METEOROLOGY PANEL

The new SADIS API

SADIS API

The next version of SADIS, the SADIS API is now available.

It will provide access to the following data:

- The new higher resolution WAFS Gridded data
- The new WAFS SIGWX data
- OPMET data sets in TAC (Traditional Alphanumeric Code) and IWXXM formats

The current SADIS FTP will be retired in November 2028.

SADIS API

- An API is an "application programming interface" allows data to be transmitted from a data provider to its users systems.

- The SADIS API complies with the Open Geospatial Consortium Environmental Data Retrieval (OGC-EDR) API standards https://ogcapi.ogc.org/edr/#detailPanel

- The SADIS API adheres to the EUROCONTROL SWIM yellow profile requirements https://www.eurocontrol.int/concept/system-wide-information-management and will be published in the SWIM registry https://eur-registry.swim.aero/services

SADIS API – GRIDDED DATA

Within the API, WAFS gridded data is organised into a series of "collections"

WAFS Gridded Data

EGRR 0.25 windtempgeo	EGRR 1.25 windtempgeo	KWBC 0.25 windtempgeo	KWBC 1.25 windtempgeo
EGRR 0.25 humidity	EGRR 1.25 humidity	KWBC 0.25 humidity	KWBC 1.25 humidity
EGRR 0.25 tropjet	EGRR 1.25 tropjet	KWBC 0.25 tropjet	KWBC 1.25 tropjet
EGRR 0.25 blended ice		KWBC 0.25 blended ice	
EGRR 0.25 blended turb		KWBC 0.25 blended turb	
EGRR 0.25 blended CB		KWBC 0.25 blended CB	

WAFC London Data

WAFC Washington Data

SADIS API – GRIDDED DATA

Within a "collection" you have a choice of data sets that can be downloaded.

WAFS Gridded Data

EGRR 0.25 windtempgeo
EGRR 0.25 humidity
EGRR 0.25 tropjet
EGRR 0.25 blended ice
EGRR 0.25 blended turb
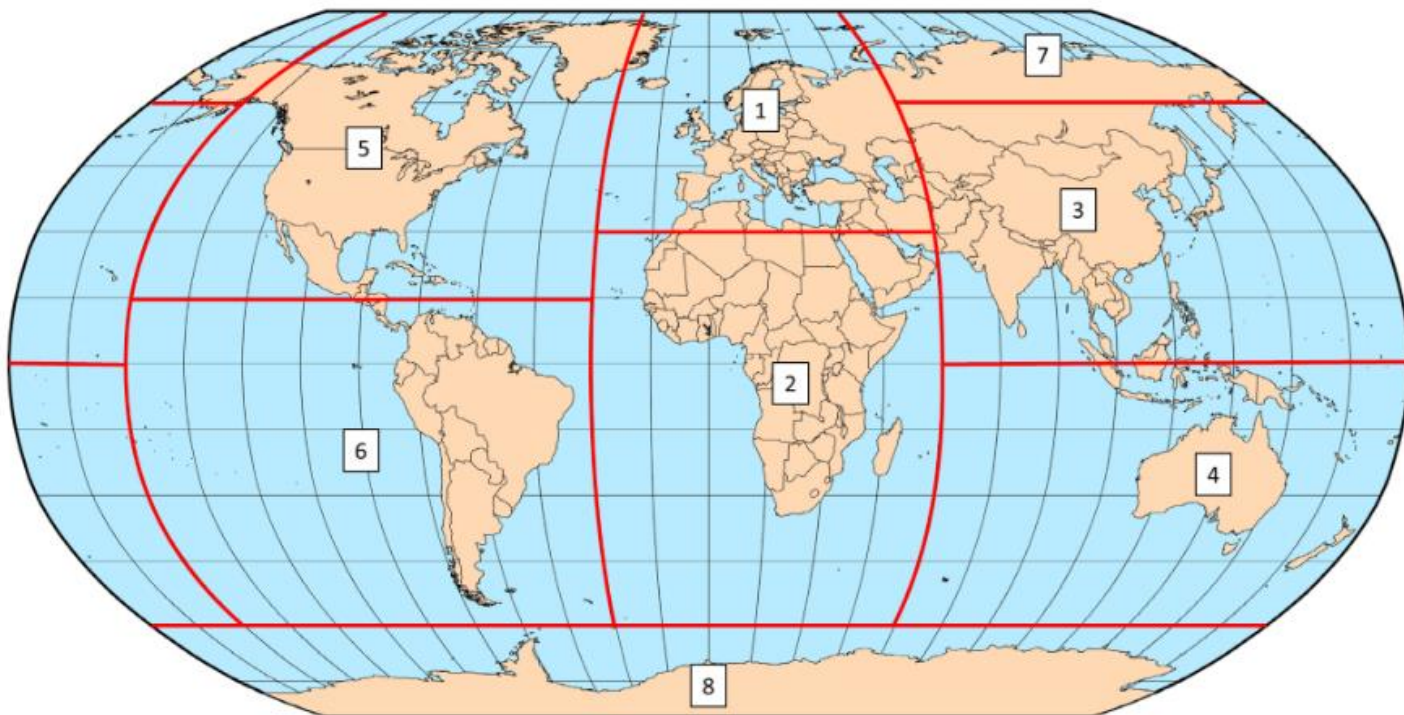EGRR 0.25 blended CB

