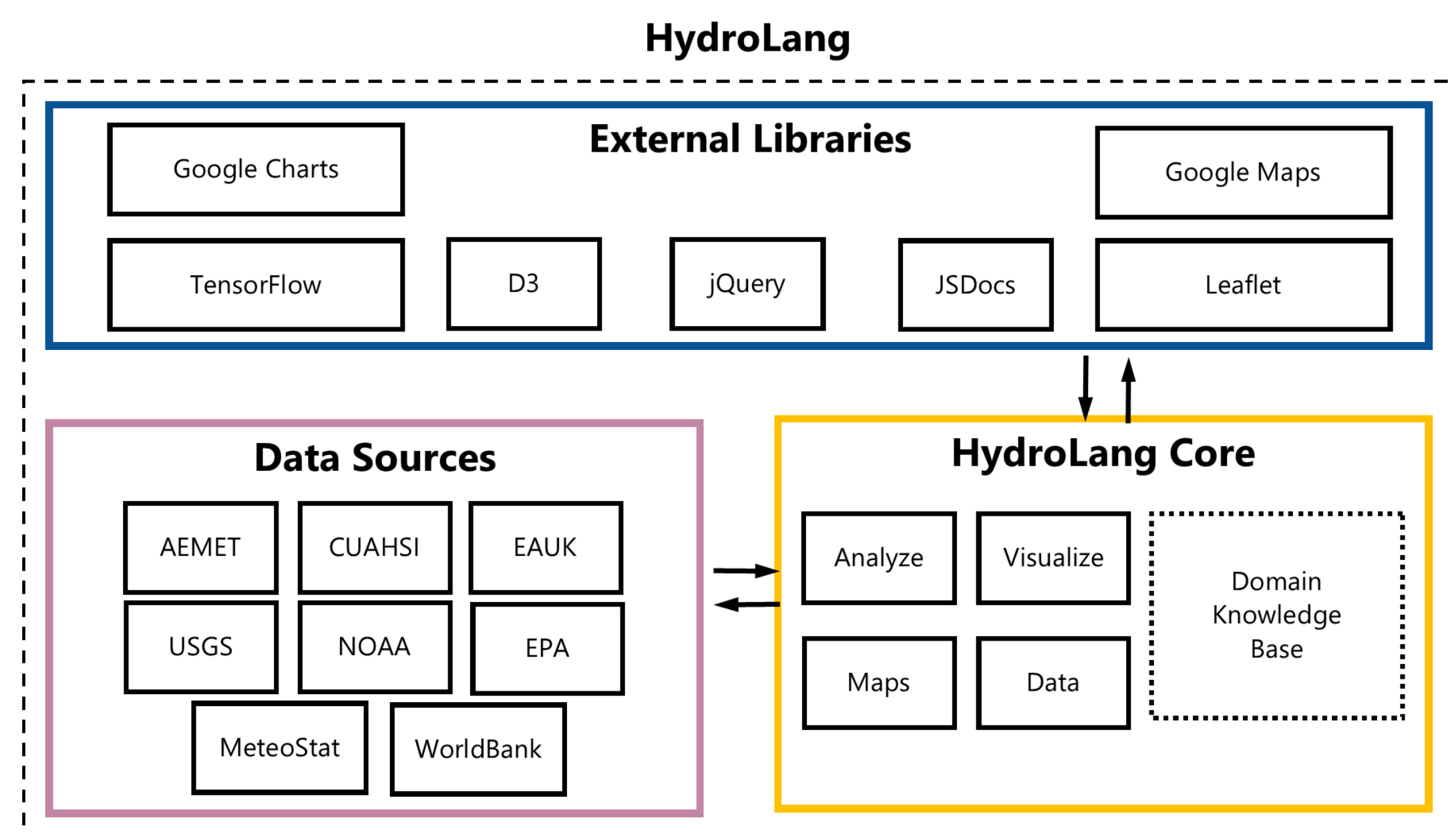


HydroLang, HydroLang-ML, and HydroCompute: A Suite of Resources for Client-Side Environmental and Hydrological Analyses

Carlos Erazo, Yusuf Sermet, Ibrahim Demir – Civil and Environmental Engineering



HydroLang Architecture

Introduction

- ❑ Fast computations can be done on everyday web browsers
- ❑ Reduced server-side requirements with client-side processing
- ❑ Adaptation of technologies from other domains for hydrology and environmental sciences

