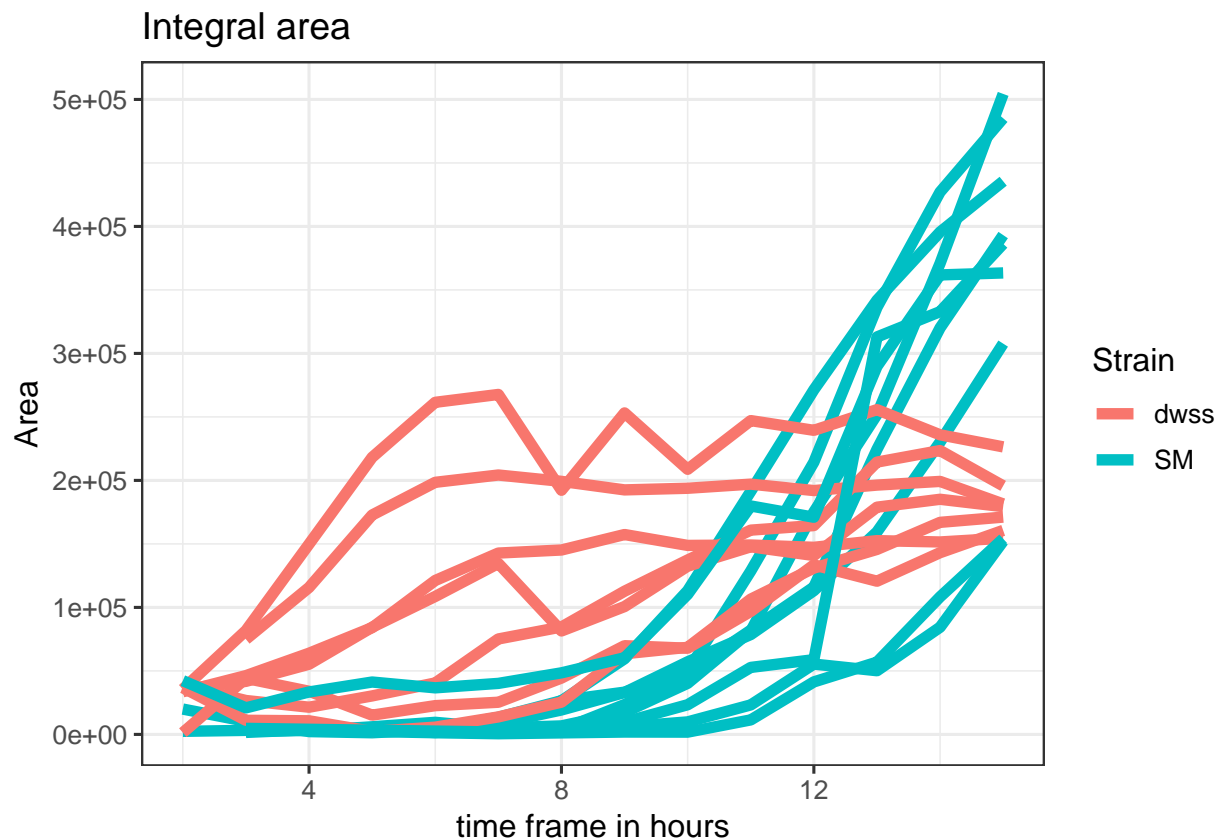# Biofilm colonisation area calculation

Tatyana Pichugina

5/13/2019

Integral area

Integral area represent sum of the colonized pixel for each frame. Each frame represent one hour of experiment. Here we are interested in 15 first hours.

