



**AOMSUC-12**

**11 - 18 November 2022**

Online, Hosted by Japan Meteorological Agency



12th Asia - Oceania Meteorological Satellite Users' Conference

**“Satellite Meteorology Training in WMO RAV during 2021/22; the Australian VLab Centre of Excellence experience”**

Joint RAI – RAV Coordination Meeting

Presenter: Agnes Lane. Australian Bureau of Meteorology



The Bureau  
of Meteorology

# **“Satellite Meteorology Training in WMO RAV during 2021/22; the Australian VLab Centre of Excellence experience”**

Joint RAI – RAV Coordination Meeting

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# Contents

A summary of the satellite meteorology training conducted by the Australian VLab Centre of Excellence over the past year.

The presentation focusses on the monthly Regional Focus Group (RFG) meetings, highlighting:

- Celebration of the 100<sup>th</sup> RFG meeting.
- Highlighting the contribution by and collaboration with regional subject experts in adding to the variety and value of the training.
- Direction and initiatives for 2023





# The Australian VLab Centre of Excellence and contacts 2013 to 2022



Roger Deslandes  
(Head of CoE)



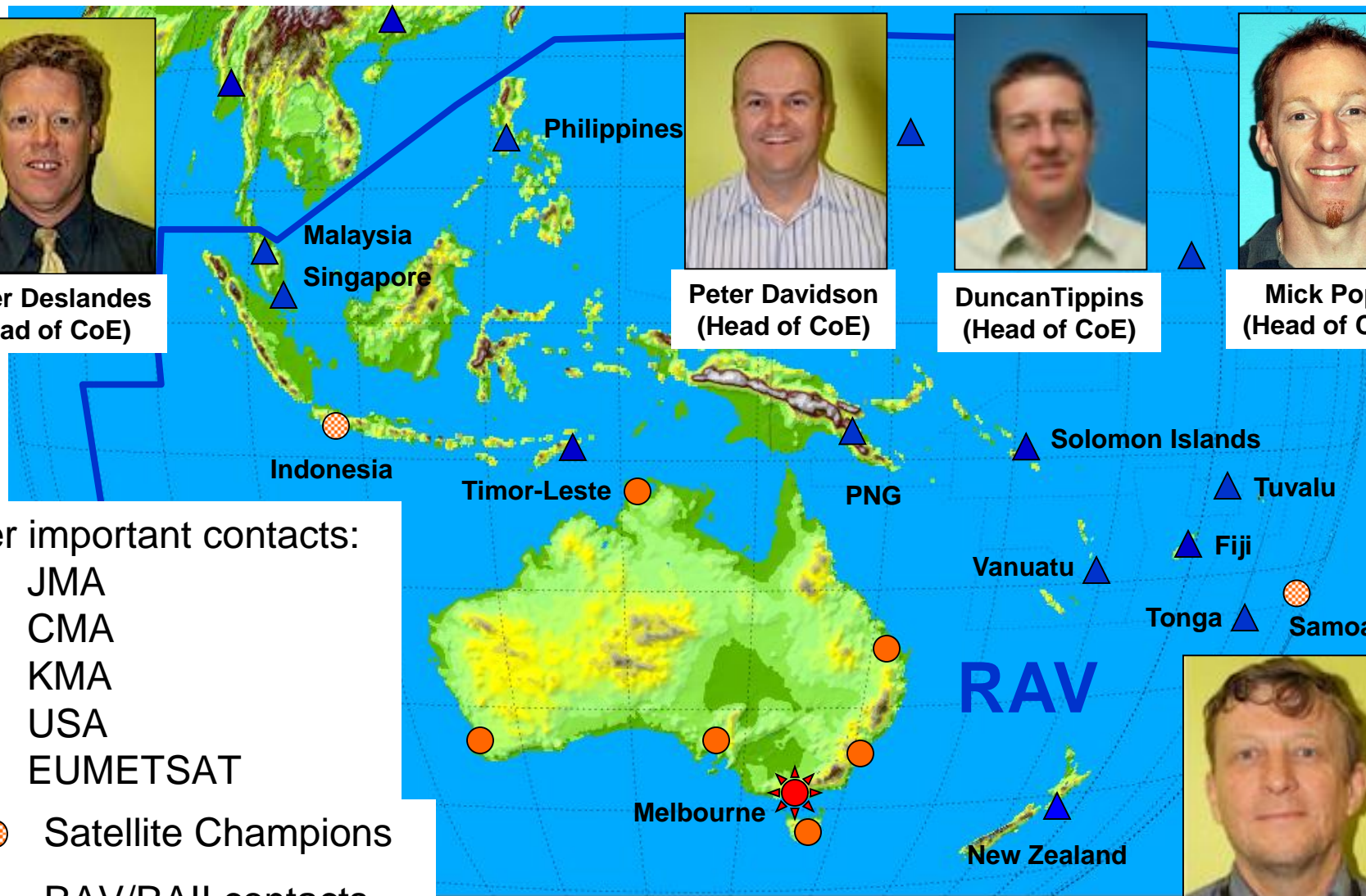
Peter Davidson  
(Head of CoE)



