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1 <?xml version="1.0" encoding="UTF-8"?>
2 <!-- version 1.0 of C3Grid ISO 19139 based xml template
3 (S. Kindermann, M. Stockhause, H. Ramthun)
4
5 version: 1.0 /      date: 30.1.2007
6
7 used ISO schema: official www.isotc211.org/2005/gmd standardized schema
8 C3Grid uses WIS keyword catalogues: http://wis.wmo.int/2006/catalogues
9 see also C3Grid Metadata Profile Description and WMO Core Metadata Profile Description (Version 0.3)
10 -->
11 <MD_Metadata id="de.orgname.localid"
12 xmlns="http://www.isotc211.org/2005/gmd"
13 xmlns:iso="http://www.isotc211.org/2005/gmd"
14 xmlns:gco="http://www.isotc211.org/2005/gco"
15 xmlns:gml="http://www.opengis.net/gml"
16 xmlns:xlink="http://www.w3.org/1999/xlink"
17 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
18 xsi:schemaLocation="http://www.isotc211.org/2005/gmd http://www.isotc211.org/2005/gmd/metadataEntity.xsd">
19
20 <fileIdentifier>
21 <!-- Identifier of the metadata (not the referenced data !)
22 e.g. Experiment ID for experiment (collection) level and dataset ID for dataset level
23 see also usage of "series" tag -
24 -->
25 <gco:CharacterString>de.dataprovider.localid</gco:CharacterString>
26 </fileIdentifier>
27 <!--language and character set tags optional - given by xml context !-->
28 <parentIdentifier>
29 <gco:CharacterString>
30 optional - Identifier of parent metadata set (used for
31 dataset to collection (e.g. experiment) reference) if
32 omitted: dataset level
33 </gco:CharacterString>
34 </parentIdentifier>
35 <hierarchyLevel>
36 <!-- optional - for collection metadata: "series" (e.g. experiment, model run level), "dataset" for dataset level
37 attention: "series" ISO tag can be used to specify additional aggregation info
38 -->
39 <MD_ScopeCode codeListValue="series"
40 codeList="http://wis.wmo.int/2006/catalogues/gmxCodeLists.xml#MD_ScopeCode">
41 </MD_ScopeCode>
42 </hierarchyLevel>
43 <hierarchyLevelName>
44 <!-- name used to characterize the hierarchylevel e.g. IPCC experiment, IPCC dataset etc.
45 e.g. C3Grid:dataset, C3Grid:collection_name, ... can be used in portal to structure search ...-->
46 <gco:CharacterString>
47 Context:LevelName:AdditionalInfo
48 </gco:CharacterString>
49 </hierarchyLevelName>
50 <contact>
51 <!-- general contacts for meta data provider, no specific c3 conventions -->
52 <CI_ResponsibleParty>
53 <iso:individualName>
54 <gco:CharacterString>
55 gco:CharacterString
56 </gco:CharacterString></iso:individualName>
57 <organisationName>
58 <gco:CharacterString>
59 WDC, DWD, etc...
60 </gco:CharacterString>
61 </organisationName>
62 <contactInfo>
63 <CI_Contact>
64 <address>
65 <CI_Address>
66 <electronicMailAddress>
67 <gco:CharacterString>
68 data@dataprovider.de
69 </gco:CharacterString>
70 </electronicMailAddress>
71 </CI_Address>
72 </address>
73 <onlineResource>
74 <CI_OnlineResource>
75 <linkage>
76 <URL>http://dataprovider.de</URL>
77 </linkage>
78 <iso:function>
79 <iso:CI_OnlineFunctionCode
80 codeList="http://wis.wmo.int/2006/catalogues/gmxCodeLists.xml#CI_OnlineFunctionCode"
81 codeListValue="information">information</iso:CI_OnlineFunctionCode></iso:function>
82 </CI_OnlineResource>
83 </onlineResource>
84 </CI_Contact>
85 </contactInfo>
86 <role>
87 <CI_RoleCode
88 codeListValue="distributor, originator, etc. ...."
