# Distance as a signal

Nutcha Wattanachit, Johannes Bracher, Evan Ray, Nick Reich

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## Cross-correlations

**Forecast inclusion criteria**

- Targets: 1-4 wk ahead inc death
- Target End Dates: Jan-Dec 2021 with all 4 horizons.
- Model: all models submitted on a particular date
- Probability levels: All
- Locations: All except US,4,42,45,39,49,50

Using raw values means the sign (which should be positive) is not as important as the lag.
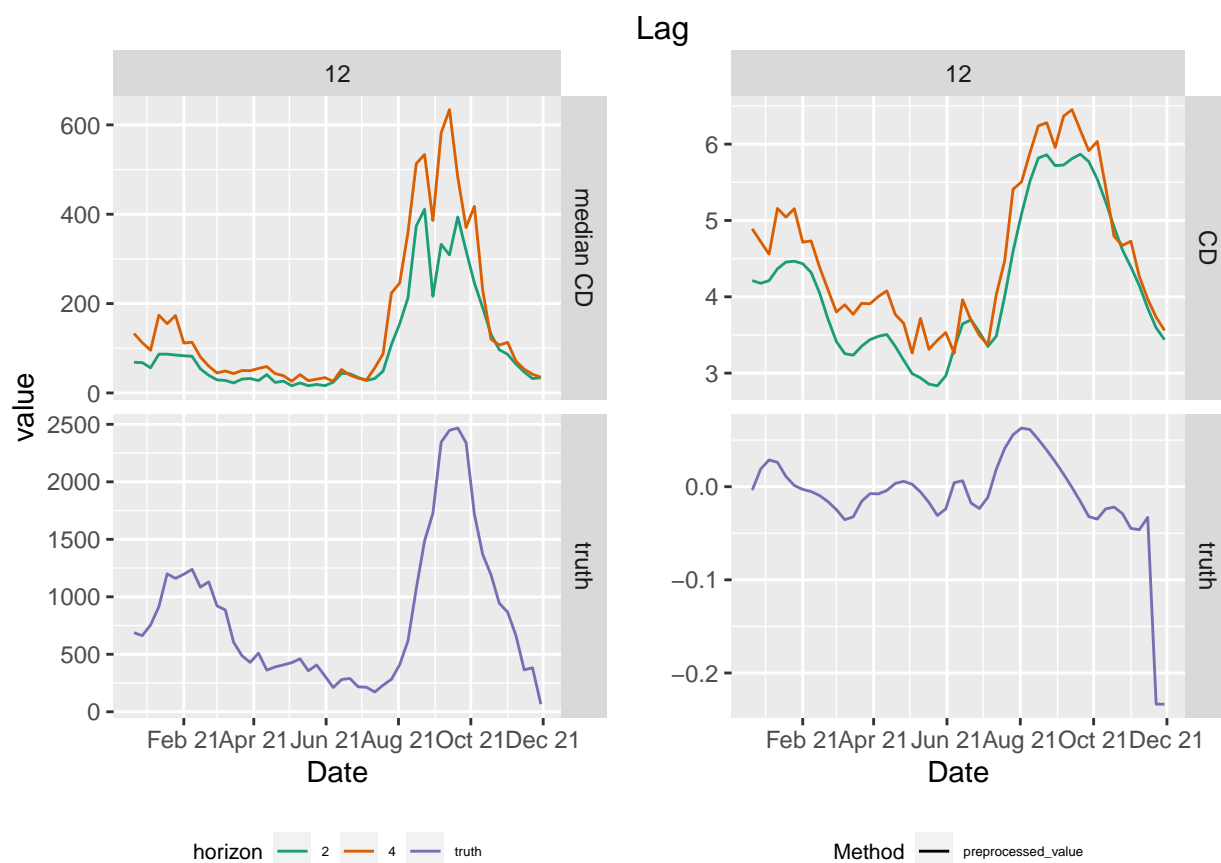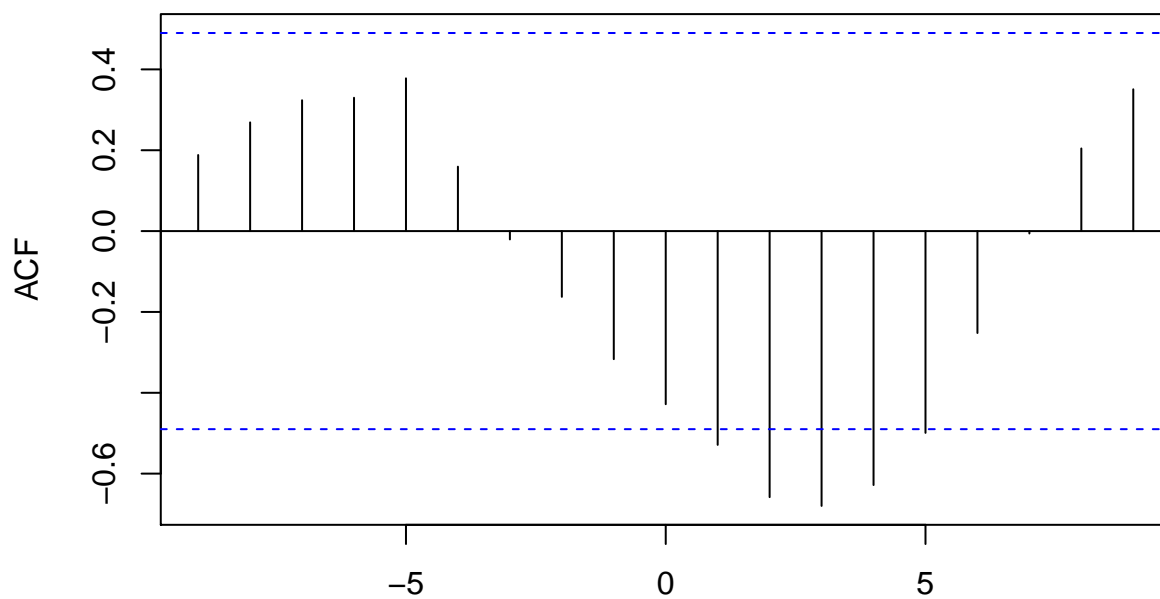
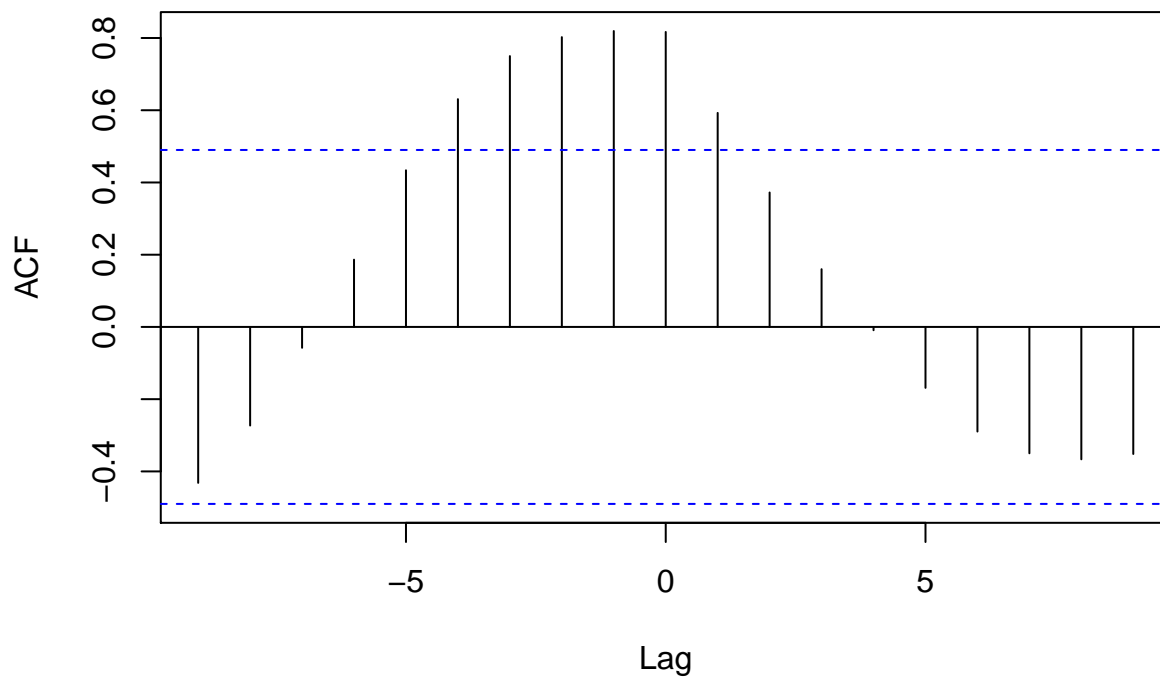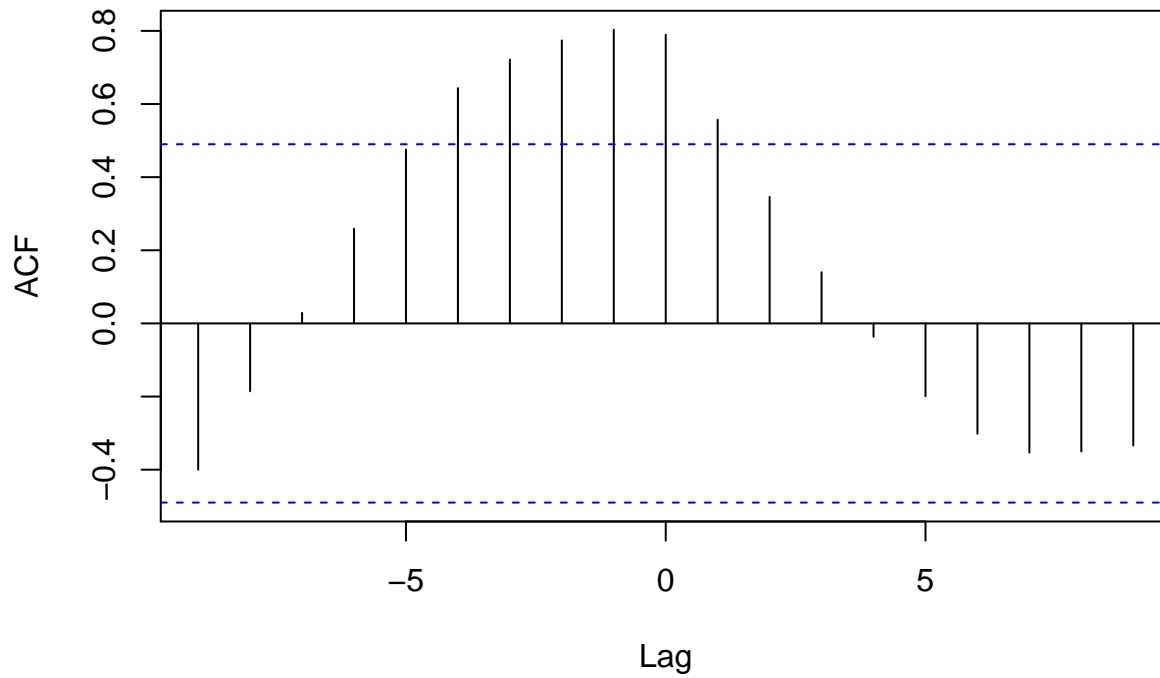# Plots of inc deaths, median CDs, smoothed inc deaths, smoothed median CDs, and CCF
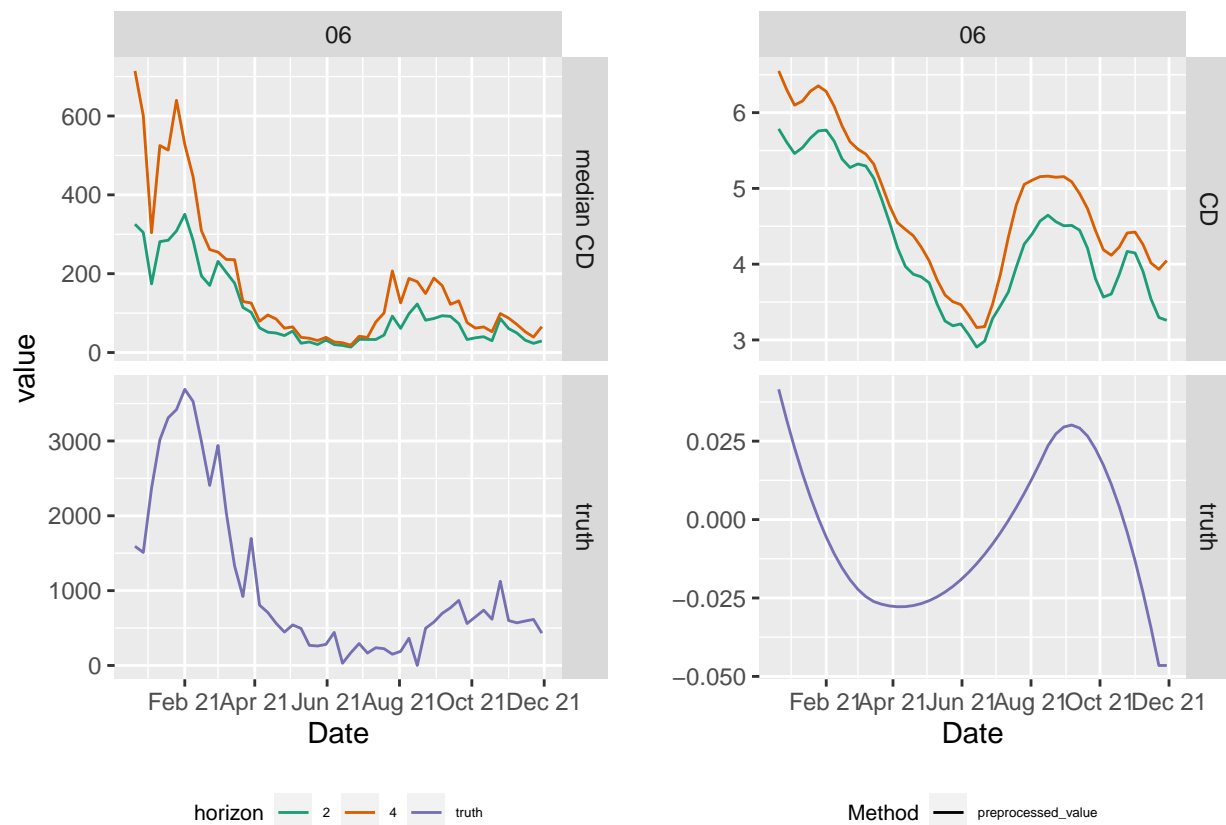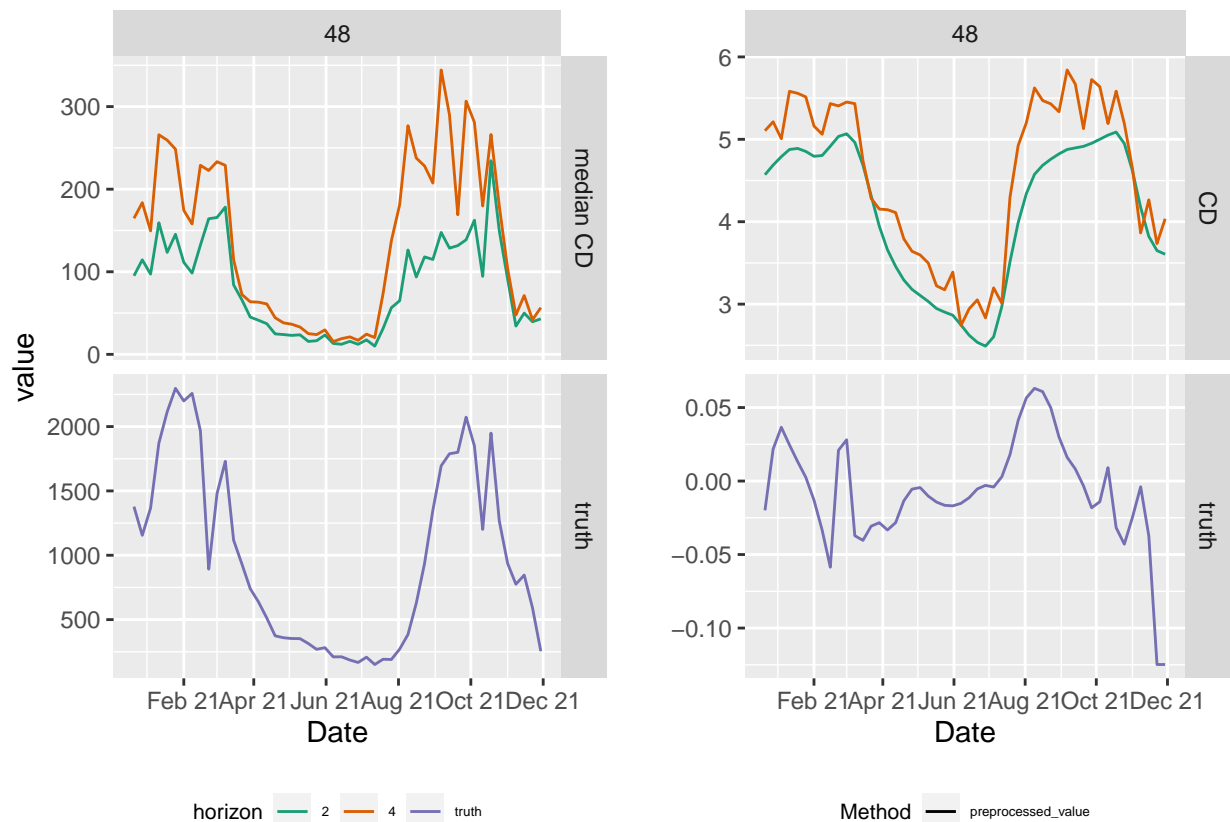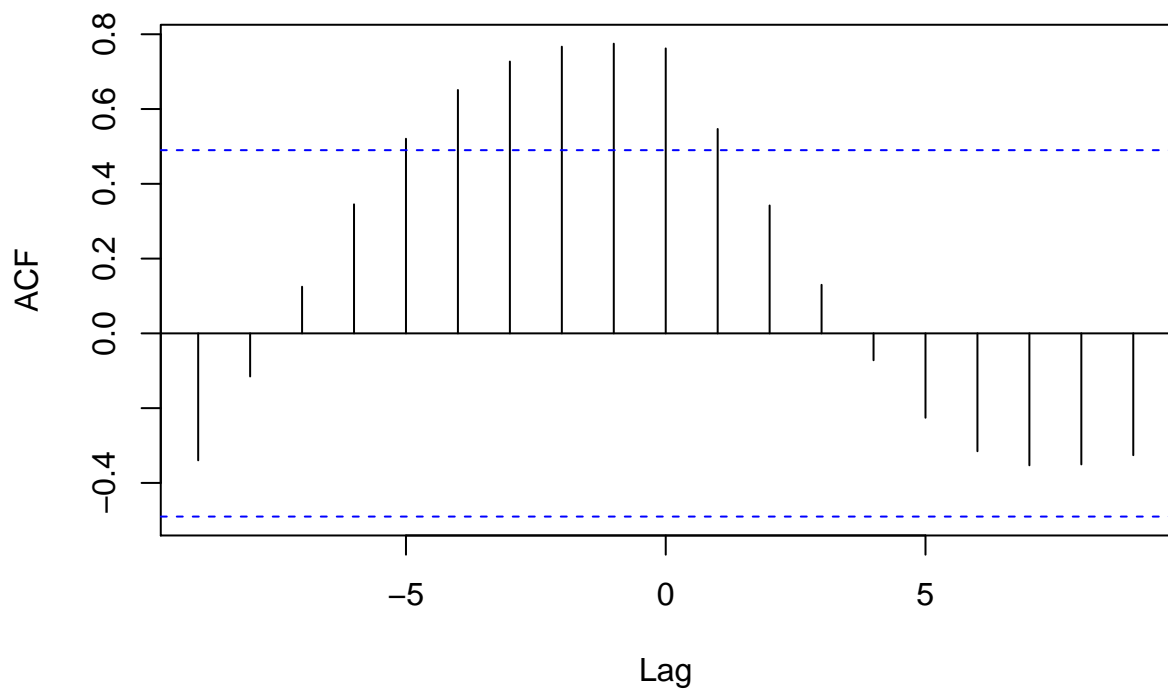


**2 wk ahead – 06**
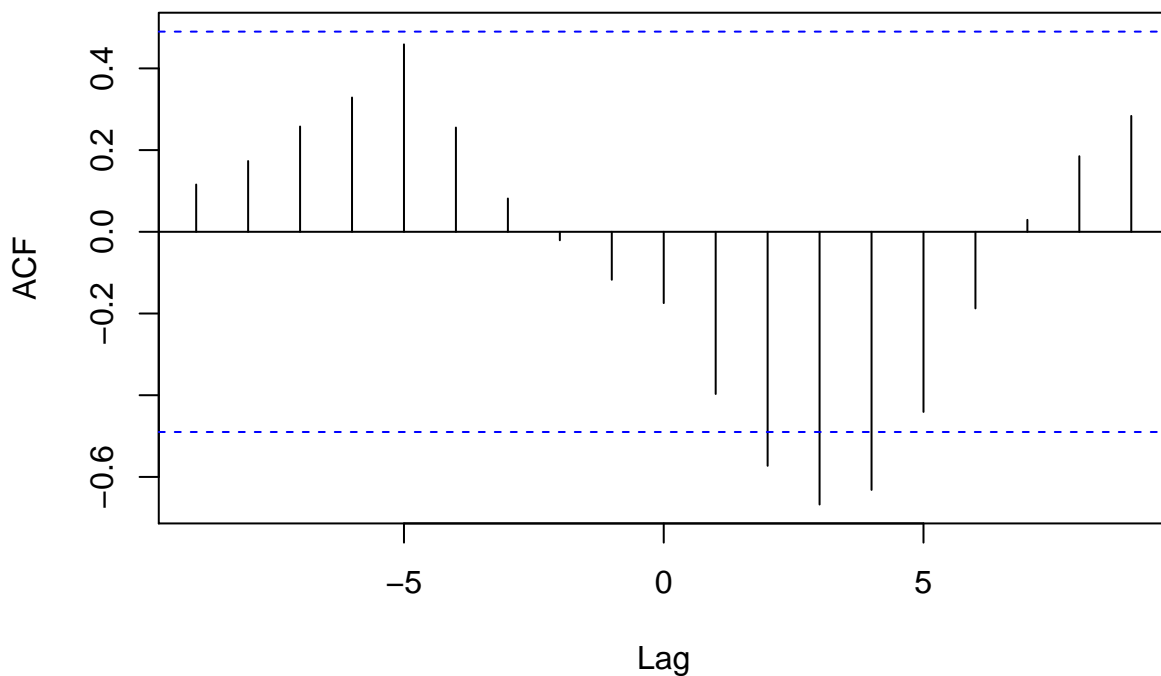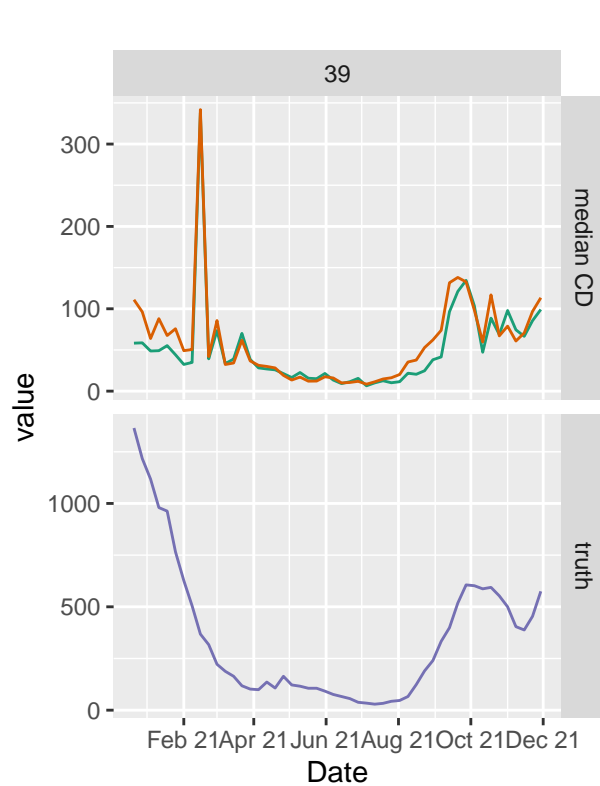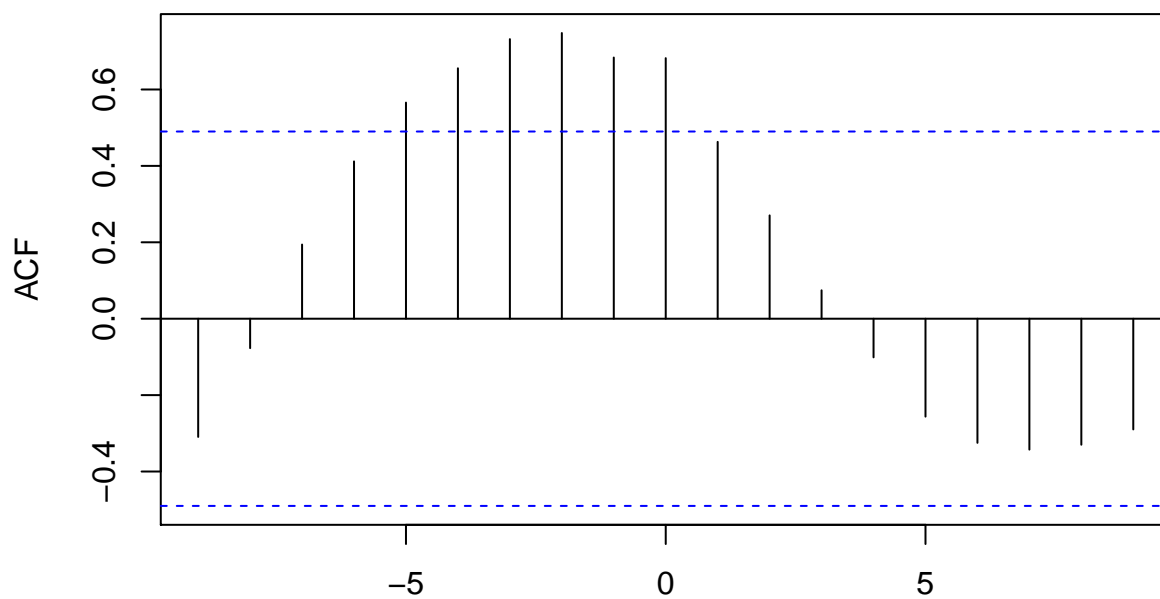
# 4 wk ahead – 06

**2 wk ahead − 12**

**4 wk ahead − 12**

**2 wk ahead − 48**

**4 wk ahead − 48**
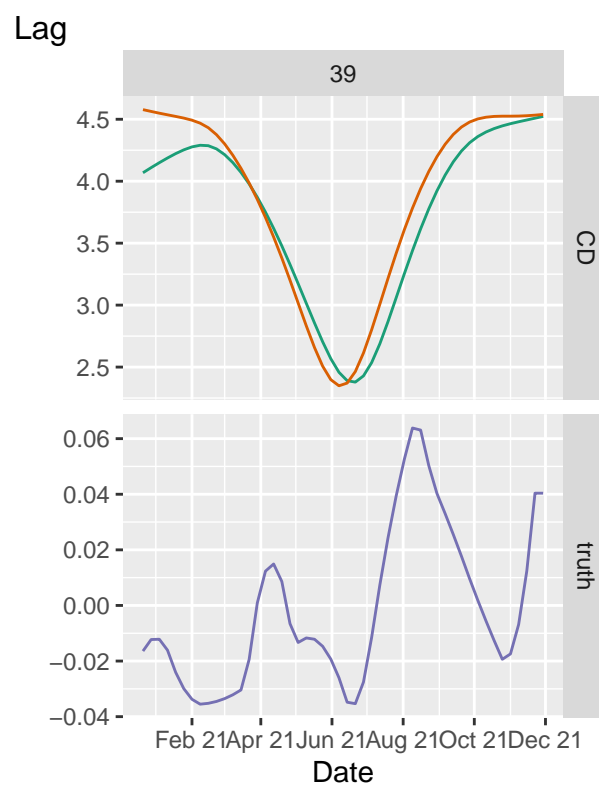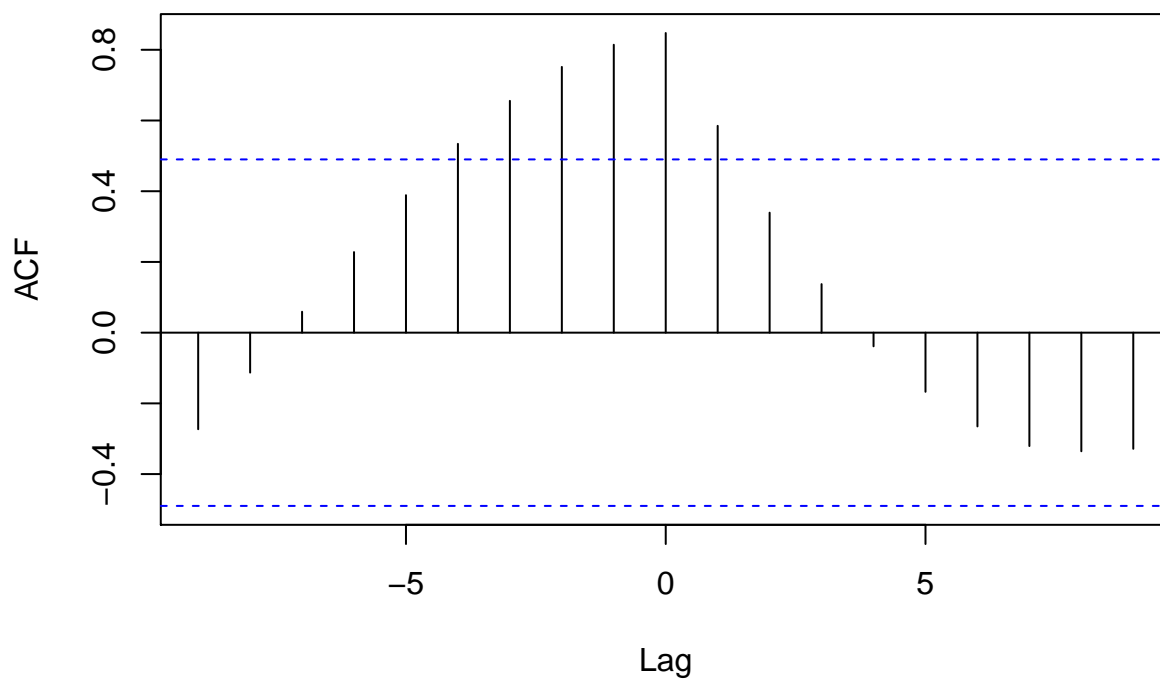
## 2 wk ahead − 39
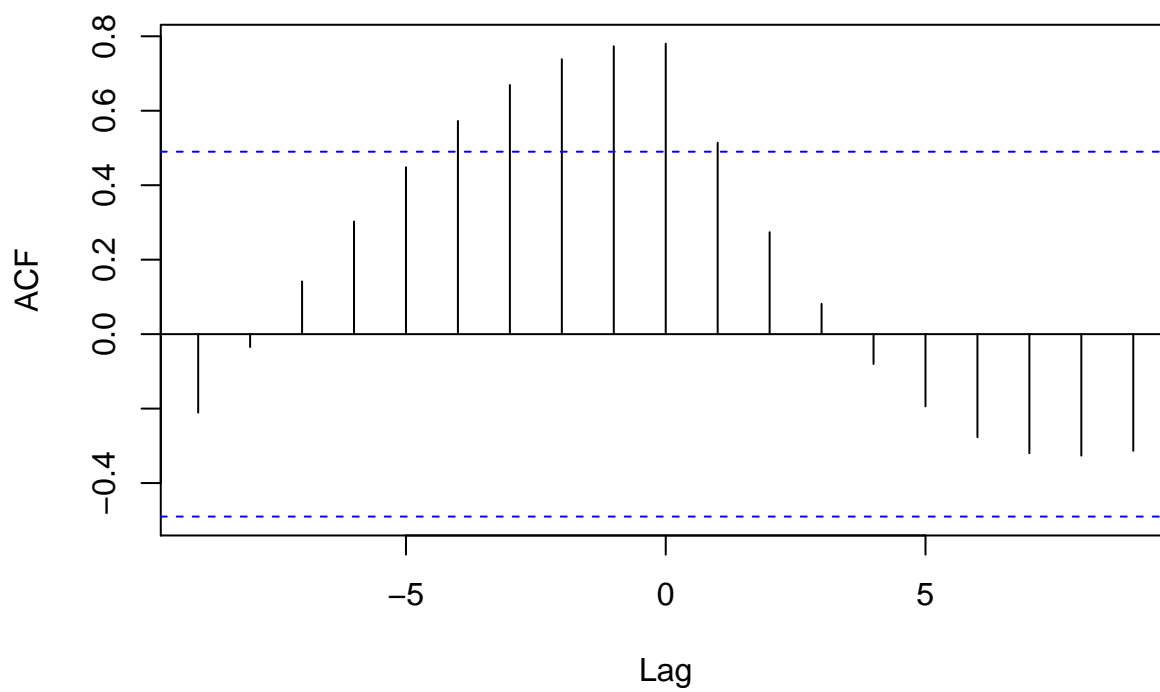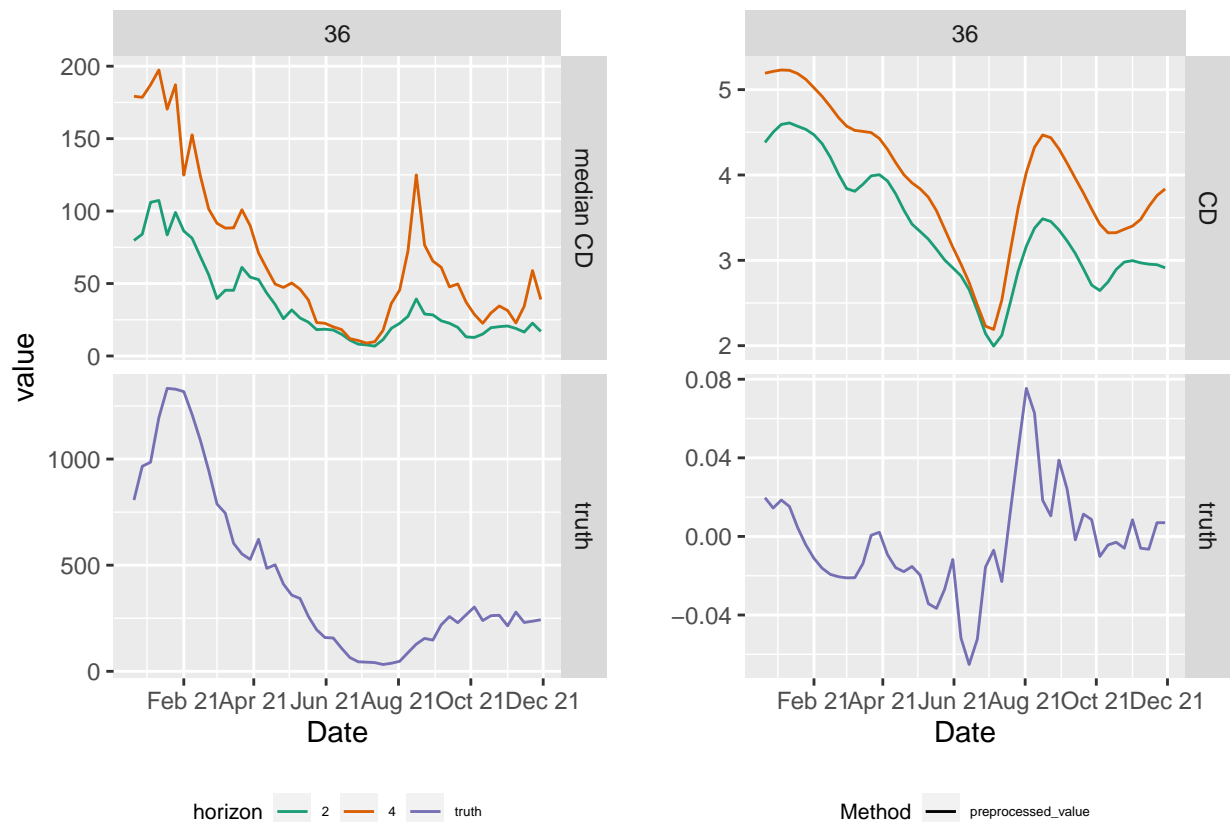


