# Definition of Internet Media Types for WMO data

## Background

It is expected that the WIS will make more on more use of Internet protocols, in particular the Hypertext Transfer Protocol (HTTP). This is already the case when GISCs and DCPCs provide download facilities directly for their WIS portals.

The HTTP protocol specifies that, when returning the content of a resource (e.g. a file) following a GET or POST operation, the **Content-Type** HTTP header of the reply must specify the “Internet media type” of said resource (also previously known as MIME type ).

The concept of media type was introduced by RFC2046, and a typical name is a string in the shape *type/subtype*. Common types are:

* text/plain for plain text,
* text/html for HTML pages,
* image/png for PNG images,
* application/pdf for PDF documents,
* …

One of the main usages of these content types is to tell a web browser how to handle the downloaded data, e.g. show it in a new browser window, download it to disk, or start an external application (for example start acrobat reader when downloading a PDF document).

A typical web server with provide GRIB and BUFR using the content type **application/octet-stream**, which is the default for unknown binary data. One can configure a web server to return, for example, **application/x-grib** and **application/x-bufr** for GRIB and BUFR data respectively, allowing the user to specify which application to start when downloading such data, for example an application able to plot GRIB fields.

With the development of more and more web-based services, such as OGC compliant services, the use of media types will become more spread.

The NetCDF community already uses **application/netcdf** and **application/x-netcdf** as media types.

ECMWF serves its data using the media types **application/x-grib** and **application/x-bufr.**

The **x-** prefix was a way to defined non-standard media types, but this practice has been deprecated by RFC6648, and a procedure to register new media types is outlined by RFC4288.

RFC4288 would recommend media types such as **application/vnd.wmo.grib**, with vnd meaning “vendor”. The standard also makes a subtle difference between “media type” and “encoding”, so the work of the IPET-DRC to encode BUFR data in other format such as XML must be considered carefully.

## Proposal

It is proposed that WMO initiates a discussion within its expert teams in order to define media types for all WMO data formats, and register them according to the procedure defined in RFC4288.