

# ISIMIP3a land use data

Katja Frieler, Christopher Reyer, Jan Volkholz



Potsdam-Institut für Klimafolgenforschung

1 / 18 / 2022

Introduction

1961–1970

1981–1990

2006–2015

Options



# Outline

## Introduction

1961–1970

1981–1990

2006–2015

Options

# The situation

- currently the land use data provided by ISIMIP3a is based on the Hurtt group's LUH2-GCB2018 data set (from 2018)
- it covers the years up to, and including, 2018
- however, due to new climate data the ISIMIP3a time frame is extended to 2019, the year 2019 needs to be added
- meanwhile the Hurtt group has produced new versions
- the newest one, from 2021, runs up to 2021, but also has updates for the years 2018 and earlier

# The new land use data from 2021

LUH2-GCB data for the past is a harmonization of various data sets, but is mostly based on HYDE. According to the Hurtt group

- LUH2-GCB2021 is based on a **completely new version of HYDE**
- this new version of HYDE includes more remote sensing data
- FAO data is more frequently used
- Brazil has seen fixes for croplands and grazing
- global aggregates are very similar in both versions
- the new HYDE data is not yet public

We see changes in the data starting in 1850.

# Outline

Introduction

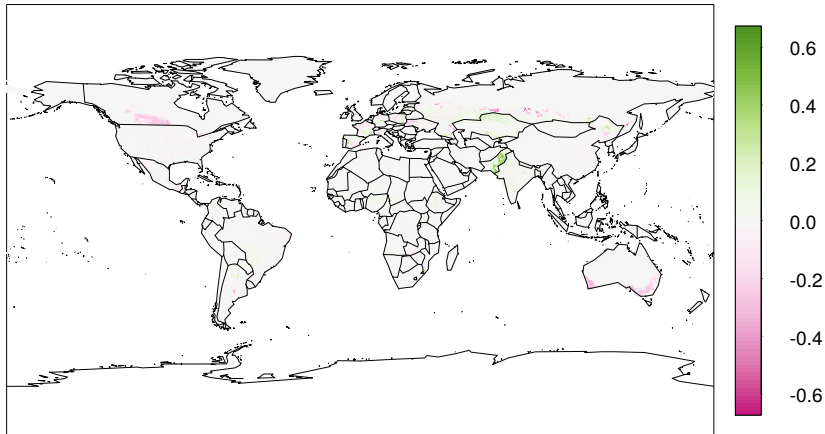
**1961–1970**

1981–1990

2006–2015

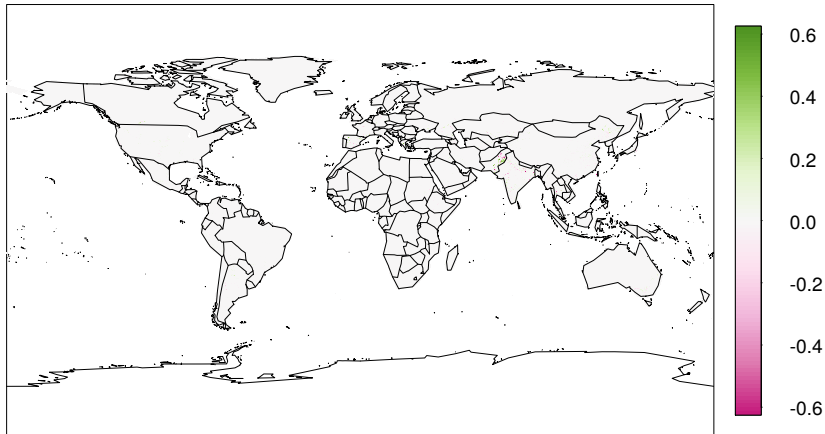
Options

# Croplands



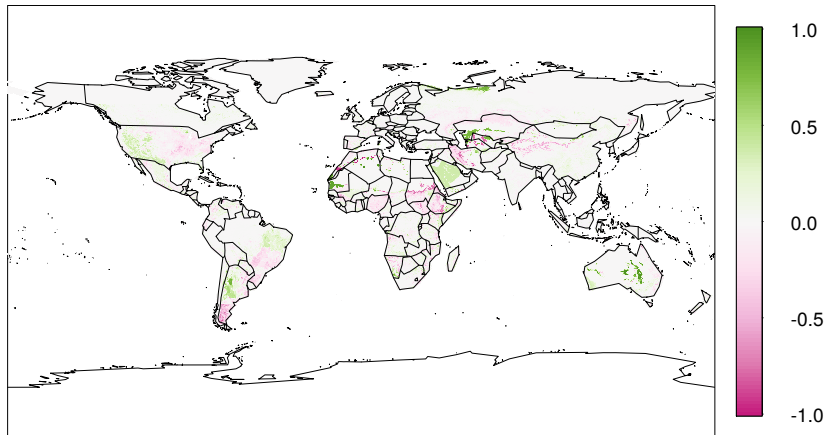
Difference in share per grid cell (ver2021–ver2018) for **total croplands** (mean of 1961–1970).

