



TRINITY COLLEGE DUBLIN GEOLOGICAL MUSEUM A PILOT DIGITIZATION PROJECT

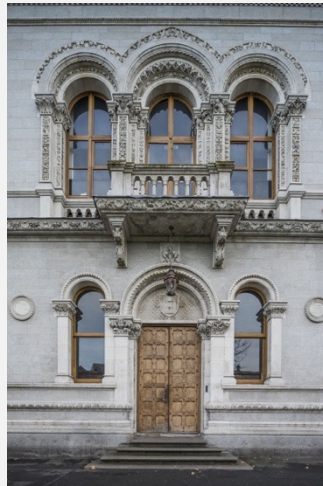
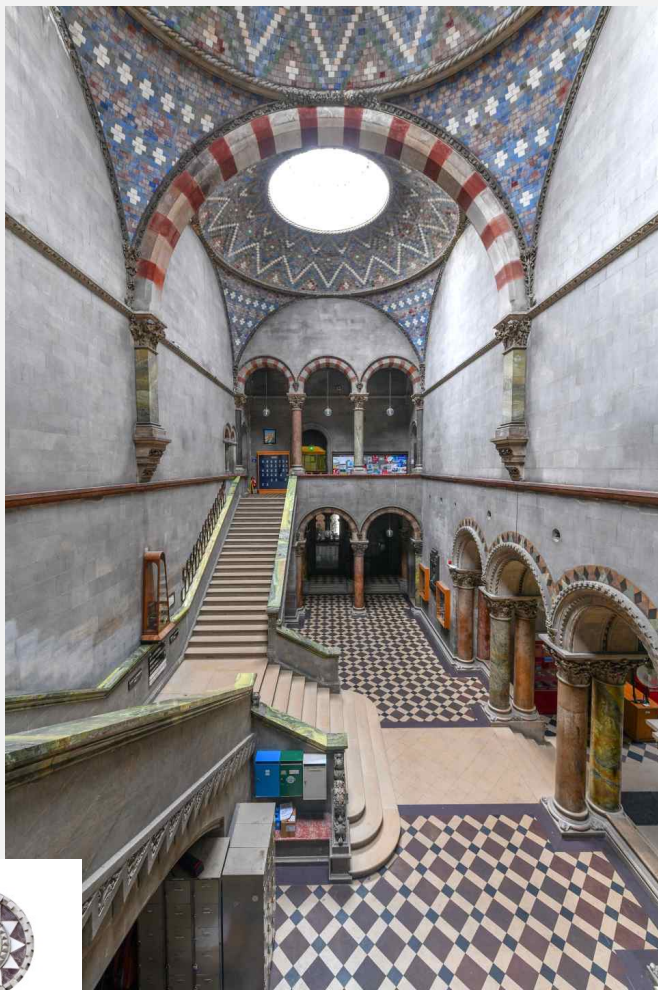
Una Farrell and Patrick Wyse Jackson, SPNHC June 2023 – extended version

The work presented has been funded by Geological Survey Ireland, Contract No. 2022-SC-024



Early 1800s Regent House
Collections: botanical, engineering, ethnographical,
geological, and zoological

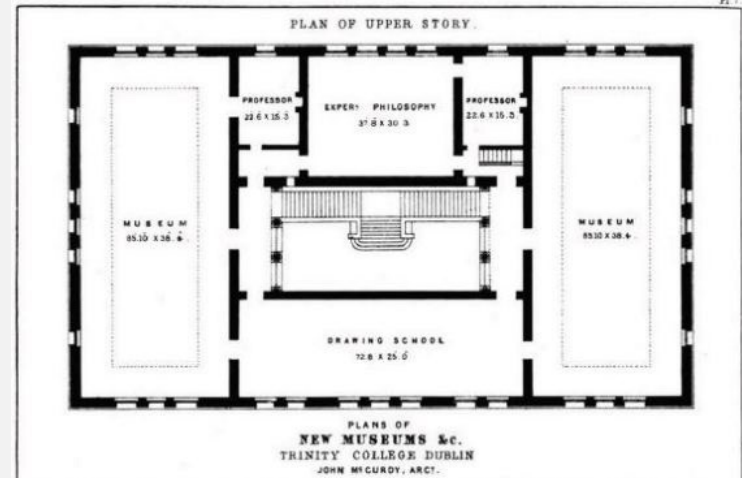
1819



1857: the
Museum
Building



Early 1900s



Floor plan of the Museum Building drawn up by John McCurdy in 1853 [Civil Engineer and Architect's Journal, 1855, p. 48].

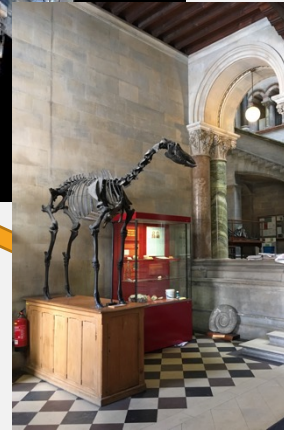
From 2 floors with 17 rooms...



1953-2014



...to 5 floors with 87 rooms

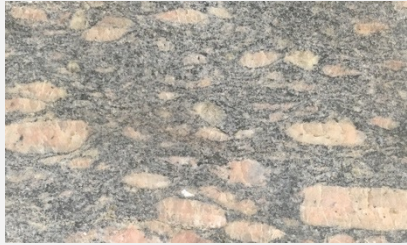




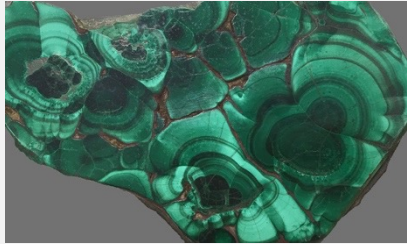
Trinity Technology and
Enterprise Campus
TTEC
2014-present



The Collections



Rocks



Minerals



Fossils



Valuable historic collections
(e.g. John Joly Minerals)



Many individual treasures
(e.g. A specimen collected
by Murchison!)



Taxonomic
and type
collection



Rescued
miscellany –
various
stages of
curation

Objectives



Geological Survey
Suirbhéireacht Gheolaíochta
Ireland | Éireann



install collection management database



develop digitization workflows



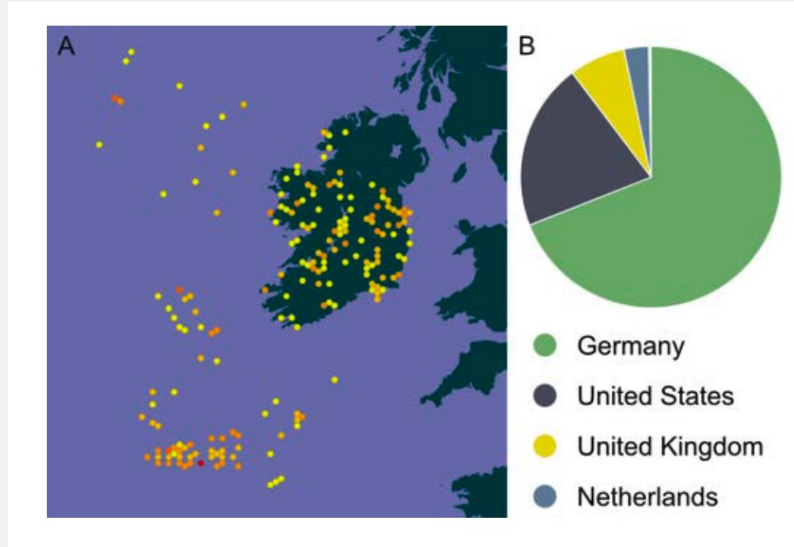
create training materials for staff/volunteers (esp. georeferencing)



digitize/re-curate select specimens from paleontology, rock and mineral collections

