



Miljøministeriet
Geodatastyrelsen

INSPIRE i Kortforsyningen

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Visningstjenester

- WFS-tjeneste med INSPIRE-skema

Bilag I

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Initial operating capabilities i maj 2011

- Harmoniserede tjenester i november 2012
- Technical Guidance for the implementation of INSPIRE View Services
- <http://inspire.ec.europa.eu/index.cfm/pageid/5>





Metadata i tjenester

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To scenarier for INSPIRE-metadata

- Links til metadata i GetCapabilities-svar • Metadata indlejret i GetCapabilities-svar
- Scenarie 1:
 - Etablere links i GetCapabilities-svar til service metadata i geodata-info.dk
 - WMS 1.1.1 i Kortforsyningen



- Keywords
- VendorSpecificCapabilities
 - inspire_vs:ExtendedCapabilities
- MetadataURL
- LegendURL

Eksempel på GetCapabilities-svar

WMS-tjenesten cp_inspire med matrikulære data

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE WMT_MS_Capabilities SYSTEM "http://schemas.opengis.net/wms/1.1.1/WMS_MS_Capabilities.dtd" [
    <!ELEMENT VendorSpecificCapabilities (inspire_vs:ExtendedCapabilities, URLParameter+)>
    <!-- Scenario 1: Mandatory MetadataUrl element pointing to an INSPIRE Compliant ISO metadata
document plus language parameters -->
        <!ELEMENT inspire_vs:ExtendedCapabilities (inspire_common:MetadataUrl,
            inspire_common:SupportedLanguages, inspire_common:ResponseLanguage)>
        <!ATTLIST inspire_vs:ExtendedCapabilities                xmlns:inspire_vs CDATA #FIXED
'http://inspire.ec.europa.eu/schemas/inspire_vs/1.0'
            >
        <!ELEMENT inspire_common:MetadataUrl (inspire_common:URL, inspire_common:MediaType*)>
        <!ATTLIST inspire_common:MetadataUrl
            xmlns:inspire_common CDATA #FIXED 'http://inspire.ec.europa.eu/schemas/common/1.0'
            xmlns:xsi CDATA #FIXED 'http://www.w3.org/2001/XMLSchemainstance'
xsi:type CDATA #FIXED 'inspire_common:resourceLocatorType'
            >
        <!ELEMENT inspire_common:URL (#PCDATA)>
        <!ATTLIST inspire_common:URL
            xmlns:inspire_common CDATA #FIXED 'http://inspire.ec.europa.eu/schemas/common/1.0'
            >
        <!ELEMENT inspire_common:MediaType (#PCDATA)>
        <!ATTLIST inspire_common:MediaType
            xmlns:inspire_common CDATA #FIXED 'http://inspire.ec.europa.eu/schemas/common/1.0'
            >
```


Eksempel på GetCapabilities-svar

WMS-tjenesten cp_inspire med matrikulære data

```
<!ELEMENT inspire_common:SupportedLanguages (inspire_common:DefaultLanguage,
inspire_common:SupportedLanguage*)> ...
...
<WMT_MS_Capabilities version="1.1.1">
  <Service>
    <Name>OGC:WMS</Name>
    <Title>Cadastral Parcels</Title>
    <Abstract>Cadastral Parcels INSPIRE View Service</Abstract>
    <KeywordList>
      <Keyword>view</Keyword>
      <Keyword>infoMapAccessService</Keyword>
      <Keyword>Cadastral Parcels</Keyword>
    </KeywordList>
    <OnlineResource xmlns:xlink="http://www.w3.org/1999/xlink"
      xlink:href="http://kortforsyningen.kms.dk/cp_inspire?"/>
    <ContactInformation>
      ...
      ...
    </ContactInformation>
  </Service>
  <VendorSpecificCapabilities>
    <inspire_vs:ExtendedCapabilities>
      <inspire_common:MetadataUrl>
```

Eksempel på GetCapabilities-svar

WMS-tjenesten cp_inspire med matrikulære data

```

        <inspire_common:URL>http://www.geodata-info.dk/registrant/srv/en/csw?
service=CSW&version=2.0.2&request=GetRecordById&id=becc11fe-4c0d- 478a-b782-65155feddea&
outputSchema=http://www.isotc211.org/2005/gmd&elementSetName=full</inspire_common:URL>
    </inspire_common:MetadataUrl>
    <inspire_common:SupportedLanguages>
        <inspire_common:DefaultLanguage>
            <inspire_common:Language>dan</inspire_common:Language>
        </inspire_common:DefaultLanguage>
    </inspire_common:SupportedLanguages>
    <inspire_common:ResponseLanguage>
        <inspire_common:Language>dan</inspire_common:Language>
    </inspire_common:ResponseLanguage>
</inspire_vs:ExtendedCapabilities>
...