89 codeList="http://wis.wmo.int/2006/catalogues/gmxCodeLists.xml#CI_RoleCode">
90 distributor
91 </CI_RoleCode>

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92     </role>
93   </CI_ResponsibleParty>
94 </contact>
95 <dateStamp>
96   <!-- date stamp of metadata, use gco:DateTime or gco:Date -->
97   <gco:DateTime>2000-01-01T00:00:00</gco:DateTime>
98 </dateStamp>
99 <metadataStandardName>
100   <gco:CharacterString>ISO 19115</gco:CharacterString>
101 </metadataStandardName>
102 <metadataStandardVersion>
103   <gco:CharacterString>ISO 19139 / C3Grid Profile V1.0 </gco:CharacterString>
104 </metadataStandardVersion>
105 <dataSetURI>
106   <gco:CharacterString>
107     optional - reference to dataset metadata/info at data
108     provider, not interpreted in context of C3Grid (distributionInfo tags used)
109   </gco:CharacterString>
110 </dataSetURI>
111
112 <locale>
113   <!-- locale is optional, but recommended for international metadata publication e.g.: -->
114   <PT_Locale id="de">
115     <languageCode>
116       <LanguageCode
117         codeList="http://wis.wmo.int/2006/catalogues/ML_gmxCodeLists.xml#LanguageCode"
118         codeListValue="de">
119         de
120       </LanguageCode>
121     </languageCode>
122     <country>
123       <Country
124         codeList="http://wis.wmo.int/2006/catalogues/ML_gmxCodeLists.xml#Country"
125         codeListValue="Germany">
126         Germany
127       </Country>
128     </country>
129     <characterEncoding>
130       <MD_CharacterSetCode
131         codeList="http://wis.wmo.int/2006/catalogues/ML_gmxCodeLists.xml#MD_CharacterSetCode"
132         codeListValue="8859part1">
133         8859part1
134       </MD_CharacterSetCode>
135     </characterEncoding>
136   </PT_Locale>
137 </locale>
138
139 <referenceSystemInfo>
140   <!-- info on Reference System (RS), optional, not used in version 0.x to 1.0 of C3Grid -->
141   <MD_ReferenceSystem>
142     <referenceSystemIdentifier>
143       <RS_Identifier>
144         <code>
145           <gco:CharacterString>
146             CRS:Cartesian, Gaussian, Spectral, Hybrid ..
147             (. . here C3 conventions !?)
148           </gco:CharacterString>
149         </code>
150         <codeSpace>
151           <gco:CharacterString>
152             naming convention used for coord. system
153             definition etc. - optional -
154           </gco:CharacterString>
155         </codeSpace>
156       </RS_Identifier>
157     </referenceSystemIdentifier>
158   </MD_ReferenceSystem>
159 </referenceSystemInfo><!--===== Identification Info Section =====-->
160
161 <identificationInfo>
162   <!-- info defining "identity card" of described data, the detail of filling these iso tags and the choice of optional tags is up to the responsibility of the d
163   provider -->
164   <MD_DataIdentification>
165     <citation>
166       <!-- information on how the described data is cited -->
167       <CI_Citation id="experiment.cite1">
168         <title>
169           <gco:CharacterString>
170             generic Title
171           </gco:CharacterString>
172         </title>
173         <alternateTitle>
174           <gco:CharacterString>
175             more specific Title / instead of
176             "Characterstring" "ISSN" etc. can be used
177             includes short notice of processing done for
178             C3-processed data
179           </gco:CharacterString>
180         </alternateTitle>
181         <date>
182         <CI_Date>

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182         <date>
183             <gco:Date>2000-11-01</gco:Date>
184         </date>
185         <dateType><!-- characterization of date info, e.g. : -->
186             <CI_DateTypeCode
187                 codeList="http://wis.wmo.int/2006/catalogues/gmxCodelist.xml#CI_DateTypeCode_publication"
188                 codeListValue="publication">
189                 publication
190             </CI_DateTypeCode>
191         </dateType>
192     </CI_Date>
193 </date>
194 <identifier>
195     <MD_Identifier>
196         <code>
197             <gco:CharacterString>
198                 e.g. doi:article1
199             </gco:CharacterString>
200         </code>
201     </MD_Identifier>
202 </identifier>
203 <citedResponsibleParty>
204     <CI_ResponsibleParty id="experiment.author1">
205         <individualName>
206             <gco:CharacterString>
207                 Name, Forename
208             </gco:CharacterString>
209         </individualName>
210         <organisationName>
211             <gco:CharacterString>
212                 e.g. MPI
213             </gco:CharacterString>
214         </organisationName>
215         <contactInfo>
216             <CI_Contact>
217                 <address>
218                     <CI_Address>
219                         <electronicMailAddress>
220                             <gco:CharacterString>
221                                 e.g.
