

# Flying along the Vela ridge

July 9 2012

---



The Vela C region, part of the Vela complex, by ESA's Herschel space observatory. The image demonstrates Herschel's ability to trace both high- and low-mass star formation at a range of evolutionary stages, from cool filaments, pre-stellar cores and protostars to more evolved regions containing dust that has been gently heated by hot stars. The image was mapped using Herschel instruments PACS and SPIRE at wavelengths of 70, 160, and 250 microns, corresponding to the blue, green and red channels, respectively. North is to the right and east is up. Credits: ESA/PACS & SPIRE Consortia, T. Hill, F. Motte, Laboratoire AIM Paris-Saclay, CEA/IRFU - CNRS/INSU - Uni. Paris Diderot, HOBYS Key Programme Consortium

(Phys.org) -- A beautiful blue butterfly flutters towards a nest of warm dust and gas, above an intricate network of cool filaments in this image of the Vela C region by ESA's Herschel space observatory.

Vela C is the most massive of the four parts of the Vela complex, a

massive star nursery just 2300 light-years from the Sun. It is an ideal natural laboratory for us to study the birth of stars.

Herschel's far-infrared detectors can spot regions where young high- and low-mass stars have heated dense clumps of gas and [dust](#), where new generations of stars may be born.

The eye is immediately drawn to two prominent features in this image: a delicate blue and yellow butterfly shape just right of centre that appears to be flying towards a nest of coiled blue material in the lower right.

These regions stand out from their surroundings because their dust has been heated by young hot stars. A cluster of very hot, massive stars are strung out along the butterfly's 'body', their radiation heating up the surrounding dust seen as yellow in this scene.

These heavy stars will follow 'live fast, die young', burning brightly for only a short time in cosmic terms. Those with more than eight times the mass of our own Sun will explode as cataclysmic supernovas within 10 million years of forming.

A particularly dense trunk of cool gas and dust weaves its way through the centre of the image, surrounded by a complex network of wispy red [filaments](#).

Deeply embedded inside the filaments are numerous point-like sources, particularly evident towards the left of the scene: these are protostars, the seeds of new [stars](#) that will soon also light up the Vela region of the sky.

Provided by European Space Agency

Citation: Flying along the Vela ridge (2012, July 9) retrieved 7 August 2024 from

<https://phys.org/news/2012-07-vela-ridge.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.