Guide to VPM-B Correlation Studies

In addition to this overview, there are seven files in this directory that compare ascents calculated by V-Planner's VPM-B to five other popular decompression methods. The suggested order for reviewing the material is by file number 1-7.

Scope
Depending on the gas mixtures employed for modeling dives and ascents, correlations were made between VPM-B and relevant tables selected from the following models:

- GAP RGBM (Nominal conservatism).
- GAP Gradient-Factor modified Bhulmann (GFs were 80% and 30%).
- Buhlmann's 1984 air tables Z-HL (Sea level, single gas only) .
- NOAA 32% Nitrox I tables (Sea level, single gas only) .
- Hydrospace Explorer (HSE) RGBM (both 2002 and 2003 models).

I. Dives to 200 ft (61 m) on Trimix 18/45, in three parts.
Content:

- Correlations of stop times and ascent profiles for VPM-B to GAP RGBM and GF.
- Correlations of stop times and ascent profiles for HSE RGBM to GAP RGBM.
- Multiple ascent scenarios, with different decompression gas sets.
- Formulation of analytical rules for VPM-B –based decompression-on-the-fly.
- Schedule modifications forced by lost gases.
- Correlations of compartment tensions and gradients.
- Dive planning based on gas consumption and analytical deco-on-the fly.

Files

1. *VPM-Bv3.2_vs_GAP_RGBM_and_GF_200ft_3mix1845_Dives.pdf*
2. *HSE_vs_GAP_RGBM_200ft_3mix1845_Dives.pdf*
3. *TandG_VPMB_vs_GAP_RGBM_and_GF_200ft_3mix1845.pdf*

II. Dives to 100 ft (30.5 m), in three parts.
Content:

- Correlations for three different bottom mixes: Air, Nitrox 32%, and Trimix 30/30.
- Multiple ascent scenarios, with different decompression gas sets.

Files:

4. *VPM-Bv3.2_vs_GAP_RGBM_and_GF_100ft_Air_Dives.pdf*
5. *VPM-Bv3.2_vs_GAP_RGBM_and_GF_100ft_Nx32_Dives.pdf*
6. *VPM-Bv3.2_vs_GAP_RGBM_and_GF_100ft_3mix3030_Dives.pdf*

III. Dives to 300 ft (91.4 m) on Trimix 10/70
Content:

- Correlations of stop times and ascent profiles for VPM-B to GAP RGBM and GF.

File:

7. *VPM-Bv3.2_vs_GAP_RGBM_and_GF_300ft_3mix1070_Dives.pdf*

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