222                                 author1@institute.de
223                             </gco:CharacterString>
224                         </electronicMailAddress>
225                     </CI_Address>
226                 </address>
227             </CI_Contact>
228         </contactInfo>
229         <role>
230             <CI_RoleCode
231                 codeListValue="http://wis.wmo.int/2006/catalogues/gmxCodelist.xml#CI_RoleCode_author"
232                 codeList="http://wis.wmo.int/2006/catalogues/gmxCodelist.xml#CI_RoleCode">
233                 author
234             </CI_RoleCode>
235         </role>
236     </CI_ResponsibleParty>
237 </citedResponsibleParty>
238 </CI_Citation>
239 </citation>
240 <abstract>
241     <gco:CharacterString>
242         freetext description of data which is described in
243         this metadata set : searchable in portal !
244     </gco:CharacterString>
245 </abstract>
246 <status>
247     <!-- C3 optional - can be omitted -->
248     <MD_ProgressCode
249         codeListValue="http://wis.wmo.int/2006/catalogues/gmxCodelist.xml#MD_ProgressCode_completed"
250         codeList="http://wis.wmo.int/2006/catalogues/gmxCodelist.xml#MD_ProgressCode">
251         completed
252     </MD_ProgressCode>
253 </status>
254 <pointOfContact>
255     <!-- responsible contact persons for resource (not metadata !!): multiple pointOfContact entries distinguished by codelist value:
256     pointOfContact, author, principalInvestigator, originator
257     -->
258     <CI_ResponsibleParty id="rp1">
259         <individualName>
260             <gco:CharacterString>
261                 Name, Forename
262             </gco:CharacterString>
263         </individualName>
264         <organisationName>
265             <gco:CharacterString>
266                 data provider name
267             </gco:CharacterString>
268         </organisationName>
269         <contactInfo>
270             <CI_Contact>
271                 <address>
272                     <CI_Address>

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273         <electronicMailAddress>
274             <gco:CharacterString>
275                 name@dkrz.de
276             </gco:CharacterString>
277         </electronicMailAddress>
278     </CI_Address>
279 </address>
280 </CI_Contact>
281 </contactInfo>
282 <role>
283     <CI_RoleCode
284         codeListValue="http://wis.wmo.int/2006/catalogues/gmxCodeLists.xml#CI_RoleCode_pointOfContact"
285         codeList="http://wis.wmo.int/2006/catalogues/gmxCodeLists.xml#CI_RoleCode">
286         pointOfContact
287     </CI_RoleCode>
288 </role>
289 </CI_ResponsibleParty>
290 </pointOfContact>
291 <graphicOverview>
292     <!-- optional reference to dataset related picture , http endpoint for picture download in fileName -->
293     <MD_BrowseGraphic>
294         <fileName>
295             <gco:CharacterString>
296                 stormtrack1.jpg
297             </gco:CharacterString>
298         </fileName>
299         <fileDescription>
300             <gco:CharacterString>
301                 e.g. stormtrack image of ...