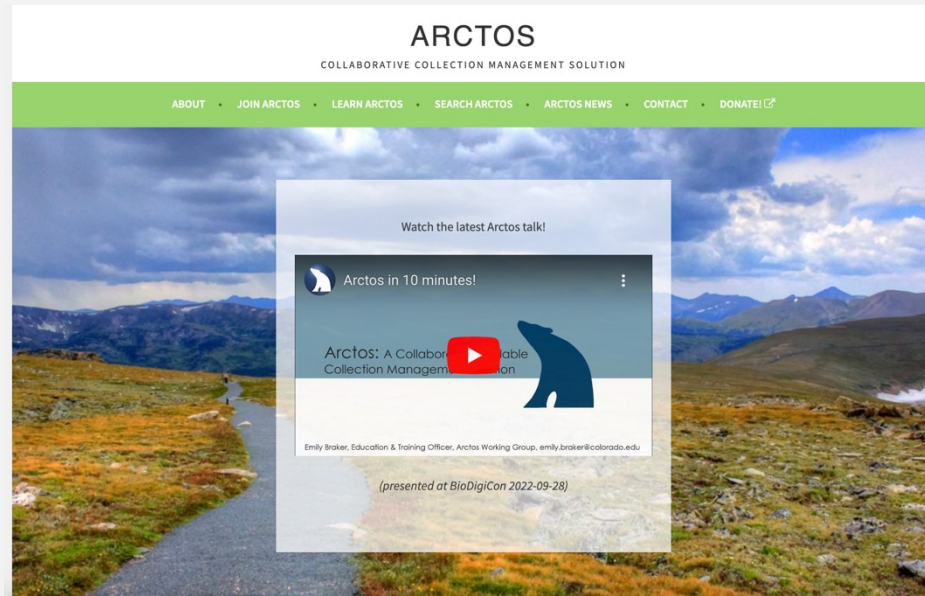


produce digital/mappable dataset available locally and through central data portals



A. Fossil specimen data from Ireland

B. Countries who provided the records

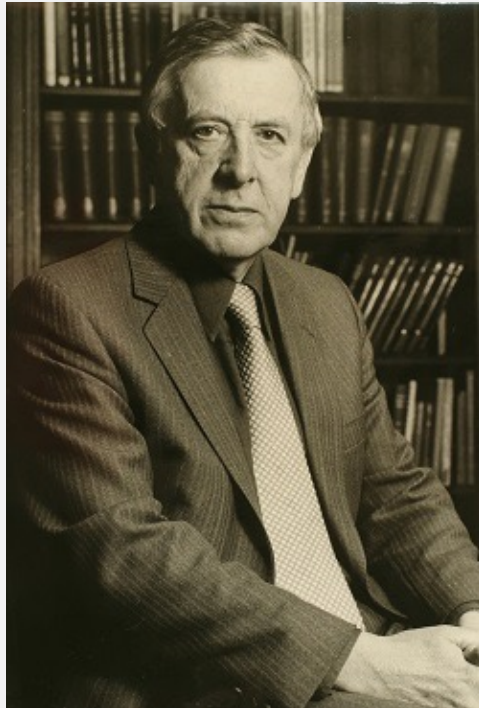


- Accommodates rocks, fossils, minerals
- Shared vocabularies
- Affordable
- No IT support needed
- Fossil data exported to GBIF
- Strong community

Table 1: Four subsets of the TGM collections which will be targeted for digitization in this project

Collection	Primary Collector	Type	Geol. Age	Approx. size	Location
Griffith	Sir. Richard Griffith (1784-1878)	Fossil	Palaeozoic	2 drawers	Ireland
Holland	Prof. Charles Holland (1923–2019)	Fossil	Silurian	10 drawers	Dingle Peninsula, Kerry, Ireland
Portlock	Major General J. E. Portlock (1794-1864)	Fossil	Palaeozoic	0.5 drawers	Ireland
Joly	Prof. John Joly (1857- 1933)	Mineral	Phanerozoic	33 (small) drawers	Global

Prof. Charles Hepworth Holland

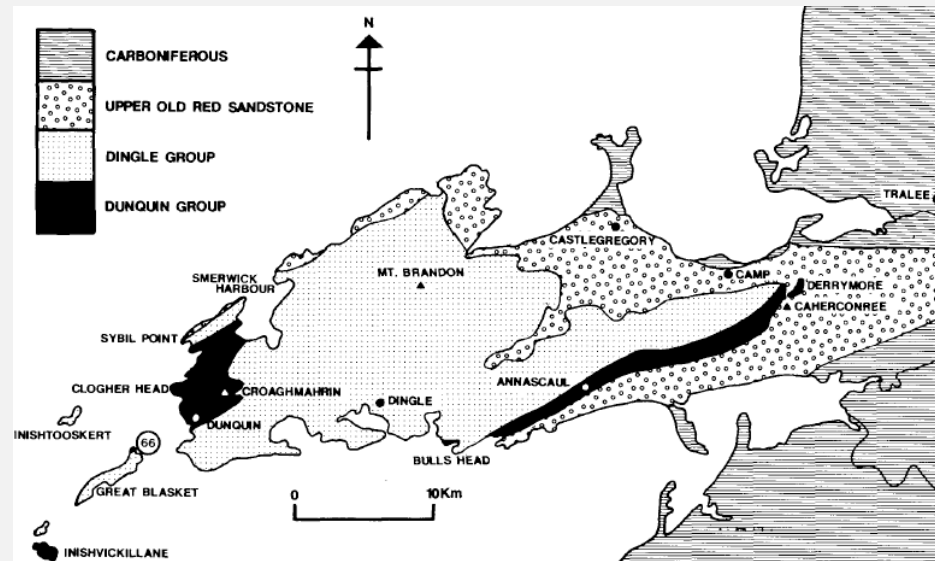


Source: Geological Society

(1923–2019)

