



Fostering resource integration: EarthCube Resource Registry

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What is the EarthCube Resource Registry?

A database of cyberinfrastructure resources with documentation focused on enabling EarthCube users and developers find, understand, get, and use those resources to increase research productivity
Resource focus: applications, reusable code components, ontologies, vocabularies, specifications (extend p418 scope)

Why?

- Improve discovery of usable resources
- Enable seamless connection from discovery environment to working with the data or software.

Some usage scenarios:

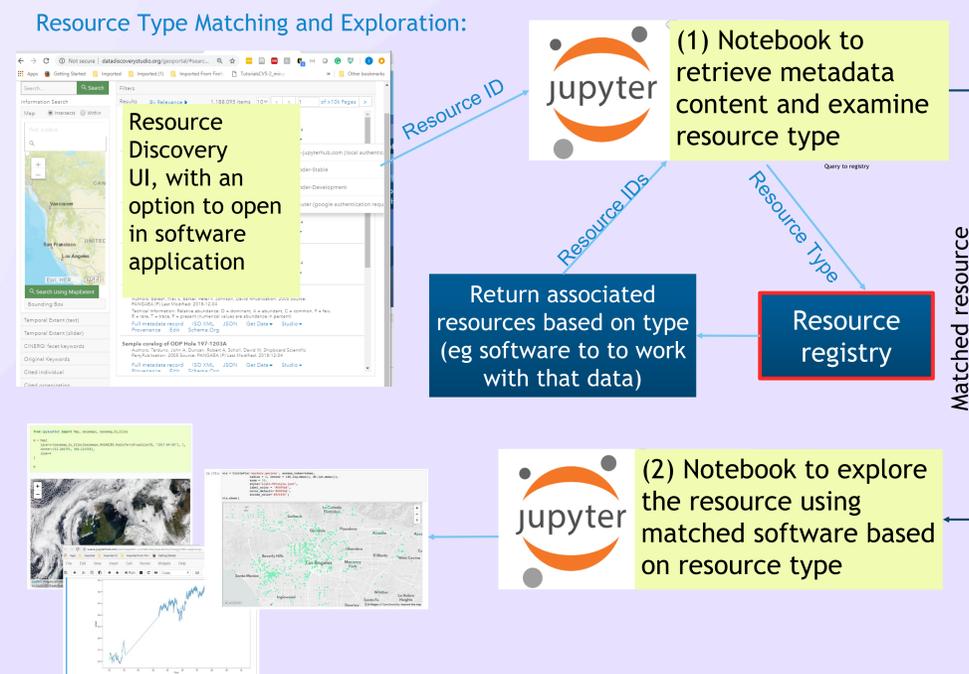
- Identification of resources
- Systematic documentation of resource characteristics
- Identify gaps or duplicate resources
- Find tools, APIs, or data that can work with a given resource
- Support maturity assessment

The Registry should:

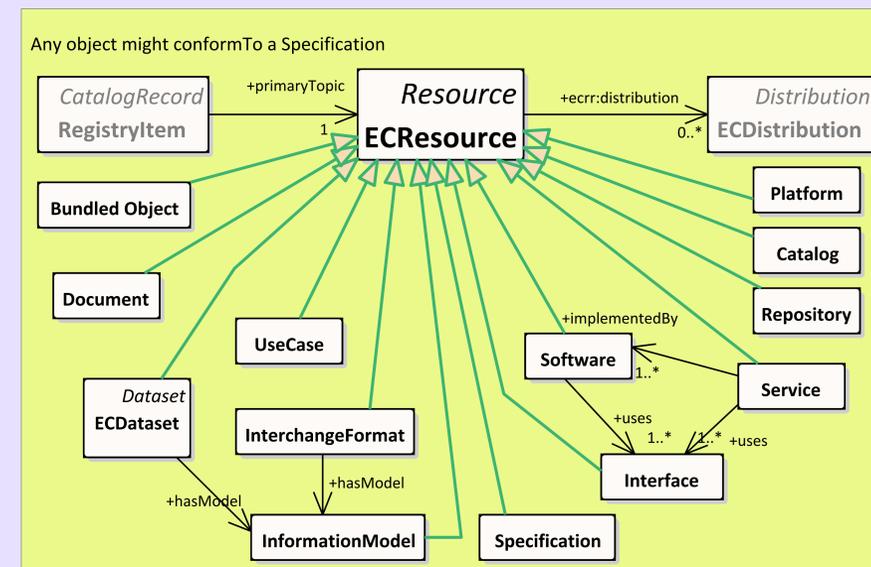
- Help researchers connect multiple data types and resources to address a specific research problem;
- Enable developers to learn about components they can reuse to increase development efficiency
- Enable discovery of components with a particular functionality, that can be used in an existing research workflow
- Provide a platform for resource producers to inform the community about products.
- Answer the question: "What has EC produced that is of use to my science?"



