

MASTER X

M4.8 PAYLOAD MISSION AND APPLICATIONS

TO-DO LIST BEFORE MODULE

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ASIGNATURA: PAYLOADS AND MISSIONS APPLICATIONS (PLMA)



WS2: Browsing Landsat data

1. Install QGIS from <https://qgis.org/download/>
2. Create account in USGS <https://earthexplorer.usgs.gov/>
3. Download any TIF file and open in QGIS.

WS1: Correction of Level-1 data

1. Install Panoply (requires Java) from <https://www.giss.nasa.gov/tools/panoply/download/>
2. Download Anaconda (Python) from <https://www.anaconda.com/download>
Requires user creation.
3. Install netCDF4 package (see following slide)
4. Download notebook and data from https://github.com/lstouc3m/masterx_public
5. Test run l1b Jupyter Notebook

Download anaconda (~1.1Gb)

<https://www.anaconda.com/download>

Choose Your Download

Windows

Mac

Linux

Anaconda Distribution

Complete package with 8,000+ libraries, **Jupyter**, JupyterLab, and Spyder IDE. Everything you need for data science.

↓ [Windows 64-Bit Graphical Installer](#)

Miniconda

Minimal installer with just Python, Conda, and essential dependencies. Install only what you need.

↓ [Windows 64-Bit Graphical Installer](#)


Install netCDF4 package (1/2)

file help


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Installed applicationsONbase (root)Channels




Anaconda Toolbox
4.20.0
Anaconda Assistant
JupyterLab supercharged with a suite of Anaconda extensions, starting with the Anaconda Assistant AI chatbot.
[Launch](#)




Anaconda Cloud Notebooks
Cloud-hosted notebook service from Anaconda. Launch a preconfigured environment with hundreds of packages and store project files with persistent cloud storage.
[Launch](#)




anaconda_powershell_prompt
1.1.0
Opens a PowerShell instance with conda activated (requires menuinst 2.1.1 or greater).
[Launch](#)




anaconda_prompt
1.1.0
Opens a terminal instance with conda activated (requires menuinst 2.1.1 or greater).
[Launch](#)




JupyterLab
4.4.7
An extensible environment for interactive and reproducible computing, based on the Jupyter Notebook and Architecture.
[Launch](#)




Jupyter Notebook
7.4.5
Web-based, interactive computing notebook environment. Edit and run human-readable docs while describing the data analysis.
[Launch](#)




PyCharm Community
2023.2.1
An IDE by JetBrains for pure Python development. Supports code completion, listing, and debugging.
[Launch](#)




Qt Console
5.7.0
PyQt GUI that supports inline figures, proper multiline editing with syntax highlighting, graphical calltips, and more.
[Launch](#)




Spyder
6.1.0
Scientific PYTHON Development Environment. Powerful Python IDE with advanced editing, interactive testing, debugging and introspection features
[Launch](#)




EduBlocks
Web-based coding platform from Anaconda designed for students. Learn Python coding through an interactive, block-based visual environment.
[Launch](#)




watsonx™
IBM watsonx
IBM watsonx is an enterprise-ready AI platform including a data store, model builder, and AI model management and monitoring.
[Launch](#)



ORACLE
Cloud Infrastructure
Oracle Data Science Service
OCI Data Science offers a machine learning platform to build, train, manage, and deploy your machine learning models on the cloud with your favorite open-source tools
[Launch](#)



PyScript
Code and share Python in the Browser. A vibrant community of makers, builders, and hackers building the next frontier of Python-powered web applications.







PythonAnywhere
Host, run, and code Python in the cloud! Get started for free.

