Current: Post doctoral research

- African Climate & Development Initiative, University of Cape Town
- Collaborative [CC Response Framework and Implantation Plan](#) agriculture, Western Cape Province

- SA **water scare** country: natural availability, pollution, ↑ demand, CC
- Agriculture in Western Cape: vibrant and highly diverse
  - Major importance is high-value export commodities, most irrigated
- Competition with urban developments and ecological water needs
- Disaster risks = flash flooding and droughts, invasive vegetation

→ Majority of Framework objectives and Implementation activities focus around water management
Current: Post doctoral research

**TIAS Autumn School:**

- **How to facilitate transformative change** in the agricultural sector for sustainable water management
- The role of water governance research and proactive CC adaptation
Previous: PhD research:

- Complex water governance arrangements at the catchment/ regional scale
- Role of Horizontal Cooperation in the Adaptive Management of regional SESs
- **RQ**: When does horizontal cooperation contribute to adaptive management in complex governance arrangements?

- Conceptual Design:
  
  **Adaptive Management** $\leftarrow$ $\rightarrow$ **Polycentric Governance**
  
  (learning, collaboration) $\rightarrow$ (multi-mode governance context)

- Assessment of Horizontal Cooperation:

  - **quantitative**
    - Social Network Analysis
    - heterogeneity (learning)
    - cohesion (collaboration)

  - **qualitative**
    - Ostrom’s 8 Design Principles
    - conditions for self-org. & coll. action
    - robustness of arrangements

- Finding:

  - Horizontal Cooperation necessary but insufficient for Adaptive Management
  - Nested governance structure: horizontal cooperation complemented by vertical integration
Previous: PhD research:

- complex water governance arrangements at the catchment/ regional scale
- Role of Horizontal Cooperation in the Adaptive Management of regional SESs
- RQ: When does horizontal cooperation contribute to adaptive management in complex governance arrangements?
- Conceptual Design:
  - Adaptive management
  - Polycentric governance

TIAS Autumn School:

- Journal articles - situate my research and findings in the larger discussion on water governance
- How to take the research forward – continuation in the same catchment
- Ostrom’s Design Principle: 7 and 8 ➔ regional SES

Finding:
- Horizontal Cooperation necessary but insufficient for AM
- Nested governance structure: horizontal cooperation complemented by vertical integration
Planned: comparative studies

- **Water-Energy-Food-Land-Biodiversity-Nexus** research at the regional/catchment scale
  1. Two adjacent catchments in the Western Cape province
     - Key component: Mapping and analysis governance structures

**TIAS Autumn school:**
- Suitable combination of methods: for assessing governance arrangements beyond water governance/sector
  - Mapping governance arrangements for each Nexus component vs. action situations

1. Comparative Nexus research across different regions on existing data sets

**TIAS Autumn school:**
- TIAS Autumn school participants involved in Nexus studies
- Analyses of existing data sets
- Development of a joint framework