Duncan Tippins  
(Head of CoE)



Mick Pope  
(Head of CoE)



Bodo Zeschke  
(Main Point of Contact)

## Other important contacts:

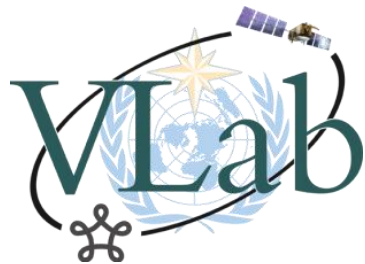
- JMA
- CMA
- KMA
- USA
- EUMETSAT

● ● Satellite Champions

▲ RAV/RAIL contacts







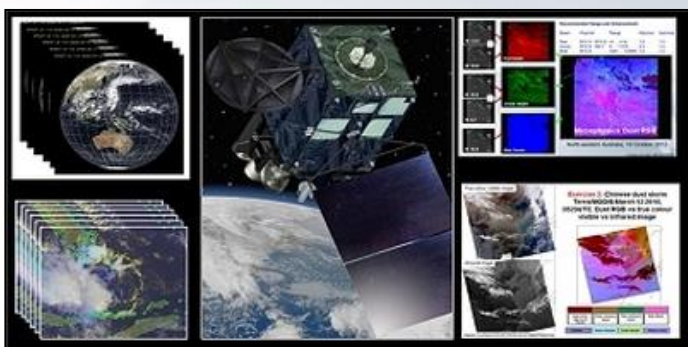
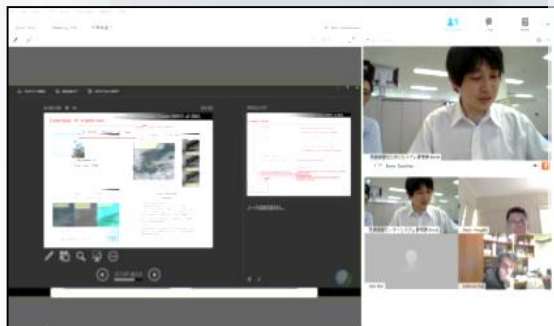
Australian Government  
Bureau of Meteorology



# Australian VLab Centre of Excellence

# 100

# Regional Focus Group meetings



**The Australian VLab Centre of Excellence and contacts 2013 to 2022**

**Other important contacts:**

- JMA
- CMA
- KMA
- USA
- EUMETSAT
- Satellite Champions
- RAV/RAII contacts

**Key Personnel:**

- Roger Deslandes (Head of CoE)
- Peter Davidson (Head of CoE)
- Duncan Tippins (Head of CoE)
- Mick Pope (Head of CoE)
- Bodo Zeschke (Main Point of Contact)











# Presentations by invited speakers since AOMSUC-11

**On the rapid intensification (and weakening) of Tropical Cyclones Vernon and Charlotte**


Australian Government  
Division of Meteorology

Joe Courtney VLAB 29 March 2022

Rapid Intensity change remains a major forecasting challenge

Highlight satellite signatures of recent events

30kn/24h



Socrative: socrative.com  
Login as student  
Room: VLAB2022  
(anonymous)

Acknowledgements: CIMSS <https://tronic.ssec.wisc.edu/tropic.php>  
microwave NRL [https://www.nrlmry.navy.mil/tc-bin/tc\\_home2.cgi](https://www.nrlmry.navy.mil/tc-bin/tc_home2.cgi)  
Scatterometry NOAA <https://manati.star.nesdis.noaa.gov/datasets/ASCATData.php>  
Other imagery: CIRA <https://rammb-dai>




**Mr Joe Courtney**

**March 2022**

NSMC

**Investigating a Cold Wave case study utilizing satellite data**




Mr. Di XIAN (xiandi@cma.gov.cn)  
Deputy Director of International User Service Center  
National Satellite Meteorological Center  
(National Center for Space Weather)



**Mr Di Xian**

**April 2022**

**SIGNIFICANT WAVE HEIGHT OBSERVATIONS**  
HOW TO MAKE VIEWING THEM EFFICIENT



Scott Lindstrom  
University of Wisconsin-Madison  
CIMSS



**Mr Scott Lindstrom**

**August 2022**

BMKG

**RGB Cloud Phase Distance Receipt on Tropical Region**

Indonesia Agency for Meteorology  
Climatology and Geophysics (BMKG)  
By: Rion S. Salman