Anaconda Quick Start Environments
Jump into pre-configured environments by project or industry. Clean dependencies, faster development
[Launch Your Environment](#)

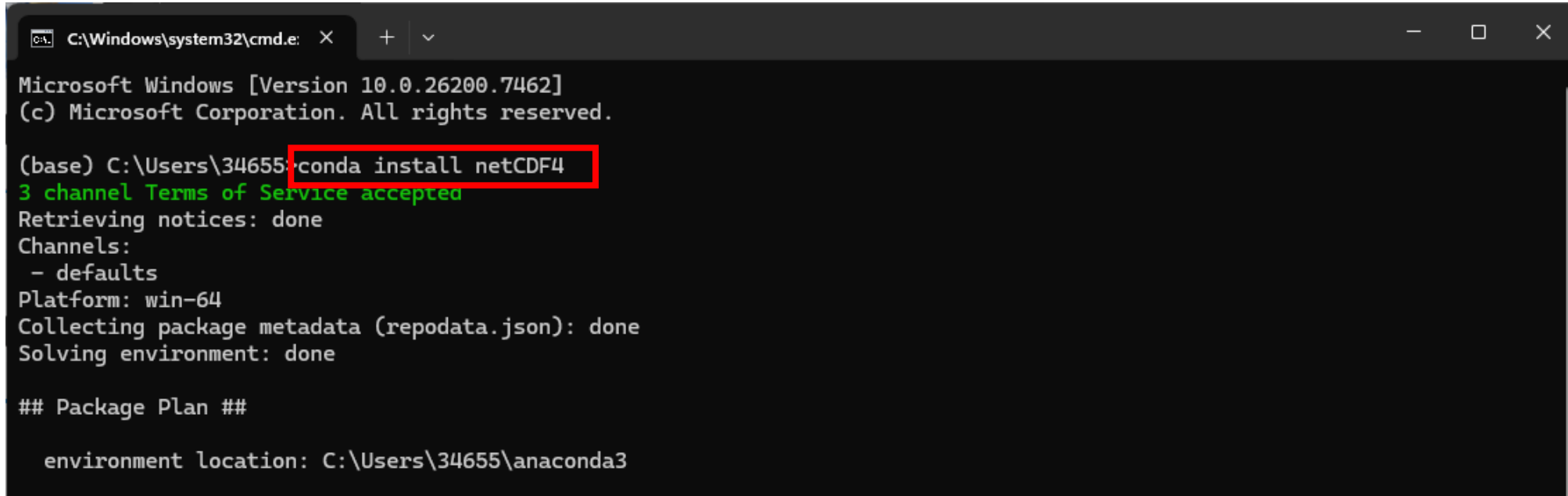
[Documentation](#)

[Anaconda Blog](#)



Install netCDF4 package (2/2)

Run „conda install netCDF4” in the command window



```
C:\Windows\system32\cmd.e: X + v
Microsoft Windows [Version 10.0.26200.7462]
(c) Microsoft Corporation. All rights reserved.

(base) C:\Users\34655>conda install netCDF4
3 channel Terms of Service accepted
Retrieving notices: done
Channels:
- defaults
Platform: win-64
Collecting package metadata (repodata.json): done
Solving environment: done

## Package Plan ##

environment location: C:\Users\34655\anaconda3
```

Download l1b notebook and data

https://github.com/lsotouc3m/masterx_public

Isotouc3m / masterx_public Public

<> Code Issues Pull requests Actions Projects Security Insights

master 1 Branch 0 Tags

Isotouc3m delete file

EODP-TS-L1B delete file

l1b.ipynb Jupyter notebook file

Go to file

<> Code

Clone ?

HTTPS GitHub CLI

`https://github.com/lsotouc3m/masterx_public.git`

Clone using the web URL.

Open with GitHub Desktop

Download ZIP













Launch jupyter notebook (1/3)

