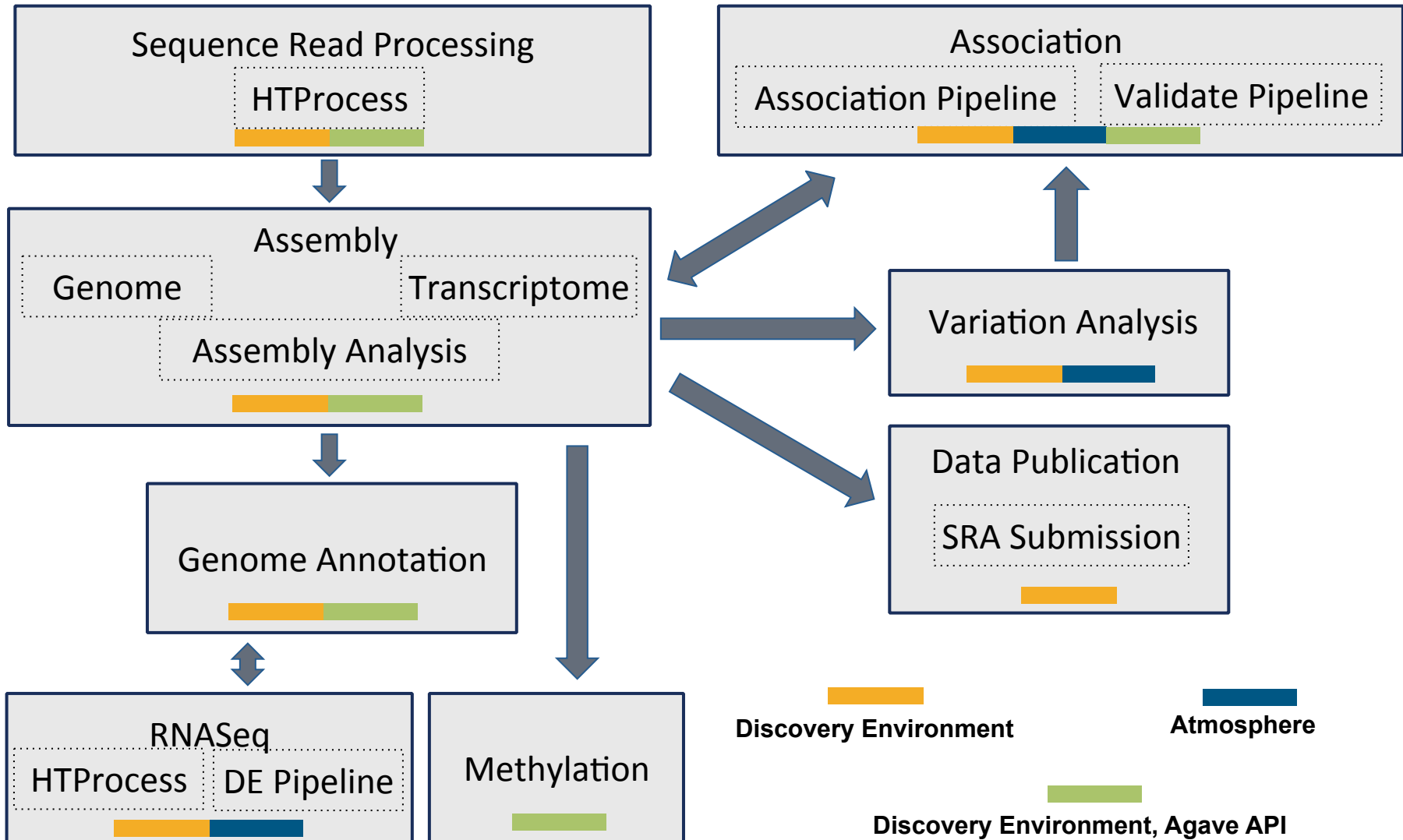
