

CDAS WPS API v. 1.0

This document describes the WPS API v. 1.0 deployed in the NASA-NCCS-CDS Climate Data Analytic Services (CDAS) framework.

```
http://localhost:9999/wps ?
  version = 1.0.0 &
  embedded = true &
  service = wps &
  request = Execute &
  identifier = cdas &
  datainputs = [
    region = {"longitude": 120.0, "level": 20.0, "latitude" : -40.0};
    operation = {      'kernel':  'time',
                      'type':    'anomalies',
                      'domain':  'annualcycle'  };
    data = { "collection": "MERRA", "id": "t" }
  ]
```

An example WPS service request (utilizing port forwarding to the wps server).

WPS API parameters

Service: Routes the request to the WPS service handler.

Version: Denotes the WPS version.

Embedded: If *Embedded = True* then the analysis result is embedded in the request response in json format. Otherwise the result is saved to disk and an access URL is returned.

Request: WPS request type (*GetCapabilities*, *DescribeProcess*, or *Execute*).

Identifier: Selects the CDAS WPS process.

Datainputs: Inputs (in json format) to the analysis process:

Data: Climate data inputs to the analysis operation. The *id* parameter denotes a variable name and the *collection* parameter denotes a dataset that is described in a serverside configuration file.

Region: Describes the region of interest. Can be 0D, 1D, 2D, or 3D, and can include a grid specification.

Operation: Describes the analysis workflow. The complete syntax of this parameter is yet TBD. In the example the 'kernel' parameter selects the *time* kernel which encapsulates a set of operators for extracting timeseries from datasets. The 'type' and 'domain' parameters select the operation *cdutil.ANNUALCYCLE.departures*.