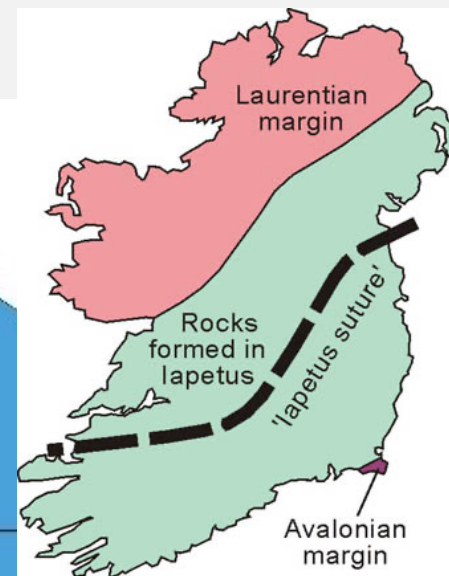
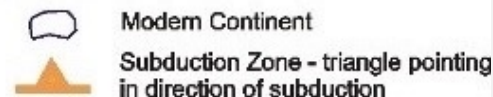
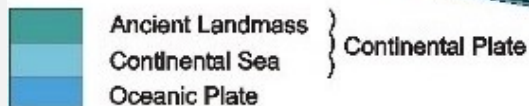
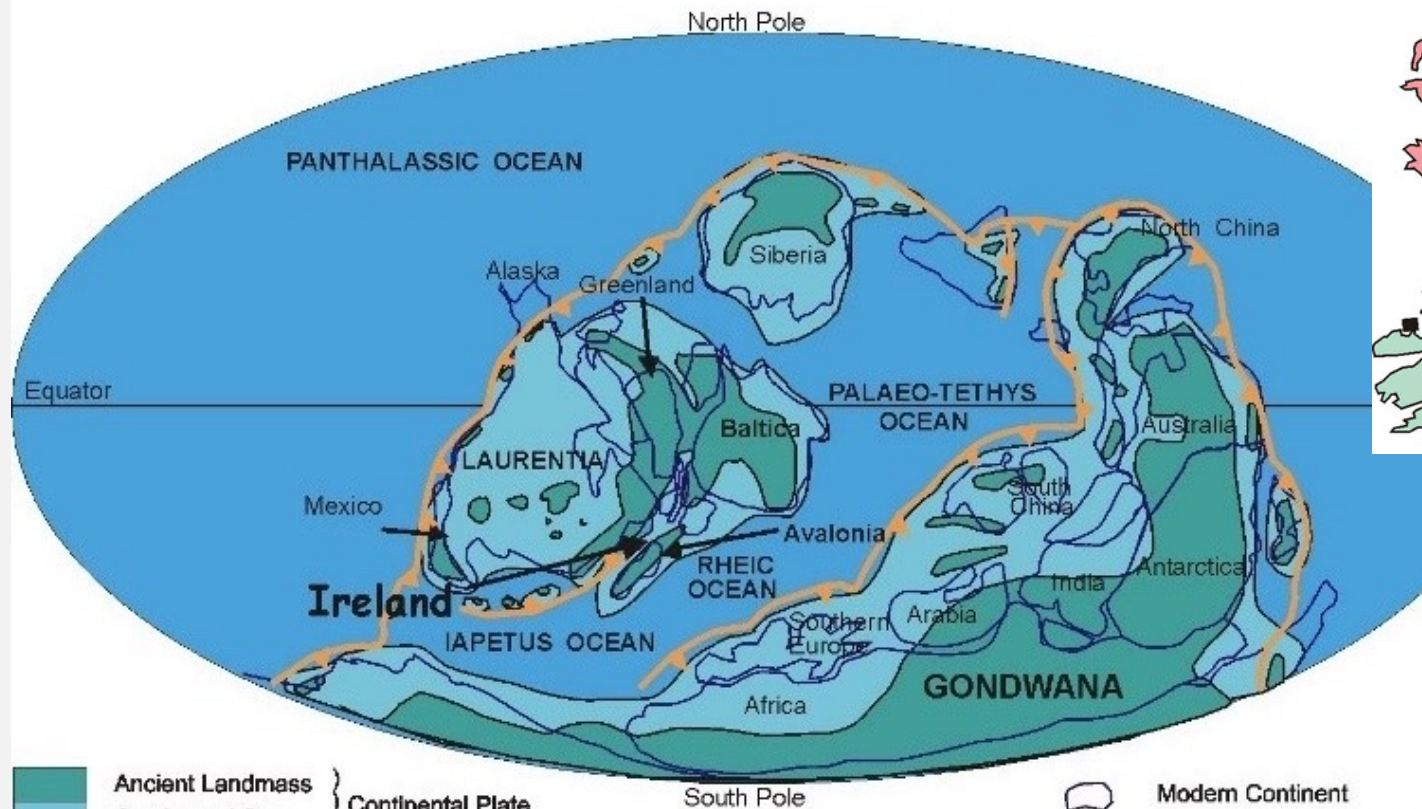
The fossiliferous Silurian rocks of the Dunquin inlier, Dingle Peninsula, County Kerry, Ireland

C. H. Holland



“The Dingle Peninsula provides the westernmost outcrops of Silurian rocks in Europe. They are of **palaeogeographical** interest [...] and **yield the richest shelly faunas to be found in the Irish Silurian.**”

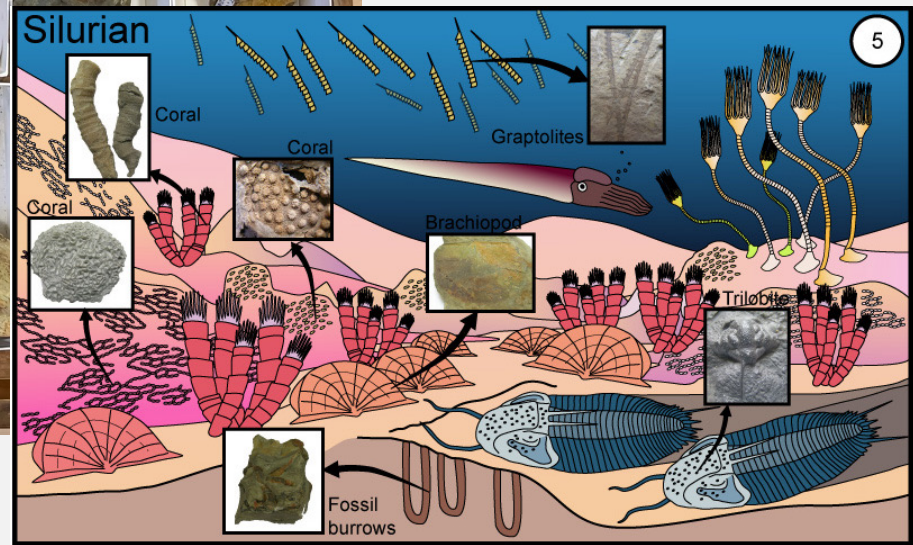
Ireland in the Silurian





Corals
Bryozoans
Brachiopods
Gastropods
Bivalves
Cephalopods

Trilobites
Ostracods
Echinoderms
Graptolites
Trace Fossils





Coral

“The area is one of splendid scenery where the topography closely reflects the geology.” Holland 1988



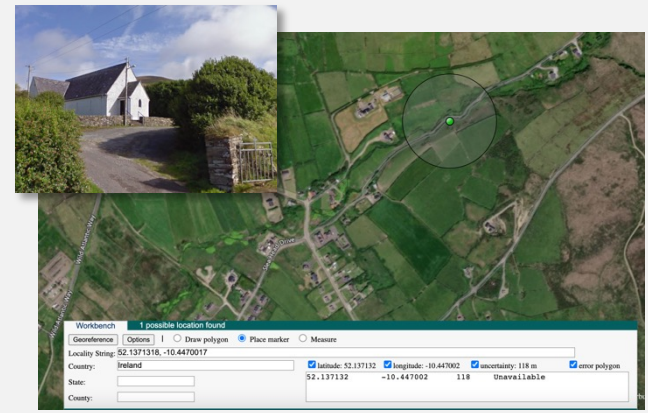
Georeferencing

"The most critical exposure (Locality 67) is in the Dunquin River, 270 m [NW] of Dunquin Church and 470 m NE of the bridge where the main road crosses the river." Holland 1988

52.137132, -10.447002
Uncertainty 188m
Datum: WGS84



470m NE of the bridge where the main road crosses the river

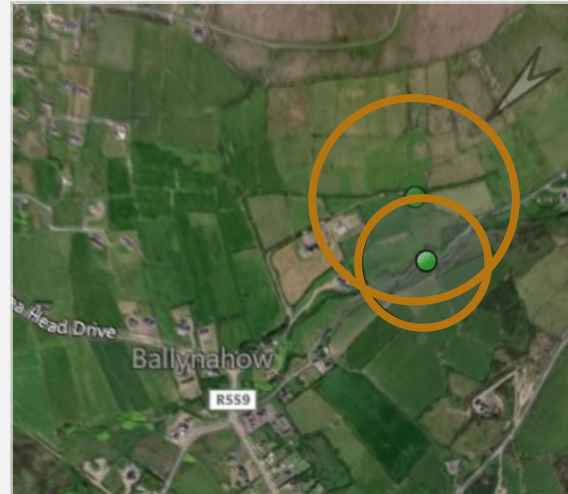


270 m NE of Dunquin Church

Georeferencing Best Practices

Arthur D. Chapman, John R. Wiczorek

Version 743e3a1, 2022-02-25 15:06:09 UTC



GEOLocate

Georeferencing Calculator

English

Locality Type: Distance of a heading (e.g., 10 mi E (by air) (downfield))