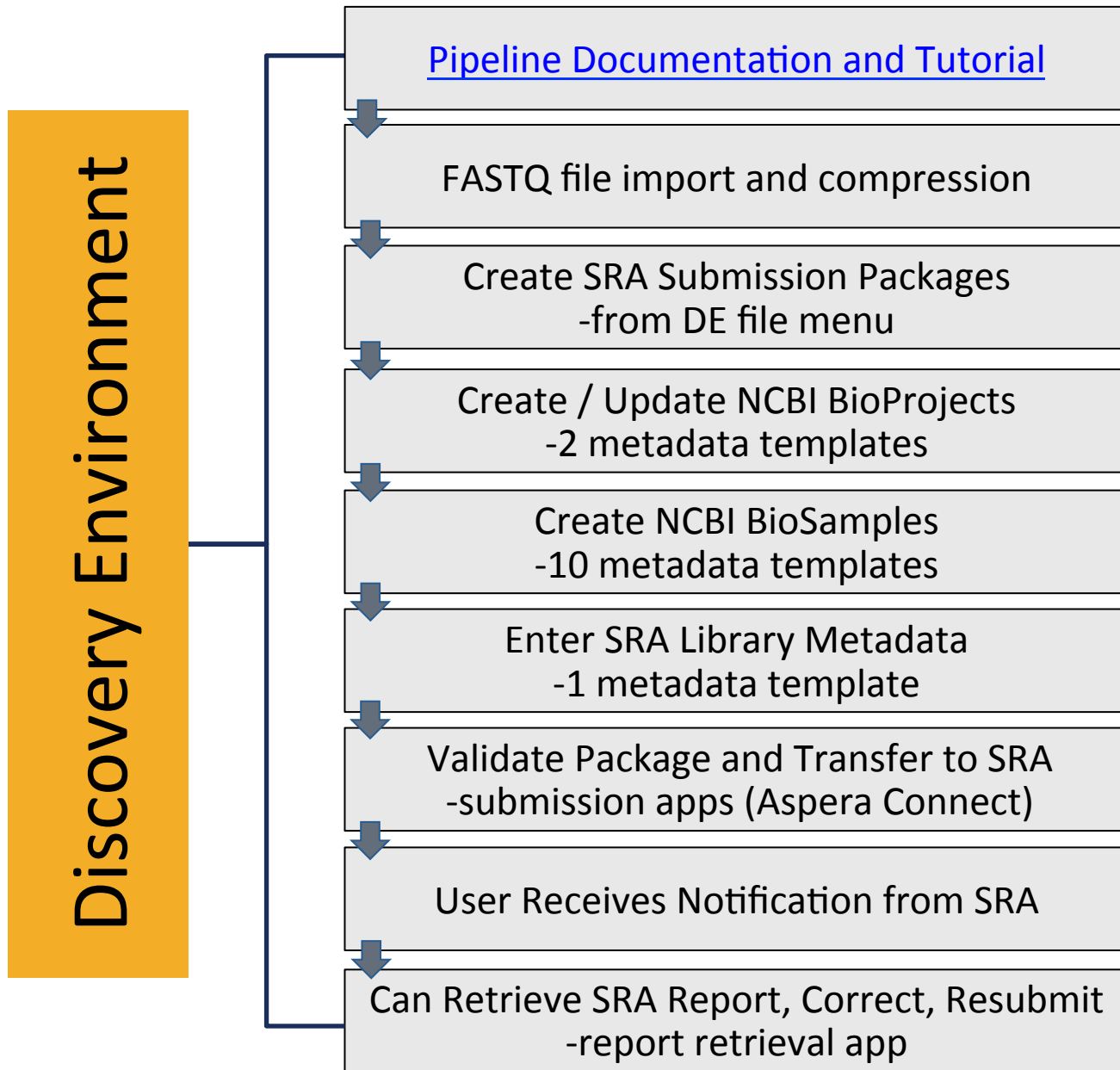