302             </gco:CharacterString>
303         </fileDescription>
304         <fileType>
305             <gco:CharacterString>jpg</gco:CharacterString>
306         </fileType>
307     </MD_BrowseGraphic>
308 </graphicOverview>
309 <resourceFormat>
310     <!-- in C3 distribution Info tags are used !! - entries here are optional and not used in C3Grid -
311          may be useful for publication to C3Grid external portals ... -->
312     <MD_Format>
313         <name>
314             <!-- C3 convention: grb for GRIB and nc for NetCDF -->
315             <gco:CharacterString>
316                 grb
317             </gco:CharacterString>
318         </name>
319         <version>
320             <gco:CharacterString>WMO format Gridded Binary Data, GRIB version ...</gco:CharacterString>
321         </version>
322     </MD_Format>
323 </resourceFormat>
324 <descriptiveKeywords>
325     <!-- list of keywords: very important for searching - no specific c3grid keyword catalogue(s) initially
326          keywords of higher level data resources also characterize this resource ..
327     -->
328     <MD_Keywords>
329         <keyword>
330             <gco:CharacterString>
331                 keyword1
332             </gco:CharacterString>
333         </keyword>
334         <keyword>
335             <gco:CharacterString>
336                 keyword2, (add keyword "C3Grid processed"
337                 for data processed within C3Grid)
338             </gco:CharacterString>
339         </keyword>
340         <type>
341             <MD_KeywordTypeCode codeListValue="theme"
342                 codeList="http://wis.wmo.int/2006/catalogues/gmxCodeLists.xml#MD_KeywordTypeCode">
343                 theme
344             </MD_KeywordTypeCode>
345         </type>
346     </MD_Keywords>
347 </descriptiveKeywords>
348
349 <resourceConstraints>
350     <MD_LegalConstraints>
351         <!-- accessConstraints, otherConstraints, useConstraints, useLimitation -> detailed def. in later c3grid versions -->
352     <accessConstraints>
353         <MD_RestrictionCode
354             codeListValue="http://wis.wmo.int/2006/catalogues/gmxCodeLists.xml#MD_RestrictionCode_copyright"
355             codeList="http://wis.wmo.int/2006/catalogues/gmxCodeLists.xml#MD_RestrictionCode">
356             copyright
357         </MD_RestrictionCode>
358     </accessConstraints>
359     <useConstraints>
360         <MD_RestrictionCode
361             codeListValue="http://wis.wmo.int/2006/catalogues/gmxCodeLists.xml#MD_RestrictionCode_restricted"
362             codeList="http://wis.wmo.int/2006/catalogues/gmxCodeLists.xml#MD_RestrictionCode">
363             restricted

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364         </MD_RestrictionCode>
365     </useConstraints>
366 </MD_LegalConstraints>
367 </resourceConstraints>
368 <spatialRepresentationType>
369     <!-- spatialRepresentationTypeCode is 002 or grid for model data, others ...? -->
370     <MD_SpatialRepresentationTypeCode
371         codeListValue="http://wis.wmo.int/2006/catalogues/gmxCodeLists.xml#MD_SpatialRepresentationTypeCode_grid"
372         codeList="http://wis.wmo.int/2006/catalogues/gmxCodeLists.xml#MD_SpatialRepresentationTypeCode">
373         grid
374     </MD_SpatialRepresentationTypeCode>
375 </spatialRepresentationType>
376 <language>
377     <LanguageCode
378         codeListValue="http://wis.wmo.int/2006/catalogues/ML_gmxCodeLists.xml#LanguageCode_eng"
379         codeList="http://wis.wmo.int/2006/catalogues/ML_gmxCodeLists.xml#LanguageCode">
380         eng
381     </LanguageCode>
382 </language>
383 <topicCategory>
384     <!-- topicCategory: ocean or climatologyMeteorologyAtmosphere -->
385     <!-- BUG in ISD schema?: attributes codeList and codeListValue missing! so use just this: -->
386     <MD_TopicCategoryCode>climatologyMeteorologyAtmosphere</MD_TopicCategoryCode>
387 </topicCategory>
388 <environmentDescription>