Coordinate Source: gaustress Direction: degrees from N

Coordinate Format: decimal degrees Offset Distance

Input Latitude: Radius of Feature

Input Longitude: Measurement Error

Datum: datum not recorded Distance Units: km

Precision: nearest degree Precision: 100 km

Calculate Copy Go here

Latitude Longitude Uncertainty (m) Datum

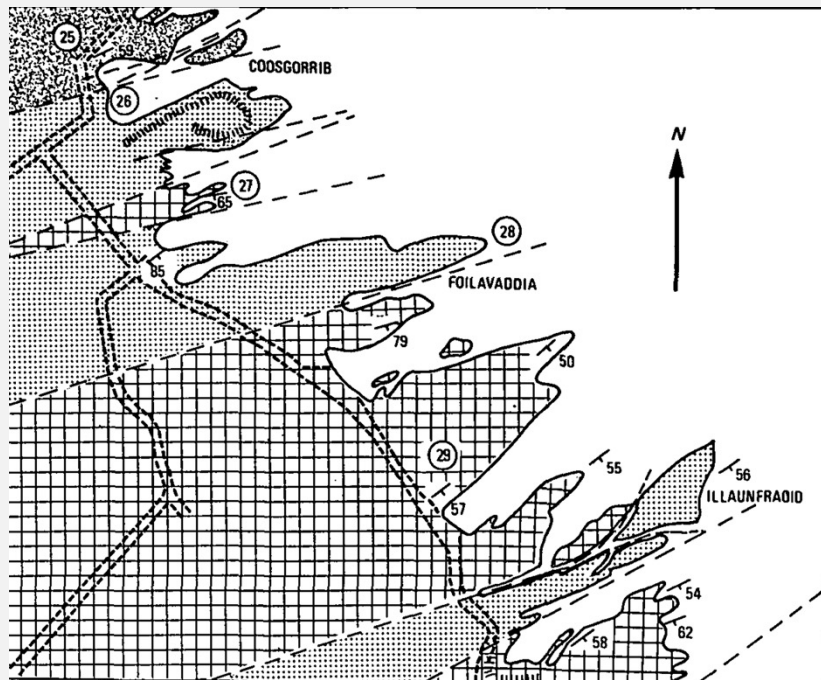
Precision Date Georeferenced by Protocol

protocol not recorded

Distance Converter: km mm = km mm

Scale Converter: 1:24000 = km mm

Version 20210212Rev Copyright 2020 Raulthorpe LLC



Holland, 1987

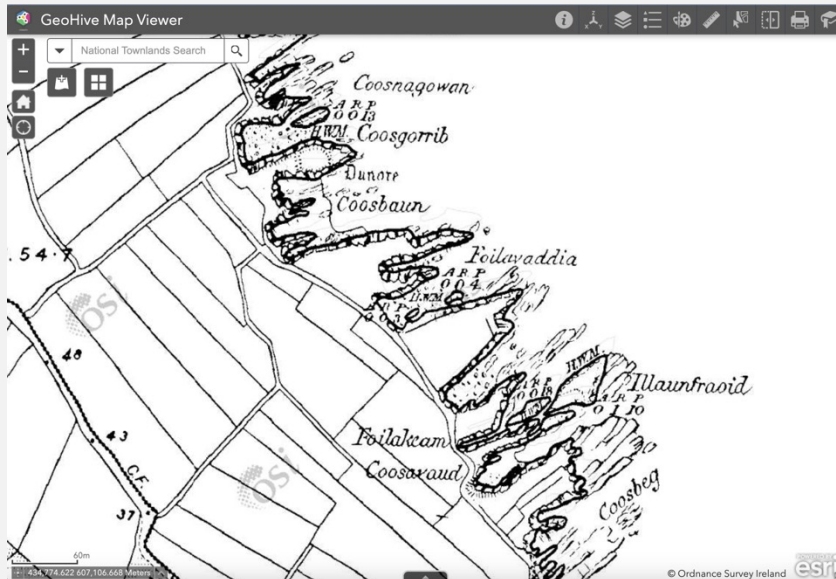
Smerwick Harbour



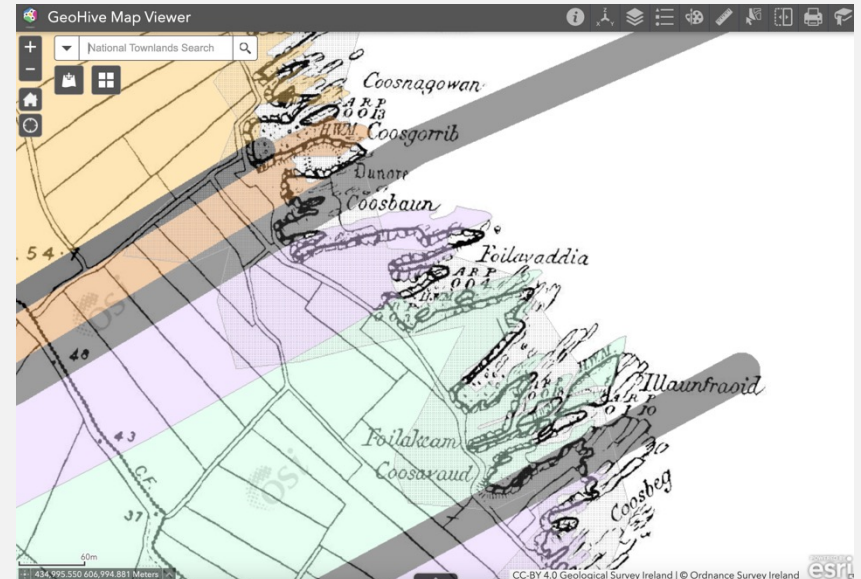
Image: Michael Harpur



Ordnance Survey Ireland Historic 6" maps

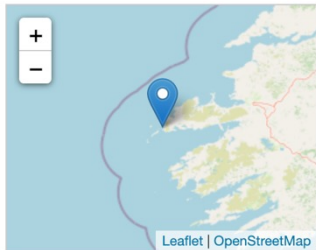


Geological Survey Ireland Bedrock 1:100,000





logainm.ie



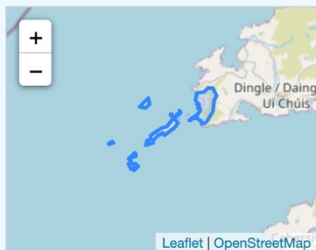
Dún Chaoin/Dunquin

civil parish

COUNTY Ciarraí/Kerry

BARONY Corca Dhuibhne/Corkaguiny

More

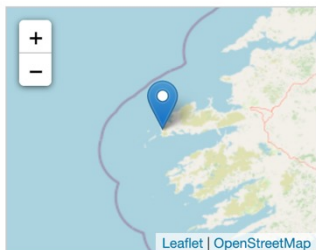


Dún Chaoin/Dunquin

electoral division

COUNTY Ciarraí/Kerry

More



Dún Chaoin/Dunquin

population centre

COUNTY Ciarraí/Kerry

BARONY Corca Dhuibhne/Corkaguiny

CIVIL PARISH Dún Chaoin/Dunquin

TOWNLAND Baile na Rátha Thuaidh/Ballynaraha North

More



COUNTY

Ciarraí/Kerry

BARONY

Corca Dhuibhne/Corkaguiny

CIVIL PARISH

Dún Chaoin/Dunquin

SUBUNITS

all (179)

rocks (49)

minor features (37)

townlands (25)

creeks (20)

islands and archipelagos (11)

points (6)

cliffs (5)

promontories (4)

ecclesiastical sites (4)

mountains and mountain ranges (3)

wells (3)

graveyards, cemeteries, burial ground

strands (2)

civil parish

electoral division

population centre

Dún Chaoin

genitive: Dhún Chaoin
validated name (What is this?)
(Irish)

Dunquin

(English)

☐ Capitalise

Glossary

caoin

ENGLISH pleasant, fair

dún, dúnaibh

ENGLISH fort

Centrepoint

52.1183, -10.477

↑ latitude, ↔ longitude

IRISH GRID (WITH LETTER)

V 30390 99106

IRISH GRID (WITHOUT LETTER)

30390, 99106

IRISH TRANSVERSE MERCATOR (ITM)

430377, 599163

Historical references

g.d. go Dún gcloidhfhionn gCaoin > Dioghl. D Leathanach: 298, Véarsa: 21

1307 Dounkyn?

1728? Dún Caoin

1841 Doonquin

1841 Dunquin (Ph of)

1841 Donquin

1841 Donquin

1841 Dunquin

1841 Dunquin

1841 Dunquin

1841 Donquin

1841 Dunqueen

1841 Dunqueene

1841 Dunqueene

1841 Dún caoin, 'beautiful fort'

1841 Dunquin

1945 əbroːft̪ˈəxuːn ˈxiːn'

1945 duːnˈxiːn'

1945 ə nuːnˈxiːn'