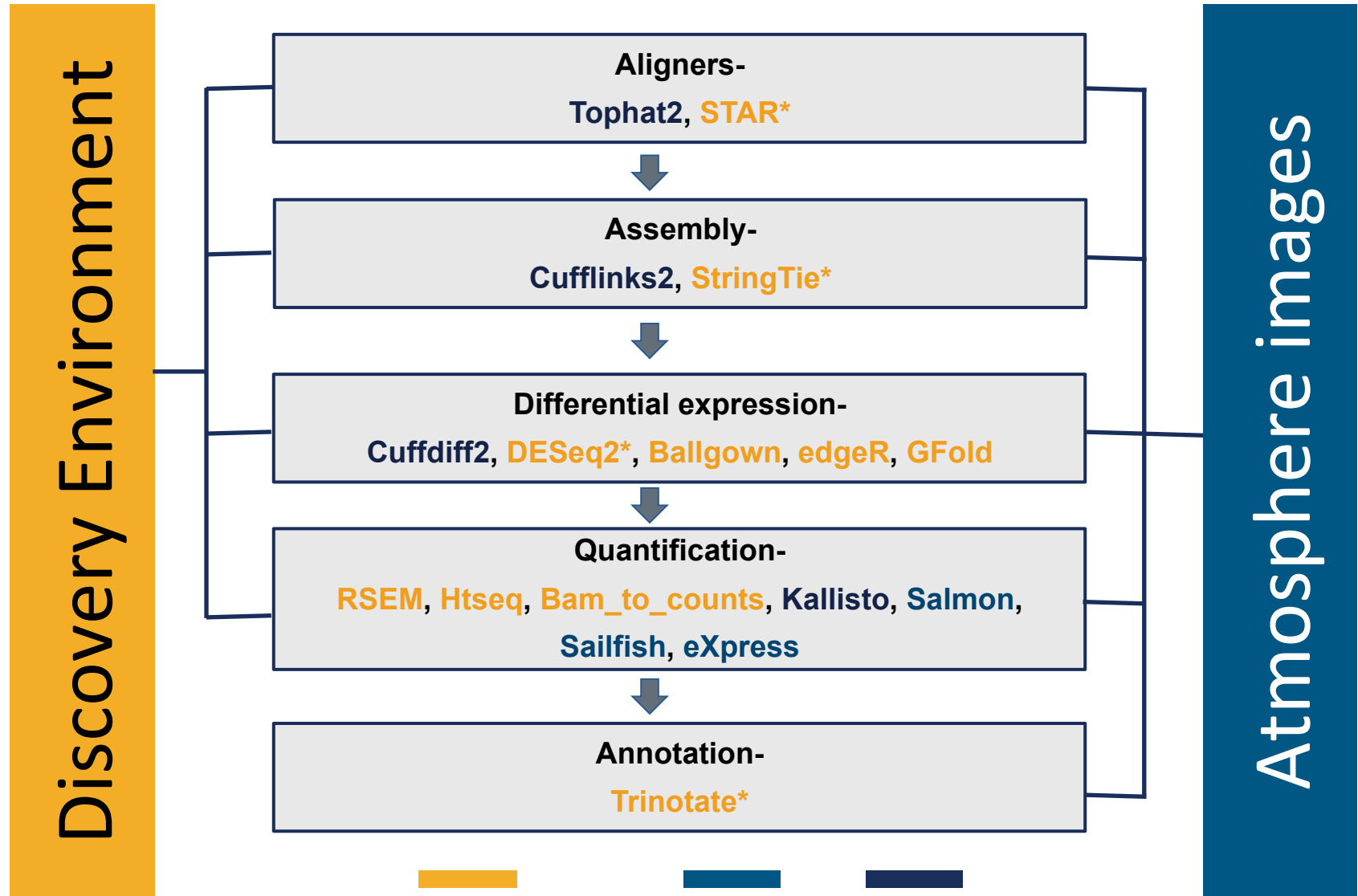
# Overview of Genomics Workflows



# Data Dissemination: NCBI SRA Submission Pipeline



# RNA Seq 1 for Differential Expression



Discovery Environment

Atmosphere

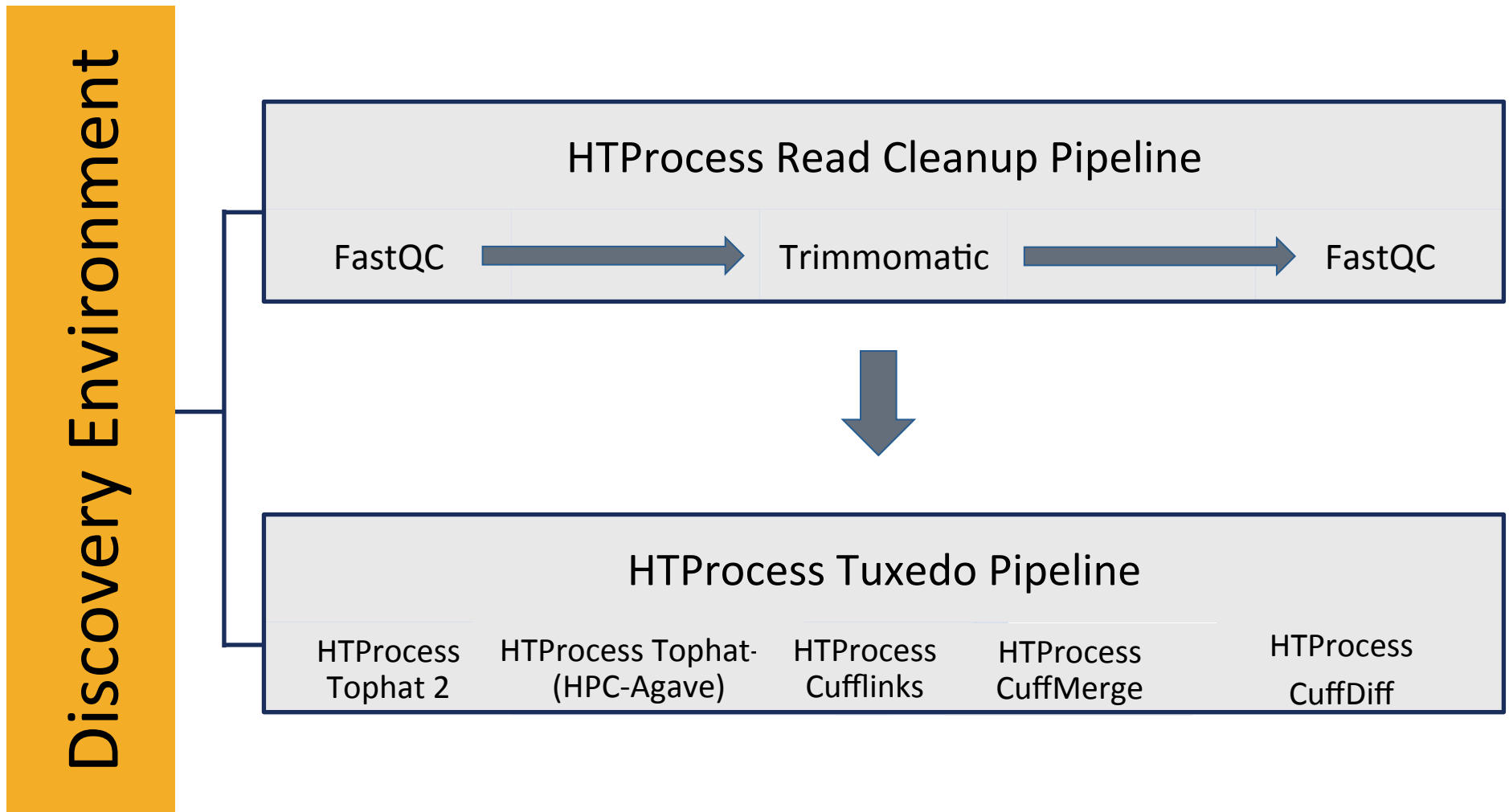