389     <!-- optional, should be filled for C3Grid processed data, to give information on processing environment etc. -->
390     <gco:CharacterString>
391         compiler:xy, machine:ab,... should be updated by
392         metadata generation tools for c3 processed data
393     </gco:CharacterString>
394 </environmentDescription>
395 <extent>
396     <!-- information on geographic extent (spatial, temporal..) -->
397     <EX_Extent>
398         <!-- geographic (LON/LAT) coverage of data sets -->
399         <geographicElement>
400             <EX_GeographicBoundingBox>
401                 <westBoundLongitude>
402                     <gco:Decimal>0.0</gco:Decimal>
403                 </westBoundLongitude>
404                 <eastBoundLongitude>
405                     <gco:Decimal>360.0</gco:Decimal>
406                 </eastBoundLongitude>
407                 <southBoundLatitude>
408                     <gco:Decimal>-90.0</gco:Decimal>
409                 </southBoundLatitude>
410                 <northBoundLatitude>
411                     <gco:Decimal>+90.0</gco:Decimal>
412                 </northBoundLatitude>
413             </EX_GeographicBoundingBox>
414         </geographicElement>
415         <temporalElement>
416             <EX_TemporalExtent>
417                 <extent>
418                     <gml:TimePeriod
419                         gml:id="timePeriod.geocode1">
420                         <gml:beginPosition>
421                             1978-01-01T00:00:00
422                         </gml:beginPosition>
423                         <gml:endPosition>
424                             2200-01-01T00:00:00
425                         </gml:endPosition>
426                         <gml:timeInterval unit="hour"
427                             factor="6">
428                             6.0
429                         </gml:timeInterval>
430                     </gml:TimePeriod>
431                 </extent>
432             </EX_TemporalExtent>
433         </temporalElement>
434     </verticalElement>
435     <!--
436     vertical coverage of data sets in experiment:
437     under sea level values with negative sign and those above sea level with positive sign
438     min/max based on metres: therefore hights in hPa have min at the surface as '99999'
439     and max. for instance at 10.
440     -->
441     <EX_VerticalExtent>
442         <minimumValue>
443             <gco:Real>1000</gco:Real>
444         </minimumValue>
445         <maximumValue>
446             <gco:Real>10</gco:Real>
447         </maximumValue>
448     </verticalCRS>
449     <!-- recommended to fill if appropriate - especially for model data, important are hPa, axis direction info etc. -->
450     <gml:VerticalCRS gml:id="vertCRS.id1">
451         <gml:identifier
452             codeSpace="http://www.c3grid.de/metadata/codelists/to_be_defined/C3Grid_Models_Atm">
453             to_be_defined
454         </gml:identifier>

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455         <gml:scope>to_be_defined</gml:scope>
456     <gml:verticalCS>
457         <!-- some details have to be worked out here -->
458         <gml:VerticalCS
459             gml:id="vertCS.geocode1">
460             <gml:description>
461                 not known
462             </gml:description>
463             <gml:identifier
464                 codeSpace="C3Grid_Models_Atm">
465                 not known
466             </gml:identifier>
467             <gml:axis>
468                 <gml:CoordinateSystemAxis
469                     gml:id="vertCS.geocode1.axis" gml:uom="hPa">
470                     <gml:identifier
471                         codeSpace="C3Grid_Models_Atm">
472                         not known
473                     </gml:identifier>
474                     <gml:name>
475                         Altitude
476                     </gml:name>
477                     <gml:axisAbbrev>
478                         ALT
