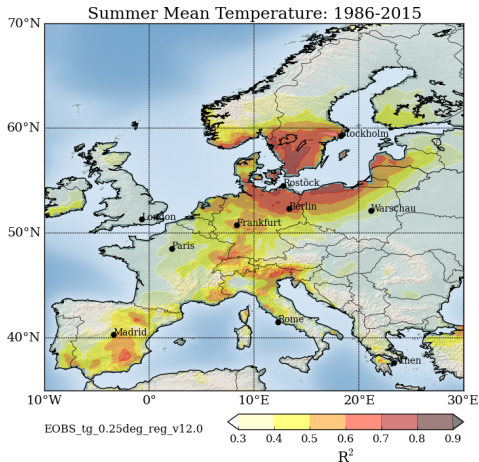


# Seasonality of infectious diseases in Germany compared to climate and its possible *predictability* on *seasonal* and climatic timescales

P. Hoffmann

9th February 2018

# 1. *Seasonal predictability of the summer mean temperature*



Clim Dyn  
DOI 10.1007/s00382-017-3772-0



**Enhanced seasonal predictability of the summer mean temperature in Central Europe favored by new dominant weather patterns**

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## 2. Research Activities

### Regional Climate

**ReKliEs-De:** analysis of regional climate ensemble for Germany

**Climate/Assessments:** Deutsche Bahn

**Seasonal-Prediction:** diagnostic tool for measuring circulation changes

### Public Health

**HyFly:** analysis of climate bridges in the world air traffic network to assess infection risks

**CLIP-ID:** analysis climate and pathogens in Germany

**H2020:** Oasis Innovation Hub for Catastrophe and Climate Extremes Risk Assessment

### 3. Public Health and Infection Diseases



**Neue Antiinfektionsstrategien**  
Wissenschaft · Gesellschaft · Wirtschaft



**Human**



**Agriculture**

**Veterinary**



**Climate**

**Mobility**

**Infrastructure**



**Medical Research**

**Care**



**Public**

**Patients**

**New strategies for the therapy, diagnose and prevention of infectious diseases of the 21st century**

## 4. CLIP-ID

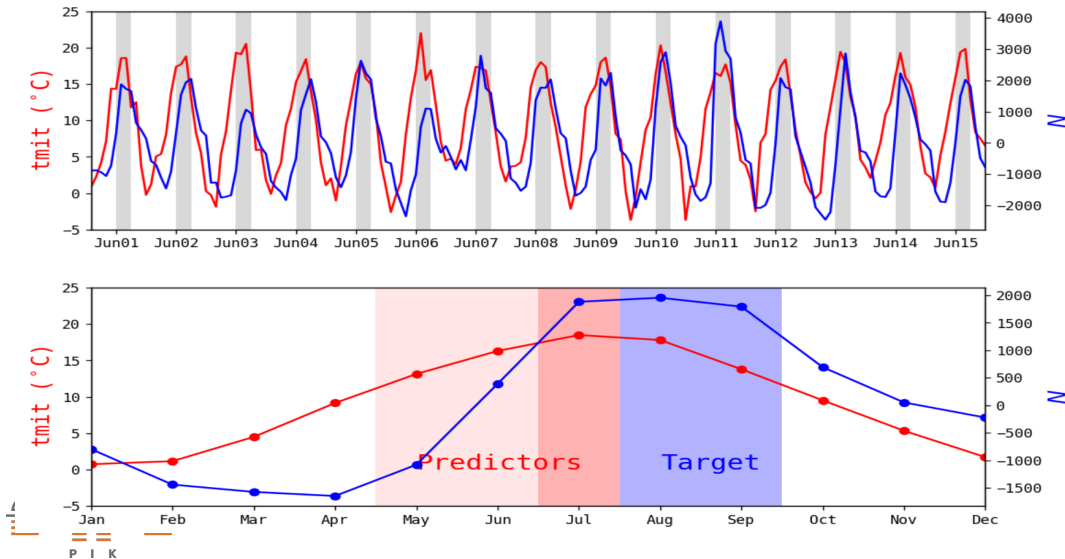