Link data and applications



Information Model



Schema.org Encoding

```

{ "@context": {
  "@vocab": "http://schema.org/",
  "datacite": "http://purl.org/spar/datacite/",
  "earthcollab": "https://library.ucar.edu/earthcollab/schema#",
  "geolink": "http://schema.geolink.org/1.0/base/main#",
  "vivo": "http://vivo.web.org/ontology/core#",
  "dcat": "http://www.w3.org/ns/dcat#",
  "ecrr": "http://purl.obolibrary.org/obo/ECRRO_#",
  "@id": "ID for this metadata record",
  "@type": ["CreativeWork", "Product", "WebAPI"],
  "additionalType": {
    "ecrr:0000202": ["EC Data Service"] or dc:Service if not a data service, e.g. a processing service",
    "name": "", "description": "",
    "creator": {
      "@type": ["Organization or Person"],
      "name": "Text",
    },
    "datePublished": "", "keywords": ["recommended", "text"],
    "obo:dependsOn": {
      "@type": "PropertyValue",
      "propertyID": "http://purl.obolibrary.org/obo/RO_0002502",
      "value": ["array of dependency statements"]
    },
    "funder": {
      "@type": ["Person or Organization"],
      "name": "Text",
    },
    "license": {
      "@type": ["sdo:CreativeWork or sdo:URL"], "name": "", "url": ""
    },
    "dcat:qualifiedRelation": {
      "@type": "dcat:Relationship",
      "description": "one option for links to related resources",
      "dcat:relation": ["URI for related resource"],
      "dcat:hadRole": ["URI for relationship type"]
    },
    "isRelatedTo": {
      "@type": "Product",
      "name": "second option to represent related resources",
      "url": "URI for related resource"
    },
    "ecrr:0000009(citation)": "text, recommended citation for this resource",
    "dcat:conformsTo": ["Specification"],
    "about": ["science domain/community term"],
    "identifier": {
      "@type": "sdo:PropertyValue, or sdo:Text, or sdo:URL, example is for propertyValue",
      "propertyID": "ID type", "value": ""
    },
    "ecrr:0000129(EResourceMaturity)": "text",
    "ecrr:primaryPublication": "URI identifying the publication, or foaf:Document?",
    "ecrr:registryContributor": {
      "@type": "ContactPoint", "name": "Metadata contributor",
      "identifier": ""
    },
    "provider": {
      "@type": ["Person or Organization"],
      "name": "Free text, the agent that maintains the service and makes it available",
      "url": "URLstring, link to human-readable document about the service",
      "ecrr:usage": "free text",
    }
  }
}

```

Tokens identify source profiles for matching

token	label	notes
MAGIC:tsv:multipart	MAGIC tab delimited text format.	
OWL-v2-rdf/xml		Protege will open owl or rdf files encoded in N3, Turtle, rdf/XML,
NWIS-rdb	NWIS tsv	Generic NWIS rdb file
NWIS-rdb-uv	NWIS current data	Standard rdb text document with current data. For now, we don't have apps specific to the NWIS-rdb subtypes, so this is just an example
wfsclient	generic OGC wfs	general profile for any OGC WFS 1.0.0, 1.1.0 or 2.0
NDBC-tsv	National Data Bouy Center tab delimited format	For software, indicates that files can be opened and operated on using the software that conforms to National Data Bouy Center conventions for tab-delimited text files; for Data Distribution indicates that the distribution format conforms to that specification
kmlclient2.3	ConformsTo kml or kmz v2.3	For software, indicates that files in KML or KMZ format can be opened and operated on using the software; for Data Distribution indicates that the distribution format conforms to the KML v2.3 specification
wmsclient	OGC WMS	This token is used to indicate a client application (software), a service instance, or a data distribution that will interact using any of the OGC WMS specifications (1.0, 1.1, 1.1.1, 1.3.0); use a versioned token if the client or service is specific to a particular WMS version
wmsclient1.1.1	OGC v1.1.1 WMS	This token is used to indicate a client application (software), a service instance, or a data distribution that will interact using the OGC WMS specifications version 1.1.1
wmsclient1.3.0	OGC v1.3.0 WMS	This token is used to indicate a client application (software), a service instance, or a data distribution that will interact using the OGC WMS specifications version 1.3.0