

## Simple Geometries Breakout Notes

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- Basic Use Case is a variable that is 'timeseries by polygon or polyline' stored in wide orthogonal array or long indexed array format. Coordinates would be like: (time, polygon)
- Polygon/polyline Coordinate Variable Discussion
  - String or opaque data type would be convenient... not very CF, not friendly to say -- Fortran.
  - As a "trajectory"-type structure with a node dimension rather than time.
  - Some experimentation with cell\_bounds to represent the polygon boundary as if the polygon was a cell.
    - This works better with ragged arrays.
  - In CF-1 we can create cell bounds around an existing timeseries station location. In CF-2 we should not require the lat/lon of a polygon or polyline.
  - Coming back to WKT/WKB versus storing lat/lon nodes using CF floats.
  - At the end of the day, we need to have methods to translate.
  - Must declare CRS of coordinate variables no matter what.
- Scope notes:
- Linear between nodes, not curves?
- Parametric shapes?

### Use Cases:

- Encode watershed model time series and polygons in single file. Archiving the model output and geometry is the purpose.
  - [Example datasets](#)
- A single streamflow value for all rivers in the conterminous U.S. at a given point in time.
  - [Example data](#)

### Actions:

- Collect and compare existing implementations.
- Draft up a proposed solution to test out.
- Upload sample data to???
- [GitHub repository](#) for netCDF-CF-simple-geometry
- Consider 'complex' examples of multipolygons, holes, self intersections, etc.
- People
  - Tim Whiteaker - GitHub: twhiteaker
  - Bert Jagers - GitHub: hrajagers
  - Dave Blodgett - GitHub: dblodgett-usgs
  - Ben Koziol
  - Bob Simons
  - Ethan Davis - GitHub: ethanrd
  - Mark Hedley - GitHub: marqh

- Recruit Denis Nadeau