

Demo - Exponential Smoothing & Colombian Coffee

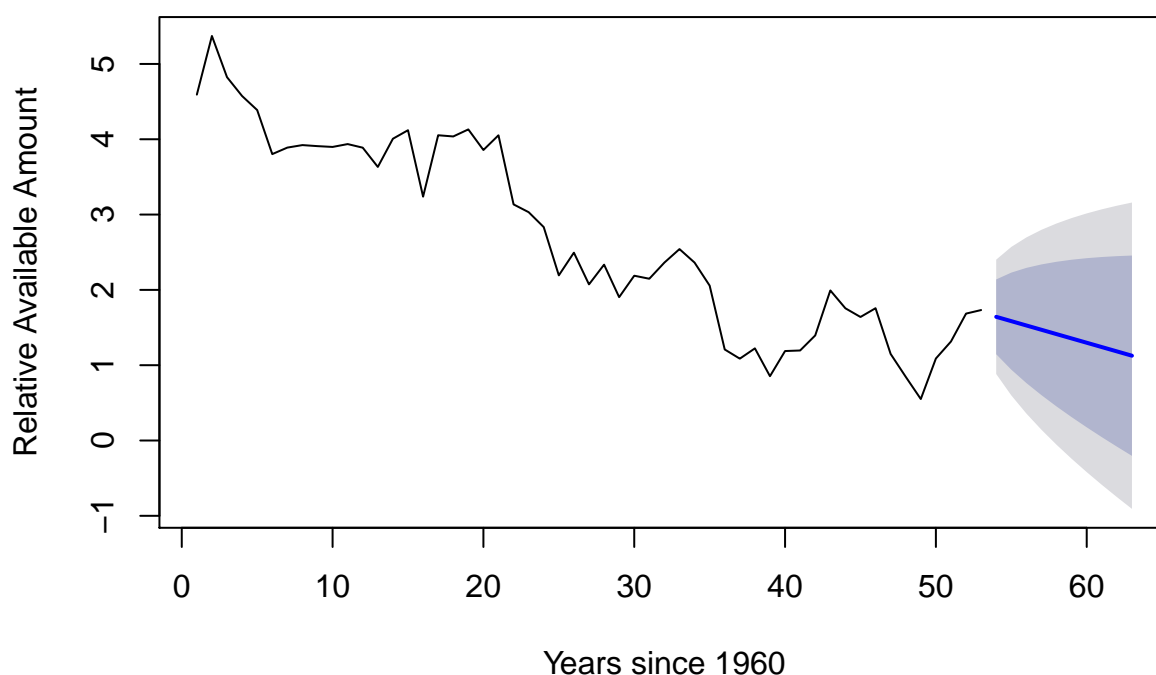
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As an example of basic time-series smoothing and forecasting, let's create a double exponential smoothing model for the amount of consumer-available coffee in Colombia. We'll specify our model as AAN: additive error, additive trend, and no cyclical factors - then visualize it as follows:

```
colombian_data <- food_per_capita %>% filter(Area == "Colombia")
coffee <- colombian_data$Coffee
model <- ets(coffee, "AAN")
plot(predict(model),
      main = "Coffee Availability Forecast - 80% and 95% Likelihood Ranges",
      xlab = "Years since 1960",
      ylab = "Relative Available Amount")
```

Coffee Availability Forecast – 80% and 95% Likelihood Ranges



A reasonable interpretation of this graph might be:

“It is 80% likely that the amount of available coffee in Colombia in 2014 - knowing only values prior to that - will not increase or decrease by more than about half its present value.”

This admittedly isn't an *enormously* valuable insight; however, I do hope it serves to demonstrate proficiency.