What will you learn?

- to analyze the impact of climate change on various causes of death in Africa
- to derive “dose-response functions” from multi-decadal retrospective variation in daily weather and mortality data
- to provide hands-on skills to use existing high quality cohort data from Nouna, Burkina Faso
- to discuss policy conclusions with senior scientists and policy-makers
- to apply your skills in the future to any similar long-term health cohorts (e.g. INDEPTH-network.org)

Course Outline

**Week 1:** What do we know (and don’t know) about the impact of climate change on health
What are the most climate-sensitive diseases/injuries/nutritional deficits and who are the most vulnerable populations globally?

**Week 2:** Principles of Health and Demographic Surveillance Description of the INDEPTH health data sets and how they can be accessed.

**Week 3:** Intro to time series analysis as it applies to the analysis of time-ordered weather and health data.

**Week 4:** Introduction to the basics of using R.

**Week 5:** Introduction to the use of R for time series analysis.

**Week 6:** In-class demonstration of applying the Time Series Analysis (TSA) package of R a real-life demographic dataset from Africa Home-work assignment: choice of a target age group/sex/disease/study population, self-selection of working group tandems of 2-3 students with a mix of more health-oriented and more statistics-prone students.

**Week 7:** Tandems start applying TSA using R on chosen research topic and area in class guided by TAs and instructor.

**Week 8:** Student-tandem presentations of their study results, in class discussion of (i) challenges and solutions of data analysis (ii) possible policy implications of findings.

Special Topics in Environmental Health

**Topic 1:** EH 550
Research Methods to Study the Impact of Climate Change on Health

Spring 2, 2018
Mondays and Wednesdays
11:30 am – 1:00 pm
Harvard T.H. Chan School of Public Health, Kresge 202B

Course director:
Rainer Sauerborn
Visiting Professor of Climate Change and Health, HSPH
Professor of Public Health at Heidelberg University, Germany
For whom is this course?

* Master and doctoral program students
  - from public health and any other related field,
  - from any place on the planet
  - interested in the global challenge of climate change
  - keen to understand the pathways between climate change and health
  - eager to apply this to real life data from where the health impacts of climate change will be largest and the capacity to adapt lowest: the Global South
  - curious to learn new skills in data analysis

What are the requirements?

- Familiarity with basic biostatistical methods and concepts
- All specific advanced methods and the respective R-code will be taught in class
- Readiness to learn in guided small groups

How can I prepare?

Watch MOOCs on climate change & health from your course director:

**Climate Change and Health for Policy-Makers - Teaser:**

**Climate Change & Health – video lecture „Impact of Climate Change on Health“:**

Who teaches the course?

**Course director:**
- Prof. Rainer Sauerborn
  Institute of Public Health, Heidelberg University

**Teaching assistant:** t.b.a.

**Guest lecturers:**
- Prof. Gina McCarthy
  Prof. of the Practice of Public Health (EH), former director of the EPA, Washington DC.
- Dr. Dr. Ali Sié,
  Director, Nouna Health Research Center, Burkina Faso
- Prof. Marcello Pagano t.b.c
  Dept. of Biostatistics, Harvard Chan School of Public Health
- Prof. Emmanuel Acheampong
  Director, Harvard Center for African Studies
- Prof. Wendy Jacobs
  Harvard Law School
- Dr. Aditi Bunker
  Post-Doctoral Fellow, Institute of Public Health, Heidelberg and Harvard Global Health Institute

Contact Us

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https://www.klinikum.uni-heidelberg.de/Climate-Change-and-Health.108203.0.html#c125872