Integral area

Integlal area ALI and GALI

We cutted each image to the two parts: ALI part includes 200px (32mkm) layer counted from the ALI, and GLI part includes rest part of the image. The integral area per Strain expreriment is shown below.
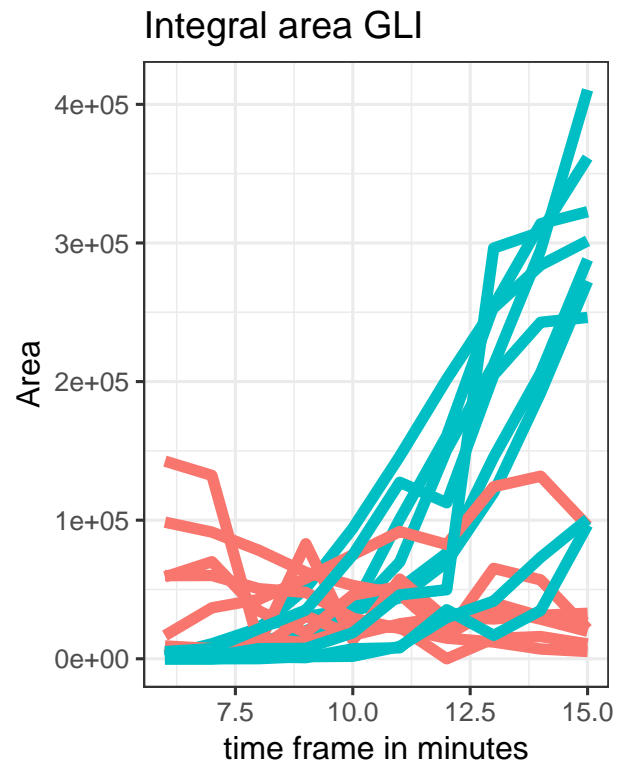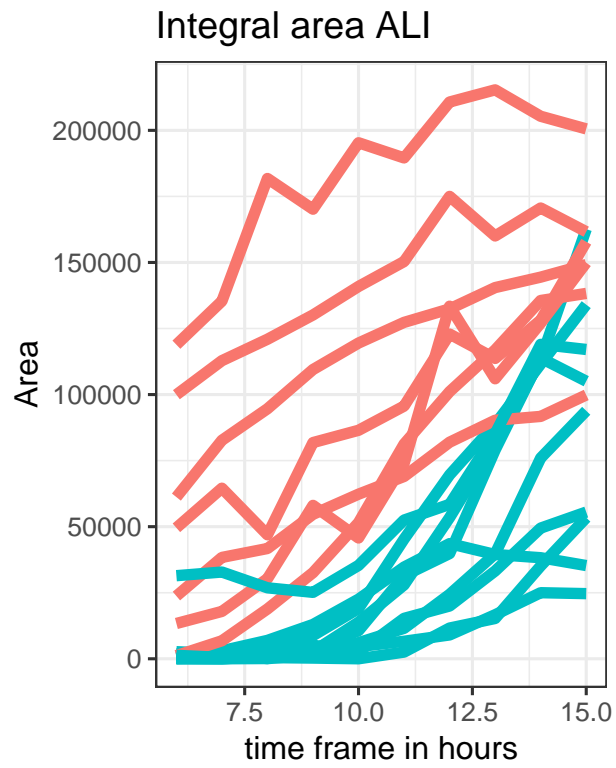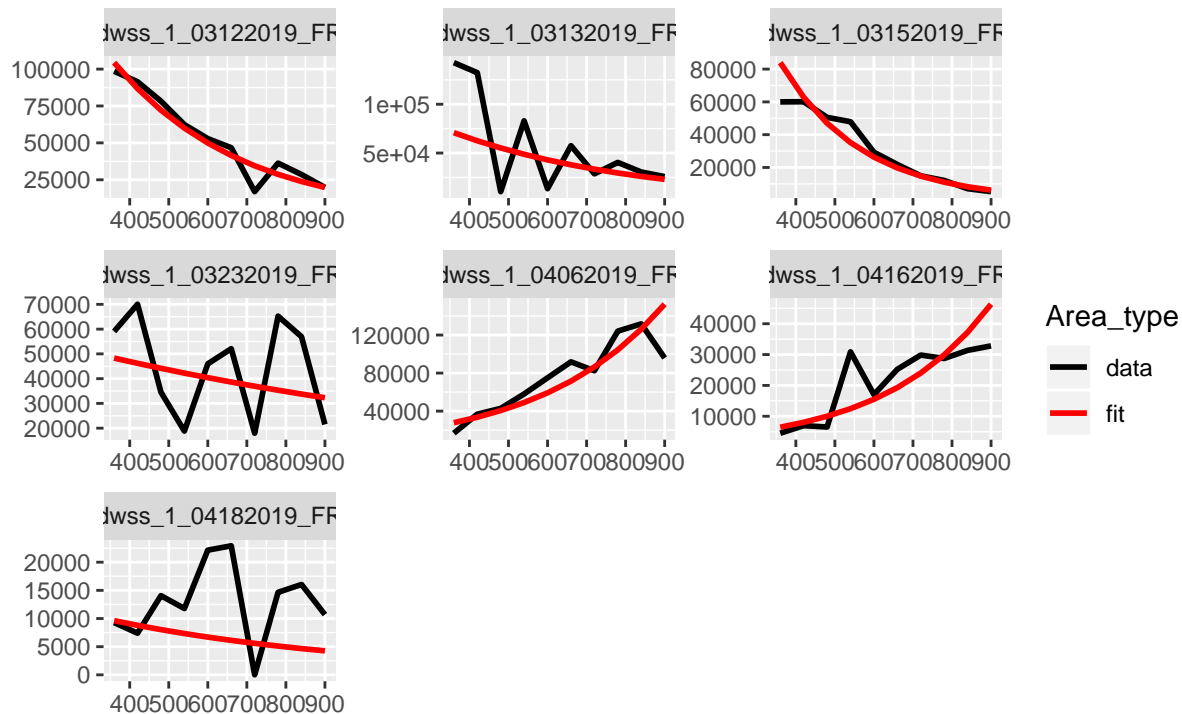
We fitted ALI and GALI separately by Log(Area)~A+B*frame.

