

Korbinian's Update



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CHANGES
Risk-HVA



Z GIS

Changing Hydro-meteorological Risks - as Analyzed by a New Generation of European Scientists

Overview

1. PhD progress
2. General CHANGES activities
3. The Book
4. Comments

1. PhD progress

Three first author ISI papers plus 30 ECTS are required for successful PhD research at Uni Salzburg:

• **First paper** on the precipitation generator algorithm (published in Journal of Hydrology):

Breini K, Turkington, T, Stowasser, M (2013): Stochastic generation of multi-site daily precipitation for applications in risk management. Journal of Hydrology, 498, 23-35.

• **Second paper** on stochastic weather generator (accepted in Meteorological Applications):

Breini K, Turkington, T, Stowasser, M (2014): Simulating daily precipitation and temperature: a weather generation framework for assessing hydrometeorological hazards. Meteorological Applications, n/a, n/a.

• **Third paper** on integrative urban flood modelling (submitted to Water Resources Research):

Breini K, Strasser, U, Bates P D, Kienberger, S (submitted): Integrated probabilistic assessment of urban fluvial and pluvial flood hazards. Water Resources Research n/a, n/a.

• **ECTS: all ECTS collected**

→ Even if WRR rejects, there should be enough time left to resubmit to a lower ranked ISI journal – PhD defence planned for autumn/winter this year. Fingers crossed...

2. General CHANGES activities

- **Hydrology (current climate)**

- HBV-light is calibrated for Austria (my 'PhD study area'), in preparation for France (Ubaye) and Italy (Fella)
- Issue with Italy: HBV-light requires discharge data in m^3s^{-1}
- Weather generator is calibrated for Austria, in preparation for France and Italy

- **Hydrology (future climate)**

- Weather generator will be parameterized using downscaled RCM data (first tests have been conducted for Austria)
- EGU poster in preparation by Thea
- ISI Paper with Thea planned for summer, main work on my side during May

- **Hydraulics**

- I suggest a fast 2D model (Lisflood-FP or similar)
- Due to the numerous tasks to achieve I cannot do this on my own (especially the preparation of the LiDAR DEM is time consuming)
- **Providing hydrology for current and future climates (so several quantiles of discharge) seems to be possible, support for hydraulics is likely required**

3. The Book

- My contribution should **not be related to my ISI papers** (published and in review – risk of plagiarism) and must not be too time-consuming (too many other commitments)
- The idea is to write a nifty **book chapter on flood hazard/risk for future climate and land use conditions** (kind of review article)
- The chapter should be **based on the CHANGES WP1 deliverable D1.1**. 'Report on the inventory of approaches and case studies on the analysis of changes in risk from single or multiple hazards' (so authors would probably be Breinl, Turkington, Malek)
- Using and further improving the deliverable is useful for three reasons: it is a) **interesting and relevant**, b) it will **reward pasts efforts** (D1.1. has not yet been made available) and c) it **saves time** (quite some work has already been done)

4. Comments

- I will very likely need funding for the final conference (as my contracts expires 10th of October 2014)
 - I have started to apply for jobs in academia and the industry (if there are job opportunities please let me know)
 - If there are better ideas in regard to my contribution to the book, feel free to get in touch with me and we can discuss!
- **Many thanks to Zar Chi and all other involved people for organizing the meeting in lovely Les Diablerets!**