**Mr Rion Salman**

**September 2022**

FENGYUN Applications

- Nation Satellite Meteorological Center: <http://www.nsmc.org.cn>
- FENGYUN satellite data center: <http://data.nsmc.org.cn>
- Long-term dataset reprocessing project website: <http://www.richness.cn>
- FENGYUN satellite data ftp server (user account required): <ftp://fp.nsmc.org.cn>
- FENGYUN satellite data analysis platform: <http://rsapp.nsmc.org.cn/geofy/en/>
- FY-4A animation: <http://fy4.nsmc.org.cn/portal/en/theme/FY4A.html>
- FY-4B rapid scan: <http://satellite.nsmc.org.cn/metafy/en>
- SWAP2.0 (English): <http://rsapp.nsmc.org.cn/geofy/en>
- SWAP2.0 (Russia): <http://rsapp.nsmc.org.cn/geofy/en>
- SWAP2.0 test version (English): <http://rsapp.nsmc.org.cn/test/geofy/en>
- FY-3 Global Daily Image: <https://fy3.nsmc.org.cn/tnps/index.html>
- FENGYUN Wildfire Watch: <http://fyfiles.nsmc.org.cn>

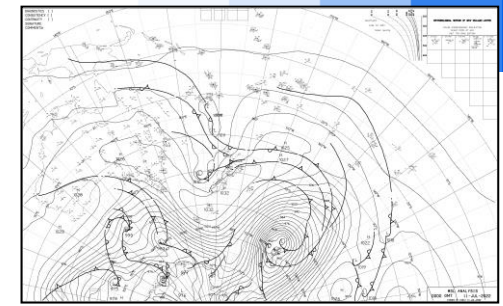
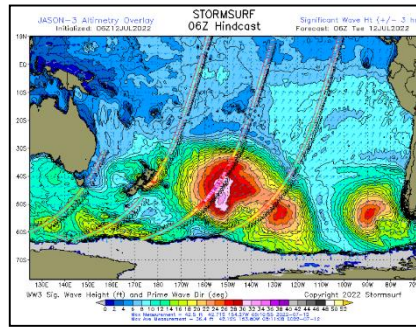
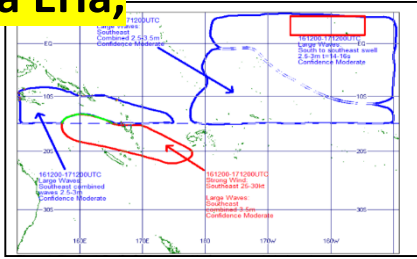


**Mr Di Xian**

**November 2022**



**Mauna Eria,**



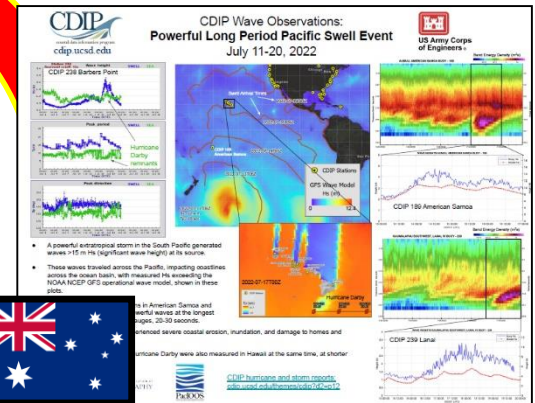
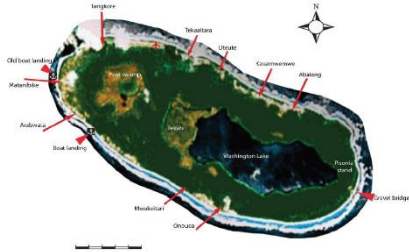
**Miriam Kataunati**

**Jennifer Strahl, Dr Eric Lau,**

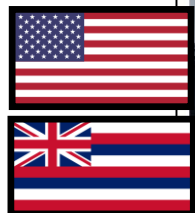
**Chris Webster**



**Cooperative Case Study 1:  
Significant Swell event,  
Pacific Ocean 11-17th July  
2022, as monitored by satellite  
and surface observations and  
NWP model data**

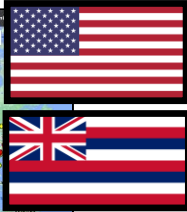
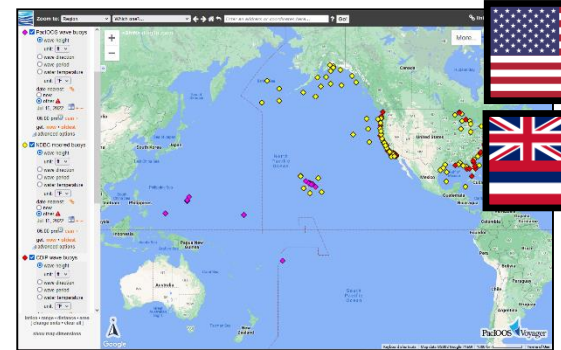
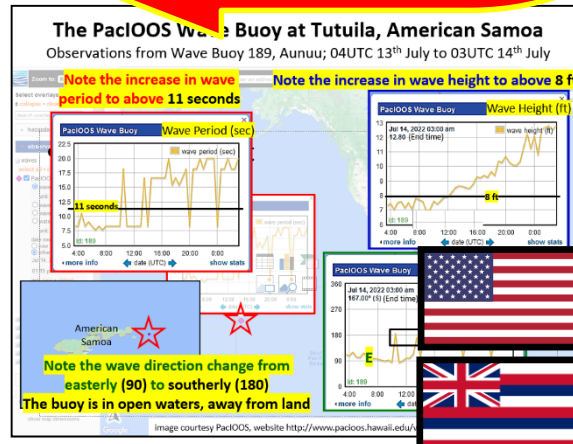


