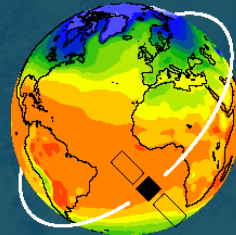


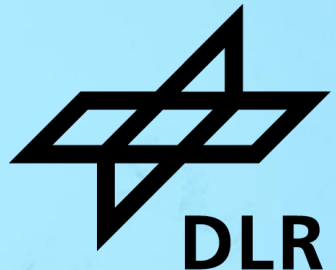
# MORE FLEXIBLE FIX FUNCTIONS

Manuel Schlund



**ESMValTool**

Earth System Model Evaluation Tool



# Fixes – Current Situation



```
find_files(*, **) -> list[Path]
```



```
fix_file(file: Path, *, **) -> Path
```



```
load(path: Path, *, **) -> CubeList
```



```
fix_metadata(cubes: CubeList, *, **) -> Cube
```



```
concatenate(), cmor_check_metadata(), clip_timerange() -> Cube
```



```
fix_data(cube: Cube, *, **) -> Cube
```



# Fixes – Current Situation



```
find_files(*, **) -> list[Path]
```



```
fix_file(file: Path, *, **) -> Path
```



```
load(path: Path, *, **) -> CubeList
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# Fixes – Current Situation



```
find_files(*, **) -> list[Path]
```



```
fix_file(file: Path, *, **) -> Path
```



```
load(path: Path, *, **) -> CubeList
```



```
fix_metadata(cubes: CubeList, *, **) -> Cube
```

## Issues:



- Data needs to be copied in `fix_file` if changes are made
- Data will always be loaded with Iris (load problems, slow, etc.)



```
fix_data(cube: Cube, *, **) -> Cube
```



# Fixes – Proposed Change



```
find_files(*, **) -> list[Path]
```



```
fix_file(file: Path, *, **) -> Path | Cube | CubeList
```



```
load(path: Path | Cube | CubeList, *, **) -> CubeList
```



```
fix_metadata(cubes: CubeList, *, **) -> Cube
```



```
concatenate(), cmor_check_metadata(), clip_timerange() -> Cube
```



```
fix_data(cube: Cube, *, **) -> Cube
```



# Fixes – Proposed Change



```
find_files(*, **) -> list[Path]
```



```
fix_file(file: Path, *, **) -> Path | Cube | CubeList
```



```
load(path: Path | Cube | CubeList, *, **) -> CubeList
```



```
fix_metadata(cube: Cube | CubeList, *, **) -> Cube
```

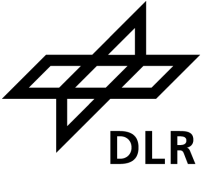
## Advantages:

- Data does not need to be copied in **fix\_file**
- Other packages (e.g., Xarray) can be used to load the data in **fix\_file** (can be easily converted to Iris objects with ncdata)

```
fix_data(cube: Cube, *, **) -> Cube
```



# Fixes – Long-term Solution



- Move our fixes code to separate fixes packages that we just import