

Indra and Vali

Indra is a cross-platform, Python-based program to create synthetic weather time series from a weather record of at least one year. Vali is the child of Indra created for use with ESP-r on 31 May 2018 (*v2.78_esru*). See the *wiki* if you want to find out more about **indra**. It contains a step-by-step guide to installing and running mighty **indra**. If you know your way around, go directly to the sample commands below.

Indra is NOT a weather forecasting tool. It is designed to be used to create variations on weather patterns learned from a source file.

You can call **indra** using the python and shell scripts called `vali.py` and `vali.sh` respectively (they are the same script, just written in the two different languages).

Bibliography

The program is based on the algorithms published in Rastogi (2016), Rastogi and Andersen (2015, 2016).

- Full wiki for Indra: <https://github.com/paragrastogi/SyntheticWeather/wiki>
- Rastogi, Parag. 2016. On the Sensitivity of Buildings to Climate: The Interaction of Weather and Building Envelopes in Determining Future Building Energy Consumption. PhD, Lausanne, Switzerland: Ecole polytechnique federale de Lausanne. EPFL Infoscience. <https://infoscience.epfl.ch/record/220971?ln=en>.
- Rastogi, Parag, and Marilyne Andersen. 2015. Embedding Stochasticity in Building Simulation Through Synthetic Weather Files. In Proceedings of BS 2015. Hyderabad, India. <http://infoscience.epfl.ch/record/208743>.
- Rastogi, Parag, and Marilyne Andersen. 2016. Incorporating Climate Change Predictions in the Analysis of Weather-Based Uncertainty. In Proceedings of SimBuild 2016. Salt Lake City, UT, USA. <http://infoscience.epfl.ch/record/208743>.

```
@phdthesis{rastogi_sensitivity_2016, address = {Lausanne, Switzerland},
type = {{PhD}}, title = {On the sensitivity of buildings to climate: the
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energy consumption}, shorttitle = {Sensitivity of {Buildings} to {Climate}}, url
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= {Ecole polytechnique federale de Lausanne}, author = {Rastogi, Parag},
month = aug, year = {2016}, note = {doi:10.5075/epfl-thesis-6881} }
```

License, implementation, and compatibility

This tool is distributed under the GNU General Public License v3 (GPLv3). Please read what this means [here](#). These scripts come with absolutely no warranties/guarantees of any kind. Happy creating fake weather!