**Tristan Oakley, Dr Alison Nugent**



**...also Chip Young,  
Prof. Steven Businger,  
Ning Li.**

The Bureau of Meteorology



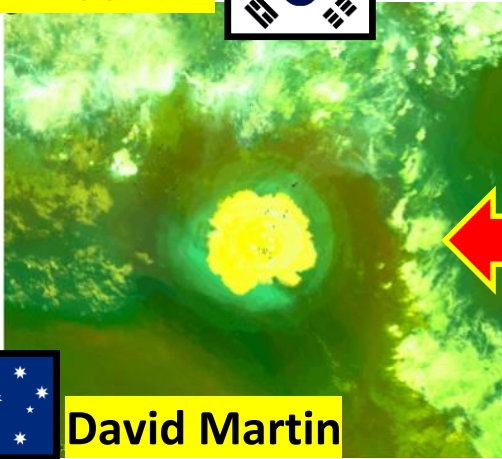
**Professor Yi-Leng Chen**





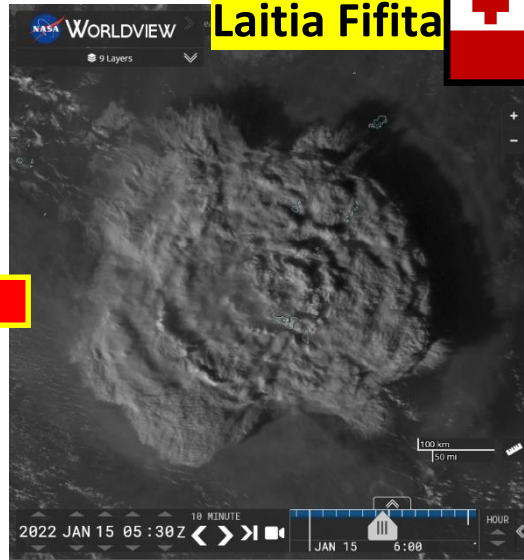
# Cooperative Case Study 2: The eruption of Hunga Tonga-Hunga Ha'apai volcano, 15th January 2022

Ok Hee Kim

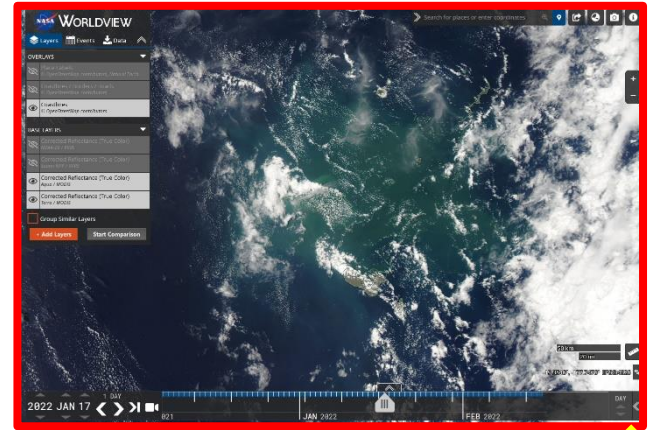


2: The shock wave of the eruption

Laitia Fifita

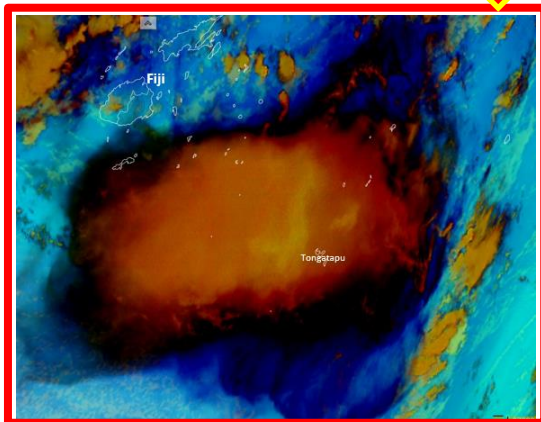


1: Introduction



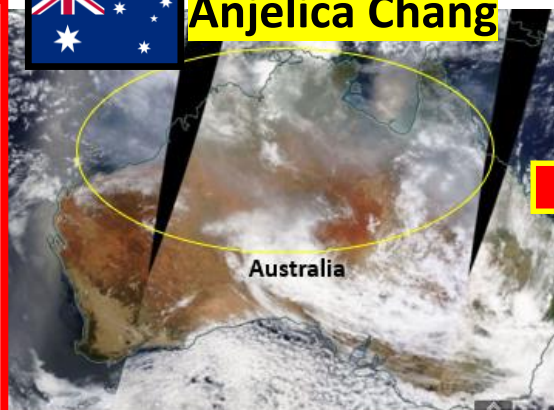
5: Marine conditions around the eruption

