

Rescuing Ireland's Climate and Rainfall Data

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Rescuing Ireland's Climate and Rainfall Data

- Most Pre 1961 records are held in manuscripts in the Met Éireann
- Estimated at least 20 person years will be needed to rescue all data



Three Data Rescue initiatives are underway:

- 1. Rainfall Involving 3rd level students in Maynooth University "Integrating Data Rescue into the classroom"
- 2. Maximum and Minimum Temperature Data Rescue at Galway University (NUIG)
- 3. Full climate journals with the Central Statistics Office





An Award winning Project in Collaboration between Met Éireann and Maynooth University, PhD student partly funded by Irish Research Council







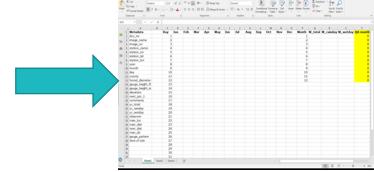




Part of third year Geography curriculum

- Students given Presentation from Met Éireann to convey the scientific, cultural and social importance of the data.
- Images assigned to students via Dropbox along with templates provided by Met Éireann for transcribing the data.
- Each sheet was assigned twice double keyed.
- Access to 274 sheets previously transcribed (single keyed) by Met Éireann.

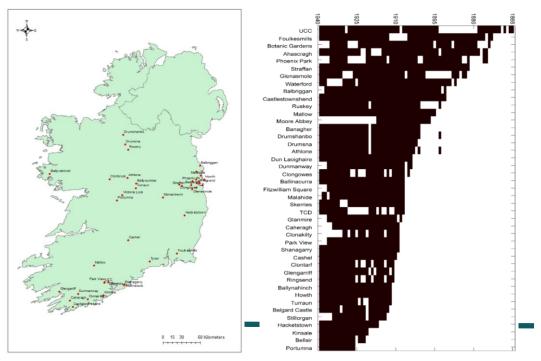
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Data Rescue: (phase 1~1300 annual rainfall sheets)



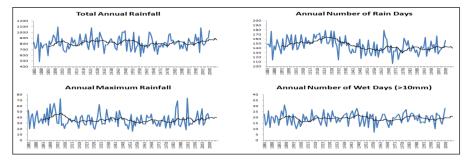




The student experience

Supports were developed to assist the process:

- Video tutorial
- Discussion Forum
- QA check
- Group Discussion



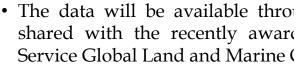
Feedback from the students: 80% stated that they would prefer to participate in assignments like this over other, more traditional, assignments.





Data Rescue: Summary and Ongoing work

- To date over 3000 annual rainfall sheets and associated metadata transcribed by students.
- Hosted by the World Meteorolog best practice in data rescue.
- <u>https://library.wmo.int/doc_nu</u>

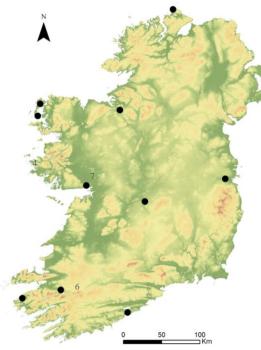


• June 2018 Paper and Supplementa Integrating data rescue into the DOI: 10.1175/BAMS-D-17-0147





A PhD research project in Collaboration between Met Éireann and Galway University, Carla Mateus





- 1-3 Botanic Gardens Dublin (1848 1957).
- 4 NUI Galway (1861 1952).
- 5 Fitzwilliam Square Dublin (1871 1937).
- 6 Roches Point (1872 1956).
- 7 Birr Castle Observatory (1872 1954).
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- 10 Killarney (1881 1898, 1920 1933).
- 11 Belmullet (1884 1899).
- 12 Blacksod Point (1900 1956).
- 13 Malin Head (1885 1955).





Data Entry – Double Keying

- NUIG volunteering students
- ALIVE program (A Learning Initiative and the Volunteering Experience)
- Irish Meteorological Society volunteers
- NUIG Geography undergrad students (200 students)
- Transition Year Students (over 150 High school students, mainly 15 and 16 years old)















Transition Year Work Placement Training



















Summary Current and Planned Work :

- Data rescue and keying is completed, journal paper in preparation
- Data Quality Control and Homogenisation Under way
- Data trend analysis will then be undertaken
- All data will be made public





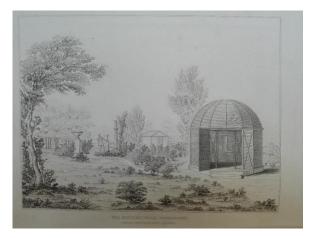
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Phoenix Park (Dublin) observing station





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8 July, 2018 Eatwave	high-pressure anomaly over Scandinavia caused	Linköping, Sweden	1931-2018	32.2	30 (10200)
UROPE	and drought there from May to (at least) July.	Sodankyla, northern Finland	1908-2018	31.9	>90 yr
		Jokioinen, southern Finland	1957-2018	32.1	140 (>16)





- Manuscripts sent by Met Éireann to external company for scanning
- Images sent to CSO for keying
- Designed excel templates to mirror scanned images
- Scanned image double keyed keyed
- Monthly excel file read into SAS and checked by CSO
- Further checking of keyed month (text data and time series)
- Time-series of all years created by CSO
- Data returned to Met Éireann in one tab-delimited file
- Monthly excel files will be made available to Met Éireann





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Progress this year

- Data rescue was initially carried out by two staff members, with occasional help around 20 internal volunteers.
- 2 years of data was keyed before it was determined that progress was slow and full time temporary clerical staff was required.

Currently, 10 people are working full time on keying weather data, with 2 further internal volunteers continuing to frequently help in the keying process.

- It takes approximately 6 hours to rescue station month
- 120 years by 12 months by 6 hours = 8,640 person hours for Phoenix Park!





Last Slide

Lessons learned

Data Rescue is a labour intensive activity, but even a slow start in worth undertaking.

Management time is significant and should not be underestimated.

Always interesting and sometimes surprising!

THE TEMPERATURE IN JULY.

It is well known that popular opinion usually magnifies present events, and we expect each severe frost, heavy gale, or violent thunderstorm to be considered by the public at large as unprecedented. The attention devoted to the heat of the present summer seems to us, as far as relates to absolute maxima, rather excessive. We shall show

July 1876! Plus ca change

