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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;