Both

\* New additions



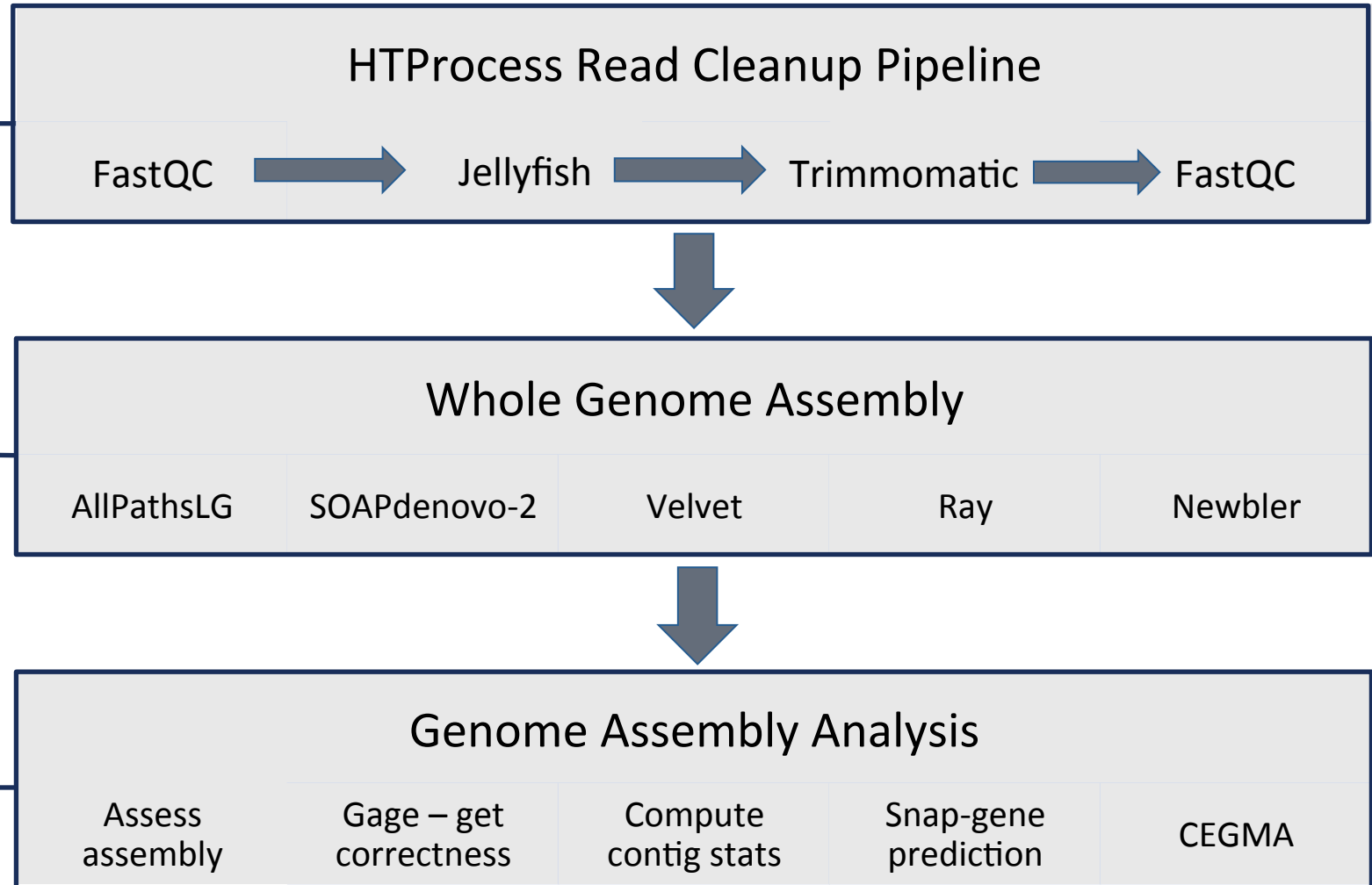
# RNA seq 2: High Throughput Process Apps

For handling large groups of data and easier workflow management. Files are managed as a group or library contained in a single directory.