File Help

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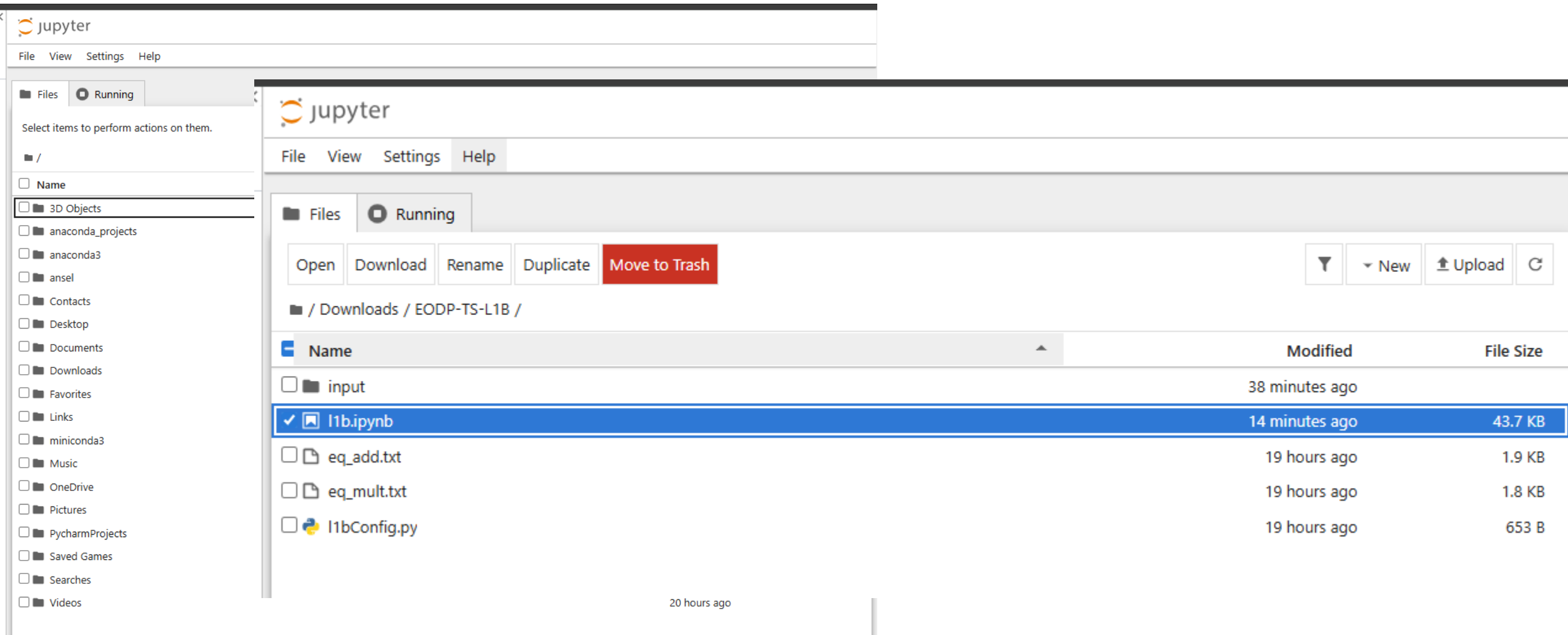
Installed applications on base (root) Channels

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 Qt Console 5.7.0 PyQt GUI that supports inline figures, proper multiline editing with syntax highlighting, graphical calltips, and more. Launch	 Spyder 6.1.0 Scientific PYTHON Development EnviRnment. Powerful Python IDE with advanced editing, interactive testing, debugging and introspection features Launch	 EduBlocks Web-based coding platform from Anaconda designed for students. Learn Python coding through an interactive, block-based visual environment. Launch	 IBM watsonx IBM watsonx is an enterprise-ready AI platform including a data store, model builder, and AI model management and monitoring. Launch	 Oracle Data Science Service OCI Data Science offers a machine learning platform to build, train, manage, and deploy your machine learning models on the cloud with your favorite open-source tools Launch	 PyScript Code and share Python in the Browser. A vibrant community of makers, builders, and hackers building the next frontier of Python-powered web applications. Launch

Anaconda Quick Start

Launch jupyter notebook (2/3)

Navigate in the Files to wherever you have downloaded the l1b notebook and data. Click on „l1b.ipynb” and it will open the notebook in your browser.