Integral Area GLI

dwss

Integral Area GLI

SM

Integral Area GLI
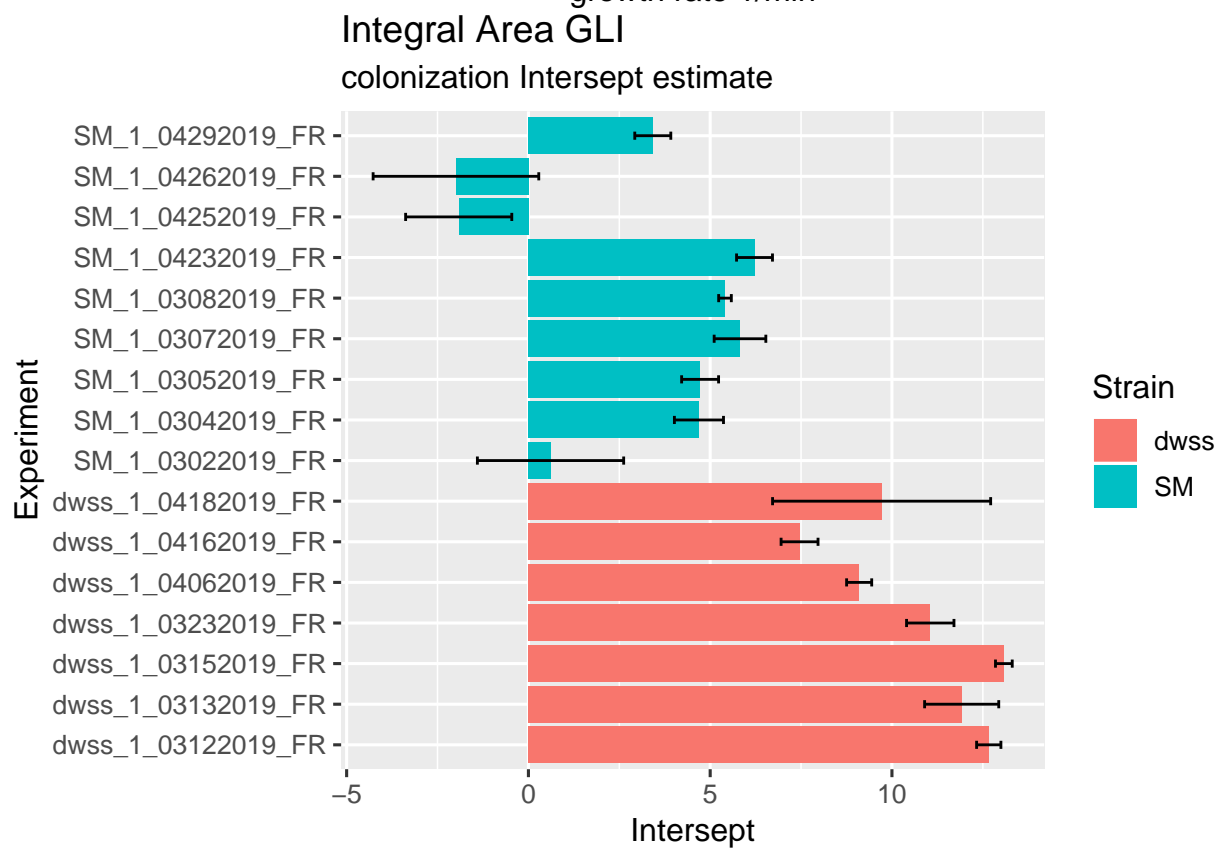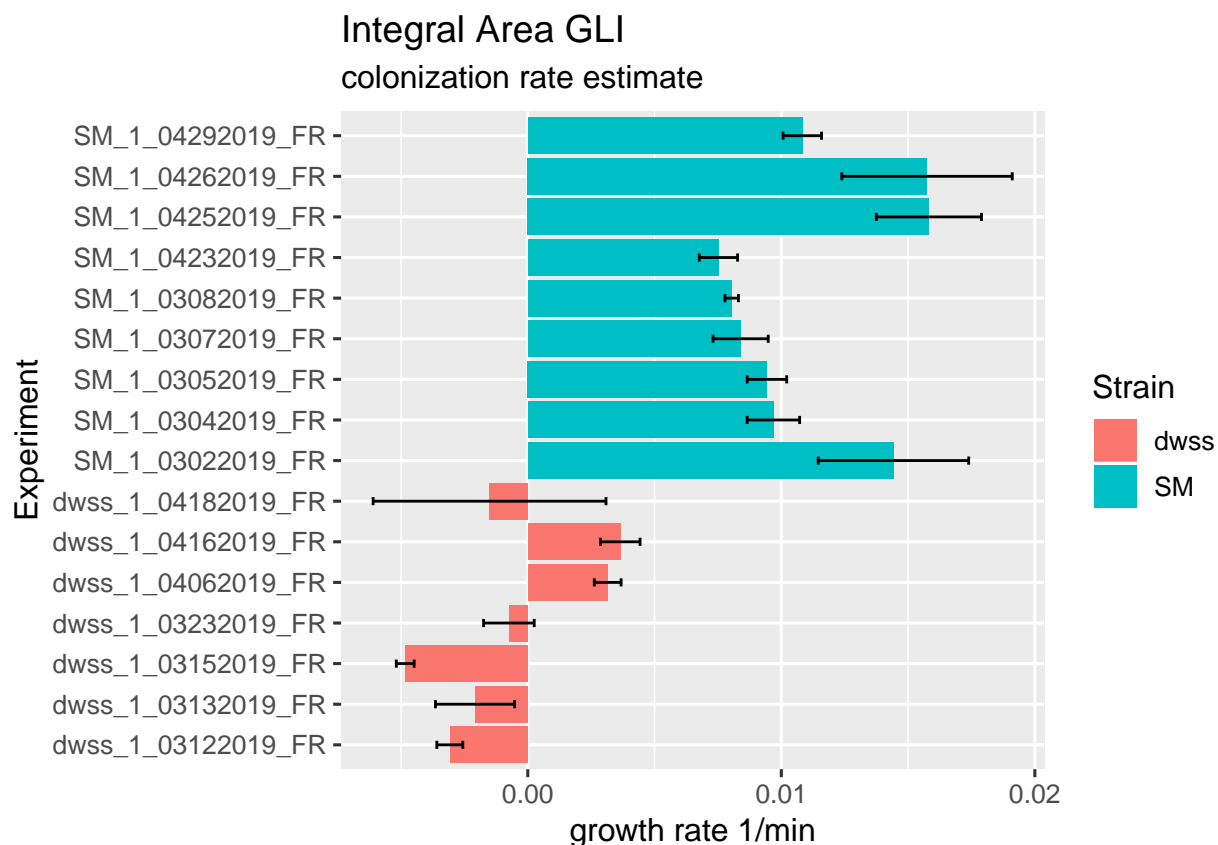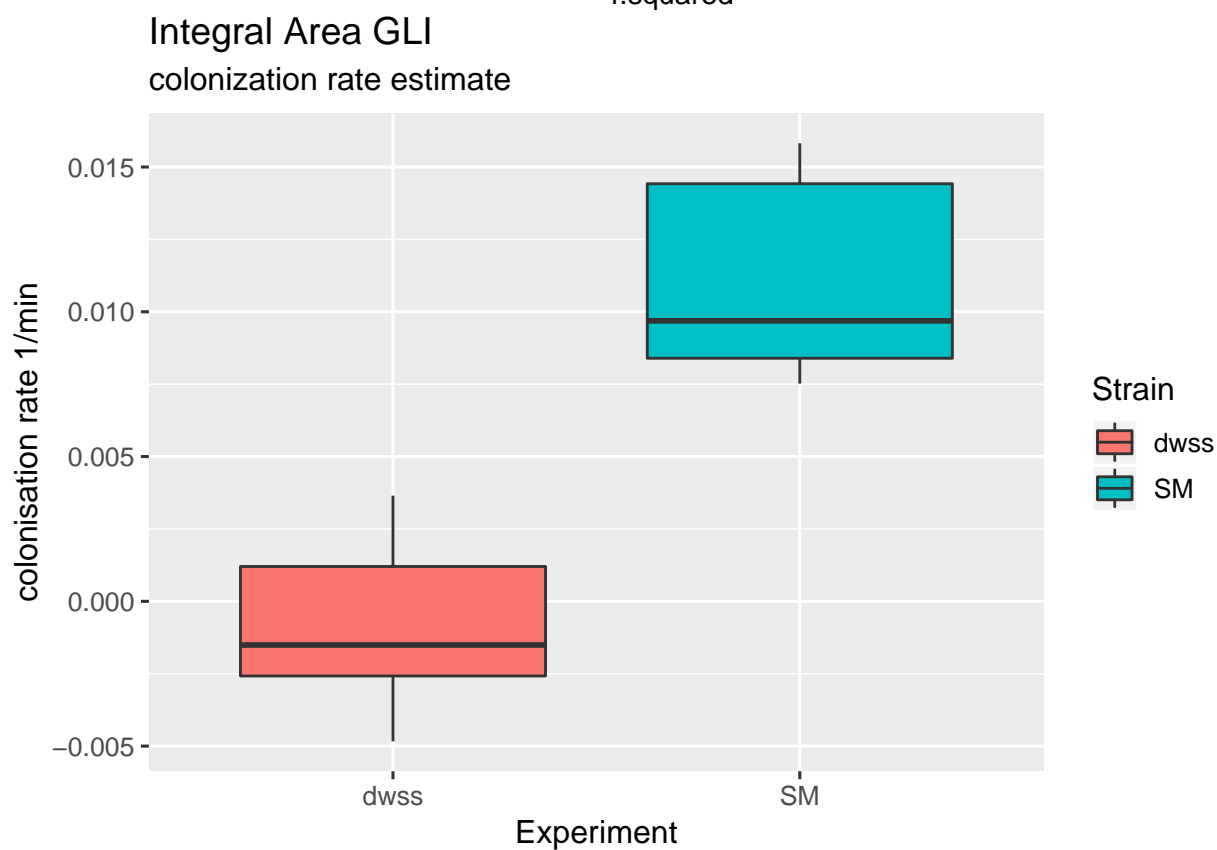colonization rate estimate

