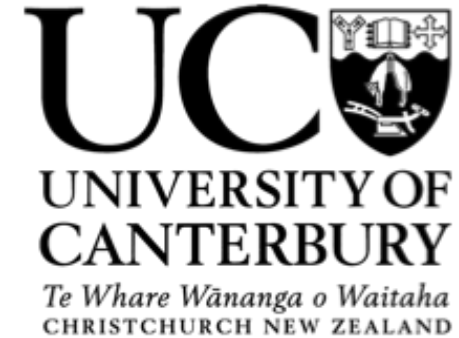


New Zealand's Open Modelling Consortium

www.envlib.org



Marwan Katurji

Mike Kittridge, Jiawei Zhang, Peyman Zawar-Reza

“Nau mai, haere mai ki Te Ara Ātea”

*“Welcome to the **unobstructed trail** to the world and beyond.”*



Te Ara Ātea: Rolleston Library

eResearch NZ 2022
9-11 FEBRUARY, CHRISTCHURCH & ONLINE





✓ A *mission* for providing free weather, climate and environmental data and knowledge for our research community

✓ Values *open data access* to the research community that underpins research innovation

New Zealand's Open Modelling Consortium

✓ Strengthen research *partnerships* across universities and research organizations

✓ To incubate and sustain a *data driven framework* for atmospheric and environmental science



Meteorology Solutions



Headwaters
Hydrology



Presentation Outline

1. The purpose of the Environmental Digital Library www.envlib.org
2. Brief overview of modelling supporting the datasets
3. Future growth and community engagement plans

Dynamical Scales

1000's km
Days to
weeks

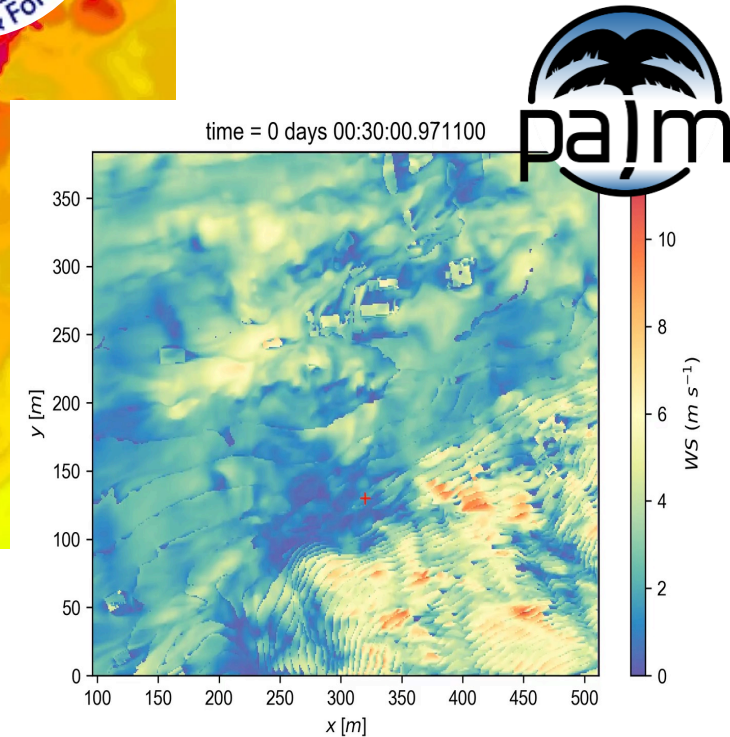
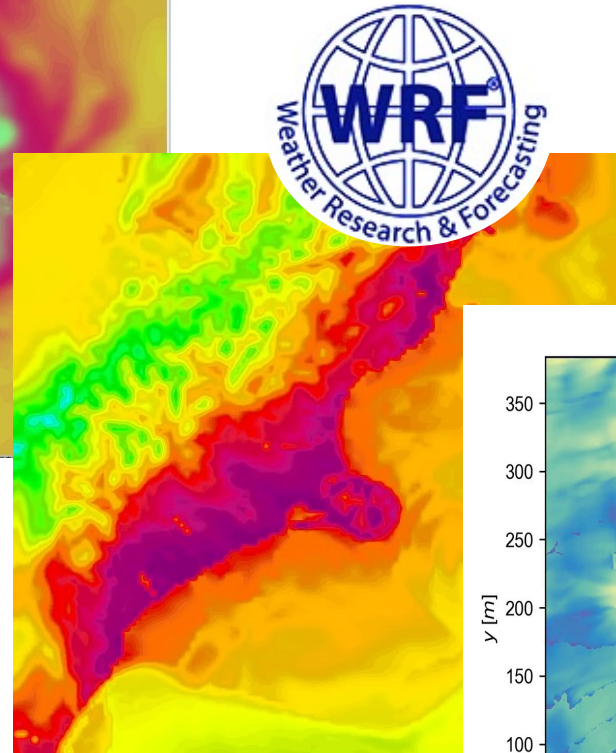
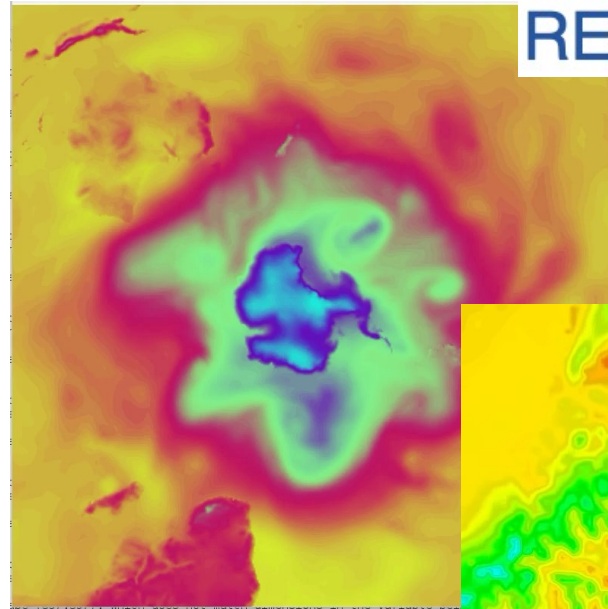
Regional climate
and weather
systems scale