> TAB:AL Leathanach: Ci042,1

> Goodman, Rev. T.:AL Leathanach: Ci042,1

> TAB:AL Leathanach: Ci042,1

> Thompson, D. P.:AL Leathanach: Ci042,1

> Inhabs.:AL Leathanach: Ci042,1

> Cess Coll.:AL Leathanach: Ci042,1

> Smith Hist. Kerry:AL Leathanach: Ci042,1

> Vallancey Map:AL Leathanach: Ci042,1

> ASE:AL Leathanach: Ci042,1

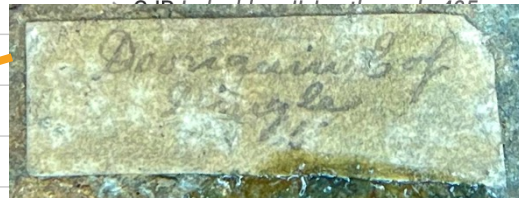
> ARÉ:AL Leathanach: Ci042,1

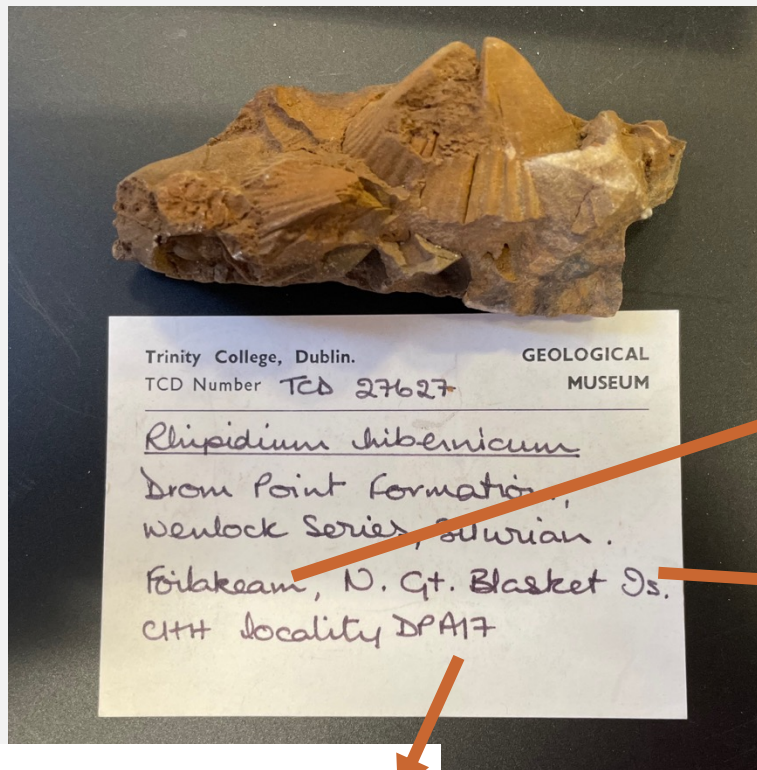
> OD:AL Leathanach: Ci042,1

> Oral Lit. Leathanach: 5

> Oral Lit. Leathanach: 180, 325

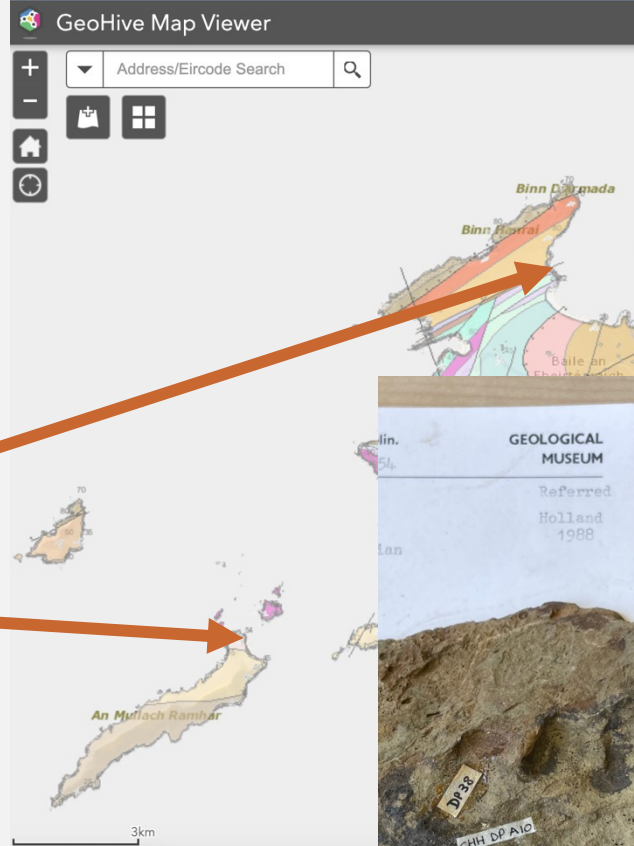
> Oral Lit. Leathanach: 6



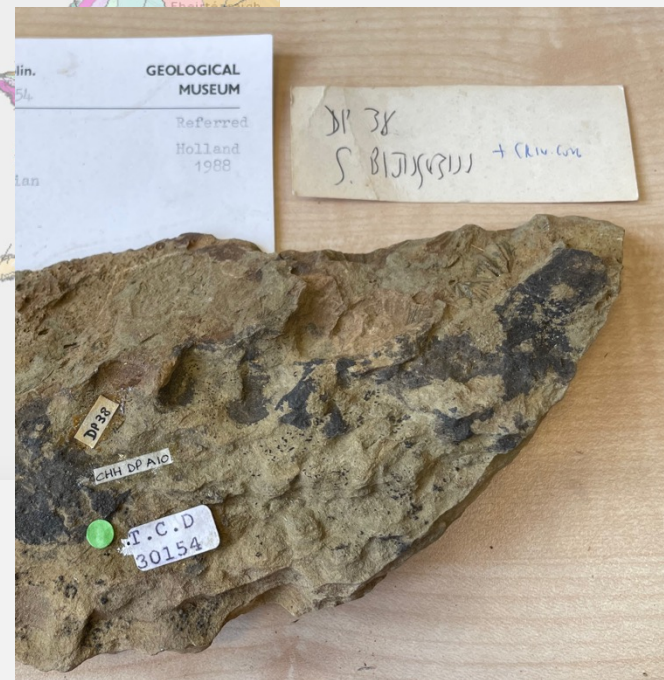


2.e. Inland exposures

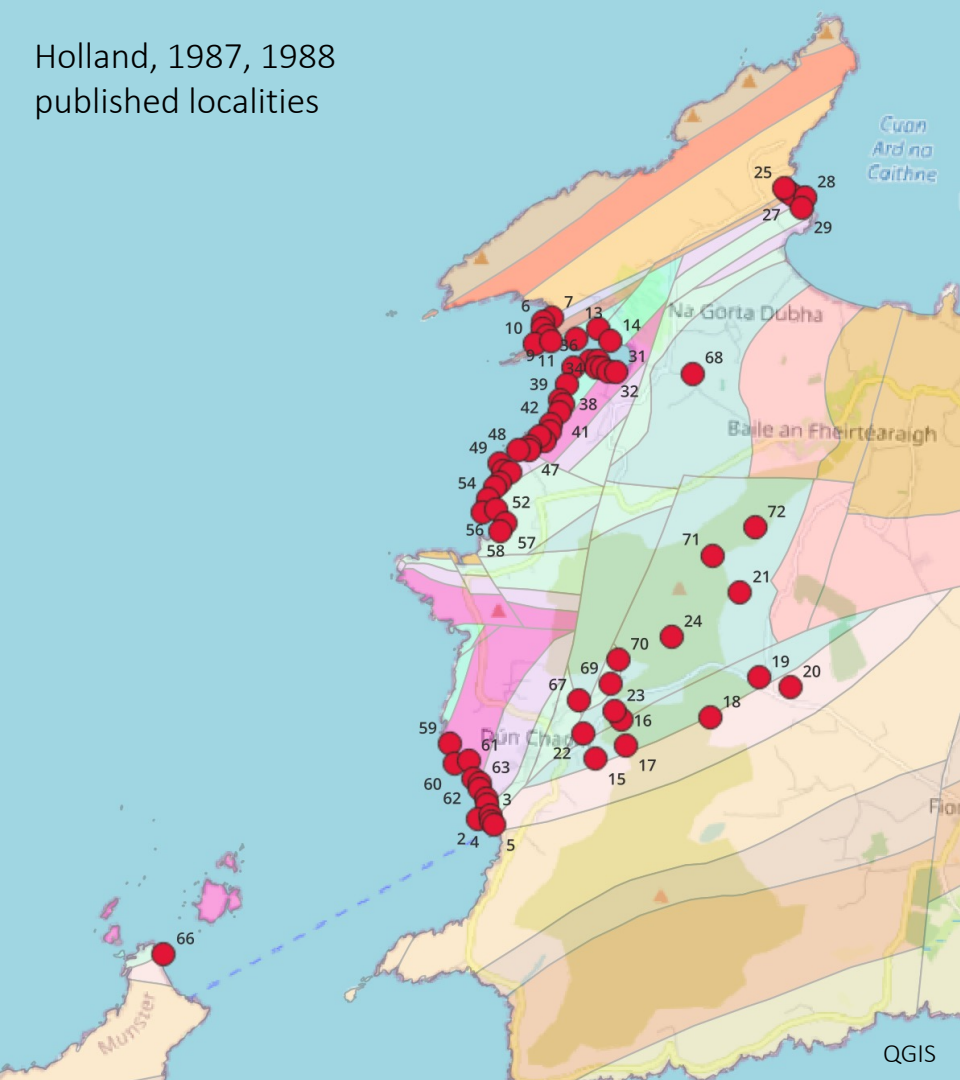
“Close to the boundary (Locality 17) no fossils are found and there are more resistant greyish olive or greenish grey, micaceous, laminated siltstones.” Holland



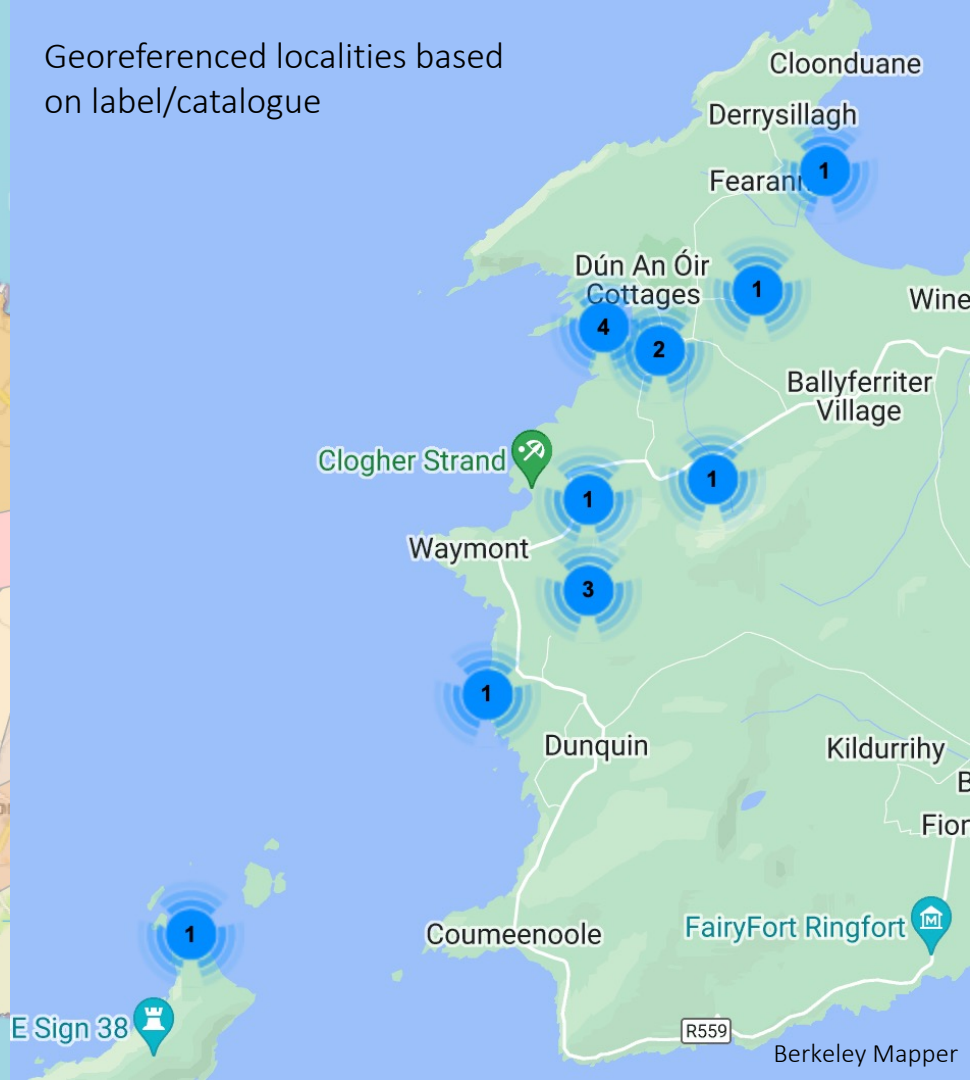
????



Holland, 1987, 1988
published localities



Georeferenced localities based
on label/catalogue



First records in Arctos...

Trinity College Dublin Geological Museum	Paleontology specimens	TCDGM:Paleo	270
Trinity College Dublin Geological Museum	Geology specimens	TCDGM:Rock	1

Submit Query











Clear Form

Customize Search & Results ▾

[Tools] ▾

record limit: 250,000

Showing 1 to 10 of 270 entries

GUID	Identified As	Asserted Country	Asserted State/Province	Specific Locality	Verbatim Date	Decimal Latitude	Decimal Longitude	Coordinate Error (m)