Integral Area GLI
colonization Intersept estimate

Integral Area GLI
Quality of model fit R.squared
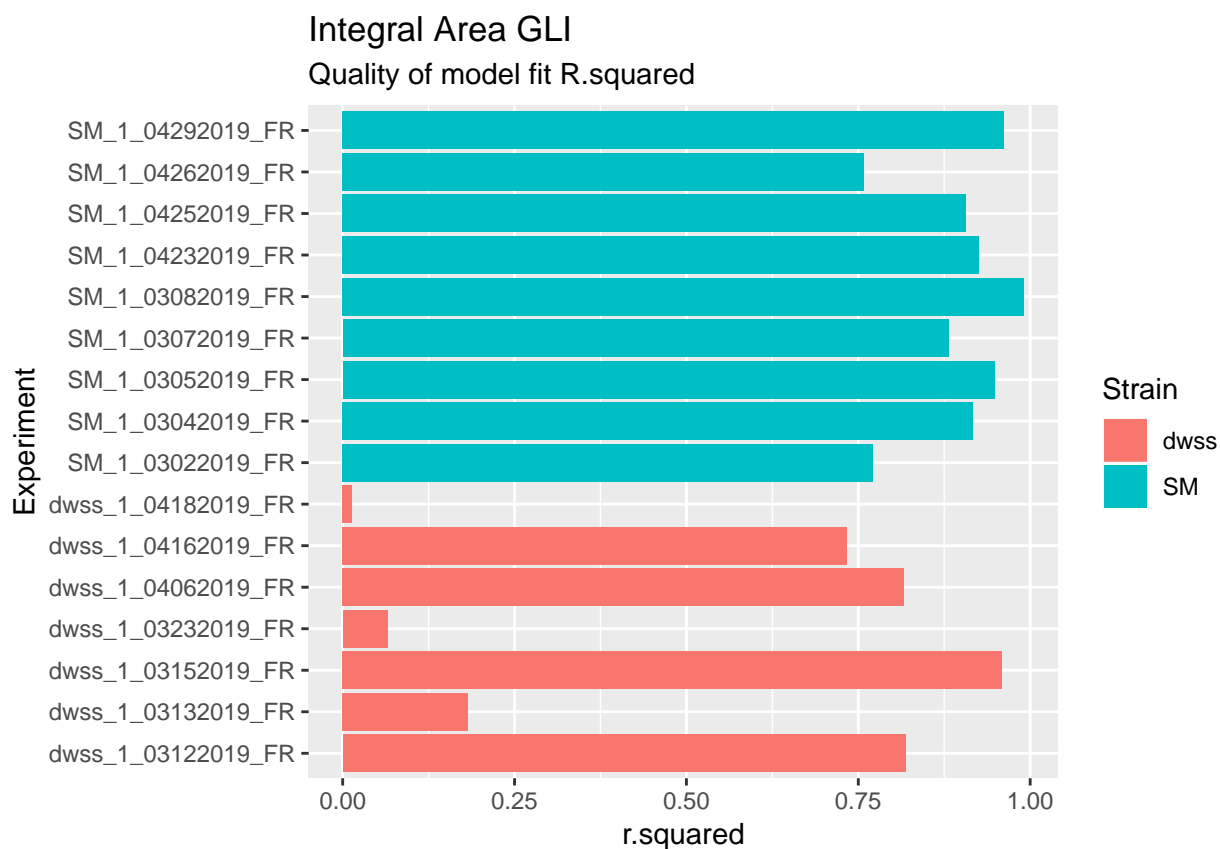