U and V Wind components
Temperature
Geopotential Altitude

Lots of individual data files grouped by forecast timestep and region.
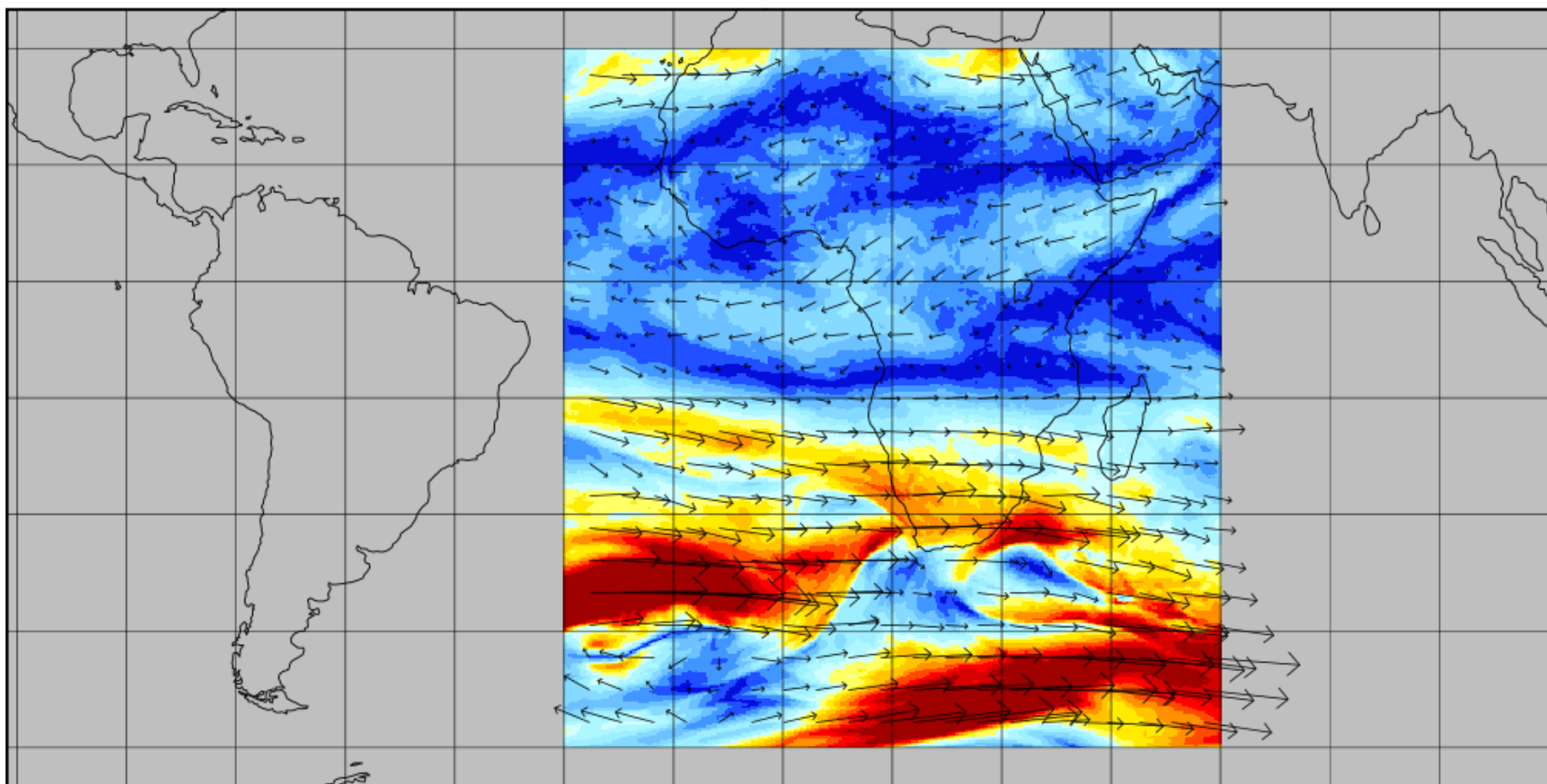
SADIS API – GRIDDED DATA

