

Climate Prediction Volunteer Project



*Forecasting climate change in the 21st
century*

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ClimatePrediction.net Goal

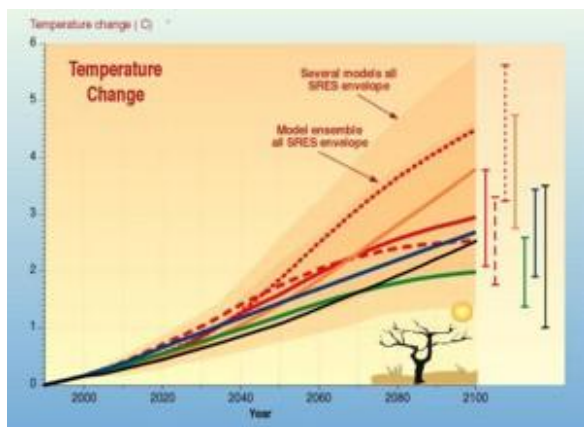
To produce a forecast of the climate in the 21st century

ClimatePrediction.net Scientific Research

(<http://www.climateprediction.net/project.php>)

The aim of climateprediction.net is to investigate the approximations that have to be made in state-of-the-art climate models. By running the model thousands of times (a 'large ensemble') we hope to find out how the model responds to slight tweaks to these approximations - slight enough to not make the approximations any less realistic. This will allow us to improve our understanding of how sensitive our models are to small changes and also to things like changes in carbon dioxide and the sulphur cycle. This will allow us to explore how climate may change in the next century under a wide range of different scenarios. In the past estimates of climate change had to be made using one or, at best, a very small ensemble (tens rather than thousands!) of model runs. By using your computers, we will be able to improve our understanding of, and confidence in, climate change predictions more than would ever be possible using the supercomputers currently available to scientists.

The climateprediction.net experiment should help to **"improve methods to quantify uncertainties of climate projections and scenarios, including long-term ensemble simulations using complex models"**, identified by the **Intergovernmental Panel on Climate Change (IPCC)** in 2001 as a high priority. Hopefully, the experiment will give decision makers a better scientific basis for addressing one of the biggest potential global problems of the 21st century.



To help make participation in climateprediction.net more rewarding and fun, we are developing educational resources to help participants learn more about what their model is telling them. These include materials for schools, an Open University short course, and a lively, interactive web-based community where participants can compare discuss, analyse and learn about their model runs.

The climateprediction.net experiment is funded jointly by the **NERC** and **DTI** e-Science programs.

Project Specific System Requirements – (ClimatePrediction.net website)

- 1 GB of free disk space
- 256 MB of RAM
- 1.6 GHz processor

Climate Simulation – Application Controls – (ClimatePrediction.net website)

| Keyboard | Description | Keyboard | Description | Keyboard | Description |
|----------|--------------------------------|----------|------------------------------------|----------|--|
| T | Temperature | 7 | Wireframe | CTRL-O | Playback |
| R | Precipitation | W | World Map/ 3D | J | Contour Plots Grayscale |
| P | Pressure | F | Low Res/ High Res Cloud View | N | Default Projection |
| C | Clouds | 0 | Star Field | TAB | Cycle Through of Views |
| O | Ocean Surface Temperature | A | Accelerate / Decelerate | L | Illuminate Globe / Sun Illuminated |
| E | Emissions Sulfates/Aerosols | M | Metric / Imperial | B | Borders |
| G | Model Grid | [1-5] | Cloud Level | I | Country Info |
| S | Rotation | CTRL-Q | Record | 8 | Checkpoint |