Integral Area GLI
colonization rate estimate
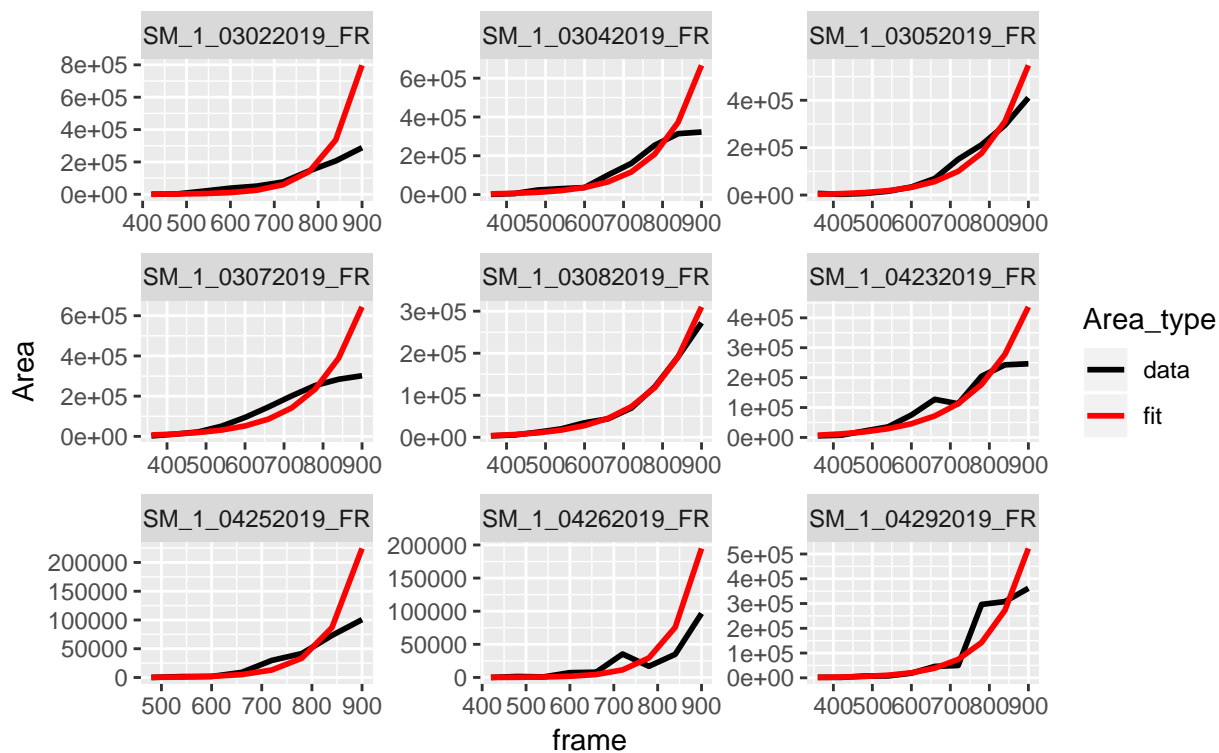
Integral Area ALI