David Martin

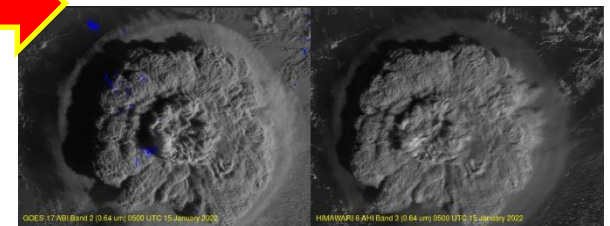
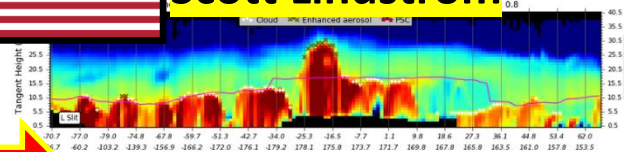


3: Spreading out of the ash/SO2 from the eruption  
The Bureau of Meteorology

Anjelica Chang



Scott Lindstrom



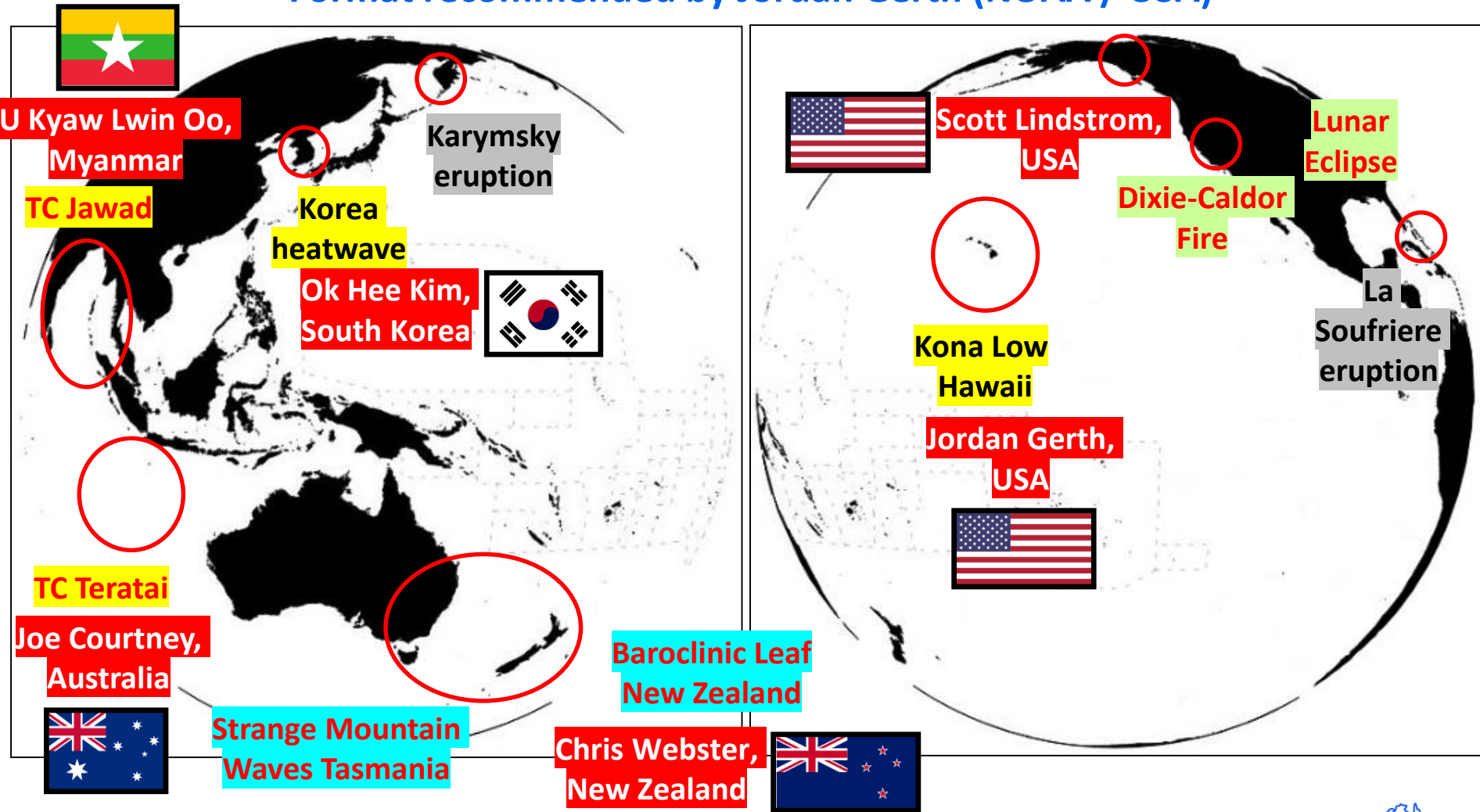
4: The height of the eruption





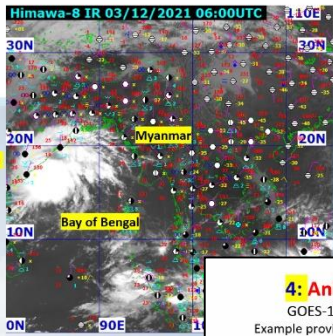
# Multiple "mini case studies" within one meeting: Meteorological highlights of the year 2021

Format recommended by Jordan Gerth (NOAA / USA)



### 1: Tropical Cyclone 05B "Jawad".

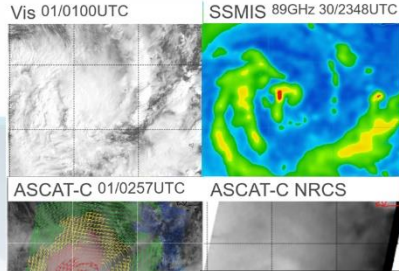
Example provided by U Kyaw Lwin Oo, Myanmar Department of Meteorology and Hydrology



Tropical Cyclone 05B "Jawad".

### 2: Formation of Tropical Cyclone 05U "Teratai".

Example provided by Joe Courtney, Australian Bureau of Meteorology

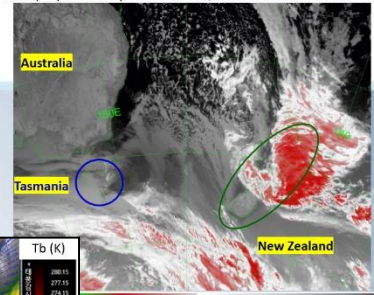


ASCAT-C 01/0257UTC

ASCAT-C NRCS

### 3: Animation: Baroclinic Leaf over New Zealand, Mountain Waves over Tasmania.

Example provided by Chris Webster, Met Service New Zealand



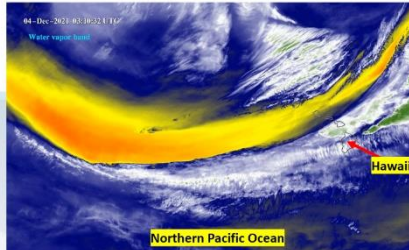
Australia

Tasmania

New Zealand

### 4: Animation: A Kona Low impacting Hawaii

Example provided by Jordan Gerth, NOAA, animation courtesy Tim Schmit NOAA



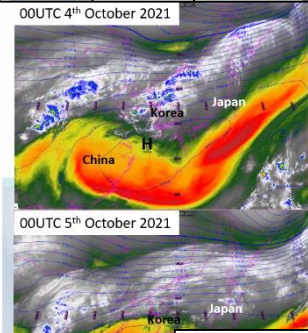
Hawaii