# Croplands



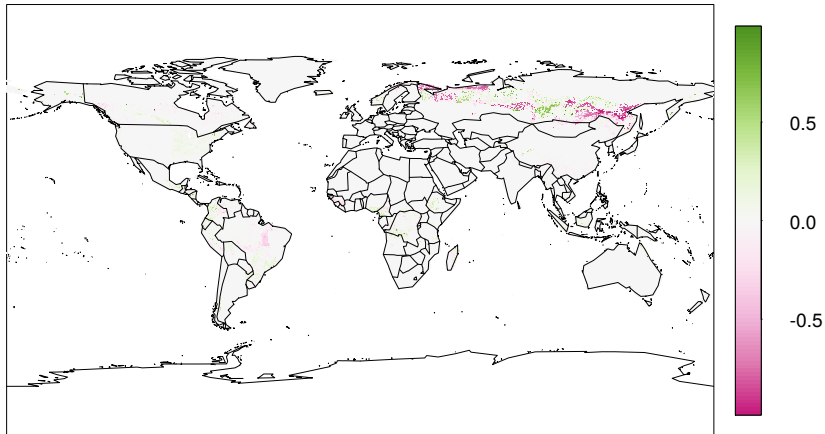
Difference in share per grid cell ( $\text{ver}_{2021} - \text{ver}_{2018}$ ) for **irrigated croplands** (mean of 1961–1970).

# Pastures



Difference in share per grid cell (ver2021-ver2018) for **pastures (managed pastures + rangeland)** (mean of 1961-1970).

# Forests



Difference in share per grid cell ( $\text{ver2021} - \text{ver2018}$ ) for **primary forests** (mean of 1961–1970).