< 1000 km
Minutes to
hours

The Mesoscale:
between weather
system scale and
microclimates

< 100 m
Seconds to
minutes

Turbulence
resolving scales

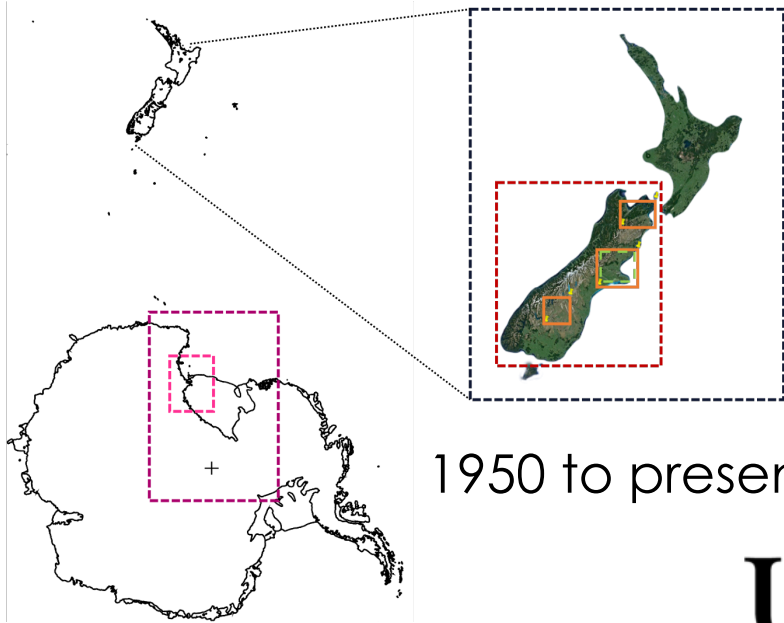


Environmental Digital Library

Accomplished and ongoing plans

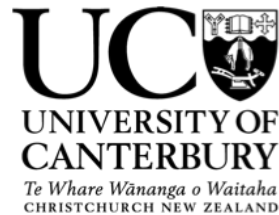
1. Acknowledge modelling and observational efforts by others
→ Cloud based storage
2. Provide a geospatial **data discovery** toolkit
→ Tethys Application Programming Interface (API)
3. Develop **data exploration** Python notebooks
→ Online interactive tools
4. Encourage community based **data analytics**
→ Sustainable progress

Modelling domains



1950 to present

Meteorology Solutions Ltd



Headwaters
Hydrology



Environmental stations



Data exploration with www.envlib.org



www.jupyter.org

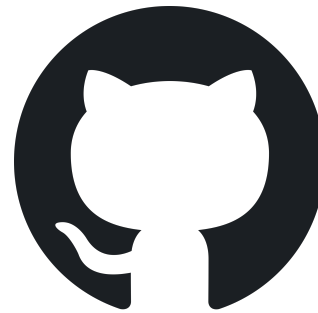
Python “notebooks”

Tailored for different user needs/experiences

Notebook 1

Notebook 2

Notebook 3 ... N



www.Github.com

“Give your code a
home in the
cloud”



www.mybinder.com

“Make your code executable online
and interactive with the data”

Let's check it out!