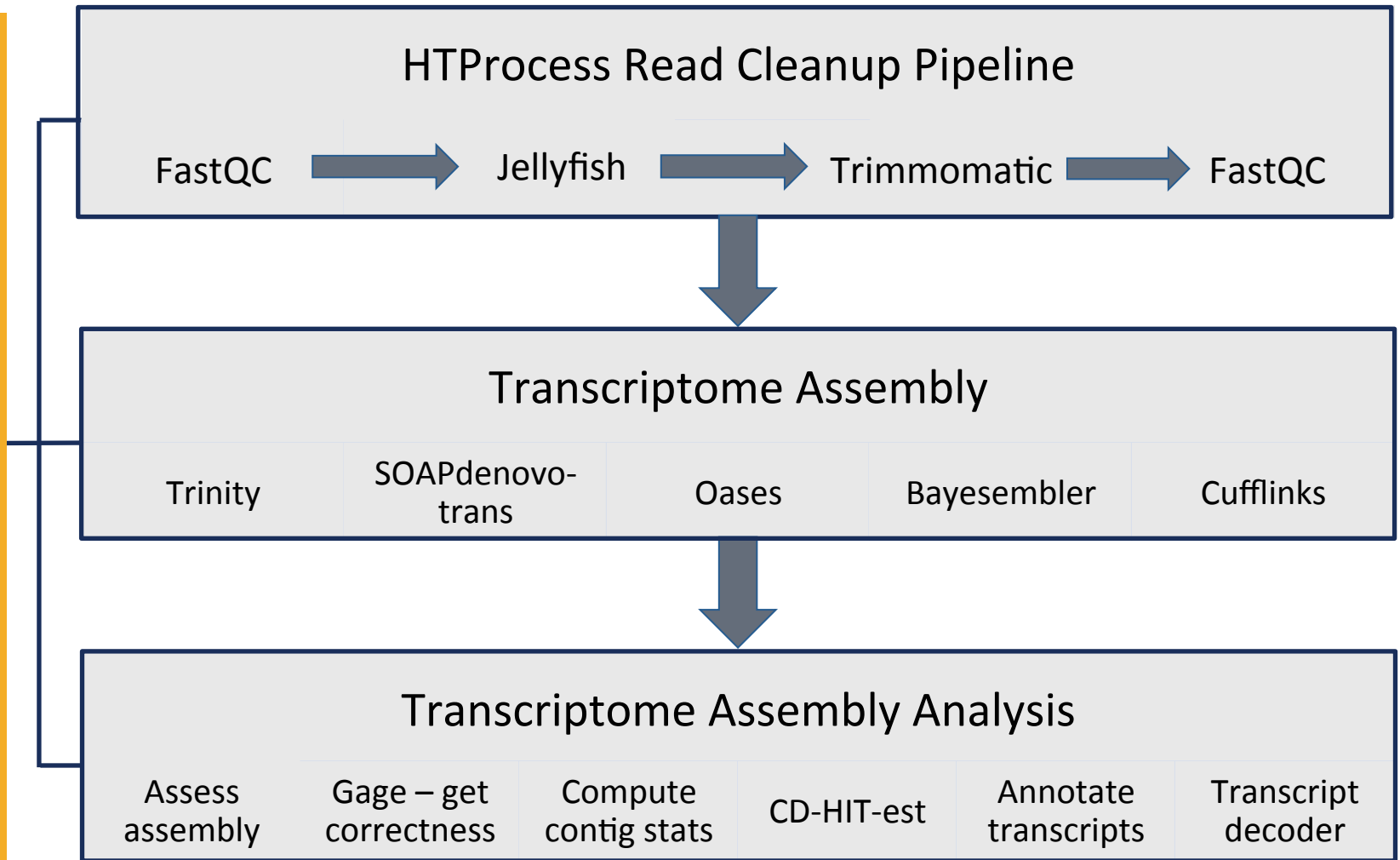
# Genome Assembly

Discovery Environment

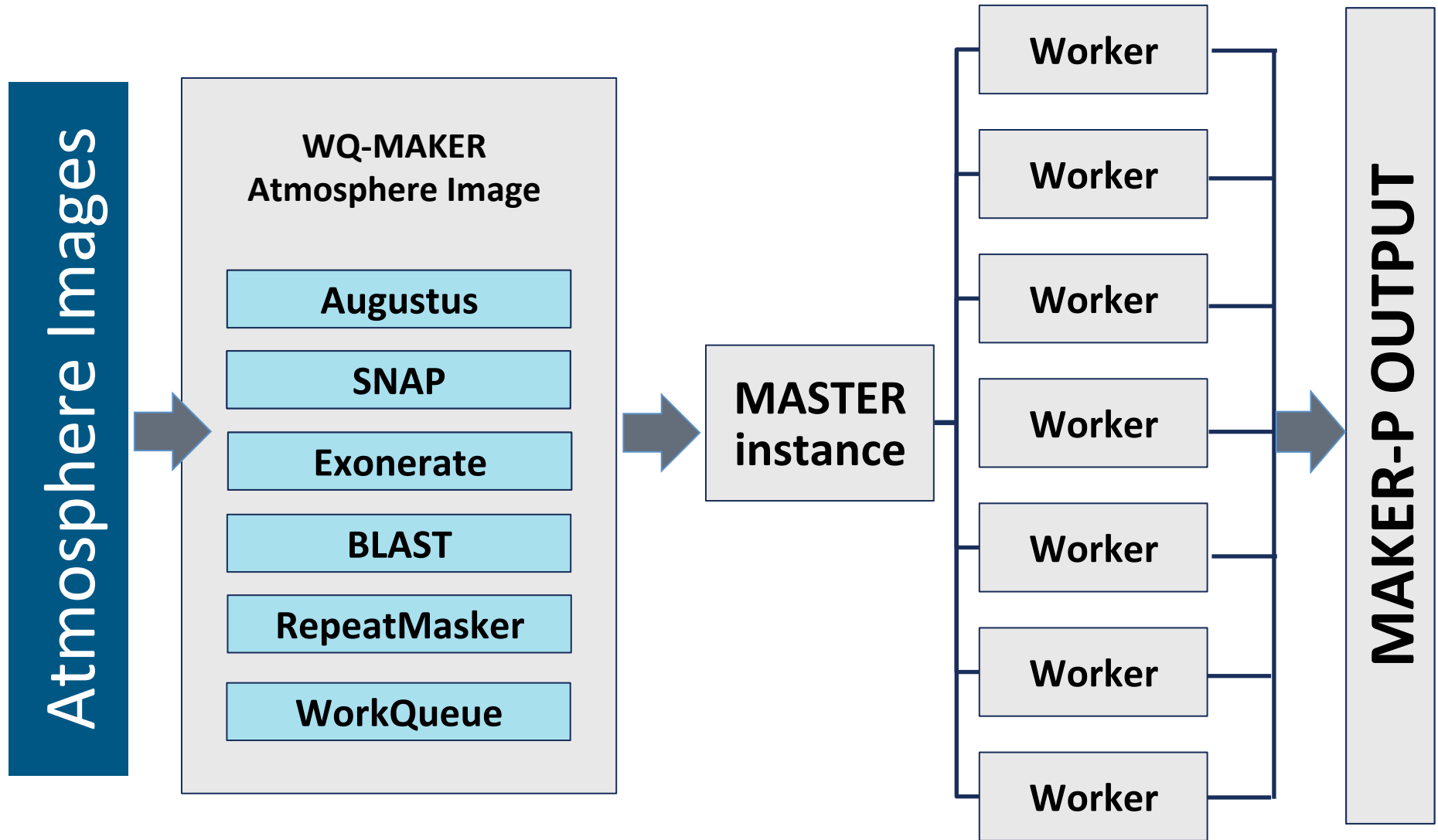


# Transcriptome Assembly

Discovery Environment