# Outline

Introduction

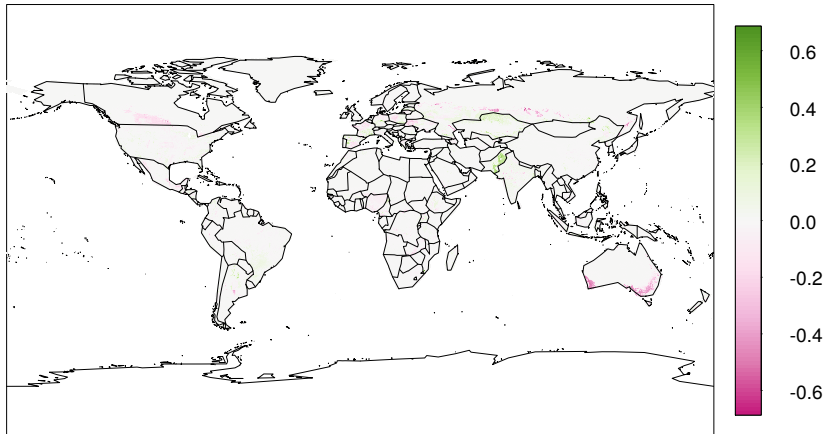
1961–1970

**1981–1990**

2006–2015

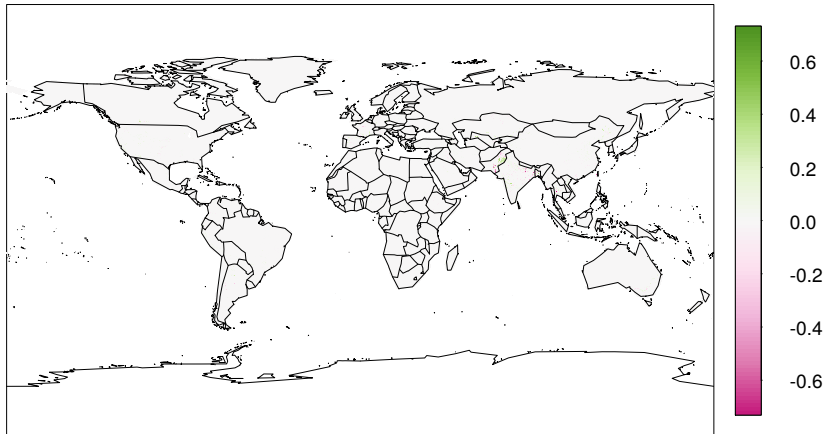
Options

# Croplands



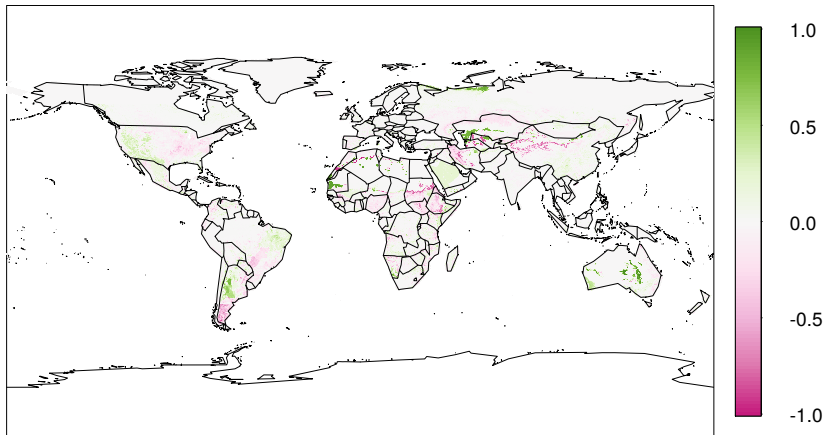
Difference in share per grid cell (ver2021-ver2018) for **total croplands** (mean of 1981-1990).

# Croplands



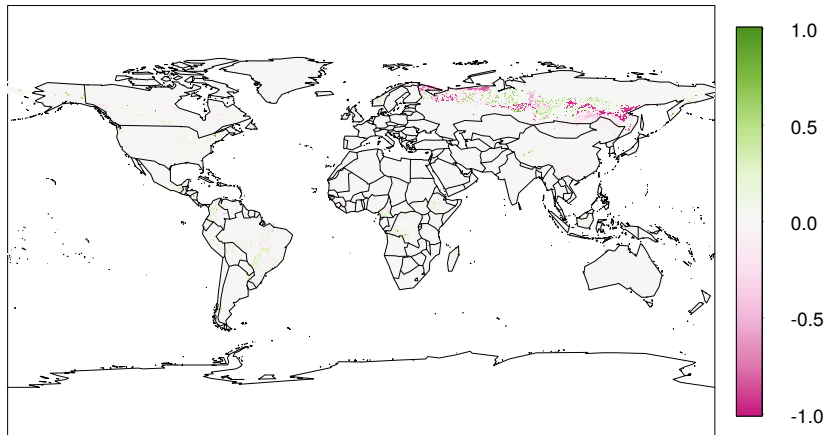
Difference in share per grid cell (ver2021–ver2018) for **irrigated croplands** (mean of 1981–1990).

# Pastures



Difference in share per grid cell (ver2021-ver2018) for **pastures (managed pastures + rangeland)** (mean of 1981-1990).

# Forests



Difference in share per grid cell (ver2021-ver2018) for **primary forests** (mean of 1981-1990).