## 4 wk ahead − 39

**2 wk ahead – 36**
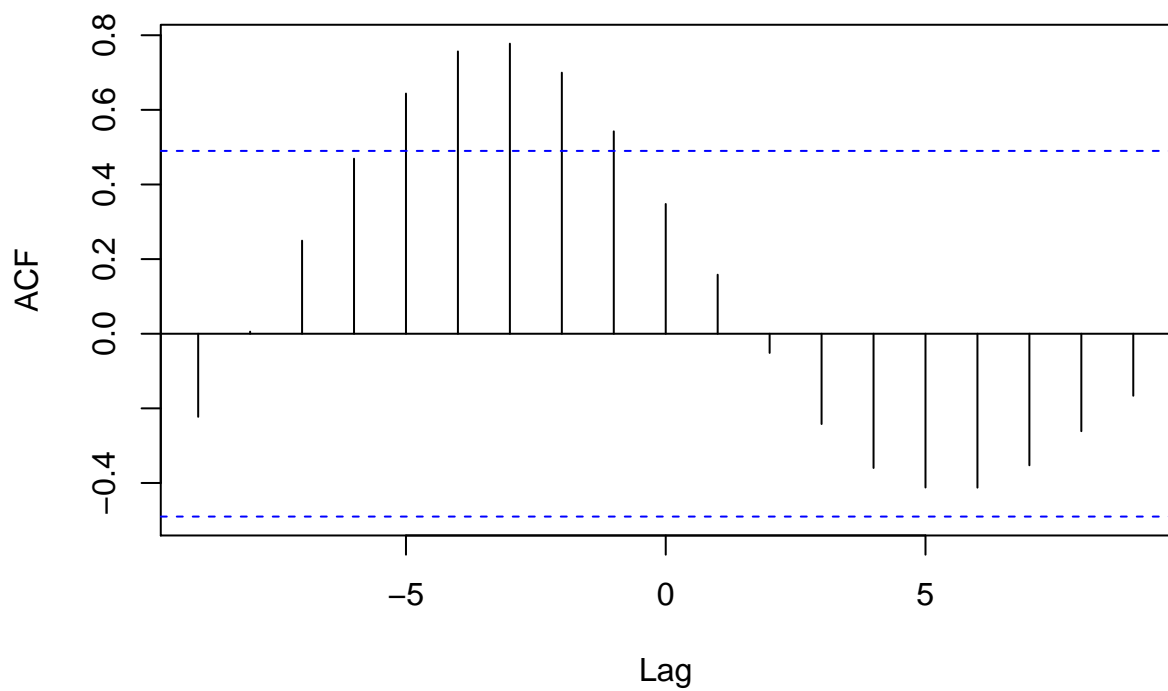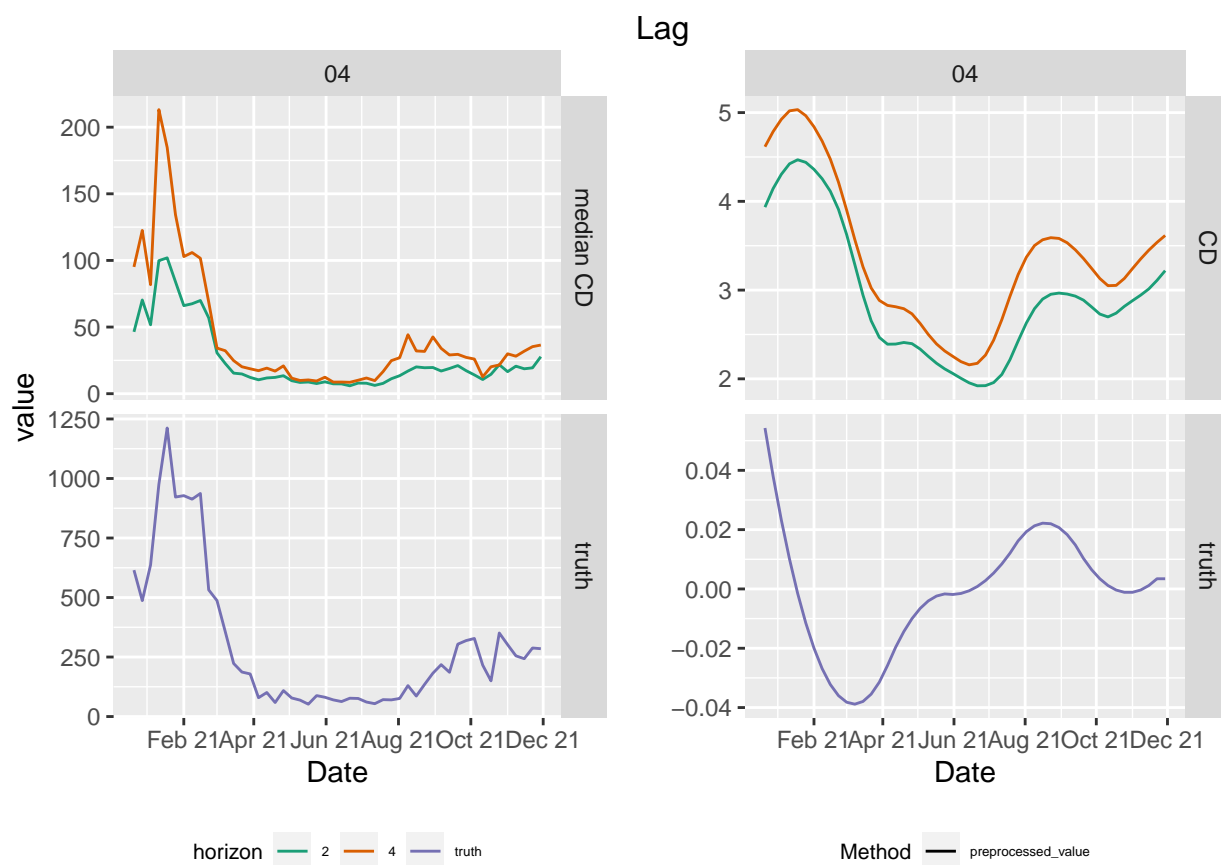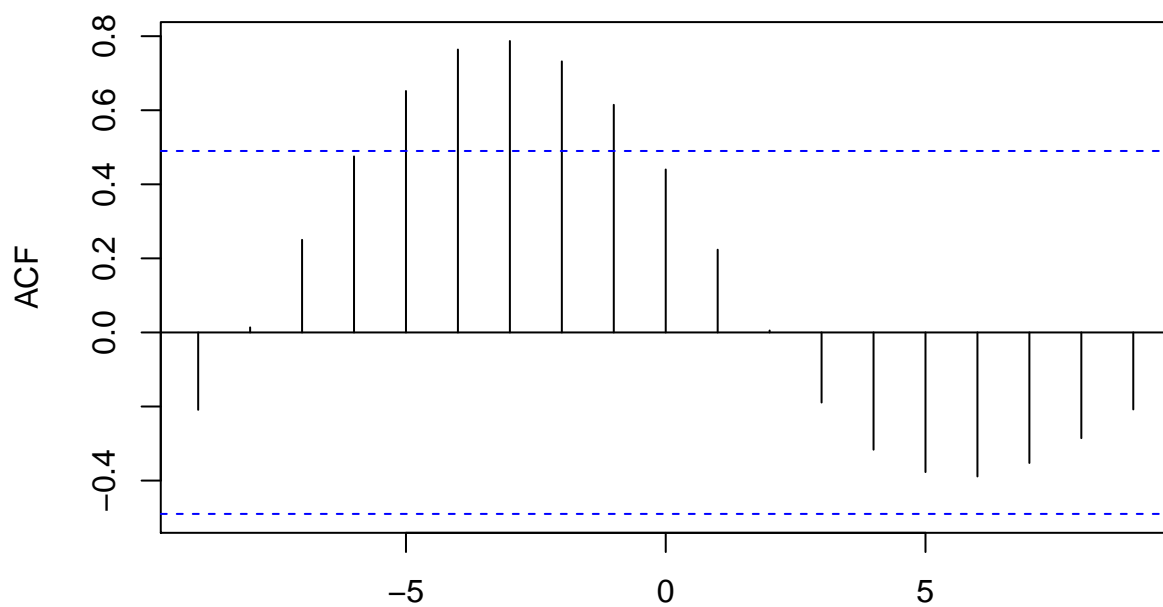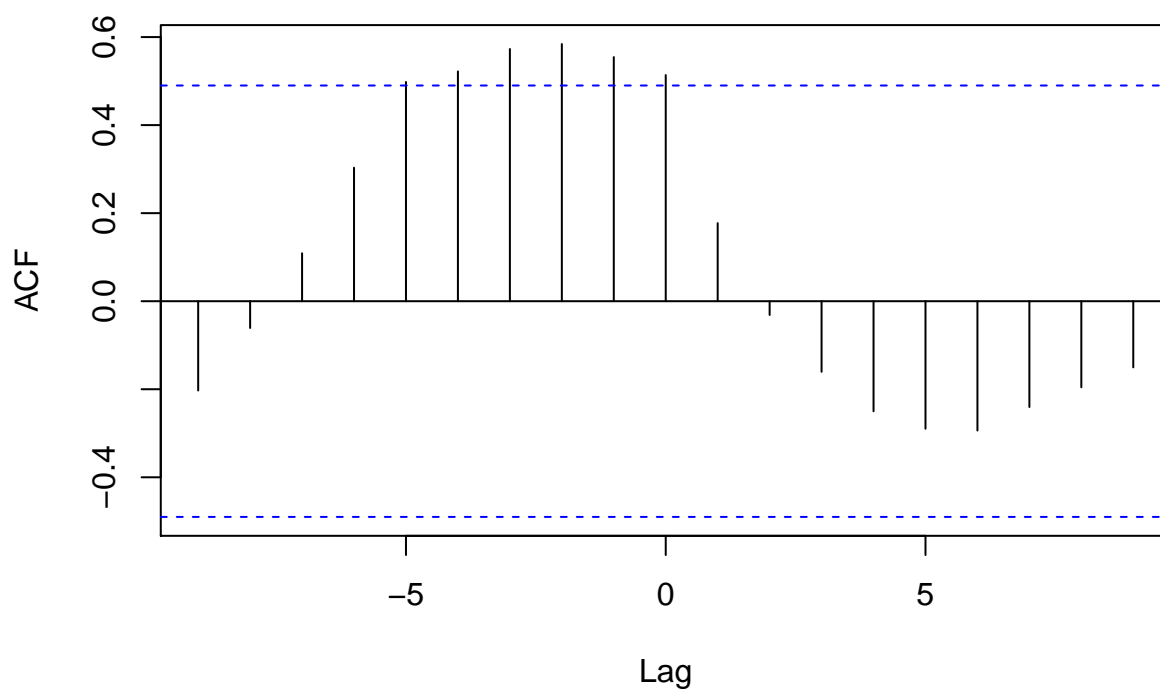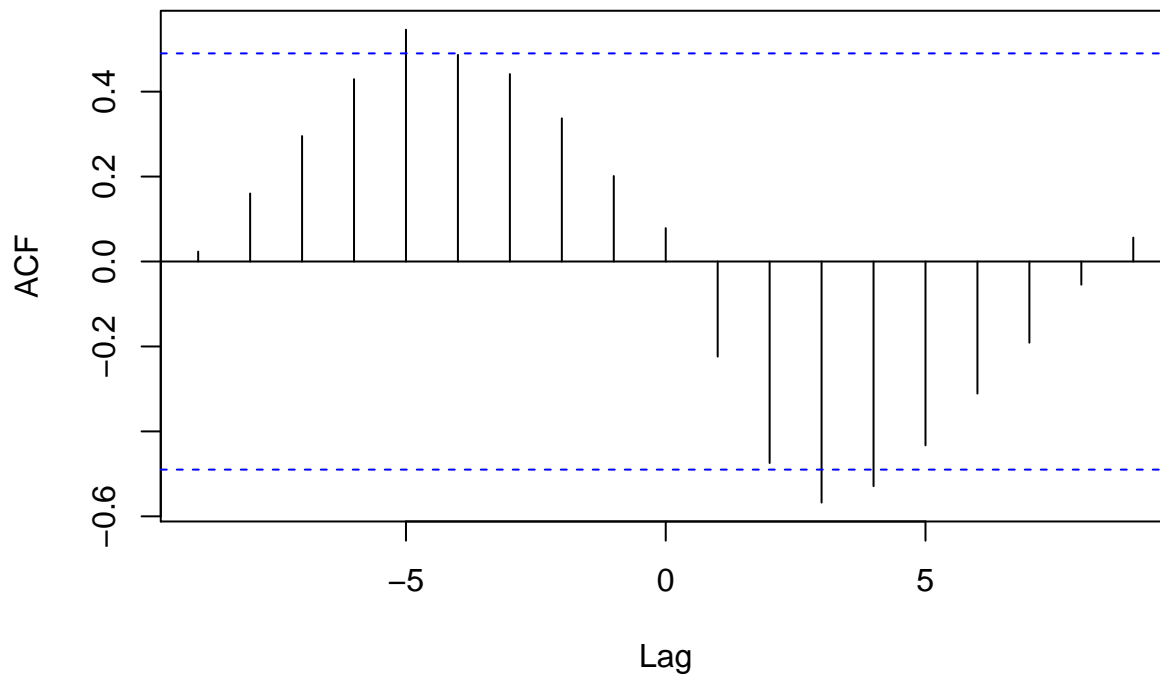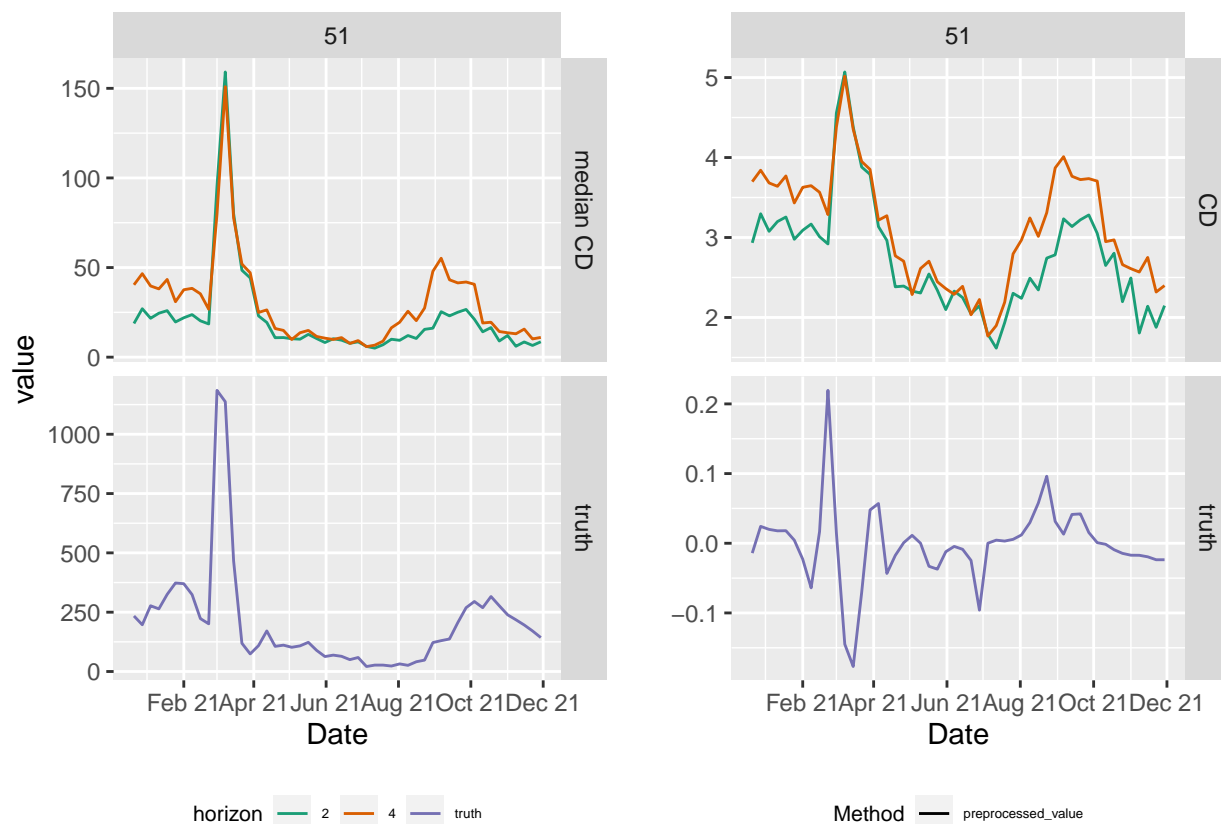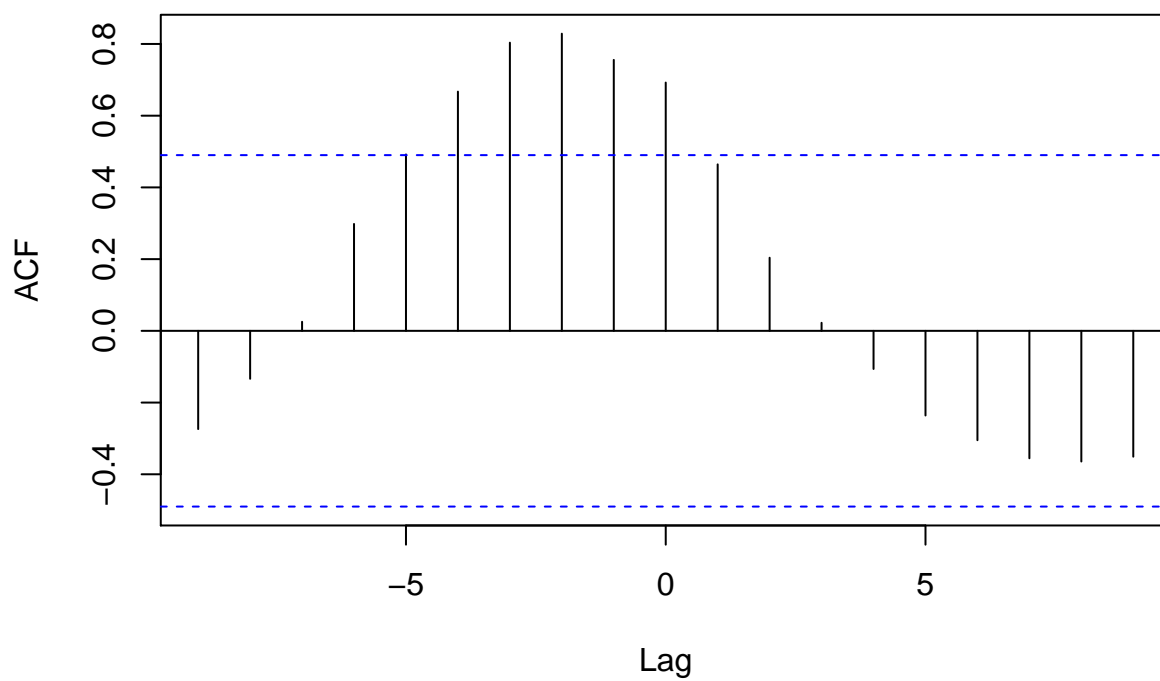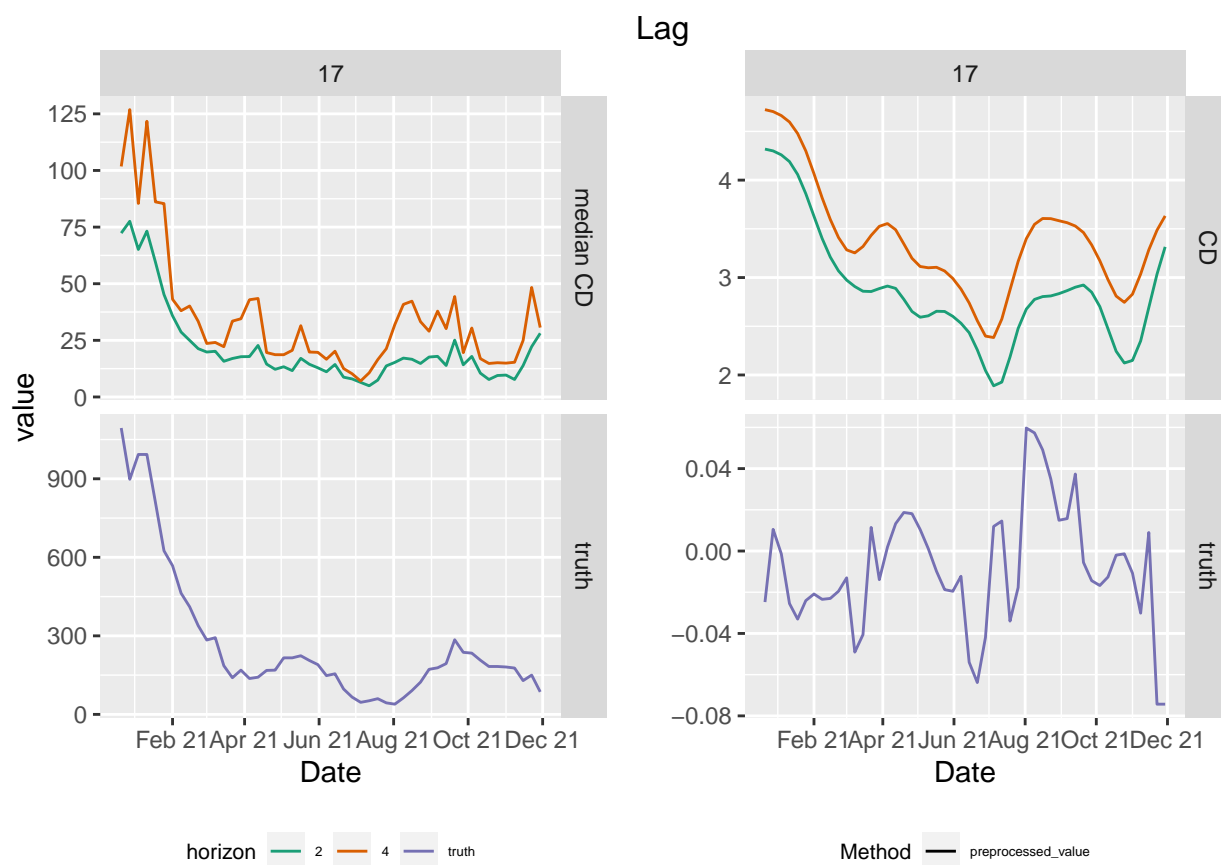
# 4 wk ahead − 36

