Duration of Coal-Field

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```
duration_coal_field_file <- './data/duration of the northumberland and durham coal-field.xlsx'
```

Data Tidy

```
duration_coal_field_result_raw <- read_excel(duration_coal_field_file, sheet = "Sheet1")
duration_coal_field_result_raw
```

```
## # A tibble: 8 x 6
##    `Author of Estimate` `Date of Estimate` `Supposed Area of C~ `Estimated Amoun~
##    <chr>                            <dbl>                <dbl>             <dbl>
## 1 Mac Nab                           1792                  300                NA
## 2 Bailey                            1801                  300                NA
## 3 Thomson                           1814                  300              5575
## 4 Hugh Taylor                       1830                  732              6046
## 5 Buckland                          1830                  732              6046
## 6 Greenwell                         1846                  732              6046
## 7 T. Y. Hall                        1854                  750              5122
## 8 E. Hull                           1864                  685              7226
## # ... with 2 more variables: Assumed Annual Consumption of Coal <dbl>,
## #   Duration of Supply <dbl>
```

```
duration_coal_field_result <- tidyr::pivot_longer(duration_coal_field_result_raw,
                                        c(`Supposed Area of Coal Measures unworked`,
                                          `Estimated Amount of Coal`,
                                          `Assumed Annual Consumption of Coal`,
                                          `Duration of Supply`),
                                        names_to = "Estimate", values_to = "Value")

duration_coal_field_result
```
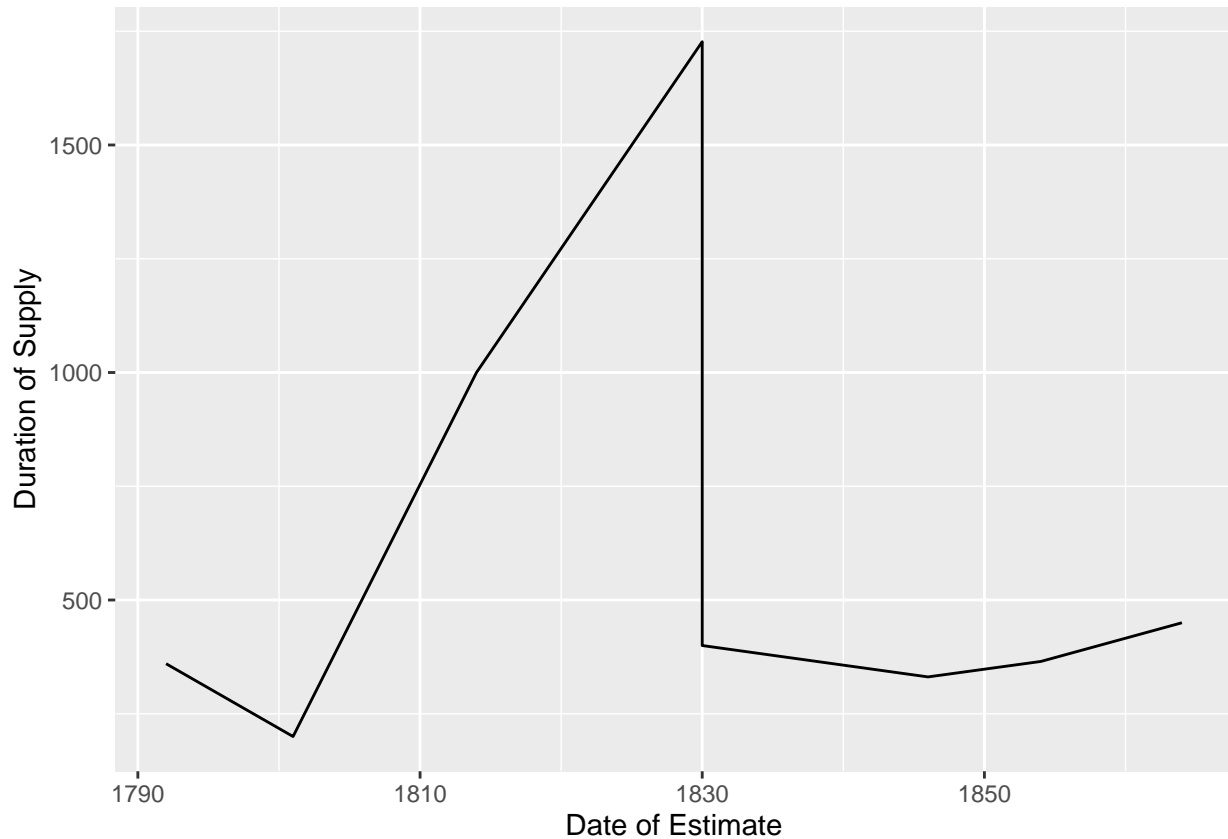
```
## # A tibble: 32 x 4
##    `Author of Estimate` `Date of Estimate` Estimate                         Value
##    <chr>                            <dbl> <chr>                            <dbl>
##  1 Mac Nab                           1792 Supposed Area of Coal Measur~      300
##  2 Mac Nab                           1792 Estimated Amount of Coal            NA
##  3 Mac Nab                           1792 Assumed Annual Consumption o~       NA
##  4 Mac Nab                           1792 Duration of Supply                 360
##  5 Bailey                            1801 Supposed Area of Coal Measur~      300
##  6 Bailey                            1801 Estimated Amount of Coal            NA
##  7 Bailey                            1801 Assumed Annual Consumption o~ 1866200
##  8 Bailey                            1801 Duration of Supply                 200
##  9 Thomson                           1814 Supposed Area of Coal Measur~      300
## 10 Thomson                           1814 Estimated Amount of Coal          5575
```

```
## # ... with 22 more rows
```

Make Graphs

```
duration_coal_field_result_raw %>%
  ggplot() +
  geom_line(mapping = aes(x = `Date of Estimate`, y = `Duration of Supply`))
```



```
duration_coal_field_result %>%
  ggplot() +
  geom_path(mapping = aes(x = `Date of Estimate`, y = `Value`), na.rm = FALSE) +
  facet_grid(Estimate ~ ., scales = "free_y")
```