MAT file Metadata structure - Complex

Meta: a structure array containing the following metadata fields:

- deviceID: A unique identifier to represent the instrument within the Ocean Networks Canada data management and archiving system.
- creationDate:Date and time (using ISO8601 format) that the data product was produced. This is a valuable indicator for comparing to other revisions of the same data product.
- deviceName: A name given to the instrument.
- deviceCode: A unique string for the instrument which is used to generate data product filenames.
- deviceCategory: Device category to list under data search ('Echosounder').
- deviceCategoryCode: Code representing the device category. Used for accessing webservices, as described here: API / webservice documentation (log in to see this link).
- lat: Fixed value obtained at time of deployment. Will be NaN if mobile or if both site latitude and device offset are null. If mobile, sensor information will be available in mobilePositionSensor structure..
- lon: Fixed value obtained at time of deployment. Will be NaN if mobile or if both site longitude and device offset are null. If mobile, sensor information will be available in mobilePositionSensor structure.
- depth: Fixed value obtained at time of deployment. Will be NaN if mobile or if both site depth and device offset are null. If mobile, sensor information will be available in mobilePositionSensor structure.
- deviceHeading: Fixed value obtained at time of deployment. Will be NaN if mobile or if both site heading and device offset are null. If mobile, sensor information will be available in mobilePositionSensor structure.
- devicePitch: Fixed value obtained at time of deployment. Will be NaN if mobile or if both site pitch and device offset are null. If mobile, sensor information will be available in mobilePositionSensor structure.
- deviceRoll: Fixed value obtained at time of deployment. Will be NaN if mobile or if both site roll and device offset are null. If mobile, sensor information will be available in mobilePositionSensor structure.
- siteName: Name corresponding to its latitude, longitude, depth position.
- stationCode: Code representing the station or site. Used for accessing webservices, as described here: API / webservice documentation (log in to see this link).
- locationName: The node of the Ocean Networks Canada observatory. Each location contains many sites.
- dataQualityComments: In some cases, there are particular quality-related issues that are mentioned here. This is distinct from QAQC information contained in the data structure.
- MobilePositionSensor.name: A cell array of sensor names for mobile position sensors. If not a mobile device, this will be an empty cell string.
- MobilePositionSensor.sensorID: An array of unique identifiers of sensors that provide position data for mobile devices - this data may be used in this data product.
- MobilePositionSensor.deviceID: An array of unique identifiers of sensors that provide position data for mobile devices - this data may be used in this data product.
- MobilePositionSensor.dateFrom: An array of datenums denoting the range of applicability of each mobile position sensor - this data may be used in this data product.
- MobilePositionSensor.dateTo: An array of datenums denoting the range of applicability of each mobile position sensor - this data may be used in this data product.
- MobilePositionSensor.typeName: A cell array of sensor names for mobile position sensors. If not a mobile device, this will be an empty cell string. One of: Latitude, Longitude, Depth, COMPASS_SENSOR, Pitch, Roll.
- MobilePositionSensor.offset: An array of offsets between the mobile position sensors' values and the position of the device (for instance, if cabled profiler has a depth sensor that is 1.2 m above the device, the offset will be -1.2m).
- MobilePositionSensor.sensorTypeID: An array of unique identifiers for the sensor type.
- MobilePositionSensor.correctedSensorID: An array of unique identifiers of sensors that provide corrected mobile positioning data. This is generally used for profiling deployments where the latency is corrected for: CTD casts primarily.
- deploymentDateFrom: The date of the deployment on which the data was acquired.
- deploymentDateTo: The date of the end of the deployment on which the data was acquired (may be omitted if still deployed).
- samplingPeriod: Sampling rate of the instrument in seconds (maybe omitted on some devices that have no scalar sensors).
- samplingPeriodDateFrom: matlab datenum of the start of the corresponding sample period (maybe omitted on some devices that have no scalar sensors).
- samplingPeriodDateTo: matlab datenum of the end of the corresponding sample period (maybe omitted on some devices that have no scalar sensors).
- searchID: unique number tracking this search request (not normally included).
- Attribution: A structure array with Attribution information, ordered by importance and date. For internal users, go to the Network Console to configure the attributions. If an organization has more than one role it will be collated. If there are gaps in the date ranges, they are filled in with the default Ocean Networks Canada citation. If the "Attribution Required?" field is set to "No" on the Network Console then the citation will not appear. For data products with a attribution (except MAT files) and for users making products from a MAT file, if the special attribution is blank /null, then the company default attribution will be used and if it is also blank/null, then the final attribution will consist of the organization name and role: "Ocean Networks Canada (Owner, Collaborator)". Here are the fields:
    - acknowledgement: the acknowledgement text, note that if the special acknowledgement blank/null, the default acknowledgement is used.
    - startDate: datenum format
    - endDate: datenum format
    - organizationName
    - organizationRole

