Climate Modeling for the clueless Documentation
Release 0.1

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WHY?

So, first day at new work at a climate research institute in Brazil. I'm a computer engineer, so I know zero about climate modeling, but they gave me some papers to read. And I don't understand a lot of terms.

A lot of people must have passed for this too, but did they document the learning process? I don't have internet yet (hey, burocrats don't give you a login at day one!), so I started writing this. I will try to document as much as possible what I learn, hoping that others can find this useful.

COUPLED MODELS

GLOSSARY

In this section you will find all the terms I stumbled upon while reading papers and didn't know what they mean. Each term has two sections: First guess, where I try to explain it without looking for the correct definition and using just the context, and Definition, explained by some especialist or found at technical literature.

Climatological wind speed

> **First guess:** Not a clue.

> **Definition:** Explained by [Roberto de Almeida]_ :

Ensemble

> **First guess:** Not a clue. "10-member ensemble average"?

> **Definition:** TODO

General Circulation Model (GCM)

> **First guess:** It's a type of model. Paper cites atmospheric and ocean versions.

> **Definition:** TODO

Sigma level

> **First guess:** Not a clue. Can be unevenly spaced, and in the vertical.

> **Definition:** TODO

Spectral global model

> **First guess:** Not a clue.

> **Definition:** TODO

Spinup

> **First guess:** Process where you give some historical input to the model, to train it before running the simulation.

> **Definition:** Explained by [Roberto de Almeida]_ : the model starts at rest state, and it runs for some time (~500 years) with an *climatological wind speed* (or another variable) to start fluid motion. He gave an example: if you want to run a prediction starting at 1990, you let the model run for some time and at some point start putting the real values for wind speed (ten years before the start, for example) to 'train' the model and make it converge, so the predictions are accurate.

Surface scheme

> **First guess:** Seems to be the part of the model that represents ground level processes that influences the simulation. Example: *Simplified Simple Biosphere Model*

> **Definition:** TODO

Triangular truncation

> **First guess:** Not a clue.
>
> **Definition:** TODO

Wavenumber

> **First guess:** Not a clue. References *sigma level*.
>
> **Definition:** TODO

REFERENCES

Citations

INDICES AND TABLES

- *genindex*
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