Northern Pacific Ocean

### 5: Korea Heatwave

GEO-KOMPSAT-2A 6.9 micron band and 500hPa height  
4th - 5th October 2021

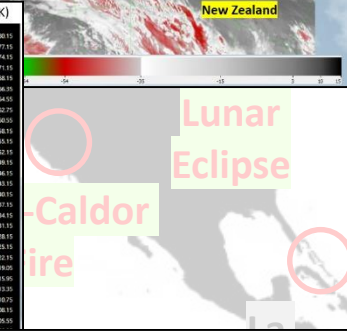
Example provided by Ok Hee Kim, Korea Meteorological Administration, Korea VLab Centre of Excellence



00UTC 4th October 2021

00UTC 5th October 2021

Tb (K)



Caldor fire

Lunar Eclipse

### 6: Animation: La Soufriere volcanic eruption in 1 minute imagery

CSPP True Colour imagery, 11th April 2021

Example provided by Scott Lindstrom, SSEC University of Wisconsin-Madison



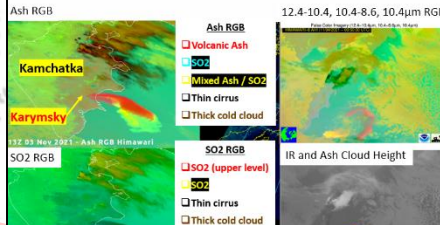
CSPP True Color 11 April 2021 1300 UTC

La Soufriere

### 7: Karymsky volcanic eruption, Kamchatka, Russia

SNPP VIIRS / NOAA-20 VIIRS imagery, 3rd / 4th November 2021

Example provided by Scott Lindstrom, SSEC University of Wisconsin-Madison



Ash RGB

Kamchatka

22 Nov 2021 - Ash RGB Himawari

SO2 RGB

IR and Ash Cloud Height

12.4-10.4, 10.4-8.6, 10.4µm RGB

0050Z 04 Nov 2021 SO2 feature Product NOAA-20 VIIRS

IR and Ash Cloud Height

Ash Cloud Height

### 8: Dixie-Caldor Fire, California, USA

Image from Wikipedia, image courtesy by Frank Schulenburg - Own work, CC BY-SA 4.0, <https://commons.wikimedia.org/w/index.php?curid=107802721>



County produces a pyrocumulus cloud.