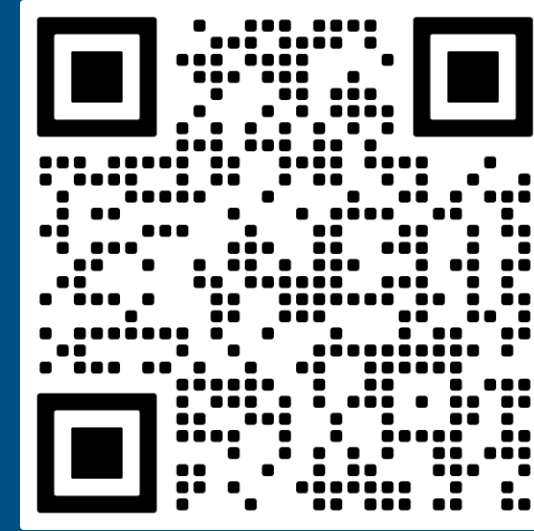
Projects

- ❑ **HydroLang**: A modular framework composed of 4 highly extensible, loosely coupled modules
- ❑ **HydroLang-ML**: Extension of the HydroLang library for use of web component technology, easy use plug-and-play technology
- ❑ **HydroLang-BMI**: Extension of the HydroLang library to run using the BMI-javascript interface
- ❑ **HydroCompute**: A computationally driven library to performance high performance computing on the web

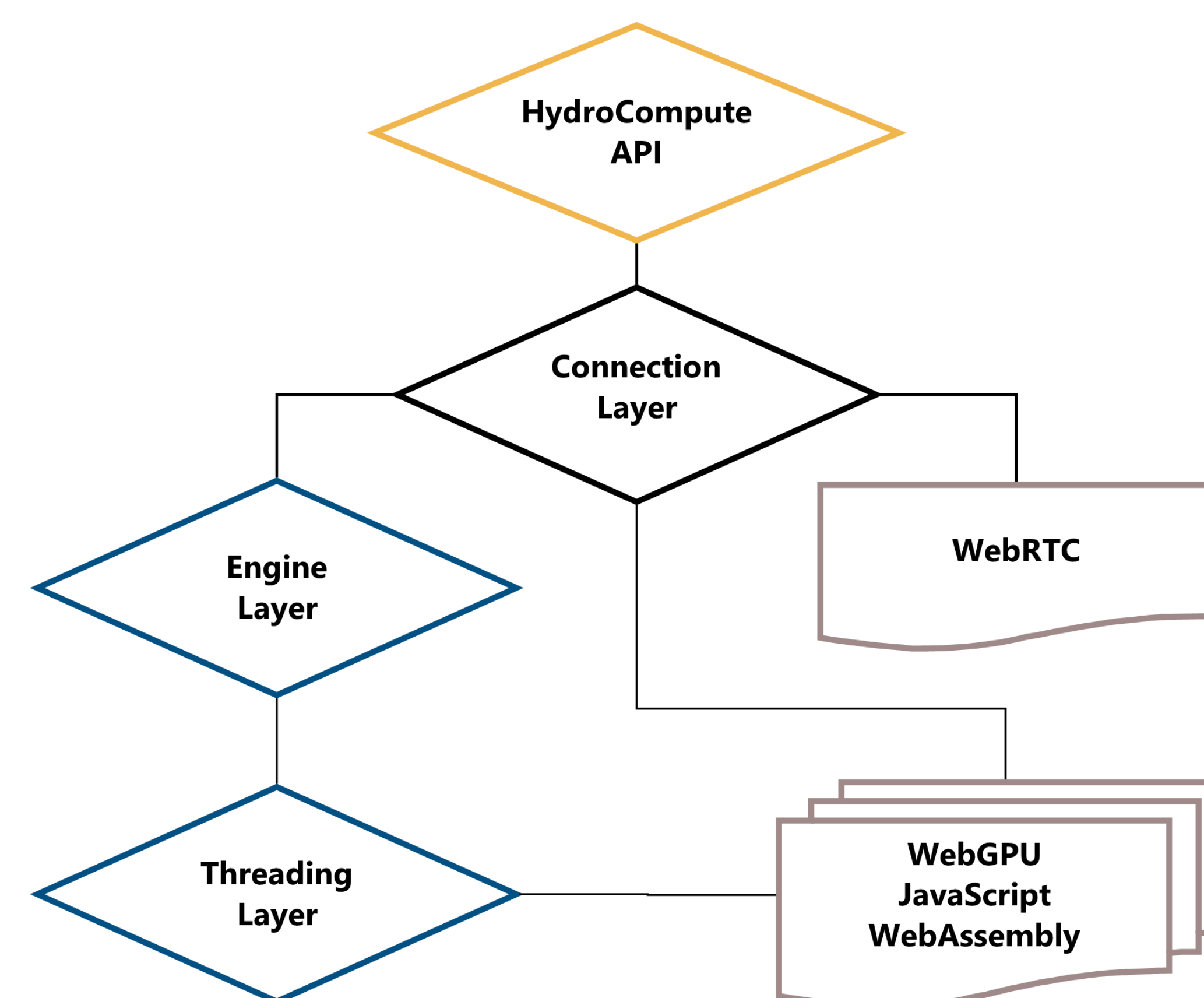
Implementation

- ❑ The libraries enable end-to-end workflows, from data retrieval to analysis and visualization
- ❑ Developed with an open source, object oriented ontology. Easy to scale and expand.

