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| Session | IN015 - Enabling Better Science Through Improving Science Software Development Culture | |
| Venue | San Francisco | |
| Date | 09th – 13th  December 2013 | |
| Type | Talk | |
| Title | The Earth System Documentation (ES-DOC) Software Process | |
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| **Abstract** | | |

Earth System Documentation (ES-DOC) is an international project supplying high-quality tools & services in support of earth system documentation creation, analysis and dissemination. It is nurturing a sustainable standards based documentation eco-system that aims to become an integral part of the next generation of exa-scale dataset archives. ES-DOC leverages open source software, and applies a software development methodology that places end-user narratives at the heart of all it does.

ES-DOC has initially focused upon nurturing the Earth System Model (ESM) documentation eco-system and currently supporting the following projects:

* Coupled Model Inter-comparison Project Phase 5 (CMIP5);
* Dynamical Core Model Inter-comparison Project (DCMIP);
* National Climate Predictions and Projections Platforms Quantitative Evaluation of Downscaling Workshop.

This talk will demonstrate that ES-DOC implements a relatively mature software development process. Taking a pragmatic Agile process as inspiration, ES-DOC:

* Iteratively develops and releases working software;
* Captures user requirements via a narrative based approach;
* Uses online collaboration tools (e.g. Earth System CoG) to manage progress;
* Prototypes applications to validate their feasibility;
* Leverages meta-programming techniques where appropriate;
* Automates testing whenever sensibly feasible;
* Streamlines complex deployments to a single command;
* Extensively leverages GitHub and Pivotal Tracker;
* Enforces strict separation of the UI from underlying API’s;