TCDGM:Paleo:13646 	Rhipidium hibernicum	Ireland	Kerry	Northernmost cliffs of Great Blasket Island, Co. Kerry	before 1976	52.110726	-10.518942	257
TCDGM:Paleo:13647 	Rhipidium hibernicum	Ireland	Kerry	Northernmost cliffs of Great Blasket Island, Co. Kerry	before 1976	52.110726	-10.518942	257
TCDGM:Paleo:13648 	Rhipidium hibernicum	Ireland	Kerry	Northernmost cliffs of Great Blasket Island, Co. Kerry	before 1976	52.110726	-10.518942	257
TCDGM:Paleo:13649 	Rhipidium hibernicum	Ireland	Kerry	Northernmost cliffs of Great Blasket Island, Co. Kerry	before 1976	52.110726	-10.518942	257
TCDGM:Paleo:13650 	Rhipidium hibernicum	Ireland	Kerry	Northernmost cliffs of Great Blasket Island, Co. Kerry	before 1976	52.110726	-10.518942	257
TCDGM:Paleo:13652 	Rhipidium hibernicum	Ireland	Kerry	Northernmost cliffs of Great Blasket Island, Co. Kerry	before 1976	52.110726	-10.518942	257
TCDGM:Paleo:13653 	Rhipidium hibernicum	Ireland	Kerry	Northernmost cliffs of Great Blasket Island, Co. Kerry	before 1976	52.110726	-10.518942	257
TCDGM:Paleo:13654 	Rhipidium hibernicum	Ireland	Kerry	Northernmost cliffs of Great Blasket Island, Co. Kerry	before 1976	52.110726	-10.518942	257
TCDGM:Paleo:13655 	Holcospirifer bigugosus	Ireland	Kerry	Coonakeel, north side of Ferriters Cove, 290m east of Ferriters Castle, Dingle Peninsula, Co. Kerry	before 1976	52.175173	-10.449651	57
TCDGM:Paleo:13656 	Holcospirifer bigugosus	Ireland	Kerry	N. side of Ferriters Cove, 290m ENE of Coonakeel, Dingle Peninsula, Co. Kerry	before 1976	52.1761704	-10.4457345	94

Show

10

 entries

Previous

1

2

3

4

5

...

