur Compounds
Unit: part per billion - ppb
Date begin (yyyy-mm-jj): 1996-01-01
Date end (yyyy-mm-jj): 2008-01-01

NH3 concentration

Parameter name: NH3 concentration
Parameter keyword: Terrestrial Hydrosphere > Water Quality/Water Chemistry
Unit: part per billion - ppb
Date begin (yyyy-mm-jj): 1996-01-01
Date end (yyyy-mm-jj): 2008-01-01

HNO3 concentration

Parameter name: HNO3 concentration
Parameter keyword: Atmosphere > Atmospheric Chemistry
Unit: part per billion - ppb
Date begin (yyyy-mm-jj): 1996-01-01
Date end (yyyy-mm-jj): 2008-01-01

NO2 concentration

Parameter name: NO2 concentration
Parameter keyword: Atmosphere > Atmospheric Chemistry
Unit: part per billion - ppb
Date begin (yyyy-mm-jj): 1996-01-01
Date end (yyyy-mm-jj): 2008-01-01

Ozone concentration

Parameter name: Ozone concentration
Parameter keyword: Atmosphere > Atmospheric Chemistry
Unit: part per billion - ppb
Date begin (yyyy-mm-jj): 1996-01-01
Date end (yyyy-mm-jj): 2008-01-01

Hauteur de pluie journalière

Parameter name: Hauteur de pluie journalière
Unit: millimeter - mm
Date begin (yyyy-mm-jj): 1996-01-01
Date end (yyyy-mm-jj): 2008-01-01

Data use information

Use constraints: AMMA data policy and IDAF data policy
Data policy: AMMA data policy
Database: IDAF database
Original data format(s): csv file (comma separated values)