479                     </gml:axisAbbrev>
480                     <gml:axisDirection
481                         codeSpace="C3Grid_Models_Atm">
482                         up
483                     </gml:axisDirection>
484                 </gml:CoordinateSystemAxis>
485             </gml:axis>
486         </gml:VerticalCS>
487     </gml:verticalCS>
488     <gml:verticalDatum>
489         <gml:VerticalDatum
490             gml:id="vertDat.geocode1">
491             <gml:identifier
492                 codeSpace="C3Grid_Models_Atm">
493                 not known
494             </gml:identifier>
495             <gml:scope>
496                 not known
497             </gml:scope>
498             <gml:anchorPoint
499                 codeSpace="C3Grid_Models_Atm">
500                 not known
501             </gml:anchorPoint>
502         </gml:VerticalDatum>
503     </gml:verticalDatum>
504 </gml:VerticalCRS>
505 </verticalCRS>
506 </EX_VerticalExtent>
507 </verticalElement>
508 </EX_Extent>
509 </extent>
510 <supplementalInformation>
511     <!-- used to describe additional information - later: used in search -->
512     <gco:CharacterString>e.g. ??</gco:CharacterString>
513 </supplementalInformation>
514 </MD_DataIdentification>
515 </identificationInfo><!--===== Content Info Section =====-->
516
517 <contentInfo>
518     <!-- e.g variables in a dataset / experiment -->
519     <MD_CoverageDescription id="any-id">
520         <attributeDescription>
521             <gco:RecordType>CF_longname</gco:RecordType>
522         </attributeDescription>
523         <contentType>
524             <MD_CoverageContentTypeCode
525                 codeList="http://wis.wmo.int/2006/catalogues/gmxCodeLists.xml#MD_CoverageContentTypeCode"
526                 codeListValue="thematicClassification"
527                 thematicClassification
528             </MD_CoverageContentTypeCode>
529         </contentType>
530
531         <dimension>
532             <MD_RangeDimension>
533                 <descriptor>
534                     <gco:CharacterString>dim-characterizing-string, e.g. gpm (geopotential meter) .. ; W/m**2 etc. </gco:CharacterString>
535                 </descriptor>
536             </MD_RangeDimension>
537         </dimension>
538     </MD_CoverageDescription>
539
540 </contentInfo>
541 <contentInfo>
542 <MD_CoverageDescription>
543     <attributeDescription>
544         <gco:RecordType>geopotential_height</gco:RecordType>
545     </attributeDescription>

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546     <contentType>
547     <MD_CoverageContentTypeCode
548     codeList="http://wis.wmo.int/2006/catalogues/gmxCodeLists.xml#MD_CoverageContentTypeCode"
549     codeListValue="thematicClassification"
550     thematicClassification
551     </MD_CoverageContentTypeCode>
552 </contentType>
553 <dimension>
554     <MD_RangeDimension>
555     <descriptor>
556     <gco:CharacterString>gpm</gco:CharacterString>
557     </descriptor>
558     </MD_RangeDimension>
559 </dimension>
560 </MD_CoverageDescription>
561 </contentInfo>
562 <distributionInfo>
563     <!--important info for C3Grid middleware: service (data access) endpoints, data size, data format ...-->
564     <MD_Distribution>
565     <!-- distributionFormat are the formats which could be provided directly by data source for submission
566     C3 convention: grb for GRIB files and netcdf for NetCDF files -->
567     <distributionFormat>
568     <MD_Format>
569     <name>
570     <gco:CharacterString>grb</gco:CharacterString>
571     </name>
572     <version>
573     <gco:CharacterString>
574     WMO format GRIBed Binary data, version ??
575     </gco:CharacterString>
576     </version>
577     </MD_Format>
578     </distributionFormat>
579     <transferOptions>
580     <MD_DigitalTransferOptions>
581     <onLine>
582     <CI_OnlineResource>
583     <!-- multiple online resources for the various access points - general + C3Grid specific + ..