27

Next

First records in GBIF

OCCURRENCE DATASET | REGISTERED MAY 16, 2023

Trinity College Dublin Geological Museum Paleontology specimens (Arctos)

Published by [Trinity College Dublin Geological Museum](#)

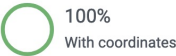
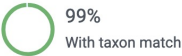
Farrell U • Wyse Jackson P

[DATASET](#) [METRICS](#) [ACTIVITY](#) [DOWNLOAD](#) [HOME PAGE](#)

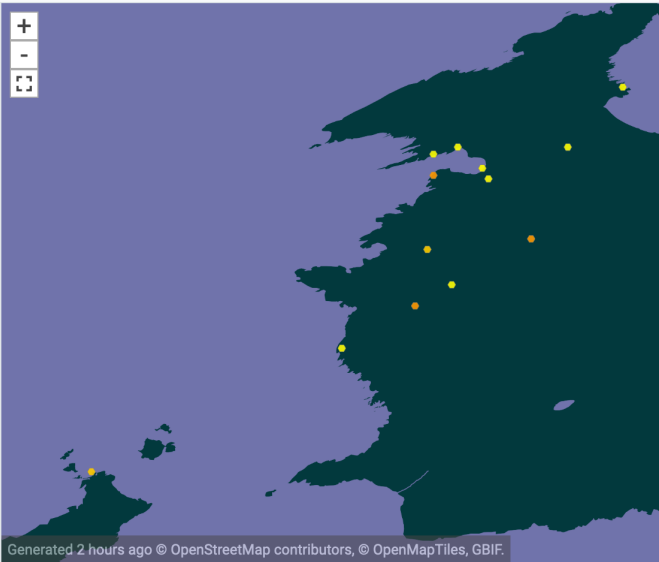
270 OCCURRENCES

Paleontological specimens from the Trinity College Dublin (TCD) Geology Museum. The museum houses teaching and research collections, with a focus on Ireland, but there are specimens collected worldwide. The main paleontological holdings include Irish Silurian and Carboniferous invertebrates, Devonian plant fossils, Mesozoic ostracods, Upper Palaeozoic miospores and casts of Mesozoic marine reptiles.

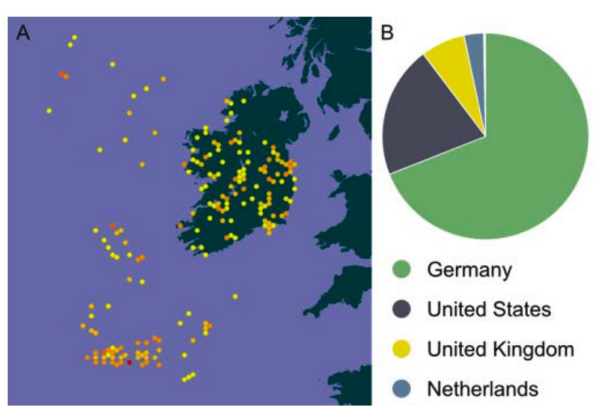
Publication date: May 16, 2023
Metadata last modified: May 16, 2023
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Network: [Arctos](#)
Licence: [CC BY 4.0](#)
[How to cite](#) [DOI](#) 10.15468/7zbw5w



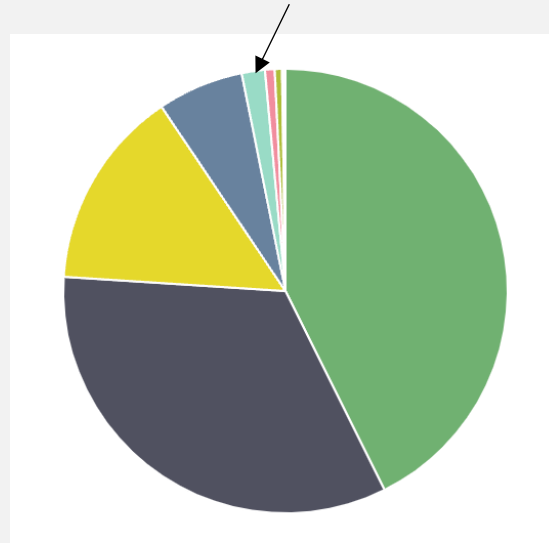
270 GEOREFERENCED RECORDS



First Irish fossil records in GBIF that come from an Irish institution



2021



May 2023

18 download events

[Download report](#)

After one week, 18 download events have included data from our collection



Prof. Patrick Wyse Jackson and Dr. Louise Caulfield



OPW Oifig na
nOibreacha Poiblí
Office of Public Works



STONEBUILT
I R E L A N D

+

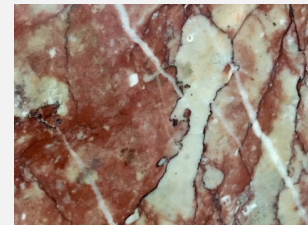
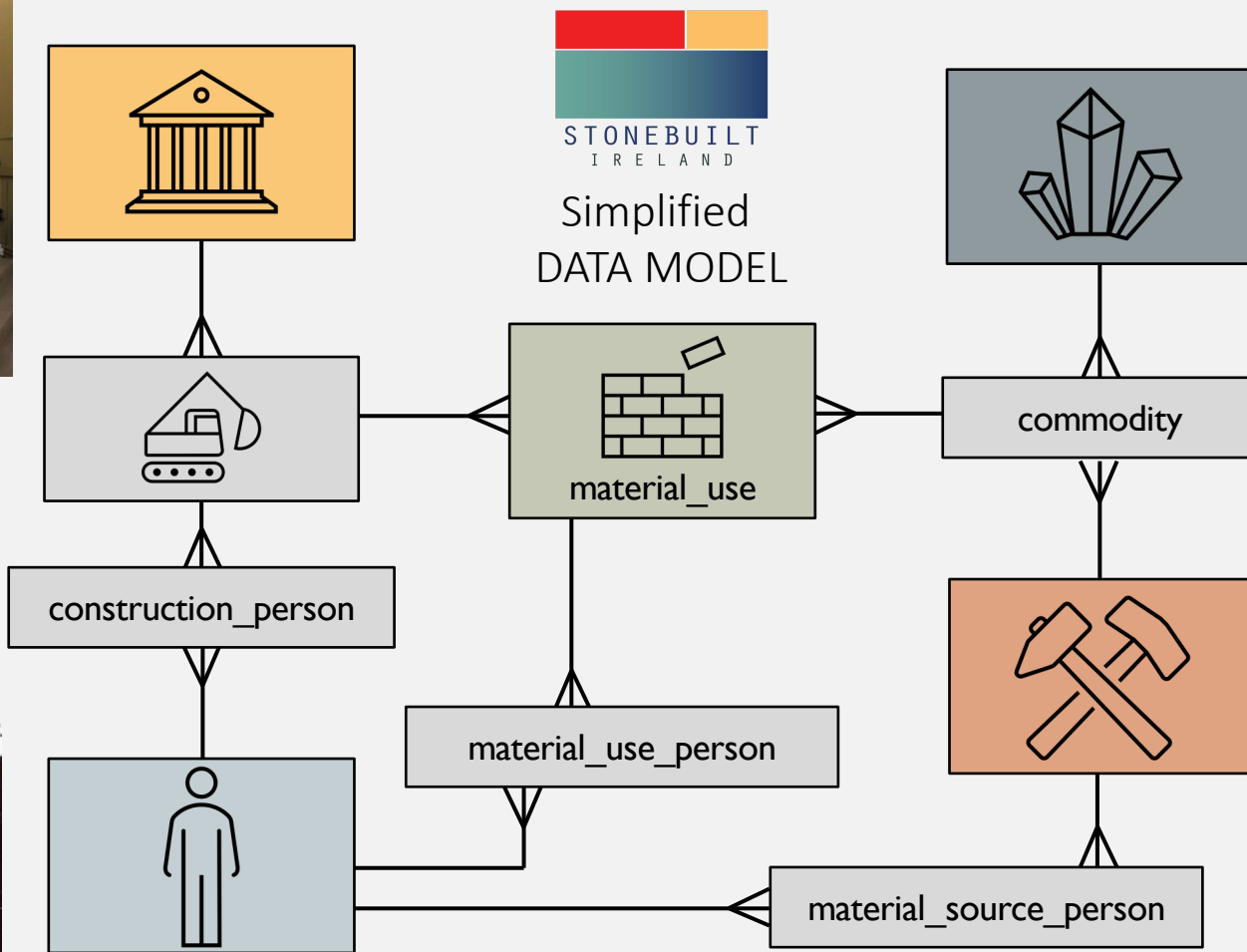




Heritage Sites



People



Materials



Material Sources



MAIN PAGE HOME DATABASE HOME HERITAGE SITES MATERIAL SOURCES MATERIALS

Protected: Database

Work in progress. Many things will soon break.