Variables - Meta

Meta ×	Meta.MobilePositionSensor ×	Meta.Attribution ×

1x1 struct with 20 fields

Field ▲	Value	Size	Class	Min	Max	Mean
deviceID	23939	1x1	double	23939	23939	23939
creationDate	'20180730T183813Z in QA'	1x22	char			
deviceName	'JASCO M36-V35-100 Hydrophone B000904'	1x36	char			
deviceCode	'JASCOAMARHYDROPHONEB000904'	1x26	char			
deviceCategory	'Hydrophone'	1x10	char			
deviceCategoryCode	'HYDROPHONE'	1x10	char			
lat	49.0432	1x1	double	49.0432	49.0432	49.0432
lon	-123.3177	1x1	double	-123.3177	-123.3177	-123.3177
depth	166	1x1	double	166	166	166
deviceHeading	141	1x1	double	141	141	141
devicePitch	NaN	1x1	double	NaN	NaN	NaN
deviceRoll	NaN	1x1	double	NaN	NaN	NaN
siteName	'SoGEast_JascoAMARArray_ULS3_2016-10'	1x35	char			
locationName	'Strait of Georgia East Node'	1x27	char			
stationCode	'ECHO2.H3'	1x8	char			
dataQualityComments	''	0x0	char			
MobilePositionSensor	1x1 struct	1x1	struct			
deploymentDateFrom	7.3661e+05	1x1	double	7.3661e+05	7.3661e+05	7.3661e+05
deploymentDateTo	7.3700e+05	1x1	double	7.3700e+05	7.3700e+05	7.3700e+05
Attribution	1x1 struct	1x1	struct			

Variables - Meta.MobilePositionSensor

Meta ×	Meta.MobilePositionSensor ×	Meta.Attribution ×

1x1 struct with 10 fields

Field ▲	Value	Size	Class	Min	Max	Mean
name	1x1 cell	1x1	cell			
sensorID	NaN	1x1	double	NaN	NaN	NaN
deviceID	NaN	1x1	double	NaN	NaN	NaN
dateFrom	NaN	1x1	double	NaN	NaN	NaN
dateTo	NaN	1x1	double	NaN	NaN	NaN
typeName	1x1 cell	1x1	cell			
offset	NaN	1x1	double	NaN	NaN	NaN
units	1x1 cell	1x1	cell			
sensorTypeID	NaN	1x1	double	NaN	NaN	NaN
correctedSensorID	NaN	1x1	double	NaN	NaN	NaN

Variables - Meta.Attribution

Meta ×	Meta.MobilePositionSensor ×	Meta.Attribution ×

1x1 struct with 5 fields

Field ▲	Value	Size	Class	Min	Max	Mean
acknowledgement	''	0x0	char			
startDate	[]	0x0	double			
endDate	[]	0x0	double			
organizationName	'JASCO Applied Sciences'	1x22	char			
organizationRole	'Contributor'	1x11	char			