</VendorSpecificCapabilities>
...

...
<Layer> ...
    <MetadataURL type="TC211">
        <Format>text/xml</Format>
        <OnlineResource xmlns:xlink="http://www.w3.org/1999/xlink" xlink:type="simple"
xlink:href="http://www.geodatainfo.dk/registrant/srv/en/csw?service=CSW&version=2.0.2&request=GetRe
```


Eksempel på GetCapabilities-svar

WMS-tjenesten cp_inspire med matrikulære data

```
cordById&id=1bbc1ecf-fe3d4a28-aace-
e614aabfd71d&outputSchema=http://www.isotc211.org/2005/gmd&elementSetName=full"/>
  </MetadataURL>
  <Layer>
    <Name>CP.CadastralParcel</Name>
    <Title>CP.CadastralParcel</Title>
    <Abstract>CP.CadastralParcel</Abstract>
    <Identifier authority="kms.dk">DAGI_REF-01</Identifier>
    <MetadataURL type="TC211">
      <Format>text/xml</Format>
      <OnlineResource xmlns:xlink="http://www.w3.org/1999/xlink"
xlink:type="simple"
xlink:href="http://www.geodatainfo.dk/registrant/srv/en/csw?service=CSW&version=2.0.2&request=GetRe
cordById&id=1bbc1ecf-fe3d4a28-aace-
e614aabfd71d&outputSchema=http://www.isotc211.org/2005/gmd&elementSetName=full"/>
    </MetadataURL>
    <Style>
      <Name>default</Name>
      <Title>default</Title>
      <LegendURL width="275" height="165">
        <Format>image/png</Format>
```

Eksempel på GetCapabilities-svar

WMS-tjenesten cp_inspire med matrikulære data