dwss

Integral Area ALI

SM

Integral Area ALI
colonization rate estimate

Integral Area ALI
colonization Intersept estimate

Integral Area ALI
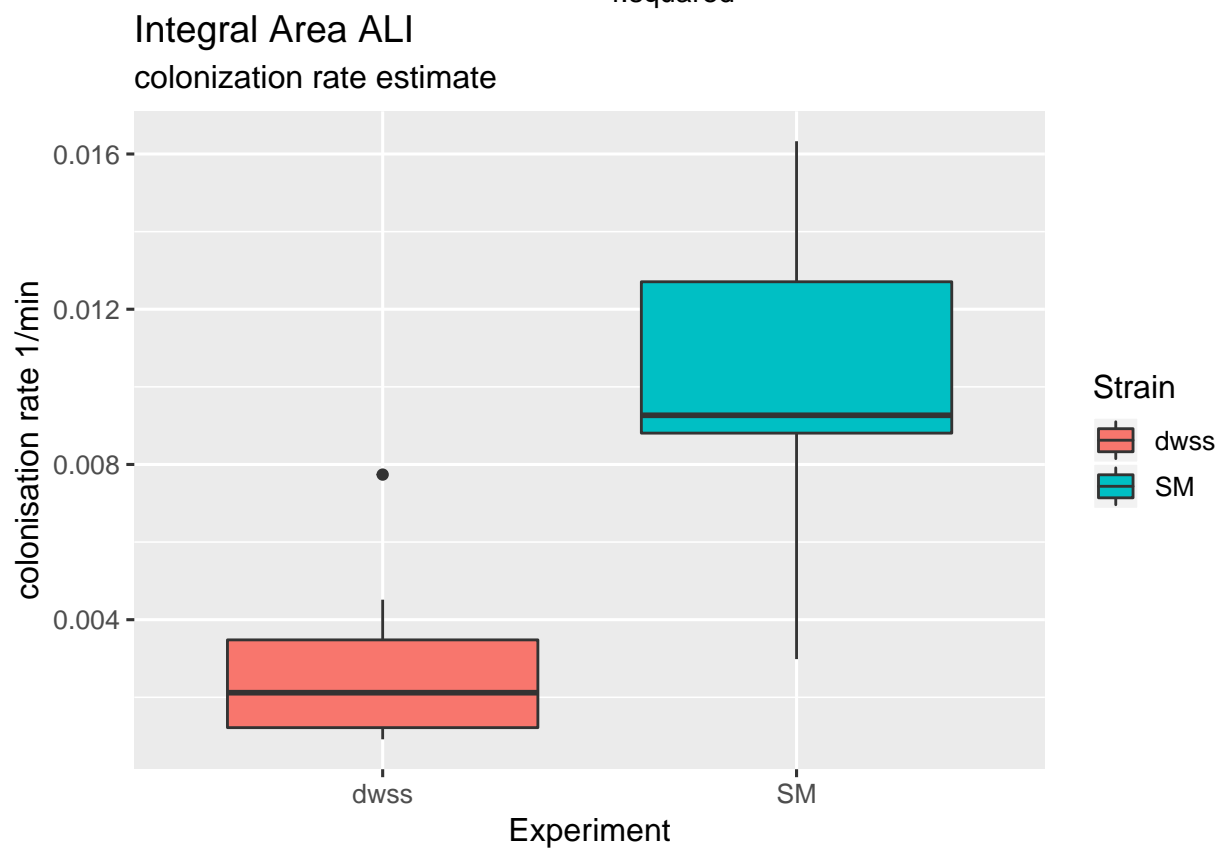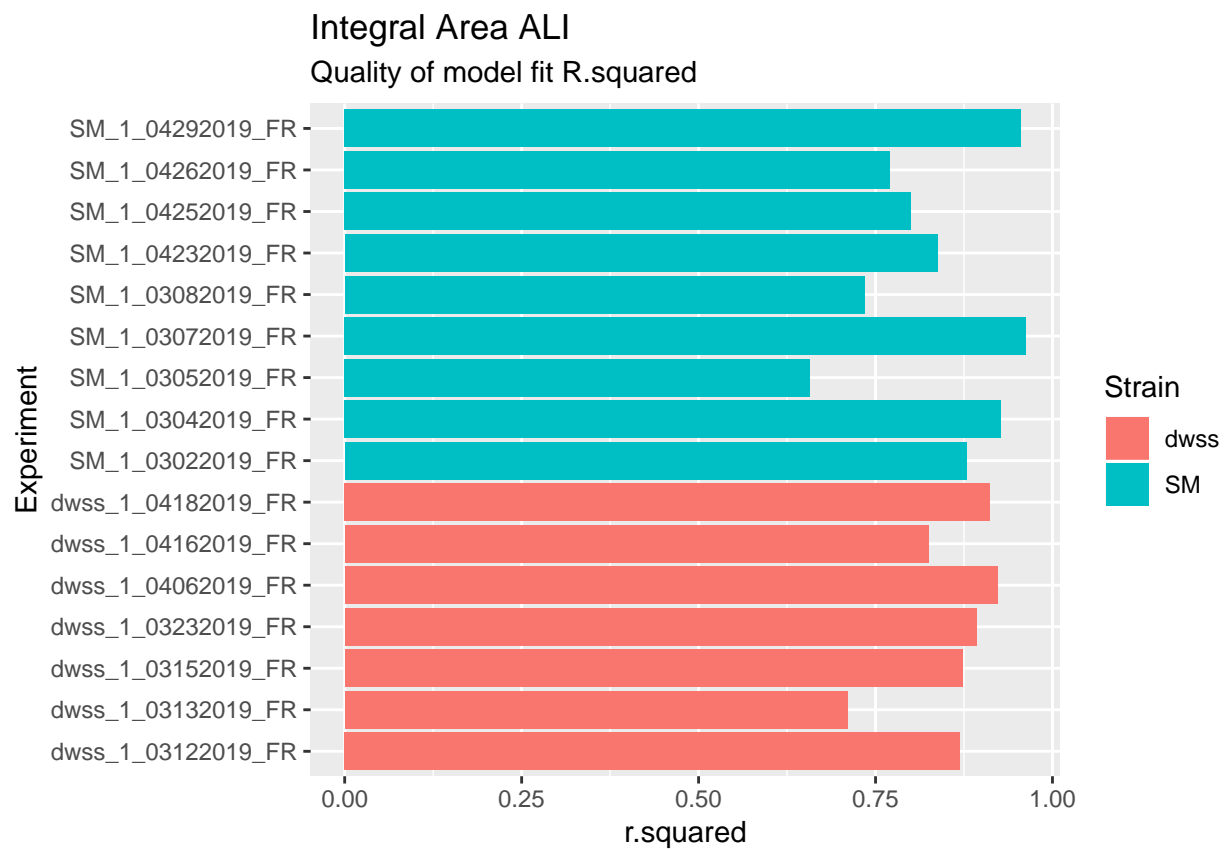
Quality of model fit R.squared