Combining the Best of Cutting Edge Web Technologies and Client-Side Computing for Advanced Hydrological Workflows

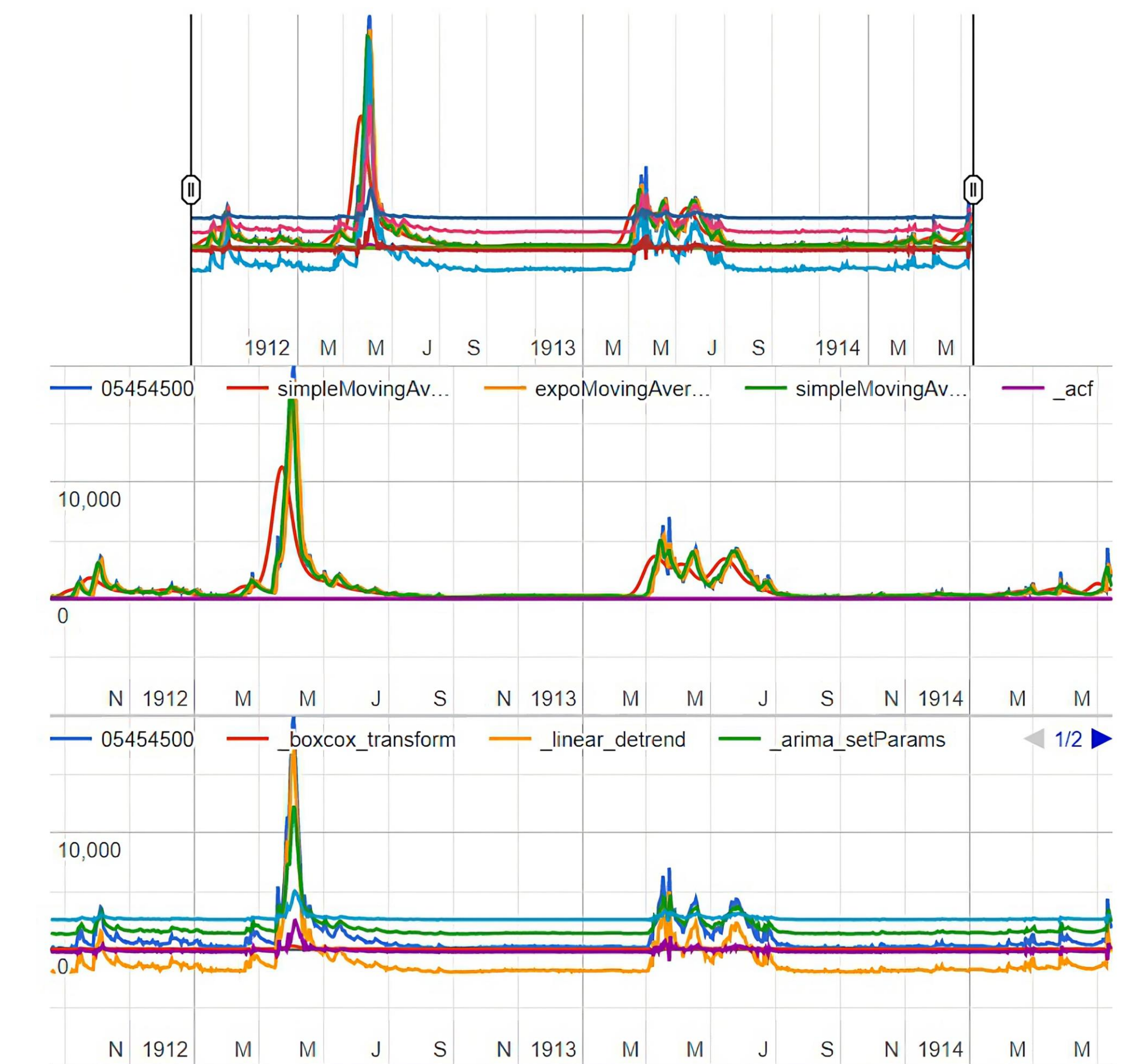



tinyurl.com/hydrolang
tinyurl.com/hydcomp



HydroCompute architecture

Implementation Results



Results of implementation from the libraries

Features & Uses

- ❑ Libraries available as an API for web-based analyses
- ❑ Open source libraries and frameworks for tal sciences
- ❑ Flexibility to incorporate new scripts, functions, and workflows

Future Work

- ❑ Continuous addition of functions, workflows, and examples to the libraries
- ❑ Part of the larger suite of web based data driven tools

Acknowledgements

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