```
<OnlineResource          xmlns:xlink="http://www.w3.org/1999/xlink"          xlink:type="simple"
xlink:href="http://kortforsyningen.kms.dk/cp_inspire?version=1.1.1&service=WMS&request=GetLegendGr
a phic&layer=CP.CadastralParcel&format=image/png&STYLE=default"/>
          </LegendURL>
        </Style>
      ...
    ...
  ...
```


- Baseret på eksempler i Technical Guidance
- WMS 1.1.1 (DTD-baseret) i Kortforsyningen;
WMS 1.3.0 (XSD) håndteres på tilsvarende vis
- Statiske GetCapabilities-svar i Kortforsyningen
 - Elementer indsat i statiske XML-filer
 - Links med CSW-kald (GetRecordById)

- Konfiguration af WMS-server

A dense forest of tall, thin evergreen trees, likely spruce or fir, with sunlight filtering through the canopy, creating a misty or ethereal atmosphere. The text "Styling af tjenester" is overlaid in white serif font on the left side of the image.

Styling af tjenester

Styling af harmoniserede tjenester

- Dataspecifikationerne
 - <http://inspire.ec.europa.eu/index.cfm/pageid/2>
- Portrayal
- Lag og deres styling

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Layer name, layer title

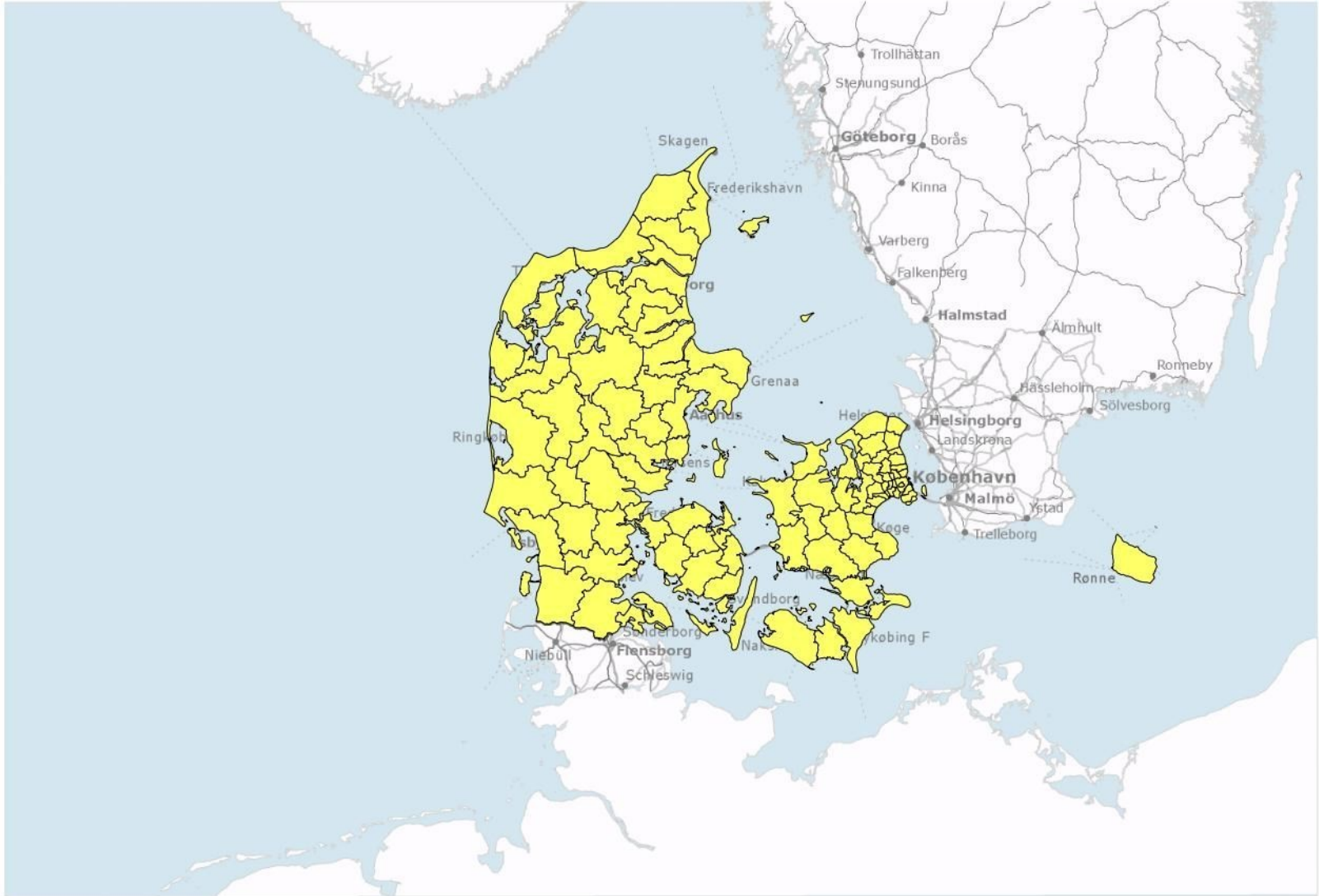
- Style name, style title, style abstract, symbology (SLD), minimum & maximum scales
 - MapServer i Kortforsyningen
 - Skrev konfiguration ud fra SLD i dataspecifikation

- SLD specificerer farver, linjetykkelser, osv.

Required styles

- Recommended styles





WFS-tjenester

The background of the slide is a photograph of a dense forest. Tall, slender evergreen trees, likely spruce or fir, stand closely together. Sunlight filters through the dense canopy of green needles, creating a dappled light effect and visible rays of light (crepuscular rays) in the misty air. The overall color palette is dominated by various shades of green and blue, with the white text providing a sharp contrast.

- INSPIRE Download Services
- Direct access download
- GST har implementeret INSPIRE Download Services som prædefinerede downloads af datasæt
- WFS-tjenesten `cp_inspire_gml321` udstiller matrikulære data i INSPIREs applikationsskema

- TG INSPIRE Download Services
 - ISO 19142
 - WFS 2.0
 - GML 3.2.1
- GIS-klienter
 - Understøttelse af WFS 1.0.0 og 1.1.0