584     for C3Grid Interfaces (Interface D + gridFTP uniform linkage,protocol,name and
585     description tags should be used-->
586     <linkage>
587     <URL>
588     doi.wvv-cera.dkrz.de/10.1594/CERA.81201
589     </URL>
590     </linkage>
591     <function>
592     <CI_OnlineFunctionCode
593     codeListValue="http://wis.wmo.int/2006/catalogues/gmxCodeLists.xml#CI_OnlineFunctionCode_download"
594     codeList="http://wis.wmo.int/2006/catalogues/gmxCodeLists.xml#CI_OnlineFunctionCode"
595     download
596     </CI_OnlineFunctionCode>
597     </function>
598     </CI_OnlineResource>
599 </onLine>
600 <onLine>
601 <CI_OnlineResource>
602 <linkage>
603 <URL>
604 https://uranus.dkrz.de:9443/axis/services/C3ProviderSOAP
605 </URL>
606 </linkage>
607 <protocol>
608 <gco:CharacterString>
609 SOAP
610 </gco:CharacterString>
611 </protocol>
612 <name>
613 <gco:CharacterString>
614 C3Grid Data Staging Interface
615 </gco:CharacterString>
616 </name>
617 <description>
618 <gco:CharacterString>
619 C3 Grid Data Access Interface
620 </gco:CharacterString>
621 </description>
622 <function>
623 <CI_OnlineFunctionCode
624 codeList="http://wis.wmo.int/2006/catalogues/gmxCodeLists.xml#CI_OnlineFunctionCode"
625 codeListValue="order">order</CI_OnlineFunctionCode>
626 </function>
627 </CI_OnlineResource>
628 </onLine>
629 <onLine>
630 <CI_OnlineResource>
631 <linkage>
632 <URL>
633 gsiftp://gridftp.dkrz.de/prj/bb0300/work/outdata/stagedBaseFile_deleteme-1087841344
634 </URL>
635 </linkage>
636 <protocol>

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637         <gco:CharacterString>
638             gsiftp
639         </gco:CharacterString>
640     </protocol>
641     <name>
642         <gco:CharacterString>
643             GridFTP Data Repository
644         </gco:CharacterString>
645     </name>
646     <description>
647         <gco:CharacterString>
648             C3 Grid Data Transfer Interface
649         </gco:CharacterString>
650     </description>
651     <function>
652         <CI_OnlineFunctionCode
653             codeList="http://wis.wmo.int/2006/catalogues/gmxCodeLists.xml#CI_OnlineFunctionCode"
654             codeListValue="download">
655             download
656         </CI_OnlineFunctionCode>
657     </function>
658 </CI_OnlineResource>
659 </onLine>
660
661     </MD_DigitalTransferOptions>
662 </transferOptions>
663 </MD_Distribution>
664 </distributionInfo>
665
666 <dataQualityInfo>
667     <DQ_DataQuality>
668         <scope>
669             <DQ_Scope>
670                 <!-- optional - can be filled by DB systems which provide this info -->
671                 <level>
672                     <MD_ScopeCode codeListValue="dataset"
673                         codeList="http://wis.wmo.int/2006/catalogues/gmxCodeLists.xml#MD_ScopeCode">
674                         dataset
675                     </MD_ScopeCode>
676                 </level>
677             </DQ_Scope>
678         </scope>
679         <!-- track processing history of data set here-->
680         <lineage>
681             <!-- data processing history
682             1. data production (i.e. ECHAM5.x.y run on date with parameters on machine/compiler)
683             2. processing step (i.e. afterburner)
684             3. ....