### Climate and pathogens – Impact of decolonization

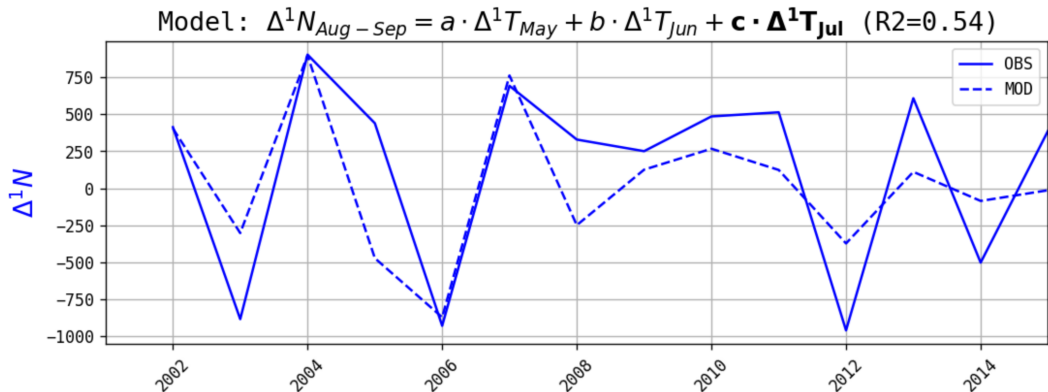
Pathogene	Disease	Spatial Resolution	Source	Unit
Gram-Negative	Sepsis	Intensive Care Units	Charité	ID
Campylobacter	Enteritis	Local Districts	RKI	N
Legionellen	Pneumonia	Local Districts	RKI	N



## 5. Seasonality: Campylobacter



## 6. Predictability on seasonal timescales: Campylobacter

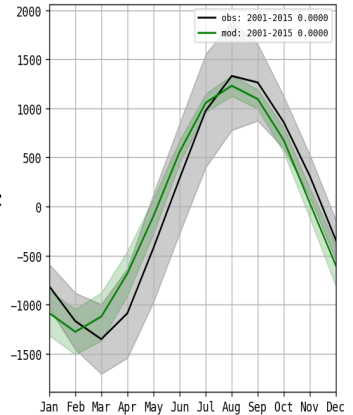
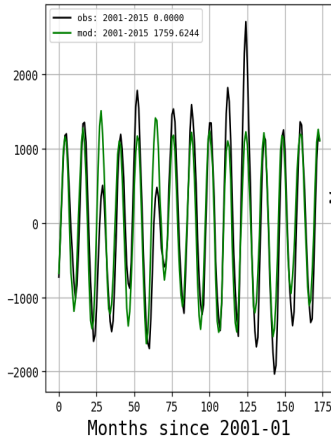
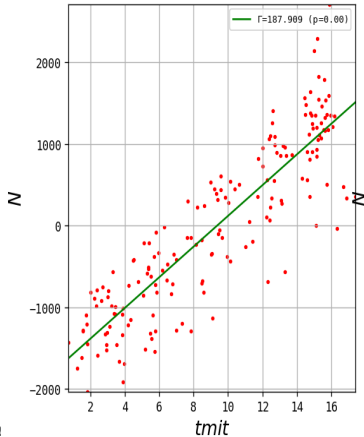


**Relation between Temperature in May-Jul and the Infection peak (Aug-Sep)**



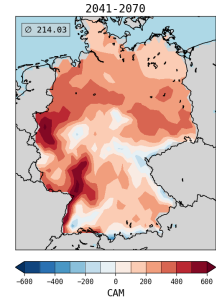
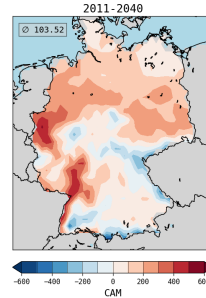
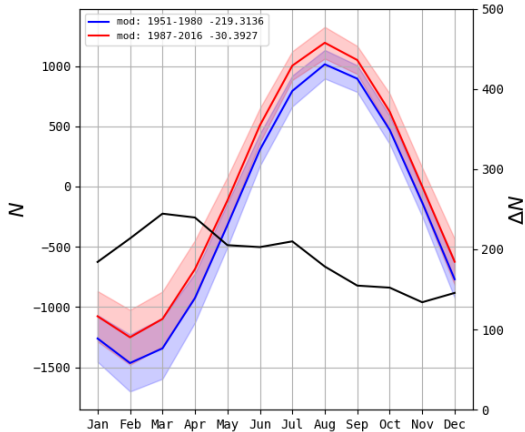
## 7. Climate-Pathogene-Relation: Campylobacter

**Time-Lag removed!**




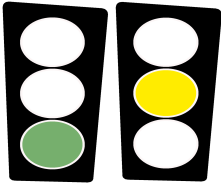

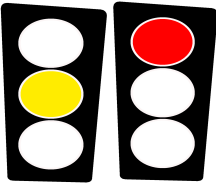


## 8. Predictability on climatic timescales: *Campylobacter*



**Climate factor on infection diseases.**

## 9. Discussions: Campylobacter (Enteritis)

Apr-May	Jun-Jul	Aug-Sep
moderate climate	hot climate	moderate climate
<p>Masthuhn 5½ Wochen</p>  <p>anstatt 8 Jahre      feeding</p>	 <p>eating</p>	
	<p>Masthuhn 5½ Wochen</p>  <p>anstatt 8 Jahre      feeding</p>	 <p>eating</p>