# Outline

Introduction

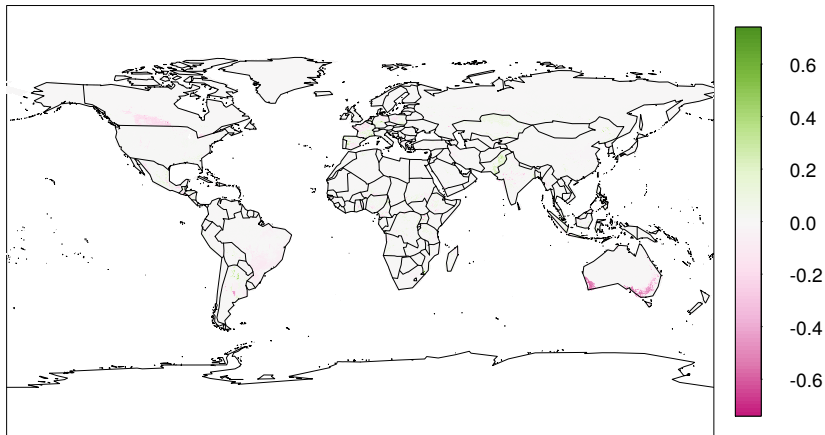
1961–1970

1981–1990

**2006–2015**

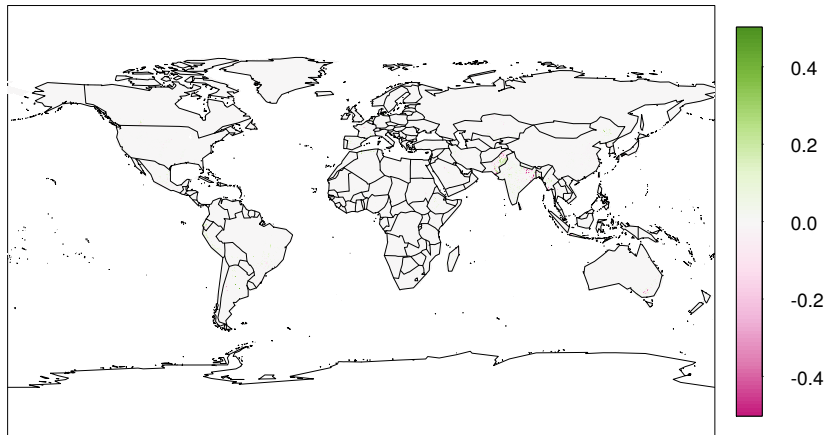
Options

# Croplands



Difference in share per grid cell (ver2021-ver2018) for **total croplands** (mean of 2006-2015).

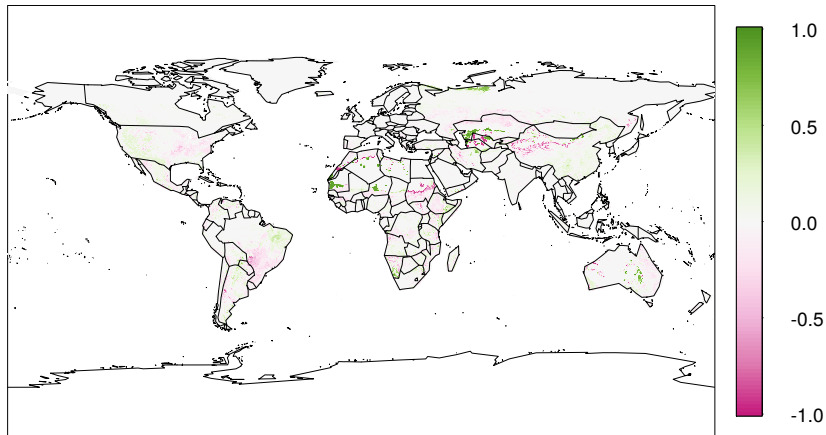
# Croplands



Difference in share per grid cell ( $\text{ver}_{2021} - \text{ver}_{2018}$ ) for **irrigated croplands** (mean of 2006–2015).

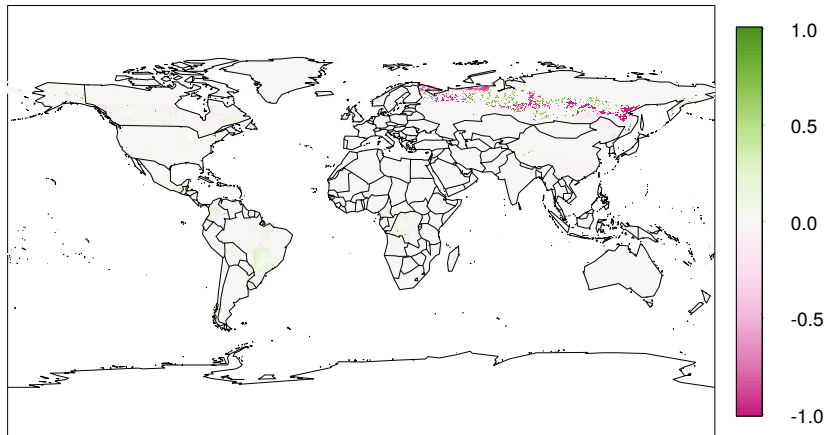


# Pastures



Difference in share per grid cell (ver2021-ver2018) for **pastures (managed pastures + rangeland)** (mean of 2006-2015).

# Forests



Difference in share per grid cell (ver2021-ver2018) for **primary forests** (mean of 2006-2015).

# Outline

Introduction

1961–1970

1981–1990

2006–2015

Options

# Options

1. don't change the standard ISIMIP3a setting, use LUH2-GCB2018 with constant extension to 2019
2. switch to LUH2-GCB2021 in the standard ISIMIP3a setting
3. don't change the standard ISIMIP3a setting, use LUH2-GCB2018 with constant extension to 2019, but add a sensitivity experiment based on LUH2-GCB2021

ISIMIP3b will not be touched in any case.