Integral Area ALI

colonization rate estimate
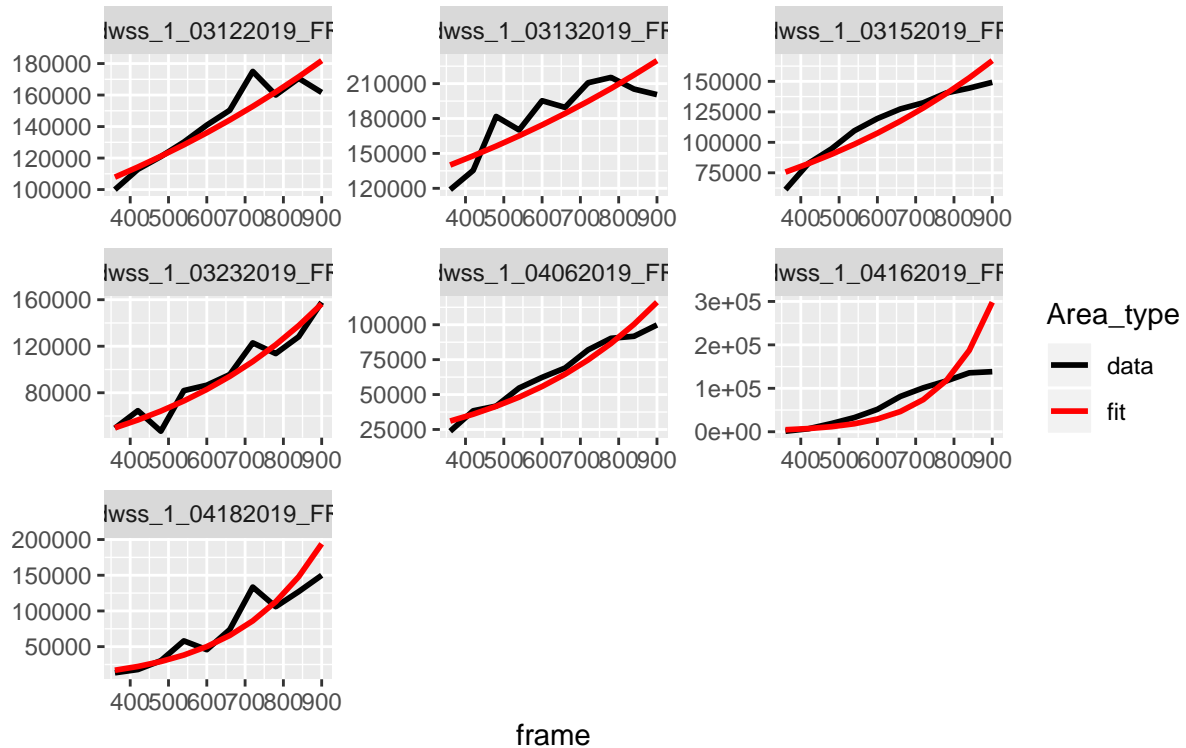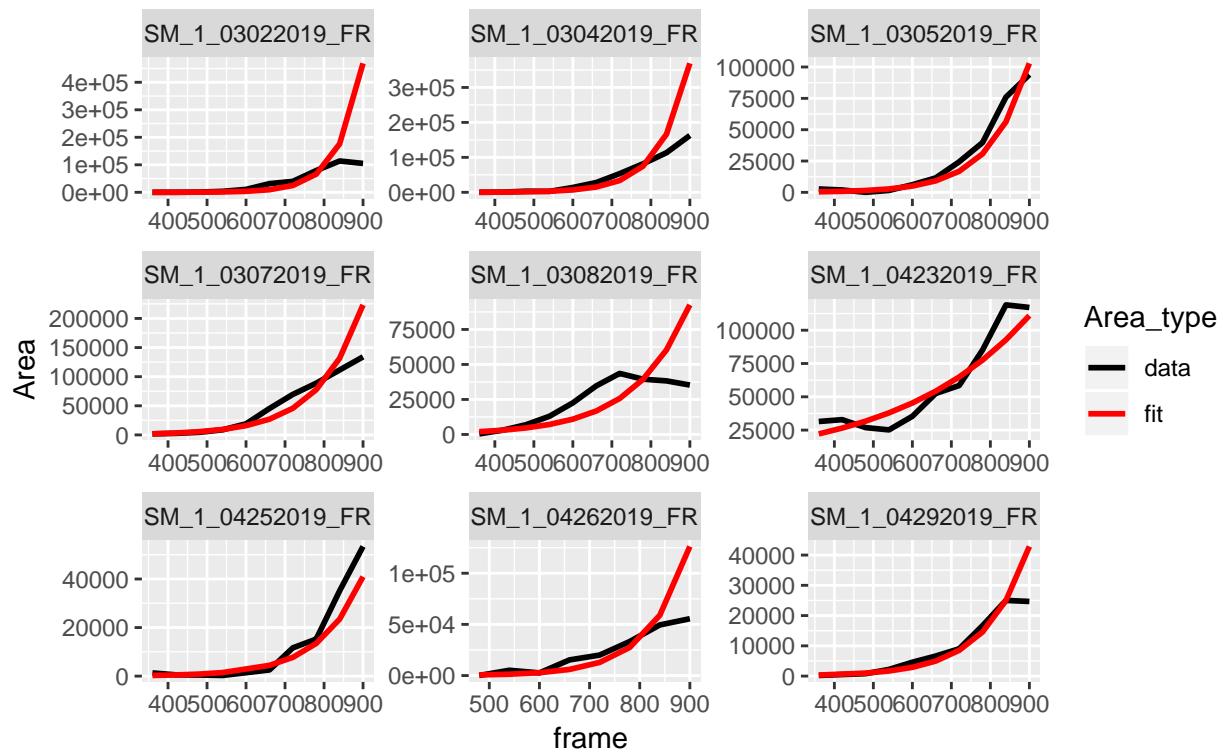