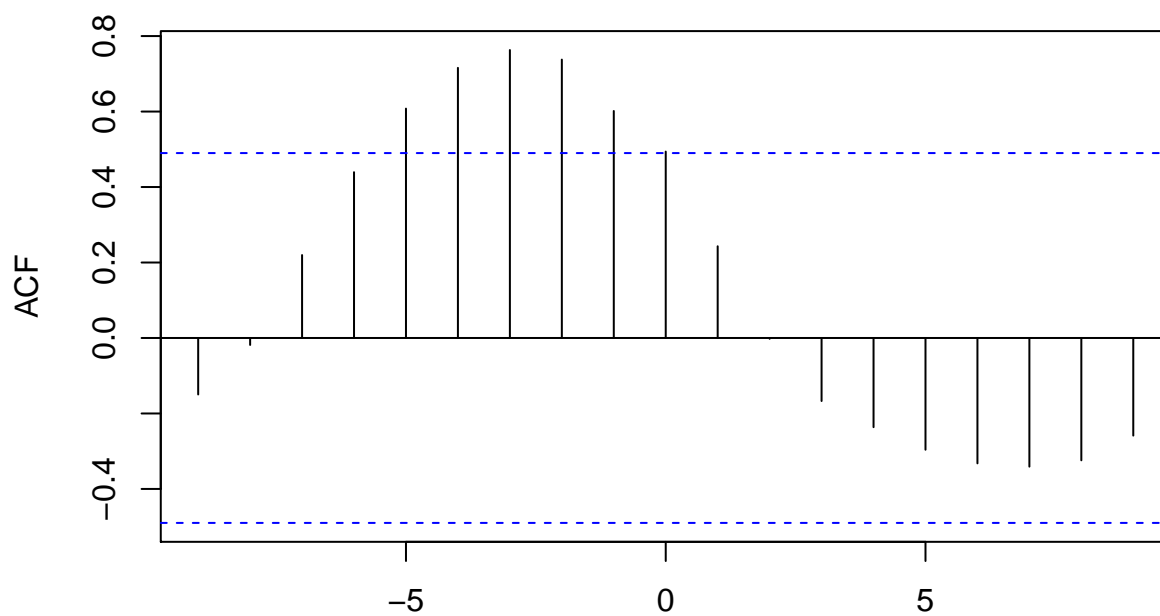## 2 wk ahead − 04



## 4 wk ahead − 04

**2 wk ahead − 51**

# 4 wk ahead − 51

# 2 wk ahead − 17



# 4 wk ahead − 17
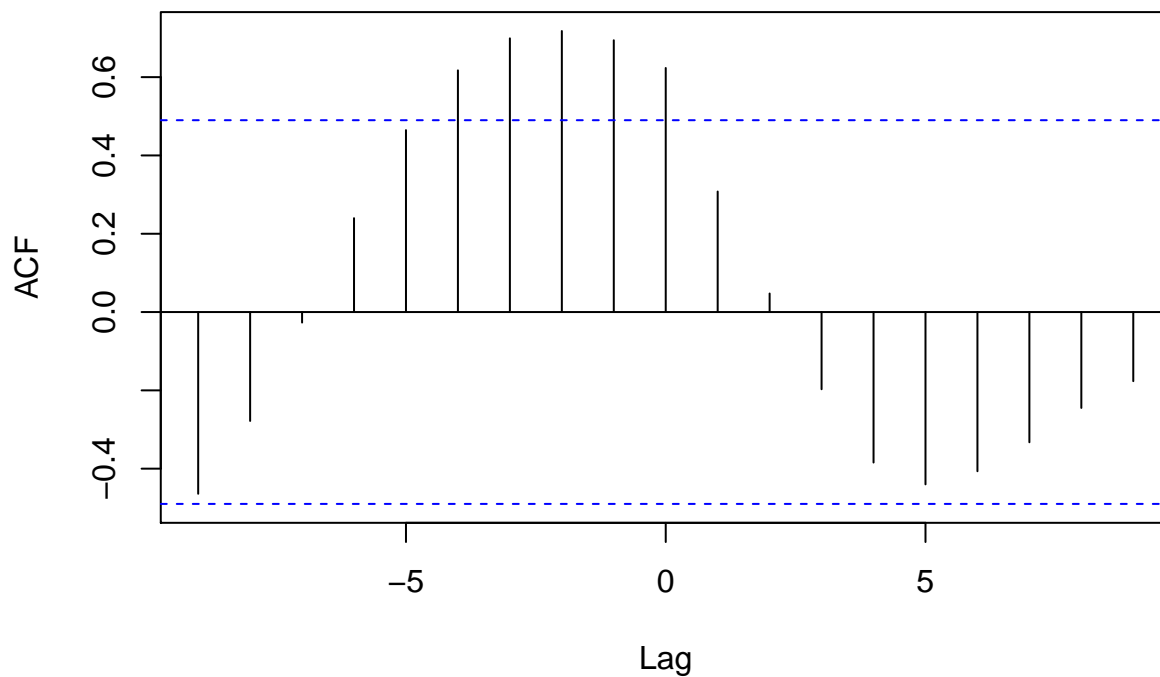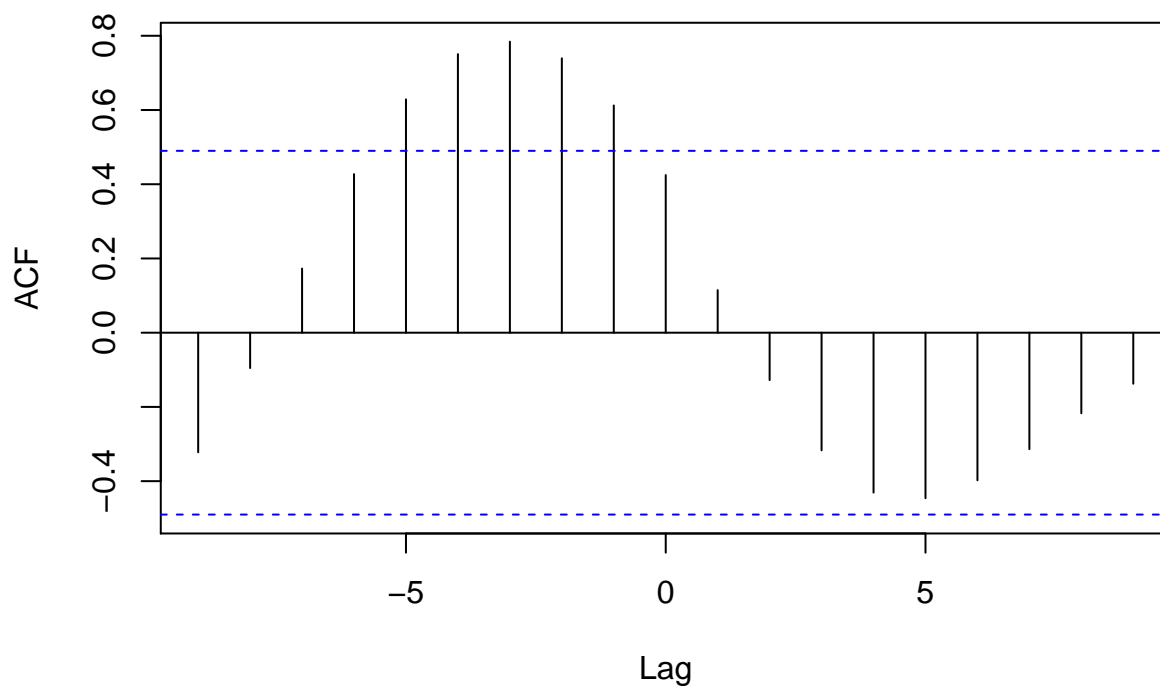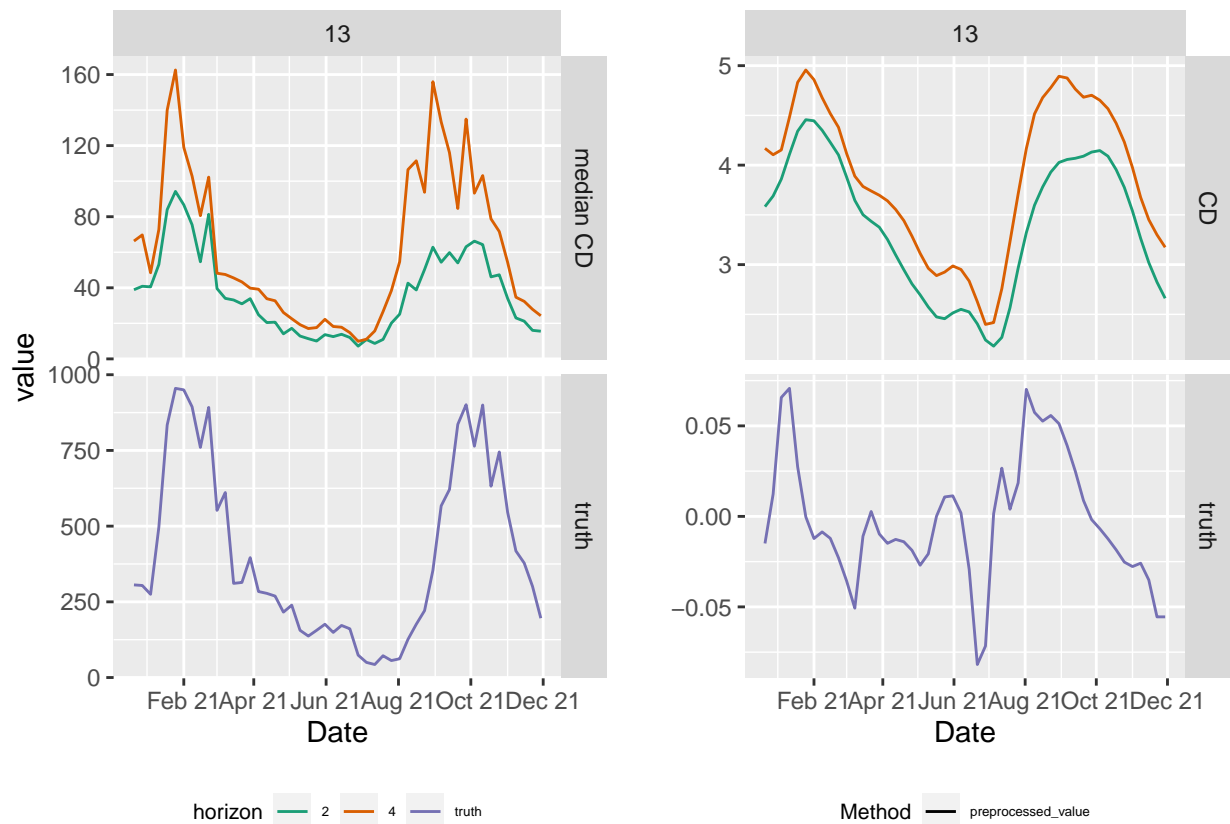
**2 wk ahead − 13**



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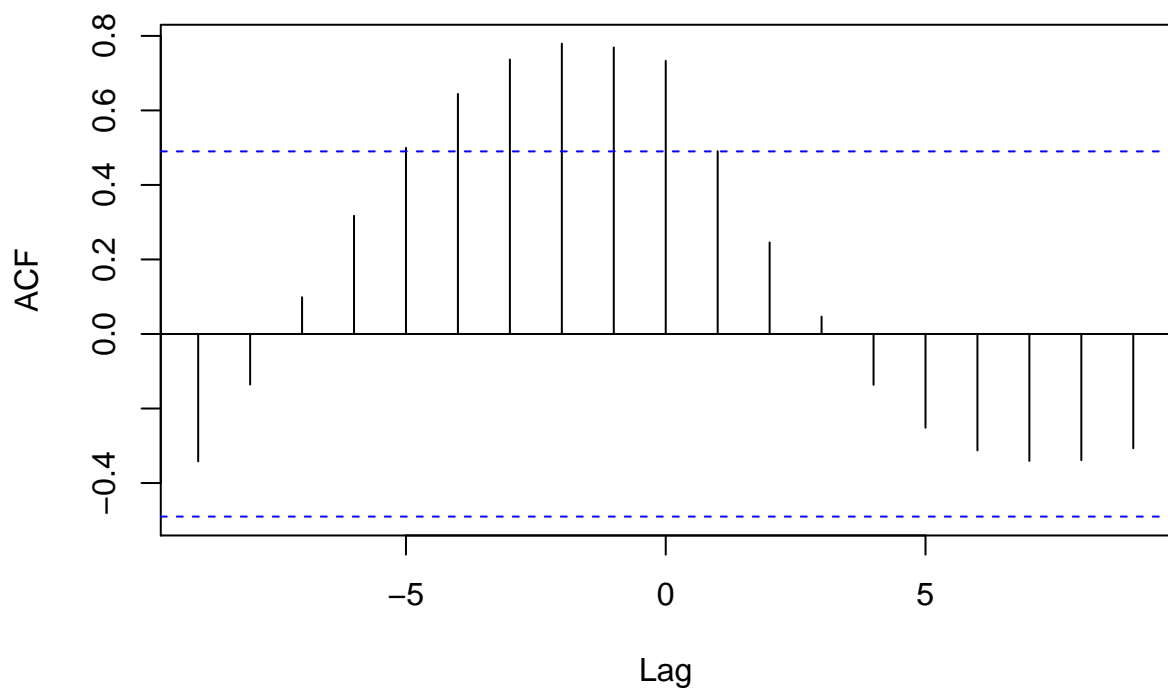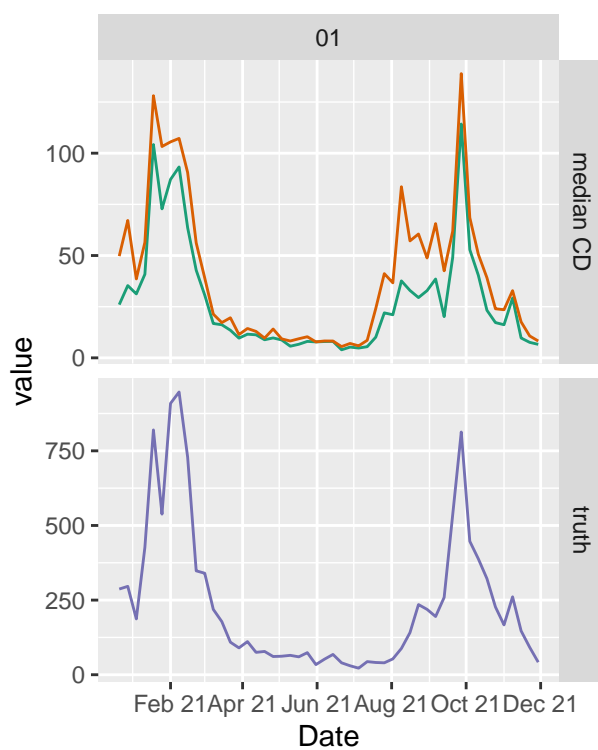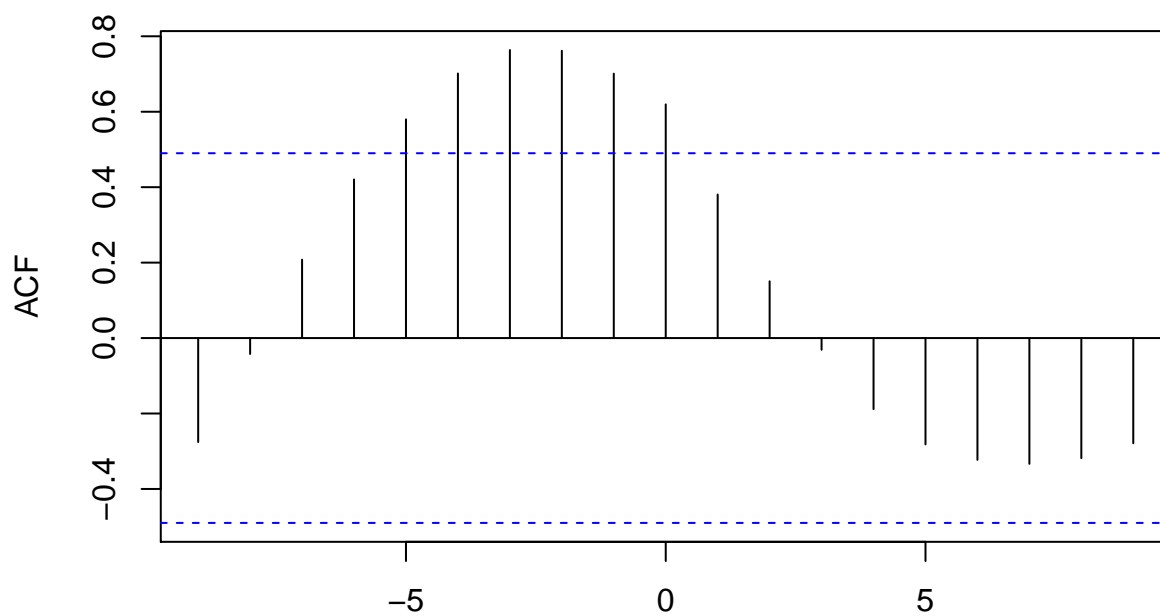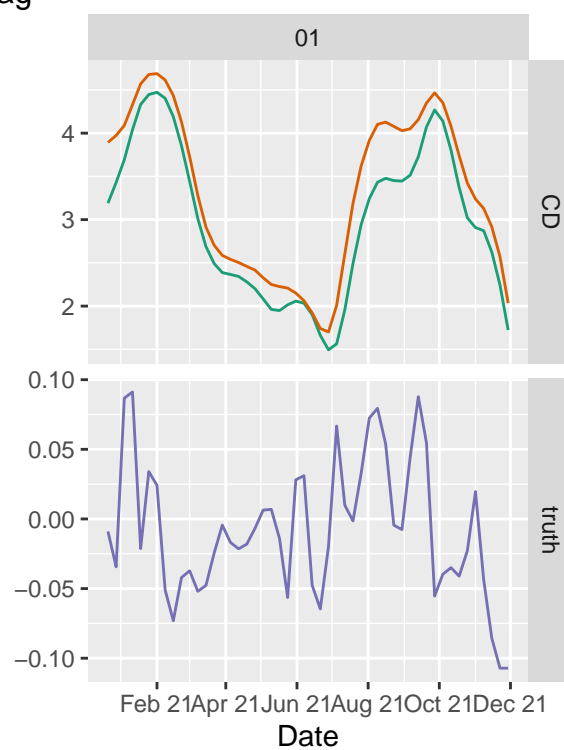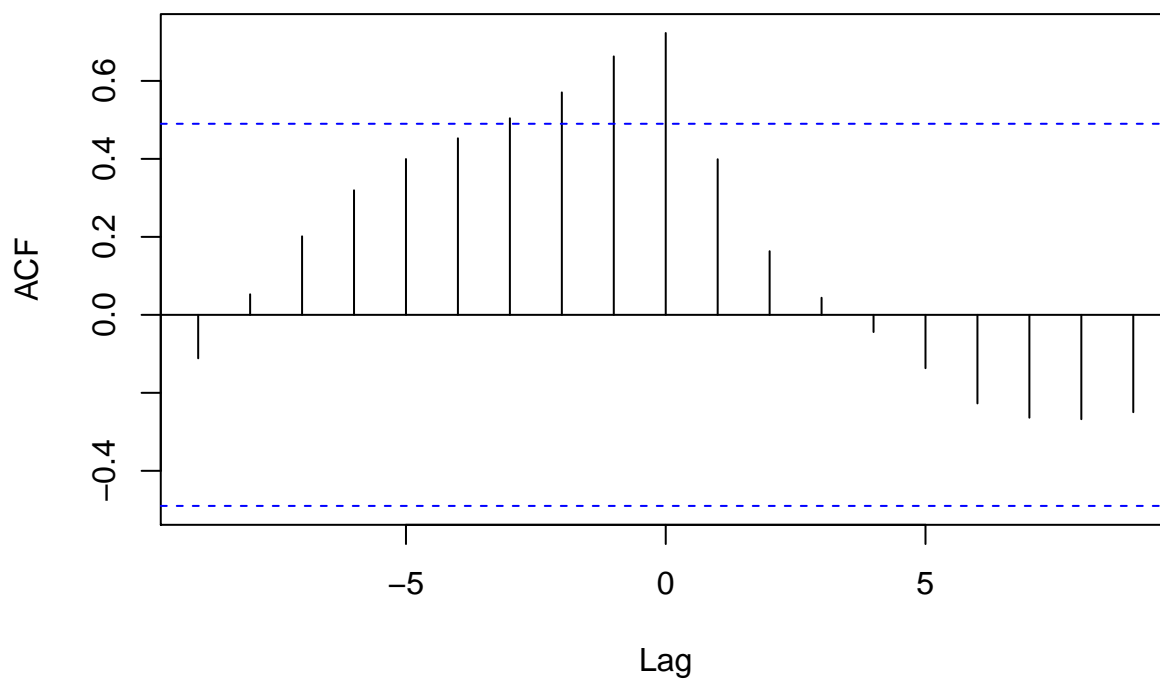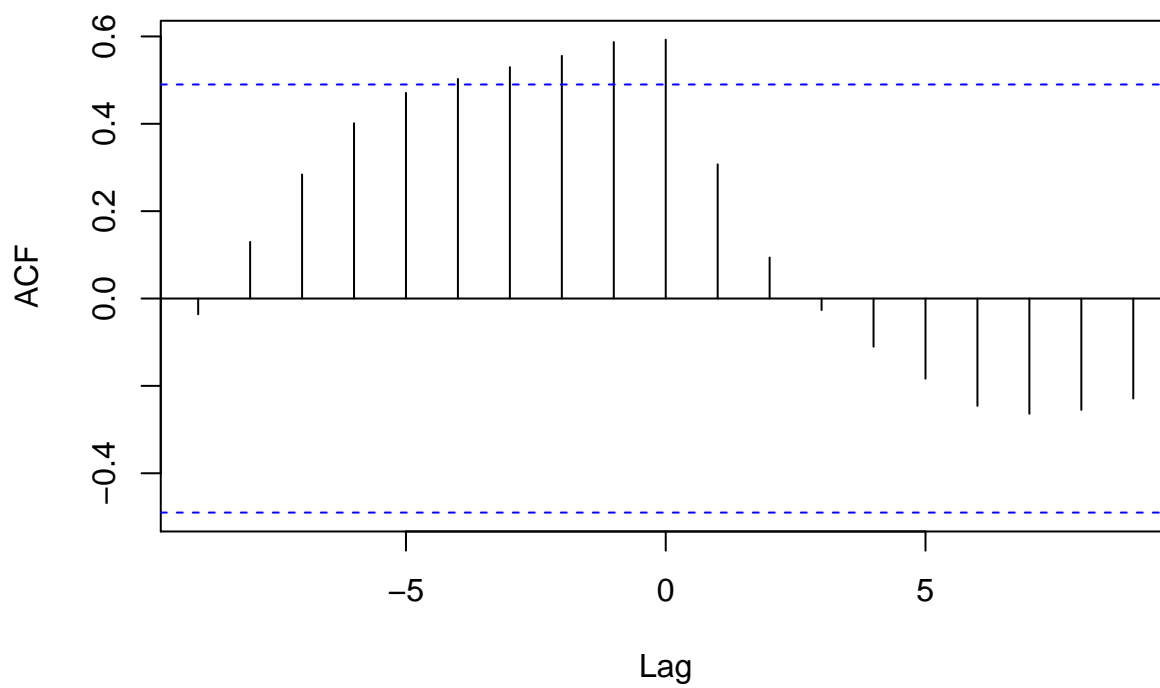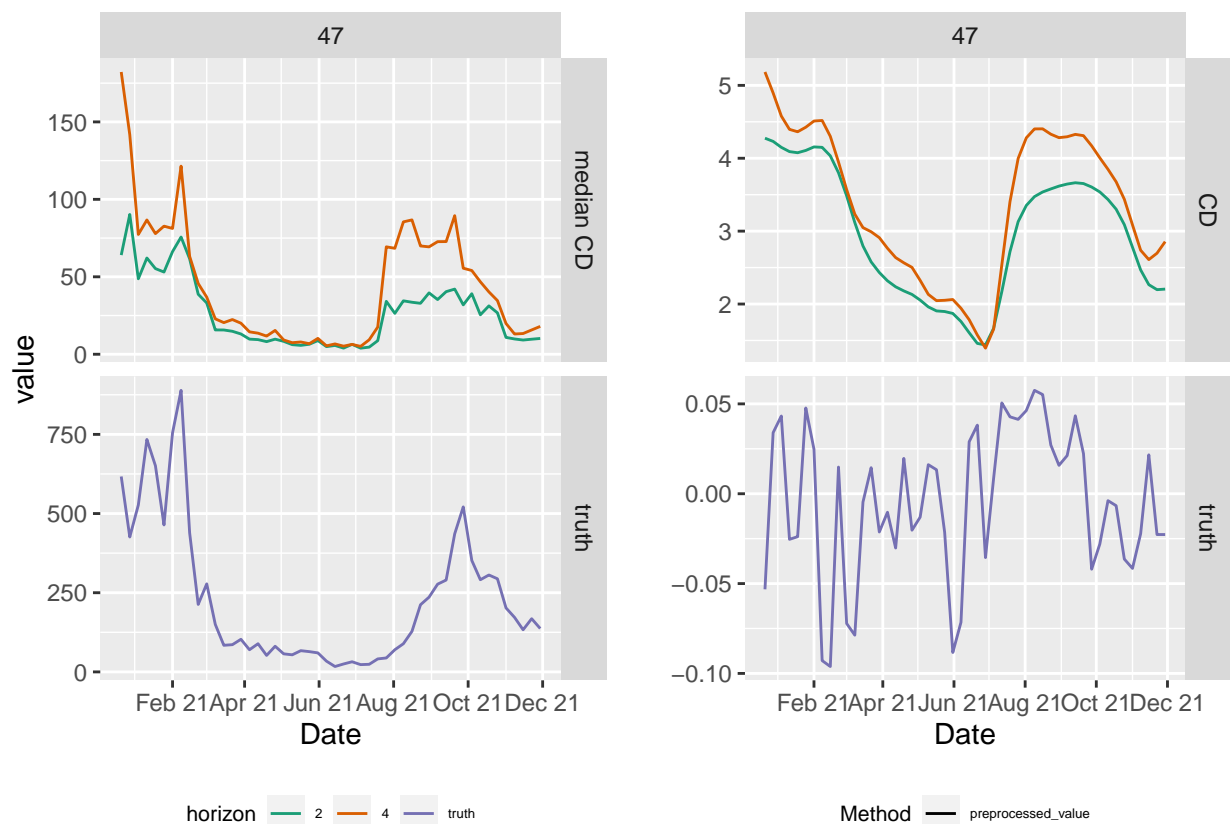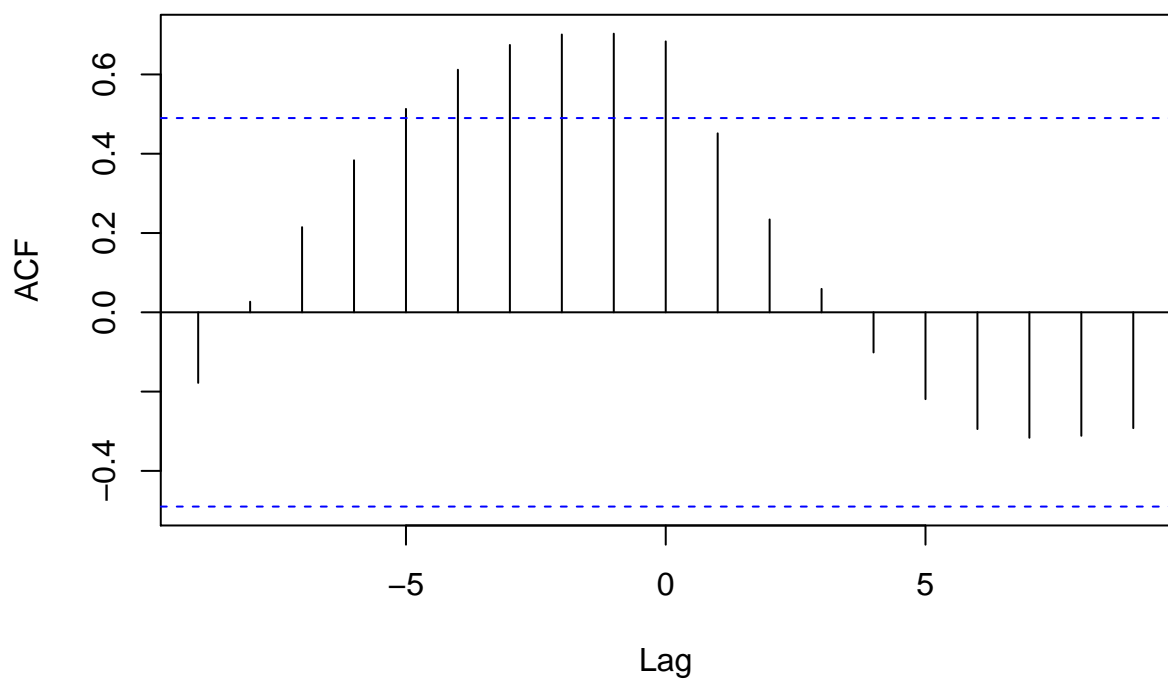# 4 wk ahead − 13

## 2 wk ahead – 01



## 4 wk ahead – 01

**2 wk ahead – 47**

# 4 wk ahead − 47
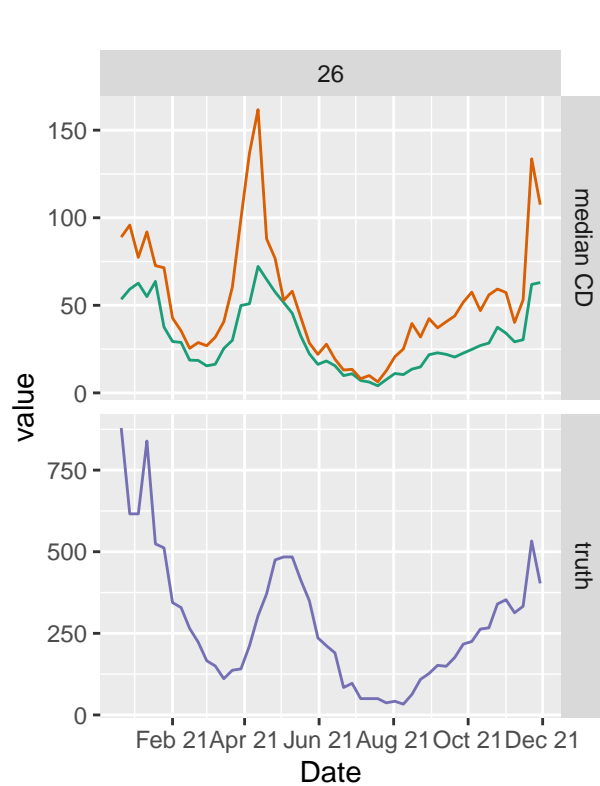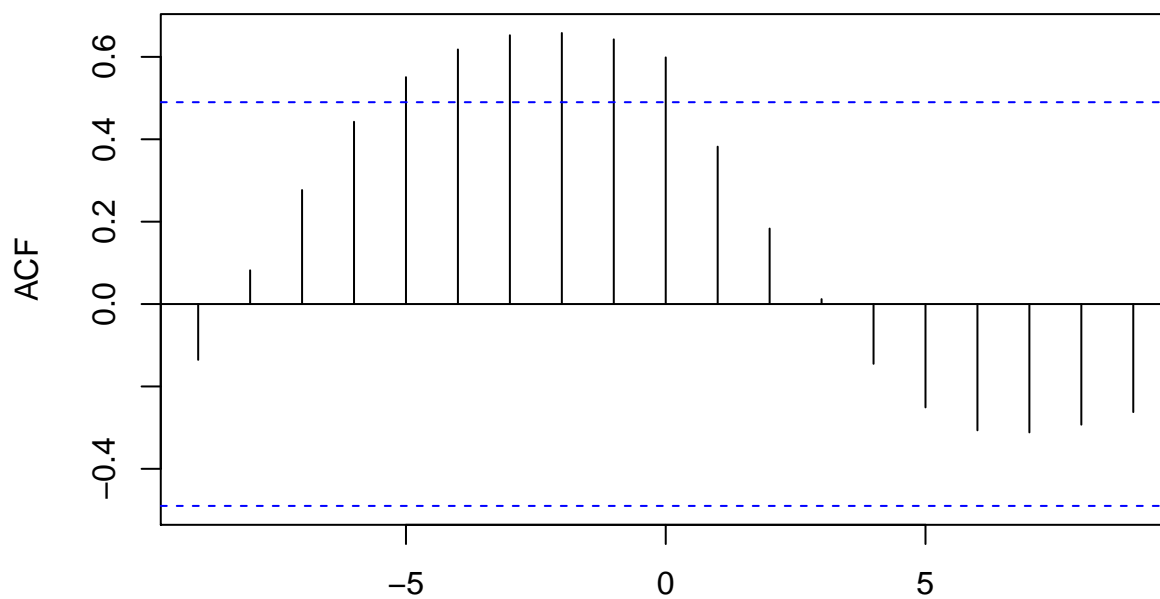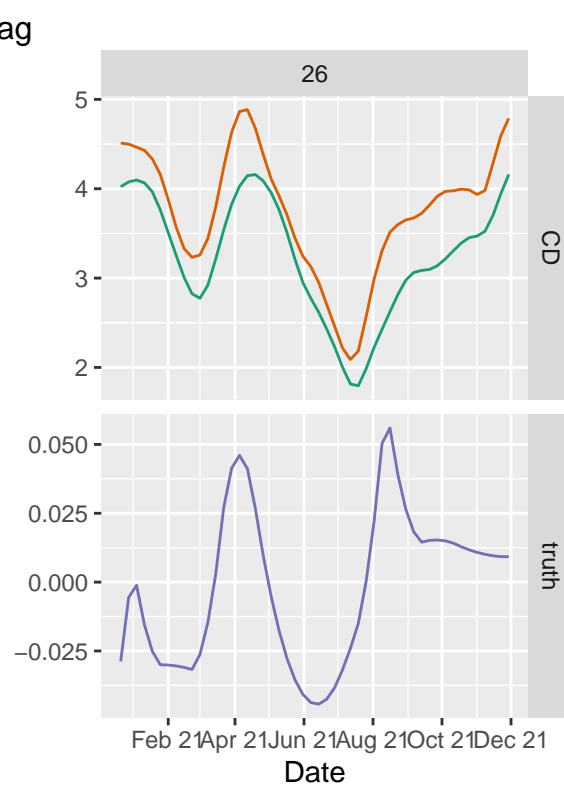
**2 wk ahead – 26**
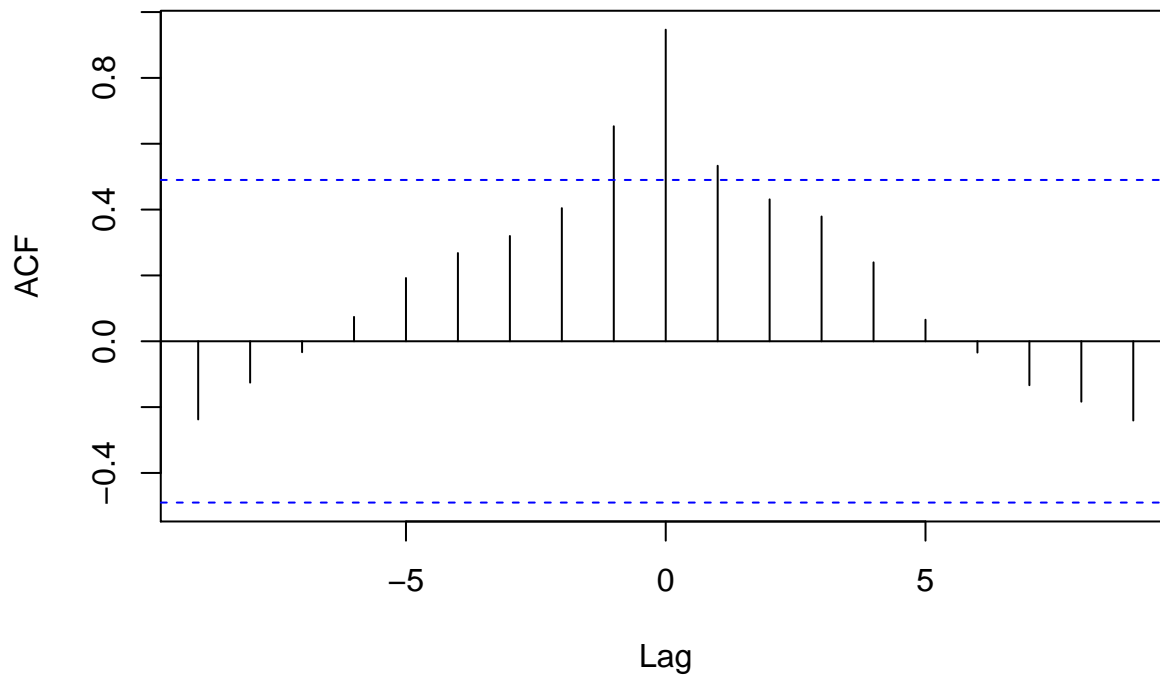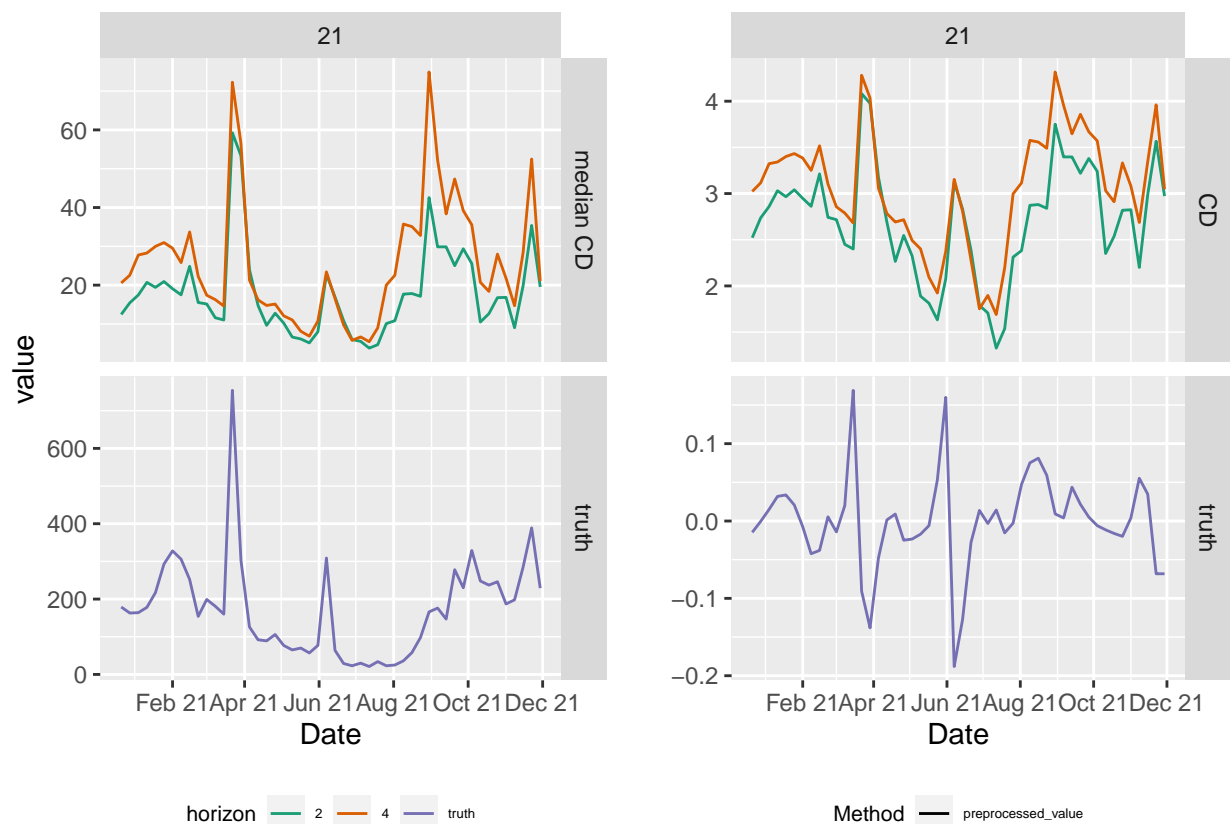