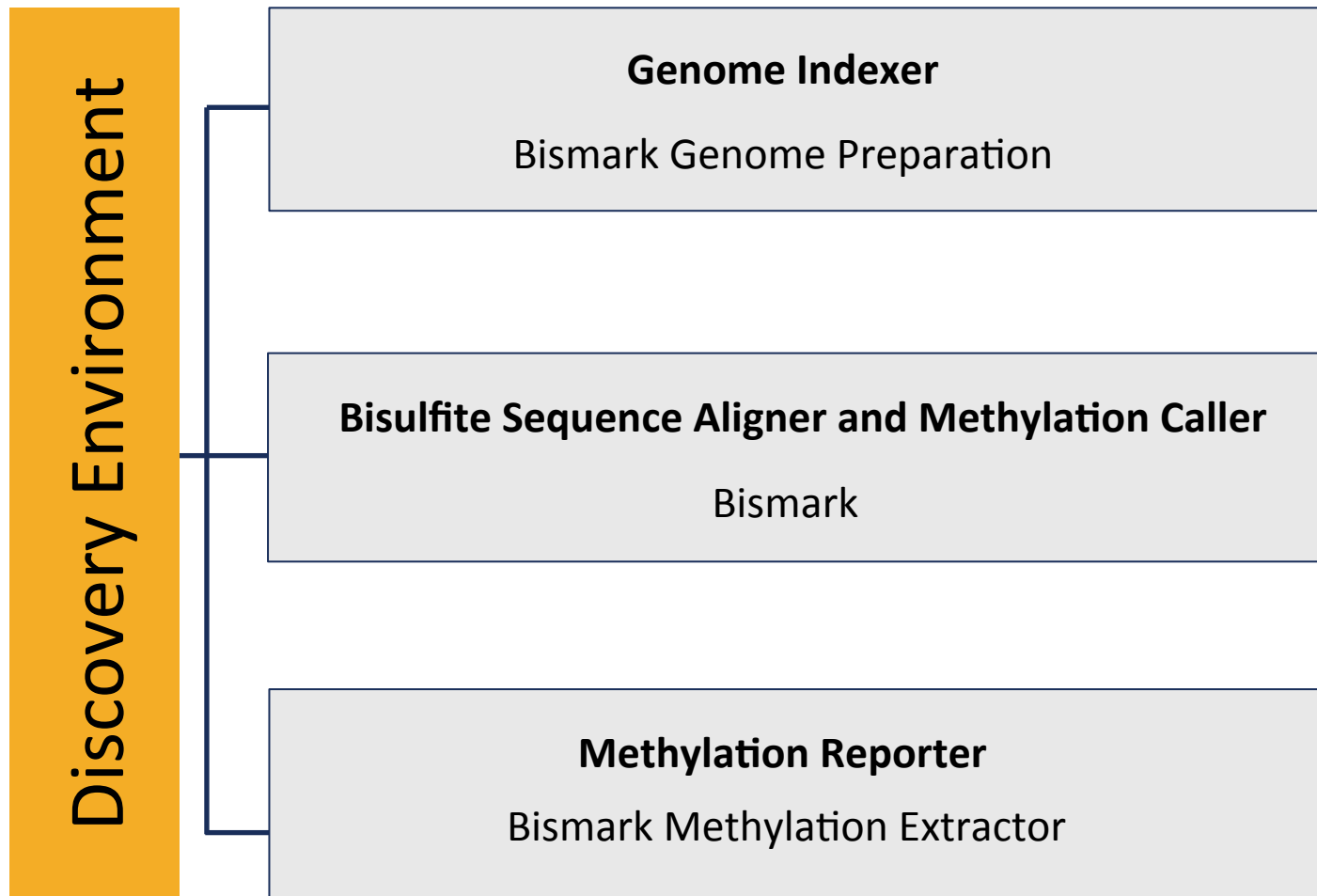
# Genome Annotation: WQ-MAKER in Atmosphere



In collaboration with the Douglas Thain lab (<http://www3.nd.edu/~dthain/>)

