

Penguins

Nithin

The Adelie penguins can be found on the island(s) of: Biscoe, Dream, and Torgersen. The total number of Adelie penguins in the dataset is 152.

Let us analyse the Adelie penguins by island. The results for each island are shown below.

Analysis for Biscoe

The summary statistics of penguins on Biscoe is given in Table 1 and a scatter plot of bill dimensions is shown in ?@fig-penguins-Biscoe.

Next, we fit a linear model to predict bill depth from bill length and sex of the penguins on Biscoe. The results are summarized below in Table 2.

Analysis for Dream

The summary statistics of penguins on Dream is given in Table 3 and a scatter plot of bill dimensions is shown in ?@fig-penguins-Dream.

Next, we fit a linear model to predict bill depth from bill length and sex of the penguins on Dream. The results are summarized below in Table 4.

Table 1: Summary statistics for penguins on Biscoe

sex		N	mean	sd
female	body_mass_g	22	3369.32	343.47
	bill_length_mm	22	37.36	1.76
	bill_depth_mm	22	17.70	1.09
male	body_mass_g	22	4050.00	355.57
	bill_length_mm	22	40.59	2.01
	bill_depth_mm	22	19.04	0.88

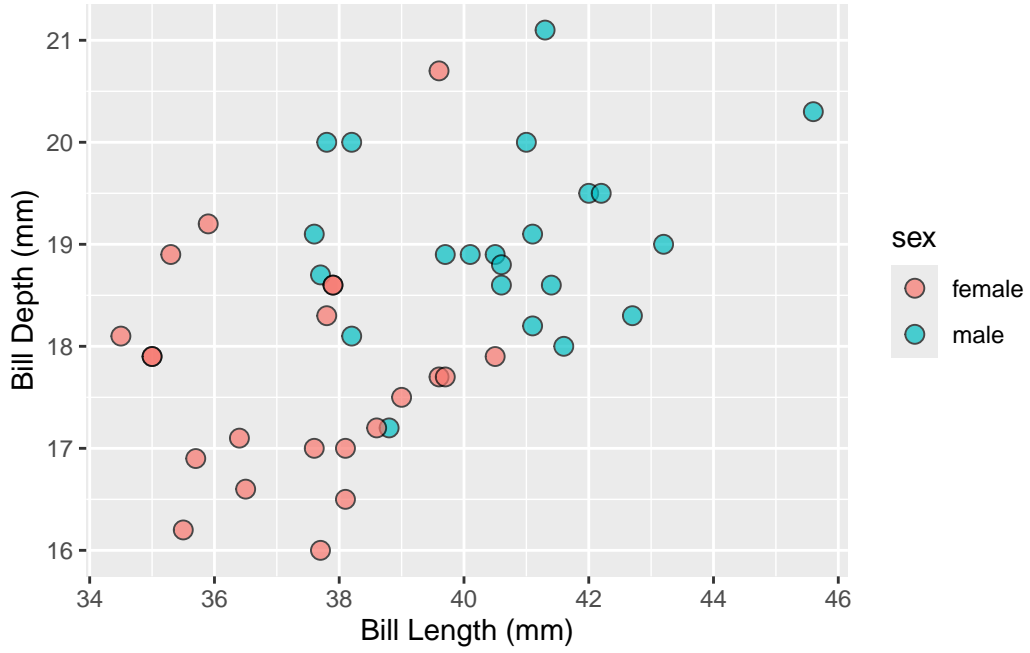


Figure 1: Scatter plot of bill dimensions for penguins on Biscoe

Table 2: Regression results for penguins on Biscoe

	(1)
(Intercept)	14.703 (3.034)
bill_length_mm	0.080 (0.081)
sexmale	1.072 (0.397)
Num.Obs.	44
R2	0.337
R2 Adj.	0.305
AIC	129.0
BIC	136.1
Log.Lik.	−60.498
F	10.418
RMSE	0.96

Table 3: Summary statistics for penguins on Dream

sex		N	mean	sd
female	body_mass_g	27	3344.44	212.06
	bill_length_mm	27	36.91	2.09
	bill_depth_mm	27	17.62	0.90
male	body_mass_g	28	4045.54	330.55
	bill_length_mm	28	40.07	1.75
	bill_depth_mm	28	18.84	1.03