**4 wk ahead – 26**

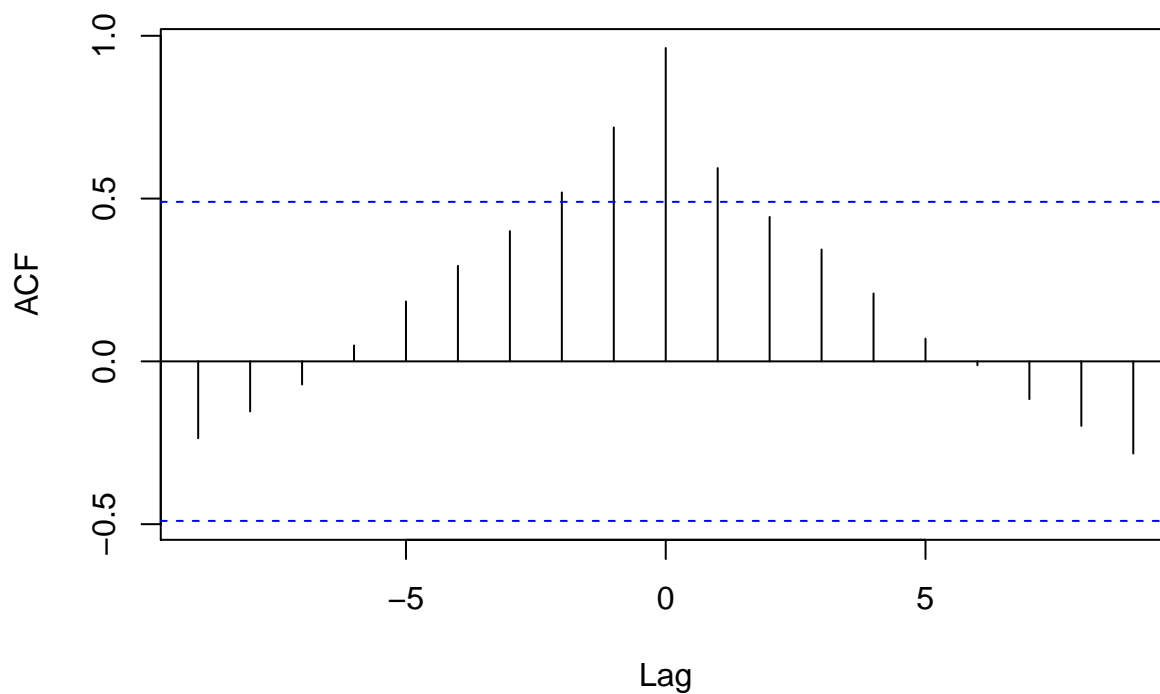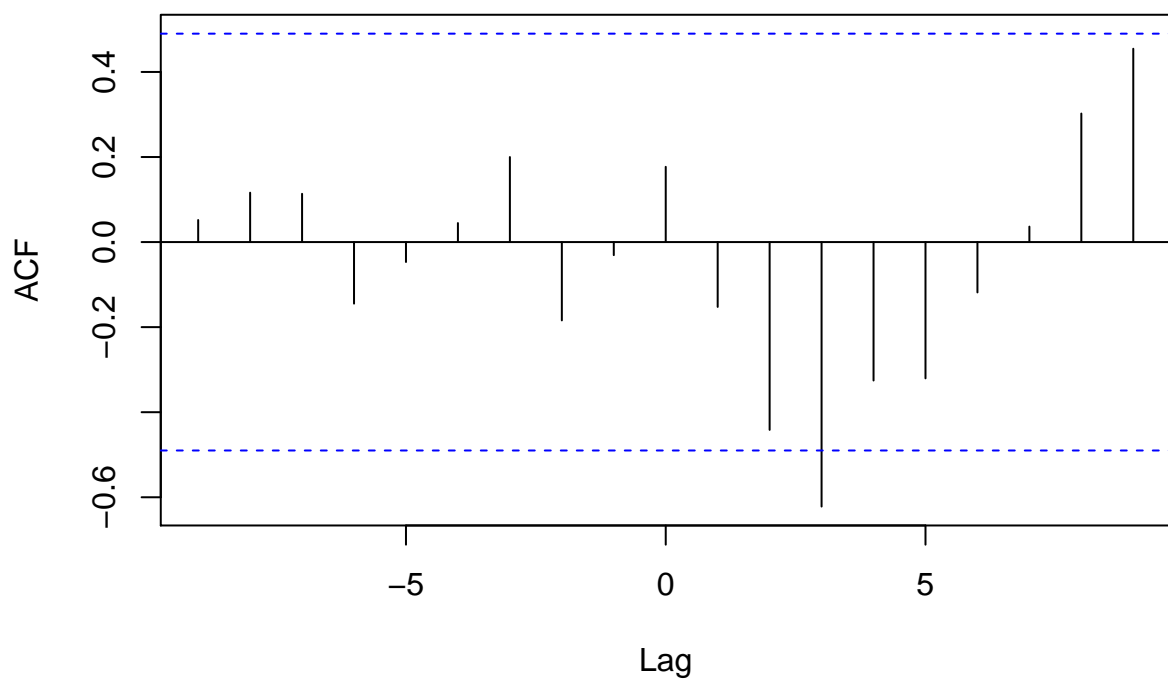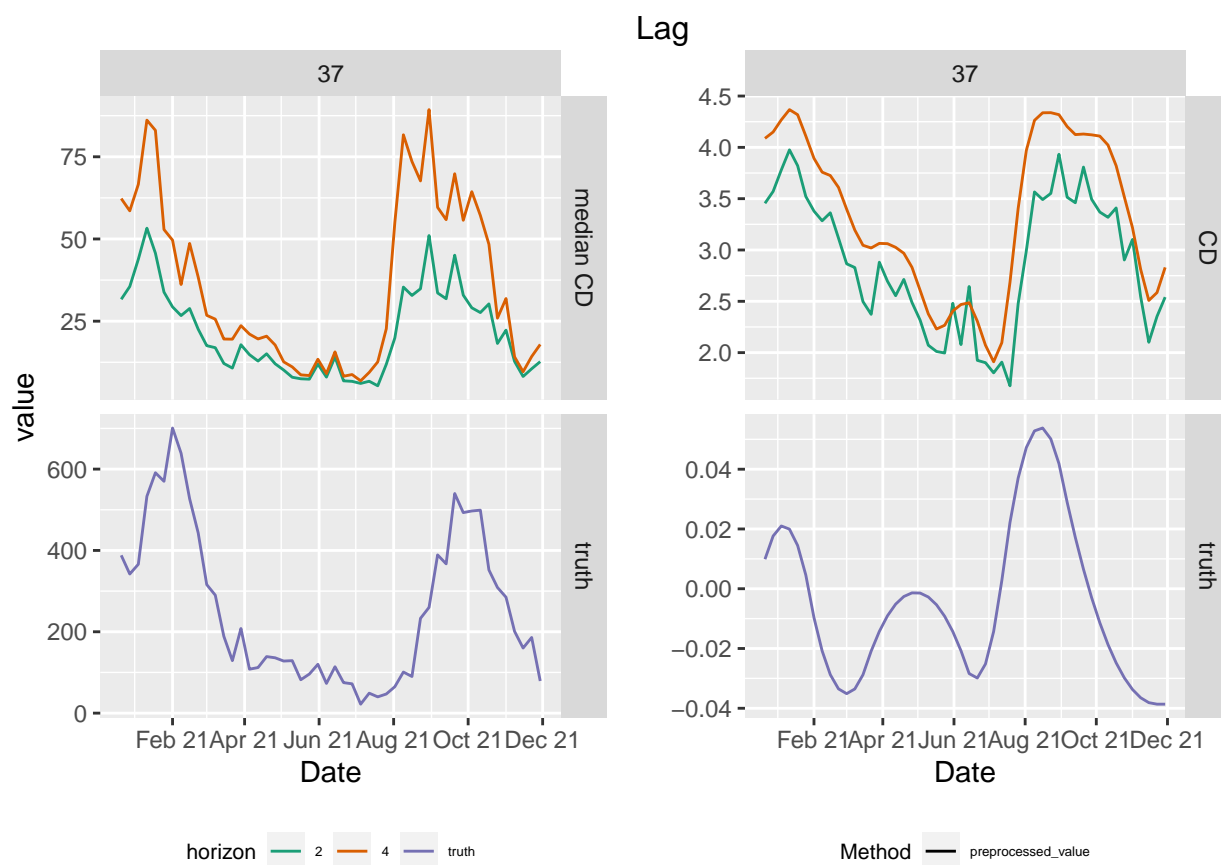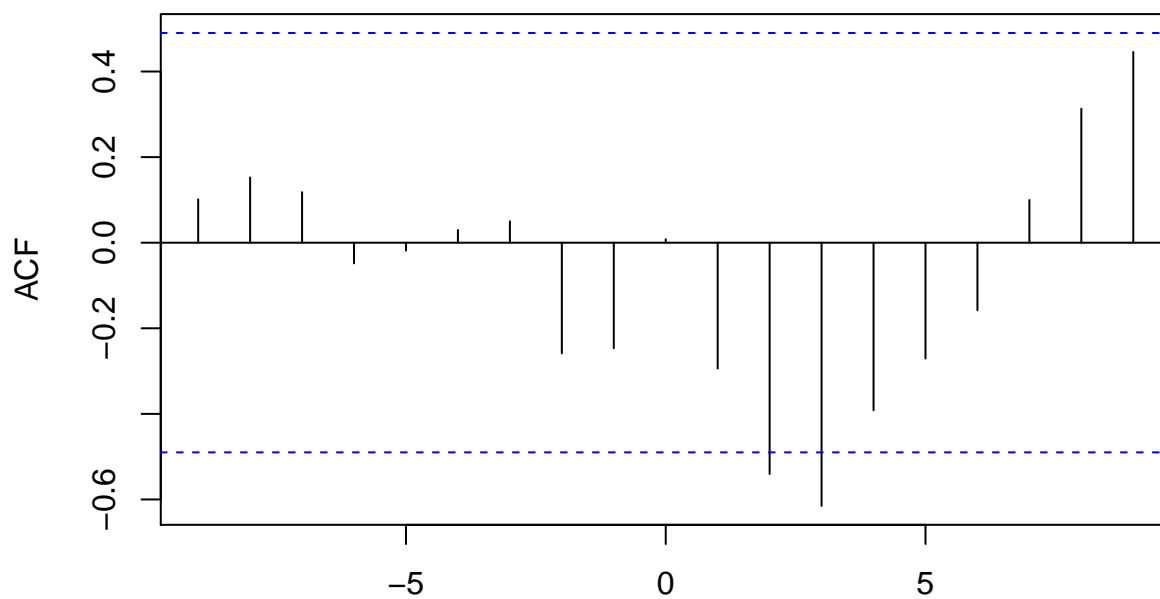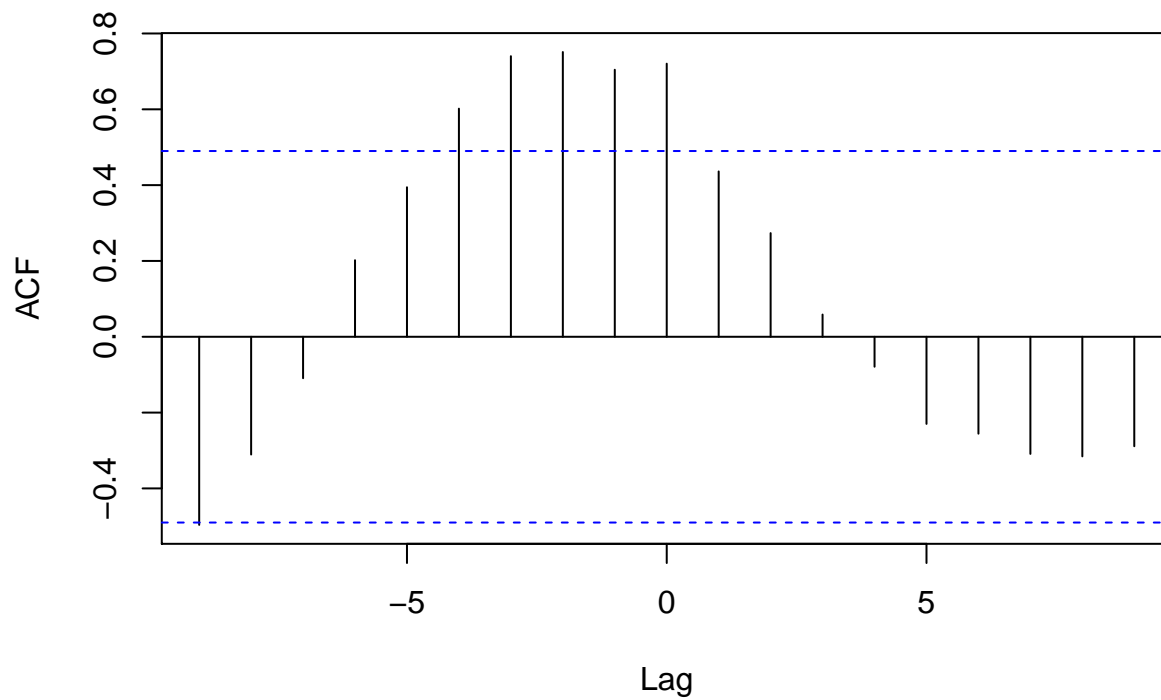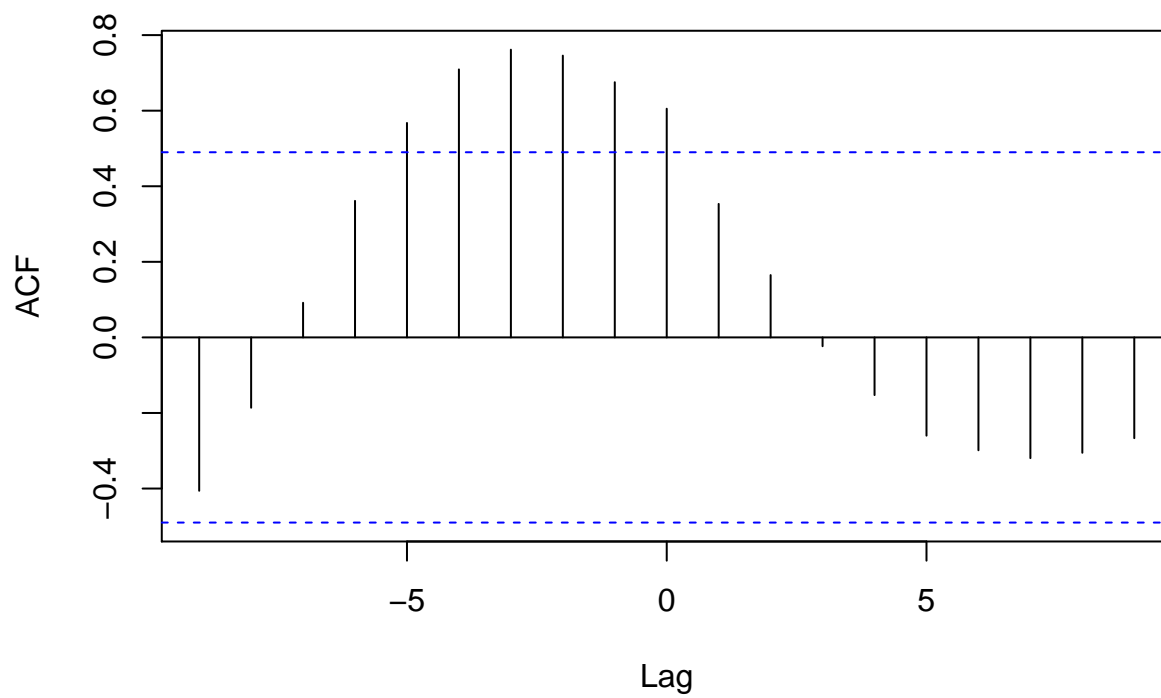**2 wk ahead − 21**

**4 wk ahead − 21**

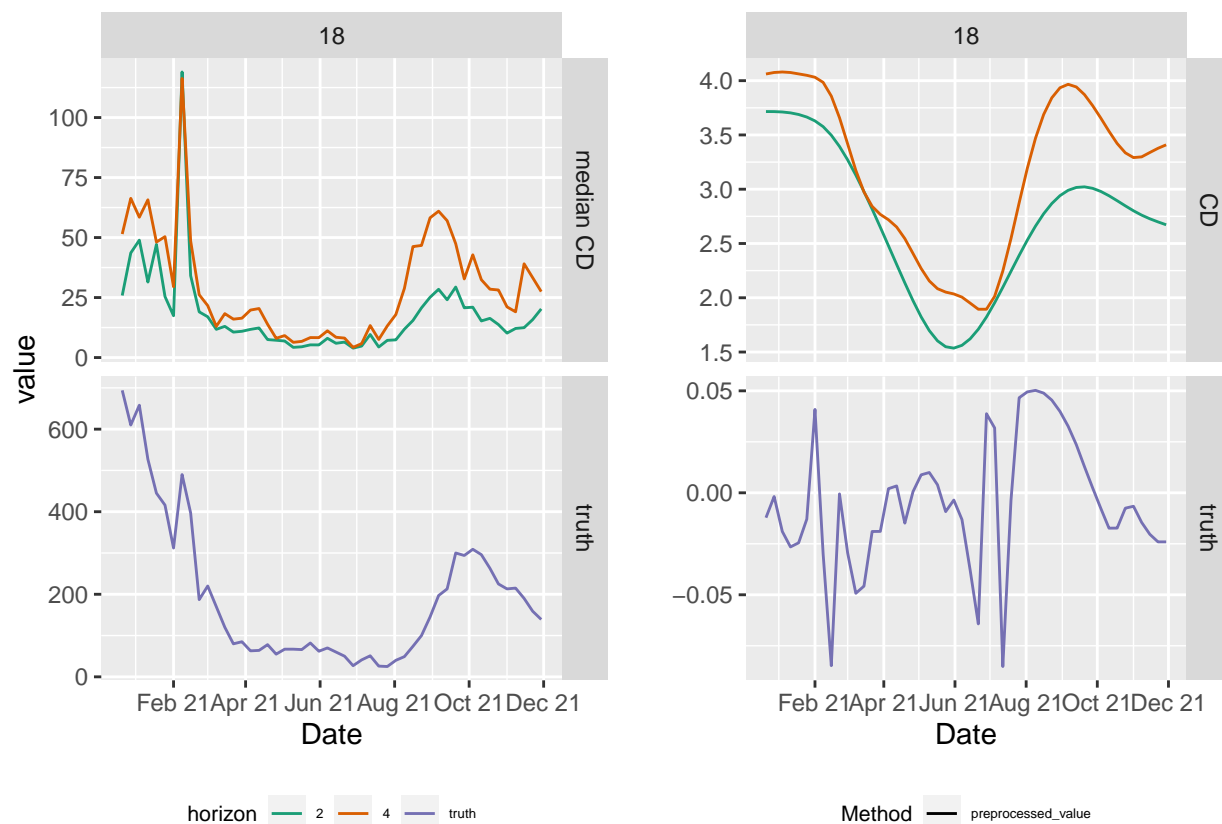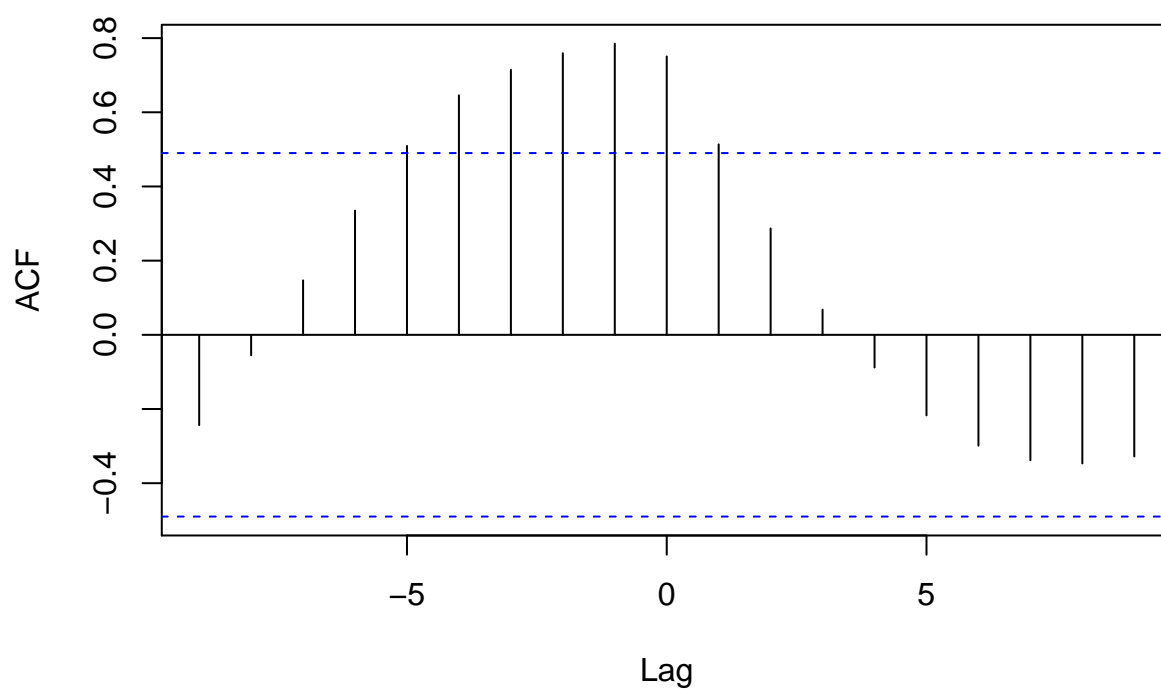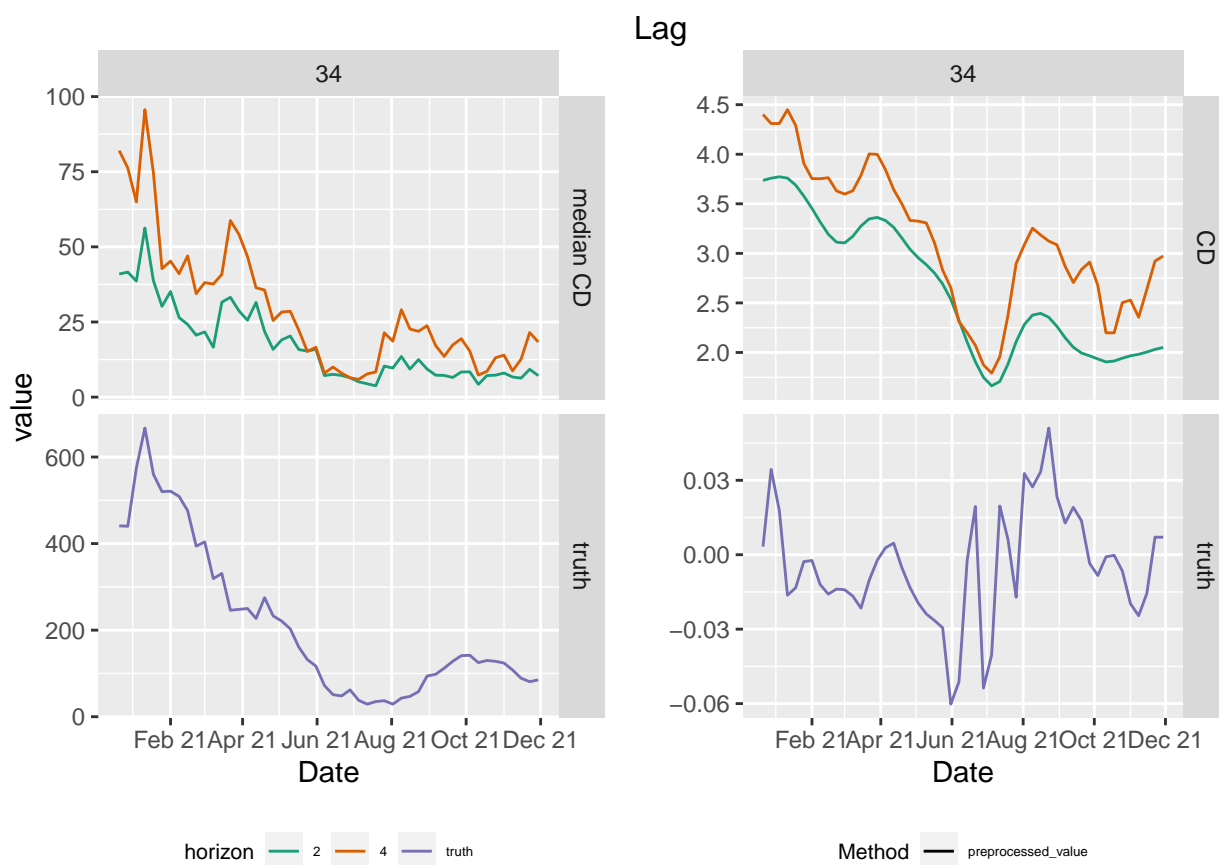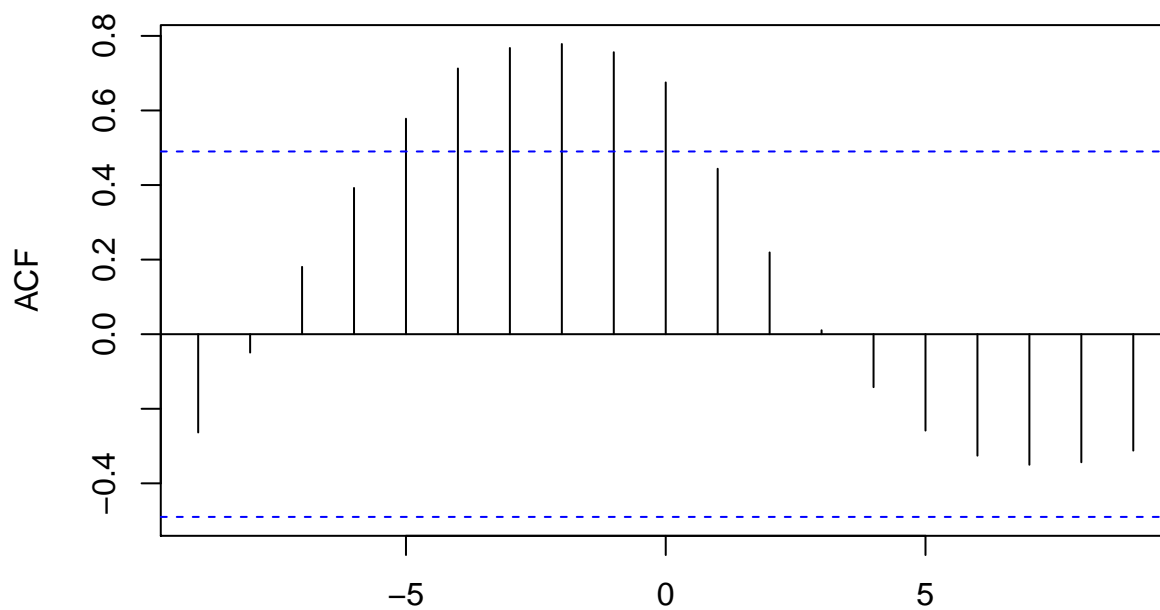## 2 wk ahead – 37



