TITLE: Data presented in the paper “Plants face the flow in V-formation: a study of plant patch alignment in streams”

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Figure 1 Histograms.csv
Description of absolute and relative distances between neighbouring patches of Callitriche platycarpa, and their patch size (width, length).

ID : Identification of neighbouring patch pair
PatchU_Width : Width of upstream patch (in m)
PatchU_Length : Length of upstream patch (in m)
PatchD_Width : Width of downstream patch (in m)
PatchD_Length : Length of downstream patch (in m)
LongitDist_Abs : Absolute distance between the upstream edges of the two patches in the streamwise direction (in m)
LongitDist_Rel : Relative distance between the upstream edges of the two patches in the streamwise direction (ratio between absolute longitudinal distance and patch length)
TransvDist_Abs : Absolute distance between the lateral edges of the two patches in the spanwise direction (in m)
TransvDist_Rel : Relative distance between the lateral edges of the two patches in the spanwise direction (ratio between absolute transversal distance and patch length)

Figure 2 Flow velocities.csv

Configuration : Patch configuration number
Xq : Streamwise location of the measured vertical hydrodynamic profile (in mm)
Yq : Spanwise location of the measured vertical hydrodynamic profile (in mm)
Vel_X : Depth-averaged flow velocity (m s⁻¹) in the streamwise direction
Vel_Y : Depth-averaged flow velocity (m s⁻¹) in the spanwise direction
RelativeVel_X : Relative flow velocity (expressed as relative to a measurement point located 0.5 m upstream of patch U)

Figure 3 3D plots.csv

Dataset of the flow velocity and turbulence measurements around the vegetation patches in the field manipulation experiment, showing the effect of increasing relative longitudinal and transversal distance.

Configuration : Patch configuration number
T_d : Relative transversal distance
L_d : Relative longitudinal distance
Uin_50 : Depth-averaged flow velocity (m s⁻¹) measured 0.5 m upstream of patch U
Uin_btw : Depth-averaged flow velocity (m s⁻¹) in between the patches
RelU_btw : Flow velocity in between the patches, expressed as relative to the measurement point located 0.5 m upstream of patch U.
TKE_PatchD : Turbulent Kinetic Energy (m² s⁻²) upstream of patch D
Unext_P1 : Depth-averaged flow velocity (m s⁻¹) next to patch U
RelU_nextP1 : Flow velocity upstream of patch U, expressed as relative to the measurement point located 0.5 m upstream of patch U.
Figure 4 A B Drag velocity.csv
Relationship between drag force and flow velocity in the field manipulation experiment and in a laboratory flume study (Puijalon et al., 2011).

- **Configuration**: Patch configuration number
- **T_d**: Relative transversal distance
- **L_d**: Relative longitudinal distance
- **Individual**: Identification number of Callitriche platycarpa individual
- **SurfaceArea**: Total surface area (m²) of each Callitriche platycarpa individual
- **Velocity**: Depth-averaged flow velocity (m s⁻¹) during the drag measurement
- **Drag_N**: Measured drag force (in N) acting on the plant shoot
- **Drag_N_m2**: Drag force relative to plant total surface area
- **Dataset**: Source of the drag measurement ('Field': this study, 'Lab_Puijalon2011': laboratory experiment described in Puijalon et al., 2011)

Figure 4 C D Patch occurrence.csv
Probability of observed patch occurrence around an existing vegetation patch, in relation to the experimental drag measured in the same position.

- **Drag_N_m2**: Drag force relative to plant total surface area (N m⁻²)
- **Probability_percent**: Probability of patch occurrence (%), based on the combination of the observed frequency distributions of relative longitudinal and transversal distances
- **Log_probability**: Log-transformed probability of patch occurrence

Figure 5 Drag patch.csv

- **Drag_N_w_patch**: Drag force (in N) for a plant located in the upstream part of the patch
- **Drag_N_wo_patch**: Drag force (in N) for a single plant
- **Drag_mN_w_patch**: Drag force (in mN) for a plant located in the upstream part of the patch
- **Drag_mN_wo_patch**: Drag force (in mN) for a single plant
- **Configuration**: Patch configuration number

Figure 6 Patch angles.csv

- **TimePeriod**: Start and end of vegetation survey period
- **Angle_deg**: Direction of growth (angle in degrees) of new vegetation patches in each time period, with respect to the nearest existing patch
- **Distance_m**: Distance of growth of the newly occurring vegetation, with respect to the nearest existing patch

Dec08_ExistingPatches.shp
Shapefile of existing vegetation patches found at the start of the survey period (December 2008)

Jul09_NewPatches.shp
Shapefile of new vegetation patches occurring at the end of the survey period (July 2009)

Jul09_ClonalGrowth.shp
Shapefile of the lateral expansion of initial vegetation patches through clonal growth by the end of the survey period (July 2009)

Sept09_ExistingPatches.shp
Shapefile of existing vegetation patches found at the start of the survey period (September 2009)

Jan10_NewPatches.shp
Shapefile of new vegetation patches occurring at the end of the survey period (January 2010)

Jan10_ClonalGrowth.shp
Shapefile of the lateral expansion of initial vegetation patches through clonal growth by the end of the survey period (January 2010)

Jul10_NewPatches.shp
Shapefile of new vegetation patches occurring at the end of the survey period (July 2010)

Jul10_ClonalGrowth.shp
Shapefile of the lateral expansion of initial vegetation patches through clonal growth by the end of the survey period (July 2010)