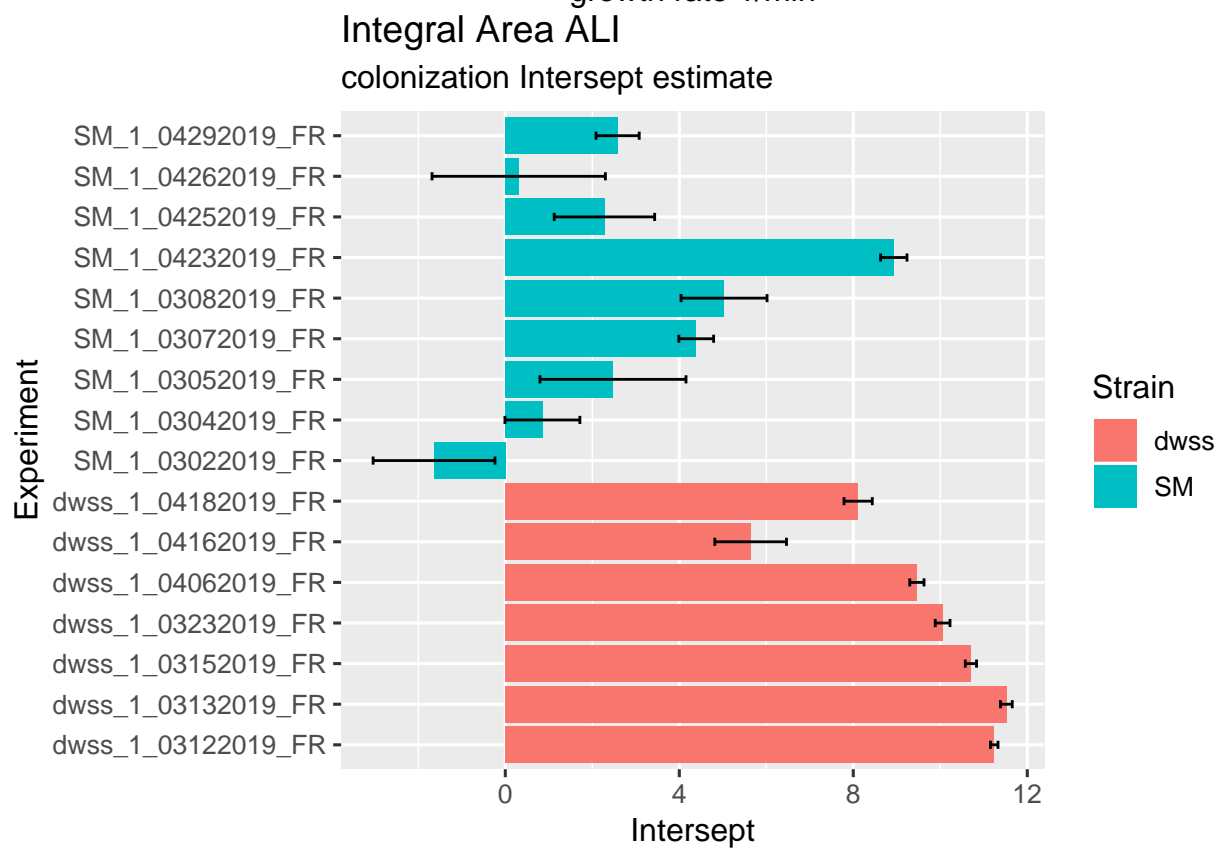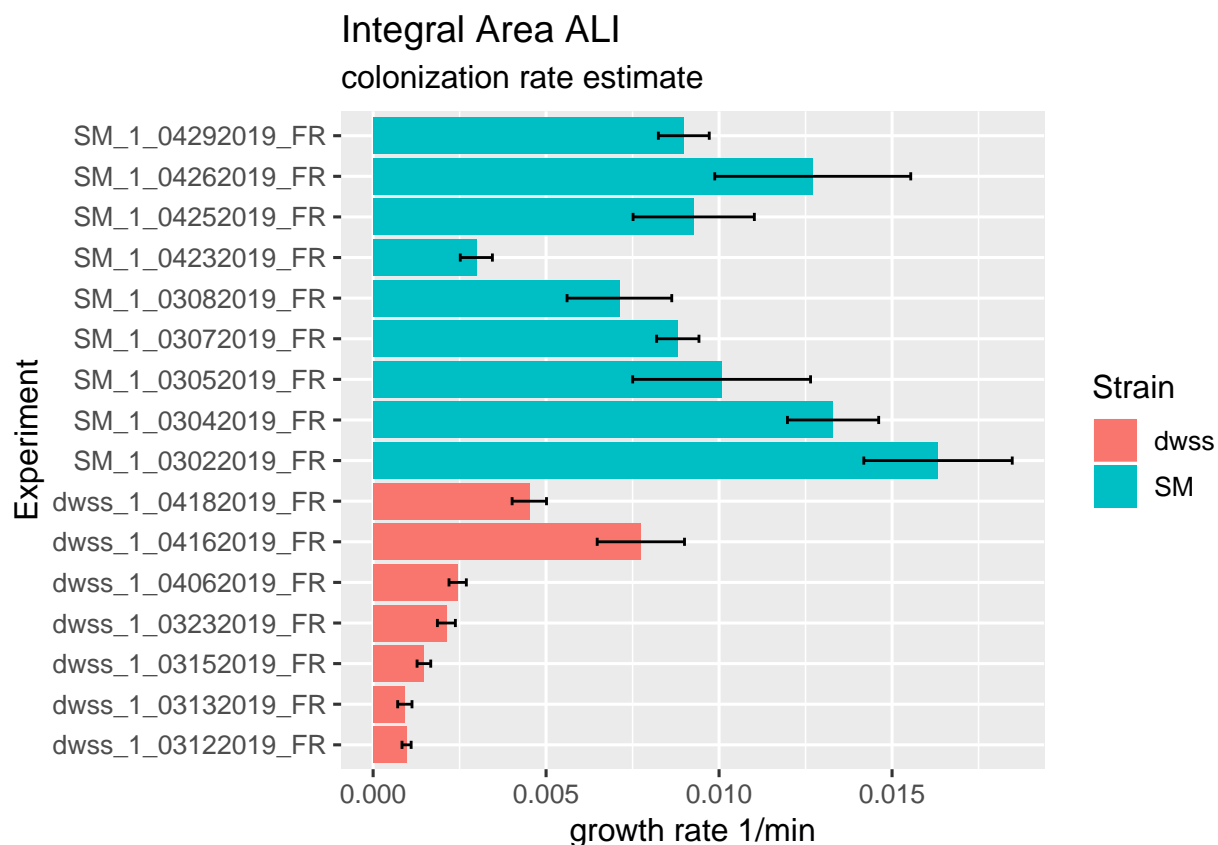
Colonisation area per Layer

LayerSize=32 mkm (200px)

Area per layer from ALI