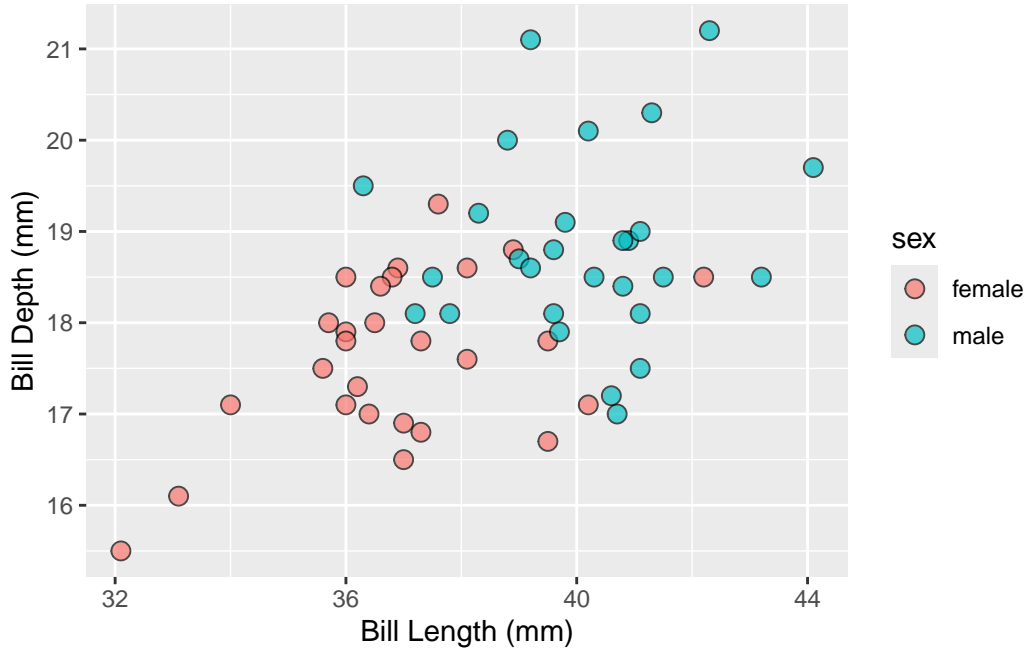


Figure 2: Scatter plot of bill dimensions for penguins on Dream

Table 4: Regression results for penguins on Dream

	(1)
(Intercept)	12.779
	(2.497)
bill_length_mm	0.131
	(0.067)
sexmale	0.806
	(0.332)
Num.Obs.	55
R2	0.340
R2 Adj.	0.314
AIC	154.7
BIC	162.8
Log.Lik.	−73.365
F	13.367
RMSE	0.92

Analysis for Torgersen

The summary statistics of penguins on Torgersen is given in Table 5 and a scatter plot of bill dimensions is shown in ?@fig-penguins-Torgersen.

Next, we fit a linear model to predict bill depth from bill length and sex of the penguins on Torgersen. The results are summarized below in Table 6.

Table 5: Summary statistics for penguins on Torgersen

sex		N	mean	sd
female	body_mass_g	24	3395.83	259.14
	bill_length_mm	24	37.55	2.21
	bill_depth_mm	24	17.55	0.88
male	body_mass_g	23	4034.78	372.47
	bill_length_mm	23	40.59	3.03
	bill_depth_mm	23	19.39	1.08

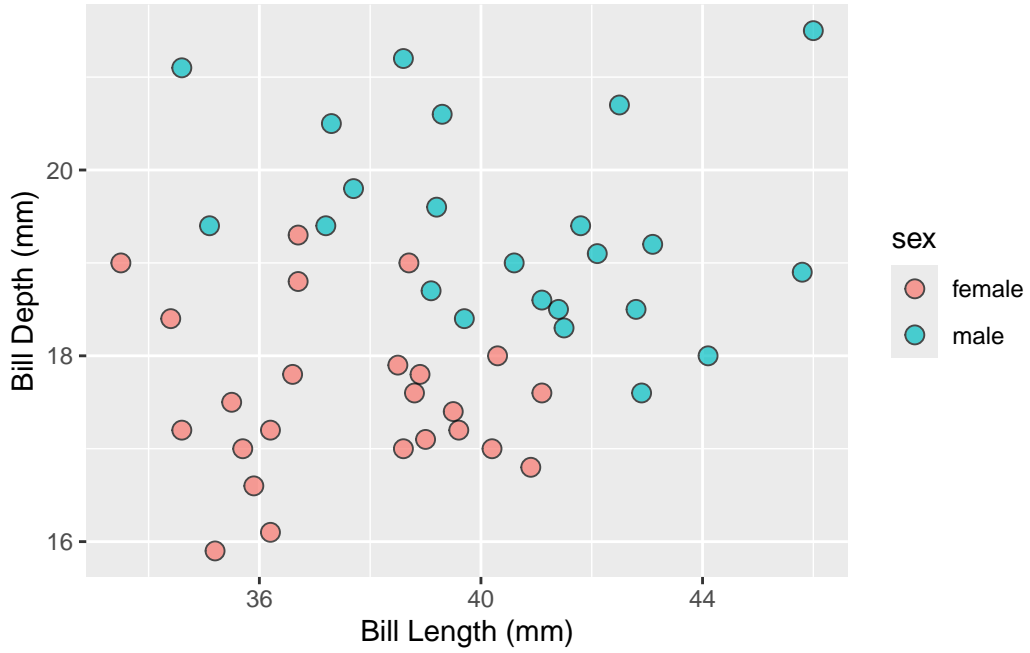


Figure 3: Scatter plot of bill dimensions for penguins on Torgersen

Table 6: Regression results for penguins on Torgersen

	(1)
(Intercept)	20.549
	(2.070)
bill_length_mm	−0.080
	(0.055)
sexmale	2.084
	(0.329)
Num.Obs.	47
R2	0.501
R2 Adj.	0.479
AIC	135.6
BIC	143.0
Log.Lik.	−63.809
F	22.129
RMSE	0.94