### 9: Lunar Eclipse, USA

Day Night Band imagery, 18th / 19th November 2021

Example provided by Scott Lindstrom, SSEC University of Wisconsin-Madison



### 10: Denali, USA. The highest mountain in North America

from Wikipedia at <https://en.wikipedia.org/wiki/Denali>



U Kyaw Lwin Oo, Myanmar

TC Jawad

Joe Courtney, Australia



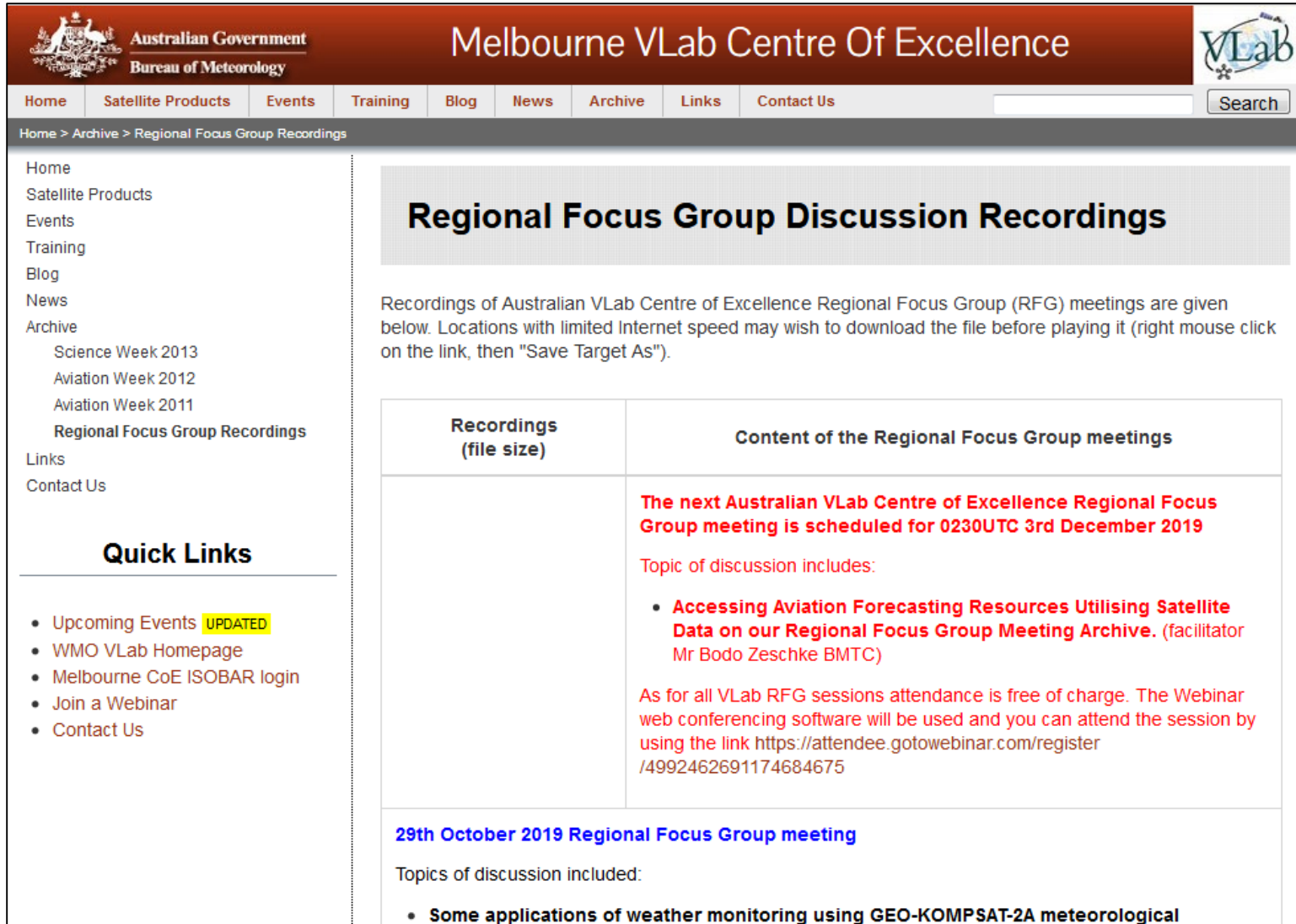
Straw

The Bureau of Meteorology



# Recordings of our Regional Focus Group Discussions

<http://www.virtuallab.bom.gov.au/archive/regional-focus-group-recordings/>



The screenshot shows the website for the Melbourne VLab Centre Of Excellence. The header includes the Australian Government Bureau of Meteorology logo and the VLab logo. The main navigation menu includes Home, Satellite Products, Events, Training, Blog, News, Archive, Links, and Contact Us. The breadcrumb trail is Home > Archive > Regional Focus Group Recordings. The left sidebar contains a navigation menu with links to Home, Satellite Products, Events, Training, Blog, News, Archive (with sub-links for Science Week 2013, Aviation Week 2012, and Aviation Week 2011), Regional Focus Group Recordings, Links, and Contact Us. Below the sidebar is a 'Quick Links' section with a list of links: Upcoming Events (marked as UPDATED), WMO VLab Homepage, Melbourne CoE ISOBAR login, Join a Webinar, and Contact Us. The main content area features a large heading 'Regional Focus Group Discussion Recordings' and a paragraph explaining that recordings of Australian VLab Centre of Excellence Regional Focus Group (RFG) meetings are provided below. A table with two columns, 'Recordings (file size)' and 'Content of the Regional Focus Group meetings', contains a single entry. The content of this entry includes a red announcement: 'The next Australian VLab Centre of Excellence Regional Focus Group meeting is scheduled for 0230UTC 3rd December 2019'. It also lists the topic of discussion: 'Accessing Aviation Forecasting Resources Utilising Satellite Data on our Regional Focus Group Meeting Archive.' (facilitator Mr Bodo Zeschke BMTC). Below this, it states that attendance is free of charge and provides a registration link: <https://attendee.gotowebinar.com/register/4992462691174684675>. At the bottom of the table, there is a blue link for the '29th October 2019 Regional Focus Group meeting' and a list of topics of discussion, including 'Some applications of weather monitoring using GEO-KOMPSAT-2A meteorological'.

Australian Government  
Bureau of Meteorology

Melbourne VLab Centre Of Excellence

Home | Satellite Products | Events | Training | Blog | News | Archive | Links | Contact Us

Home > Archive > Regional Focus Group Recordings

Home  
Satellite Products  