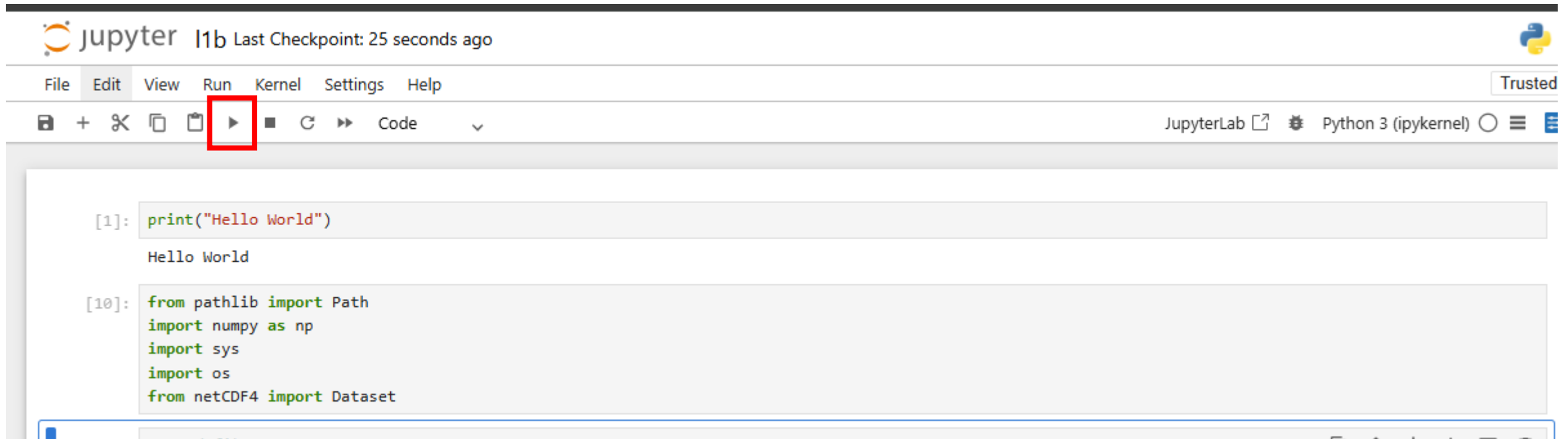


The screenshot displays the JupyterLab interface. On the left, the 'Files' sidebar shows a tree view of the file system. The 'Downloads' folder is expanded, and 'l1b.ipynb' is selected. The main panel on the right shows the contents of the 'Downloads / EODP-TS-L1B' directory. The file 'l1b.ipynb' is highlighted in blue, indicating it is the selected file. The file 'l1b.ipynb' is a Jupyter Notebook file, as indicated by the icon. The file size is 43.7 KB, and it was modified 14 minutes ago. Other files in the directory include 'eq_add.txt' (1.9 KB, modified 19 hours ago), 'eq_mult.txt' (1.8 KB, modified 19 hours ago), and 'l1bConfig.py' (653 B, modified 19 hours ago). The interface also shows a 'Move to Trash' button and a 'New' button.

Name	Modified	File Size
input	38 minutes ago	
✓ l1b.ipynb	14 minutes ago	43.7 KB
eq_add.txt	19 hours ago	1.9 KB
eq_mult.txt	19 hours ago	1.8 KB
l1bConfig.py	19 hours ago	653 B

Launch jupyter notebook (3/3)

Run a hello world and make sure you don't get any errors importing the following packages:



The screenshot displays the JupyterLab interface. At the top, the header shows the Jupyter logo, the text "jupyter", and "l1b Last Checkpoint: 25 seconds ago". Below the header is a menu bar with "File", "Edit", "View", "Run", "Kernel", "Settings", and "Help". A "Trusted" badge is visible on the right. The toolbar below the menu bar contains icons for saving, adding, deleting, and running code. The "Run" button, represented by a right-pointing triangle, is highlighted with a red square. To the right of the toolbar, the text "JupyterLab" and "Python 3 (ipykernel)" are displayed. The main area shows two code cells. The first cell, labeled "[1]:", contains the code `print("Hello World")` and has outputted "Hello World". The second cell, labeled "[10]:", contains the code `from pathlib import Path`, `import numpy as np`, `import sys`, `import os`, and `from netCDF4 import Dataset`.