## 4 wk ahead – 37

**2 wk ahead – 18**

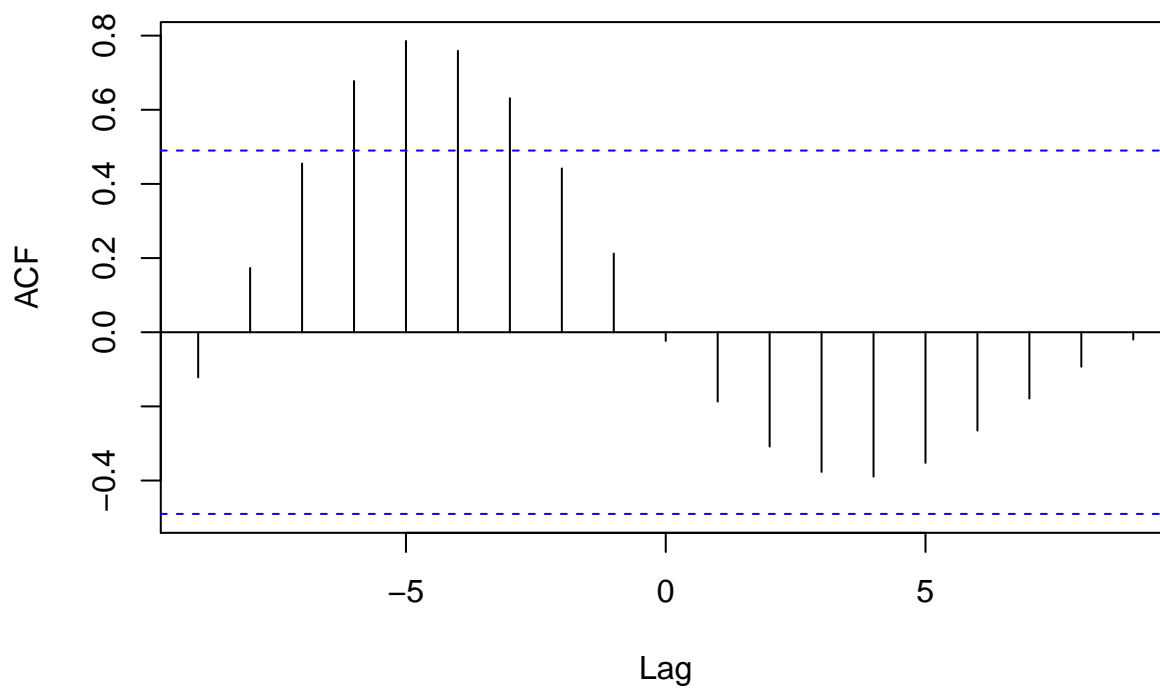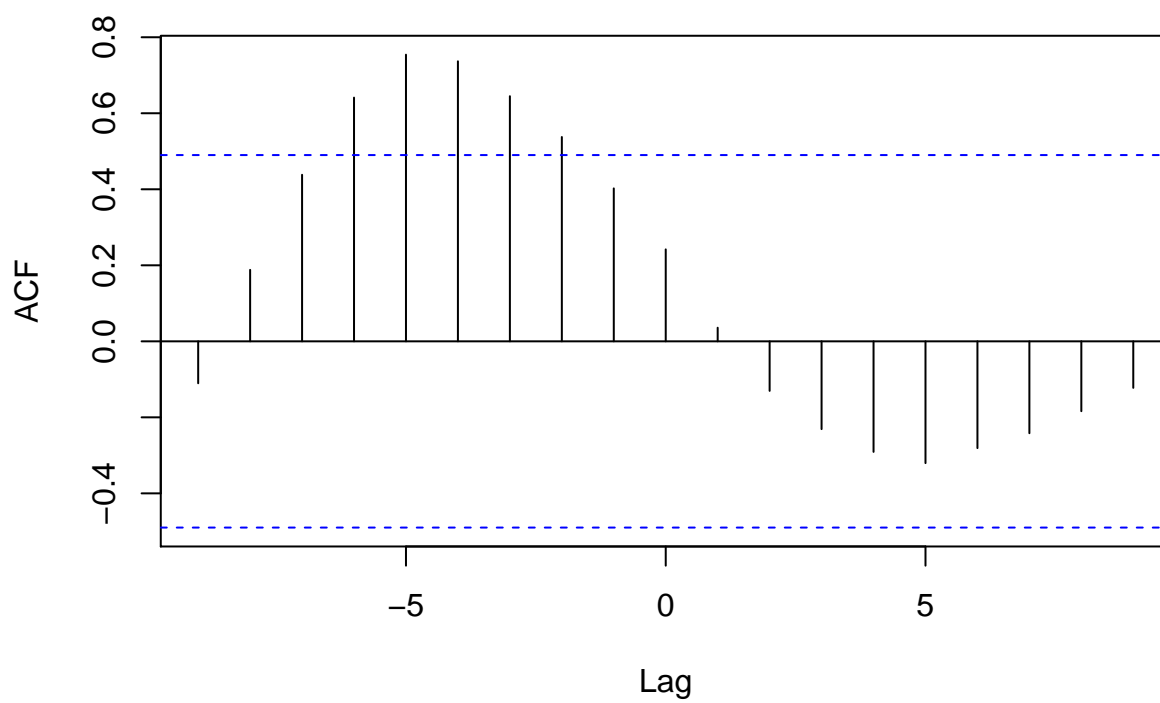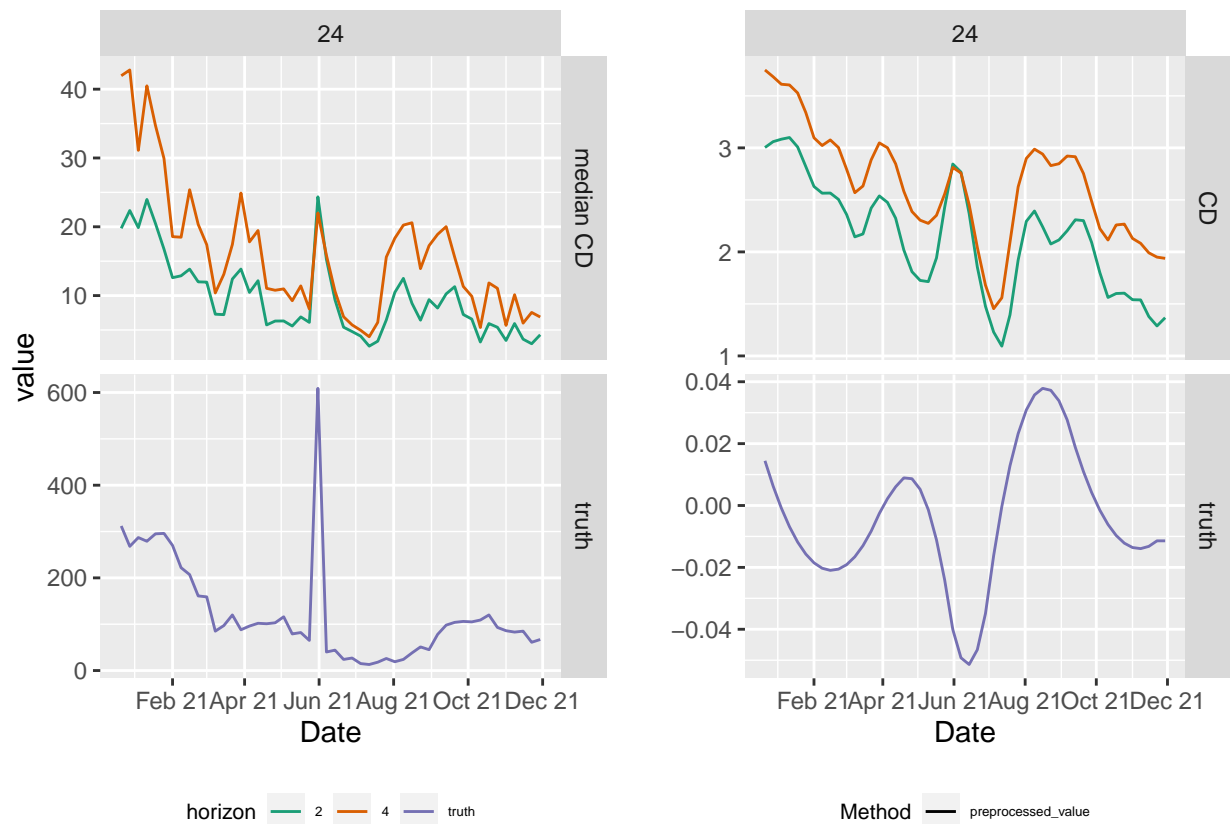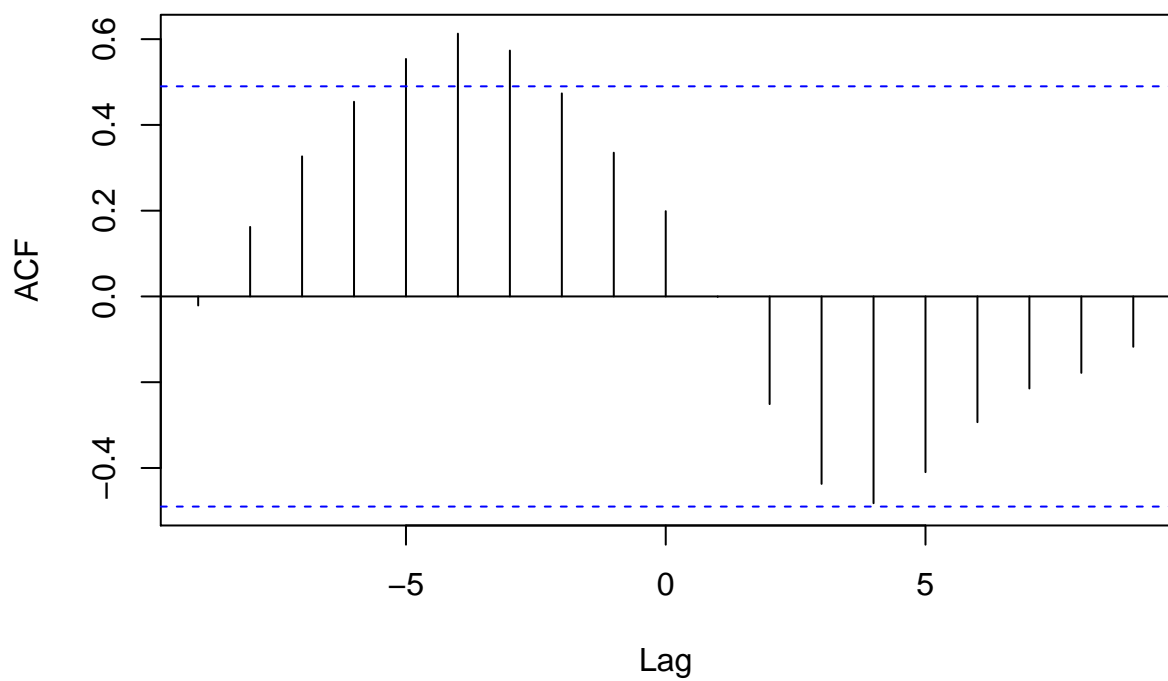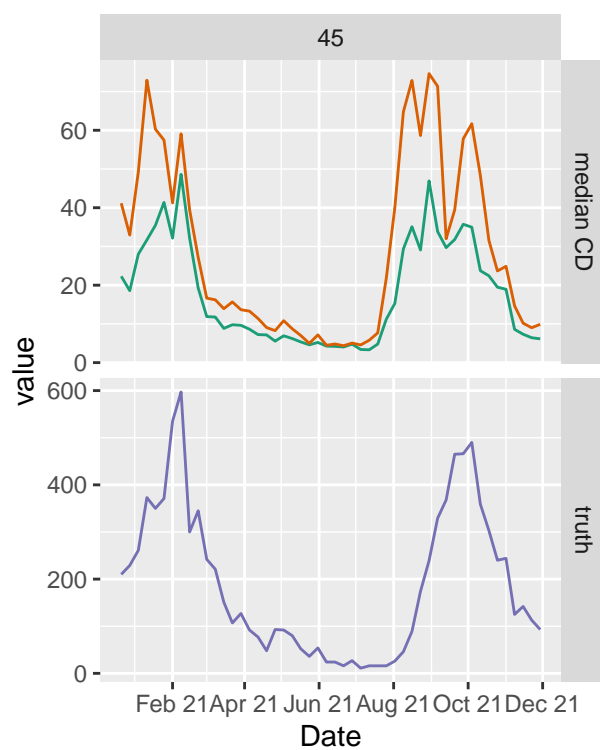# 4 wk ahead − 18

**2 wk ahead – 34**



**4 wk ahead – 34**

**2 wk ahead − 24**
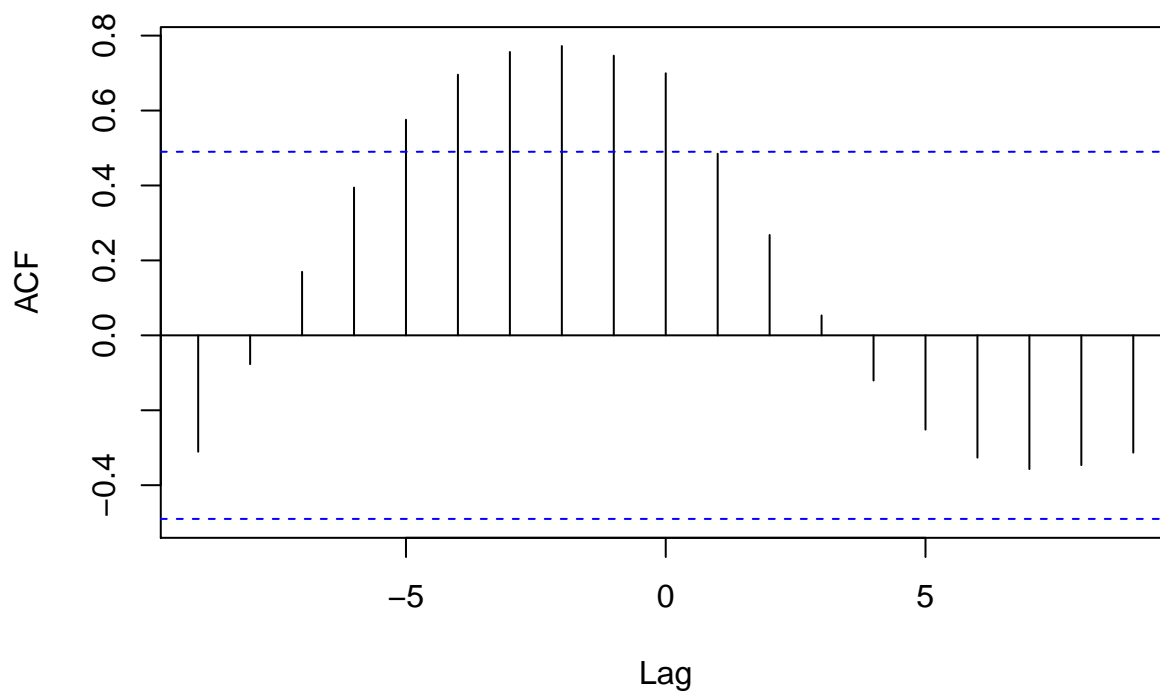
# 4 wk ahead – 24
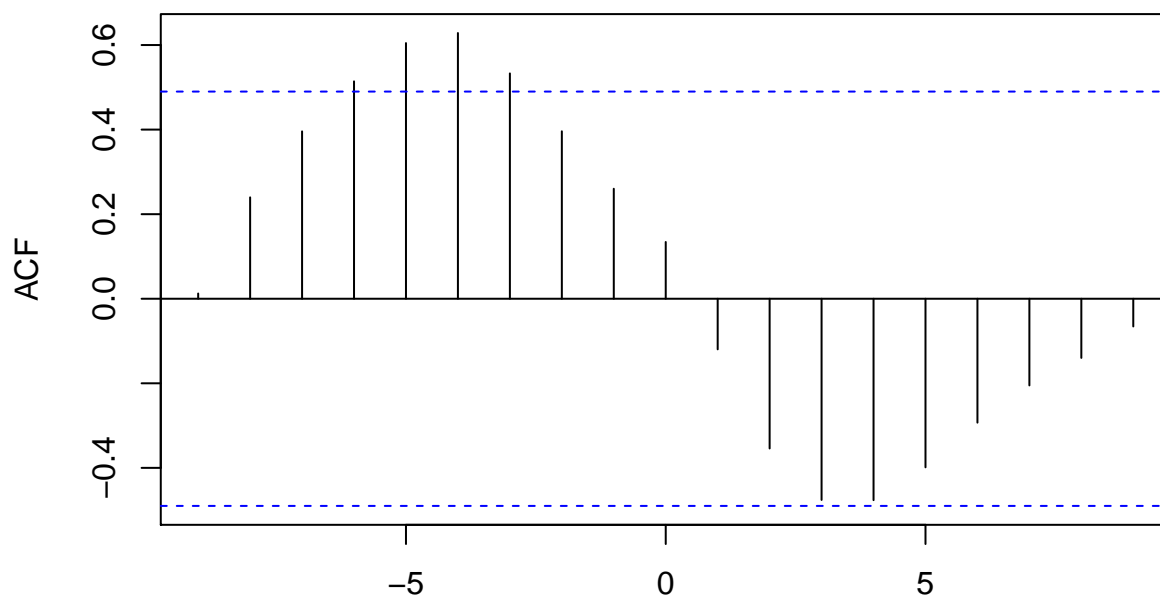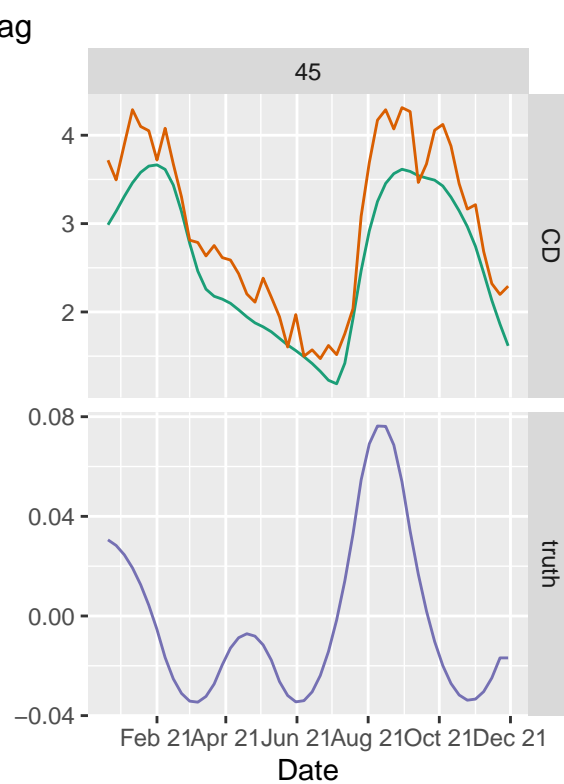
**2 wk ahead – 45**
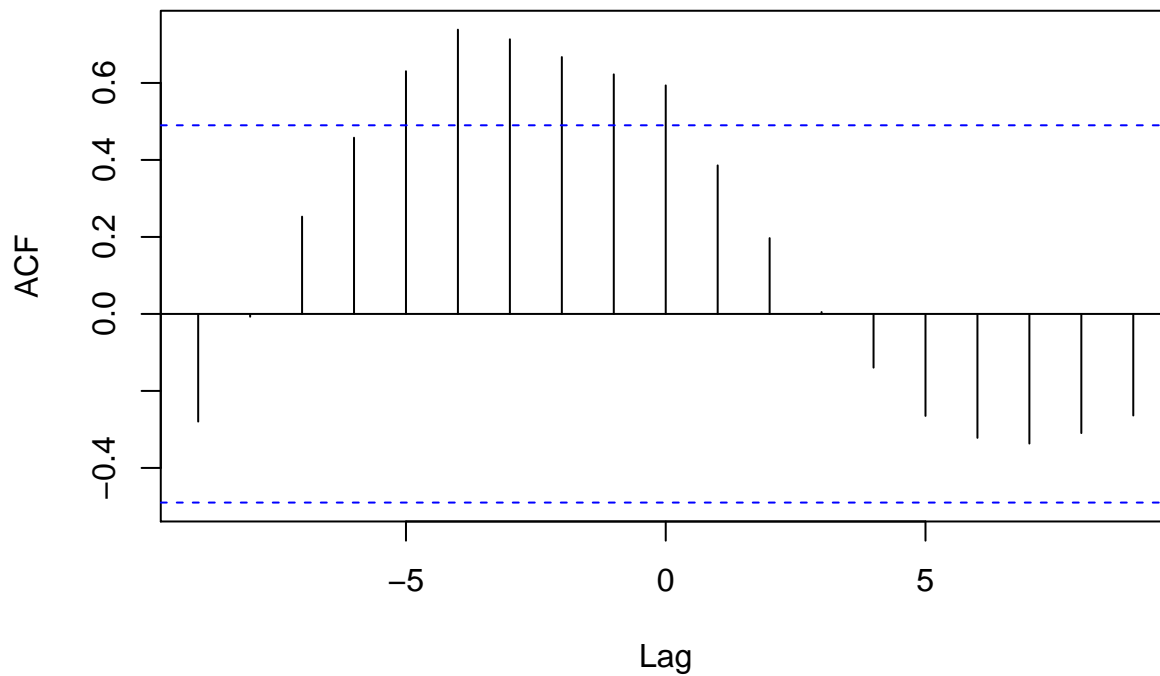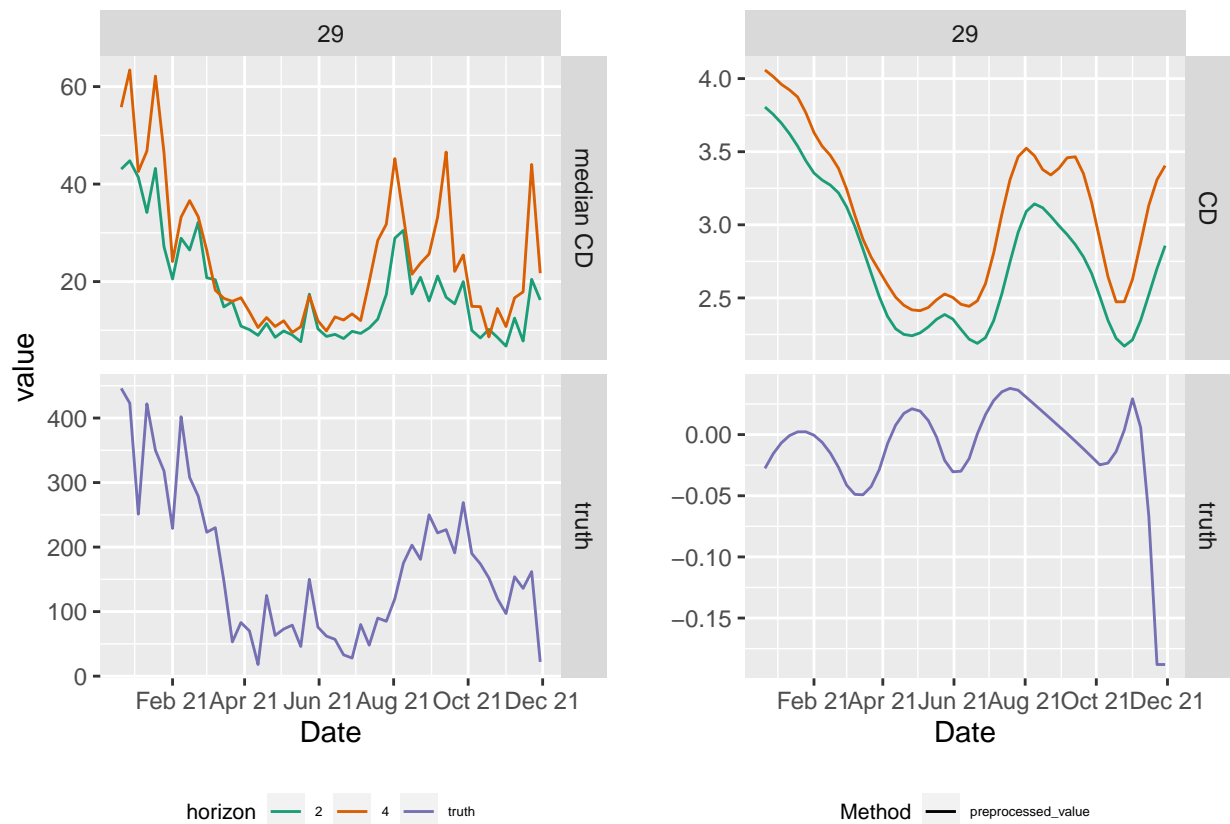
**4 wk ahead – 45**

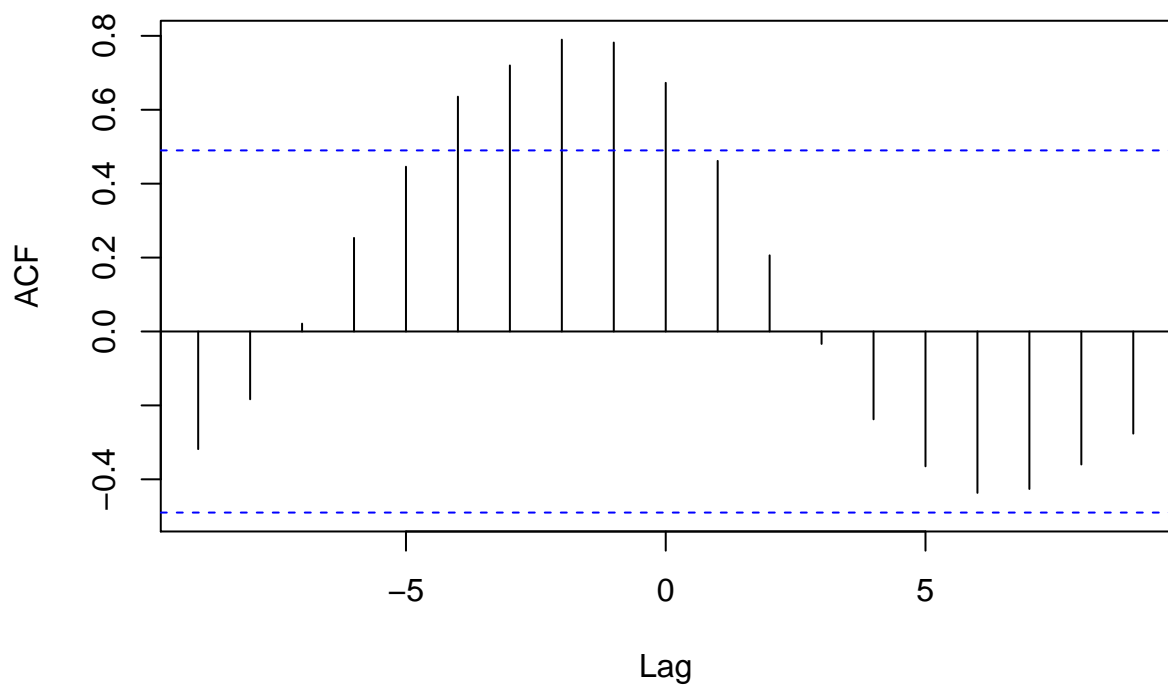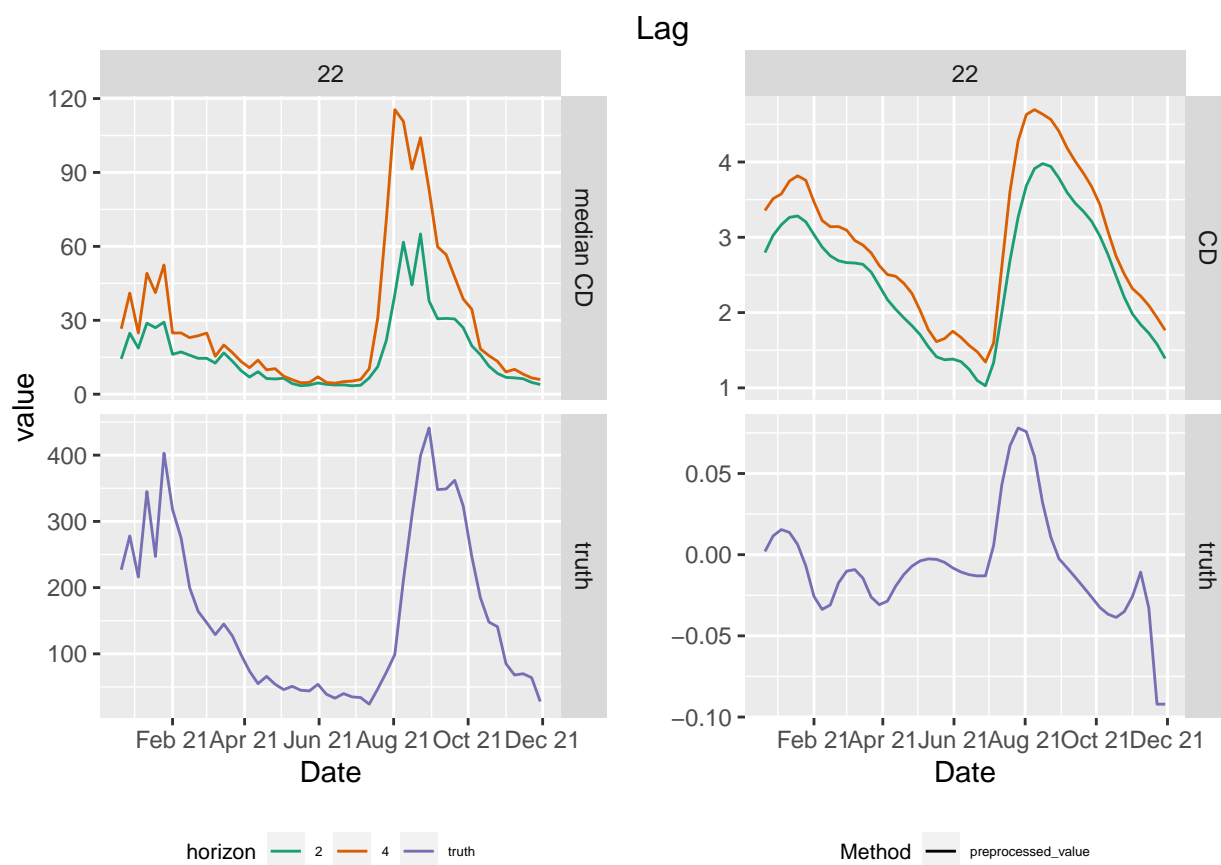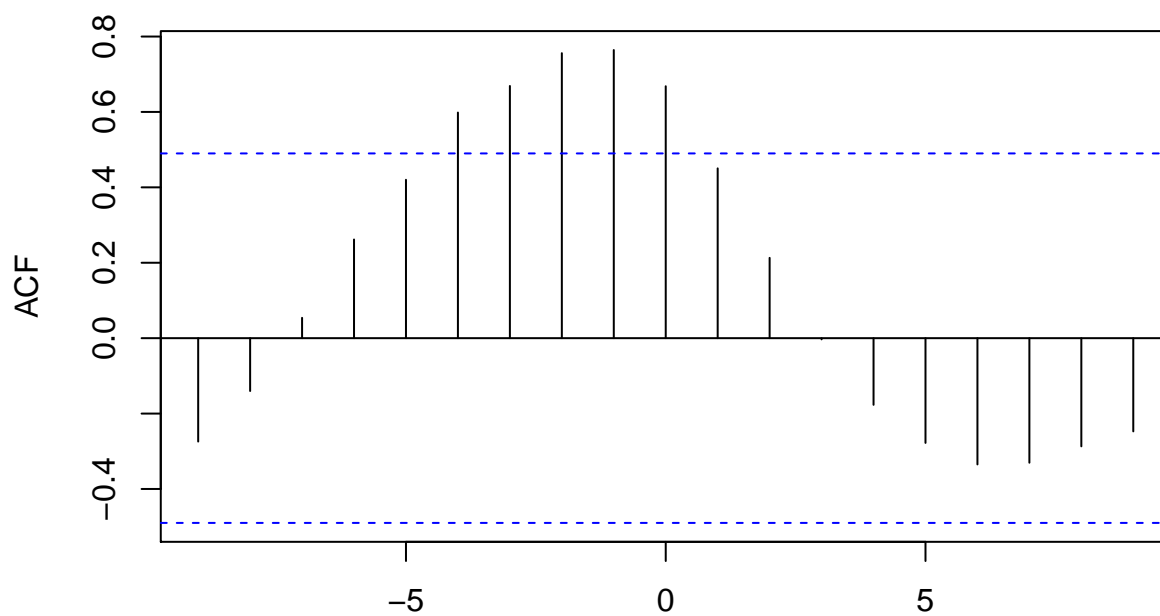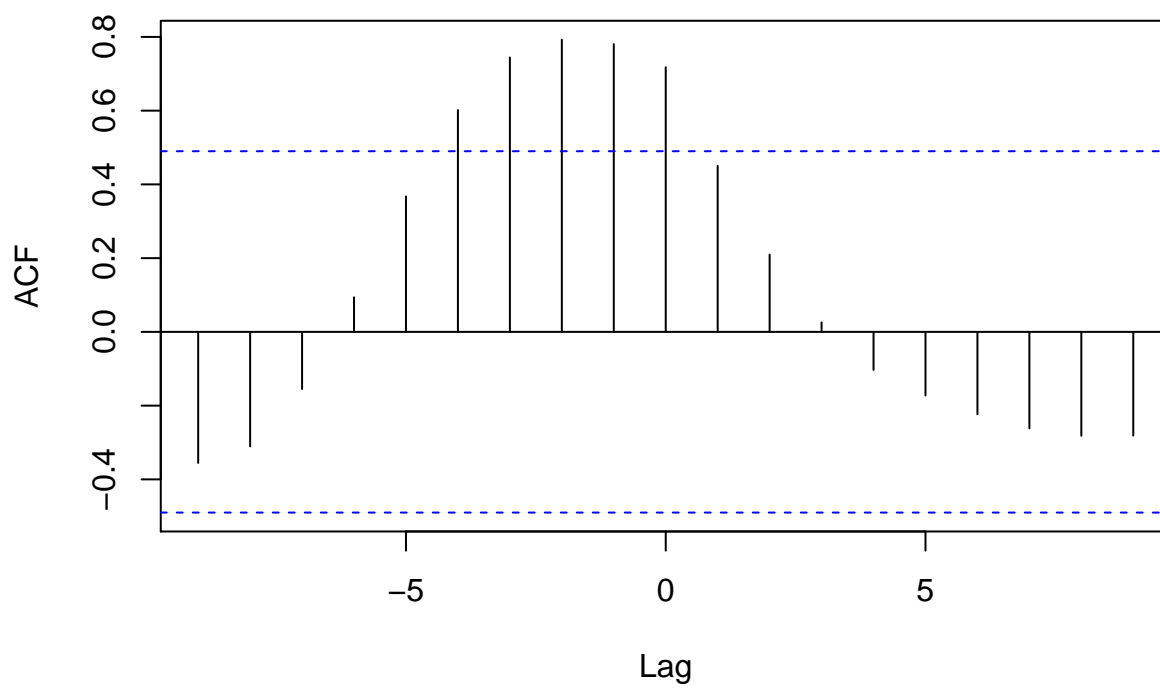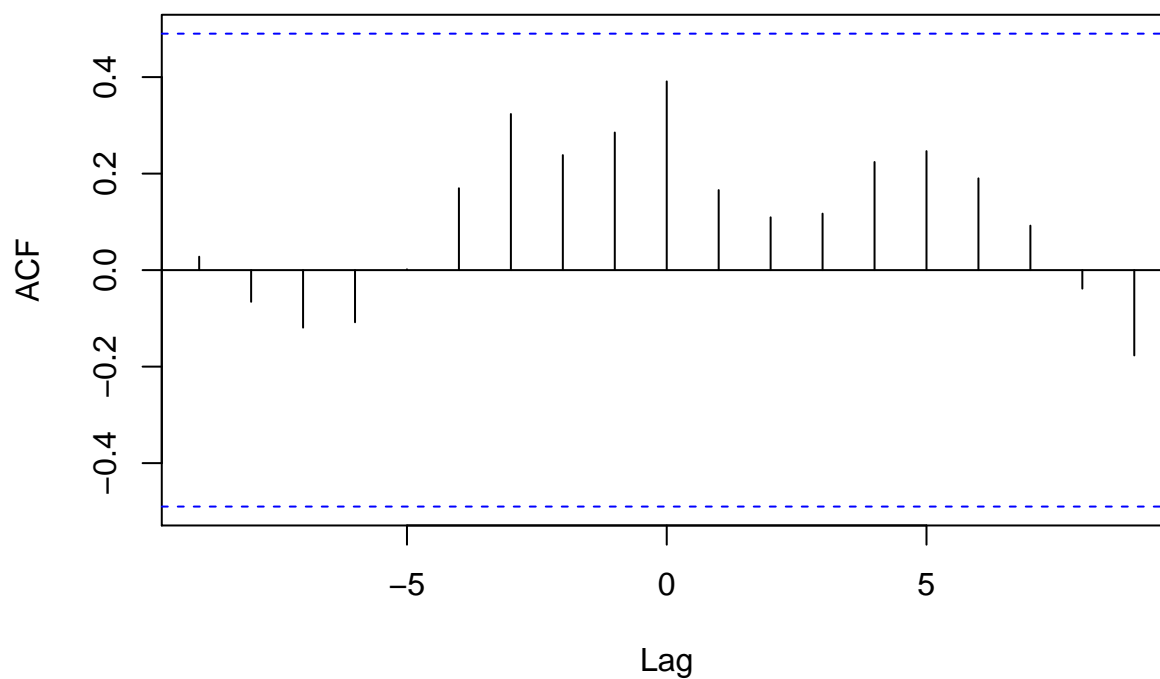**2 wk ahead – 29**