685             -->
686             <LI_Lineage>
687                 <statement>
688                     <gco:CharacterString>free text lineage (e.g. processing history)
689                     knowledge description e.g. "C3Grid
690                     preprocessed data from CERA / DKRZ"</gco:CharacterString>
691                 </statement>
692                 <processStep>
693                     <!-- multiple process Steps possible, add new process steps subsequently
694                     should include number to document sequencing info, besides date.(e.g. using id tag) -->
695                     <LI_ProcessStep id="process1">
696                         <description>
697                             <gco:CharacterString>
698                                 description of processing done e.g.
699                                 "Initial data preprocessing of CERA
700                                 / DKRZ files
701                             </gco:CharacterString>
702                         </description>
703                         <rationale>
704                             <gco:CharacterString>
705                                 additional info on description field
706                                 info
707                             </gco:CharacterString>
708                         </rationale>
709                         <dateTime>
710                             <gco:DateTime>
711                                 2000-01-01T01:01:01
712                             </gco:DateTime>
713                         </dateTime>
714                         <processor><!--optional info on responsible party of processing-->
715                             <CI_ResponsibleParty>
716                                 <role></role>
717                             </CI_ResponsibleParty>
718                         </processor>
719                     <source>
720                         <LI_Source>
721                             <description>
722                                 <!-- Reference to the source(s) of (pre-)processing
723                                 Initially in the form: Tag:id is a fileidentifier of an ISO metadata description -->
724                             <gco:CharacterString>
725                                 DataId:de.dataprovider.metadadataid
726                             </gco:CharacterString>
727

```

```

728         </description>
729     </LI_Source>
730 </source>
731 </LI_ProcessStep>
732 </processStep>
733 </LI_Lineage>
734 </lineage>
735 </DQ_DataQuality>
736 </dataQualityInfo>
737
738 <series>
739 <!-- optional, all lower hierarchy level datasets can be referenced here: only differences to high level metadata are described
740 e.g. 1) temporal extent (in case of temporal aggregation)
741      2) variables (in case of variable separation)
742      3) names (e.g. in DB), filename (e.FlatFiles) -> distributionInfo
743 -->
744 <DS_Series>
745 <composedOf>
746 <DS_DataSet>
747 <has>
748 <MD_Metadata>
749 <contact />
750 <dateStamp />
751 <identificationInfo>
752 <MD_DataIdentification>
753 <citation />
754 <abstract />
755 <language />
756 <extent>
757 <EX_Extent>
758 <temporalElement>
759 <EX_TemporalExtent>
760 <extent>
761 <gml:TimePeriod
762   gml:id="timePeriod.geocode2">
763   <gml:beginPosition>
764     1978-01-01T00:00:00
765   </gml:beginPosition>
766   <gml:endPosition>
767     2200-01-01T00:00:00
768   </gml:endPosition>
769   </gml:TimePeriod>
770 </extent>
771 </EX_TemporalExtent>
772 </temporalElement>
773 </EX_Extent>
774 </extent>
775 <supplementalInformation>
776 <gco:CharacterString>
777   filename: ... in case of
778   experiments from archive !?
779 </gco:CharacterString>
780 </supplementalInformation>
781 </MD_DataIdentification>
782 </identificationInfo>
783 <contentInfo>
784 <!-- z.B. Variablen im Datensatz -->
785 <MD_CoverageDescription id="name">
786 <attributeDescription>
787 <gco:RecordType>
788   CF_longname
789 </gco:RecordType>
790 </attributeDescription>
791 <contentType>
792 <MD_CoverageContentTypeCode
793   codeListValue="air_temperature"
794   codeList="http://www.cgd.ucar.edu/cms/eaton/cf-metadata/standard_name.html">
795   air_temperature
796 </MD_CoverageContentTypeCode>
797 </contentType>
798 </MD_CoverageDescription>
799 </contentInfo>
800 </MD_Metadata>
801 </has>
802 </DS_DataSet>
803 </composedOf>
804 <seriesMetadata />
805 </DS_Series>
806 </series>
807 </MD_Metadata>
808

```