For the 0.25 degree gridded data sets you will be able to choose whether to download a data set with global coverage, or one of these tiles
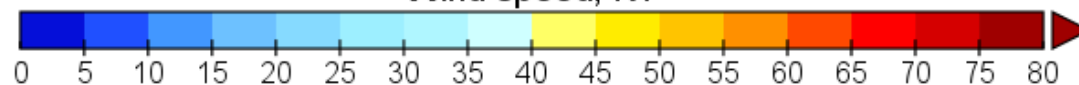

Pre-set map areas	
Region 1	30W-60E, 30N-90N
Region 2	30W-60E, 60S-30N
Region 3	60E-150W, 0-60N
Region 4	150W-30W, 60S-0
Region 5	150W-30W, 15N-90N
Region 6	150W-30W, 60S-15N
Region 7	60E-150W, 60N-90N
Region 8	180W-180E, 90S-60S

Wind at FL250

Wind speed, KT

SADIS API – GRIDDED DATA

- Data is organised into three timestep "packages". E.g. T+6, T+7 and T+8. Or T+72, T+78, T+84

- You will get all available vertical levels.

- Data will only be available from the most recent model run.

SADIS API - SIGWX

Within the API, SIGWX data is organised into a series of "collections"

WAFS SIGWX Data

EGRR IWXXM Forecasts
EGRR Global Charts
EGRR North Polar Charts
EGRR South Polar charts

WAFC London Data

KKCI IWXXM Forecasts
KKCI Global Charts
KKCI North Polar Charts
KKCI South Polar charts

WAFC Washington Data

• Data will only be available from the most recent model run.

SADIS API - SIGWX

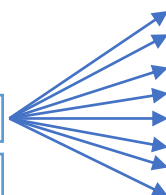Within a "collection" you have a choice of data sets that can be downloaded.

WAFS SIGWX Data

EGRR IWXXM Forecasts
EGRR Global Charts
EGRR North Polar Charts
EGRR South Polar charts

Lots of individual data files grouped by forecast timestep

Note: the charts are not for use as briefing charts. They are provided so that you can make sure your system is representing the data properly.

SADIS API - OPMET

Within the API, OPMET data is organised into a series of "collections"

OPMET Data

TAC OPMET Reports
IWXXM OPMET Reports
TAC Advisory Reports
IWXXM Advisory Reports
Graphical Reports
Notices

OPMET Report types:
METAR, SPECI, TAF, AIRMET, SIGMET GAMET*, Special AIREP*

Advisory Report types:
Volcanic Ash, Tropical Cyclone and Space Weather Advisories, VA NOTAM/ASHTAM* and Nuclear Emergency messages*

Graphical Reports:
Volcanic Ash Graphics and Tropical Cyclone Graphics

* Indicates this is not available in IWXXM format

SADIS API

Within the API, OPMET data is organised into a series of "collections"

OPMET Data

TAC OPMET Reports

IWXXM OPMET Reports

TAC Advisory Reports

IWXXM Advisory Reports

Graphical Reports

Notices

- New data is published every 5 minutes (30 minutes for Notices)
- 36 hours worth of data will be available
- The OPMET reports collection will provide regional data sets as well as a global version.

* Indicates this is not available in IWXXM format

HOW WILL THE API WORK

- Access to the SADIS is controlled with authentication tokens. You will get these during the SADIS API set up process.

- All the information regarding what data is available on the API is contained within the API itself, including collection names and content, when the data is valid for, and the names of all the available data files.

HOW WILL THE API WORK

Collection name

To get the data you make a request like this

https://xxxxx.api.metoffice.gov.uk/collections/egrr_wafs_windtempgeo_0p25/items/YUVDYA2015_017FLALL

This is the unique ID for the data set:
Y = WAFS GRIB
UV = u and v wind
D = Deterministic
Y = 0.25 horizontal resolution
A2 = tile area 2
015-017 = forecast timesteps
FLALL = all flight levels.

Note: requests made using a command-line tool (e.g. cURL or Python) will send your authentication data with the request so the SADIS API knows if you are an authorised user.

DEMONSTRATION

I will show you how I can use the API on a manual basis using "Postman".

In reality you would programme your system with a command-line tool to make a series of requests according to a schedule, where it checks to see if new data is available before it runs a set of rules/commands to get all the data you require.

What you need to do next:

1) Get registered for the SADIS API, and start looking to set up your systems to ingest the data.

2) If your own software is used to visualise SIGWX data, start downloading the test IWXXM data sets and setting your system up to display them.

3) If someone else supplies your visualisation software – make them aware that the new SIGWX data is available, and ask for the software to be upgraded to be able to display it.

More SADIS API information:
https://www.metoffice.gov.uk/services/transport/aviation/regulated/sadis/info/sadis-api

To register for the SADIS API please e-mail SADISmanager@metoffice.gov.uk

Thank you for listening.