# 4 wk ahead – 29

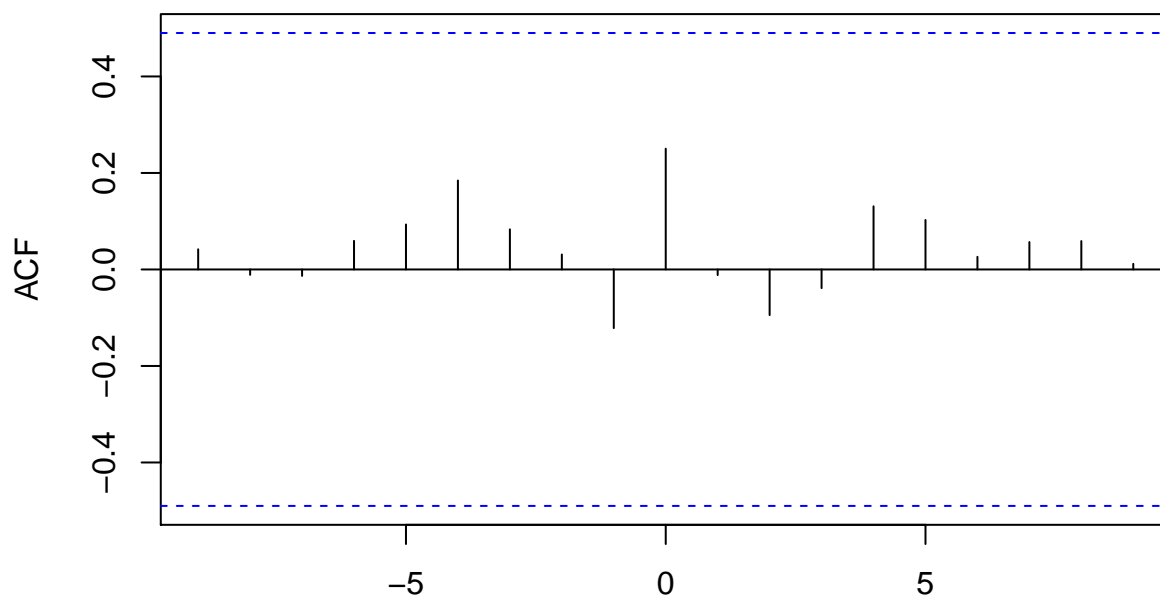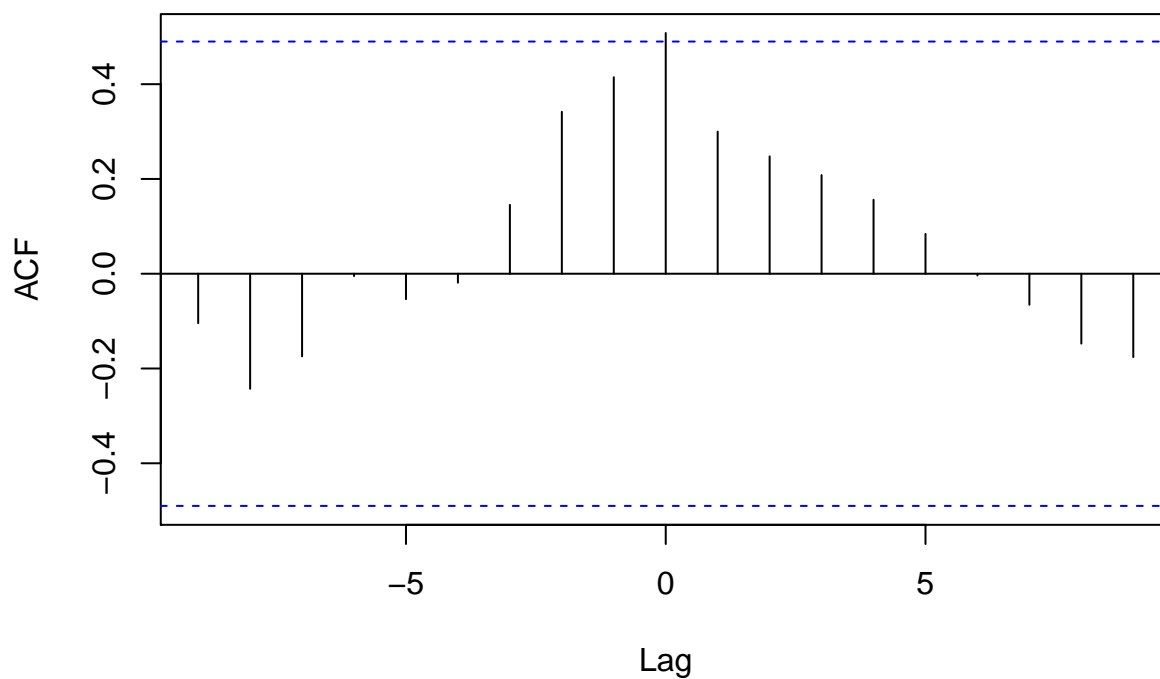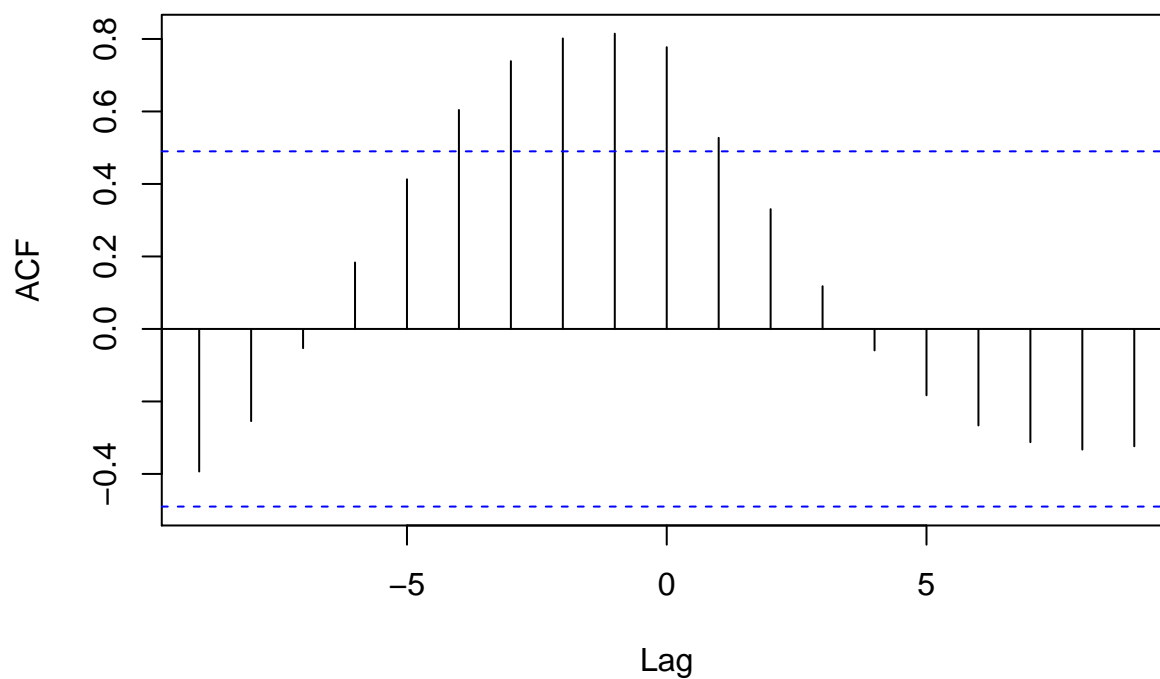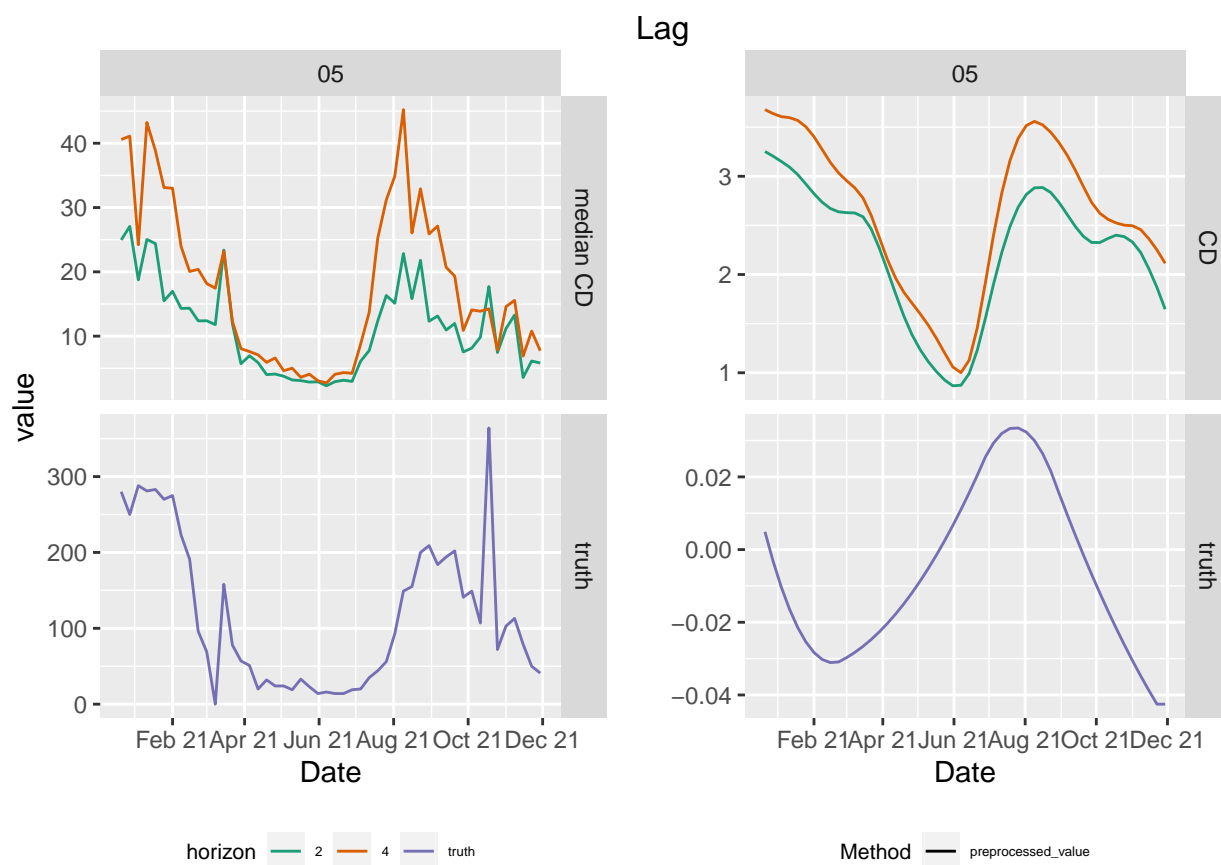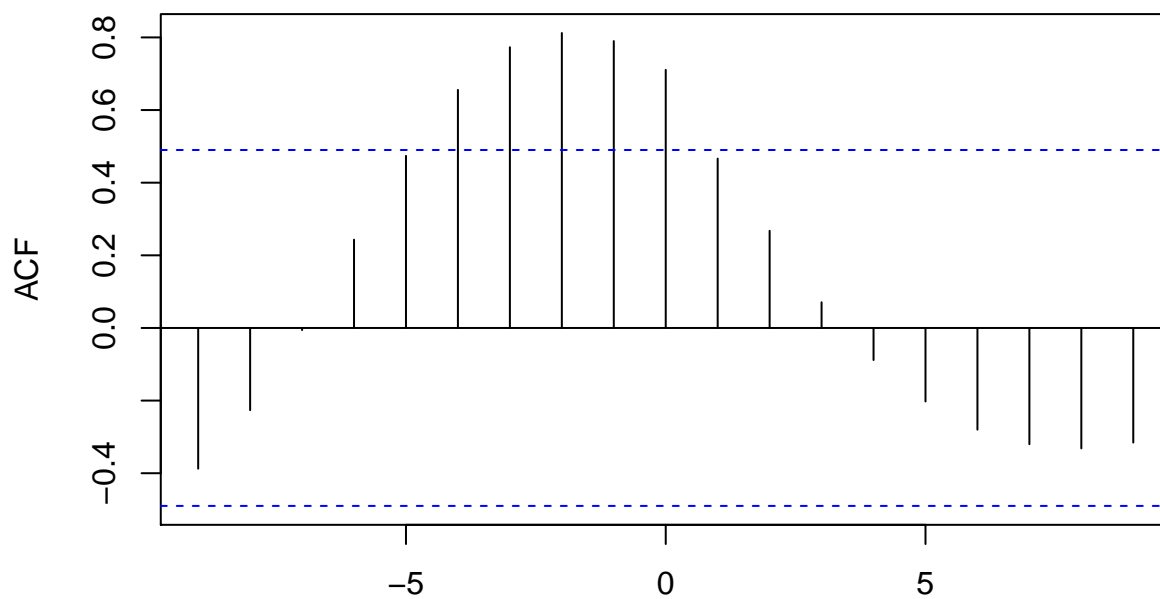## 2 wk ahead – 22
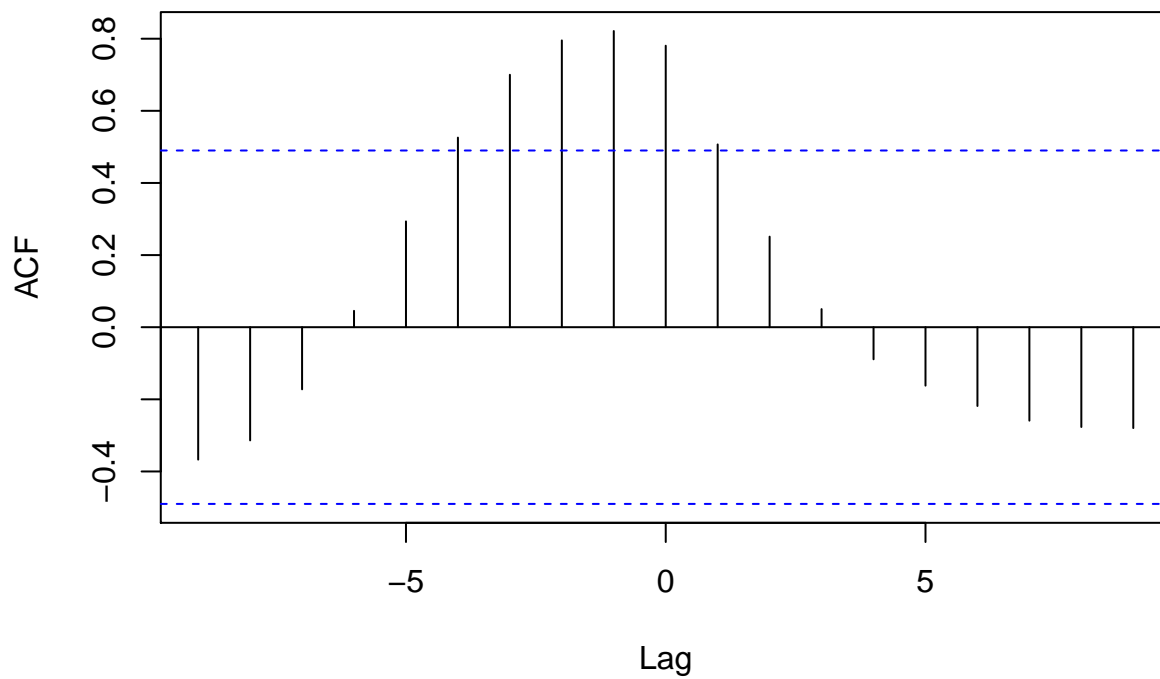


## 4 wk ahead – 22

**2 wk ahead – 55**

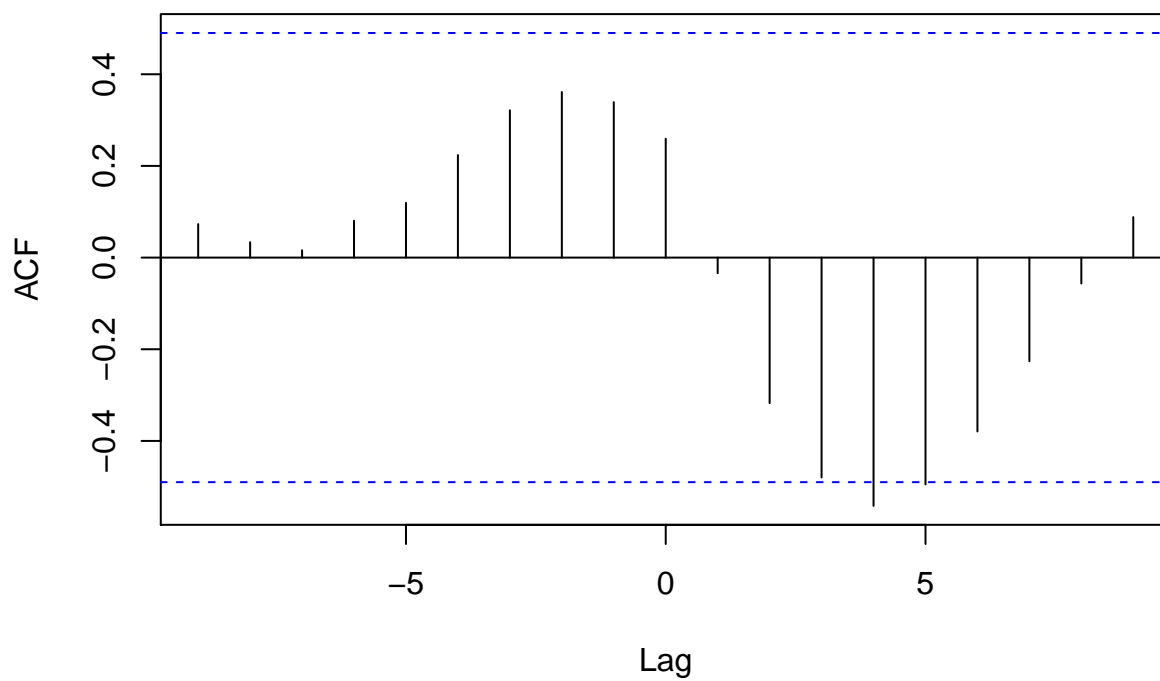# 4 wk ahead − 55
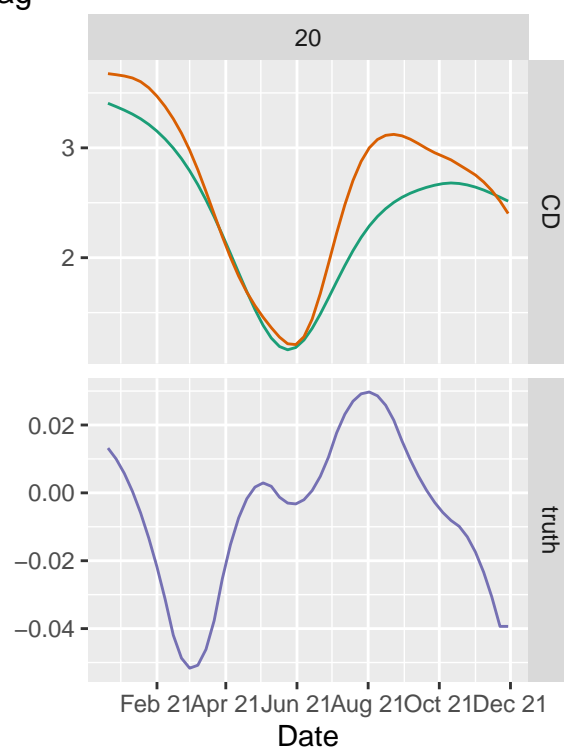
**2 wk ahead − 20**
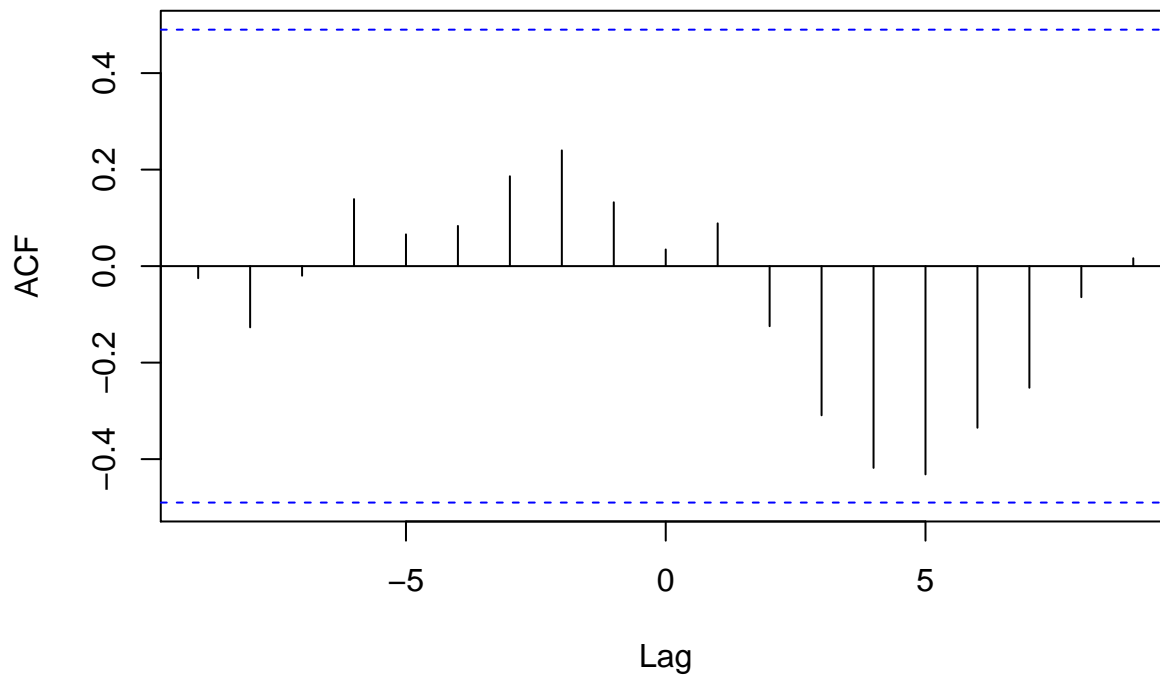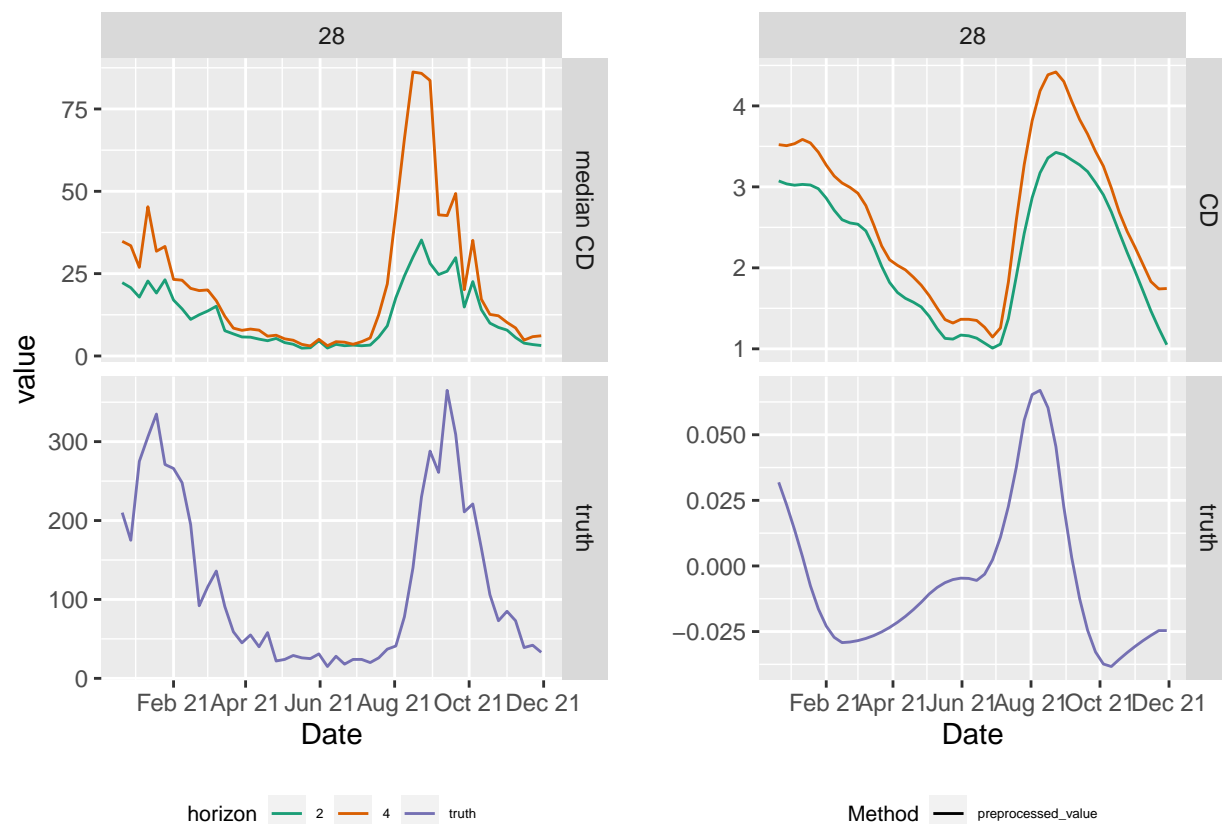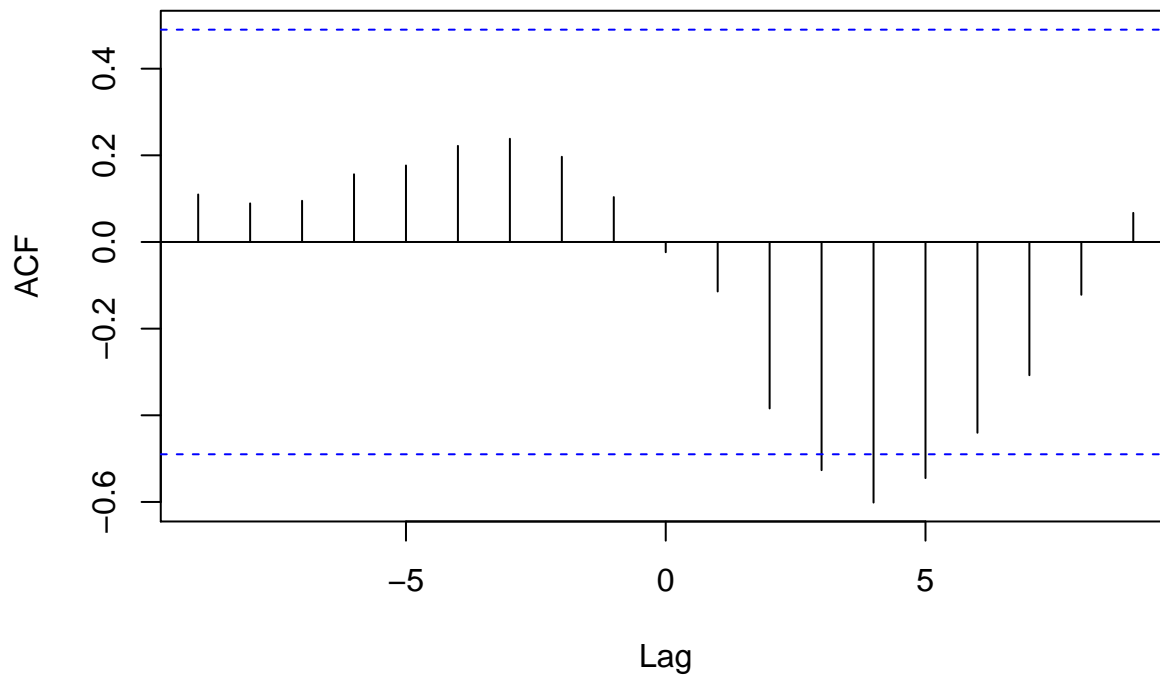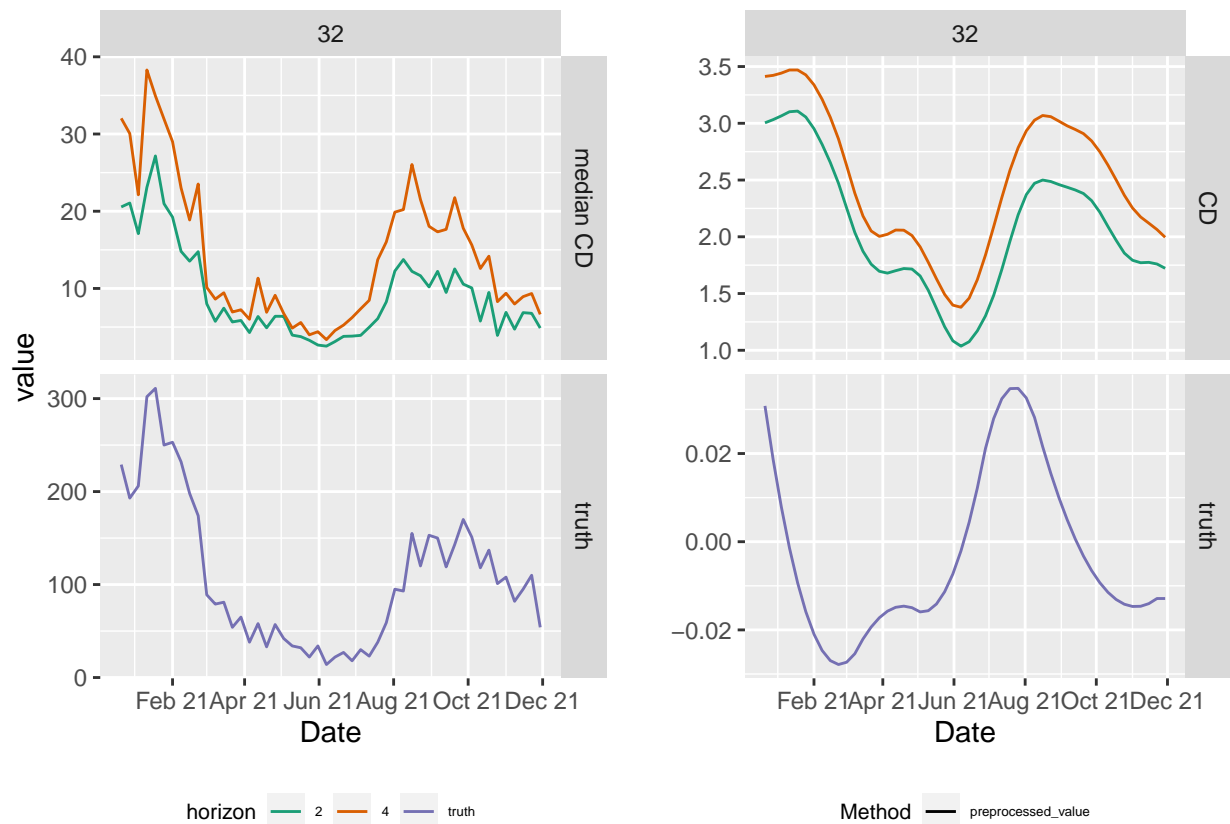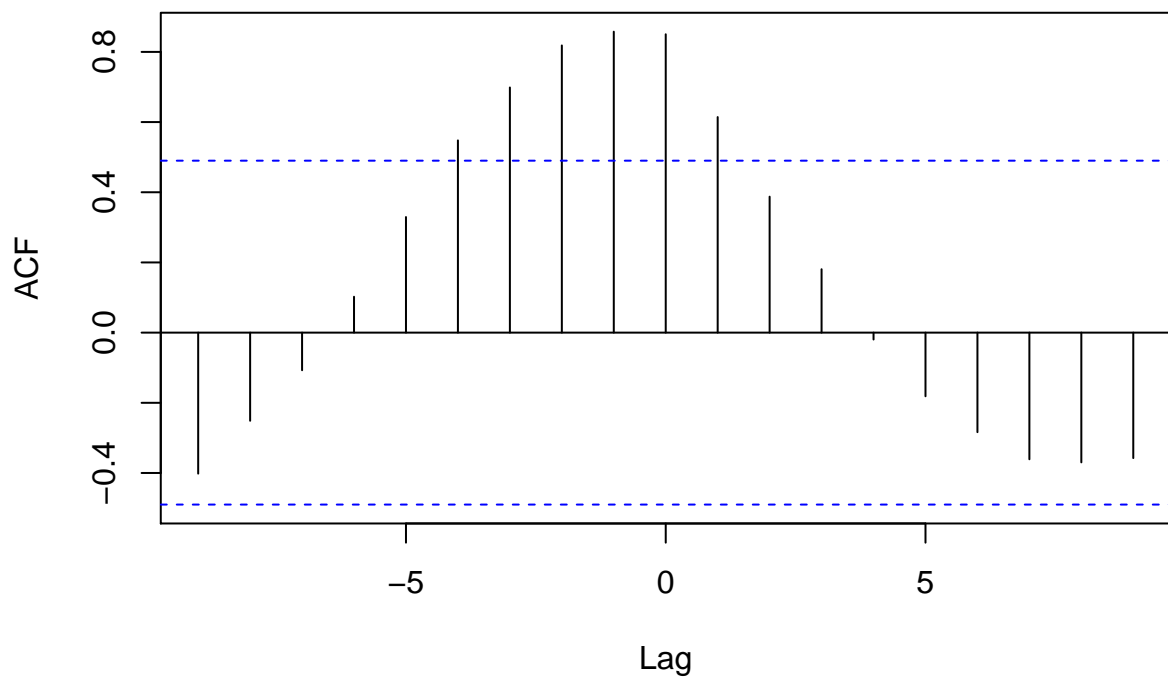
**4 wk ahead − 20**

