Introduction
This study analyzes the elements that construct a fractured climate culture in depopulated Southern rural areas in Spain. The main arguments are that:
- the political ecological notion of shadow landscapes help revealing conflicting place identities and social processes that create a fractured climate culture;
- place identities are key in understanding challenges for effective responses to climate change.

Despite the current challenges, there are opportunities for the cultivation of climate protection practices.

Background and Rationale
Changing climatic trends in Southern rural Spain
- Temperatures, aridity, rain, intensity, drought, fall
- Decrease in winter precipitation and an increase of 1-2°C in summer temperatures for 2011-2050 (Coll et al. 2015)
- Climatic variation is already having an effect on flowering periods of olives in southern Spain

Changing social systems in Southern rural Spain
- Depopulation: steady demographic decline.
  - 1950: 39% of total population living in the Spanish in villages <2,000 inhabitants.
  - 2017: 18% of total population living in the Spanish in villages <2,000 inhabitants.
- Degaragization: a breakdown between agriculture and rural territories
- Deteriorization: social relations as well as identities increasingly depend on factors determined elsewhere, e.g. in urban areas, global markets and regional governments

Study Area & Methods
Southeastern Spain (Province of Granada)

Content analysis of 24 semi-structured interviews in 10 municipalities in 5 comarcas (subregional rural areas) that are depopulating (at least a loss of 2% of their population since 2000)
- Recruitment: personal connections and snowball sampling
- Requirements to participate: familiarity with the town well, but preference to those that work or have worked in the agricultural sector and those that are involved with the town’s local administration

Semi-structure interviews
- Analysis of official documents
  - Analysis of LDS (local development strategies) for the period of 2014-2020 that pertain to these same 5 comarcas.
  - Step 1: 133 quotes that contained the words ‘loss’ or ‘abandonment’ were identified and coded
  - Step 2: codes were grouped into 5 categories intended to capture the perceived adverse changes taking place in these rural areas

Results: Place identity in depopulated and changing Southern Spanish communities

Participants revealed a high attachment to their towns
- Tensions around change, spaces are:
  - perceived as unchanging
  - exposed to accelerated shifts: environmental and demographic changes, and deterritorialization
- To some degree being ‘restored’. For example, some traditional agricultural practices are being rescued alongside the adoption of agroecology in some rural areas

Five consistent themes around the idea of loss and abandonment:
- Loss of agricultural and natural ecosystems
- Loss of culture, traditions and heritage
- Loss of services and employment
- Loss of population
- Loss of places

Deagaragization
- Depopulation
- Deteriorization

Particularly salient: reduction and destruction of employment due to the mechanization of labor:

“We are competing in a world in which they are doing very intensive olive tree agriculture (...) they are using a harvester (...). Here we have olive trees that are 300 or 600 old, but [the olive trees in intensive farms] that are 4 or 5 years (...) don’t need work force, it is all done by a machine. Our towns provide a lot of employment, it is concerning.”
- Eduard (Farmer from Algarrobo)

Conclusion
Conflicting place identities emerge in rural depopulated areas. The social costs of industrialisation have fractured space, provoking deterritorialisation, loss, and existential struggles. At the same time there is a survival of traditional place identities that endure between both obsolete and sustainable notions. These conflicting place identities construct a fractured climate culture with inconsistent climate change adaptation practices

1. It is necessary to combine notions of the relational cultural approach with political ecology to fully understand climate cultures in depopulated rural Spain
2. Fractures are noted between the official and local climate cultures
3. Fractures climate culture in the studied areas are explained by the shifts that rural depopulated areas are experiencing (e.g. different degrees of loss)
4. High attachment to place and acute environmental awareness present an opportunity for the cultivation of climate protection practices

Limitations and Directions for Future Research

1. The sample is mostly male, a product of a sampling strategy that focus on agricultural workers in areas with male overrepresentation. The voices and perspectives of other gender identities should also be featured in future research
2. There are other relevant socio-cultural dynamics that need further attention such as ethnic relations or local politics dynamics. Fractures climate culture in the studied areas are explained by the shifts that rural depopulated areas are experiencing (e.g. different degrees of loss)
3. Special attention should be paid to communities that practice dryland and small-scale agriculture as these are more likely to be less resource extractive and tend to be more affected by water scarcity.