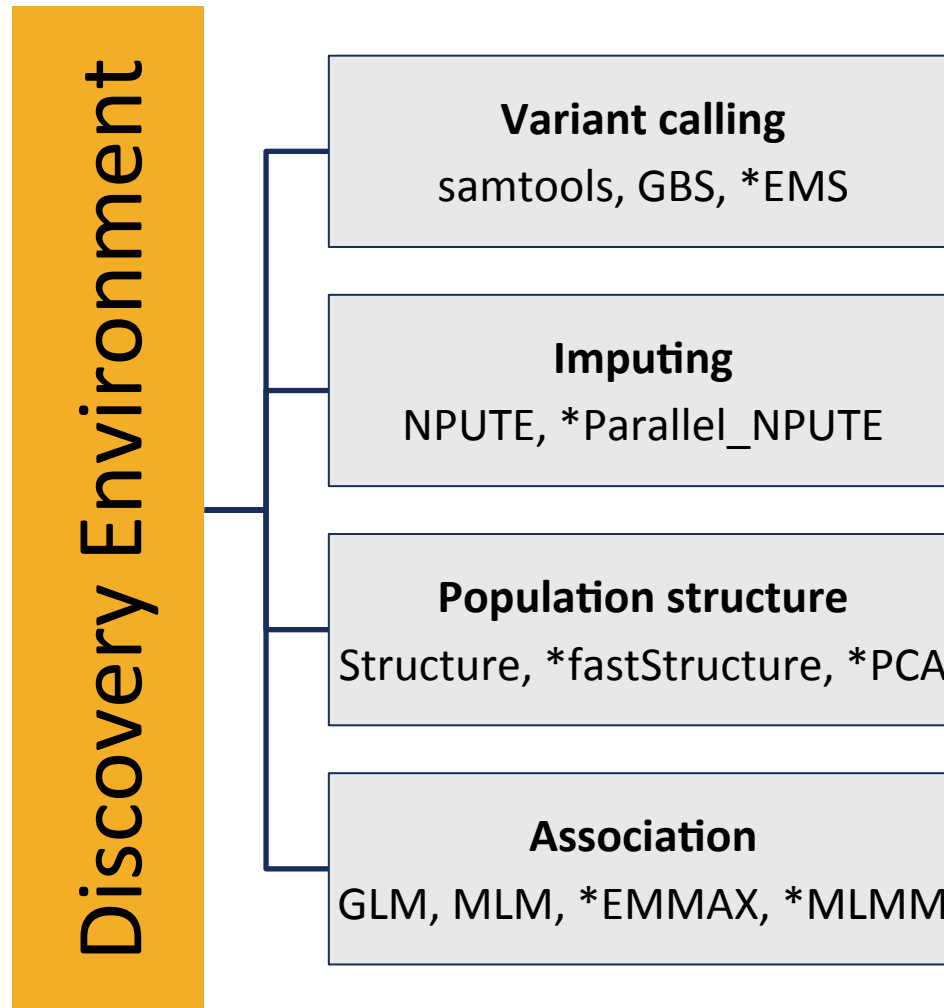


# All New Methylation Analysis





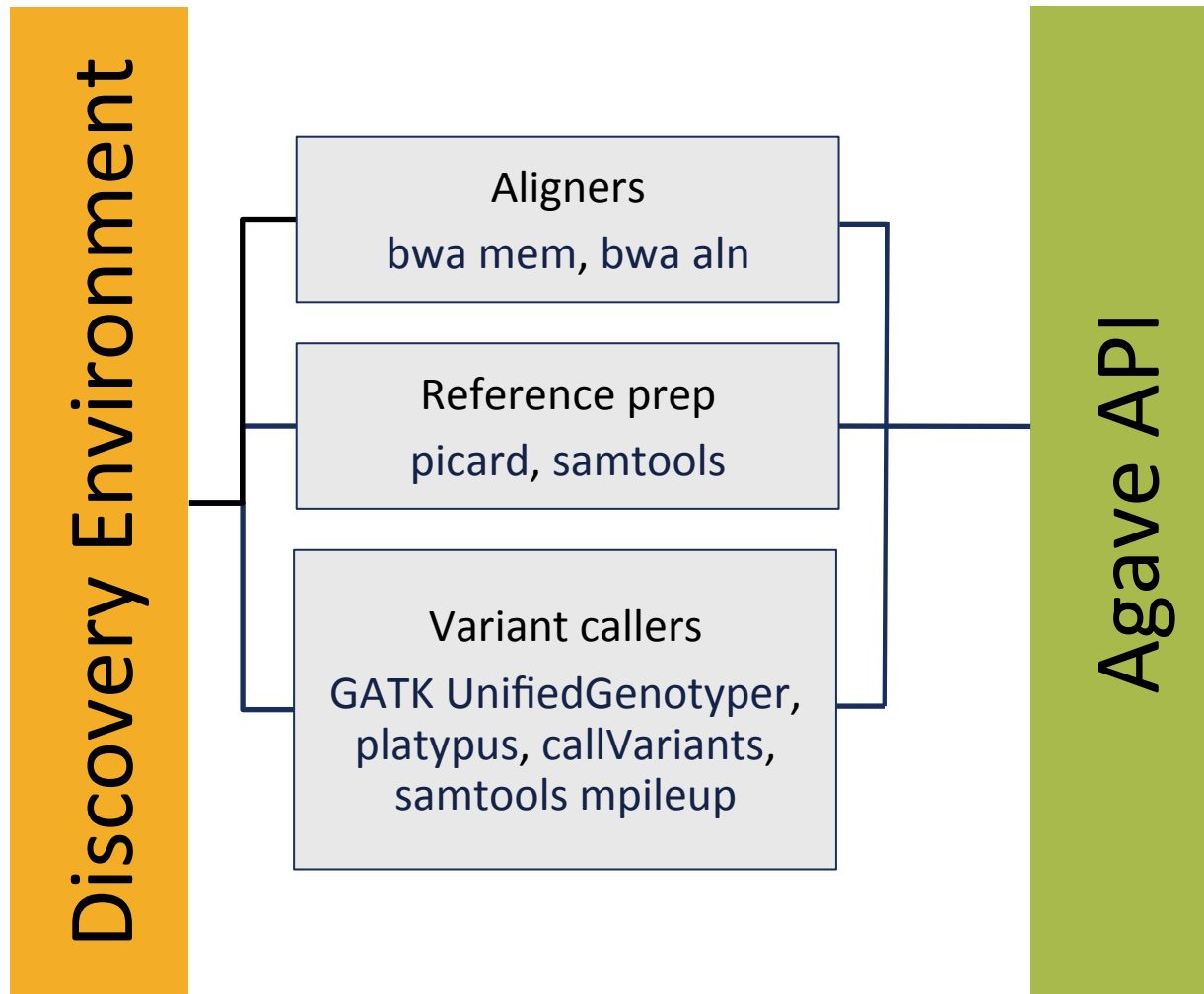
# Association Analysis



\* New additions



# Variant Caller Pipeline

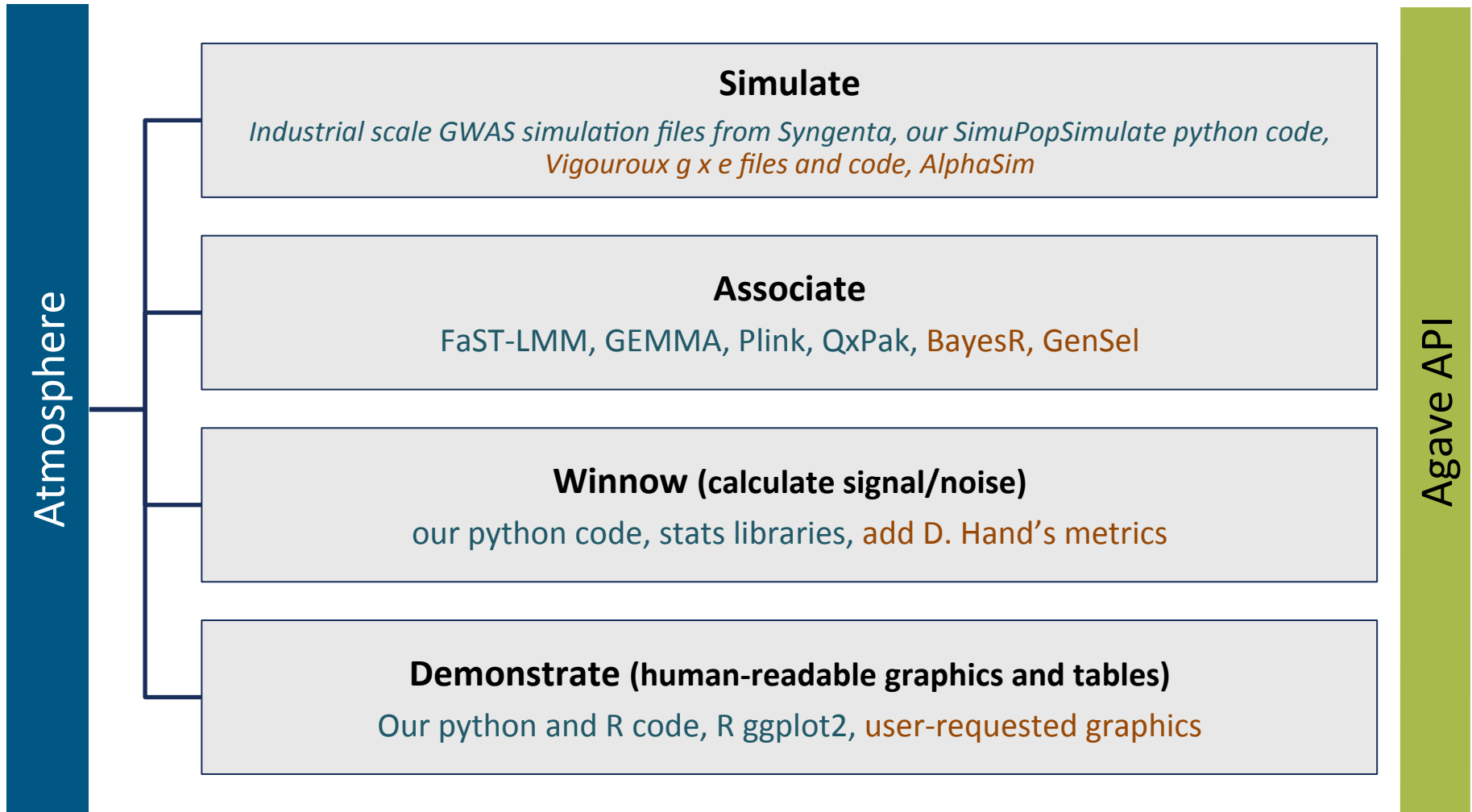


Discovery Environment    Agave API    Both



# Validate Pipeline

-extensible, scalable testing of tool accuracy and precision



v0.9 now

v1.0 prediction support



# Genomics Workflows

## Quick Reference Guide

Workflow	Platform	Limits
Genome Assembly	DE, Agave	--
Transcriptome Assembly	DE, Agave	48 hrs run time max
Genome Annotation WQ-MAKER	Atmo	--
RNA Seq	DE, Atmo	--
HT Process	DE, Agave	150 GB input data max
Methylation Analysis	DE, Agave	--
Association Analysis	DE, Agave	--
Variant Caller	DE, Agave	48 hrs run time max
Validate	Atmo, Agave	--
SRA Submission	DE	--



DE - Discovery Environment  
Atmo - Atmosphere  
Agave - Agave API



# Genomics Workflows

## Quick Reference Guide

Workflow	Platform	Limits	Documentation
Genome Assembly	DE, Agave	--	<a href="#">Documentation and tutorials</a>
Transcriptome Assembly	DE, Agave	48 hrs run time max	<a href="#">Documentation and tutorials</a>
Genome Annotation WQ-MAKER	Atmo	--	<a href="#">Documentation and tutorials</a>
RNA Seq	DE, Atmo	--	<a href="#">Tutorial</a>
HT Process	DE, Agave	150 GB input data max	<a href="#">Documentation</a>
Methylation Analysis	DE, Agave	--	<a href="#">Bismark Genome Preparation</a> <a href="#">Bismark</a> <a href="#">Bismark Methylation Extractor</a>
Association Analysis	DE, Agave	--	<a href="#">Documentation and tutorials</a>
Variant Caller	DE, Agave	48 hrs run time max	<a href="#">Documentation</a>
Validate	Atmo, Agave	--	<a href="#">Documentation</a>
SRA Submission	DE	--	<a href="#">Documentation and tutorial</a>

DE - Discovery Environment  
 Atmo - Atmosphere  
 Agave - Agave API