**2 wk ahead – 28**

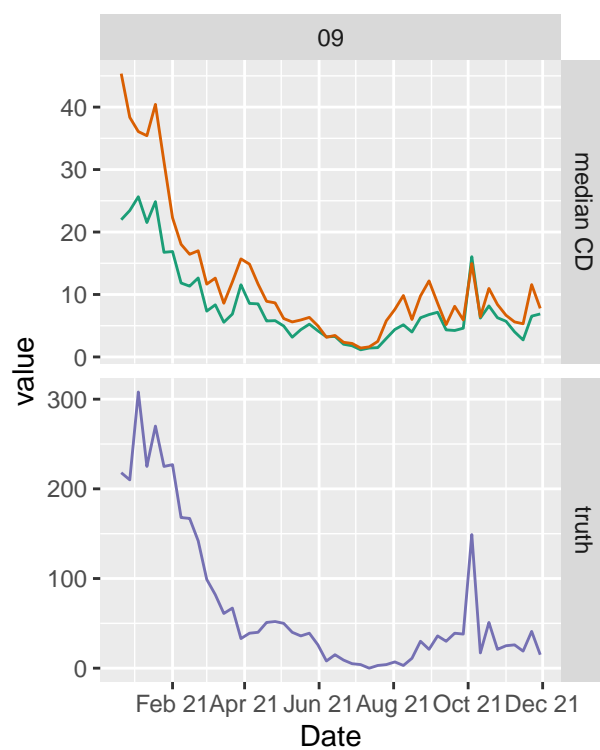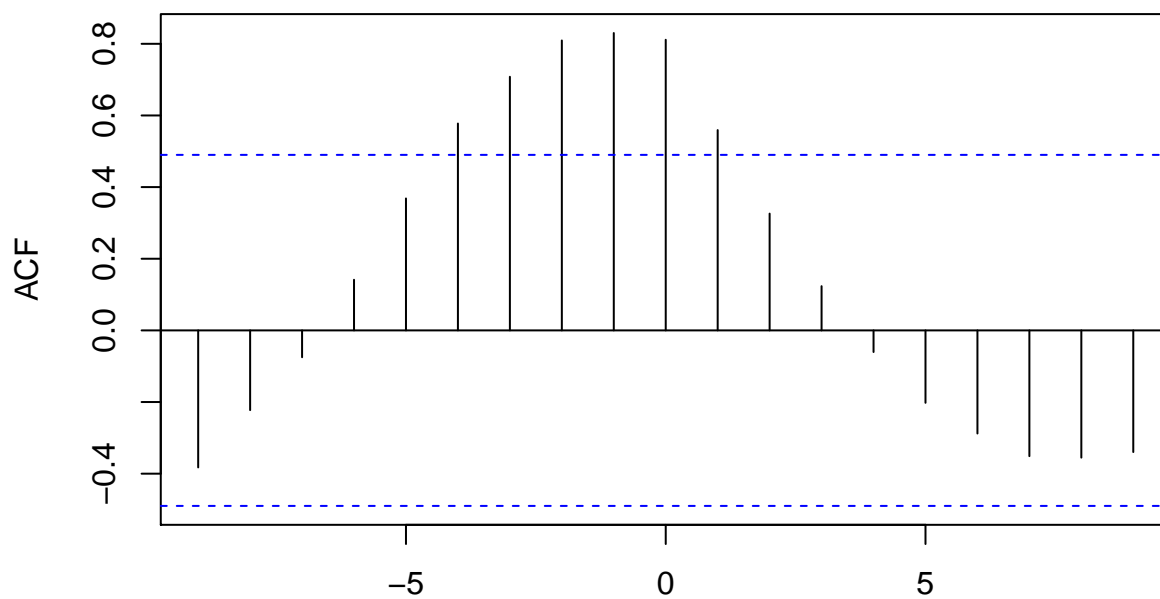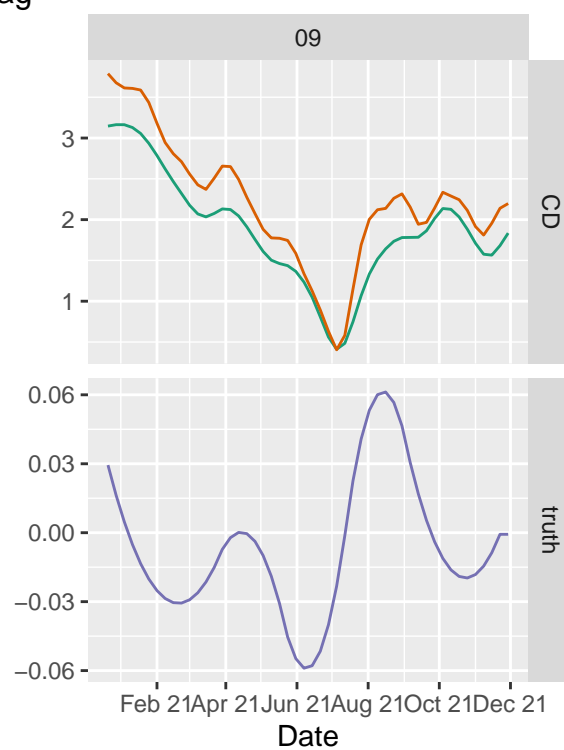## 4 wk ahead − 28

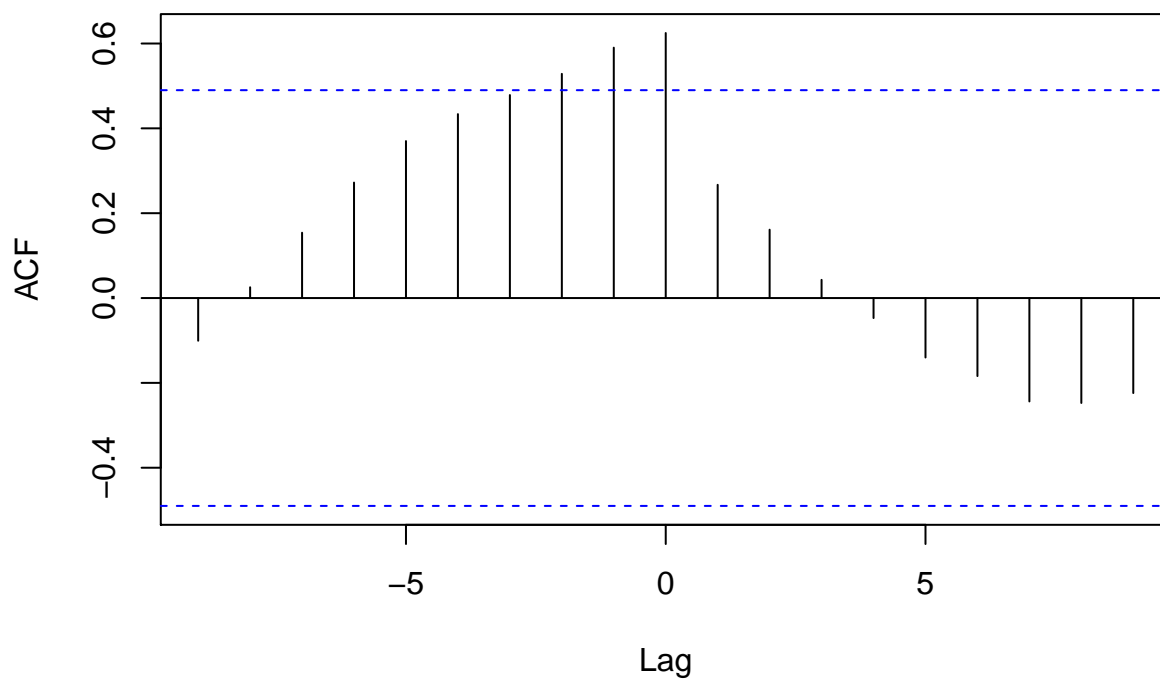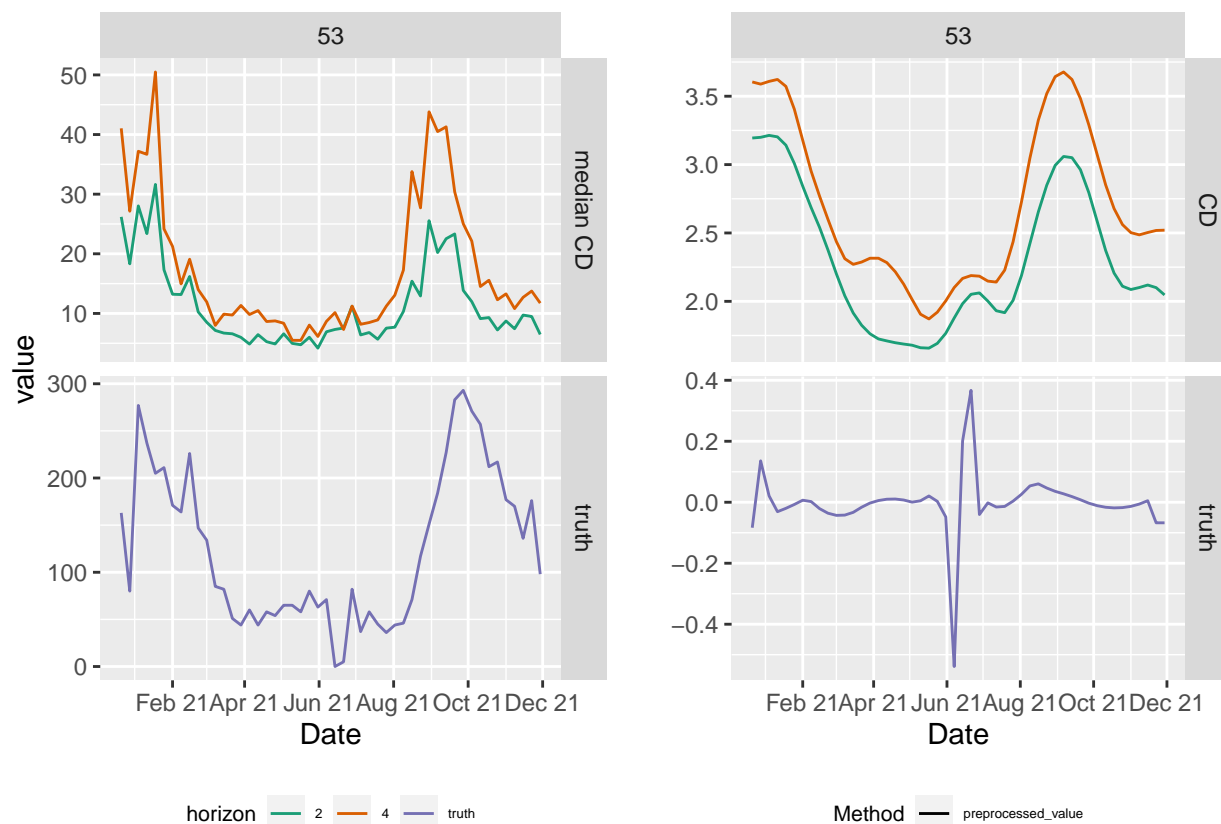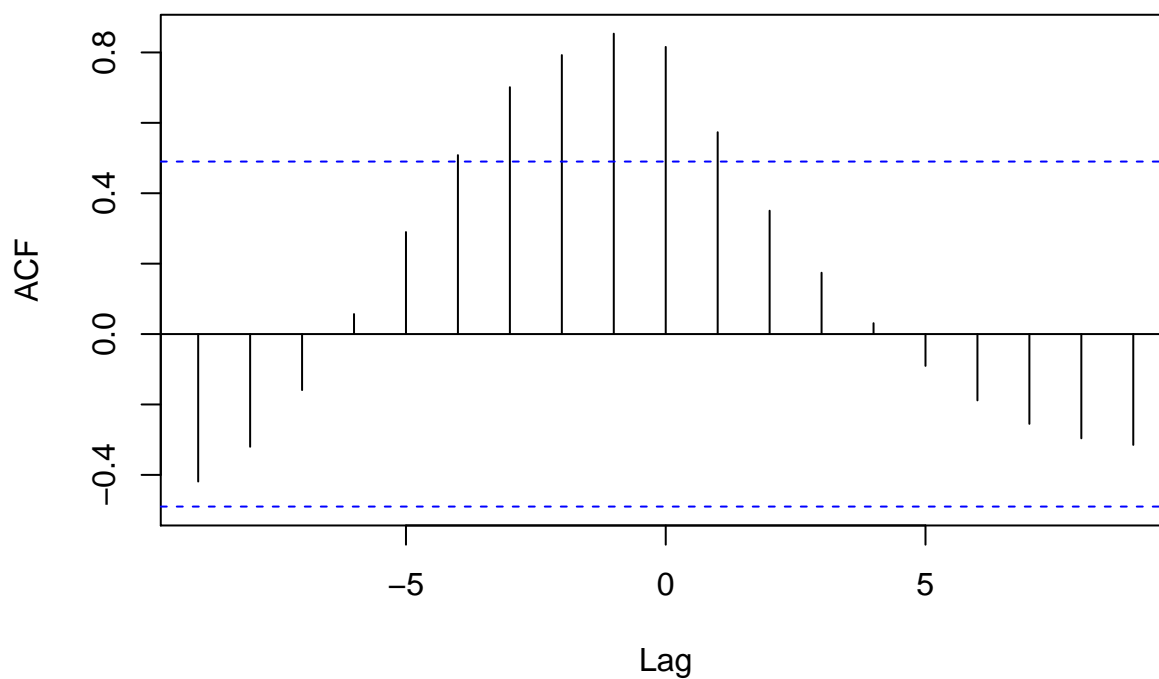**2 wk ahead − 05**



