Possible Statistical enquiry cycle for Greenhouse

Statistical Enquiry Cycle options

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|  | Cycle 1 | Cycle 2 | Cycle 3 |
| Purpose/  Plan | I plan to investigate the trend and seasonal patterns for ‘Methane’ . | How do the features of ‘Methane’ compare with Carbon Dioxide concentration ? | Develop a theory as to why rates of increase are trending up/down. Are there reasons for the differences observed? What are implications for the future of Planet Earth? |
| Data | Monthly Methane concentration data  1999 - 2011 | Monthly Methane and Carbon Dioxide concentration data  1999 - 2011 | Monthly data: new series developed |
| Analysis | Decomposition, seasonal effects and predictions | Decomposition, seasonal effects, comparison and predictions | Comparison and predictions.  Research contextual knowledge. |
| Conclusion | Description of trend, seasonal pattern, unusual values and predictions (Methane). | Repeat analysis for Carbon Dioxide, then compare differences and similarities | Repeat analysis for New Series. What do you predict will happen to Global Temperatures in the future? Use contextual knowledge to explain observed features and differences between series |

Encouraging reflective thought and action

*Key questions…*

* What do you notice?
* What does this make you wonder?
* What is the same and what is different?
* What patterns did you find?
* What conclusions can you draw from…?