Events  
Training  
Blog  
News  
Archive  
    Science Week 2013  
    Aviation Week 2012  
    Aviation Week 2011  
    Regional Focus Group Recordings  
Links  
Contact Us

**Quick Links**

- Upcoming Events **UPDATED**
- WMO VLab Homepage
- Melbourne CoE ISOBAR login
- Join a Webinar
- Contact Us

## Regional Focus Group Discussion Recordings

Recordings of Australian VLab Centre of Excellence Regional Focus Group (RFG) meetings are given below. Locations with limited Internet speed may wish to download the file before playing it (right mouse click on the link, then "Save Target As").

Recordings (file size)	Content of the Regional Focus Group meetings
	<p><b>The next Australian VLab Centre of Excellence Regional Focus Group meeting is scheduled for 0230UTC 3rd December 2019</b></p> <p>Topic of discussion includes:</p> <ul style="list-style-type: none"><li>• <b>Accessing Aviation Forecasting Resources Utilising Satellite Data on our Regional Focus Group Meeting Archive.</b> (facilitator Mr Bodo Zeschke BMTC)</li></ul> <p>As for all VLab RFG sessions attendance is free of charge. The Webinar web conferencing software will be used and you can attend the session by using the link <a href="https://attendee.gotowebinar.com/register/4992462691174684675">https://attendee.gotowebinar.com/register/4992462691174684675</a></p>

[29th October 2019 Regional Focus Group meeting](#)

Topics of discussion included:

- **Some applications of weather monitoring using GEO-KOMPSAT-2A meteorological**





# BMTC Operational Plan and implications for the VLab

Some key points:

1. Big classes (50+ students) at BMTC Grad Dip Met course in 2022. Additional contributions by colleagues may be required to ensure the Australian VLab CoE Regional Focus Group (RFG) meetings continue on a monthly basis (see point 3).
2. It is proposed to set up a timetable of future RFG meetings, looking ahead a few months, if practical.
3. Continue to expand the scope of the VLab to include more presentations by Bureau and International staff.
4. Our Australian and International students may contribute to the RFG meetings during the Tropical Meteorology class in 2023.
5. Explore options for contributing to the VLab beyond the RFG meetings



# Summary

I have summarised the satellite meteorology training conducted by the Australian VLab Centre of Excellence over the past year.

The presentation focussed on the monthly Regional Focus Group (RFG) meetings, highlighting:

- The celebration of the 100<sup>th</sup> RFG meeting.
- The significant contributions by and collaboration with regional subject experts in adding to the variety and value of the training.

Direction and initiatives for 2023 were also presented