**4 wk ahead − 05**

**2 wk ahead − 32**

# 4 wk ahead − 32

**2 wk ahead – 09**
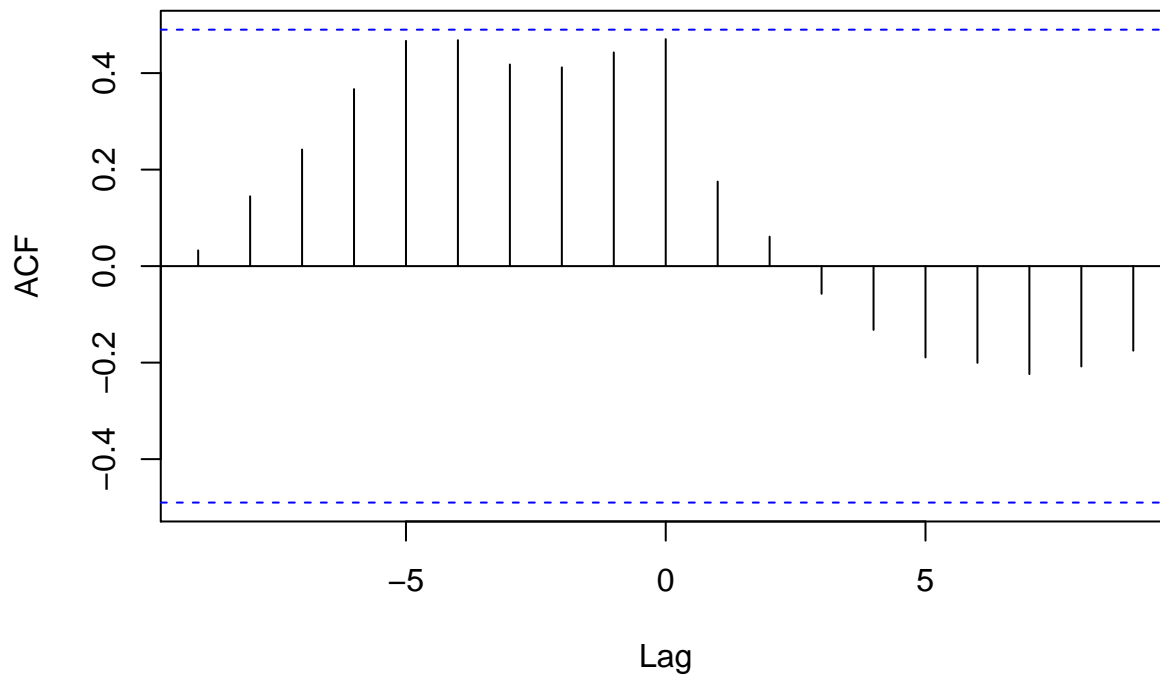


**4 wk ahead – 09**

**2 wk ahead − 53**

# 4 wk ahead − 53
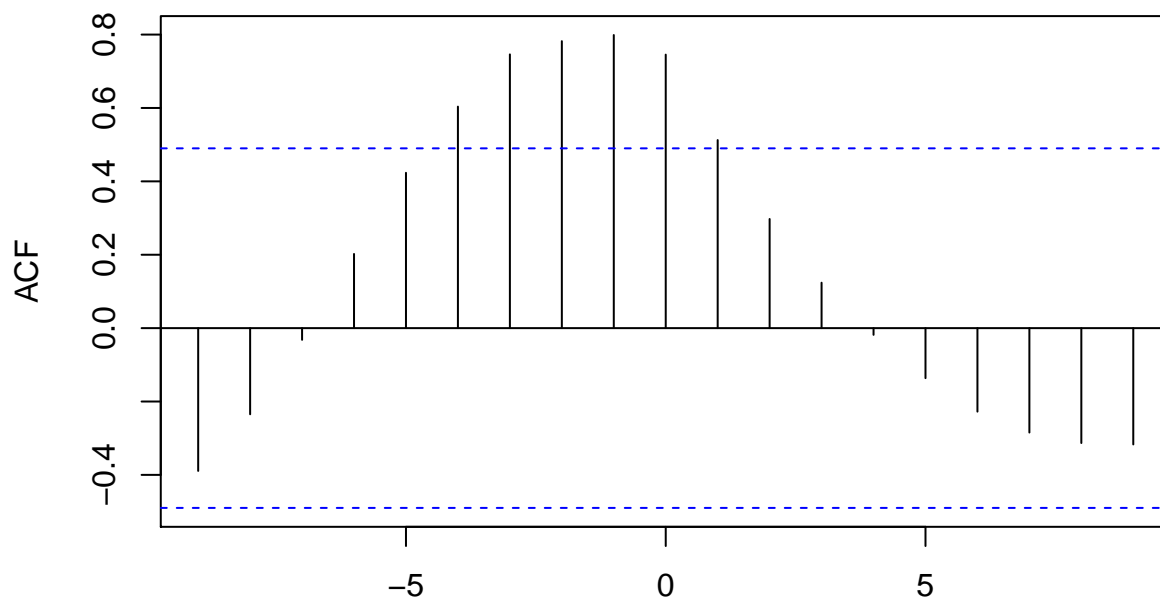
**2 wk ahead − 35**
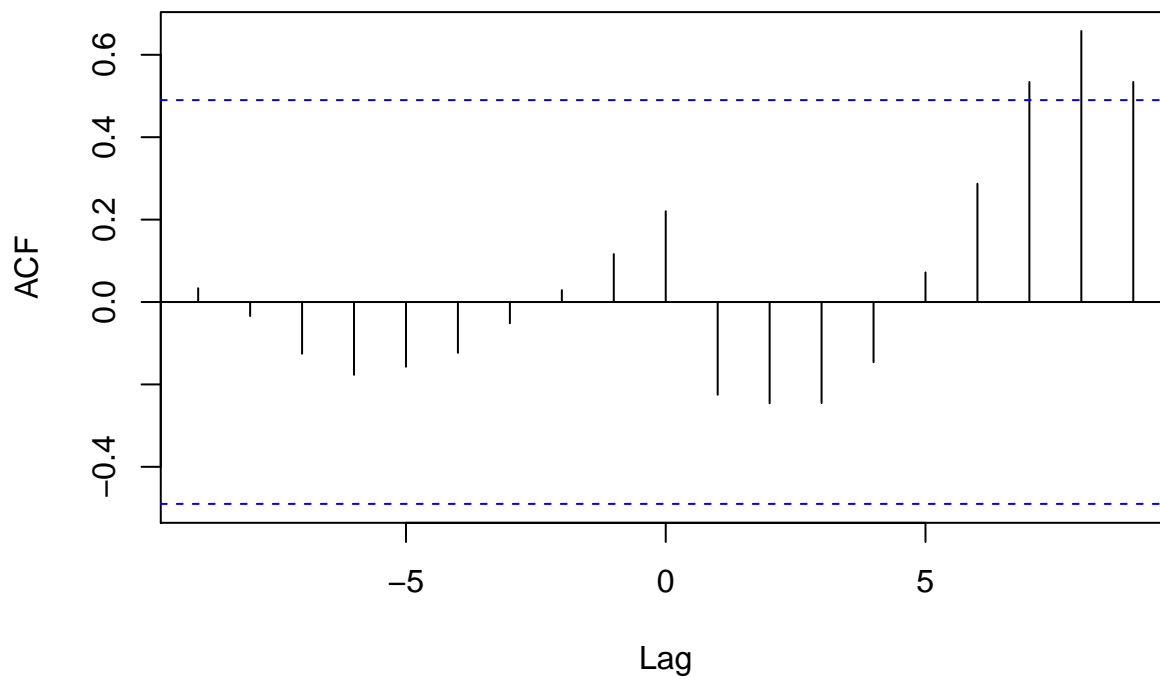


**4 wk ahead − 35**

**2 wk ahead – 54**
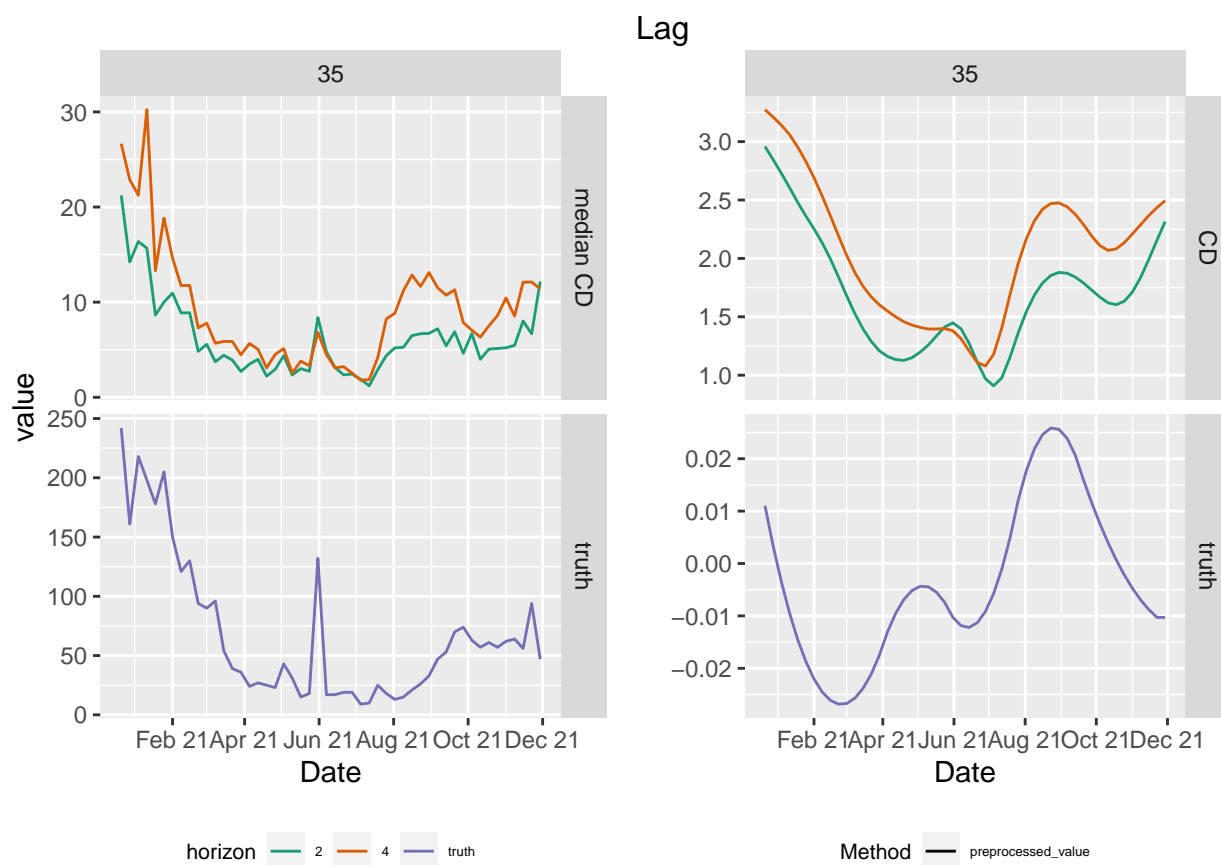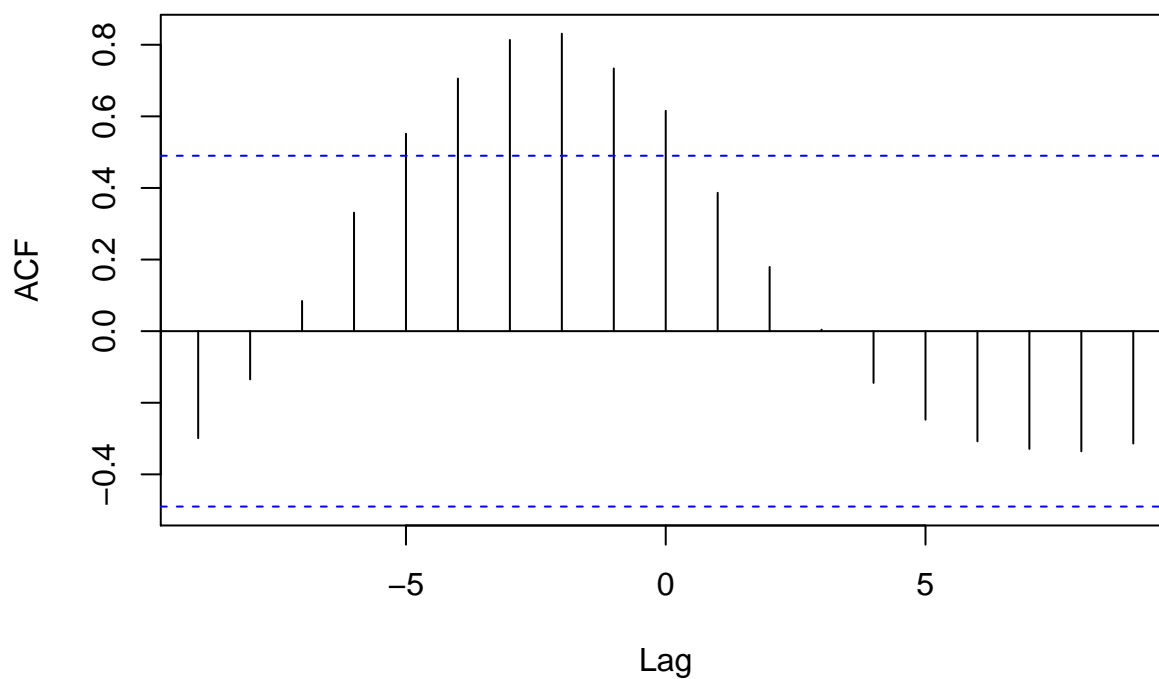
# 4 wk ahead − 54
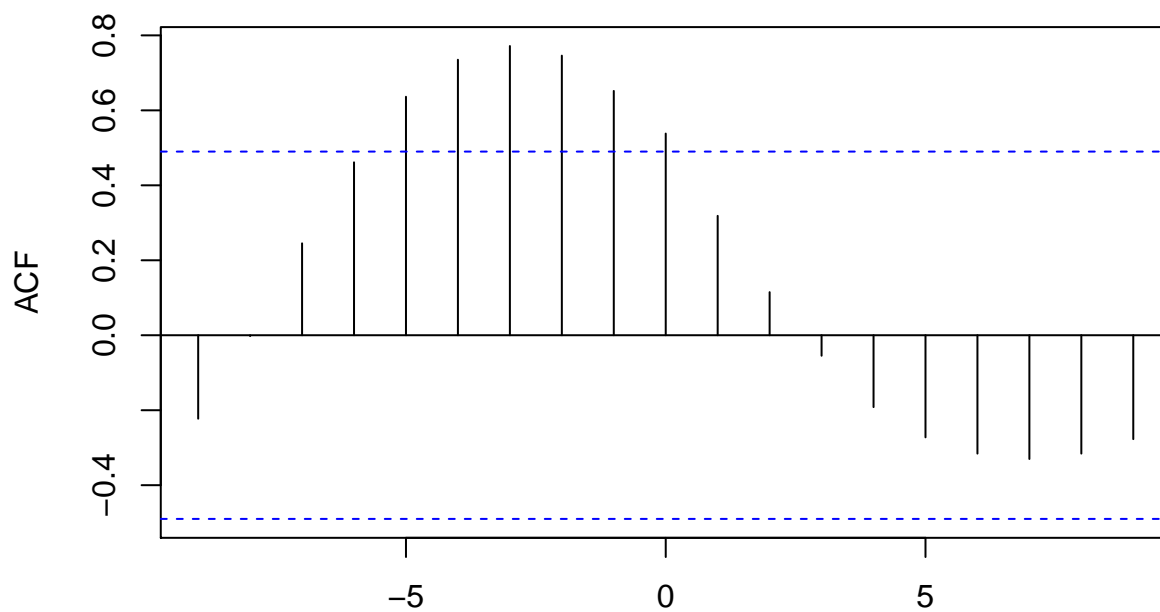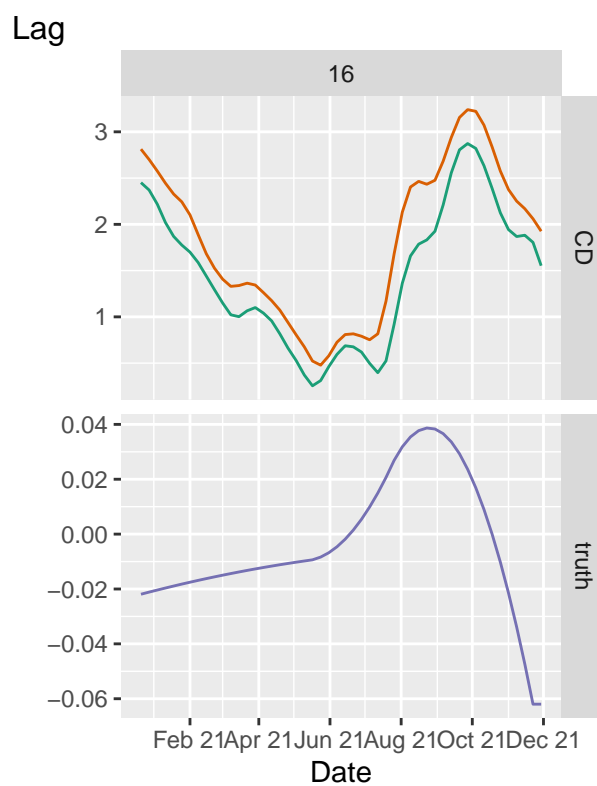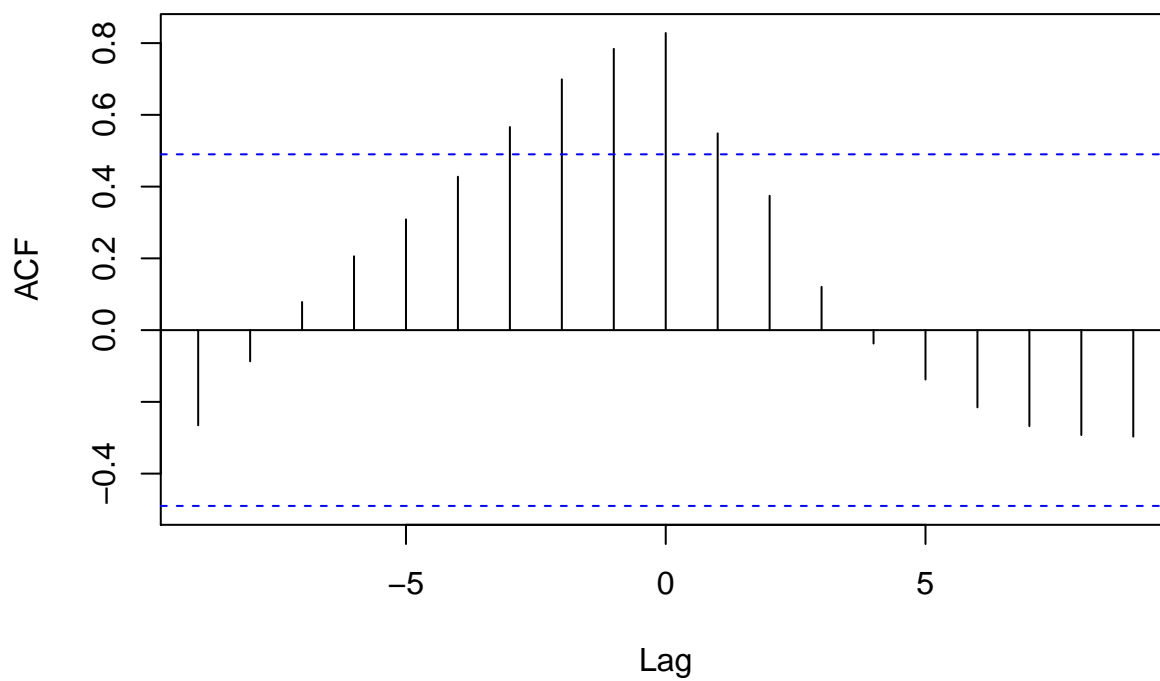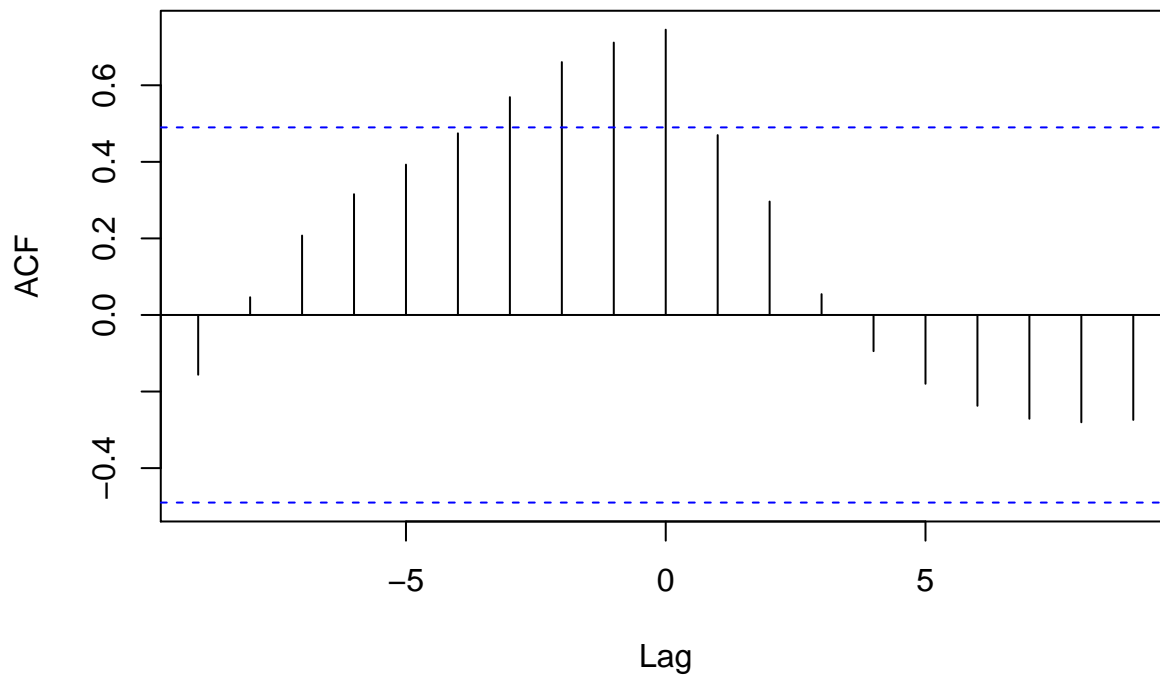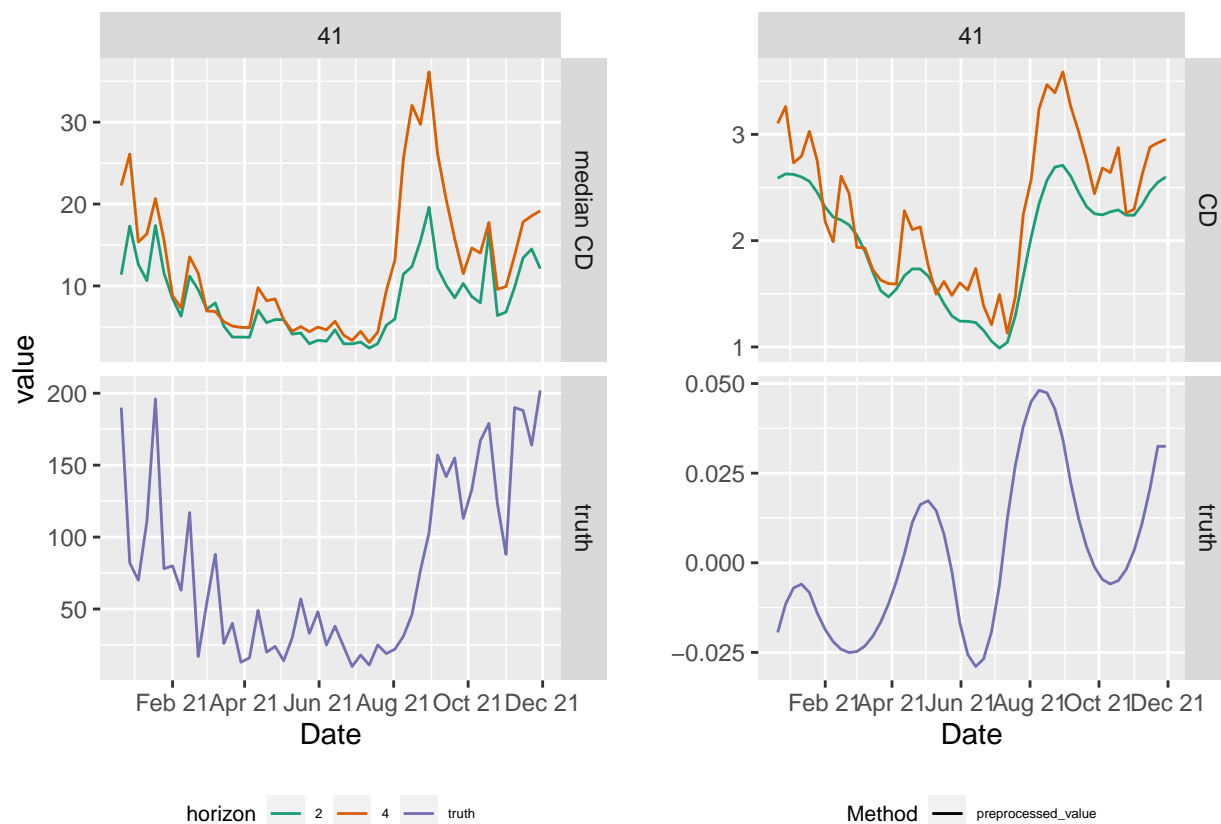
# 2 wk ahead − 16



# 4 wk ahead − 16

**2 wk ahead − 41**
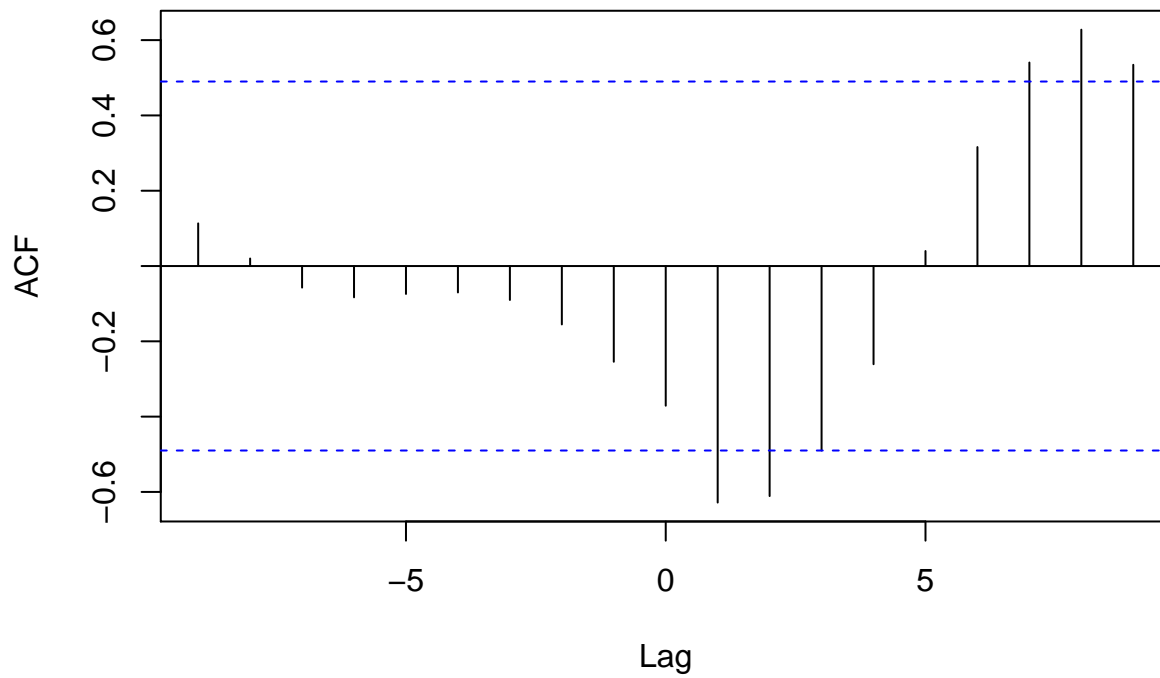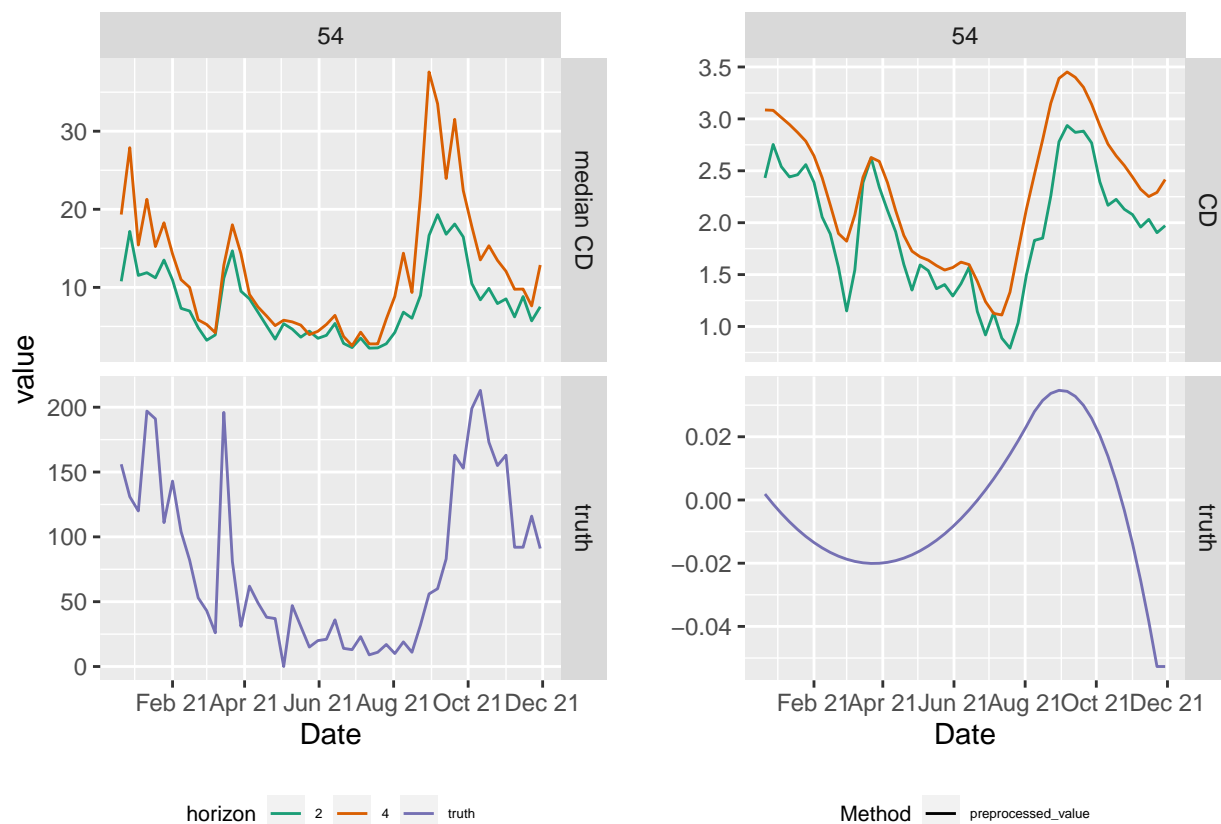
# 4 wk ahead − 41
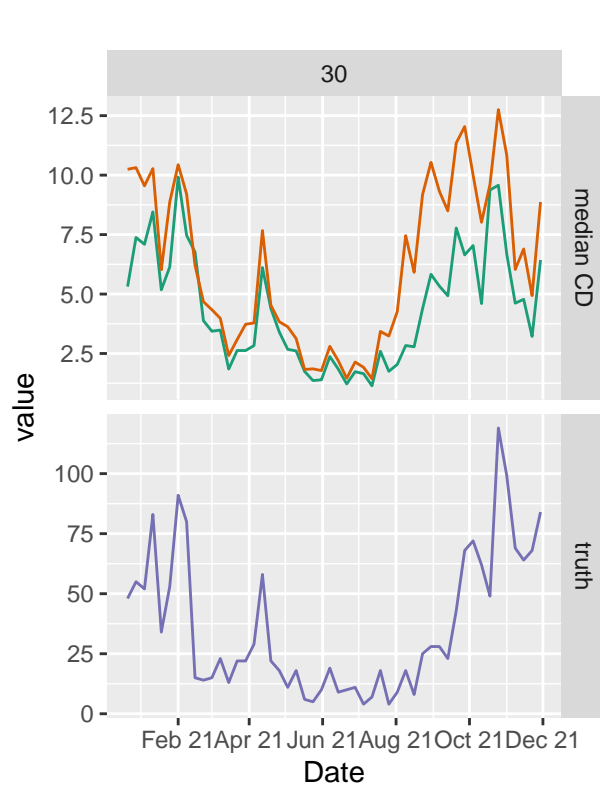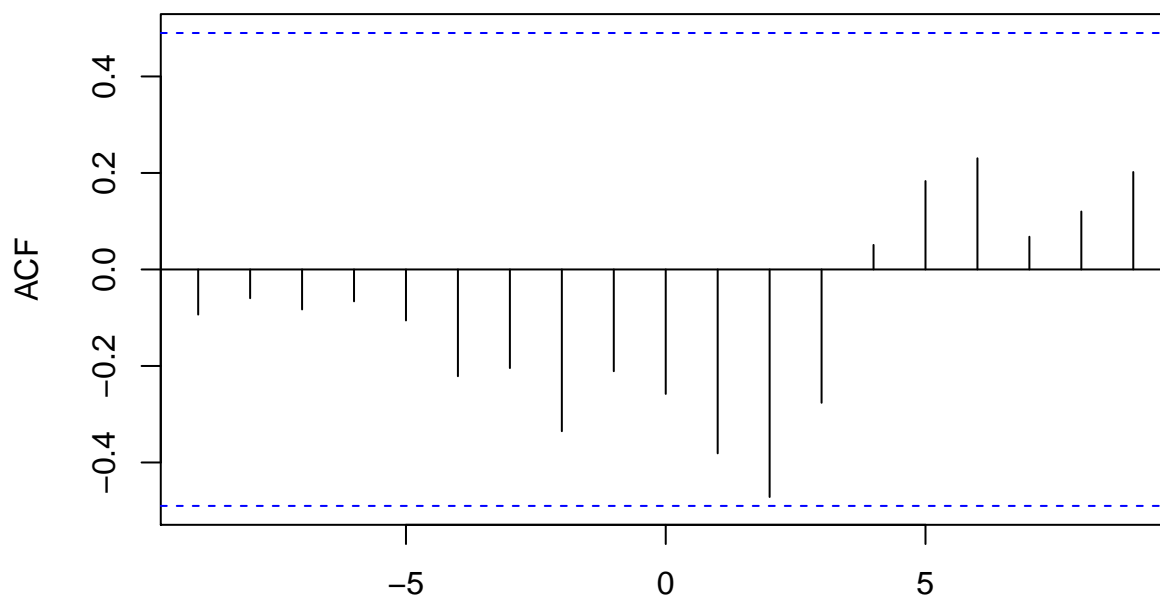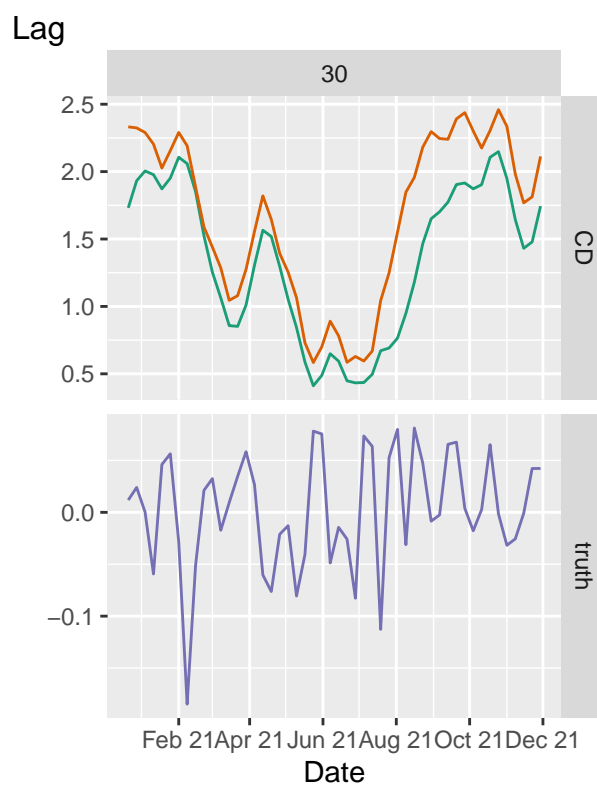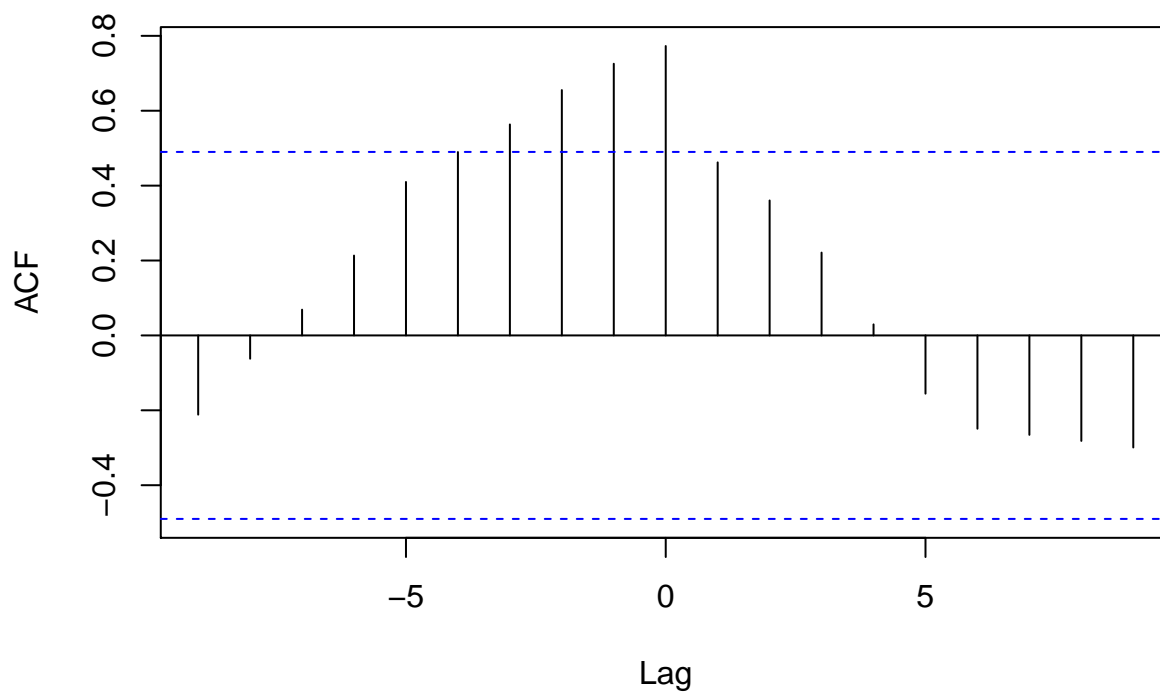
## 2 wk ahead − 30

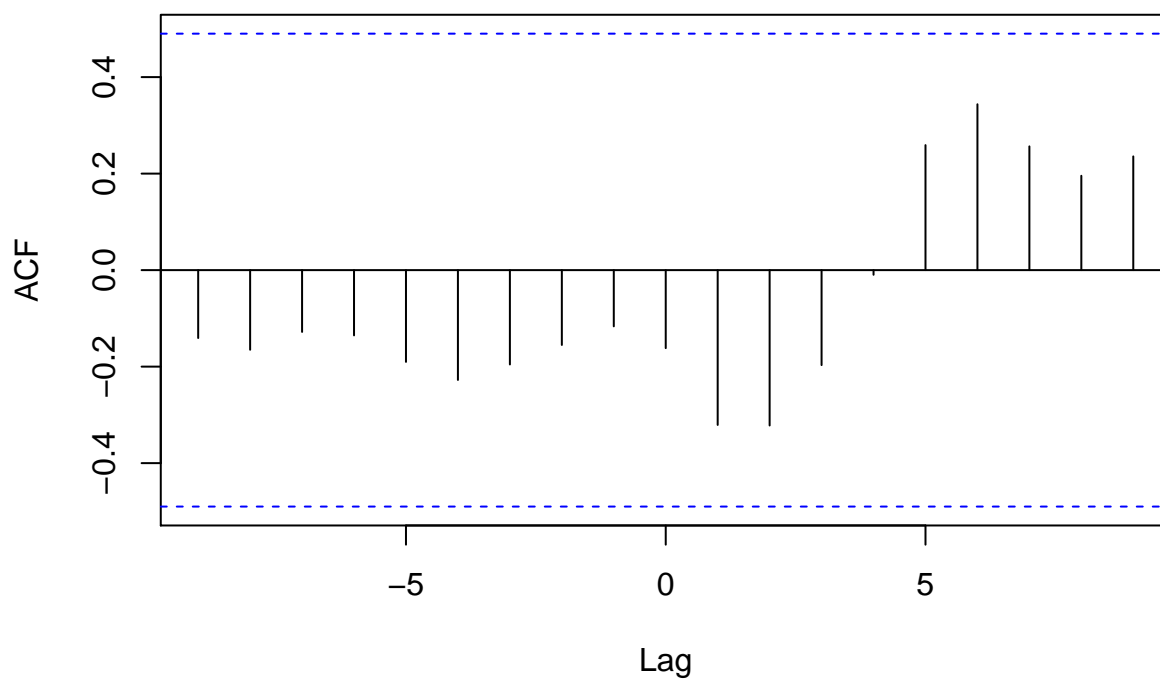

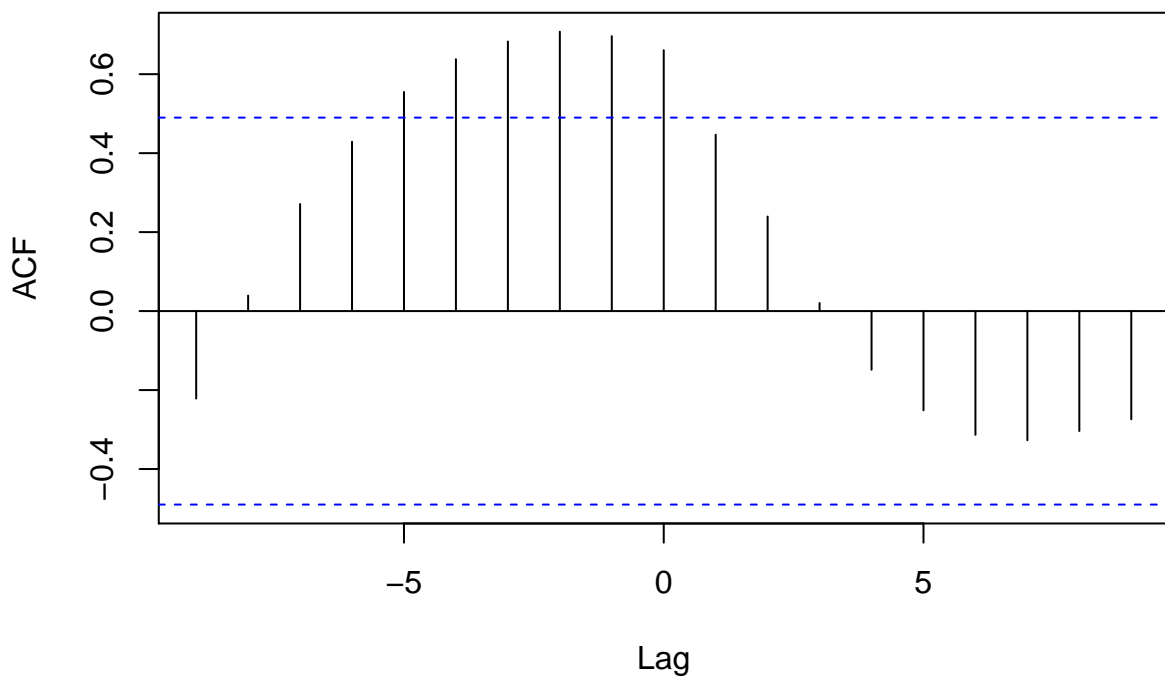## 4 wk ahead − 30

**2 wk ahead – 15**

# 4 wk ahead − 15