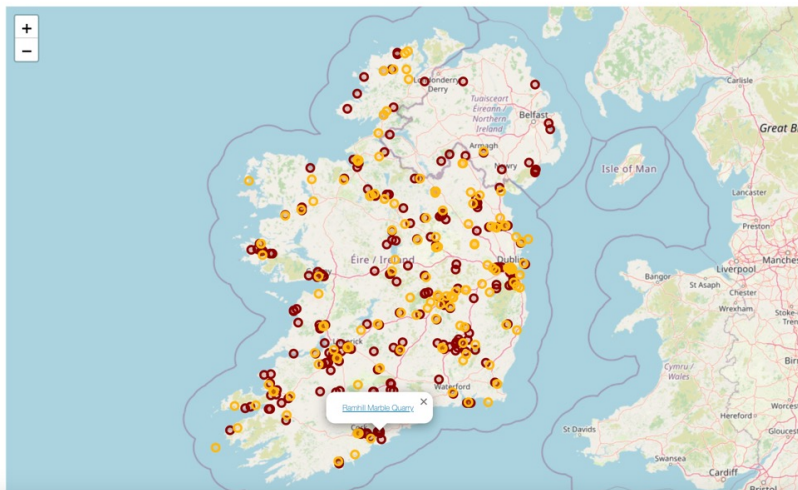
The database links Heritage Sites (e.g. churches, houses) to Materials (e.g. stones, bricks, minerals) and their Material Sources (e.g. quarries, brickfields). The database can be searched via the map below, or through one of the three main categories:

HERITAGE SITES MATERIAL SOURCES MATERIALS

Map Search

Heritage Sites and Material Sources

Heritage Sites and Material Sources



MAIN PAGE HOME DATABASE HOME HERITAGE SITES MATERIAL SOURCES MATERIALS

Cork Red Marble

Material: Conglomerate

Category: Siliciclastic, Sedimentary

Alternative name(s): Victoria Red, Park Red, Cork Marble, Cork Red Conglomerate

Colour: Red, White

Colour Variation: Variegated, Mottled, Veined, Stylolitic

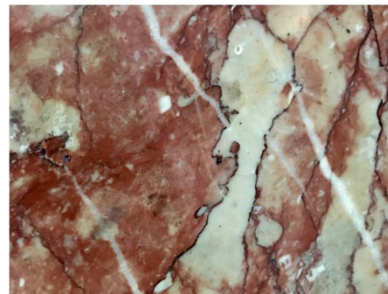
Grain/Crystal Size: Coarse

Place of origin: Cork, Ireland

Lithostratigraphy: Cork Red Marble Formation

Chronostratigraphy: Carboniferous

Fossils: brachiopods, bryozoans, crinoids, foraminifera



GSI stratigraphic code: CDCRED

GSI description: The formation is characterised by cream, pink, and red calcilutite limestones and packstones with pseudo-breccias and a penecontemporaneous red mudstone matrix. Grey cherty calcilutites both above and below the reddened pseudo-breccias are also include

Includes: [Cork Red Marble \(Churchtown\)](#), [Cork Red Marble \(Fermoy\)](#), [Cork Red Marble \(Boreenmanagh\)](#), [Cork Red Marble \(Little Island\)](#), [Cork Red Marble \(Milestone\)](#)



TCD Geological Museum Specimens

[TCDGM:Rock:27883](#)

Link to Arctos specimen records

Material Use

Show 10 entries

Search:

MATERIAL SOURCE	HERITAGE SITE	FEATURE	FINISH	MATERIAL USE DETAIL
Cork Red Marble Quarries	Museum Building	Column	Polished	1 full columns and 3 half columns on ground floor, 2 full columns on first floor
Cork Red Marble	Museum Building	Seat	Polished	Seats either side of main staircase

TCDGM:Rock:27883
Conglomerate

Parts: rock
Ramhill Marble Quarry, 1.5 miles SE of Midleton, Co. Cork
Ireland, Cork
1800s (1800-01-01 - 1899-12-31)
Record Type: specimen

Comment or Report Bad Data [0][0]

Request Cache Refresh (Status: FLAT update requested)

Get a DOI

- Identification
- Accn
- Locality
- Agents
- Parts
- Part Location
- Attributes
- Other IDs
- Media
- Encumbrances

Identifications [Edit](#)

Conglomerate [link]
Identified by Louise Caulfield on 2023-05-15
Nature of ID: [features](#)

Agents [Edit](#)

Identifiers and Relationships [Edit](#) full view

Relationship	IssuedBy	ID Type	ID Value	Link	More	Containers	Extras	AssignedBy	Remarks
self	Trinity College Dublin Geological Museum	other identifier	S783		search			Una Farrell @2023-05-15	TCD Geology department sedimentary rock catalogue (1962) - specimens have been renumbered to incorporate them into the museum petrology collection.

Catalog Record Media

Media linked to this Cataloged Item.
Showing results 1 - 3 of 3 [Media Gallery](#)



image (image/jpeg)
Media Details
CC BY-NC



image (image/jpeg)
Media Details
CC BY-NC



image (image/jpeg)
Media Details
CC BY-NC

Cork Red Marble from Ram... Cork Red Marble from Ram... Cork Red Marble from Ram...

Catalog Record/Curatorial

Record Identifier: <https://arctos.database.museum/guid/TCDGM:Rock:27883> [copy](#)
Entered By: Una Farrell on 2023-05-15
Last Edited By: unafarrell on 2023-05-15 [More](#)
Accession: 9999 [Manage](#) or [Edit](#) -accession restricted by collection-

Place and Time [Edit](#) [Map it in BerkeleyMapper!](#)

highlight linked components

Event Type: [collection](#) Assigned by Una Farrell on 2023-05-15
Verification Status: [accepted](#) by Una Farrell on 2023-05-15
Event Dates: 1800-01-01 to 1899-12-31 Verbatim Date: 1800s
Higher Geography: [Ireland, Cork](#) source
Geography Search Terms: Contae Chorcaí
Locality Name: TCDGM:Loc16 [search](#)
Specific Locality: Ramhill Marble Quarry, 1.5 miles SE of Midleton, Co. Cork
Verbatim Locality: Ramhill Marble Quarry, one and a half miles SE of Midleton, Co. Cork
Event Name: TCDGM:CollEvent45

Coordinates: 51.895 / -8.161 [history](#)
Primary Spatial Data: point-radius
Error: 217 m
Georeference Source: 25-inch Ordnance Survey Ireland Map (1897-1913), GeoHive website
Georeference Protocol: [MaNIS georeferencing guidelines](#)

anyaman wooo
Ballinacurra
Ballinacurra West
[Google](#) Terms of Use
map keytools

Locality Attribute	Value	Determiner	Method	Date	Remark
System/Period	Carboniferous	Louise Caulfield		2023-05-15	
lithostratigraphic formation	Cork Red Marble Formation	Louise Caulfield		2023-05-15	





THANKS!

Teresa Mayfield-Meyer (Arctos)

Dusty McDonald, Michelle Koo,
Andrew Doll, Beth Wommack,
Nicole Ridgwell, Michelle Judge,
David Bloom



Louise Caulfield (Stonebuilt)

FUNDING



Contract No. 2022-SC-024