

300hPa

IVT

Discussion

Date Issued: 4-21-2022

Activate TOPS Davis	Day 1-3 Day 4-6 Day 7-10	● No ● Weak ● No	Activate TOPS Casey	Day 1-3 Day 4-6 Day 7-10	● No ● Weak ● No	Activate TOPS McMurdo	Day 1-3 Day 4-6 Day 7-10	● No ● No ● Possible	Activate TOPS Palmer	Day 1-3 Day 4-6 Day 7-10	● No ● No ● Possible
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The weakness in the upper level gradients over the Pacific has provided opportunities for advancing jet maximums coming out of the Indian Ocean to produce meridional flows through the next several days. This will develop into a 4 spoke long wave pattern by the end of the week representing more of a Rossby Wave type activity.

Fri

A couple of cold outbreaks into New Zealand and Chile this weekend will set up corresponding warm flow pushing under the 500hPa level toward the Amundsen Sea. The system developing in the Pacific is projected to have a strong push across west Antarctica and will produce a significant low level barrier wind across the Ross Ice Shelf turning into a complete cyclonic flow as things. Although this flow will have significant residence time over Marie Byrd Land and entrainment from the plateau, the Atmospheric River is consistent enough to be considered a possible event as the circulation migrates north into the Ross Sea and hopefully some measurable AR level is still present and far enough west to impact Ross Island.

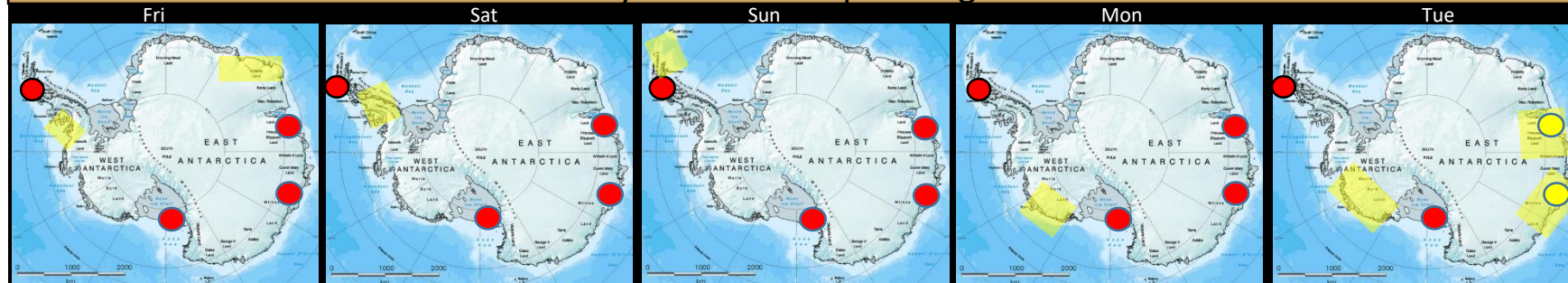
Sun

The same Pacific system is expected to get a series of shortwaves to reinforced its migration east and maintain a southerly trajectory, intruding into the peninsula by the end of the week.

A separate cold outbreak into South Africa on Sunday will drive an associated Atmospheric River toward Davis and Casey by mid-week with some intrusion into the Amery Ice Shelf. This has been the strongest projection depicted this month.

Tue (UTC)

6 Day Predicted Impact Regions



Best Guesses for 10 Day Outlook: None expected – Attached below are significant patterns identified in narrative

Davis Casey

EC- 26 Apr 2022 18Z
925hPa Wind/Temp

Princess E.–Wilkes Land 26 Apr

AUS NZ PA Roth

EC- 28 Apr 2022 21Z 925hPa Wind/Temp

George V – M. Byrd Land 28 Apr

Antarctic Peninsula 28 Apr

Extended Outlook:

Davis – Casey: The best activity will be Monday-Wednesday as a related low pressure systems gain some advances into the continent. No other significant intrusions are expected.

Ross Island area: The system approaching West Antarctica has potential late next week if the Atmospheric River and surface based low pressure system migrate near/over Ross Island.

Palmer area: Late next week has potential as the Atmospheric River moves into the Bellingshausen very late in this period