```
<?xml version="1.0" encoding="UTF-8"?>
<!-- Created by GO Publisher. Snowflake Software Ltd. (http://www.snowflakesoftware.com). -->
<gml:FeatureCollection xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xs="http://www.w3.org/2001/XMLSchema"
xmlns:cp="urn:x-inspire:specification:gmlas:CadastralParcels:3.0" xmlns:base="urn:x-inspire:specification:gmlas:BaseTypes:3.2"
xmlns:gmd="http://www.isotc211.org/2005/gmd" xmlns:gco="http://www.isotc211.org/2005/gco"
xmlns:gml="http://www.opengis.net/gml/3.2" xmlns:xlink="http://www.w3.org/1999/xlink" xmlns:gss="http://www.isotc211.org/2005/gss"
xmlns:gts="http://www.isotc211.org/2005/gts" xmlns:gsr="http://www.isotc211.org/2005/gsr" xmlns:gn="urn:x-
inspire:specification:gmlas:GeographicalNames:3.0" xmlns:au="urn:xinspire:specification:gmlas:AdministrativeUnits:3.0"
```



```

xmlns:stat="urn:x-inspire:specification:gmlas:StatisticalUnits:0.0" xmlns:wfs="http://www.opengis.net/wfs/2.0"
xmlns:ows="http://www.opengis.net/ows/1.1" xmlns:fes="http://www.opengis.net/fes/2.0" xsi:schemaLocation="urn:x-
inspire:specification:gmlas:CadastralParcels:3.0 http://inspire.ec.europa.eu/schemas/cp/3.0/CadastralParcels.xsd
http://www.opengis.net/gml/3.2 http://schemas.opengis.net/gml/3.2.1/gml.xsd http://www.opengis.net/wfs/2.0
http://schemas.opengis.net/wfs/2.0/wfs.xsd" gml:id="LOCAL_ID">
  <gml:featureMember>
    <cp:CadastralParcel gml:id="dk.gst.cp.1470611">
      <gml:identifier codeSpace="http://inspire.ec.europa.eu/ids">urn:x-inspire:object:dk.gst.cp.1470611</gml:identifier>
    <cp:areaValue uom="sqm">81545</cp:areaValue>
    <cp:beginLifespanVersion>2004-02-24T00:00:00</cp:beginLifespanVersion>
    <cp:geometry>
      <gml:Polygon srsName="urn:ogc:def:crs:EPSG::25832" gml:id="LOCAL_ID_0">
        <gml:exterior>
          <gml:LinearRing>
            <gml:posList srsDimension="2" count="16">566912.63 6190276.327 566926.779 6190280.857 567071.492 6190306.104
566924.611
6190637.477 566913.491 6190634.399 566886.435 6190623.724 566869.108 6190619.04 566825.476 6190610.643 566792.244 6190605.563
566785.956 6190604.601 566751.176 6190605.167 566750.77 6190602.04 566740.216 6190599.761 566700.288 6190591.138 566841.044
6190254.272 566912.63 6190276.327</gml:posList>
          </gml:LinearRing>
        </gml:exterior>
      </gml:Polygon>
    </cp:geometry>
    <cp:inspireId>
      <base:Identifier>
        <base:localId>1470611</base:localId>
        <base:namespace>dk.gst.cp</base:namespace>
        <base:versionId>2004-02-24T00:00:00</base:versionId>
      </base:Identifier>
    </cp:inspireId>
    <cp:label>10c</cp:label>
    <cp:nationalCadastralReference>1000151,10c</cp:nationalCadastralReference>
    <cp:referencePoint>
      <gml:Point gml:id="dk.gst.cp.geom2519679.19990120T162822">
        <gml:pos>566884.677 6190449.237</gml:pos>
      </gml:Point>
    </cp:referencePoint>
    <cp:validFrom>2004-02-24T00:00:00</cp:validFrom>
    <cp:zoning owns="false" xlink:href="urn:x-inspire:object:dk.gst.cz.2365"/>
  </cp:CadastralParcel>
</gml:featureMember>

```

...



- Udfordringen var mapningen fra data i et nationalt databaseskema til INSPIRE-skema i WFS-tjenesten
- Samme mapning som benyttet til prædefinerede downloads

